

GE
Intelligent Platforms

Control Systems Solutions Catalog

Enabling improved performance, greater
uptime and lower total cost of ownership



imagination at work

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We're leveraging the future to give you an edge today.



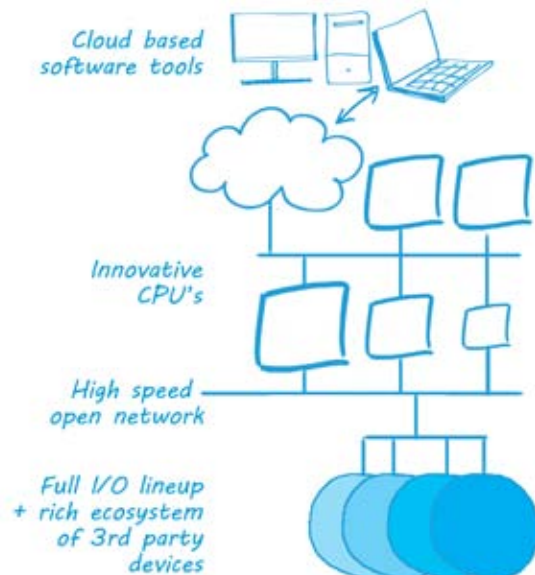
In 1879, GE founder Thomas Alva Edison developed the working prototype of the incandescent light bulb that transformed the world from a time of dangerous and inefficient gaslights to safe and efficient electric light. The technology transformed cities and home, and allowed businesses to operate more efficiently than ever before.

Today, we stand at a no less auspicious moment in history as control and communication technologies promise to take industry and utilities to unprecedented levels of performance and risk-avoidance. With a modern analogue no less striking than the switch from typewriters to computers, business concerns in manufacturing, water and wastewater treatment, power generation, telecommunications mining, oil & gas production, refining and distribution, and those industries and institutions with a critical need for uninterrupted power have the opportunity to revolutionize their processes and operations.

GE Intelligent Platforms' Control & Communication Systems (CCS) business unit is at the leading edge of developing innovative high-performance platforms that leverage a myriad of enabling technologies so that industrial and infrastructure customers can achieve strategic market advantage and lower total cost of ownership.

In developing solutions that will carry our customers well into the future, we sought to combine our rich history of rugged embedded computing and control systems with the leading high-speed, open industrial communications network and a robust line of I/O options to provide control system platforms that are truly differentiated. High-performance redundancy in controllers and I/O provides greater productivity and uptime for critical systems. With the emergence of online collaboration and social networking sites, we are launching a cloud-based open collaboration environment for automation application creation, deployment and maintenance while delivering secure protection of invaluable enterprise-wide digital assets. And we carry forward GE's heritage of critical component lifecycle management by engineering our products with the stated goal of minimal disruption during technology refreshes and end-of-lifecycle conversions.

Our cloud-based solutions provide new opportunities



GE Intelligent Platforms brings three distinct value propositions to its Control & Communications Systems customers:

Improved performance – We provide innovative CPUs that leverage our expertise in rugged embedded computing and controls products. These CPUs are then connected to the leading open industrial network technology and facilitated with a complete line of I/O options.

Increased uptime – Our high-performance redundancy in controllers and I/O provides crucial risk reduction that is easily implemented and scaled to meet demand.

Lower Total Cost of Ownership – By embracing game-changing cloud-based data storage technologies, we provide the option of eliminating software implementation and maintenance. This secure option not only protects critical enterprise data, but also facilitates technology collaboration.

We further strive to improve the customer experience by offering pre-engineered Control & Communications Systems solutions for specific market segments. These solutions, which employ proven architectures for each application type, leverage GE's unparalleled expertise in targeted industrial arenas to provide industry-specific control algorithms and strategies that quickly optimize the performance of processes and operations in:

In addition, GE's lifecycle management service is available to further minimize control platform risk. Because of our close relationships with key technology providers, we can design control and communication platforms that meet stated performance and cost benchmarks, then monitor the availability of critical components through the planned life of the control platform. When crucial components are nearing the end of their production run, we can help customers decide whether to purchase and stockpile parts while they are still available or modify their plans for a scheduled technology refresh.

GE Intelligent Platforms, like its founding father did in his day, stands at the leading edge of this renaissance to modernize industrial technology. We look forward to partnering with you to develop an innovative Control & Communications Systems platform that carries your business or utility into this exciting new Age of Information.

Water



Steam cycle



Well-to-tank



Packaging & assembly



Mission critical



Telecommunications



The evolution of the PACSystems portfolio is a prime example of GE Intelligent Platform's commitment to control system modernization. Our PACSystems customers realize higher performance, improved uptime and lower total cost of ownership through innovations such as COMExpress technology on a PROFINET backbone.

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PACSystems RX7i Controllers

Built on a standard embedded open architecture, the PACSystems RX7i is the first member of the groundbreaking PACSystems family of programmable controllers (PACs). The RX7i features a single control engine and universal programming environment to provide application portability across multiple hardware platforms. Designed to address mid- to high-end applications for OEMs, integrators, and end users, the RX7i is ideally suited for integrated solutions that require open architecture, large memory, distributed I/O and high performance.

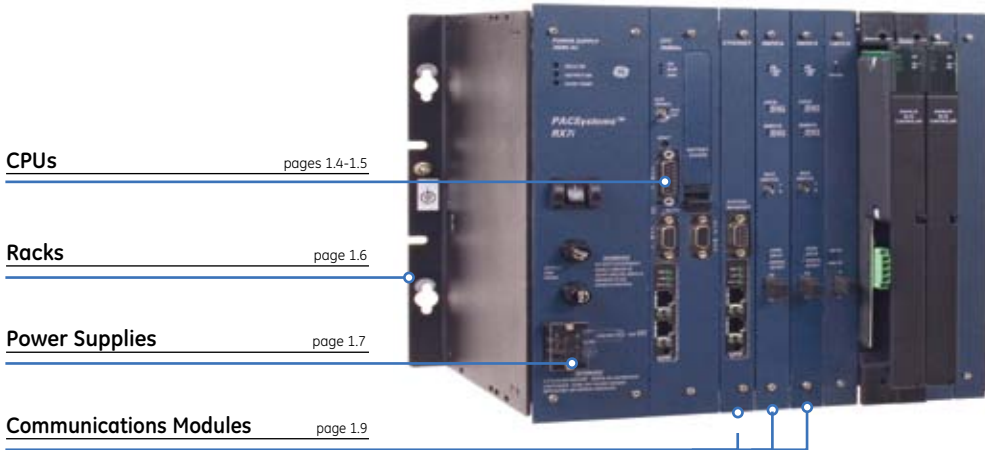
The RX7i Features

- Pentium® CPUs for your every need, from Celeron 300mHz to M Class 1.8 Ghz
- VME64 architecture supporting new and older VME embedded technology with fast through put of large amounts of data.
- 10/100 Ethernet built into the CPU, with easy cabling RJ-45 dual ports connected through an auto-sensing switch, so there is no need for additional switches or hubs rack to rack
- Up to 64 MB memory for fast execution, storage of the complete program with all documentation—all in one CPU

- In addition, it provides an outstanding migration path for any Series 90 applications to move to the PACSystems architecture.

Proficy Machine Edition

Proficy Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control, and execution logic are developed with a single programmer.



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Racks [page 1.6](#)

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Publication Reference Chart

GFK-2222	PACSystems CPU Reference Manual
GFK-2223	PACSystems RX7i Installation Manual
GFK-2224	TCP/IP Ethernet Communications for PACSystems
GFK-2225	PACSystems Station Manager User's Manual
GFK-2235	PACSystems RX7i User's Guide to Integration of VME Modules
GFK-2259	C Programmer's Toolkit for PACSystems User's Manual
GFK-2300	PACSystems RX7i Memory Xchange Modules User's Manual
GFK-2308	PACSystems Hot Standby CPU Redundancy User's Guide



CPUs

PACSystems RX7i CPUs feature Intel Celeron and Pentium III processors and offer fast execution, larger memory capacity and upgradability to track future technology growth. RX7i CPUs are available with various memory sizes, performance capabilities and advanced functionalities, such as software configuration of data and program memory. PACSystems CPUs also provide 10K of user RAM along with 10K of non-volatile user flash memory for added protection of your data and programs.

	IC698CPE020 [†]	IC698CRE020 [†]
Product Name	Central Processing Unit, 700 MHz, Floating Point	Redundancy Central Processing Unit, 700 MHz, Floating Point
Lifecycle Status	Active	Active
PACSystems Processor Speed	700 MHz	700 MHz
PACSystems CPU Memory	10 Mbytes of User Logic RAM	10 Mbytes of User Logic RAM
PACSystems User Flash Memory	Yes (10 Mbytes)	Yes (10 Mbytes)
Floating Point Math	Yes	Yes
PACSystems I/O Discrete Points Available	32 Kbits	32 Kbits
Other Memory Allocations	%W: Configurable up to 4 Mbytes, Symbolic: Configurable up to 10 Mbytes	%W: Configurable up to the maximum available user RAM, Symbolic: Configurable up to 10 Mbytes
Embedded Communications	Serial, Ethernet	Serial, Ethernet
Protocols Supported	Modbus RTU Slave, SNP, Serial I/O	Modbus RTU Slave, SNP, Serial I/O
Built-in Ports	2 Serial (RS-232, RS-485) 1 Ethernet (Auto 10/100, RJ45)	2 Serial (RS-232, RS-485) 1 Ethernet (Auto 10/100, RJ45)
Current Required from 5V Bus	4.0 Amps	4.0 Amps

[†]Requires fan kit.



CPUs

PACSystems RX7i CPUs feature Intel Celeron and Pentium III processors and offer fast execution, larger memory capacity and upgradability to track future technology growth. RX7i CPUs are available with various memory sizes, performance capabilities and advanced functionalities, such as software configuration of data and program memory. PACSystems CPUs also provide 10K of user RAM along with 10K of non-volatile user flash memory for added protection of your data and programs.

	IC698CPE030	IC698CPE040 [†]	IC698CRE030	IC698CRE040 [†]
Product Name	Pentium M Central Processing Unit, 600 MHz	Pentium M Central Processing Unit, 1.8 GHz	Pentium M Redundancy Central Processing Unit, 600 MHz	Pentium M Redundancy Central Processing Unit, 1.8 GHz
Lifecycle Status	Active	Active	Active	Active
PACSystems Processor Speed	600 MHz	1.8 GHz	600 MHz	1.8 GHz
PACSystems CPU Memory	64 Mbytes	64 Mbytes	64 Mbytes	64 Mbytes
PACSystems User Flash Memory	64 Mbytes	64 Mbytes	64 Mbytes	64 Mbytes
Floating Point Math	Yes	Yes	Yes	Yes
PACSystems I/O Discrete Points Available	32 Kbits	32 Kbits	32 Kbits	32 Kbits
Other Memory Allocations	%W: Configurable up to the maximum available user RAM Symbolic: Configurable up to the maximum available user RAM	%W: Configurable up to the maximum available user RAM Symbolic: Configurable up to the maximum available user RAM	%W: Configurable up to the maximum available user RAM Symbolic: Configurable up to the maximum available user RAM	%W: Configurable up to the maximum available user RAM Symbolic: Configurable up to the maximum available user RAM
Embedded Communications	Serial, Ethernet	Serial, Ethernet	Serial, Ethernet	Serial, Ethernet
Protocols Supported	Modbus RTU Slave, SNP, Serial I/O	Modbus RTU Slave, SNP, Serial I/O	Modbus RTU Slave, SNP, Serial I/O	Modbus RTU Slave, SNP, Serial I/O
Built-in Ports	2 Serial (RS-232, RS-485) 1 Ethernet (Auto 10/100, RJ45)	2 Serial (RS-232, RS-485) 1 Ethernet (Auto 10/100, RJ45)	2 Serial (RS-232, RS-485) 1 Ethernet (Auto 10/100, RJ45)	2 Serial (RS-232, RS-485) 1 Ethernet (Auto 10/100, RJ45)
Current Required from 5V Bus	3.2 A	6.8 A	3.2 A	6.8 A
Web Based Data Monitoring	up to 16 web server and FTP connections (combined)	up to 16 web server and FTP connections (combined)	up to 16 web server and FTP connections (combined)	up to 16 web server and FTP connections (combined)

[†]Requires fan kit.

Racks



PACSystems RX7i Racks set the pace for the latest PLC technology. They are built to support the high-power PACSystems power supplies along with the latest technology in the PACSystems CPUs. The VME64 backplane provides up to four times the bandwidth of existing VME based systems for faster I/O throughput. The VME64 base supports all standard VME modules including I/O and VMIC modules.

	IC698CHS009	IC698CHS017	IC698CHS109	IC698CHS117	IC698CHS217
Product Name	Standard PACSystems 9-slot Wall (Rear) Mount	Standard PACSystems 18-slot Wall (Rear) Mount	Standard PACSystems 9-slot Wall (Panel) Mount	Standard PACSystems 18-slot Wall (Panel) Mount	PACSystems 17-slot Wall (Rear) Mount, Rear I/O Access
Lifecycle Status	Active	Active	Active	Active	Active
Number of Slots	9 Single Width, 5 Double Width (plus one for power supply)	15 Single Width, 8 Double Width (plus one for power supply)	9 Single Width, 5 Double Width (plus one for power supply)	15 Single Width, 8 Double Width (plus one for power supply)	17 Single Width, 8 Double Width (plus one for power supply)
Mounting Location	Rear (Panel)	Rear (Panel)	Front (Rack)	Front (Rack)	Rear (Panel)
Rack Configurations	RX7i CPU and I/O, VME modules	RX7i CPU and I/O, VME modules	RX7i CPU and I/O, VME modules	RX7i CPU and I/O, VME modules	RX7i CPU and I/O, VME modules (with or without rear access connections)
Rack Slot Size	0.8 inch	0.8 inch	0.8 inch	0.8 inch	0.8 inch
Compatible Power Supplies	RX7i Power Supply (IC698)	RX7i Power Supply (IC698)	RX7i Power Supply (IC698)	RX7i Power Supply (IC698)	RX7i Power Supply (IC698)
Dimensions	11.15"H x 12.6"W x 7.25"D (283 x 320 x 184mm)	11.15" x 19.00" x 7.5"	11.15"H x 12.6"W x 7.25"D (283 x 320 x 184mm)	11.15" x 19.00" x 7.5"	11.15"H x 19"W x 8.875"D (8.97"D with rear I/O cover) (283 x 483 x 225mm) (228mm D with rear I/O cover)



Power Supplies

PACSystems RX7i Power Supply modules simply slide into the PLC rack just like I/O, and they work with any PACSystems CPU. The low capacity power supply delivers up to 100W total output without forced air cooling. The high capacity power supply accommodates applications requiring more power, providing up to 350W total output, and requires forced air cooling, provided by a fan tray mounted on the bottom of the rack. PACSystems power supplies also have built-in protection for autoranging power factor corrections as well as overcurrent, overvoltage, and overtemperature fault conditions.

	IC698PSA100	IC698PSA350	IC698PSD300
Product Name	PACSystems Power Supply, 100 W	PACSystems Power Supply, 350 W	PACSystems Power Supply, 300 W
Lifecycle Status	Active	Active	Active
Power Source	85-264 VAC or 125 VDC	85-264 VAC or 125 VDC	18-30 VDC
Output Source	100 Watts; 5 VDC @ 20 Amps, +12 VDC @ 2 Amps, -12 VDC @ 1 Amp	350 Watts; 5 VDC @ 60 Amps, +12 VDC @ 12 Amps, -12 VDC @ 4 Amps	300 Watts; 5 VDC @ 50 Amps, +12 VDC @ 10 Amps, -12 VDC @ 4 Amps



I/O Interface Modules

PACSystems features a variety of communications options for distributed control and/or I/O, supporting a wide range of communication protocols and configurations. These communication modules are easy to install and quick to configure. Some distributed I/O communications modules allow for numerous remote drops or additional racks, while others provide an interface for GE products up to 7500 feet away from the controller.

	IC697BEM731	IC687BEM731	IC697BEM713	IC697BEM711	IC697BEM733
Product Name	Genius Bus Controller	VME Single Slot Bus Controller	Bus Transmitter Module	Bus Receiver Module	Remote I/O Scanner
Lifecycle Status	Mature	Active	Mature	Mature	Mature
Module Type	Bus Controller	Bus Controller	Bus Transmitter	Bus Receiver Scanner	Remote I/O
Supports Redundancy	Yes	Yes	No	No	Yes
Discrete Points Available	N/A	N/A	N/A	N/A	128 Bytes Per Drop
Programmer Effective Data Rate	N/A	N/A	500 Kbytes/sec	N/A	N/A
Time to Store 16 Kbyte Program	N/A	N/A	20 - 30 Seconds	N/A	N/A
Effective Data Rate	N/A	N/A	500 Kbytes/sec	500 Kbytes/sec	38.4 Kbaud
Total Allowed Distance of Interconnecting Cable	N/A	N/A	50 feet (15 meters)	50 feet (15 meters)	N/A
Maximum Distance from Controller	N/A	N/A	N/A	N/A	7500 feet (2275 meters)
Electrical Isolation	N/A	N/A	Non-isolated differential communication	Non-isolated differential communication	N/A
Built-in Serial Ports	1 (Hand Held Monitor Port)	1 (Hand Held Monitor Port)	2 (Programmer Port, Expansion Port Out)	2 (Expansion Port In, Expansion Port Out)	2 (RS-422 Compatible Serial Port, Hand Held Monitor Port)
Current Required from 5V Bus	1.3 Amps	1.3 Amps	1.4 Amps	0.8 Amp	0.8 Amp



Communications Modules

PACSystems features a variety of communications options for distributed control and/or I/O, supporting a wide range of communication protocols and configurations. These communication modules are easy to install and quick to configure. Some distributed I/O communications modules allow for numerous remote drops or additional racks, while others provide an interface for GE products up to 7500 feet away from the controller.

	IC698RMX016	IC698CMX016	IC698ETM001
Product Name	Redundancy Memory Xchange Module	Control Memory Xchange Module	RX7i Standalone Ethernet Module 10/100
Lifecycle Status	Active	Active	Active
Module Type	Redundancy Communications (High Availability)	Control Memory Xchange	Ethernet Controller
Supports Redundancy	Yes	No	No
Protocols Supported	N/A	N/A	N/A
Effective Data Rate	2.12 gigabaud	2.12 gigabaud	N/A
Electrical Isolation	Non-isolated differential communication	Non-isolated differential communication	N/A
Communications Processor Speed	N/A	N/A	N/A
Simultaneous Communication Speed	N/A	N/A	N/A
Individual Communication Speed	N/A	N/A	N/A
Reflective Memory Available	16 Mbytes	16 Mbytes	N/A
Distance Between Nodes	Up to 300 meters	Up to 300 meters	N/A
Access Time	400 ns (worst-case), 200 ns (best-case)	400 ns (worst-case), 200 ns (best-case)	N/A
Transfer Rate	6.2 Mbyte/s without redundant transfer, 3.2 Mbyte/s with redundant transfer	6.2 Mbyte/s without redundant transfer, 3.2 Mbyte/s with redundant transfer	N/A
Cable Requirements	Connector (LC type, conforms to IEC61754-20) Cable (ST Type Fiber-Optic Multimode; 62.5 Micron core)	Connector (LC type, conforms to IEC61754-20) Cable (ST Type Fiber-Optic Multimode; 62.5 Micron core)	N/A
Built-in Serial Ports	None	None	2 Twisted pair 10 Base T/100 Base TX RJ-45
Current Required from 5V Bus	1.2 Amps	1.2 Amps	N/A

Accessories

IC690CDR002	User Manuals, InfoLink CD-ROM Documentation, Single-user License	Active
IC697ACC621	Short Rack Fan Assembly, 120 VAC	Active
IC697ACC624	Short Rack Fan Assembly, 240 VAC	Active
IC697ACC644	Short Rack Fan Assembly, 24 VDC	Active
IC697ACC721	Rack Fan Assembly, 120 VAC	Active
IC697ACC724	Rack Fan Assembly, 240 VAC	Active
IC697ACC736	Cable Shield Clamping Assembly	Active
IC697ACC744	Rack Fan Assembly, 24 VDC	Active
IC698ACC701	Replacement Battery	Active
IC698ACC720	Gasketed Filler Faceplate, Double-width	Active
IC698ACC735	Gasketed Filler Faceplate, Single-width	Active

Cables

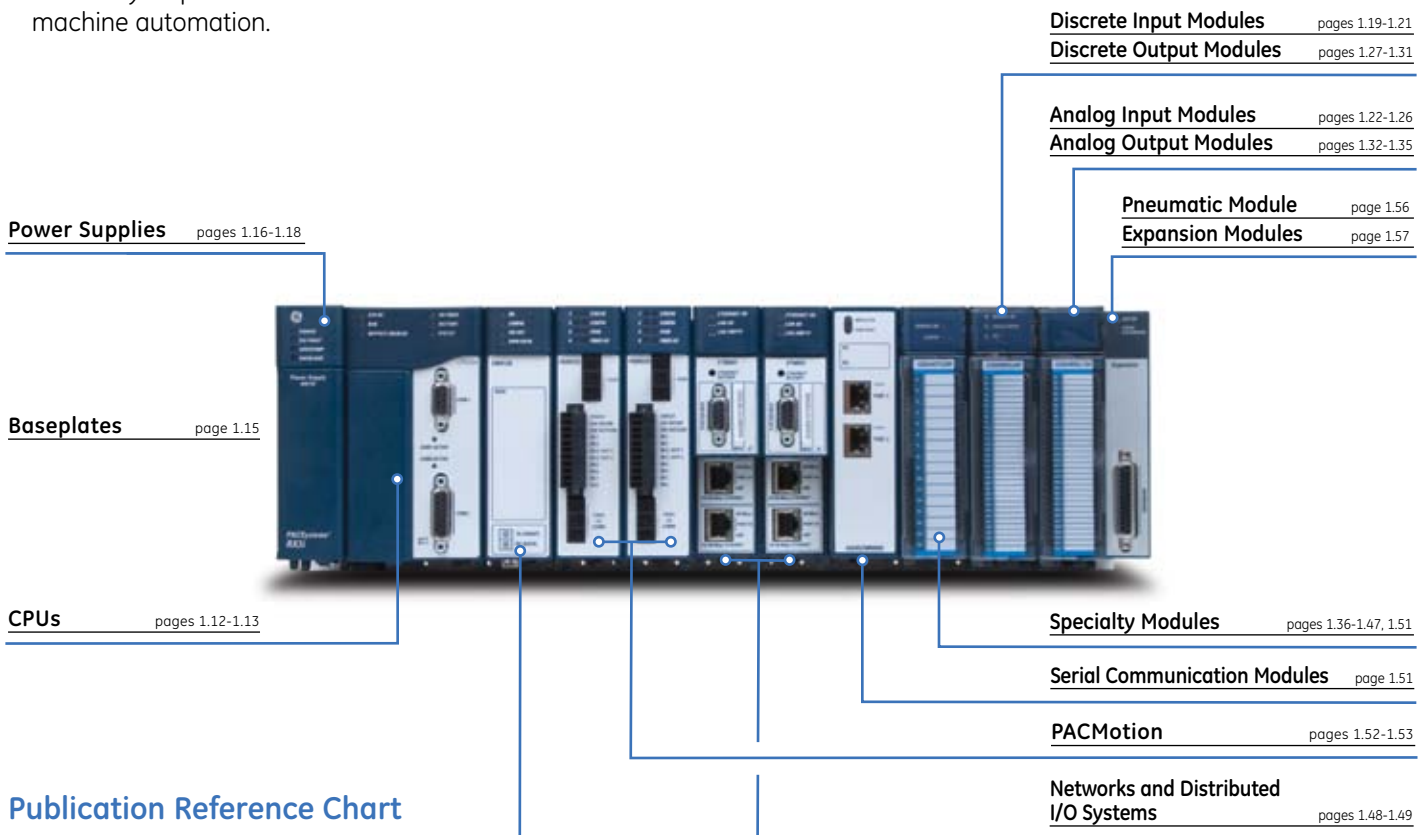
IC200CBL001	Station Manager Cable for Ethernet Interface	Active
IC600WD002	I/O Expansion Cable, 2 feet (0.6 meters)	Mature
IC600WD005	I/O Expansion Cable, 5 feet (1.5 meters)	Mature
IC600WD010	I/O Expansion Cable, 10 feet (3.0 meters)	Mature
IC600WD025	I/O Expansion Cable, 25 feet (7.5 meters)	Mature
IC600WD050	I/O Expansion Cable, 50 feet (15 meters)	Mature

PACSystems RX3i Controllers

PACSystems RX3i is the high performance, modular and scalable control system that supports the PACSystem engine. This rack-based system is built on PCI standards and provides fast, consistent control between the modules. In addition to more than one hundred discrete and process I/O points, the PACSystems RX3i features:

- **PACSystems High Availability** – This scalable, synchronized, hot-standby redundancy control platform helps ensure uninterrupted control of your applications and processes — with total transparency.
- **PACMotion Controller** – Our versatile servo motion controller combines the benefits of a highly integrated motion and machine logic solution, with the performance, flexibility and scalability required for advanced machine automation.
- **Proficy Process Systems** – A scalable, fully integrated system for process automation and control.
- **Integrated PROFINET** provides real time control of distributed I/O.
- **Proficy Machine Edition** – Develop, configure and maintain all of your control functions including motion, visualization and networking with complete software package.

PACSystems RX3i also offers an outstanding migration path for moving any Series 90 application to the PACSystems architecture.



Publication Reference Chart

GFK-2222	PACSystems CPU Reference Manual
GFK-2224	TCP/IP Ethernet Communications for PACSystems
GFK-2225	PACSystems Station Manager User's Manual
GFK-2259	C Programmer's Toolkit for PACSystems User's Manual
GFK-2308	PACSystems Hot Standby CPU Redundancy User's Manual
GFK-2314	PACSystems RX3i Hardware and Installation Manual

RX3i Accessories	pages 1.58-1.62
RX3i Configuration Guidelines	pages 1.63-1.65
alpha and beta Series Servo Amplifiers	page 1.66
VersaMotion	pages 1.67-1.75



CPUs

The high-performance CPU is based on the latest technology processor with fast computation and high throughput. The controller can manage up to 32K of I/O in a number of standard languages. The powerful CPU enables complex applications to be easily solved with the high performance processor and up to 64 Mbytes of user memory. The RX3i supports multiple IEC languages and C programming to give you program flexibility. The RX3i increases machine cycle times, reduces downtime with its extensive diagnostics and hot swap capability, and enables you to store large amounts of data to reduce external hardware cost.

	IC695CPE305	IC695CPE310	IC695CPU320	IC695CPU315
Product Name	RX3i CPU with built-in USB Master port, Ethernet port and serial port	RX3i CPU with built-in USB Master port, Ethernet port and 2 serial ports	RX3i CPU with two built-in serial ports	RX3i CPU with two built-in serial ports
Lifecycle Status	Active	Active	Active	Active
Module Type	Controller	Controller	Controller	Controller
Backplane Support	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.
Boolean Execution Speed (ms/K)	.072	.072	0.047	0.047
User Logic Memory	5Meg bytes	10Meg bytes	64Mega bytes	20Meg bytes
Battery Backed Real Time Clock	Yes	Yes	Yes	Yes
Dynamic Data Back-up	Energy Pack Support (Battery-less Backup)	Energy Pack Support (Battery-less Backup)	Battery Backup only	Battery Backup only
I/O Discrete Points	32K	32K	32K	32K
I/O Analog Points	32K	32K	32K	32K
Type of Memory Storage	SRAM, Flash	SRAM, Flash	SRAM, Flash	SRAM, Flash
Processor Speed (MHz)	1.1GHz	1.1GHz	1GHz	1GHz
USB -A 2.0 Master Port	Yes. CPU application upload/download to a Thumb Drive or Smart Phone	Yes. CPU application upload/download to a Thumb Drive or Smart Phone	No	No
Built-in Ethernet Ports	One RJ-45 port, 10/100Mbaud. SRTP support for programmer only	One RJ-45 port, 10/100Mbaud. SRTP support for programmer only		
Built-in Serial Ports	One RS-232 port. Supports SNP, Serial I/O, Modbus Slave and Modbus Master (Application code)	One RS-485 port and one RS-232 port. Supports SNP, Serial I/O, Modbus Slave and Modbus Master (Application code)	One RS-485 port and one RS-232 port. Supports SNP, Serial I/O, Modbus Slave and Modbus Master (Application code)	One RS-485 port and one RS-232 port. Supports SNP, Serial I/O, Modbus Slave and Modbus Master (Application code)
Total Number of Local Racks	8	8	8	8
Communications Options	Serial, Genius, CMX (Reflective Memory), Ethernet			
Field Busses/Device Networks	Ethernet (Profinet, Ethernet Global Data, Channels, Modbus TCP Server and Client), Genius, Profibus DP, DeviceNet			
Software Programming Support	Proficy Machine Edition Logic Developer Professional edition 7.0 SIM 3 or above	Proficy Machine Edition Logic Developer Professional edition 7.0 SIM 3 or above	Proficy Machine Edition Logic Developer Professional edition 5.6 or above	Proficy Machine Edition Logic Developer Professional edition 5.6 or above
Program Languages Supported	Ladder Logic, Structured Text, C, Function Block Diagram	Ladder Logic, Structured Text, C, Function Block Diagram	Ladder Logic, Structured Text, C, Function Block Diagram	Ladder Logic, Structured Text, C, Function Block Diagram
Internal Power Used	+3.3 VDC: 1.0 A +5 VDC: 1.0 A (up to 1.5 A if USB is fully loaded with 0.5 A) +24 VDC: 0.5A at startup, 0.1 A during run time (Applies only if Energy Pack is connected to the CPE305.)	+3.3 VDC: 1.0 A +5 VDC: 1.0 A (up to 1.5 A if USB is fully loaded with 0.5 A) +24 VDC: 0.5A at startup, 0.1 A during run time (Applies only if Energy Pack is connected to the CPE305.)	1750 mA @ 3.3 VDC; 1200 mA @ 5 VDC	1750 mA @ 3.3VDC; 1200 mA @ 5VDC (Check Data sheet)
Number of Slots Module Occupies on Backplane	1	2	2	2



High Availability Redundant Controllers

High Availability CPU Redundancy family allows critical application or process to continue operating if a failure occurs in any single component. A High Availability system uses two or more CPUs; an active unit that actively controls the process, and one or more backup units that are synchronized with the active unit and can take over the process should it becomes necessary.

An RX3i QuadPAC solution utilizes four CRU320QP controllers — one is a master controller and three are synchronized backup controllers. The QuadPAC solution features “Smart Redundancy,” a patent pending algorithm that calculates the relative system availability in real time and identifies the most available controller as master. The I/O racks may be grouped into either single (one I/O rack), redundant (two I/O racks), or triple redundant (three I/O racks) rack configurations.

IC695CRU320

IC695CRU320QP

Product Name	RX3i Bumpless Redundant High Availability CPU with two built-in serial ports. (Requires IC695RMX128 Data Sync Module)	QuadPAC CPU for RX3i Bumpless Redundant High Availability CPU with two built-in serial ports. (Requires IC695RMX128 Data Sync Module AND Quad Redundancy Solution Code)
Lifecycle Status	Active	Active
Module Type	Redundant Controller	Quad System Redundant Controller
Backplane Support	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.
Boolean Execution Speed (ms/K)	0.047	0.047
User Logic Memory	64Meg bytes	64Meg bytes
Battery Backed Real Time Clock	Yes	Yes
I/O Discrete Points	32K	32K
I/O Analog Points	32K	32K
Type of Memory Storage	SRAM, Flash	SRAM, Flash
Dynamic Data Back-up	Battery Backup only	Battery Backup only
Processor Speed	1GHz	1GHz
Built-in Communication Ports	One RS-485 port and one RS-232 port. Supports SNP, Serial I/O, Modbus Slave and Modbus Master (Application code)	One RS-485 port and one RS-232 port. Supports SNP, Serial I/O, Modbus Slave and Modbus Master (Application code)
Total Number of Racks	8	8
Communications Options	Serial, Genius, CMX, Ethernet, Profinet, Profibus, and DeviceNet	Serial, Genius, CMX, Ethernet, Profinet, Profibus, and DeviceNet
Field Busses/Device Networks	Ethernet (Ethernet Global Data, Channels, Modbus TCP Server and Client), Profibus DP, DeviceNet	Ethernet (Ethernet Global Data, Channels, Modbus TCP Server and Client), Profibus DP, DeviceNet
Software Programming Support	Proficy Machine Edition Logic Developer Professional edition 5.7 or above	Proficy Machine Edition Logic Developer Professional edition 7.0 SIM 8 or above
Program Languages Supported	Ladder Logic, Structured Text, C, Function Block Diagram	Ladder Logic, Structured Text, C, Function Block Diagram
Redundancy Maximum amount of data in for Synchronization	Up to 2 Mbytes beginning and end of scan	Up to 2 Mbytes beginning and end of scan
Redundancy Typical Base Sweep Time (Reference Data Transfer List Impact)	3.66 msec: 1K Discrete I/O, 125 Analog I/O and 1K Registers 3.87 msec: 2K Discrete I/O, 250 Analog I/O and 2K Registers 4.30 msec: 4K Discrete I/O, 500 Analog I/O and 4K Registers 5.16 msec: 8K Discrete I/O, 1K Analog I/O and 8K Registers	3.66 msec: 1K Discrete I/O, 125 Analog I/O and 1K Registers 3.87 msec: 2K Discrete I/O, 250 Analog I/O and 2K Registers 4.30 msec: 4K Discrete I/O, 500 Analog I/O and 4K Registers 5.16 msec: 8K Discrete I/O, 1K Analog I/O and 8K Registers
Redundancy Switchover Time	Maximum 1 logic scan, minimum 3.133 msec.	Maximum 1 logic scan, minimum 3.133 msec.
CPU Scan Synchronization	Automatic Each Scan	Automatic Each Scan
Redundant Synch LAN	Yes	Yes
Redundant I/O LAN	Yes	Yes
Internal Power Used	1750 mA @ 3.3 VDC; 1200 mA @ 5 VDC	1750 mA @ 3.3 VDC; 1200 mA @ 5 VDC
Number of Slots Module Occupies on Backplane	2	2



High Availability Data Synch

The Redundancy Memory Xchange (RMX) module operates as a dedicated link between CPUs in an RX3i Hot Standby CPU (IC695CRU320) Redundancy system. The RMX modules provide a path for transferring data between the two redundancy CPUs in the redundant system. A complete communications path consists of one RMX in the primary unit, one RMX in the secondary unit, and two high-speed fiber optic cables connecting them to each other. One or two redundancy links are supported per high availability CPU.

IC695RMX128

Product Name	RX3i Control Memory Xchange Module for Peer to Peer network. 128Megbytes of user shared memory.
Lifecycle Status	Active
Module Type	High Availability Data Synchronization Link
Backplane Support	Universal Backplane Only. Uses PCI Bus.
Sync Link Speed	2.1 Gbits/s
Communications Data Rate	2.12Gbaud
Synchronized Link Transfer Rate	43 Mbyte/s (4 byte packets) to 174 Mbyte/s (64 byte packets)
Maximum Data Synchronization	Up to 2 megabytes. Twice per Scan.
Bus Diagnostics	Network error detection.
Redundant RMX Support	Yes
Maximum Distance Between Redundant Controllers	300 meters
Connector Type	-Fiber optic LC type, conforms to IEC 61754-20 - Zirconium ceramic ferrule -Insertion loss: 0.35 dB (maximum) -Return loss: -30dB
Internal Power Used	660 mA @ +3.3 VDC 253 mA @ +5 VDC
Number of Slots Module Occupies on Backplane	1

Baseplates



RX3i baseplates are available in 7, 12 and 16 slot configurations to meet the needs of your application. The RX3i Universal baseplates support hot swap capability to reduce downtime. Expansion bases are available in 5 and 10 slot versions to maximize flexibility.

	IC695CHS007	IC695CHS012	IC695CHS016	IC694CHS398	IC693CHS399	IC694CHS392	IC693CHS393
Product Name	PACSystems RX3i 7 slot high speed controller base supports only 5 serial bus slots supported. Not expandable.	PACSystems RX3i 12 slot high speed controller base supports PCI and serial bus	PACSystems RX3i 16 slot high speed controller base supports PCI and serial bus	PACSystems RX3i serial 5-slot Expansion Baseplate (serial bus only)	PACSystems RX3i serial 5-slot Remote Baseplate (serial bus only)	PACSystems RX3i serial 10-slot Expansion Baseplate (serial bus only)	PACSystems RX3i serial 10-slot Remote Baseplate (serial bus only)
Lifecycle Status	Active	Active	Active	Active	Active	Active	Active
Module Type	Universal Controller and I/O Base	Universal Controller and I/O Base	Universal Controller and I/O Base	Standard I/O	Standard I/O	Standard I/O	Standard I/O
Backplane Support	Supports both PCI and High Speed Serial	Supports both PCI and High Speed Serial.	Supports both PCI and High Speed Serial.	Supports High Speed Serial Only. No PCI support.	Supports High Speed Serial Only. No PCI support.	Supports High Speed Serial Only. No PCI support.	Supports High Speed Serial Only. No PCI support.
Module Hot Swap Support	Yes	Yes	Yes	No	No	No	No
Baseplate Option	Controller Base and Ethernet Expansion Base. No local base expansion	Controller Base and Ethernet Expansion Base	Controller Base and Ethernet Expansion Base	Expansion	Expansion	Expansion	Expansion
Distance	N/A	N/A	N/A	Up to 50 feet	Up to 700 feet	Up to 50 feet	Up to 700 feet
Number of Slots	7	12	16	5	5	10	10
Dimension (W x H x D) in. (mm)	10.43 x 5.57 x 5.80 (265 x 141.5 x 147.32)	18.01 x 5.57 x 5.80 (457.5 x 141.5 x 147.32)	23.7 x 5.57 x 5.80 (601.98 x 141.5 x 147.32)	10.43 x 5.12 x 5.59 (245 x 130 x 142)	10.43 x 5.12 x 5.59 (245 x 130 x 142)	17.44 x 5.12 x 5.59 (443 x 130 x 142)	17.44 x 5.12 x 5.59 (443 x 130 x 142)
Internal Power Used	600 mA @ 3.3 VDC; 240 mA @ 5 VDC	600 mA @ 3.3 VDC; 240 mA @ 5 VDC	600 mA @ 3.3 VDC; 240 mA @ 5 VDC	170 mA @ 5 VDC	480 mA @ 5 VDC	150 mA @ 5 VDC	460 mA @ 5 VDC



Universal Bases Power Supplies

The RX3i power supply modules simply snap in just like I/O, and they work with any model CPU. Each version provides auto-ranging so there is no need to set jumpers for different incoming power levels, and they are current limiting so a direct short will shut the power supply down to avoid damage to the hardware. Advanced diagnostics and built-in smart switch fusing are among the other performance and safety features. The multipurpose power supplies can be configured for incremental capacity or redundancy.

	IC695PSA040	IC695PSD040	IC695PSA140	IC695PSD140
Product Name	Power Supply, 120/240 VAC, 125 VDC (Can not be on the same backplane with more than one power supply)	Power Supply, 24 VDC (Can not be on the same backplane with more than one power supply)	Multipurpose Power Supply, 120/240 VAC, 125 VDC. Supports multiple multipurpose power supplies.	Multipurpose Power Supply, 24 VDC. Supports multiple multipurpose power supplies.
Lifecycle Status	Active	Active	Active	Active
Module Type	Universal Base Power Supply	Universal Base Power Supply	Universal Base Power Supply	Universal Base Power Supply
Backplane Support	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.
Number of Slots Module Occupies on Backplane	2	1	2	1
Power Source	100-240 VAC or 125 VDC	24 VDC	100-240 VAC or 125 VDC	24 VDC
Redundant and Added Capacity Support	No	No	Yes, Up to 4 Multipurpose power supplies supported on a Universal base	Yes, Up to 4 Multipurpose power supplies supported on a Universal base
Output Source	40 watts total. 30 watts max at 3.3 VDC; 30 watts max at 5 VDC; 40 watts at 24 VDC Relay, no 24 VDC isolated available.	40 watts total. 30 watts max at 3.3 VDC; 30 watts max at 5 VDC; 40 watts at 24 VDC Relay, no 24 VDC isolated available	40 watts total. 30 watts max at 3.3 VDC; 30 watts max at 5 VDC; 40 watts at 24 VDC Relay, no 24 VDC isolated available	40 watts total. 30 watts max at 3.3 VDC; 30 watts max at 5 VDC; 40 watts at 24 VDC Relay, no 24 VDC isolated available.
Number of Redundant Power Supplies Supported	N/A	N/A	Two Multipurpose Power Supplies are supported on the Universal Base configured for redundancy	Two Multipurpose Power Supplies are supported on the Universal Base configured for redundancy



Remote Base Power Supplies

The RX3i power supply modules simply snap in just like I/O, and they work with any model CPU. Each version provides auto-ranging so there is no need to set jumpers for different incoming power levels, and they are current limiting so a direct short will shut the power supply down to avoid damage to the hardware. RX3i power supplies are tied into the performance of the CPU for simplex, fail-safe, and fault tolerance. Advanced diagnostics and built-in smart switch fusing are among the other performance and safety features.

	IC694PWR321	IC694PWR330	IC694PWR331	IC693PWR332
Product Name	Power Supply, 120/240 VAC, 125 VDC	Power Supply, 120/240 VAC, 125 VDC	Power Supply, 24 VDC	Power Supply, 12 VDC
Lifecycle Status	Active	Active	Active	Active
Module Type	Expansion Power Supply	Expansion Power Supply	Expansion Power Supply	Expansion Power Supply
Backplane Support	Remote Bases Only	Remote Bases Only	Remote Bases Only	Remote Bases Only
Power Source	100-240 VAC or 125 VDC	100-240 VAC or 125 VDC	24 VDC	12 VDC
High Capacity	No	Yes	Yes	Yes
Output Source	30 watts total; 15 watts 5 VDC; 15 watts 24 VDC relay; 20 watts 24 VDC isolated	30 watts total; 30 watts 5 V; 15 watts 24 V relay; 20 watts 24 V isolated	30 watts total; 30 watts 5 V; 15 watts 24 V relay; 20 watts 24 V isolated	30 watts total; 30 watts 5 V; 15 watts 24 V relay; 20 watts 24 V isolated
Cable Length to Redundant Power Supply Adapter	N/A	N/A	N/A	N/A
Redundant Power Supply Adapter Rack Compatibility	N/A	N/A	N/A	N/A
24 VDC Output Current Capacity	0.8 A	0.8 A	0.8 A	0.8 A



Remote Base Power Supplies

The RX3i power supply modules simply snap in just like I/O, and they work with any model CPU. Each version provides auto-ranging so there is no need to set jumpers for different incoming power levels, and they are current limiting so a direct short will shut the power supply down to avoid damage to the hardware. RX3i power supplies are tied into the performance of the CPU for simplex, fail-safe, and fault tolerance. Advanced diagnostics and built-in smart switch fusing are among the other performance and safety features.

IC693PWR328

Product Name	Power Supply, 48 VDC
Lifecycle Status	Active
Module Type	Expansion Power Supply
Backplane Support	Remote Bases Only
Power Source	48 VDC
High Capacity	No
Output Source	30 watts total; 15 watts 5 V; 15 watts 24 V relay; 20 watts 24 V isolated
Cable Length to Redundant Power Supply Adapter	N/A
Redundant Power Supply Adapter Rack Compatibility	N/A
24 VDC Output Current Capacity	0.8 A



Discrete I/O Modules (Input)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC694ACC300	IC694MDL230	IC694MDL250	IC694MDL231	IC694MDL240
Product Name	PACSystems RX3i DC Voltage Input Simulator, 8/16 Points	PACSystems RX3i AC Voltage Input Module, 120 VAC Isolated, 8 Point Input	PACSystems RX3i AC Voltage Input Module, 120 VAC Isolated, 16 Point Input	PACSystems RX3i AC Voltage Input Module, 240 VAC Isolated, 8 Point Input	PACSystems RX3i AC Voltage Input Module, 120 VAC, 16 Point Input
Lifecycle Status	Active	Active	Active	Active	Active
Module Type	Input Simulator	Discrete Input	Discrete Input	Discrete Input	Discrete Input
Backplane Support	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1	1	1	1
Input Voltage Range	N/A	0-132 VAC	0-132 VAC	0-264 VAC	0-132 VAC
Input Current (mA)	N/A	14.5	14.5	15	12
Number of Points	16	8	16	8	16
Response Time (ms)	20 on/30 off	30 on/45 off	30 on/45 off	30 on/45 off	30 on/45 off
Trigger Voltage	N/A	74-132	74-132	148-264	74-132
Points per Common	16	1	1	1	16
Diagnostic Supported	N/A	N/A	N/A	N/A	N/A
Connector Type	Switches	Terminal Block (20 screws), included with module.	IC694TBBx32 or IC694TBSx32. Sold Separately.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	120 mA @ 5 VDC	60 mA @ 5 VDC	60 mA @ 5 VDC	60 mA @ 5 VDC	90 mA @ 5 VDC



Discrete I/O Modules (Input)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC694MDL260	IC694MDL241	IC694MDL632	IC694MDL634	IC694MDL645
Product Name	PACSystems RX3i AC Voltage Input Module, 120 VAC, 32 Point Input	AC/DC Voltage Input Module, 24 VAC/VDC	PACSystems RX3i DC Voltage Input Module, 125 VDC Pos/Neg Logic, 8 Point Input	PACSystems RX3i DC Voltage Input Module, 24 VDC Pos/Neg Logic, 8 Point Input	PACSystems RX3i DC Voltage Input Module, 24 VDC Pos/Neg Logic, 16 Point Input
Lifecycle Status	Active	Active	Active	Active	Active
Module Type	Discrete Input	Discrete Input	Discrete Input	Discrete Input	Discrete Input
Backplane Support	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1	1	1	1
Input Voltage Range	0-132 VAC	0-30 VDC	0-150 VDC	0-30 VDC	0-30 VDC
Input Current (mA)	12	7	4.5	7	7
Number of Points	32	16	8	8	16
Response Time (ms)	30 on/45 off	12 on/28 off	7 on/7 off	7 on/7 off	7 on/7 off
Trigger Voltage	74-132	11.5-30	90-150	11.5-30	11.5-30
Points per Common	16	16	4	8	16
Diagnostic Supported	N/A	N/A	N/A	N/A	N/A
Connector Type	IC694TBBx32 or IC694TBSx32. Sold Separately.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	90 mA @ 5 VDC	80 mA @ 5 VDC; 125 mA @ 24 VDC	40 mA @ 5 VDC	45 mA @ 5 VDC; 62 mA @ 24 VDC Isolated Isolated	80 mA @ 5 VDC; 125 mA @ 24 VDC Isolated



Discrete I/O Modules (Input)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs

	IC694MDL646	IC694MDL654	IC694MDL655	IC694MDL660	IC695MDL664
Product Name	PACSystems RX3i DC Voltage Input Module, 24 VDC Pos/Neg Logic, FAST, 16 Point Input	PACSystems RX3i DC Voltage Input Module, 5/12 VDC (TTL) Pos/Neg Logic, 32 Point Input	PACSystems RX3i DC Voltage Input Module, 24 VDC Pos/Neg Logic, 32 Point Input	PACSystems RX3i DC Voltage Input Module, 24 VDC Pos/Neg Logic, 32 Point Input	PACSystems RX3i DC Voltage Input Module, 24VDC Positive Logic, Advanced Diagnostics, 16 Point Input
Lifecycle Status	Active	Active	Active	Active	Active
Module Type	Discrete Input	Discrete Input	Discrete Input	Discrete Input	Discrete Input
Backplane Support	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions	Universal PCI Slot Only
Number of Slots Module Occupies on Backplane	1	1	1	1	1
Input Voltage Range	0-30 VDC	0-15 VDC	0-30 VDC	0-30 VDC	0-30 VDC
Input Current (mA)	7	3.0 @ 5V, 8.5 @ 12 V	7	7	12.2
Number of Points	16	32	32	32	16
Response Time (ms)	1 on/1 off	1 on/1 off	2 on/2 off	0.5ms, 1.0ms, 2.0ms, 5ms, 10ms, 50ms and 100ms, selectable per module. On and off.	0.5ms, 1.0ms, 2.0ms, 5ms, 10ms, 50ms and 100ms, selectable per module. On and off.
Trigger Voltage	11.5-30	4.2-15	11.5-30	11.5-30	0.5 × VIN VDC
Points per Common	16	8	8	8	8
Diagnostic Supported	N/A	N/A	N/A	N/A	Open Wire, Short to DC Negative Input Pulse Test Short to DC Plus
Connector Type	Terminal Block (20 screws), included with module.	Fujitsu Connector	Fujitsu Connector	IC694TBBx32 or IC694TBSx32. Sold Separately.	IC694TBB032 or IC694TBS032
Internal Power Used	80 mA @ 5 VDC; 125 mA @ 24 VDC Isolated	5 VDC -195 mA @ 5 VDC; 12 VDC -440 mA @ 5 VDC	195 mA @ 5 VDC	300 mA @ 5 VDC	225 mA @ 5 VDC; 95 mA @ 3.3 VDC



Analog I/O Modules (Input)

GE offers easy-to-use analog modules and HART analog modules for control processes such as flow, temperature and pressure.

	IC694ALG232	IC694ALG233	IC695ALG600
Product Name	PACSystems RX3i Analog Input, Voltage, High Density (16 Channel) 16 Bit with advanced diagnostics	PACSystemsRX3i Analog Input, Current, High Density (16 Channel) 16 Bit with advanced diagnostics	PACSystems RX3i Analog Input. Configurable per channel for Current, Voltage, RTD, Thermocouple and Resistive. High Density (8 Channel) Requires High Density Terminal Block (IC694TBB032 or IC694TBS032). Cold Junction Compensation are available for Thermocouple configura- tions (IC695ACC600 contains 2 CJs)
Lifecycle Status	Active	Active	Active
Module Type	Analog Input	Analog Input	Universal Analog Input
Backplane Support	No Backplane Restrictions	No Backplane Restrictions	Universal Backplane Only. Uses PCI Bus.
Number of Slots Module Occupies on Backplane	1	1	1
Range	-10 V to +10 V, 0 to 10 V	0-20 mA, 4-20 mA, 4-20 mA Enhanced	Voltage: +50 mV, +150 mV, 0-5 V, 1-5 V, 0-10 V, +10 V; Current: 0-20 mA, 4-20 mA, +20 mA; Thermocouple Inputs: B, C, E, J, K, N, R, S, T; RTD Inputs: PT 385 / 3916, N 618 / 672, NiFe 518, CU 426; Resistance Inputs: 0 to 250 / 500 / 1000 / 2000 / 3000 / 4000 Ohms
HART Support	N/A	N/A	N/A
Channel-to-Channel Isolation	No	No	Two Groups of Four
Number of Channels	16 Single Ended, 8 Differential	16	8
Update Rate	Single Ended: 5 ms for all channels Differential: 3 ms all channels	6 ms all channels	10ms per Channel; 4 Channels = 40ms (1KHz filter) 127ms per Channel 4 Channels = 508ms (8Hz filter) Channels that are disabled are not scanned, shortening scan time.
Resolution	16 bit; ±10 V, 0.3125 mV, 1 LSB; 0-10 V, 0.3125 mV, 1 LSB	16 bit; 0-20 mA, 0.625 @ 181A/bit; 4-20 mA, 0.5 @ 181A/bit; 4-20 mA Enhanced, 0.5 @181A/bit	11 to 16 bits, depending on configured range and A/D filter frequency
Accuracy	0.25% at 25°C (77°F)	0.25% at 25°C (77°F)	Calibrated Accuracy at 25°C. Better than 0.1% of range (except 10 ohm CU RTD) Accuracy depends on A/D filter, data format, input noise, and ambient temperature.
Input Impedance	500K Ohms (single-ended mode) 1 MegaOhms (differential mode)	250 ohms	Current 249 ohms ±1%
Input Filter Response	23 Hz (single-ended mode) 38 Hz (differential mode)	23 Hz	Configurable: 8Hz, 12Hz, 16Hz, 40Hz, 200Hz, 1000Hz
Notch Filter	N/A	N/A	Yes
Diagnostics	Under Range/Over Range, Positive/Negative Rate of Change, High, High-High, Low, Low-Low	Under Range/Over Range, Open Wire, Positive/Negative Rate of Change, High, High-High, Low, Low-Low	Open Wire, Short Circuit, Positive/Negative Rate of Change, High, High-High, Low, Low-Low
Internal Power Used	112 mA (maximum) @ +5 VDC	120 mA @ +5 VDC	400 mA @ 5 V; 350 mA @ 3.3 V
External Power Requirement	110 mA (maximum) +24 VDC supply connected to TB1 on IC695CHSxxx	65 mA @ 24 VDC	N/A
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	IC694TBBx32 or IC694TBSx32. Sold Separately.



Analog I/O Modules (Input)

GE offers easy-to-use analog modules and HART analog modules for control processes such as flow, temperature and pressure.

	IC695ALG608	IC695ALG616	IC695ALG628
Product Name	PACSystems RX3i Analog Input. Configurable per channel for Current or Voltage. High Density (8 Channel) Requires High Density Terminal Block (IC694TBB032 or IC694TBS032).	PACSystems RX3i Analog Input. Configurable per channel for Current or Voltage. High Density (16 Channel) Requires High Density Terminal Block (IC694TBB032 or IC694TBS032).	PACSystems RX3i Analog Input with HART Communications. Configurable per channel for Current or Voltage. High Density (8 Channel) Requires High Density Terminal Block (IC694TBB032 or IC694TBS032).
Lifecycle Status	Active	Active	Active
Module Type	Analog Input	Analog Input	Analog Input with HART Communications
Backplane Support	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.
Number of Slots Module Occupies on Backplane	1	1	1
Range	Current: 0 to 20 mA, 4 to 20 mA, ± 20 mA; Voltage: ± 10 V, 0 to 10 V, ± 5 V, 0 to 5 V, 1 to 5 V	Current: 0 to 20 mA, 4 to 20 mA, ± 20 mA; Voltage: ± 10 V, 0 to 10 V, ± 5 V, 0 to 5 V, 1 to 5 V	Current: 0 to 20 mA, 4 to 20 mA, ± 20 mA; Voltage: ± 10 V, 0 to 10 V, ± 5 V, 0 to 5 V, 1 to 5 V
HART Support	N/A	N/A	Get HART Device Information (Function 1) Simplified HART Pass-Thru Command (Function 2) Enterprise HART Pass-Thru Command (Function 3)
Channel-to-Channel Isolation	One Group of Eight	One Group of Sixteen	One Group of Eight
Number of Channels	8	16	8
Update Rate	All 8 Channels at 5 msec @ 500Hz. Performance is dependent on filtering.	All 16 Channels at 9 msec @ 500Hz. Performance is dependent on filtering.	All 8 Channels at 5 msec @ 500Hz. Performance is dependent on filtering and HART enabled channels could add 6 to 8 seconds.
Resolution	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format	Selectable per channel
Accuracy	Calibrated Accuracy @ 13°C – 33°C with 8 Hz, 12 Hz and 16 Hz filter; 0 to 10 V, ± 10 V input types: 10 mV0 to 5 V, 1 to 5 V, ± 5 V input types: 5 mV0 to 20 mA, 4 to 20 mA, ± 20 mA input types: 20 μ A	Calibrated Accuracy @ 13°C – 33°C with 8 Hz, 12 Hz and 16 Hz filter; 0 to 10 V, ± 10 V input types: 10 mV0 to 5 V, 1 to 5 V, ± 5 V input types: 5 mV0 to 20 mA, 4 to 20 mA, ± 20 mA input types: 20 μ A	Calibrated Accuracy @ 13°C – 33°C with 8 Hz, 12 Hz and 16 Hz filter; 0 to 10 V, ± 10 V input types: 10 mV0 to 5 V, 1 to 5 V, ± 5 V input types: 5 mV0 to 20 mA, 4 to 20 mA, ± 20 mA input types: 20 μ A
Input Impedance	Current 249 ohms $\pm 1\%$	Current 249 ohms $\pm 1\%$	Current 249 ohms $\pm 1\%$
Input Filter Response	Configurable: 8Hz, 12Hz, 16Hz, 40Hz, 200Hz, 500Hz	Configurable: 8Hz, 12Hz, 16Hz, 40Hz, 200Hz, 500Hz	Configurable: 8Hz, 12Hz, 16Hz, 40Hz, 200Hz, 500Hz
Notch Filter	Yes	Yes	Yes
Diagnostics	Open wire, short circuit, positive/negative rate of change, High, High-High, Low, Low-Low	Open wire, short circuit, positive/negative rate of change, High, High-High, Low, Low-Low	Open wire, short circuit, positive/negative rate of change, High, High-High, Low, Low-Low
Internal Power Used	450 mA @ 5 V; 600 mA @ 3.3 V	450 mA @ 5 V; 600 mA @ 3.3 V	450 mA @ 5 V; 600 mA @ 3.3 V
External Power Requirement	N/A	N/A	N/A
Connector Type	IC694TBBx32, IC694TBSx32 or IC694TBC032 Sold Separately.	IC694TBBx32, IC694TBSx32 or IC694TBC032 Sold Separately.	IC694TBBx32 or IC694TBSx32. Sold Separately.



Analog I/O Modules (Input)

GE offers easy-to-use analog modules and HART analog modules for control processes such as flow, temperature and pressure.

	IC695ALG626	IC695ALG106	IC695ALG112
Product Name	PACSystems RX3i Analog Input with HART Communications. Configurable per channel for Current or Voltage. High Density (16 Channel) Requires High Density Terminal Block (IC694TBB032 or IC694TBS032).	PACSystems RX3i Isolated Analog Input Configurable per channel for Current or Voltage. High Density (6 Isolated Channels) Requires High Density Terminal Block (IC694TBB032 or IC694TBS032).	PACSystems RX3i Isolated Analog Input. Configurable per channel for Current or Voltage. High Density (12 Isolated Channels) Requires High Density Terminal Block (IC694TBB032 or IC694TBS032).
Lifecycle Status	Active	Active	Active
Module Type	Analog Input with HART Communications	Analog Input with Channel to Channel Isolation	Analog Input with Channel to Channel Isolation
Backplane Support	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.
Number of Slots Module Occupies on Backplane	1	1	1
Range	Current: 0 to 20 mA, 4 to 20 mA, ±20 mA; Voltage: ±10 V, 0 to 10 V, ±5 V, 0 to 5 V, 1 to 5 V	Current: 0 to 20 mA, 4 to 20 mA, ±20 mA; Voltage: ±10 V, 0 to 10 V, ±5 V, 0 to 5 V, 1 to 5 V	Current: 0 to 20 mA, 4 to 20 mA, ±20 mA; Voltage: ±10 V, 0 to 10 V, ±5 V, 0 to 5 V, 1 to 5 V
HART Support	Get HART Device Information (Function 1) Simplified HART Pass-Thru Command (Function 2) Enterprise HART Pass-Thru Command (Function 3)	N/A	N/A
Channel-to-Channel Isolation	One Group of Sixteen	Yes (250 VAC continuous, 1500 VAC for 1 minute per channel)	Yes (250 VAC continuous, 1500 VAC for 1 minute per channel)
Number of Channels	16	6	12
Update Rate	All 16 Channels at 9 msec @ 500Hz. Performance is dependent on filtering and HART enabled channels could add 6 to 8 seconds.	1 ms for all channels.	1 ms for all channels
Resolution	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format
Accuracy	Calibrated Accuracy @ 13°C – 33°C with 8 Hz, 12 Hz and 16 Hz filter; 0 to 10 V, ±10 V input : types 10 mV0 to 5 V, 1 to 5 V, ±5 V input types: 5 mV0 to 20 mA, 4 to 20 mA, ±20 mA input types: 20 µA	±0.1% of span at 25°C, ±0.25% of span over operating temperature range	±0.1% of span at 25°C, ±0.25% of span over operating temperature range
Input Impedance	Current 249 ohms ±1%	Current = 250 ohms ±1%, Voltage >= 500k Ohms	Current = 250 ohms ±1%, Voltage >= 500k Ohms
Input Filter Response	Configurable: 8Hz, 12Hz, 16Hz, 40Hz, 200Hz, 500Hz	Configurable low-pass: 8Hz, 12Hz, 16Hz, 40Hz, 250Hz, and 1000Hz	Configurable: 8Hz, 12Hz, 16Hz, 40Hz, 250Hz, and 1000Hz
Notch Filter	Yes	N/A	N/A
Diagnostics	Open wire, short circuit, positive/negative rate of change, High, High-High, Low, Low-Low	Open wire, under range, over range, positive/negative rate of change, High, High-High, Low, Low-Low	Open wire, under range, over range, positive/negative rate of change, High, High-High, Low, Low-Low
Internal Power Used	450 mA @ 5 V; 600 mA @ 3.3 V	400 mA @ 5 V; 600 mA @ 3.3 V	800 mA @ 5 V; 600 mA @ 3.3 V
External Power Requirement	N/A	19.2 V to 30 VDC, Current required: 500 mA	19.2 V to 30 VDC, Current required: 500 mA
Connector Type	IC694TBBx32 or IC694TBSx32. Sold Separately.	IC694TBBx32 or IC694TBSx32. Sold Separately.	IC694TBBx32 or IC694TBSx32. Sold Separately.



Analog I/O Modules (Input)

GE offers easy-to-use analog modules and HART analog modules for control processes such as flow, temperature and pressure.

	IC694ALG220	IC694ALG221	IC694ALG222	IC694ALG223
Product Name	PACSystems RX3i Analog Input, Voltage, 4 Channel	PACSystems RX3i Analog Input, Current, 4 Channel	PACSystems RX3i Analog Input, Voltage, High Density (16 Channel)	PACSystems RX3i Analog Input, Current, High Density (16 Channel)
Lifecycle Status	Active	Active	Active	Active
Module Type	Analog Input	Analog Input	Analog Input	Analog Input
Backplane Support	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1	1	1
Range	-10 V to +10 V	4-20 mA, 0-20 mA	-10 V to ±10 V, 0 to 10 V	0-20 mA, 4-20 mA
HART Support	N/A	N/A	N/A	N/A
Channel-to-Channel Isolation	N/A	N/A	N/A	N/A
Number of Channels	4	4	1	16
Update Rate	4 ms all channels	2 ms all channels	13 ms all channels	13 ms all Channels
Resolution	12 bit; 5 mV/20 µA/bit	12 bit; 0-20 mA, 5 µA/bit; 4-20 mA, 4 µA/bit	12 bit; ±10 V, 5 mV/20 µA/bit; 0-10 V, 5 mV/20 µA/bit	12 bit; 0-20 mA, 5 µA/bit; 4-20 mA, 4 µA/bit; 4-20 mA Enhanced, 5µA/bit
Accuracy	±10 mV/40µA at 25°C (77°F)	0.1 % full scale	0.25% at 25°C (77°F)	0.25% at 25°C (77°F)
Input Impedance	>9 Megohms	250 ohms	250 ohms	250 ohms
Input Filter Response	17 Hz	325 Hz	200 Hz	200 Hz
Notch Filter	N/A	N/A	N/A	N/A
Diagnostics	N/A	N/A	N/A	N/A
Internal Power Used	27 mA @ 5 VDC; 98 mA @ 24 VDC Isolated	25 mA @ 5 VDC; 100 mA @ 24 VDC Isolated	112 mA @ 5 VDC; 4150 mA- User Supplied 24 VDC	120 mA @ 5 VDC; 65 mA-User Supplied 24 VDC
External Power Requirement	N/A	N/A	N/A	N/A
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.



Analog I/O Modules (Input)

GE offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	HE693ADC410	HE693ADC420
Product Name	Isolated Analog Input Module, Voltage, 1500 VAC, Isolation	Isolated Analog Input Module, Current, 1500 VAC, Isolation
Lifecycle Status	Active	Active
Module Type	Analog Input	Analog Input
Backplane Support	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1
Range	±10 V	4-20 mA, ±20 mA
Number of Channels	4	4
Channel-to-Channel Isolation	1500 VAC (RMS), ±2000 VDC	1500 VAC (RMS), ±2000 VDC
Input Impedance	1 Megohm	100 ohms
A/D Type, Resolution	Integrating, 18 bits	Integrating, 18 bits
Useable Resolution	13 bits plus sign	13 bits plus sign
I/O Required	4 %AI, 4 %AQ, 16 %I	8 %AI, 8 %AQ, 16 %I
Sample Rate	45 channels/second	45 channels/second
Analog Filtering	1 KHz, 3 pole Bessel	1 KHz, 3 pole Bessel
Digital Filtering	1-128 samples/update	1-128 samples/update
Maximum Error	.05% full scale	.05% full scale
Common Mode Range	1500 VAC (RMS), ±2000 VDC	1500 VAC (RMS), ±2000 VDC
Common Mode Rejection	>100 dB	>100 dB
Power Consumption at Steady State, Maximum	.7 W @ 5 V, 1.2 W @ 24 V	.7 W @ 5 V, 1.2 W @ 24 V
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
External Power Requirement	N/A	N/A
Internal Power Used	140 mA @ 5 VDC; 50 mA @ 24 VDC Relay	140 mA @ 5 VDC; 50 mA @ 24 VDC Relay



Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC694MDL310	IC694MDL330	IC694MDL340	IC694MDL390
Product Name	PACSystems RX3i AC Voltage Output Module, 120 VAC, 0.5A, 12 Point Output	PACSystems RX3i AC Voltage Output Module, 120/240 VAC, 1A, 8 Point Output	PACSystems RX3i AC Voltage Output Module, 120 VAC, 0.5A, 16 Point Output	PACSystems RX3i AC Voltage Output Module, 120/240 VAC Isolated, 2A, 5 Point Output
Lifecycle Status	Active	Active	Active	Active
Module Type	Discrete Output	Discrete Output	Discrete Output	Discrete Output
Backplane Support	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1	1	1
Output Voltage Range	85-132 VAC	85-264 VAC	85-132 VAC	85-264 VAC
Number of Points	12	8	16	5
Isolation	N/A	N/A	N/A	Yes
Diagnostics	N/A	N/A	N/A	N/A
Load Current per Point	0.5 A	1 A	0.5 A	2:00 AM
Response Time (ms)	1 on 1/2 cy off	1 on 1/2 cy off	1 on 1/2 cy off	1 on 1/2 cy off
Output Type	Triac	Triac	Triac	Triac
Polarity	N/A	N/A	N/A	N/A
Points per Common	6	4	4	1
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	210 mA @ 5 VDC	160 mA @ 5 VDC	315 mA @ 5 VDC	110 mA @ 5 VDC



Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC694MDL350	IC694MDL732	IC694MDL734	IC694MDL740
Product Name	PACSystems RX3i AC Voltage Output Module, 120/240 VAC Isolated, 2A, 16 Point Output	PACSystems RX3i DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5A, 8 Point Output	PACSystems RX3i DC Voltage Output Module, 125 VDC Pos/Neg Logic, 6 Point Output	PACSystems RX3i DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5A, 16 Point Output
Lifecycle Status	Active	Active	Active	Active
Module Type	Discrete Output	Discrete Output	Discrete Output	Discrete Output
Backplane Support	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1	1	1
Output Voltage Range	74-264 VAC	12-24 VDC	11-150 VDC	12-24 VDC
Number of Points	16	8	6	16
Isolation	Yes	N/A	N/A	N/A
	N/A	N/A	N/A	N/A
Diagnostics				
Load Current per Point	Per Point 2A max. @ 30°C & 1A max. @ 60°C (Linear derating)	0.5 A	1 A	0.5 A
Response Time (ms)	1 on 1/2 cy off	2 on/2 off	7 on/5 off	2 on/2 off
Output Type	Triac	Transistor	Transistor	Transistor
Polarity	N/A	Positive	Positive/Negative	Positive
Points per Common	1	8	1	8
Connector Type	IC694TBBx32 or IC694TBSx32. Sold Separately.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	110 mA @ 5 VDC	50 mA @ 5 VDC	90 mA @ 5 VDC	110 mA @ 5 VDC



Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC694MDL741	IC694MDL742	IC694MDL752	IC694MDL753
Product Name	PACSystems RX3i DC Voltage Output Module, 12/24 VDC Negative Logic, 0.5A, 16 Point Output	PACSystems RX3i DC Voltage Output Module, 12/24 VDC Positive Logic ESCP, 1A, 16 Point Output	PACSystems RX3i DC Voltage Output Module, 5/24 VDC (TTL) Negative Logic, 0.5A, 32 Point Output	PACSystems RX3i DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5A, 32 Point Output
Lifecycle Status	Active	Active	Active	Active
Module Type	Discrete Output	Discrete Output	Discrete Output	Discrete Output
Backplane Support	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1	1	1
Output Voltage Range	12-24 VDC	12-24 VDC	5, 12-24 VDC	12-24 VDC
Number of Points	16	16	32	32
Isolation	N/A	N/A	N/A	N/A
Diagnostics	N/A	N/A	N/A	N/A
Load Current per Point	0.5 A	1 A	0.5 A	0.5 A
Response Time (ms)	2 on/2 off	2 on/2 off	0.5 on/0.5 off	0.5 on/0.5 off
Output Type	Transistor	Transistor	Transistor	Transistor
Polarity	Negative	Positive	Negative	Positive
Points per Common	8	8	8	8
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Fujitsu Connector	Fujitsu Connector
Internal Power Used	110 mA @ 5 VDC	130 mA @ 5 VDC	260 mA @ 5 VDC	260 mA @ 5 VDC



Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC694MDL754	IC695MDL765	IC694MDL930	IC694MDL916	IC694MDL931
Product Name	PACSystems RX3i DC Voltage Output Module, 12/24 VDC Positive Logic with ESCP (Self Healing), 0.75A, 32 Point Output	RX3i DC Voltage Output Module, 24/125 volt DC 2A Smart Digital Output module, 16 Point Output	PACSystems RX3i AC/DC Voltage Output Module, Relay, N.O., 4A Isolated, 8 Point Output	PACSystems RX3i AC/DC Voltage Output Module, Relay, N.O., 4A Isolated, 16 Point Output	PACSystems RX3i AC/DC Voltage Output Module, Relay, N.C. and Form C, 8A Isolated, 8 Point Output
Lifecycle Status	Active	Active	Active	Active	Active
Module Type	Discrete Output	Discrete Output	Discrete Output	Discrete Output	Discrete Output
Backplane Support	No Backplane Restrictions	Universal Backplane Only. Uses PCI Bus.	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1	1	1	1
Output Voltage Range	12-24 VDC	18 to 30VDC 105 to 132 VDC	0 to 125 VDC, 5/24/125 VDC nominal 0 to 265 VAC (47 to 63 Hz), 120/240 VAC nominal	5 to 125 VDC 5/24/125 VDC nominal 5 to 250 VAC (47 to 63 Hz), 120/240 VAC nominal	0 to 125 VDC, 5/24/125 VDC nominal 0 to 265 VAC (47 to 63 Hz), 120/240 VAC nominal
Number of Points	32	16	8	16	8
Isolation	N/A	N/A	Yes	Yes	Yes
Diagnostics	Short Circuit Detection	<ul style="list-style-type: none"> • Output Pulse Test • Over temperature • Failed Switch Detection • Overload Detection and Shutdown • No-load Detection 	N/A	N/A	N/A
Load Current per Point	0.75 A	2 A	2 A	4 A	8 A
Response Time (ms)	0.5 on/0.5 off	1 msec maximum	15 on/15 off	10ms maximum (At nominal voltage excluding contact bounce)	15 on/15 off
Output Type	Transistor	Transistor	Relay	Relay	Relay
Polarity	Positive	Positive	N/A	N/A	N/A
Points per Common	16	16	1	1	1
Connector Type	IC694TBBx32 or IC694TBSx32. Sold Separately.	IC694TBBx32 or IC694TBSx32. Sold Separately.	Terminal Block (20 screws), included with module.	IC694TBBx32 or IC694TBSx32. Sold Separately.	Terminal Block (20 screws), included with module.
Internal Power Used	300 mA @ 5 VDC	540 mA @ 5.1 VDC; 152 mA @ 3.3 VDC	6 mA @ 5 VDC; 70 mA @ 24 VDC Relay	300 mA @ 5 VDC from backplane maximum (all outputs ON)	6 mA @ 5 VDC; 110 mA @ 24 VDC Relay



Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC694MDL940	HE693RLY100	HE693RLY110
Product Name	PACSystems RX3i AC/DC Voltage Output Module, Relay, N.O., 2A, 16 Point Output	DC/AC Voltage Relay Output Module High Current	DC/AC Voltage Relay Output Module High Current (fused)
Lifecycle Status	Active	Active	Active
Module Type	Discrete Output	Discrete Output	Discrete Output
Backplane Support	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1	1
Output Voltage Range	0 to 125 VDC, 5/24/125 VDC nominal 0 to 265 VAC (47 to 63 Hz), 120/240 VAC nominal	12-120 VAC, 12-30 VDC	12-120 VAC, 12-30 VDC
Number of Points	16	8	8
Isolation	N/A	N/A	Yes
	N/A	N/A	N/A
Diagnostics			
Load Current per Point	2 A	8 A	8 A
Response Time (ms)	15 on/15 off	11 on/11 off	11 on/11 off
Output Type	Relay	Relay	Relay
Polarity	N/A	N/A	N/A
Points per Common	4	N/A	1
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	7 mA @ 5 VDC; 135 mA @ 24 VDC Relay	180 mA @ 5 VDC; 200 mA @ 24 VDC Relay	180 mA @ 5 VDC; 200 mA @ 24 VDC Relay



Analog I/O Modules (Output)

GE offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	IC694ALG392	IC695ALG704
Product Name	PACSystems RX3i Analog Output, Current/Voltage, 8 Channel	PACSystems RX3i Analog Output, Current/Voltage, 4 Channel
Lifecycle Status	Active	Active
Module Type	Analog Output	Analog Output
Backplane Support	No Backplane Restrictions	Universal Backplane Only. Uses PCI Bus.
Number of Slots Module Occupies on Backplane	1	1
Diagnostics	N/A	High and Low Alarm, Ramp Rate Control Clamping, Overrange and Underrange
Protection	Reverse polarity and undervoltage on external power supply	N/A
Range	0 V to +10 V, -10 V to +10 V, 0-20 mA, 4-20 mA	Current: 0 to 20 mA, 4 to 20 mA; Voltage: ±10 V, 0 to 10 V
HART Support	N/A	N/A
Number of Channels	8	4
Channel-to-Channel Isolation	N/A	N/A
Update Rate	8 ms all channels	8 ms all channels
Resolution	16 bit; 0.312 mV/bit	±10 V: 15.9 bits; 0 to 10 V: 14.9 bits; 0 to 20 mA: 15.9 bits; 4 to 20 mA: 15.6 bits
Accuracy	0-20 mA, 4-20 mA ±0.1% at 25°C (77°F); 0-10 V, -10F + 10 V ±0.25 at 25°C (77°F)	Accurate to within 0.15% of full scale at 25°C. Accurate to within 0.30% of full scale at 60°C
Maximum Output Load	5 mA (2 K ohms)	Current -850ohm max @ Vuser = 20 V; Voltage -2k ohm max load (minimum resistance)
Output Load Capacitance	2000 pF, Inductance 1H	Current: 10uH max.; Voltage: 1uF max.
External Power Requirement	N/A	Voltage Range: 19.2 V to 30 V Current required: 160 mA
Connector Type	Terminal Block (20 screws), included with module.	IC694TBB032 or IC694TBS032. Sold Separately.
Internal Power Used	110 mA @ 5 VDC; 315 mA -User Supplied 24 VDC	375 mA @3.3 V (internal) 160 mA @24 V (external)



Analog I/O Modules (Output)

GE offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	IC695ALG708	IC695ALG728
Product Name	PACSystems RX3i Analog Output, Current/Voltage, 8 Channel	PACSystems RX3i Analog Output with HART Communications, Current/Voltage, 8 Channel
Lifecycle Status	Active	Active
Module Type	Analog Output	Analog Output with HART Communications
Backplane Support	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.
Number of Slots Module Occupies on Backplane	1	1
Diagnostics	High and Low Alarm, Ramp Rate Control Clamping, Overrange and Underrange	High and Low Alarm, Ramp Rate Control, Clamping, Overrange and Underrange
Protection	N/A	N/A
Range	Current: 0 to 20 mA, 4 to 20 mA; Voltage: ±10 V, 0 to 10 V	Current: 0 to 20 mA, 4 to 20 mA; Voltage: ±10 V, 0 to 10 V
HART Support	N/A	-Get HART Device Information (Function 1) Simplified HART Pass-Thru Command (Function 2) -Enterprise HART Pass-Thru Command (Function 3)
Number of Channels	8	8
Channel-to-Channel Isolation	N/A	N/A
Update Rate	8 ms all channels	8 ms all channels and HART enabled channels could add 6 to 8 seconds.
Resolution	10 V: 15.9 bits; 0 to 10 V: 14.9 bits; 0 to 20 mA: 15.9 bits; 4 to 20 mA: 15.6 bits	±10 V: 15.9 bits; 0 to 10 V: 14.9 bits; 0 to 20 mA: 15.9 bits; 4 to 20 mA: 15.6 bits
Accuracy	Accurate to within 0.15% of full scale at 25°C. Accurate to within 0.30% of full scale at 60°C	Accurate to within 0.15% of full scale at 25°C. Accurate to within 0.30% of full scale at 60°C
Maximum Output Load	Current -850ohm max @ Vuser = 20 V; Voltage -2k ohm max load (minimum resistance)	Current -850ohm max @ Vuser = 20 V; Voltage -2k ohm max load (minimum resistance)
Output Load Capacitance	Current: 10uH max.; Voltage: 1uF max.	Current: 10uH max.; Voltage: 1uF max.
External Power Requirement	Voltage Range: 19.2 V to 30 V Current required: 315 mA	Voltage Range: 19.2 V to 30 V Current required: 315 mA
Connector Type	IC694TB8032 or IC694TBS032. Sold Separately	IC694TB8032 or IC694TBS032. Sold Separately.
Internal Power Used	375 mA @3.3 V (internal) 315 mA @24 V (external)	375 mA @3.3 V (internal) 315 mA @24 V (external)



Analog I/O Modules (Output)

GE offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	IC695ALG808	IC694ALG390	IC694ALG391
Product Name	PACSystems RX3i Isolated Analog Output, Current/Voltage, 8 Isolated Channels	PACSystems RX3i Analog Output, Voltage, 2 Channel	PACSystems RX3i Analog Output, Current, 2 Channel
Lifecycle Status	Active	Active	Active
Module Type	Analog Output with Channel to Channel Isolation	Analog Output	Analog Output
Backplane Support	Universal Backplane Only. Uses PCI Bus.	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1	1
Diagnostics	High and Low Alarm, Ramp Rate Control, Clamping, Overrange and Underrange	N/A	N/A
Protection	N/A	N/A	N/A
Range	Current: 0 to 20 mA, 4 to 20 mA; Voltage: ± 10 V, 0 to 10 V	-10 V to +10 V, 4-20 mA	1-5 V and 0-5 V, 0-20 mA, 4-20 mA
HART Support	N/A	N/A	N/A
Number of Channels	8	2	2
Channel-to-Channel Isolation	Yes (250 VAC continuous, 1500 VAC for 1 minute per channel)	N/A	N/A
Update Rate	8 ms all channels (1 msec per channel)	5 ms all channels	5 ms all channels
Resolution	± 10 V @ 15.9 bits minimum 0 to 10 V @ 14.9 bits minimum 0 to 20 mA @ 15.9 bits minimum 4 to 20 mA @ 15.6 bits minimum	12 bit; 2.5 mV/bit	12 bit; 0-20 mA, 5 μ A/bit
Accuracy	Accurate to within $\pm 0.1\%$ of span at 25C, $\pm 0.25\%$ of span over operating temperature range	± 5 mV at 25°C (77°F)	0-20 mA, ± 8 μ A at 25°C (77°F); 0-20 mA, 4-20 mA $\pm 0.1\%$ at 25°C (77°F)
Maximum Output Load	Current: 1350 ohm maximum resistance, 10uH max inductance Voltage: 2k Ohm minimum resistance, 1uF max capacitance	5 mA (2 K ohms)	5 mA (2 K ohms)
Output Load Capacitance	Current: 10uH max.; Voltage: 1uF max.	2000 pF	2000 pF, Inductance 1H
External Power Requirement	500 mA @ 24 VDC	N/A	N/A
Connector Type	IC694TBBx32 or IC694TBSx32 Sold Separately.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	450 mA @ 3.3 V Maximum, all channels on	32 mA @ 5 VDC; 120 mA @ 24 VDC Isolated	30 mA @ 5 VDC; 215 mA 24 VDC Isolated



Analog I/O Modules (Output)

GE offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	HE693DAC410	HE693DAC420
Product Name	Isolated Analog Output Module, Voltage	Isolated Analog Output Module, Current
Lifecycle Status	Active	Active
Module Type	Analog Output	Analog Output
Backplane Support	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1
Diagnostics	N/A	N/A
Protection	N/A	N/A
Range	±10 V	4-20 mA or 0-20 mA
HART Support	N/A	N/A
Number of Channels	4	4
Channel-to-Channel Isolation	1500 VAC (RMS), ±2000 VDC	1500 VAC (RMS), ±2000 VDC
Update Rate	N/A	N/A
Resolution	1.2 5 mV	2.0 µA (4-20 mA); 2.5 µA (±20 mA)
Accuracy	N/A	N/A
Maximum Output Load	N/A	N/A
Output Load Capacitance	N/A	N/A
External Power Requirement	N/A	2-32 VDC
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	500 mA @ 5 VDC; 150 mA @ 24 VDC Relay	150 mA @ 5 VDC; 110 mA @ 24 VDC Relay



Analog Mixed I/O Modules (Input and Output)

The analog mixed modules (four in and two out) are available with or without advanced diagnostics. The advanced diagnostics includes alarms, open wire, rate of change, over range and under range. Additional features include 16 bit resolution, analog output clamp limits and output ramp mode option.

	IC694ALG542	IC694ALG442
Lifecycle Status	Active	Active
Module Type	Analog Combination 4 In and 2 Out with Advanced Diagnostics, Output Clamp and Ramp Control	Analog Combination 4 In and 2 Out
Backplane Support	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1
Range	0 V to +10 V, -10 V to +10 V, 0-20 mA, 4-20 mA per Channel	0 V to +10 V, -10 V to +10 V, 0-20 mA, 4-20 mA per Channel
Channel-to-Channel Isolation	N/A	N/A
Number of Channels	4 in/2 out	4 in/2 out
Update Rate	2ms all channels	2ms all channels
Resolution	(Input)16 bit; 0 V to 10 V, 0.3125 mV/bit; -10 V to +10 V, 0.3125 mV/bit; 0-20 mA, 0.625 μ A/bit (Output) 16 bit; 0 to 20 mA: 0.625 μ A; 4 to 20 mA: 0.5 μ A; -10 V to +10 V: 0.3125 mV; 0 to +10 V: 0.3125 mV	(Input)12 bit; 0 V to 10 V, 2.5 mV/bit; -10 V to +10 V, 5 mV/bit; 0-20 mA,4-20 mA 5µA/bit (Output) 16 bit; 0.312 mV/bit; 4-20 mA 0.5 µA/bit; 0-20 mA 0.625 µA/bit
Accuracy	Current Input 0 to 20mA \pm 0.25% of full scale @25°C (77°F); \pm 0.5% of full scale over specified operating temperature range Current Input 4 to 20mA \pm 0.25% of full scale @25°C (77°F); \pm 0.5% of full scale over specified operating temperature range 4 to 20ma Enhanced Mode \pm 0.25% of full scale @25°C (77°F); \pm 0.5% of full scale over specified operating temperature range Current Output \pm 0.1% of full scale @ 25°C (77°F), typical \pm 0.25% of full scale @ 25°C (77°F), maximum \pm 0.5% of full scale over operating temperature range (maximum) Voltage Output \pm 0.25% of full scale @ 25°C (77°F), typical \pm 0.5% of full scale @ 25°C (77°F), maximum \pm 1.0% of full scale over operating temperature range (maximum)	(Input) 0.25 % at 25°C (77°F) (Output) 0-20 mA, 4-20 mA \pm 0.1% at 25°C (77°F)
Input Impedence	Current mode - 250 ohms Voltage mode - 800 K ohms	Current mode - 250 ohms Voltage mode - 800 K ohms"
Input Filter Response	Current mode - 55 Hz Voltage mode - 55 Hz	Current mode - 38 Hz Voltage mode - 38 Hz
Maximum Output Load	Voltage: 5 mA (2 K ohms) Current Inductance:1 H (maximum)	Voltage: 5 mA (2 K ohms) Current Inductance:1 H (maximum) "
Output Load Capacitance	Voltage:1 μ F (maximum) Current: 2000 pF (maximum)	Voltage:1 μ F (maximum) Current: 2000 pF (maximum)"
Diagnostics	Under Range/Over Range, Open Wire, Short Circuit, Positive/Negative Rate of Change, High, High-High, Low, Low-Low	N/A
Internal Power Used	95 mA @ 5 VDC; 150 mA external 24 VDC Isolated	95 mA @ 5 VDC; 150 mA external 24 VDC Isolated
External Power Requirement	24VDC: Current: 5 μ A/V (typical), 10 μ A/V (maximum) Voltage: 25 mV/V (typical), 50 mV/V (maximum)	24VDC: Current: 5 μ A/V (typical), 10 μ A/V (maximum) Voltage: 25 mV/V (typical), 50 mV/V (maximum)
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.



Millivolt I/O Modules

The Millivolt Input Modules allow Millivolt level signals, such as bridged strain gages (load cells) to be directly connected to the PLC without external signal processing (transducers, transmitters, etc.) All analog and digital processing of the signal is performed on the module.

	IC695ALG600 Millivolt	IC695ALG306 Millivolt
Product Name	Universal Analog and configurable for Current, Voltage, RTD, Thermocouple and Resistive. High Density (8 Channel) Requires Cold Junction Compensation; are available for Thermocouple configurations (IC695ACC600 contains 2 CJs)	Isolated Thermocouple Input module provides six isolated differential thermocouple input channels. Each channel can be individually configured for inputs from: Thermocouple types: J, K, T, E, R, S, B, N, or C and Voltage: $\pm 150\text{mV}$ or $\pm 50\text{mV}$.
Lifecycle Status	Active	Active
Module Type	Millivolt Input	Strain Gage Input
Backplane Support	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.
Number of Slots Module Occupies on Backplane	1	1
Range	$\pm 150\text{mV}$ or $\pm 50\text{mV}$	$\pm 150\text{mV}$ or $\pm 50\text{mV}$
Diagnostics	Open wire, Short Circuit, Positive/Negative Rate of Change, High, High-High, Low, Low-Low	Open wire, Short Circuit, Positive/Negative Rate of Change, High, High-High, Low, Low-Low
Channel-to-Channel Isolation	Two Groups of Four	250 VAC Continuous 1500 VAC 1 minute 2550 VDC 1 second
Number of Channels	8	6
Notch Filter	Yes	From 2.3 Hz to 28 Hz per channel
Resolution	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format)	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format)
Accuracy	Calibrated Accuracy at 25°C. Better than 0.1% of range. Accuracy depends on A/D filter, data format, input noise, and ambient temperature.	$\pm 0.1\%$ of voltage span at 25°C. $\pm 0.25\%$ of span over temperature range.
Input Impedance	$>1\text{M ohm}$	Voltage: $\geq 500\text{k ohm}$
I/O Required	N/A	N/A
A/D Conversion Type	Sigma Delta	Sigma Delta
A/D Conversion Time	(Assumes 2 ADC's running in parallel, no CJC or lead resistance) 10ms per Channel 4 Channels = 40ms (1KHz filter) 127ms per Channel 4 Channels = 508ms (8Hz filter) Channels that are disabled are not scanned, shortening scan time.	15 msec @ 28 Hz to 120 msec @ 2.3 Hz
Strain Gages Supported	Yes	Yes
Maximum Normal Voltage Input	N/A	N/A
Maximum Voltage Input	$\pm 14.5\text{ VDC}$ continuous	N/A
Connector Type	IC694TBBx32, IC694TBSx32 or IC694TBC032. Sold Separately.	IC694TBBx32, IC694TBSx32 or IC694TBC032. Sold Separately.
Internal Power Used	400 mA @ 5 V; 350 mA @ 3.3 V	150 mA @ 5V; 400 mA @ 3.3V



Millivolt I/O Modules

The Millivolt Input Modules allow Millivolt level signals, such as bridged strain gages (load cells) to be directly connected to the PLC without external signal processing (transducers, transmitters, etc.) All analog and digital processing of the signal is performed on the module.

	IC695ALG312 Millivolt	HE693ADC409
Product Name	Isolated Thermocouple Input module provides twelve isolated differential thermocouple input channels. Each channel can be individually configured for inputs from: Thermocouple types: J, K, T, E, R, S, B, N, or C and Voltage: $\pm 150\text{mV}$ or $\pm 50\text{mV}$.	Analog I/O Module, Millivolt Input
Lifecycle Status	Active	Active
Module Type	Strain Gage Input	Millivolt Input
Backplane Support	Universal Backplane Only. Uses PCI Bus.	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1
Range	$\pm 150\text{mV}$ or $\pm 50\text{mV}$	$\pm 25\text{ mV}$, $\pm 50\text{ mV}$ and $\pm 100\text{ mV}$
Diagnostics	Open wire, Short Circuit, Positive/Negative Rate of Change, High, High-High, Low, Low-Low	N/A
Channel-to-Channel Isolation	250 VAC Continuous 1500 VAC 1 minute 2550 VDC 1 second	N/A
Number of Channels	12	4
Notch Filter	From 2.3 Hz to 28 Hz per channel	N/A
Resolution	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format	3 μV , 6 μV , 9 μV (respectively)
Accuracy	$\pm 0.1\%$ of voltage span at 25°C $\pm 0.25\%$ of span over temperature range.	$\pm 0.5\%$
Input Impedance	Voltage: $\geq 500\text{k ohm}$	$> 20\text{ Mohms}$
I/O Required	N/A	4% AI
A/D Conversion Type	Sigma Delta	Integrating
A/D Conversion Time	15 msec @ 28 Hz to 120 msec @ 2.3 Hz	35 Channels/second
Strain Gages Supported	Yes	Bridged (load cells)
Maximum Normal Voltage Input	N/A	100 mV
Maximum Voltage Input	N/A	$\pm 35\text{ V}$
Connector Type	IC694TBBx32, IC694TBSx32 or IC694TBC032. Sold Separately.	Terminal Block (20 screws), included with module.
Internal Power Used	300 mA @ 5V; 400 mA @ 3.3V	100 mA @ 5 VDC



RTD I/O Modules

The RTD Input Modules provide RTD inputs that allow the direct connection of 2 and 3-wire RTD temperature sensors without using external signal processing (transducers, transmitters, etc.). All analog and digital processing of the RTD signal is performed on the module.

	IC695ALG600 RTD	IC695ALG508 RTD	HE693RTD600
Product Name	Universal Analog and configurable for Current, Voltage, RTD, Thermocouple and Resistive. High Density (8 Channel) Requires Cold Junction Compensation; are available for Thermocouple configurations (IC695ACC600 contains 2 CJC's)	Isolated RTD Input module (also supports Resistive) provides eight isolated differential Resistive or RTD input channels. Each channel can be individually configured for 2, 3, 4 wire RTD or Resistance.	RTD Input Module, Low Resolution
Lifecycle Status	Active	Active	Active
Module Type	RTD Input	RTD (and Resistive) Input Channel to Channel Isolation	RTD Input
Backplane Support	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1	1
Number of Channels	8	8	6
RTD Types Supported	2 and 3 wire PT 385 / 3916, N 618 / 672, NiFe 518, CU 426	2, 3 and 4 wire 50, 100, 200, 500, and 1000 ohm Pt 385; 50, 100, 200, 500, and 1000 ohm Pt 391.6; 100, 200, 500, and 1000 ohm Ni 618; 120 ohm Ni 672; 604 ohm NiFe 518; 10, 50 and 100 ohm Cu 426	3-wire, Pt-100E, Pt-100C, Pt-100Z, Pt-1000, Cu-10, Cu-50, PT-100, Cu-53, Cu-100, Ni-120, TD5R, TD5R, Pt-90 (MIL-7990)
Diagnostics	Open wire, short circuit, positive/negative rate of change, High, High-High, Low, Low-Low	Open wire, short circuit, positive/negative rate of change, High, High-High, Low, Low-Low	N/A
Channel-to-Channel Isolation	Two Groups of Four	250 VAC Continuous 1500 VAC 1 minute 2550 VDC 1 second	N/A
Notch Filter	Yes	N/A	N/A
Resolution	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format	0.5°C or 0.5°F
Accuracy	Calibrated Accuracy at 25°C. Better than 0.1% of range. Accuracy depends on A/D filter, data format, input noise, and ambient temperature.	Calibrated Accuracy at 25°C. Typical is ±0.5%	±0.5°C, typical
Input Impedance	>1M ohm	N/A	>1000 Megohms
I/O Required	N/A	N/A	6 %AI
Fault Protection	N/A	N/A	Zener Diode Clamp
Update Time	10ms per Channel; 4 Channels = 40ms (1KHz filter)127ms per Channel * 4 Channels = 508ms (8Hz filter)Channels that are disabled are not scanned, shortening scan time.	15 msec @ 28 Hz to 120 msec @ 2.3 Hz	50 Channels/second
A/D Conversion Type	Sigma Delta	Sigma Delta	18 bit, integrating
Connector Type	IC694TBBx32, IC694TBSx32 or IC694TBC032. Sold Separately.	IC694TBBx32, IC694TBSx32 or IC694TBC032. Sold Separately.	Terminal Block (20 screws), included with module.
Internal Power Used	400 mA @ 5 V; 350 mA @ 3.3 V	150 mA @ 5V; 300 mA @ 3.3V	70 mA @ 5 VDC



RTD I/O Modules

The RTD Input Modules provide RTD inputs that allow the direct connection of 2 and 3-wire RTD temperature sensors without using external signal processing (transducers, transmitters, etc.). All analog and digital processing of the RTD signal is performed on the module.

	HE693RTD601	HE693RTD660
	RTD Input Module, High Resolution	RTD Input Module, Isolated
Product Name		
Lifecycle Status	Active	Active
Module Type	RTD Input	RTD Input
Backplane Support	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1
Number of Channels	6	6
RTD Types Supported	3-wire, Pt-100E, Pt-100C, Pt-100Z, Pt-1000, Cu-10, Cu-50, PT-100, Cu-53, Cu-100, Ni-120, TD5R, TD5R, Pt-90 (MIL-7990)	3 wire, Pt-100E, Pt-100C, Ni-120, Cu-10, Pt-1000, TD5R Si
Diagnostics	N/A	N/A
Channel-to-Channel Isolation	N/A	5 VAC
Notch Filter	N/A	None
Resolution	0.125°C , 0.1°C, or 0.1°F	0.05°C, 0.05°F, 0.1°C, 0.1°F, 0.5°C or 0.5°F
Accuracy	±0.5°C, typical	±0.3°C
Input Impedance	>1000 Megohms	>1000 Megohms
I/O Required	6 %AI	6% AI, 6% AQ, 16% I
Fault Protection	Zener Diode Clamp	Suppression Diode
Update Time	50 Channels/second	50 Channels/second
A/D Conversion Type	18 bit, integrating	18 bit, integrating
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	70 mA @ 5 VDC	200 mA @ 5 VDC



Strain Gage I/O Modules

The Millivolt Input Modules allow Millivolt level signals, such as bridged strain gages (load cells) to be directly connected to the PLC without external signal processing (transducers, transmitters, etc.) All analog and digital processing of the signal is performed on the module.

	IC695ALG600 Strain Gage	IC695ALG306 Strain Gage	IC695ALG312 Strain Gage
Product Name	Universal Analog and configurable for Current, Voltage, RTD, Thermocouple and Resistive. High Density (8 Channel) Requires Cold Junction Compensation; are available for Thermocouple configurations (IC695ACC600 contains 2 CJC's)	Isolated Thermocouple Input module provides six isolated differential thermocouple input channels. Each channel can be individually configured for inputs from: Thermocouple types: J, K, T, E, R, S, B, N, or C and Voltage: $\pm 150\text{mV}$ or $\pm 50\text{mV}$.	Isolated Thermocouple Input module provides twelve isolated differential thermocouple input channels. Each channel can be individually configured for inputs from: Thermocouple types: J, K, T, E, R, S, B, N, or C and Voltage: $\pm 150\text{mV}$ or $\pm 50\text{mV}$.
Lifecycle Status	Active	Active	Active
Module Type	Strain Gage Input	Strain Gage Input	Strain Gage Input
Backplane Support	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.
Number of Slots Module Occupies on Backplane	1	1	1
Range	$\pm 150\text{mV}$ or $\pm 50\text{mV}$	$\pm 150\text{mV}$ or $\pm 50\text{mV}$	$\pm 150\text{mV}$ or $\pm 50\text{mV}$
Diagnostics	Open wire, short circuit, positive/negative rate of change, High, High-High, Low, Low-Low	Open wire, short circuit, positive/negative rate of change, High, High-High, Low, Low-Low	Open wire, short circuit, positive/negative rate of change, High, High-High, Low, Low-Low
Channel-to-Channel Isolation	Two Groups of Four	250 VAC Continuous 1500 VAC 1 minute 2550 VDC 1 second	250 VAC Continuous 1500 VAC 1 minute 2550 VDC 1 second
Number of Channels	8	6	12
Resolution	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format
Accuracy	Calibrated Accuracy at 25°C. Better than 0.1% of range. Accuracy depends on A/D filter, data format, input noise, and ambient temperature.	$\pm 0.1\%$ of voltage span at 25°C. $\pm 0.25\%$ of span over temperature range.	$\pm 0.1\%$ of voltage span at 25°C. $\pm 0.25\%$ of span over temperature range.
Input Impedance	>1M ohm	Voltage: $\geq 500\text{k}$ ohm	Voltage: $\geq 500\text{k}$ ohm
I/O Required	N/A	N/A	N/A
A/D Conversion Type	Sigma Delta	Sigma Delta	Sigma Delta
A/D Conversion Time	(Assumes 2 ADC's running in parallel, no CJC or lead resistance) 10ms per Channel 4 Channels = 40ms (1KHz filter) 127ms per Channel 4 Channels = 508ms (8Hz filter) Channels that are disabled are not scanned, shortening scan time.	15 msec @ 28 Hz to 120 msec @ 2.3 Hz	15 msec @ 28 Hz to 120 msec @ 2.3 Hz
Strain Gages Supported	Yes	Yes	Yes
Maximum Normal Voltage Input	N/A	N/A	N/A
Maximum Voltage Input	± 14.5 VDC continuous	N/A	N/A
Connector Type	IC694TBBx32, IC694TBSx32 or IC694TBC032. Sold Separately.	IC694TBBx32, IC694TBSx32 or IC694TBC032. Sold Separately.	IC694TBBx32, IC694TBSx32 or IC694TBC032. Sold Separately.
Internal Power Used	400 mA @ 5 V; 350 mA @ 3.3 V	150 mA @ 5V; 400 mA @ 3.3V	300 mA @ 5V; 400 mA @ 3.3V



Strain Gage I/O Modules

The Millivolt Input Modules allow Millivolt level signals, such as bridged strain gages (load cells) to be directly connected to the PLC without external signal processing (transducers, transmitters, etc.) All analog and digital processing of the signal is performed on the module.

	IC695ALG412	HE693STG883	HE693STG884
Product Name	Isolated Thermocouple Input module provides twelve isolated differential thermocouple input channels. Each channel can be individually configured for inputs from: Thermocouple types: J, K, T, E, R, S, B, N, or C and Voltage: ±150mV or ±50mV. Offers a 10 dB improvement in noise rejection compared to ALG312 thermocouple inputs.	Analog I/O Module, Strain Gage	Analog I/O Module, Strain Gage
Lifecycle Status	Active	Active	Active
Module Type	Strain Gage Input	Strain Gage Input	Strain Gage Input
Backplane Support	Universal Backplane Only. Uses PCI Bus.	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1	1
Range	±50mV	N/A	N/A
Diagnostics	Open wire, Short Circuit, Positive/Negative rate of Change, High, High-High, Low, Low-Low	N/A	N/A
Channel-to-Channel Isolation	Channel to Channel Isolation. 250VAC Continuous; 1500VAC 1 minute; 2550VDC 1 second	N/A	N/A
Number of Channels	12	8	8
Resolution	32-bit IEEE floating point or 16 bit integer (in 32 bit field) input data format	0.6 µV, 0.8 µV, 0.9 µV (respectively)	0.8 µV, 1.6 µV, 3.2 µV (respectively)
Accuracy	± 0.1% of voltage sp+GC+GB59GD1+GC59163an at 25 °C. ± 0.25% of span over temperature range.	±0.3%	±0.3%
Input Impedance	Voltage: >=500k ohm	>1000 Mohms	>1000 Mohms
I/O Required	N/A	8% AI, 16% I, 8% AQ, 16% Q	8% AI, 16% I, 8% AQ, 16% Q
A/D Conversion Type	Sigma Delta	Integrating	Integrating
A/D Conversion Time	15 msec @ 28 Hz to 120 msec @ 2.3 Hz	35 Channels/second	35 Channels/second
Strain Gages Supported	Yes	Bridged (load cells)	Bridged (load cells)
Maximum Normal Voltage Input		100 mV	100 mV
Maximum Voltage Input		±35 V	±35 V
Connector Type	IC694TBBx32, IC694TBSx32 or IC694TBC032. Sold Separately.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	425 mA @ 5V; 400 mA @ 3.3V	60 mA @ 5 VDC; 30 mA @ 24 VDC Relay	60 mA @ 5 VDC; 30 mA @ 24 VDC Relay



Temperature Control Modules

The Temperature Control Module (TCM), is a high performance control module providing eight channels of thermocouple input and eight channels of control output in a single RX3i module. Each channel can operate in closed or open loop mode relieving the PLC of providing the temperature control functions. The module also supports Autotuning.

	IC693TCM302	IC693TCM303
Product Name	PACSystems RX3i Temperature Control Module, (8) T/C, (1) RTD and (8) 24 VDC Output	PACSystems RX3i Temperature Control Module, Extended Range, (8) T/C, (1) RTD and (8) 24 VDC Output
Lifecycle Status	Mature	Mature
Module Type	Temperature Control	Temperature Control
Backplane Support	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1
Number of Channels	8 T/C In/ 8 DC Out	8 T/C In/ 8 DC Out
Range	J=0-600°C K=0-1050°C L=0-600°C	J=0-450°C K=0-600°C L=0-450°C
Output Voltage Range	18 to 30 volts DC	18 to 30 volts DC
Load Current per Point	100 mA maximum sourcing	100 mA maximum sourcing
Diagnostics	Open thermocouple and reverse connection detection capability Detection and indication of out-of-tolerance temperature readings	Open thermocouple and reverse connection detection capability Detection and indication of out-of-tolerance temperature readings
Connector Type	Two 20 pin connectors (screw type)	Two 20 pin connectors (screw type)
Internal Power Used	150 mA @ 5 VDC	150 mA @ 5 VDC



Thermocouple I/O Modules

The Thermocouple Input Modules allow thermocouple temperature sensors to be directly connected to the PLC with external signal processing (transducers, transmitters, etc.). The module performs all analog and digital processing of the thermocouple signal. The enhanced thermocouple input modules add isolation or high-resolution. On these modules, each channel can be configured for a specific type of sensor wire. An autodetect external AD592 cold junction compensation feature is also available.

	IC695ALG600 Thermocouple	IC695ALG306	IC695ALG312	IC695ALG412
Product Name	Universal Analog and configurable for Current, Voltage, RTD, Thermocouple and Resistive. High Density (8 Channel) Requires Cold Junction Compensation; are available for Thermocouple configurations (IC695ACC600 contains 2 CJs)	Isolated Thermocouple Input module provides six isolated differential thermocouple input channels. Each channel can be individually configured for inputs from: Thermocouple types: J, K, T, E, R, S, B, N, or C and Voltage: ±150mV or ±50mV.	Isolated Thermocouple Input module provides twelve isolated differential thermocouple input channels. Each channel can be individually configured for inputs from: Thermocouple types: J, K, T, E, R, S, B, N, or C and Voltage: ±150mV or ±50mV.	Isolated Thermocouple Input module provides twelve isolated differential thermocouple input channels. Each channel can be individually configured for inputs from: Thermocouple types: J, K, T, E, R, S, B, N, or C and Voltage: ±50mV. The ALG412 offers a 10dB improvement in noise rejection compared to the ALG312 thermocouple input module.
Lifecycle Status	Active	Active	Active	Active
Module Type	Thermocouple Input	Thermocouple Input	Thermocouple Input	Thermocouple Input
Backplane Support	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.
Number of Slots Module Occupies on Backplane	1	1	1	1
Range	B, C, E, J, K, N, R, S, T	J, K, T, E, R, S, B, N, or C	J, K, T, E, R, S, B, N, or C	J, K, T, E, R, S, B, N, or C
Diagnostics	Open wire, Short Circuit, Positive/Negative Rate of Change, High, High-High, Low, Low-Low	Open wire, Short Circuit, Positive/Negative Rate of Change, High, High-High, Low, Low-Low	Open wire, Short Circuit, Positive/Negative Rate of Change, High, High-High, Low, Low-Low	Open wire, Short Circuit, Positive/Negative Rate of Change, High, High-High, Low, Low-Low
Number of Channels	8	6	12	12
Channel-to-Channel Isolation	Two Groups of Four	250 VAC Continuous 1500 VAC 1 minute 2550 VDC 1 second	250 VAC Continuous 1500 VAC 1 minute 2550 VDC 1 second	250 VAC Continuous 1500 VAC 1 minute 2550 VDC 1 second
Common Mode Rejection	120dB minimum @ 50/60 Hz with 8 Hz filter 110dB minimum @ 50/60 Hz with 12 Hz filter	2.3 Hz filter, 50/60Hz: 100 dB 4 Hz filter, 50Hz: 100 dB 4.7 Hz filter, 60Hz: 100 dB	2.3 Hz filter, 50/60Hz: 100 dB 4 Hz filter, 50Hz: 100 dB 4.7 Hz filter, 60Hz: 100 dB	All filters, 50/60 Hz: 110 dB
Chanel to Channel Crosstalk		70 dB minimum	70 dB minimum	70 dB minimum
Notch Filter	Yes	From 2.3 Hz to 28 Hz per channel	From 2.3 Hz to 28 Hz per channel	From 2.3 Hz to 28 Hz per channel
Resolution	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format
Accuracy	Calibrated Accuracy at 25°C. Better than 0.1% of range. Accuracy depends on A/D filter, data format, input noise, and ambient temperature.	±0.1% of voltage span at 25°C. ±0.25% of span over temperature range.	±0.1% of voltage span at 25°C. ±0.25% of span over temperature range.	±0.1% of voltage span at 25°C. ±0.25% of span over temperature range.
Update Rate	10ms per Channel; 4 Channels = 40ms (1KHz filter) 127ms per Channel * 4 Channels = 508ms (8Hz filter) Channels that are disabled are not scanned, shortening scan time.	10ms per Channel; 4 Channels = 40ms (1KHz filter) 127ms per Channel * 4 Channels = 508ms (8Hz filter) Channels that are disabled are not scanned, shortening scan time.	10ms per Channel; 4 Channels = 40ms (1KHz filter) 127ms per Channel * 4 Channels = 508ms (8Hz filter) Channels that are disabled are not scanned, shortening scan time.	Configurable from 15 msec to 120 msec.
I/O Required	N/A	N/A	N/A	N/A
A/D Conversion Type	Sigma Delta	Sigma Delta	Sigma Delta	Sigma Delta
A/D Conversion Time	(Assumes 2 ADC's running in parallel, no CJC or lead resistance) 10ms per Channel 4 Channels = 40ms (1KHz filter) 127ms per Channel 4 Channels = 508ms (8Hz filter) Channels that are disabled are not scanned, shortening scan time.	15 msec @ 28 Hz to 120 msec @ 2.3 Hz	15 msec @ 28 Hz to 120 msec @ 2.3 Hz	15 msec @ 28 Hz to 120 msec @ 2.3 Hz
Connector Type	IC694TB3x32, IC694TBSx32 or IC694TBC032. Sold Separately.	IC694TB3x32, IC694TBSx32 or IC694TBC032. Sold Separately.	IC694TB3x32, IC694TBSx32 or IC694TBC032. Sold Separately.	IC694TB3x32, IC694TBSx32 or IC694TBC032. Sold Separately.
Internal Power Used	400 mA @ 5 V; 350 mA @ 3.3 V	225 mA @ 5V; 400 mA @ 3.3V	425mA @ 5V; 400 mA @ 3.3V	425mA @ 5V; 400 mA @ 3.3V



Thermocouple I/O Modules

The Thermocouple Input Modules allow thermocouple temperature sensors to be directly connected to the PLC with external signal processing (transducers, transmitters, etc.). The module performs all analog and digital processing of the thermocouple signal. The enhanced thermocouple input modules add isolation or high-resolution. On these modules, each channel can be configured for a specific type of sensor wire. An autodetect external AD592 cold junction compensation feature is also available.

	HE693THM166	HE693THM409	HE693THM449
	Analog I/O Thermocouple Input Module	Analog I/O Thermocouple Input Module	Analog I/O Thermocouple Input Module
Product Name			
Lifecycle Status	Active	Active	Active
Module Type	Thermocouple Input	Thermocouple Input	Thermocouple Input
Backplane Support	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1	1
Range	J, K, N, T, E, R, S, B, C, X	J, K, N, T, E, R, S,	J, K, N, T, E, R, S,
Diagnostics	Yes	No	Yes
Number of Channels	16	4	4
Channel-to-Channel Isolation	N/A	N/A	N/A
Common Mode Rejection	N/A	N/A	N/A
Channel to Channel Crosstalk	N/A	N/A	N/A
Notch Filter	N/A	N/A	N/A
Resolution	0.5°C or 0.5°F	0.5°C or 0.5°F	0.5°C or 0.5°F
Accuracy	±0.5°C, typical (J, K, N, T)	±0.5°C, typical (J, K, N, T)	±0.5°C, typical (J, K, N, T)
Update Rate	N/A	N/A	N/A
I/O Required	16% AI, 16% I	4% AI	4% AI, 16% I
A/D Conversion Type	Integrating	Integrating	Integrating
	40 Channels/second	40 Channels/second	40 Channels/second
A/D Conversion Time			
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	80 mA @ 5 VDC; 30 mA @ 24 VDC Relay	80 mA @ 5 VDC; 60 mA @ 24 VDC Relay	80 mA @ 5 VDC; 60 mA @ 24 VDC Relay



Thermocouple I/O Modules

The Thermocouple Input Modules allow thermocouple temperature sensors to be directly connected to the PLC with external signal processing (transducers, transmitters, etc.). The module performs all analog and digital processing of the thermocouple signal. The enhanced thermocouple input modules add isolation or high-resolution. On these modules, each channel can be configured for a specific type of sensor wire. An autodetect external AD592 cold junction compensation feature is also available.

	HE693THM809	HE693THM884	HE693THM888	HE693THM889
	Analog I/O Thermocouple Input Module	Analog I/O Thermocouple Input Module (Enhanced)	Analog I/O Thermocouple Input Module (Enhanced)	Analog I/O Thermocouple Input Module
Product Name				
Lifecycle Status	Active	Active	Active	Active
Module Type	Thermocouple Input	Thermocouple Input	Thermocouple Input	Thermocouple Input
Backplane Support	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1	1	1
Range	J, K, N, T, E, R, S	J, K, N, T, E, R, S, B, C	J, K, N, T, E, R, S, B, C	J, K, N, T, E, R, S
Diagnostics	No	Yes	Yes	Yes
Number of Channels	8	8	8	8
Channel-to-Channel Isolation	N/A	N/A	N/A	N/A
Common Mode Rejection	N/A	N/A	N/A	N/A
Channel to Channel Crosstalk	N/A	N/A	N/A	N/A
Notch Filter	N/A	None	60 Hz	N/A
Resolution	0.5°C or 0.5°F	N/A	N/A	0.5°C or 0.5°F
Accuracy	±0.5°C, typical (J,K,N,T)	N/A	N/A	±0.5°C, typical (J,K,N,T)
Update Rate	N/A	N/A	N/A	N/A
I/O Required	8% AI	8% AI, 8% AQ, 16% I	8% AI, 8% AQ, 16% I	8% AI, 16% I
A/D Conversion Type	Integrating	Integrating	Integrating	Integrating
	40 Channels/second	N/A	N/A	40 Channels/second
A/D Conversion Time				
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	80 mA @ 5 VDC; 60 mA @ 24 VDC Relay	100 mA @ 5 VDC; 60 mA @ 24 VDC Relay	100 mA @ 5 VDC; 60 mA @ 24 VDC Relay	80 mA @ 5 VDC; 60 mA @ 24 VDC Relay



Resistive I/O Module

The Resistive module allows the user to easily connect to resistive loads without the need of external devices.

	IC695ALG600 Resistive	IC695ALG508 Resistive
Product Name	Universal Analog and configurable for Current, Voltage, RTD, Thermocouple and Resistive. High Density (8 Channel) Requires Cold Junction Compensation; are available for Thermocouple configurations (IC695ACC600 contains 2 CJs)	Isolated Resistive Input module (also supports RTD) provides eight isolated differential Resistive or RTD input channels. Each channel can be individually configured for 2, 3, 4 wire RTD or Resistance.
Lifecycle Status	Active	Active
Module Type	Resistive Input	Resistive (and RTD) Input Channel to Channel Isolation
Backplane Support	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.
Number of Slots Module Occupies on Backplane	1	1
Range	0 to 250 / 500 / 1000 / 2000 / 3000 / 4000 Ohms	250 / 500 / 1000 / 2000 / 3000 / 4000 Ohms
Diagnostics	Open wire, short circuit, positive/negative rate of change, High, High-High, Low, Low-Low	Open wire, short circuit, positive/negative rate of change, High, High-High, Low, Low-Low
Number of Channels	8	8
Channel-to-Channel Isolation	Two Groups of Four	250 VAC Continuous 1500 VAC 1 minute 2550 VDC 1 second
Notch Filter	Yes	N/A
Resolution	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format	32-bit IEEE floating point or 16-bit integer (in 32-bit field) input data format
Accuracy	Calibrated Accuracy at 25°C. Better than 0.1% of range. Accuracy depends on A/D filter, data format, input noise, and ambient temperature.	Calibrated Accuracy at 25°C. Typical is ± 0.5%
Input Impedance	>1M ohm	N/A
Input Filter Response	Configurable: 8Hz, 12Hz, 16Hz, 40Hz, 200Hz, 1000Hz	Configurable: 2.3Hz, 4Hz, 4.7Hz, 24Hz, 28Hz
A/D Conversion Type	Sigma Delta	Sigma Delta
A/D Conversion Time	(Assumes 2 ADC's running in parallel, no CJC or lead resistance) 10ms per Channel 4 Channels = 40ms (1KHz filter) 127ms per Channel 4 Channels = 508ms (8Hz filter) Channels that are disabled are not scanned, shortening scan time.	15 msec @ 28 Hz to 120 msec @ 2.3 Hz
Maximum Voltage Input	±14.5 VDC continuous	N/A
Connector Type	IC694TBBx32, IC694TBSx32 or IC694TBC032. Sold Separately.	IC694TBBx32, IC694TBSx32 or IC694TBC032. Sold Separately.
Internal Power Used	"400 mA @ 5 V; 350 mA @ 3.3 V	150 mA @ 5V; 300 mA @ 3.3V



Networks and Distributed I/O Systems

The RX3i features a variety of communications options for distributed control and/or I/O. Choose from Profinet Controller, Ethernet EGD, Profibus-DP, Genius and DeviceNet. These communication modules are easy to install and quick to configure.

	IC695ETM001	IC695PNC001	IC695CMX128	IC695PBM300
Product Name	PACSystems RX3i Ethernet TCP/IP 10/100Mbps, two RJ-45 ports with built-in switch	PROFINET Controller (PNC) module, connects a PACSystems RX3i controller to a high-speed PROFINET local area network. It enables the RX3i controller to communicate with IO-Devices on the LAN.	RX3i Control Memory Xchange Module for Peer to Peer network. 128Megbytes of user shared memory.	PACSystems RX3i Profibus Master Module, Supports DPV1 Class 1 and Class 2.
Lifecycle Status	Active	Active	Active	Active
Module Type	Ethernet	PROFINET Controller	Reflective Memory	Profibus Master
Backplane Support	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.
Number of Slots Module Occupies on Backplane	1	1	1	1
Protocol Support	SRT, Ethernet Global Data (EGD), Channels (Client and Server), Modbus TCP (Client and Server) Client/Server	PROFINET	None Required	Profibus DPV1
Entity Type		Master	Deterministic Peer to Peer. Programmable Interrupt support.	Master
Communication Ports	Two RJ-45 ports one MAC Address	Two RJ-45 and Two SFP Cages (Not included, available separately). Only one MAC address.		PROFIBUS DB-9 connector
Bus Speed	10/100Mbaud	10/100/1000Mbaud	Network link speed of 2.1 Gigabits/sec. Network transfer rate of 43 Mbyte/s (4 byte packets) to 174 Mbyte/s (64 byte packets)	12Mbaud
I/O Device Update Rate	N/A	Configurable: 1 ms to 512 ms		
Maximum I/O Memory	N/A	128 Kbytes of combined input/output memory per PROFINET Controller		
System Maximum Limits	N/A	Up to 4 PNC001 per CPU IO- Devices per I/O Controller - 64 IO-Devices per Network - 128 per network, across up to 8 I/O controllers IO-Devices per CPU - 128 across 4 Profinet controllers Profinet Slots per device - 256 Number of Profinet Subslots per slot - 256 Number of Profinet Submodules per CPU - 2048		
Network Distance	Network Dependent	100 meters for cooper Up to 70,000 meters with Fiber	Multimode Fiber up to 300 meters between nodes. 10Km when HUB is used	Baud Rate Dependent. Supports all standard data rates (9.6 kBit/s, 19.2 kBit/s, 93.75 kBit/s, 187.5 kBit/s, 500 kBit/s, 1.5 MBit/s, 3 MBit/s, 6 MBit/s and 12 MBit/s)
Bus Diagnostics	Yes	Yes	Network error detection.	Yes, Slave Status Bit Array Table, Network Diagnostic Counters, DP Master Diagnostic Counters, Firmware Module Revision, Slave Diagnostic Address
Number of Drops Supported	Network Dependent	64 Drops 256 Subslots	256	Up To 125 (Requires repeater every 25 nodes)
Message Size	N/A		Up to 128 Mbytes reflective memory with parity. Dynamic packet sizes of 4 to 64 bytes, automatically controlled by the CMX module	244 bytes of input and 244 bytes of output for each slave. Not to exceed 3584 bytes input and 3584 bytes outputs total for the system.
Connector Type	Two RJ-45	Two RJ-45 and two optional SFP plug connectors for copper or fiber connections	Fiber optic LC type, conforms to IEC 61754-20; Zirconium ceramic ferrule; Insertion loss 0.35 dB (maximum); Return loss -30 dB	Profibus Connector
Internal Power Used	840 mA @ 3.3 VDC; 614 mA @ 5 VDC	3.3 V: 0.5 A with no SFP devices installed 1.2 A maximum (two SFP devices installed, 0.35 A per SFP device) 5 V: 1.5 A maximum	660 mA @ +3.3 VD 253 mA @ +5 VDC	420 mA @ 5 VDC



Networks and Distributed I/O Systems

The RX3i features a variety of communications options for distributed control and/or I/O. Choose from Ethernet EGD, Profibus-DP, Genius and DeviceNet. These communication modules are easy to install and quick to configure.

	IC695PBS301	IC694BEM331	IC694DNM200
Product Name	PACSystems RX3i Profibus Slave Module, Supports DPV1 Class 1 and Class 2.	PACSystems RX3i Genius Bus Controller	PACSystems RX3i DeviceNet Master Module
Lifecycle Status	Active	Active	Active
Module Type	Profibus Slave	Genius Bus Controller	DeviceNet Master
Backplane Support	Universal Backplane Only. Uses PCI Bus.	No Backplane Restrictions	CPU Rack Only
Number of Slots Module Occupies on Backplane	1	1	1
Protocol Support	Profibus DPV1	Genius	DeviceNet
Entity Type	Slave	Master	Master
Communication Ports	PROFIBUS DB-9 connector	Screw Terminal	Screw Terminal
Bus Speed	12Mbaud	153.6Kbaud	500Kbaud
I/O Device Update Rate			
Maximum I/O Memory			
System Maximum Limits			
Network Distance	Baud Rate Dependent. Supports all standard data rates (9.6 kBit/s, 19.2 kBit/s, 93.75 kBit/s, 187.5 kBit/s, 500 kBit/s, 1.5 MBit/s, 3 MBit/s, 6 MBit/s and 12 MBit/s)	7500 feet (2286 meters) at 38.4 Kbaud; 4500 feet (1371 meters) at 76.8 Kbaud; 3500 feet (1066 meters) at 153.6 Kbaud extended; 2000 feet (609 meters) at 153.6 Kbaud standard. Maximum length at each baud rate also depends on cable type.	500Kbaud 100 meters to 125Kbaud 500 meters. Maximum length at each baud rate also depends on cable type.
Bus Diagnostics	Yes, Alarms	Yes	Yes
Number of Drops Supported	N/A	32	64
Message Size	244 bytes of input and 244 bytes of output	128 bytes	127 bytes
Connector Type	Profibus Connector	Screw Terminal	Screw Terminal
Internal Power Used	420 mA @ 5 VDC	300 mA @ 5 VDC	300 mA @ 5 VDC



Co-Processor and Serial Communications Modules

RX3i features a wide range of Specialty Modules to meet all of your application needs. From temperature controls, high-speed counters, I/O processors, coprocessors, to PID auto-tuning modules, these Specialty Modules are designed to meet the demand for versatile industrial solutions.

	IC695CMM002	IC695CMM004	IC695PRS015	HE693ASC900
Product Name	Two Port Serial Module	Four Port Serial Module	Pressure Transducer Module supporting Honeywell LG1237 Smart Sensors	Horner ASCII Basic Module
Lifecycle Status	Active	Active	Active	Active
Module Type	Serial Communications 2 Isolated Serial Ports	Serial Communications 4 Isolated Serial Ports	Serial Communications	Serial Communications 4 Isolated Serial Ports ASCII Basic Co-Processor
Backplane Support	Universal Backplane Only. Uses PCI Bus	Universal Backplane Only. Uses PCI Bus	Universal Backplane Only. Uses PCI Bus.	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1	1	1
Protocols Supported	Serial Read/Write Modbus Master/Slave DNP 3.0 Master/ Slave CCM Slave and Custom Protocols	Serial Read/Write Modbus Master/Slave DNP 3.0 Master/ Slave CCM Slave and Custom Protocols	Pressure Transducer Honeywell LG1237 Smart Pressure Transducer sensors (Up to 15 sensors)	N/A
Programming Languages	None required. Communications set up in Proficy Machine Edition	None required. Communication set up in Proficy Machine Edition		BASIC
Program Storage	FLASH	FLASH	FLASH	EEPROM
Communication Ports	(2) Isolated RS-232 or RS-485/422	(4) Isolated RS-232 or RS-485/422	(1) RS-485	RS-232, RS-232/485
Network Data Rate	Selectable Baud Rates: 1200, 2400, 4800, 9600, 19.2K, 38.4K, 57.6K, 115.2K	Selectable Baud Rates: 1200, 2400, 4800, 9600, 19.2K, 38.4K, 57.6K, 115.2K	375K baud	N/A
Internal Power Used	0.7 Amps maximum @ 3.3 VDC 0.115 Amps maximum @ 5 VDC	0.7 Amps maximum @ 3.3 VDC 0.150 Amps maximum @ 5 VDC	0.7 Amps maximum @ 3.3 VDC 0.115 Amps maximum @ 5.0 VDC	375 mA @ 5 VDC



Motion Control (High Speed Counting)

The High Speed Counters can be used for a wide range of applications. The following types are supported.

Type A - Up or Down-Independent Pulse-4 counters

Type B - Both Directions-A QUAD B Encoder Inputs-2 Counters

Type C - Difference Between 2 changing values-A QUAD B Encoder Inputs -1 Counter

Type D - provides homing capability with count inputs and a Home Marker input. In A quad B mode, the counter detects quadrature errors

Type E - Pre-defined Counter Type that occupies two of the module's internal counters, primarily a down counter, but can handle up counts to account for A quad B jitter

Type E counter counts down to zero, it uses a second counter block to turn on a dedicated output for a configurable time. Type E can be set up for sequenced strobing, which links all four strobes on so that they are all triggered by strobe input 1

Type Z - Two regular Clock inputs, a software controlled Preload and a special Clock Input Z. The Z input triggers a store of the Accumulator value to the Strobe 1 register. After the store, the counter can optionally reset the Accumulator to 0. It can then either restart immediately or after wait until the Clock Input Z is no longer set User-Defined Counter Type - Create a customized counter type by selecting High-Speed Counter features that are suited to the application. This counter type provides a Clear input that can be used to immediately reset the Accumulator to the starting value.

	IC694APU300	IC695HSC304	IC695HSC308	IC694APU305
Product Name	PACSystems RX3i High Speed Counter	PACSystems RX3i High Speed Counter	PACSystems RX3i High Speed Counter	PACSystems RX3i I/O Processor Module
Lifecycle Status	Active (Enhancement Mode Available June 2012)	Active	Active	Active
Module Type	High Speed Counter (*Enhanced Mode support: 1MHz input frequency, expanded filtering, single ended, differential encoders, 32 bit counters, Z counter and windowing)	High Speed I/O Processing (4 counters) Module supports High Speed Counting, PLS (Programmable Limit Switch), Camming, Input Interrupts and Pulse Width Timing	High Speed I/O Processing (8 counters) Module supports High Speed Counting, PLS (Programmable Limit Switch), Camming, Input Interrupts and Pulse Width Timing	I/O Processor Module
Backplane Support	No Backplane Restrictions	Universal Backplane Only. Uses PCI Bus.	Universal Backplane Only. Uses PCI Bus.	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1	1	1
Input/Output Type	Positive Logic	Positive Logic	Positive Logic	N/A
Off State Leakage Current	10 µA per point	200 µA	200 µA	10 µA per point
Output Protection	3 Amp Fuse for all points, Enhanced Module will have ESCP protection	1.5 A maximum per channel, 10.5 A maximum per module	1.5 A maximum per channel, 10.5 A maximum per module	5 A Fuse for all points
Counter Operation	Type A, Type B, and Type C Enhanced Mode Type Z	Type A, Type B, Type C, Type D, Type E, Type Z and User-Defined Counter	Type A, Type B, Type C, Type D, Type E, Type Z and User-Defined Counter	Gray Code Encoder or A Quad B Encoder every 500 microseconds
CPU Interrupt Support	No	Yes	Yes	N/A
PLS and Camming Support	No	Yes	Yes	N/A
Input Filters (Selectable)	High Frequency Filter - 2.5 µs; Low Frequency Filter - 12.5 ms; *Enhancement Mode: 5 ms, 500 µs, 10 µs and no filter	30 Hz, 5 KHz, 50 KHz, 500 KHz, 5 MHz	30 Hz, 5 KHz, 50 KHz, 500 KHz, 5 MHz	N/A
Count Rate	High Frequency - 80 kHz; Low Frequency - 20 Hz; *Enhanced Mode Up to 1MHz with 2MHz internal Oscillator	High Frequency 1.5 MHz (internal 2 MHz oscillator)	High Frequency 1.5 MHz (internal 2 MHz oscillator)	30 kHz (Absolute Encoder) 200 kHz (A Quad B Encoder)
Counter Range	-65,535 to 65,535 ; *Enhanced Mode -2,147,483,648 to 2,147,483,647 with roll over detection	-2,147,483,648 to 2,147,483,648	-2,147,483,648 to 2,147,483,648	N/A
Selectable On/Off Output Presets	Each Counter has 2 present points, On and Off; *Enhanced Mode up to 4 configurable outputs	Each Counter has 4 present points, On and Off	Each Counter has 4 present points, On and Off	N/A
Counters per Timebase	Each counter stores the number of counts that have occurred in a specified time. A timebase value measurement from 1 ms to 65535 ms is configurable.	A Timebase from 100 nanoseconds to 429,496 milliseconds can be selected for each counter.	A Timebase from 100 nanoseconds to 429,496 milliseconds can be selected for each counter.	N/A
Strobe Register	Each counter has one or more strobe registers that capture the current accumulator value when a strobe input transition in the direction selected during the last configuration of the module.	Each counter has one or more strobe registers that capture the current accumulator value when a strobe input transition in the direction selected during the last configuration of the module.	Each counter has one or more strobe registers that capture the current accumulator value when a strobe input transition in the direction selected during the last configuration of the module.	N/A
Local Fast Inputs	(12) 5 VDC or 10 to 30 VDC	(8 inputs) 5 VDC nominal: 4.7 VDC to 5.5 VDC 12 to 24 VDC nominal: 10 VDC to 26.4 VDC Inputs are mapped to any counter or to the controller as interrupts.	(16 inputs) 5 VDC nominal: 4.7 VDC to 5.5 VDC 12 to 24 VDC nominal: 10 VDC to 26.4 VDC Inputs are mapped to any counter or to the controller as interrupts.	(12) 8.0 VDC (non-VTTL), 1.5 VDC (TTL)
Local Fast Outputs	(4) 10 to 30 VDC @ 500 mA maximum 4.75 to 6 VDC @ 20 mA maximum	(7 outputs) 4.7 to 40 VDC 1.5 A maximum per channel, 10.5 A maximum per module Outputs can be used by the counters or as standard outputs from the controller.	(14 outputs) 4.7 to 40 VDC 1.5 A maximum per channel, 10.5 A maximum per module Outputs can be used by the counters or as standard outputs from the controller.	Continuous Output Current (10*V/30 VDC supply) 1.0 A (each output 1-V4) 0.5 A (each output 5-V8)
Connector Type	Terminal Block (20 screws), included with module.	IC694TBBx32 or IC694TBSx32. Sold Separately.	IC694TBBx32 or IC694TBSx32. Sold Separately.	Terminal Block (20 screws), included with module.
Internal Power Used	250 mA @ 5 VDC	64 mA maximum @ 5 V; 457 mA maximum @ 3.3 V	94 mA maximum @ 5 V; 561 mA maximum @ 3.3 V	360 mA @ 5 VDC



PACMotion Servo Control

The PACMotion controller is a versatile servo motion controller that combines the benefits of a highly integrated motion and machine logic solution with the performance, flexibility and scalability required for advanced machine automation. PACMotion is designed to deliver unsurpassed machine productivity required for today's high-speed machines and lean manufacturing environments. The 4-axis servo motion controller is built on a high performance hardware platform, with a new enhanced motion engine, operating system, and open standard integrated programming paradigm. Add to that world-class reliability of FANUC servos and you have a motion system designed to give you the best productivity and accuracy possible. Please see GE Intelligent Platforms Motion Solutions Catalog GFA-483 for more information about motion offerings.

IC695PMM335

Product Name	PACMotion Module
Lifecycle Status	Active
Module Type	Servo Motion
Backplane Support	Universal Backplane Only. Uses PCI Bus.
Number of Slots Module Occupies on Backplane	1
Motion Path Planning	1 ms, Consistent update regardless of the number of axes in the system
Position Loop Update Rate	500 μ s, All axes in the RX3i rack are updated simultaneously
Velocity Loop Update Rate	125 μ s, All axes in the RX3i rack are updated simultaneously
Torque Loop Update Rate	62.5 μ s, All axes in the RX3i rack are updated simultaneously
Controlled Axes/Module	4 Bi, BHVi or aHVi series servos are supported via a fiber optic interface
Master Axes/Module	1, Can be a virtual time-based or incremental encoder master
Servo Command Interface	Fiber Optic 50 Mb/s FANUC Serial Servo Bus (FSSB)
Fiber Terminal Block Cable Length	Max. 100 meters between nodes 400 meters maximum for a 4 axis system
Maximum Axes per RX3i	DC Power Supplies: 40 + 10 master axes (Requires 16 slot backplane, CPU and 4 DC power supplies) AC Power Supplies: 32 + 8 master axes (Requires 16 slot backplane, CPU and 3 AC power supplies)
Position Resolution	aHVi Series 1,048,576 counts/rev, Bi and BHVi Series 65,536 or 131,072 counts/rev. Bi2i and larger motors support the higher resolution.
Feedback Type	Incremental/Absolute Serial Encoder. Optional battery backup required for absolute feedback mode.
Faceplate I/O	24V General Purpose Inputs: 4 optically isolated; source/sink 24V High-Speed Inputs: 2 optically isolated; source/sink Open circuit detection; can be used to connect a quadrature master encoder (500 kHz max) 24V General Purpose Inputs/Outputs: 2 optically isolated; source/sink 125 mA maximum output current each "Connecto" Plug-on Screw Terminal
Floating Point Support	Yes, Double precision IEEE 754.
Module Hot Insertion/Removal	Yes
Cam Profiles per Module	256 at one time. Up to 2048 profiles can be stored in the RX3i file system for use by any module.
Synch/Delayed Start	Up to 8 axes Axes can be on any module and are synchronized over the backplane.
High Speed Position Capture	\pm 2 Inputs per axis: \pm 1 count = 10 μ s jitter
Connector Type	Plug-on Screw Terminal and Fiber
Internal Power Used	5 VDC 0.45A @ 5 VDC; 1.1A & 3.3 VDC



PACMotion I/O Fiber Terminal Block

The optional Fiber Terminal Block enables PACMotion controller to connect remote I/O over a fiber cable. The Fiber Terminal Block is DIN rail mounted and can be up to 100 meters away from the PACMotion module. The module is configurable per point for 5 VDC, 24 VDC and analog I/O. The Fiber Terminal Block provides a unique ID that prevents connection to wrong PACMotion modules. The module supports up to 5 incremental encoders without marker or 4 encoders with marker pulse.

IC695FTB001

Product Name	PACMotion I/O Fiber Terminal Block
Lifecycle Status	Active
Module Type	I/O Terminal Block for PACMotion
Mounting/Dimensions	35 mm DIN Rail (5.56 W x 4.94 H x 2.46 D inches; 141.2 W x 125.5 H x 62.5 D mm)
Interface to PACMotion Module	Fiber Optic Cable. Maximum cable length is 100 meters; Interface uses a unique ID for each PMM/FTB pair to prevent cross-connection.
Power Requirements	19.2 VDC —28.8 VDC; 0.45 Amps @ 24 V
24 V Outputs (differential)	Eight optically isolated; source; open load & short detection. 2 groups of 4; 0.5 A max. per point; 4 A max. per group
24 V General Purpose Inputs	Sixteen optically isolated; source/sink 4 groups of 4
5 V Outputs (differential)	Four RS422 Line Driver with short circuit protection; 48 mA max.
5 V Inputs (differential/single-ended)	Six RS422 / RS485 Line Receiver with fault detection
5 V Inputs (differential)	Six RS422 / RS485 Line Receiver with fault detection
Analog Inputs	Two, ±10V differential 14 bit resolution
Analog Outputs	Two, ±10V differential 14 bit resolution
24 V Power Output	Reverse polarity protected by replaceable fuse
5 V Power Output	0.5 amp max. electronic overload protected
Quad Encoder Open Circuit Detection	Yes
I/O Function Assignment	Configurable I/O functions are assigned during module hardware configuration
Terminal Header Options	IC694TBxx32



Motion Control (Servo Control)

Motion control integrated into the RX3i fosters high performance point-to-point applications. GE Motion Control modules can be flexibly applied to a variety of digital, analog, and stepper motion applications.

	IC694DSM324	IC694DSM314
Product Name	PACSystems RX3i Digital Servo Module, 4-Axis (Fiber Optic Interface to Amplifiers)	PACSystems RX3i Digital Servo Module, 4-Axis
Lifecycle Status	Active	Active
Module Type	Servo Motion	Servo Motion
Backplane Support	No Backplane Restrictions	No Backplane Restrictions
Number of Slots Module Occupies on Backplane	1	1
Drive	Beta i Series Digital Servos	Alpha and Beta Series Digital and Analog Servos
Drive Interface	Fiber Optic, Up to 100 meters between amplifiers with total length of 400 meters.	Digital for Alpha and Beta Series; ±10 V velocity or torque command for analog
Axes	4 Digital	2 Digital and 1 Analog or 4 Analog
Master Encoder Support	Incremental Master (1Mhz)	Incremental Master (1Mhz)
Electronic Cam	Yes	Yes
Velocity Feed-Forward	Yes	Yes
Encoder Feedback (Serial)	Yes	Yes
Temposonic Feedback	Yes	Yes
Number of Programs	15 Kbytes (10 + 40 Subroutines)	15 Kbytes (10 + 40 Subroutines)
User Memory (Number of Programs)	15 KBytes	15 KBytes
Feedback Inputs	3	3
Encoder Input Type/Maximum Rate	TTL Diff/Single, 175kHz	TTL Diff/Single, 175kHz
Analog Inputs	2	4 - In Digital Mode 8 - In Analog Mode
Analog Outputs	2	4 - In Digital Mode 0 - In Analog Mode
Internal Power Used	1360 mA @ 5 VDC	1300 mA @ 5 VDC



Power Measurement Modules

The Power Transducer Module (PTM) and Power Synchronization and Measurement (PSM) module measure and calculate critical data for control of electrical power systems and synchronization of power grids. Both the PTM and PSM connect to user supplied current and potential transformers, which translate power grid signals to proportionate, low-level signals for measurement and analysis. The PTM module is not intended to provide a protective relay function or be used for energy billing purposes. The PSM module provides ANSI protective relay calculations and revenue grade monitoring for a complete genset, paralleling switchgear or infrastructure management solution. Both the PTM and PSM consist of a processing module that plugs into the PLC backplane, an interface module for field wiring connections, and cables to interconnect the two modules. The PTM and PSM can be used with Wye or Delta type three-phase power or with single-phase power systems.

	IC693PTM101	IC694PSM001
Product Name	Power Transducer Module Processing Module interface board (a panel mounted circuit board). This board interfaces between the Power Transducer module and the input transformers (current and potential), 1.0 meter Interface cable that connects the module to the Interface board.	Power Synchronization and Measurement Module and Interface Module (a panel mounted terminal block). The interface module translates power grid signals from external, user supplied potential and current transformers (PT's and CT's) to low voltage signals suitable for the processing module. 2.0 meter Interface cables connect the processing module to the Interface module.
Lifecycle Status	Mature	Active
Module Type	Power Transducer Modules	Power Synch and Measurement Module
Input Voltage Range	10-120 VAC (nominal)	20-600 VAC (nominal)
Power Measurement Configurations	Grids: 1 Circuits: 0 0 up to 4	Grids: 2 Circuits: 0 1 up to 3 0 up to 6
Current Input Range	0 to 7.5 Amps RMS (5 A RMS nominal)	0 to 7.5 Amps RMS (5 A RMS nominal)
Frequency Range	35Hz to 70Hz	40Hz to 70Hz
Output Rating	N/A	150 VAC/VDC, 1 A
Number of Outputs	0	1 (provided as redundant, isolated, solid-state contacts)
Data	Data availability <ul style="list-style-type: none"> Data calculation rate: 20ms @ 50Hz, 16.67ms @ 60Hz Data latency: 15ms @ 50Hz, 16.67ms @ 60Hz Measured Data <ul style="list-style-type: none"> RMS voltage of phase A, B, and C (in Volts x 10) RMS currents of phase A, B, C, and Neutral (in Amperes x 1000) for each grid DC component of measured RMS voltages (in Volts x 10) Frequency of phase A grid 1 (in Hz x 100) Phase angle between phase A grid 1 and phase A grid 2 (in degrees x 10) Power and Energy Data <ul style="list-style-type: none"> Active and reactive power reported per phase and total in Watts, Volt-Amperes-Reactive (VAR) Active and reactive total energy consumption in Watt-Seconds and Volt-Amperes-Reactive-Seconds (updated once per second), re-settable by the user Total power factor Average real and reactive power consumption (sliding 15 minute window updated once per second) 	Data availability <ul style="list-style-type: none"> Data measurement rate: 20ms @ 50Hz, 16.67ms @ 60Hz. Data latency: 8ms Measured Data <ul style="list-style-type: none"> RMS voltage of phase A, B, and C (in Volts x 10) RMS currents of phase A, B, C, and Neutral (in Amperes x 1000) for each grid DC component of measured RMS voltages (in Volts x 10) Frequency of phase A grid 1 and phase A grid 2 (in Hz x 100) Phase angle between phase A grid 1 and phase A grid 2 (in degrees x 10) Calculated Data <ul style="list-style-type: none"> Real and reactive power reported per phase and total in Watts, Volt-Amperes-Reactive (VAR) Real and reactive total energy consumption, integrated over the past 1-second, in Kilo Watt-Hours (kWh) and Kilo Volt-Amperes-Reactive-Hours (kVARh) Total power factor Average real and reactive power consumption (sliding 15 minute window updated once per second)
Status and Diagnostics	<ul style="list-style-type: none"> Module Heartbeat (indicates module health) Utility Phase A voltage present Phase polarity valid Voltage measurements valid Current measurements valid 	<ul style="list-style-type: none"> Module Heartbeat (indicates module health) Field connection OK Any grid alarm (single bit indication of power grid health) Grid Voltage fault Grid Current fault Mixed Polarity fault ANSI Protection Relay Calculations Grid Synchronization (ANSI 25) <ul style="list-style-type: none"> Phase Shift OK Voltage Difference OK Frequency Difference OK Close Relay OK Under Voltage alarm (ANSI 27) Reverse Power alarm (ANSI 32) Negative Sequence alarm (ANSI 46) Over Current alarm (ANSI 50) Over Voltage alarm (ANSI 59) VA Imbalance alarm (ANSI 60) Under Frequency alarm (ANSI 81U) Over Frequency alarm (ANSI 81O)
Internal Power Used	400 mA @ 5 VDC	190 mA @ 5 VDC



RX3i Pneumatic Module

This IC693MDL760 output module provides eleven pneumatic outputs and five 24 VDC sourcing outputs. For each pneumatic output, the module contains an internal 3-way solenoid-actuated valve and an associated output fitting, which is located on the front panel. When an output is turned ON, its internal valve connects a user supplied pressure source (100 psi maximum) to the output fitting. The pressure source is connected to the fitting on the bottom of the module. When the output is turned OFF, the valve's output port is vented to atmosphere inside the module. Solenoid power is supplied from an external 24 VDC source to the "DC Outputs" connector on the front panel.

IC693MDL760

Product Name	RX3i Solenoid Module
Lifecycle Status	Active
Number of Points	(11) Pneumatic Outputs (5) 24 VDC Outputs
Pneumatic Outputs	11
Supply Pressure	100 PSI
Pressure Drop	25 psi max.@ 0.25scfm
External Solenoid Power	21.6-26.4 VDC, 24 VDC nominal
ON Response Time/Off Response Time	12ms max. ON 12ms max. OFF
Solenoid Inrush Current	33 mA/valve @ 24 VDC
Solenoid Holding Current	13 mA/valve @ 24 VDC
Output Fitting	Threaded for 10-32 adapter, 1/16" hose barb provided
Supply Fitting	Threaded for 10-32 adapter, 1/8" hose barb provided
Load Current per Point	0.5A @ 30 VDC per point, 2.0A total for all five points
Response Time (ms)	0.5 on/0.5 off
Output Type	Transistor
Polarity	Positive
Internal Power Used	75 mA from 5 VDC bus (solenoid LEDs are powered from external power source)



Expansion Modules for Local and Remote I/O

The RX3i supports various expansion options for local and remote I/O to optimize configurations. The RX3i can be expanded up to 8 expansion bases using local remote expansion module. The RX3i also supports Ethernet remote I/O using the RX3i Ethernet Network Interface module (IC695NKT001) Series 90-30 Ethernet Network Interface module (IC693NIU004) for more distributed I/O.

	IC695LRE001	IC695NKT001	IC693NIU004
Product Name	PACSystems RX3i Expansion Module	PACSystems RX3i Ethernet Remote I/O Expansion Kit. Kit includes a NIU001 with two built-in serial ports and ETM001	PACSystems RX3i Ethernet Remote I/O Expansion (Slave)
Lifecycle Status	Active	Active	Active
Module Type	High Speed Serial Expansion Module	Ethernet Communications (Supports redundant Ethernet modules)	Ethernet Communications
Backplane Support	Universal Backplane Only	Universal Backplane Only. Uses PCI Bus.	Compatible with Series 90-30 bases only
Number of Slots Module Occupies on Backplane	No I/O slot used	3 (2 for NIU and 1 for Ethernet module)	N/A
Built-in Communication Ports	N/A	RJ-45 with built-in switch. 1 RS-485 port and one RS-232 port. Supports SNP, Serial I/O, Modbus Slave and Modbus Master	N/A
I/O Discrete Points	N/A	2048 Inputs/2048 Outputs maximum	2048 Inputs/2048 Outputs maximum
I/O Analog Points	N/A	1264 Inputs and 512 Outputs maximum	1264 Inputs and 512 Outputs maximum
User Logic Memory	N/A	5Kbytes of local logic	No local logic
Network Data Rate	1 Mbaud	10/100Mbit ports (RJ-45)	10/100Mbit ports (RJ-45)
Entity Type	Master	Slave	Slave
Network Distance	Up to 700 feet (213 meters)	Network Dependent	Network Dependent
Bus Diagnostics	Yes	Supported	Supported
Number of Drops Supported	Supports 7 local expansion racks. Discrete I/O: Maximum 320 In, 320 Out, Analog I/O: Maximum 160 In, 80 Out per base	Network Dependent Each Ethernet NIU can also support up to 7 additional local I/O racks (IC694CHSxxx)	Network Dependent Each Ethernet NIU can also support up to 7 additional local I/O racks (IC694CHSxxx)
Internal Power Used	132 mA @ 5 VDC	1250 mA @ 3.3 VDC; 1000 mA @ 5 VDC for NIU controller and 840 mA @ 3.3 VDC; 614 mA @ 5 VDC for each Ethernet module	1.4 Amps @ 5 VDC

Accessories

IC694TBB032	High Density 32 Point Terminal Block Box Style	Active
IC694TBB132	High Density 32 Point Terminal Block Box Style with Extended Shroud for Large Wiring Bundles	Active
IC694TBS032	High Density 32 Point Terminal Block Spring Style	Active
IC694TBS132	High Density 32 Point Terminal Block Spring Style with Extended Shroud for Large Wiring Bundles	Active
IC694TBC032	High Density 32 Point Terminal Block with a 40 pin Fujitsu connector. Compatible with DC Inputs, Analog Modules only. Not compatible with DC or AC output modules.	Target April 2012
IC694ACC310	Filler Module, Blank Slot	Active
IC694ACC311	Terminal blocks, 20 terminals (qty 6) for IC694xxx low density modules	Active
IC695ACC600	RX3i Cold Junction Compensation Kit (Contains 2 CJs) for Universal Analog and Thermocouple Input Modules	Active
IC698ACC701	Lithium Batter pack that installs in CPU for CPU310 and CMU310 only (28 days of continuous battery backup)	Active
IC693ACC302	External High capacity battery pack. (1.3 years of continuous battery backup for CPU310/CMU310 and 1 month for CPU320/CRU320.)	Active
IC690RBT001	Rechargeable battery kit. Includes battery (IC690RBT001) and battery charger (IC690CRG001). The rechargeable battery is compatible with PAC controllers CPU310,CPU315, CPU320 and CRU320 only. Also compatible with Series 90-30 and Series 90-70 CPUs.	Active
IC690CRG001	Battery charger. Compatible with rechargeable battery (IC690RBT001) only. The rechargeable battery is compatible with PAC controllers CPU310,CPU315, CPU320 and CRU320 only. Also compatible with Series 90-30 and Series 90-70 CPUs.	Active
IC690RBT001	Rechargeable battery is compatible with IC690CRG001 battery charger only. The rechargeable battery is compatible with PAC controllers CPU310, CPU315, CPU320 and CRU320 only. Also compatible with Series 90-30 and Series 90-70 CPUs., Series 90-30 and Series 90-70.	Active
IC690ACC001	Real Time Clock Battery for CPE305 and CPE310	Active
IC695ACC400	CPE305 and CPE310 CPU Battery-less Energy Pack for backing up dynamic data	Active
IC695CBL001	Energy Pack Cable	Active
IC690ACC901	Mini-Converter Kit with cable (RS-485/RS-232)	Active
IC690ACC903	RS-485 Port Isolator	Active
IC693CBL316	RS-232 cable for RX3i CPE305 programming port and also the Station Manager Cable for the Ethernet ETM001	Active
IC690CDR002	User Manuals, InfoLink CD-ROM Documentation, single-user license	Active
IC693ACC307	I/O Bus Terminator Plug	Active
IC693ACC311	Series 90-30 style IC693 I/O modules Terminal Blocks, 20 terminals (qty 6)	Active

External Power Supplies

IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply	Active
IC690PWR124	24 VDC, 10 Amp Output Power and 120/230 VAC Input Power Power Supply	Active

Terminal Block Quick Connect

Terminal Block Quick Connect (TBQC) for selected I/O modules enables the user to easily connect interposing terminal blocks. The TBQC consists of an I/O faceplate adapter that includes a 24 pin Fujitsu male connector (the faceplate replaces the 20 screw terminal connector on front of I/O module, not compatible with the high density 36 screw terminals), cable and interposing terminal block.

TBQC I/O Module Face Plate Adapter

IC693ACC334	I/O module face plate adapter for 20 screw type I/O modules. Faceplate provides a 24 pin male Fujitsu connector.	Active
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TBQC Interposing Terminal Block

IC693ACC329	Interposing terminal block base for IC694MDL645, IC694MDL646, and IC694MDL240. The base can also be used with any 20 point terminal discrete or analog modules not listed.	Active
IC693ACC330	Interposing terminal block base for IC694MDL740 and IC694MDL742	Discontinued
IC693ACC331	Interposing terminal block base for IC694MDL741	Discontinued
IC693ACC332	Interposing terminal block base for IC694MDL940	Active
IC693ACC333	Interposing terminal block base for IC694MDL340	Active
IC693ACC337	Interposing terminal block base for IC693MDL654/655/752/753 and IC694MDL654/655/752/753	Active

TBQC Cables

IC693CBL327	Cable, Left Side, One -24 Pin 90 Degree Connector, 3 Meter. Cable has a connector on only one end and open on the other. Cable used with TBQC I/O Face Plate Adapter or Fujitsu style I/O modules.	Active
IC693CBL328	Cable, Right Side, One -24 Pin 90 Degree Connector, 3 Meter. Cable has a connector on only one end and open on the other. Cable used with TBQC I/O Face Plate Adapter or Fujitsu style I/O modules.	Active
IC693CBL329	Cable, Left Side, One -24 Pin 90 Degree Connector, 1 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	Active
IC693CBL330	Cable, Right Side, One -24 Pin 90 Degree Connector, 1 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	Active
IC693CBL331	Cable, Left Side, One -24 Pin 90 Degree Connector, 2 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	Active
IC693CBL332	Cable, Right Side, One -24 Pin 90 Degree Connector, 2 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	Active
IC693CBL333	Cable, Left Side, One -24 Pin 90 Degree Connector, 0.5 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	Active
IC693CBL334	Cable, Right Side, One -24 Pin 90 Degree Connector, 0.5 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	Active

High Density Terminal Block Quick Connect (32 point I/O terminals)

High Density Terminal Block Quick Connect (TBQC) for selected I/O modules enables the user to easily connect interposing terminal blocks. The HDTBQC consist of a I/O module terminal block with a 40 pin Fujitsu male connector, cable and interposing terminal block. The HDTBQC is compatible with modules that accept IC694TBC032 (24 VDC discrete inputs and analog input and output modules. The HDTBQC is not compatible with discrete output modules).

HDTBQC I/O Module Face Plate Adapter

IC694TBC032	High Density 32 Point Terminal Block with a 40 pin Fujitsu connector. Compatible with DC Inputs, Analog Modules only. Not compatible with DC or AC output modules.	Active
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HDTBQC Interposing Terminal Block

IC694RTB032	Remote Terminal Block 36 Pin DIN-Rail mount	Target April 2012
HDTBQC Remote Terminal Base		
IC694CBL005	.5 meter Cable between IC694TBC032 and IC694RTB032	Target April 2012
HDTBQC Cables		
IC694CBL010	1.0 meter Cable between IC694TBC032 and IC694RTB032	Target April 2012
IC694CBL030	3.0 meter Cable between IC694TBC032 and IC694RTB032	Target April 2013
IC694CBL130	3 meter Cable with IC694TBC032 connector on one end and open wire on other end	Target April 2014

RMX and CMX Reflective Memory Fiber Optic Cables

Simplex LC to LC connector, Fiber-Optic Cable – Multimode 62.5 Micron core.

Simplex (single) cabling is used for daisy chaining Tx to Rx to/from another node until final device circles back to beginning node.

Each CMX module requires two Simplex cables per module.

CBL-000-F5-000	.5 feet (0.15 m)	Active
CBL-000-F5-001	1 foot (.31 m)	Active
CBL-000-F5-002	5 feet (1.52 m)	Active
CBL-000-F5-003	10 feet (3.04 m)	Active
CBL-000-F5-004	25 feet (7.62 m)	Active
CBL-000-F5-005	50 feet (15.24 m)	Active
CBL-000-F5-006	80 feet (24.40 m)	Active
CBL-000-F5-007	100 feet (30.49 m)	Active
CBL-000-F5-008	150 feet (45.72 m)	Active
CBL-000-F5-009	200 feet (60.98 m)	Active
CBL-000-F5-010	250 feet (76.20 m)	Active
CBL-000-F5-011	350 feet (106.68 m)	Active
CBL-000-F5-012	500 feet (152.15 m)	Active
CBL-000-F5-014	656 feet (200 m)	Active
CBL-000-F5-015	820 feet (250 m)	Active
CBL-000-F5-016	1,000 feet (304.30 m)	Active

Duplex LC to LC connector, Fiber-Optic Cable - Multimode 62.5 Micron core.

Duplex cabling is generally used with RMX system and is also good for CMX module to HUB connections. Duplex has a pair of cables connected together.

Each CMX module requires one Duplex cable per module to a hub.

CBL-000-F6-000	3 feet (0.9144 m)	Active
CBL-000-F6-001	6 feet (1.8288 m)	Active
CBL-000-F6-002	10 feet (3.048 m)	Active
CBL-000-F6-003	16 feet (4.8768 m)	Active
CBL-000-F6-004	32 feet (9.7536 m)	Active
CBL-000-F6-005	66 feet (20.1168 m)	Active
CBL-000-F6-006	98 feet (29.8704 m)	Active
CBL-000-F6-007	164 feet (49.9872 m)	Active
CBL-000-F6-008	230 feet (70.104 m)	Active
CBL-000-F6-009	328 feet (99.9744 m)	Active
CBL-000-F6-010	393 feet (119.7864 m)	Active
CBL-000-F6-011	426 feet (129.8448 m)	Active
CBL-000-F6-012	492 feet (149.9616 m)	Active
CBL-000-F6-013	557 feet (169.7736 m)	Active
CBL-000-F6-014	656 feet (199.9488 m)	Active
CBL-000-F6-015	721 feet (219.7608 m)	Active
CBL-000-F6-016	754 feet (229.8192 m)	Active
CBL-000-F6-017	820 feet (249.936 m)	Active
CBL-000-F6-018	885 feet (269.748 m)	Active
CBL-000-F6-019	984 feet (299.9232 m)	Active

Reflective Memory Interface Modules for PCs

PMC 5565 Reflective Memory PMC Module

PMC-5565PIORC-110000	PMC, 2 GIGA Baud RM w/FO Options, 128 Mbyte Memory, 4K FIFOs, Multimode Transmission	Active
PMC-5565PIORC-111000	PMC, 2 GIGA Baud RM w/FO Options, 128 Mbyte Memory, 4 K FIFOs, Single Mode Transmission	Active
PMC-5565PIORC-210000	PMC, 2 GIGA Baud RM w/FO Options, 256 Mbyte Memory, 4K FIFOs, Multimode Transmission	Active
PMC-5565PIORC-211000	PMC, 2 GIGA Baud RM w/FO Options, 256 Mbyte Memory, 4 K FIFOs, Single Mode Transmission	Active

PCI 5565 Reflective Memory PCI Module

PCI-5565PIORC-110000	PCI, 2 GIGA Baud RM w/FO Options, 128 Mbyte Memory, 4K FIFOs, Multimode Transmission	Active
PCI-5565PIORC-111000	PCI, 2 GIGA Baud RM w/FO Options, 128 Mbyte Memory, 4K FIFOs, Single Mode Transmission	Active
PCI-5565PIORC-210000	PCI, 2 GIGA Baud RM w/FO Options, 256 Mbyte Memory, 4K FIFOs, Multimode Transmission	Active
PCI-5565PIORC-211000	PCI, 2 GIGA Baud RM w/FO Options, 256 Mbyte Memory, 4K FIFOs, Single Mode Transmission	Active

PCI Express 5565 Reflective Memory PCIE Module

PCIE-5565RC-100000	PCI Express, 2 GIGA Baud RM w/FO Options, 128 Mbyte Memory, 4K FIFOs, Multimode Transmission	Active
PCIE-5565RC-101000	PCI Express, 2 GIGA Baud RM w/FO Options, 128 Mbyte Memory, 4K FIFOs, Single Mode Transmission	Active
PCIE-5565RC-200000	PCI Express, 2 GIGA Baud RM w/FO Options, 256 Mbyte Memory, 4K FIFOs, Multimode Transmission	Active
PCIE-5565RC-201000	PCI Express, 2 GIGA Baud RM w/FO Options, 256 Mbyte Memory, 4K FIFOs, Single Mode Transmission	Active

CMX and RMX Reflective Memory HUB (Contact GE for additional HUB configurations)

HUB-5595-308	DIN-Rail Mount Reflective Memory Hub. 21 -32 VDC Power supply, 1x 10BaseT Ethernet, 1x RS232, 8x Multimode Pluggable transceivers	Active
HUB-5595-380	DIN-Rail Mount Reflective Memory Hub. 21 -32 VDC Power supply, 1x 10BaseT Ethernet, 1x RS232, 8x Single mode Pluggable transceivers	Active
ACC-5595-208	Rack Mount or Desktop Reflective Memory Hub. Universal power supply, 1x 10BaseT Ethernet, 1x RS232, 8x multimode pluggable transceivers	Active
ACC-5595-280	Rack Mount or Desktop, 8 Single mode Pluggable Transceivers. And no Multimode Pluggable Transceivers	Active

Starter Kits (Only one starter kit per customer per customer site)

IC695STK001	RX3i Controller PACKage 1 Starter Kit includes RX3i with software. (includes one each IC695CPU305, IC695CHS012, IC695LRE001, IC695PSA040, IC695ETM001, IC694ACC300, IC694MDL940 and IC646MPP001.) Limited one RX3i starter kit per customer site.	Active
IC695STK002	RX3i with Control and View. Power PACKage 2 Starter Kit includes RX3i and QuickPanel View 6" STD with software. (includes one each IC695CPU305, IC695CHS012, IC695LRE001, IC695PSA040, IC695ETM001, IC694ACC300, IC694MDL940, IC754VSI06STD, BC646MQP001, IC646MPP001 and DC power supply for QuickPanel) Limited one RX3i starter kit per customer site.	Active
IC695STK003	RX3i, The Complete PACKage with Control, Motion and View. Power PACKage 3 Starter Kit includes RX3i, motion module (Servo and Amplifier sold separately) and QuickPanel View 6" STD with software. (includes one each IC695CPU305, IC695CHS012, IC695LRE001, IC695PSA040, IC695ETM001, IC694DSM314, IC694ACC300, IC694MDL940, IC754VSI06STD, BC646MQP001, IC646MPP001 and DC power supply for QuickPanel) Limited one RX3i starter kit per customer site.	Active
IC695STK004	RX3i Power PACKage 4 Starter Kit includes (one each IC695CPU305, IC695CHS012, IC695PSA040, IC695ETM001, IC646MPP101)	Active
IC695STK005	RX3i Power PACKage 5 Starter Kit includes (one each IC695CPU305, IC695CHS012, IC695PSA040, IC646MPP101)	Active
IC695STK006	RX3i Power PACKage 6 Starter Kit includes (one each IC695CPU305, IC695CHS012, IC695PSD040, IC695ETM001, IC646MPP101)	Active
IC695STK007	RX3i Power PACKage 7 Starter Kit includes (one each IC695CPU305, IC695CHS012, IC695PSD040, IC646MPP101)	Active
IC695STK010	RX3i Profinet Power PACKage 10. Kit includes CPE305, 7 slot base, AC power supply, input and output module, Profinet controller, VersaMax Profinet slave, combination I/O and Proficy Machine Edition. (one each IC695CPU305, IC695CHS007, IC695PSA040, IC694ACC300, IC694MDL740, IC200PNS001, IC200PWR102, IC200MDD844, IC200ACC302, IC200CHS002, IC646MPP101)	Active

Demo Cases

IC695DEM001	RX3i Power PACkage 1 Demo Case that includes CPU, P/S, discrete I/O and analog I/O, high speed counter, Ethernet and analog simulator. Proficy Machine Edition Professional Edition included.	Active
IC695DEM002	RX3i Power PACkage 2 Demo Case that includes RX3i and QP Control/View. Includes CPU, P/S, discrete I/O and analog I/O, Ethernet, analog simulator, 6" TFT QuickPanel View/Control. Proficy Machine Edition Professional Edition included.	Active
IC695DEM004	Beta i Series 1-Axis Motion Demo Case. Demo case is a self contained table top demo that includes a DSM324i module, Beta i motor and amplifier prewired for connection to a DSM324i motion module. The cables (1 meter) for connection to the DSM324i 5 V I/O and FSSB fiber optic command interface are included. Demo includes an E-stop push button and toggle switches for 5 DSM324i I/O points.	Active

IC694 Rack to Rack Expansion Cables

IC693CBL300	Cable, I/O Base Expansion, 1 Meter, Shielded	Active
IC693CBL301	Cable, I/O Base Expansion, 2 Meters, Shielded	Active
IC693CBL302	Cable, I/O Base Expansion, 15 Meter, Shielded with built-in terminator	Active
IC693CBL312	Cable, I/O Base Expansion, 0.15 Meter, Shielded	Active
IC693CBL313	Cable, I/O Base Expansion, 8 Meters, Shielded	Active
IC693CBL314	Cable, I/O Base Expansion, 15 Meters, Shielded with no built-in terminator	Active
IC693ACC307	I/O Bus Terminator Plug	Active

Configuration Guidelines

When configuring a RX3i the following guidelines should be considered:

1. IC695 part numbers can only be installed in a Universal Rack (IC695CHSxxx).
2. CPU, NIU and AC Power Supply require 2 slots each on the base plate.
3. IC695 I/O modules and high density IC694 I/O modules require a terminal block assembly. IC694TBSxxx (spring clamp termination) or IC694TBBxxx (box style termination) are required.
4. If the CPU is powered down frequently a high capacity battery should be considered. (IC693ACC302)

Examples of Typical Application

Configuration for Controller (Example application requiring (120) 24 VDC inputs and (80) Relay outputs AC power supply)					
Backplane Slots Required	Power Supply Current Required (mA)	Qty	Part Number	Description	
2	1000mA@ 3.3VDC; 1000mA@ 5VDC	1	IC695CPE310	CPU with two built-in serial ports	
2		1	IC695PSA040	120/240 VAC, 125 VDC Power Supply, current available 9 Amps @ 3.3 VDC; 6 Amps @ 5 VDC; 1.6 Amps @ 24 VDC maximum	
	600 mA@ 3.3 VDC; 240 mA@ 5 VDC	1	IC695CHS016	16 Slot Universal Base	
4	1200 @ 5 V	4	IC694MDL660	Discrete Input Module, 24 VDC Positive Logic, 32 points (Requires terminal block)	
5	35 mA @ 5 V; 110 mA @ 24 VDC Relay	5	IC694MDL940	Discrete Output Module, Relay 2.0 A per point Form A, 16 points (Terminal block included).	
		4	IC694TBB032	Terminal Block, Box Style	
		1	IC646MPP001	Logic Developer -PLC Professional	
13	Total current from power supply required: 2475 mA @ 5 V; 1600 @ 3.3 V; 110 mA @ 24 VDC Relay. Only one power supplied needed.				
Options to consider					
	840 mA @ 3.3 VDC; 614 mA @ 5 VDC	1	IC695ETM001	Ethernet module 10/100Mbps	
		1	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply	
		1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch Operator Interface	

Configuration for Controller (100) 24 VDC inputs, (50) 24 VDC Outputs with ESCP protection, (20) Relay outputs also (2) 4 to 20 mA Analog Inputs, (3) Type J Thermocouple, (1) RTD, (5) Strain Gage, (12) 4 to 20 mA Analog Outputs and 24 VDC power supply. Also requires Profibus Master and Ethernet communications.

Backplane Slots Required	Power Supply Current Required (mA)	Qty	Part Number	Description
2 on Universal Base	1000 mA@ 3.3 VDC; 1000 mA@ 5 VDC	1	IC695CPE310	CPU with two built-in serial ports
1 on Universal Base		1	IC695PSD040	24 VDC Power Supply, current available 9 Amps @ 3.3 VDC; 6 Amps @ 5 VDC; 1.6 Amps @ 24 VDC maximum
	600 mA@ 3.3 VDC; 240 mA@ 5 VDC	1	IC695CHS016	16 Slot Universal Base
4 expansion base slots	1200 @ 5 VDC	4	IC694MDL660	Discrete Input Module, 24 VDC Positive Logic, 32 points (Requires terminal block)
2 expansion base slots	600 mA @ 5 VDC	2	IC694MDL754	Discrete Output Module, 24 VDC Output with ESCP, 32 points (Requires terminal block)
2 expansion base slots	35 mA @ 5 VDC; 110 mA @ 24 VDC Relay	2	IC694MDL940	Discrete Output Module, Relay 2.0 A per point Form A, 16 points (Terminal block included).
2 on Universal Base	700 mA @ 3.3 VDC; 800 mA @ 5 VDC	2	IC695ALG600	Universal Analog Input module, supports Thermocouple, RTD, Voltage, Current and Strain Gage, 8 channels (Requires terminal block)
2 on Universal Base	220mA @ 5VDC 630mA @ 24VDC user supply	2	IC694ALG392	Analog Output module, supports voltage and current, 8 channels
1 on Universal Base	840 mA @ 3.3 VDC; 614 mA @ 5 VDC	1	IC695ETM001	Ethernet module 10/100Mbps
1 on Universal Base	420 mA @ 5 VDC	1	IC695PBM300	Profibus Master module, supports V1
	150 mA @ 5 VDC	1	IC694CHS392	High Speed Serial 10 slot expansion rack (Only IC694xxx modules can go in rack)
		1	IC694PWR331	24 VDC Power Supply for High Speed Serial base,
		1	IC693CBL312	Rack Expansion Cable, 0.15 meters
		1	IC693ACC307	I/O Bus Terminator Plug
	132 mA @ 5 VDC	1	IC695LRE001	Universal Base High Speed Serial expansion module (Module does not occupy a I/O slot)
		8	IC694TBB032	Terminal Block, Box Style
		1	IC646MPP001	Logic Developer -PLC Professional
9 slots on Universal base and 8 slots of standard base	In the above configuration, all of the modules can not go into one base. Therefore the I/O modules are divided into two bases. The IC695xxx part numbers will be used on the Universal base and the IC694 part numbers will use the standard high speed serial bus base. The Universal base can accept both IC695xxx and IC694xxx modules but the standard base will only accept IC694xxx and IC693xxx modules. Total current from Universal base power supply: 3140mA @ 5VDC ; 3140 @ 3.3VDC. Only one power supplied needed. Total current from Standard base power supply: 1985mA @ 5VDC; 110mA @ 24VDC			

Options to consider

		2	IC695PSD140	Multipurpose 24 VDC power supply. By adding two IC665PSD140 the system would have redundant power supplies for maximum availability.
		1	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
		1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch Operator Interface

Redundant Controller Configuration requiring (100) 24 VDC inputs, (50) 24 VDC Outputs with ESCP protection, (20) Relay outputs also (2) 4 to 20 mA Analog Inputs, (3) Type J Thermocouple, (1) RTD, (5) Strain Gage, (12) 4 to 20 mA Analog Outputs and 24 VDC power supply. Also requires Profibus Master in I/O rack to talk to (3) Variable Frequency Drives. Ethernet communications is also required to connect to HMIs.

Redundant Controllers Configuration

Backplane Slots Required	Power Supply Current Required (mA)	Qty	Part Number	Description
2 slots per Universal Base	1250 mA @ 3.3 VDC; 1000 mA @ 5 VDC	2	IC695CMU310	Redundant Controller, CPU with two built-in serial ports
1 slot per Universal Base		2	IC695PSD040	24 VDC Power Supply, current available 9 Amps @ 3.3 VDC; 6 Amps @ 5 VDC; 1.6 Amps @ 24 VDC maximum
	600 mA @ 3.3 VDC; 240 mA @ 5 VDC	2	IC695CHS012	12 Slot Universal Base
2 slots per Universal Base	840 mA @ 3.3 VDC; 614 mA @ 5 VDC	4	IC695ETM001	Ethernet module 10/100Mbps
		1	IC646MXN001	Redundant Controller configuration software. Max-ON Extended Software for PACSystems Rx3i Hot Standby Redundancy

Note: The above configuration has two separate racks. Each rack has its own power supply, redundant CPU, Ethernet communications to remote I/O and another Ethernet module for LAN connections to HMIs. GE highly recommends that the Ethernet I/O be separated from the enterprise network to minimize data traffic issues.

I/O for Redundant Controllers

3 on Universal Base (2 for the NIU and 1 for the Ethernet Module)	1250 mA @ 3.3 VDC; 1000 mA @ 5 VDC	1	IC695NKT001	Ethernet Remote I/O Expansion Kit. Kit includes a IC695NIU001 and a IC695ETM001
1 on Universal Base		1	IC695PSD040	24 VDC Power Supply, current available 9 Amps @ 3.3 VDC; 6 Amps @ 5 VDC; 1.6 Amps @ 24 VDC maximum
	600 mA @ 3.3 VDC; 240 mA @ 5 VDC	1	IC695CHS016	16 Slot Universal Base
4 expansion base slots	1200 @ 5 VDC	4	IC694MDL660	Discrete Input Module, 24 VDC Positive Logic, 32 points (Requires terminal block)
2 expansion base slots	600 mA @ 5 VDC	2	IC694MDL754	Discrete Output Module, 24 VDC Output with ESCP, 32 points (Requires terminal block)
2 expansion base slots	35 mA @ 5 VDC; 110 mA @ 24 VDC Relay	2	IC694MDL940	Discrete Output Module, Relay 2.0 A per point Form A, 16 points (Terminal block included).
2 on Universal Base	700 mA @ 3.3 VDC; 800 mA @ 5 VDC	2	IC695ALG600	Universal Analog Input module, supports Thermocouple, RTD, Voltage, Current and Strain Gage, 8 channels (Requires terminal block)
2 on Universal Base	750 mA @ 3.3 VDC	2	IC695ALG708	Analog Output module, supports voltage and current, 8 channels (Requires terminal block)
1 on Universal Base	420 mA @ 5 VDC	1	IC695PBM300	Profibus Master module, supports V1
	150 mA @ 5 VDC	1	IC694CHS392	High Speed Serial 10 slot expansion rack (Only IC694xxx modules can go in rack)
		1	IC694PWR331	24 VDC Power Supply for High Speed Serial base,
		1	IC693CBL312	Rack Expansion Cable, 0.15 meters
		1	IC693ACC307	I/O Bus Terminator Plug
	132 mA @ 5 VDC	1	IC695LRE001	Universal Base High Speed Serial expansion module (Module does not occupy an I/O slot)
		10	IC694TBB032	Terminal Block, Box Style
		1	IC646MPP001	Logic Developer -PLC Professional

9 slots on Universal base and 8 slots of standard base In the above configuration, all of the modules can not go into one base. Therefore the I/O modules are divided into two bases. The IC695xxx part numbers will be used on the Universal base and the IC694 part numbers will use the standard high speed serial bus base. The Universal base can accept both IC695xxx and IC694xxx modules but the standard base will only accept IC694xxx and IC693xxx modules. Total current from Universal base power supply: 2460 mA @ 5 VDC; 3300 @ 3.3 VDC. Only one power supplied needed. Total current from Standard base power supply: 1985 mA @ 5 VDC; 110 mA @ 24 VDC

Options to Consider

IC695PSD140	Multipurpose 24 VDC power supply. By adding two IC665PSD140 the system would have redundant power supplies for maximum availability on the Un.
IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
IC693ACC302	Long term battery for CPU
IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch Operator Interface

α and βi Series Servo Amplifiers

All Digital Servo Systems Offer High Performance and Reliability. FANUC HV*is* and β*i* Series Servo Drives, based on over five million axes installed worldwide, offer superior reliability and performance for unprecedented mean time between failure. The HV*is* and β*i* Series Servos are available in a wide range of ratings for use with the PACMotion motion controller.

High-Performance Serial Encoders

Standard serial encoders built into the motors provide exceptional feedback resolution of 64K or 128K counts per revolution for *is* Series motors and one million counts per revolution for HV*is* Series motors. Serial encoders support higher resolutions at high motor velocities than standard quadrature encoders and are more immune to noise. An optional battery connection provides absolute position feedback, eliminating the need to home the system after a power shutdown.

Reduced Tuning and Setup

There is no need for potentiometer tuning or personality modules; little tuning is required for properly sized drives. All drive parameters are stored in the controller in a standard motor database. Configuration settings are not stored in the drive, making it possible to replace drives with little set-up time. Stored drive and machine parameters are quickly transferred to repeat production machines.

All-Digital System

All control loops—current, velocity, and position—are closed in the GE PACMotion controller. High-speed microprocessors and/or digital signal processors (DSPs) in the controller provide loop update times of 250 μs. The high response servo system can compensate for machine design limitations, yielding faster acceleration/deceleration rates and better responses to load changes.



Series	Motor Series	Controllers	Command Interface	Continuous Torque Range		Power Supply
				In-lb	Nm	
αHV <i>i</i>	αHV <i>i</i> , αHV <i>is</i>	PMM335	Fiber Optic	195-664	22-75	Separate PSM
β <i>i</i>	β <i>is</i>	PMM335	Fiber Optic	3.5-177	0.4-20	Built-in
βHV <i>i</i>	βHV <i>is</i>	PMM335	Fiber Optic	17.7-177	2-20	Built-in

All-Digital Servo Command Signals

The PMM335 PACMotion Controller and β*i* or α*i* Series amplifiers use a high speed fiber optic command interface. This digital interface improves efficiency by varying the on-time of the transistor switches that control motor voltage and current. With its superior noise immunity, both of these FANUC digital command interfaces allows for an increased signal to noise ratio for improved accuracy and performance.

Agency Approvals

UL, IEC rating and CE mark compliant

INFO

For application, installation, and tuning information, consult the Services website at www.ge-ip.com.

VersaMotion

VersaMotion is a family of servo motors and amplifiers that can easily be connected to the RX3i DSM 314. The VersaMotion amplifier supports high speed pulse and direction commands from the controllers. The VersaMotion servo drive is simple to use and maintain with the added diagnostics and removable terminal strips. Amplifier setup can be accomplished using the VersaMotion software included with Proficy Machine Edition or using the convenient front panel keypad.



Key Features:

- Versatile analog or pulse command interface
- Position/Speed/Torque modes
- Dual control modes
- Internal single-axis position control
- Electronic gearing
- External JOG function
- Speed/Torque limit operation
- Built-in keypad/display for setup and diagnostics
- Motor settling time below 1 ms
- Low speed stability and performance: less than 0.5% error at 1 RPM
- 10msec acceleration time from running without load +/- 3000 RPM
- High speed inertia corrections (16 levels of system stiffness and responsiveness)

Built-in Functions:

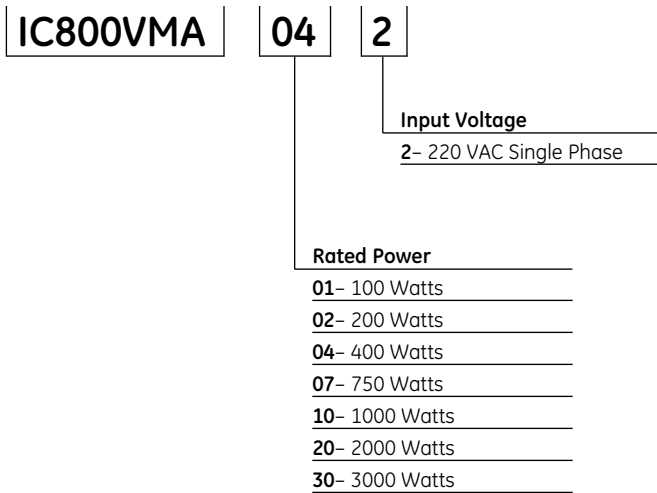
- Point-to-Point single axis position control
- Simple stand-alone positioning function with 8 internal stored position settings
- Move to Home function
- Position Teaching capability
- Incremental encoder feedback (2500 ppr)
- User-definable Acceleration/Deceleration with jerk limiting (s-curve)
- Feed step control function
- Modbus Slave serial port (RS-485/RS-422) for reading and writing parameters from Machine Edition

Machine Edition VersaMotion

Set-up Features:

- Configuration Parameter Editor (clear, read, write functions) and initial configuration wizard
- Calculation tools to determine proper conversion from encoder counts to desired user programming units
- Three channel digital oscilloscope to display and record drive status on-line
- Alarm history and status monitor diagnostic screens
- Digital I/O set-up and monitoring

Servo Amplifier Part Number Sequence



Example: IC800VMA042 is a 400 watt 220 VAC servo amplifier

Amplifiers Technical Data

Permissible Frequency Fluctuation	50 / 60 Hz ±5%
Resolution/Quadrature Feedback Counts	2500 ppr /10000 cpr
Control Modes	Position/Velocity/Torque
Dynamic Brake	Built-in
Position Control Mode:	
Maximum Input Pulse Frequency	500KPPS (Line Driver) / Maximum 200KPPS (Open Collector)
Pulse Type	Pulse/Direction; CW/CCW; A/B Phase
Command Source	External pulse train/ Internal parameters
Torque Limit Operation	Yes
Feed Forward Compensation	Yes
Analog Commands: Voltage Range	0 to ±10 VDC
Torque and Velocity Control Mode: Command Source	External analog signal / Internal parameters
Speed Control Range	1:5000
Speed Control Frequency Response	Maximum 450 Hz
Torque Control Mode Permissible Time for Overload	8 seconds under 200% rated output
Communications Interface	RS-232 / RS-485 /RS-422
Environmental Altitude	Altitude 1000 meters above sea level or lower
Environmental Operating Temperature	0 to 55°C (Forced cooling for operation above 55°C)
Environmental Storage Temperature	-20°C to 65°C
Environmental Humidity	0 to 90% (Non condensing)
Vibration	<20 Hz: 9.8 m/sec/sec (1G); 20 to 50 Hz: 5.88 m/sec/sec (0.6 G)
Standards	IEC/EN 61800-5-1, UL 508C, TUV, C-tick



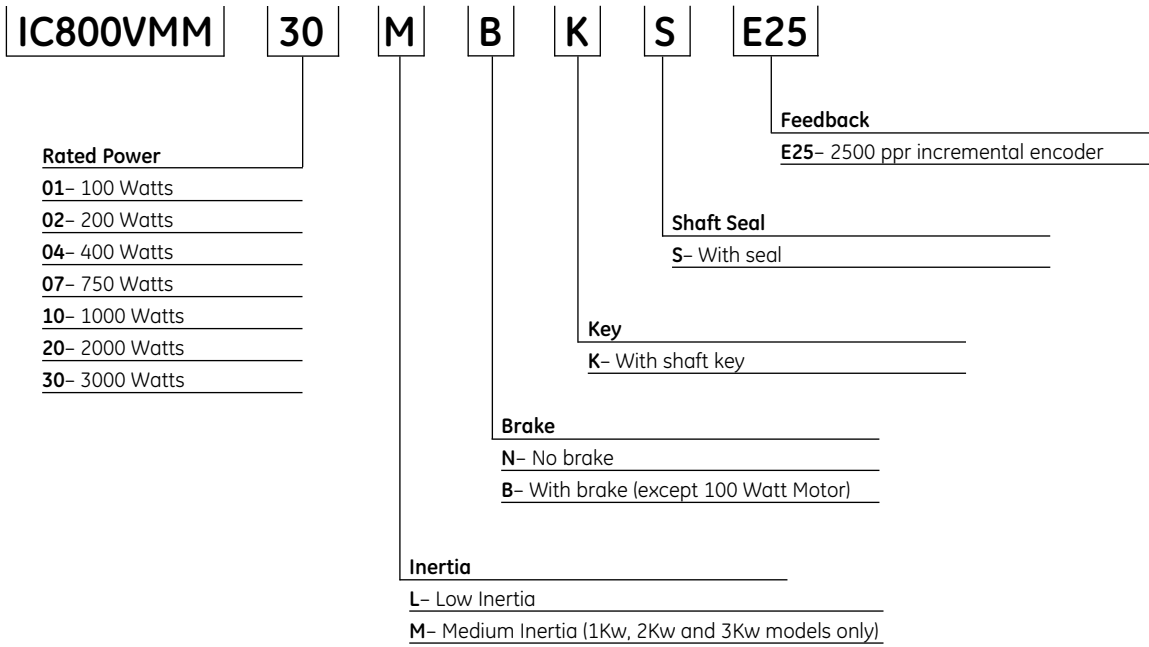
Amplifiers

The VersaMotion family of servo amplifiers offers a cost effective solution for a broad range of motion applications. These versatile amplifiers support simple stand-alone positioning capability using up to 8 stored motion profiles or can be connected to any motion controller using an analog or pulse command interface. A built-in touchpad and display provides convenient access to configuration parameters and system information. The serial interface supports multi-drop system configurations and Modbus communication protocol.

	IC800VMA012	IC800VMA022	IC800VMA042	IC800VMA072
Product Name	VersaMotion Amplifier	VersaMotion Amplifier	VersaMotion Amplifier	VersaMotion Amplifier
Lifecycle Status	Active	Active	Active	Active
Rated Output Power	100W	200W	400W	750W
Voltage/Frequency	Three-phase or Single-phase 220 VAC 50/60 Hz	Three-phase or Single-phase 220 VAC 50/60 Hz	Three-phase or Single-phase 220 VAC 50/60 Hz	Three-phase or Single-phase 220 VAC 50/60 Hz
Permissible Voltage Fluctuation	Three-phase: 170 ~ 255 VAC Single-phase: 200 ~ 255 VAC	Three-phase: 170 ~ 255 VAC Single-phase: 200 ~ 255 VAC	Three-phase: 170 ~ 255 VAC Single-phase: 200 ~ 255 VAC	Three-phase: 170 ~ 255 VAC Single-phase: 200 ~ 255 VAC
Cooling System	Convection	Convection	Convection	Fan Cooling
Electronic Gear Ratio	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)

	IC800VMA102	IC800VMA202	IC800VMA302
Product Name	VersaMotion Amplifier	VersaMotion Amplifier	VersaMotion Amplifier
Lifecycle Status	Active	Active	Active
Rated Output Power	1KW	2KW	3KW
Voltage/Frequency	Three-phase or Single-phase 220 VAC 50/60 Hz	Three-phase 220 VAC 50/60 Hz	Three-phase 220 VAC 50/60 Hz
Permissible Voltage Fluctuation	Three-phase: 170 ~ 255 VAC Single-phase: 200 ~ 255 VAC	Three-phase: 170 ~ 255 VAC 50/60 Hz	Three-phase: 170 ~ 255 VAC 50/60 Hz
Cooling System	Fan Cooling	Fan Cooling	Fan Cooling
Electronic Gear Ratio	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Electronic gear N/M multiple N: 1~32767, M: 1:32767 (1/50<N/M<200)

Servo Motor Part Number Sequence



Example: IC800VMM30MBKSE25 is a 3000 watt medium Inertia motor with 2500 ppr encoder, brake, keyway and shaft seal.

Motors Technical Data

Insulation Class	Class B
Insulation Resistance	>100M ohm, 500 VDC
Insulation Strength	1500 VAC, 50Hz, 60 seconds
Vibration Grade (um)	15
Brake Power (VDC)	24
Operating Temperature (C)	0°~40°
Storage Temperature (C)	-10°~80°
Humidity	20~90%RH (non condensing)
Vibration	2.5G
IP Rating	IP65 (except shaft and connector)

Motors



The VersaMotion family of servo motors offers high servo performance in a compact package. The motors range from 100 W to 3 kW with continuous torque ratings from 0.3 Nm to 14.3 Nm. All motors have metric mounting configurations and include a shaft key and oil seal. For vertical axes or applications that need to hold position during power loss motors with 24 VDC holding brakes are available. Motors are matched with the VersaMotion amplifiers.

	IC800VMM01L	IC800VMM02L	IC800VMM04L	IC800VMM07L
Product Name	VersaMotion 100 Watt	VersaMotion 200 Watt	VersaMotion 400 Watt	VersaMotion 750 Watt
Lifecycle Status	Active	Active	Active	Active
Rated Output (kW)	0.1	0.2	0.4	0.75
Rated Torque (Nm)	0.32	0.64	1.27	2.39
Maximum Torque (Nm)	0.96	1.92	3.82	7.16
Rated Speed (RPM)	3000	3000	3000	3000
Maximum Speed (RPM)	5000	5000	5000	5000
Rated Current (Amps)	0.9	1.55	2.6	5.1
Maximum Current (Amps)	2.7	4.65	7.8	15.3
Rotor Moment of Inertia (Kg.m ² x 10 ⁻⁴)	0.037	0.177	0.277	1.13
Mechanical Time Constant (msec)	0.75	0.8	0.53	0.63
Torque Constant - KT (Nm)	0.36	0.41	0.49	0.47
Voltage Constant - KE (mV/rmp)	13.6	16	17.4	17.2
Armature Resistance (Ohm)	9.3	2.79	1.55	0.42
Armature Inductance (mH)	24	10.84	6.84	3.53
Electrical Time Constant (msec)	2.58	3.89	4.43	8.37
Maximum Radial Shaft Load (Newton)	78.4	196	196	245
Maximum Thrust Shaft Load (Newton)	39.2	68	68	98



Motors

The VersaMotion family of servo motors offers high servo performance in a compact package. The motors range from 100 W to 3 kW with continuous torque ratings from 0.3 Nm to 14.3 Nm. All motors have metric mounting configurations and include a shaft key and oil seal. For vertical axes or applications that need to hold position during power loss motors with 24 VDC holding brakes are available. Motors are matched with the VersaMotion amplifiers.

	IC800VMM10L	IC800VMM10M	IC800VMM20L	IC800VMM20M	IC800VMM30M
Product Name	VersaMotion 1000 Watt	VersaMotion 1000 Watt	VersaMotion 2000 Watt	VersaMotion 2000 Watt	VersaMotion 3000
Lifecycle Status	Active	Active	Active	Active	Active
WattRated Output (kW)	1.0	1.0	2.0	2.0	3.0
Rated Torque (Nm)	3.18	4.77	6.37	9.55	14.32
Maximum Torque (Nm)	9.54	14.32	19.11	28.66	42.96
Rated Speed (RPM)	3000	2000	3000	2000	2000
Maximum Speed (RPM)	5000	3000	5000	3000	3000
Rated Current (Amps)	7.3	5.6	11.3	11.0	16.1
Maximum Current (Amps)	21.9	24.9	33.9	33.0	48.3
Rotor Moment of Inertia (Kg.m ² x 10 ⁻⁴)	2.65	9.14	4.45	15.88	55
Mechanical Time Constant (msec)	0.74	1.64	0.66	1.05	1.06
Torque Constant - KT (Nm/A)	0.44	0.85	0.53	0.87	0.89
Voltage Constant - KE (mV/rpm)	16.8	31.9	19.2	31.8	32
Armature Resistance (Ohm)	0.20	0.465	0.14	0.174	0.052
Armature Inductance (mH)	2.0	5.99	1.53	2.76	1.38
Electrical Time Constant (msec)	10.26	12.88	10.63	15.86	26.39
Maximum Radial Shaft Load (Newton)	490	490	490	490	1470
Maximum Thrust Shaft Load (Newton)	98	98	98	98	490
Amplifier Model	IC800VMA102	IC800VMA102	IC800VMA202	IC800VMA202	IC800VMA302

VersaMotion Accessories

Amplifier Connectors

IC800VMACONCN1	CN1 I/O Connector	Active
IC800VMACONCN2	CN2 Encoder Connector	Active
IC800VMACONCN3	CN3 Communication Connector	Active
IC800VMACONACP	AC Power Connector (100W to 1kW models only)	Active
IC800VMACONMTRP	Motor Power Connector (100W to 1kW models only)	Active
IC800VMADBR001	External Braking Resistor Connector (100W to 1kW models only)	Active

Motor Connectors

IC800VMMCONP001	Motor Power Connector for 100 Watt to 750 Watt motors without brake	Active
IC800VMMCONP002	Motor Power Connector for 100 Watt to 750 Watt motors with brake	Active
IC800VMMCONP003	Motor Power Connector for 1000 Watt or 2000 Watt motors with or without brake	Active
IC800VMMCONP004	Motor Power Connector for 3000 Watt motors with or without brake	Active
IC800VMMCONE001	Encoder Connector for 100 Watt to 750 Watt motors	Active
IC800VMMCONE002	Encoder Connector for 1000 Watt and larger motors	Active

Motor Power Cables

IC800VMCP030	Power Cable for 100 Watt to 750 Watt servo motor without brake, 3 m (9.8 feet)	Active
IC800VMCP050	Power Cable for 100 Watt to 750 Watt servo motor without brake, 5 m (16.4 feet)	Active
IC800VMCP100	Power Cable for 100 Watt to 750 Watt servo motor without brake, 10 m (32.8 feet)	Active
IC800VMCP200	Power Cable for 100 Watt to 750 Watt servo motor without brake, 20 m (65.7 feet)	Active
IC800VMCP1030	Power Cable for 1000 Watt servo motor without brake, 3 m (9.8 feet)	Active
IC800VMCP1050	Power Cable for 1000 Watt servo motor without brake, 5 m (16.4 feet)	Active
IC800VMCP1100	Power Cable for 1000 Watt servo motor without brake, 10 m (32.8 feet)	Active
IC800VMCP1200	Power Cable for 1000 Watt servo motor without brake, 20 m (65.7 feet)	Active
IC800VMCP2030	Power Cable for 2000 Watt servo motor without brake, 3 m (9.8 feet)	Active
IC800VMCP2050	Power Cable for 2000 Watt servo motor without brake, 5 m (16.4 feet)	Active
IC800VMCP2100	Power Cable for 2000 Watt servo motor without brake, 10 m (32.8 feet)	Active
IC800VMCP2200	Power Cable for 2000 Watt servo motor without brake, 20 m (65.7 feet)	Active
IC800VMCP3030	Power Cable for 3000 Watt servo motor without brake, 3 m (9.8 feet)	Active
IC800VMCP3050	Power Cable for 3000 Watt servo motor without brake, 5 m (16.4 feet)	Active
IC800VMCP3100	Power Cable for 3000 Watt servo motor without brake, 10 m (32.8 feet)	Active
IC800VMCP3200	Power Cable for 3000 Watt servo motor without brake, 20 m (65.7 feet)	Active

Brake and Motor Power Cables

IC800VMCB030	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 3 m (9.8 feet)	Active
IC800VMCB050	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 5 m (16.4 feet)	Active
IC800VMCB100	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 10 m (32.8 feet)	Active
IC800VMCB200	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 20 m (65.7 feet)	Active
IC800VMCB1030	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 3 m (9.8 feet)	Active
IC800VMCB1050	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 5 m (16.4 feet)	Active
IC800VMCB1100	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 10 m (32.8 feet)	Active
IC800VMCB1200	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 20 m (65.7 feet)	Active
IC800VMCB2030	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 3 m (9.8 feet)	Active
IC800VMCB2050	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 5 m (16.4 feet)	Active
IC800VMCB2100	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 10 m (32.8 feet)	Active
IC800VMCB2200	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 20 m (65.7 feet)	Active
IC800VMCB3030	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 3 m (9.8 feet)	Active
IC800VMCB3050	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 5 m (16.4 feet)	Active
IC800VMCB3100	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 10 m (32.8 feet)	Active
IC800VMCB3200	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 20 m (65.7 feet)	Active

Encoder Cables

IC800VMCE030	Encoder Cable for 100 to 750 Watt, 3 m (9.8 feet)	Active
IC800VMCE050	Encoder Cable for 100 to 750 Watt, 5 m (16.4 feet)	Active
IC800VMCE100	Encoder Cable for 100 to 750 Watt, 10 m (32.8 feet)	Active
IC800VMCE200	Encoder Cable for 100 to 750 Watt, 20 m (65.7 feet)	Active
IC800VMCE1030	Encoder Cable for 1000 Watt and greater, 3 m (9.8 feet)	Active
IC800VMCE1050	Encoder Cable for 1000 watt and greater, 5 m (16.4 feet)	Active
IC800VMCE1100	Encoder Cable for 1000 watt and greater, 10 m (32.8 feet)	Active
IC800VMCE1200	Encoder Cable for 1000 watt and greater, 20 m (65.7 feet)	Active

I/O Terminal Block

IC800VMTBC005	I/O Terminal Block Breakout Board and 0.5 m (1.6 feet) Cable	Active
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External Braking Resistors

IC800VMBR040	40 Ohm, 400 Watt External Braking (Regeneration) Resistor	Active
IC800VMBR020	20 Ohm, 1000 Watt External Braking (Regeneration) Resistor	Active

Communications and I/O Interface Cables

IC800VMCS030	Communications Cable from servo amplifier to PC, 3 m (9.8 feet)	Active
IC800VMCI010	Flying lead I/O interface cable, 1 meter	Active
IC800VMCI030	Flying lead I/O interface cable, 3 meter	Active

Software Configuration Tool

IC646MPM101	Proficy Logic Developer - PLC Nano/Micro and VersaMotion, Programming Cable (No Upgrades included)	Active
BC646MPM101	Proficy Logic Developer - PLC Nano/Micro and VersaMotion, Programming Cable (Includes 15 months of upgrades)	Discontinued

Examples of Typical Application using a PACSystems RX3i

Application: 1000 Watt Low Inertia Motor with Brake. Configuration for Controller (Example application requiring (120) 24 VDC inputs and (80) Relay outputs AC power supply)

Qty	Part Number	Description
Controller, I/O and Display		
1	IC695CPU310	CPU with two built-in serial ports
1	IC695PSA040	120/240 VAC, 125 VDC Power Supply, current available 9 Amps @ 3.3 VDC; 6 Amps @ 5 VDC; 1.6 Amps @ 24 VDC maximum
1	IC695CHS016	16 Slot Universal Base
4	IC694MDL660	Discrete Input Module, 24 VDC Positive Logic, 32 points (Requires terminal block)
5	IC694MDL940	Discrete Output Module, Relay 2.0 A per point Form A, 16 points (Terminal block included)
4	IC694TBB032	Terminal Block, Box Style
1	IC693DSM314	Servo Motion Module, 4 analog axes supported per module
1	IC693ACC336	DSM Analog Servo Interface Terminal Board
1	IC693CBL324	DSM Analog TB Interface Cable, 1 m (3.28 feet)
1	IC800VMCI010	VersaMotion flying lead I/O interface cable, 1 m (3.28 feet)
Servo Amplifier and Motor		
1	IC800VMM10LBKSE25	VersaMotion 1000 Watt Low Inertia Servo Motor with brake. Motor has keyway and oil seal
1	IC800VMA102	Servo Amplifier, 1000 Watts, 220 VAC
1	IC800VMCB1030	Brake and Power Cable for 1000 Watt servo motor with brake, 3 m (9.8 feet)
1	IC800VMCE1030	Encoder Cable for 1000 Watt and greater, 3 m (9.8 feet)
1	IC800VMTBC005	I/O Terminal Block and Cable (0.5 meters)
1	IC800VMCS030	Communications Cable from Servo Driver to PC, 3 m (9.8 feet)
Programming Software for Control, Display and Motion		
1	BC646MPP001	Machine Edition Professional Development Suite with Proficy GlobalCare Complete. Includes VersaMotion configuration tool, View Development for QuickPanel and PLC Standard with programming cable. Proficy GlobalCare with 15 months of free upgrades which is renewable on an annual basis.

Series 90-70 Specialty PLCs

Utilizing field-proven Series 90-70 PLC, Genius I/O, and VersaMax I/O products, GMR (Genius Modular Redundancy) system is a modular redundancy system developed by GE, forming a flexible and powerful safety system up to and including SIL 3.

GMR contains three subsystems; the control unit is the PLC subsystem, and there is an input subsystem and an output subsystem. All of the subsystems can be formed to simplex, duplex or triplex redundancy.

GMR provides advanced and abundant diagnostic abilities that are easily programmed by using Proficy Machine Edition software. The safety system must be configured using all parts that are TUV certified, as defined in the specified configuration of the GMR documentation.



Publication Reference Chart

GFK-0262	Series 90-70 Programmable Controller Installation Manual	GFK-0646	C Programmer's Toolkit for Series 90-70 PLCs User's Manual
GFK-0265	Series 90-70 PLC Reference Manual	GFK-0868	Series 90 Ethernet Communications User's Manual
GFK-0448	Series 90-70 Programmable Controller User's Guide to the Integration of 3rd Party VME Modules	GFK-1527	Series 90-70 Enhanced Hot Standby CPU Redundancy User's Guide
GFK-0582	Series 90 PLC Serial Communications User's Manual	GFK-1541	TCP/IP Ethernet Communications for the Series 90 PLC User's Manual
GFK-0600	Series 90-70 Programmable Controller Datasheets Manual	GFK-2017	Series 90-70 Genius Bus Controller



CPU

Series 90-70 Genius Modular Redundancy CPU is a single slot programmable controller CPU that allows floating point calculations. The CPU is programmed and configured with Windows based programming software for use in Emergency Shut-Down (ESD), fire and gas, and other critical control applications. It communicates with I/O and smart option modules over the rack-mounted backplane.

IC697CPM790

Product Name	Central Processing Unit, 64 MHz, 32-Bit, Floating Point, 1 Mbyte On-Board User Memory, (requires 70 CFM forced air cooling)
Lifecycle Status	Mature
CPU Type	Redundant (Genius Triple Modular)
CPU Memory	1 Mbyte of User Logic RAM
Non-Volatile User Flash Memory	No
Floating Point Math	Yes
Processor Speed	64 MHz (80486DX2)
I/O Discrete Points	12288
Boolean Execution Speed (us/boolean function)	0.4
Analog I/O	8 Kbytes Input, 8 Kbytes Output
Embedded Communications	Serial
Protocols Supported	SNP Serial
Built-in Serial Ports	1 (RS-422/485 compatible serial attachment)
Redundancy Featured Scan Extension	N/A
Current Required from 5V Bus	1.6 Amps



Racks

Series 90-70 PLC Racks are available in a variety of configurations to meet the needs of your application. The choices vary from 5- and 9-slot Standard Racks, to 9-slot Redundant Racks and 17-slot VME Integrator Racks, each giving you the option of Front (Rack) Mount or Rear (Panel) Mount. These racks can be used for CPU, local and remote I/O and accept all plug-in IC697 Power Supplies. With available accessories, any of these racks can function as an Expansion Rack, and two racks can be run off a single Power Supply. GE offers standard-length cables for easy installation and provides wiring information for custom applications.

	IC697CHS750	IC697CHS770	IC697CHS771	IC697CHS790
Product Name	Standard Series 90-70 Rack, 5-slot, Rear (Panel) Mount	Redundant Series 90-70 Rack, 9-Slot, Rear (Panel) Mount	Redundant Series 90-70 Rack, 9-Slot, Front (Rack) Mount	Standard Series 90-70 Rack, 9-slot, Rear (Panel) Mount
Lifecycle Status	Mature	Mature	Mature	Mature
Rack Type	Standard 90-70	Redundant 90-70	Redundant 90-70	Standard 90-70
Number of Slots	5 Double Width (plus one for power supply)	6 Double Width (plus one for power supply)	6 Double Width (plus one for power supply)	9 Double Width (plus one for power supply)
Mounting Location	Rear (Panel)	Rear (Panel)	Front (Rack)	Rear (Panel)
Rack Configurations	All IC697 PLC module types	All IC697 PLC module types, IC687 (VME) I/O and Communications module types	All IC697 PLC module types, IC687 (VME) I/O and Communications module types	All IC697 PLC module types
Rack Slot Size	1.6 inch	1.6 inch	1.6 inch	1.6 inch
Compatible Power Supplies	Plug-in AC or DC IC697	Plug-in AC/DC and DC IC697, or external power supply	Plug-in AC/DC and DC IC697, or external power supply	Plug-in AC or DC IC697
Dimensions	11.15" x 12.6" x 7.5"	11.15" x 19.00" x 7.5"	11.15" x 19.00" x 7.5"	11.15" x 19.00" x 7.5"



Racks

Series 90-70 PLC Racks are available in a variety of configurations to meet the needs of your application. The choices vary from 5- and 9-slot Standard Racks, to 9-slot Redundant Racks and 17-slot VME Integrator Racks, each giving you the option of Front (Rack) Mount or Rear (Panel) Mount. These racks can be used for CPU, local and remote I/O and accept all plug-in IC697 Power Supplies. With available accessories, any of these racks can function as an Expansion Rack, and two racks can be run off a single Power Supply. GE offers standard-length cables for easy installation and provides wiring information for custom applications.

	IC697CHS791	IC697CHS782	IC697CHS783
Product Name	Standard Series 90-70 Rack, 9-slot, Front (Rack) Mount	VME Integrator Rack, 17-slot, Rear (Panel) Mount	VME Integrator Rack, 17-slot, Front (Rack) Mount
Lifecycle Status	Mature	Mature	Mature
Rack Type	Standard 90-70	VME Integrator	VME Integrator
Number of Slots	9 Double Width (plus one for power supply)	17 Single Width, 8 Double Width (plus one for power supply)	17 Single Width, 8 Double Width (plus one for power supply)
Mounting Location	Front (Rack)	Rear (Panel)	Front (Rack)
Rack Configurations	All IC697 PLC module types	All IC697 PLC module types, 3rd party VME modules with 0.8" spacing	All IC697 PLC module types, 3rd party VME modules with 0.8" spacing
Rack Slot Size	1.6 inch	0.8 inch	0.8 inch
Compatible Power Supplies	Plug-in AC or DC IC697	Plug-in AC/DC and DC IC697, or external power supply	Plug-in AC/DC and DC IC697, or external power supply
Dimensions	11.15" x 19.00" x 7.5"	11.15" x 19.00" x 7.5"	11.15" x 19.00" x 7.5"



Power Supplies

Series 90-70 Power Supply modules simply slide into the PLC rack just like I/O, and they work with any Series 90-70 CPU. Available with a variety of power ratings and Input Voltage Ranges for powering up systems of different sizes, Series 90-70 power supplies also have built-in protection for autoranging power factor corrections as well as overcurrent and overvoltage fault conditions. Depending on your application, it is possible to use one power supply for operation of two racks.

	IC697PWR710	IC697PWR711	IC697PWR724	IC697PWR748
Product Name	Power Supply, 120/240 VAC or 125 VDC, 55W	Power Supply, 120/240 VAC or 125 VDC, 100W	Power Supply, 24 VDC, 90W	Power Supply, 48 VDC, 90W
Lifecycle Status	Mature	Mature	Mature	Mature
Module Function	Power Supply	Power Supply	Power Supply	Power Supply
Power Source	120/240 VAC or 125 VDC	120/240 VAC or 125 VDC	24 VDC	48 VDC
Output Source	55 Watts; 5 VDC @ 11 Amps	100 Watts; 5 VDC @ 20 Amps, +12 VDC @ 2 Amps, -12 VDC @ 1 Amp	90 Watts; 5 VDC @ 18 Amps, +12 VDC @ 1.5 Amps, -12 VDC @ 1 Amp	90 Watts; 5 VDC @ 18 Amps, +12 VDC @ 1.5 Amps, -12 VDC @ 1 Amp



I/O Interface Modules

PACSystems and Series 90-70 feature a variety of communications options for distributed control and/or I/O, supporting a wide range of communication protocols and configurations. These communication modules are easy to install and quick to configure. Some distributed I/O communications modules allow for numerous remote drops or additional racks, while others provide an interface for GE products up to 7500 feet away from the controller.

	IC697BEM731	IC697BEM713	IC697BEM711	IC697BEM733
Product Name	Genius Bus Controller	Bus Transmitter Module	Bus Receiver Module	Remote I/O Scanner
Lifecycle Status	Active	Mature	Mature	Mature
Module Type	Bus Controller	Bus Transmitter	Bus Receiver	Remote I/O Scanner
Supports Redundancy	Yes	No	No	Yes
Discrete Points Available	N/A	N/A	N/A	128 Bytes Per Drop
Programmer Effective Data Rate	N/A	500 Kbytes/sec	N/A	N/A
Time to Store 16 Kbyte Program	N/A	20 - 30 Seconds	N/A	N/A
Effective Data Rate	N/A	500 Kbytes/sec	500 Kbytes/sec	38.4 Kbaud
Total Allowed Distance of Interconnecting Cable	N/A	50 feet (15 meters)	50 feet (15 meters)	N/A
Maximum Distance from Controller	N/A	N/A	N/A	7500 feet (2275 meters)
Electrical Isolation	N/A	Non-isolated differential communication	Non-isolated differential communication	N/A
Built-in Serial Ports	1 (Hand Held Monitor Port)	2 (Programmer Port, Expansion Port Out)	2 (Expansion Port In, Expansion Port Out)	2 (RS-422 Compatible Serial Port, Hand Held Monitor Port)
Current Required from 5V Bus	1.3 Amps	1.4 Amps	0.8 Amp	0.8 Amp



Communications Module

PACSystems and Series 90-70 feature a variety of communications options for distributed control and/or I/O, supporting a wide range of communication protocols and configurations. These communication modules are easy to install and quick to configure. Some distributed I/O communications modules allow for numerous remote drops or additional racks, while others provide an interface for GE products up to 7500 feet away from the controller.

IC697CMM742

Product Name	Ethernet Interface (Type 2) Module
Lifecycle Status	Mature
Module Type	Ethernet Interface
Supports Redundancy	No
Protocols Supported	SRTP Channels and EGD
Effective Data Rate	19200 bps Serial, 10 Mbps IEEE
Electrical Isolation	N/A
Communications Processor Speed	N/A
Simultaneous Communication Speed	N/A
Individual Communication Speed	N/A
RCM Maximum Cable Length	N/A
Built-in Serial Ports	5 (RS-232, RS-485, 10BaseT, AUP, 10Base2)
Current Required from 5V Bus	2.0 Amps

Accessories

IC690ACC901	Miniconverter Kit with cable (RS-232 to RS-485)	Active
IC690CDR002	User Manuals, InfoLink CD-ROM Documentation, Single-user License	Active
IC697ACC700	Terminal Block, 40 Contacts (qty 6)	Mature
IC697ACC701	Replacement Battery for CPU and PCM (qty 2)	Mature
IC697ACC702	I/O Bus Terminator Plug	Mature
IC697ACC715	VME Option Kit, J2 Backplane Mounting	Mature
IC697ACC720	Blank Slot Filler (qty 6)	Mature
IC697ACC721	Rack Fan Assembly, 120VAC	Active
IC697ACC722	VME Backplane Connector, Interrupt Jumper (qty 6)	Mature
IC697ACC723	Clear Plastic Doors (qty 6)	Mature
IC697ACC724	Rack Fan Assembly, 240VAC	Active
IC697ACC726	Top PWA Cover, CPU-style (qty 6)	Mature
IC697ACC727	Top and Bottom PWA Cover, GBC (qty 2)	Mature
IC697ACC728	Top and Bottom PWA Cover, BTM/BTR (qty 2)	Mature
IC697ACC729	Top and Bottom PWA Cover, I/O Link (qty 2)	Mature
IC697ACC730	Spare Slot Terminal Strip Retainer	Mature
IC697ACC732	Top PWA Cover, CPU77x and CPU78x (qty 2)	Mature
IC697ACC736	Cable Shield Clamping Assembly	Active
IC697ACC744	Rack Fan Assembly, 24VDC	Active
IC697MLX000	Series 90-70 Labels Kit	Active

I/O Cables

IC600WD002	I/O Expansion Cable, 2 feet (0.6 meters)	Mature
IC600WD005	I/O Expansion Cable, 5 feet (1.5 meters)	Mature
IC600WD010	I/O Expansion Cable, 10 feet (3.0 meters)	Mature
IC600WD025	I/O Expansion Cable, 25 feet (7.5 meters)	Mature
IC600WD050	I/O Expansion Cable, 50 feet (15 meters)	Mature
IC690CBL701	Cables - PCM to IC640 or PC-XT Computer, 10 feet (3 meters)	Active
IC690CBL702	Cables - PCM to PC-AT Computer, 10 feet (3 meters)	Mature
IC690CBL705	Cables - PCM to IC642 or PS/2 Computer, 10 feet (3 meters)	Mature
IC697CBL709	Cable, MAP Controller to Broadband Modem	Mature
IC697CBL811	Cable, RCM Communications (10 feet) I/O Expansion Cable	Mature
IC697CBL826	Cable, RCM Communications (25 feet) I/O Expansion Cable	Mature

Series 90-30 PLCs

The Series 90-30 PLCs are a family of controllers, I/O systems and specialty modules designed to meet the demand for versatile industrial solutions. With a single overall control architecture and modular design, the Series 90-30 is trusted worldwide in such applications as high speed packaging, material handling, complex motion control, water treatment, continuous emissions monitoring, mining, food processing, elevator control, injection molding, and many more.

One reason for the versatility of the Series 90-30 is the large variety of discrete and analog I/O modules (over 100 modules), as well as specialty modules, that are available. In addition, GE Intelligent Platforms offer a wide range of high-level communication options, from a simple serial connection to a high-speed Ethernet interface and a number of bus modules.



CPUs [pages 1.85-1.87](#)

Baseplates [page 1.88](#)

Power Supplies [pages 1.89-1.90](#)

Serial Communications Modules [page 1.112](#)

Accessories [pages 1.121-1.122](#)

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Networks and Distributed I/O Systems [pages 1.109-1.111](#)

Specialty Modules [pages 1.103-1.108](#)

Analog I/O Modules (input) [pages 1.94-1.95](#)

Analog I/O Modules (output) [pages 1.101-1.102](#)

Discrete I/O Modules (input) [pages 1.91-1.93](#)

Discrete I/O Modules (output) [pages 1.96-1.100](#)

Power Measurement Modules [page 1.113](#)

Pneumatic Module [page 1.114](#)

Motion Modules [pages 1.116-1.117](#)

Expansion Modules [page 1.118](#)

Portable Program Download Device (PPDD) [pages 1.119-1.120](#)

α and β Series Servo Amplifiers [page 1.124](#)

VersaMotion [pages 1.125-1.133](#)

Publication Reference Chart

GFK-0255	Series 90 Programmable Coprocessor Module & Support Software User's Manual	GFK-0772	PCM C Function Library Reference Manual	GFK-1213	Series 90-30 FIP Bus Controller User's Manual
GFK-0293	Series 90-30 High Speed Counter User's Manual	GFK-0781	Power Mate APM for Series 90-30 PLC Follower Mode User's Manual	GFK-1256	Power Mate for Series 90-30 User's Manual
GFK-0356	Series 90-30 PLC Installation and Hardware Manual	GFK-0814	C Programmer's Toolkit for Series 90 PCM Quick Reference Guide	GFK-1322	Series 90-30 PLC LonWorks Bus Interface Module User's Manual
GFK-0412	Series 90-30 Genius Communications Module User's Manual	GFK-0823	Series 90-30 I/O Link Master Module User's Manual	GFK-1411	Series 90-30 System Manual for Windows® Users
GFK-0467	Series 90-30/20/Micro PLC CPU Instruction Set Reference Manual	GFK-0828	Series 90-30 Diagnostic System User's Guide	GFK-1464	Motion Mate DSM302 for Series 90-30 PLCs User's Manual
GFK-0529	Series 90 PLC SNP Communications User's Manual	GFK-0840	Power Mate APM for Series 90-30 PLC Standard Mode User's Manual	GFK-1466	Temperature Control Module for the Series 90-30 PLC User's Manual
GFK-0582	Series 90 PLC Serial Communications Driver User's Manual	GFK-0854	Series 90 Sequential Function Chart Programming Language User's Manual	GFK-1541	TCP/IP Ethernet Communications for the Series 90 PLC User's Manual
GFK-0585	Series 90 PLC SNP Communications Driver User's Manual	GFK-0898	Series 90-30 PLC I/O Module Specifications Manual	GFK-1734	Power Transducer for the Series 90-30 PLC User's Manual
GFK-0631	Series 90-30 I/O Link Slave Interface User's Manual	GFK-1028	Series 90-30 I/O Processor Module User's Manual	GFK-1868	Proficy Machine Edition Getting Started Guide
GFK-0664	Series 90-30 Axis Positioning Module (Power Mate-APM) Programmer's Manual	GFK-1034	Series 90-30 Genius Bus Controller User's Manual	GFK-2121	Series 90-30 Profibus Modules User's Manual
GFK-0695	Series 90-30 Enhanced Genius Communications Module User's Manual	GFK-1037	Series 90-30 FIP Remote I/O Scanner User's Manual	GFS-062	Series 90-30 Quick Reference Guide for Maintenance
GFK-0712	Series 90 Digital Event Recorder User's Manual	GFK-1056	Series 90-30 State Logic Control System User's Manual	GfZ-0085	Series 90-30 Troubleshooting Pocket Guide
GFK-0726	State Logic Processor for Series 90-30 PLC User's Guide	GFK-1084	TCP/IP Ethernet Communications for the Series 90-30 PLC User's Manual	IC690CDU002	InfoLink for PLC CD-ROM
GFK-0771	C Programmer's Toolkit for Series 90 PCMs User's Manual	GFK-1179	Installation Requirements for Conformance to Standards		
		GFK-1186	TCP/IP Ethernet Communications for the Series 90 PLC Station Manager Manual		



CPUs

For entry-level applications with low I/O counts, the CPU is embedded into the backplane, making all slots available for I/O. These modules are compatible with advanced modules such as Ethernet, various bus modules, and control. Mid-range CPU models are modular and come in various memory sizes, performance capability and increased functionality such as overrides, battery-backed clock and Programmable Coprocessor module support. The high-performance CPUs are based on the latest 386EX processor for fast computation and high throughput. They can handle up to 4,096 I/O and start at 32K of memory and are programmable in a number of standard languages.

	IC693CPU311	IC693CPU313	IC693CPU323	IC693CPU350	IC693CPU360
Product Name	5-slot Baseplate (Model 311)	5-slot Baseplate (Model 313)	10-slot Baseplate (Model 323)	CPU (Model 350)	CPU (Model 360)
Lifecycle Status	Active	Active	Active	Active	Active
Module Type	I/O Base with built-in CPU	I/O Base with built-in CPU	I/O Base with built-in CPU	CPU Module	CPU Module
Boolean Execution Speed (ms/K)	18	0.6	0.6	0.22	0.22
User Logic Memory (K bytes)	6	12	12	74	240
Real Time Clock	No	No	No	Yes	Yes
I/O Discrete Points	160	160	320	4096	4096
I/O Analog Points	64 In / 32 Out	64 In / 32 Out	64 In / 32 Out	2048 In / 512 Out	2048 In / 512 Out
Type of Memory Storage	RAM, EPROM, EEPROM	RAM, EPROM, EEPROM	RAM, EPROM, EEPROM	RAM, Flash	RAM, Flash
Processor Speed (MHz)	N/A	N/A	N/A	N/A	N/A
Built-in Communication Ports	One RS-485 port on power supply. Supports SNP	One RS-485 port on power supply. Supports SNP	One RS-485 port on power supply. Supports SNP	One RS-485 port on power supply. Supports SNP	One RS-485 port on power supply. Supports SNP
Total Number of Racks	1 (CPU built in)	1 (CPU built in)	1 (CPU built in)	8	8
Communications Option Modules	Serial-SNP and RTU, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP	Serial-SNP and RTU, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP	Serial-SNP and RTU, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP	Serial-SNP, SNPX, RTU and CCM, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP	Serial-SNP, SNPX, RTU and CCM, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP
Field Busses/Device Networks	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN
Software Programming Support	Logicmaster (DOS), VersaPro (Windows), Proficy Logic Developer - Machine Edition	Logicmaster (DOS), VersaPro (Windows), Proficy Logic Developer -Machine Edition	Logicmaster (DOS), VersaPro (Windows), Proficy Logic Developer -Machine Edition	Logicmaster (DOS), VersaPro (Windows), Proficy Logic Developer -Machine Edition	Logicmaster (DOS), VersaPro (Windows), Proficy Logic Developer -Machine Edition
Internal Power Used	410 mA @ 5 VDC	430 mA @ 5 VDC	430 mA @ 5 VDC	670 mA @ 5 VDC	670 mA @ 5 VDC



CPU's

For entry-level applications with low I/O counts, the CPU is embedded into the backplane, making all slots available for I/O. These modules are compatible with advanced modules such as Ethernet, various bus modules, and control. Mid-range CPU models are modular and come in various memory sizes, performance capability and increased functionality such as overrides, battery-backed clock and Programmable Coprocessor module support. The high-performance CPUs are based on the latest 386EX processor for fast computation and high throughput. They can handle up to 4,096 I/O and start at 32K of memory and are programmable in a number of standard languages.

	IC693CPU363	IC693CPU366	IC693CPU367
Product Name	CPU (Model 363)	CPU (Model 366 with built-in Profibus Master)	CPU (Model 367 with built-in Profibus Slave)
Lifecycle Status	Active	Active	Mature
Module Type	CPU Module	CPU Module	CPU Module
Boolean Execution Speed (ms/K)	0.22	0.22	0.22
User Logic Memory (K bytes)	240	240	240
Real Time Clock	Yes	Yes	Yes
I/O Discrete Points	4096	4096	4096
I/O Analog Points	2048 In / 512 Out	2048 In / 512 Out	2048 In / 512 Out
Type of Memory Storage	RAM, Flash	RAM, Flash	RAM, Flash
Processor Speed (MHz)	N/A	N/A	N/A
Built-in Communication Ports	Three total. One RS-485 port on power supply, one RS-232 and one RS-485 port on CPU. Supports SNP, RTU Master and Slave, Serial Read and Write	One Profibus DP Slave port and RS-485 port on power supply. Supports SNP.	One Profibus DP Master, Class 1 V0 port and RS-485 port on power supply. Supports SNP.
Total Number of Racks	8	8	8
Communications Option Modules	Serial-SNP, SNPX, RTU and CCM, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP	Serial-SNP, SNPX, RTU and CCM, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP	Serial-SNP, SNPX, RTU and CCM, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP
Field Busses/Device Networks	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN
Software Programming Support	Logicmaster (DOS), VersaPro (Windows), Proficy Logic Developer - Machine Edition	Proficy Logic Developer - Machine Edition	Proficy Logic Developer -Machine Edition
Internal Power Used	890 mA @ 5 VDC	940 mA @ 5 VDC	940 mA @ 5 VDC



CPUs

For entry-level applications with low I/O counts, the CPU is embedded into the backplane, making all slots available for I/O. These modules are compatible with advanced modules such as Ethernet, various bus modules, and control. Mid-range CPU models are modular and come in various memory sizes, performance capability and increased functionality such as overrides, battery-backed clock and Programmable Coprocessor module support. The high-performance CPUs are based on the latest 386EX processor for fast computation and high throughput. They can handle up to 4,096 I/O and start at 32K of memory and are programmable in a number of standard languages.

	IC693CPU370	IC693CPU372	IC693CPU374 PLUS
Product Name	CPU (Model 370). Requires High Capacity Power Supply	CPU (Model 372 with built-in 10/100 Mbps Ethernet and WEB Enabled). Requires High Capacity Power Supply	CPU (Model 374 PLUS with built-in 10/100 Mbps Ethernet and Web Enabled). Requires High Capacity Power Supply
Lifecycle Status	Active	Active	Active
Module Type	CPU Module	CPU Module	CPU Module
Boolean Execution Speed (ms/K)	0.15	0.15	0.15
User Logic Memory (K bytes)	240	120	240
Real Time Clock	Yes	Yes	Yes
I/O Discrete Points	4096	4096	4096
I/O Analog Points	2048 In / 512 Out	2048 In / 512 Out	2048 In / 512 Out
Type of Memory Storage	RAM, Flash	RAM, Flash	RAM, Flash
Processor Speed (MHz)	133Mhz	133Mhz	133Mhz
Built-in Communication Ports	One RS-485 port on power supply. Supports SNP	One RS-485 port on power supply. Supports SNP and two Ethernet ports; (one IP address) on CPU, 10/100 Mbps built-in switch, SRTP - channels (Producer and Consumer); EGD, Modbus TCP Client/Server and Web Diagnostics Support	One RS-485 port on power supply. Supports SNP and two Ethernet ports; (one IP address) on CPU, 10/100 Mbps built-in switch, SRTP - channels (Producer and Consumer); EGD, Modbus TCP Client/Server and Web Diagnostics Support
Total Number of Racks	8	8	8
Communications Option Modules	Serial-SNP, SNPX, RTU and CCM, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP Client/Server	Serial-SNP, SNPX, RTU and CCM, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP Client/Server	Serial-SNP, SNPX, RTU and CCM, LAN-Genius, Ethernet SRTP and Ethernet Modbus TCP Client/Server
Field Busses/Device Networks	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN	Ethernet, Genius, Profibus-DP, DeviceNet, Interbus-S, CsCAN
Software Programming Support	Proficy Logic Developer - Machine Edition	Proficy Logic Developer - Machine Edition	Proficy Logic Developer -Machine Edition
Internal Power Used	1.4 Amps @ 5 VDC	1.4 Amps @ 5 VDC	1.4 Amps @ 5 VDC

Baseplates



Series 90-30 baseplates are available in 5- and 10-slot configurations to meet the needs of your application. You can choose expansion or remote baseplates for multi-rack systems, covering distances of up to 700 feet from the CPU. GE offers standard length cables for easy installation and provides wiring information for custom applications.

	IC693CHS391	IC693CHS392	IC693CHS393	IC693CHS397	IC693CHS398	IC693CHS399
Product Name	10-slot CPU Baseplate (Model 331 and above)	10-slot Expansion Baseplate (Model 331 and above)	10-slot Remote Baseplate (Model 331 and above)	5-slot CPU Baseplate (Model 331 and above)	5-slot Expansion Baseplate (Model 331 and above)	5-slot Remote Baseplate (Model 331 and above)
Lifecycle Status	Active	Active	Active	Active	Active	Active
Module Type	CPU I/O Base	Expansion I/O Base	Expansion I/O Base	CPU I/O Base	Expansion I/O Base	Expansion I/O Base
Baseplate Option	Main (With CPU Slot)	Expansion	Expansion	Main (With CPU Slot)	Expansion	Expansion
Distance	N/A	Up to 50 feet	Up to 700 feet	N/A	Up to 50 feet	Up to 700 feet
Number of Slots	10	10	10	5	5	5
Dimension (W x H x D) in. (mm)	17.44 x 5.12 x 5.59 (443 x 130 x 142)	17.44 x 5.12 x 5.59 (443 x 130 x 142)	17.44 x 5.12 x 5.59 (443 x 130 x 142)	10.43 x 5.12 x 5.59 (245 x 130 x 142)	10.43 x 5.12 x 5.59 (245 x 130 x 142)	10.43 x 5.12 x 5.59 (245 x 130 x 142)
Internal Power Used	420 mA @ 5 VDC	150 mA @ 5 VDC	460 mA @ 5 VDC	270 mA @ 5 VDC	170 mA @ 5 VDC	480 mA @ 5 VDC



Power Supplies

The Series 90-30 power supply modules simply snap in just like I/O, and they work with any model CPU. Each version provides auto-ranging so there is no need to set jumpers for different incoming power levels, and they are current limiting so a direct short will shut the power supply down to avoid damage to the hardware. Series 90-30 power supplies are tied into the performance of the CPU for simplex, fail-safe, and fault tolerance. Advanced diagnostics and built-in smart switch fusing are among the other performance and safety features.

	IC693PWR321	IC693PWR330	IC693PWR331	IC693PWR332
Product Name	Power Supply, 120/240 VAC, 125 VDC	Power Supply, 120/240 VAC, 125 VDC	Power Supply, 24 VDC	Power Supply, 12 VDC
Lifecycle Status	Active	Active	Active	Active
Module Type	Power Supply	Power Supply	Power Supply	Power Supply
Power Source	100-240 VAC or 125 VDC	100-240 VAC or 125 VDC	24 VDC	12 VDC
High Capacity	No	Yes	Yes	Yes
Output Source	30 watts total; 15 watts 5 V; 15 watts 24 V relay; 20 watts 24 V isolated	30 watts total; 30 watts 5 V; 15 watts 24 V relay; 20 watts 24 V isolated	30 watts total; 30 watts 5 V; 15 watts 24 V relay; 20 watts 24 V isolated	30 watts total; 30 watts 5 V; 15 watts 24 V relay; 20 watts 24 V isolated
Number of Redundant Power Supplies Supported	N/A	N/A	N/A	N/A
Cable Length to Redundant Power Supply Adapter	N/A	N/A	N/A	N/A



Power Supplies

The Series 90-30 power supply modules simply snap in just like I/O, and they work with any model CPU. Each version provides auto-ranging so there is no need to set jumpers for different incoming power levels, and they are current limiting so a direct short will shut the power supply down to avoid damage to the hardware. Series 90-30 power supplies are tied into the performance of the CPU for simplex, fail-safe, and fault tolerance. Advanced diagnostics and built-in smart switch fusing are among the other performance and safety features.

IC693PWR328

Product Name	Power Supply, 48 VDC
Lifecycle Status	Active
Module Type	Power Supply
Power Source	48 VDC
High Capacity	No
Output Source	30 watts total; 15 watts 5 V; 15 watts 24 V relay; 20 watts 24 V isolated
Number of Redundant Power Supplies Supported	N/A
Cable Length to Redundant Power Supply Adapter	N/A



Discrete I/O Modules (Input)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC693ACC300	IC693MDL230	IC693MDL250	IC693MDL231	IC693MDL240
Product Name	DC Voltage Input Simulator, 8/16 Points	AC Voltage Input Module, 120 VAC Isolated, 8 Point Input	AC Voltage Input Module, 120 VAC Isolated, 16 Point Input	AC Voltage Input Module, 240 VAC Isolated, 8 Point Input	AC Voltage Input Module, 120 VAC, 16 Point Input
Lifecycle Status	Active	Active	Active	Active	Active
Module Type	Input Simulator	Discrete Input	Discrete Input	Discrete Input	Discrete Input
Power Type	DC	AC	AC	AC	AC
Input Voltage Range	N/A	0-132 VAC	0-132 VAC	0-264 VAC	0-132 VAC
Input Current (mA)	N/A	14.5	14.5	15	12
Number of points	16	8	16	8	16
Response Time (ms)	20 on/30 off	30 on/45 off	30 on/45 off	30 on/45 off	30 on/45 off
Trigger Voltage	N/A	74-132	74-132	148-264	74-132
Points per Common	16	1	1	1	16
Connector Type	Toggle Switches	Terminal Block (20 screws), included with module.	IC694TBBx32 or IC694TBSx32. Sold Separately.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	120 mA @ 5 VDC	60 mA @ 5 VDC	60 mA @ 5 VDC	60 mA @ 5 VDC	90 mA @ 5 VDC



Discrete I/O Modules (Input)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC693MDL260	IC693MDL241	IC693MDL632	IC693MDL634	IC693MDL645
Product Name	AC Voltage Input Module, 120 VAC, 32 Point Input	AC/DC Voltage Input Module, 24 VAC/VDC	DC Voltage Input Module, 125 VDC Pos/Neg Logic, 8 Point Input	DC Voltage Input Module, 24 VDC Pos/Neg Logic, 8 Point Input	DC Voltage Input Module, 24 VDC Pos/Neg Logic, 16 Point Input
Lifecycle Status	Active	Active	Active	Active	Active
Module Type	Discrete Input	Discrete Input	Discrete Input	Discrete Input	Discrete Input
Power Type	AC	Mixed	DC	DC	DC
Input Voltage Range	0-132 VAC	0-30 VDC	0-150 VDC	0-30 VDC	0-30 VDC
Input Current (mA)	12	7	4.5	7	7
Number of points	32	16	8	8	16
Response Time (ms)	30 on/45 off	12 on/28 off	7 on/7 off	7 on/7 off	7 on/7 off
Trigger Voltage	74-132	11.5-30	90-150	11.5-30	11.5-30
Points per Common	32	16	4	8	16
Connector Type	IC694TBBx32 or IC694TBSx32. Sold Separately.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	90 mA @ 5 VDC	80 mA @ 5 VDC; 125 mA @ 24 VDC Isolated	40 mA @ 5 VDC	45 mA @ 5 VDC; 62 mA @ 24 VDC Isolated	80 mA @ 5 VDC; 125 mA @ 24 VDC Isolated



Discrete I/O Modules (Input)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC693MDL646	IC693MDL648	IC693MDL654	IC693MDL655	IC693MDL660
Product Name	DC Voltage Input Module, 24 VDC Pos/Neg Logic, FAST, 16 Point Input	DC Voltage Input Module, 48 VDC Pos/Neg Logic, FAST, 16 Point Input	DC Voltage Input Module, 5/12 VDC (TTL) Pos/Neg Logic, 32 Point Input	DC Voltage Input Module, 24 VDC Pos/Neg Logic, 32 Point Input	DC Voltage Input Module, 24 VDC Pos/Neg Logic, 32 Point Input
Lifecycle Status	Active	Active	Active	Active	Active
Module Type	Discrete Input	Discrete Input	Discrete Input	Discrete Input	Discrete Input
Power Type	DC	DC	DC	DC	DC
Input Voltage Range	0-30 VDC	0-60 VDC	0-15 VDC	0-30 VDC	0-30 VDC
Input Current (mA)	7	4.2	3.0 @ 5 V, 8.5 @ 12 V	7	7
Number of points	16	16	32	32	32
Response Time (ms)	1 on/1 off	1 on/1 off	1 on/1 off	2 on/2 off	0.5ms, 1.0ms, 2.0ms, 5ms, 10ms, 50ms and 100ms, selectable per module. On and off.
Trigger Voltage	11.5-30	34 - 60	4.2-15	11.5-30	11.5-30
Points per Common	16	16	8	8	8
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Fujitsu Connector	Fujitsu Connector	IC694TBBx32 or IC694TBSx32. Sold Separately.
Internal Power Used	80 mA @ 5 VDC; 125 mA @ 24 VDC Isolated	80 mA @ 5 VDC; 125 mA @ 24 VDC Isolated	5 VDC - 195 mA @ 5 VDC; 12 VDC - 440 mA @ 5 VDC	195 mA @ 5 VDC	300 mA @ 5 VDC



Analog I/O Modules (Input)

GE offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	IC693ALG220	IC693ALG221	IC693ALG222	IC693ALG223
Product Name	Analog Input, Voltage, 4 Channel	Analog Input, Current, 4 Channel	Analog Input, Voltage, High Density (16 Channel)	Analog Input, Current, High Density (16 Channel)
Lifecycle Status	Active	Active	Active	Active
Module Type	Analog Input	Analog Input	Analog Input	Analog Input
Isolation	1500 volts RMS field to logic side	1500 volts RMS field to logic side	1500 volts RMS field to logic side	1500 volts RMS field to logic side
Range	-10 V to +10 V	4-20 mA, 0-20 mA	-10 V to +10 V, 0 to 10 V	0-20 mA, 4-20 mA
Number of Channels	4	4	16	16
Update Rate	4 ms all channels	2 ms all channels	13 ms all channels	13 ms all channels
Resolution	12 bit; 5 mV/20 μ A/bit	12 bit; 0-20 mA, 5 μ A/bit; 4-20 mA, 4 μ A/bit	12 bit; \pm 10 V, 5 mV/20 μ A/bit; 0-10 V, 5 mV/20 μ A/bit	12 bit; 0-20 mA, 5 μ A/bit; 4-20 mA, 4 μ A/bit; 4-20 mA Enhanced, 5 μ A/bit
Accuracy	\pm 10 mV/40 μ A at 25°C (77°F)	0.1 % full scale	0.25% at 25°C (77°F)	0.25% at 25°C (77°F)
Input Impedance	>9 Megohms	250 ohms	250 ohms	250 ohms
Input Filter Response	17 Hz	325 Hz	200 Hz	200 Hz
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	27 mA @ 5 VDC; 98 mA 24 VDC Isolated	25 mA @ 5 VDC; 100 mA @ 24 VDC Isolated	112 mA @ 5 VDC; 4150 mA -User Supplied 24 VDC	120 mA @ 5 VDC; 65 mA-User Supplied 24 VDC



Analog I/O Modules (Input)

GE offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	HE693ADC410	HE693ADC420
Product Name	Isolated Analog Input Module, Voltage, 1500 VAC, Isolation	Isolated Analog Input Module, Current, 1500 VAC, Isolation
Lifecycle Status	Active	Active
Module Type	Analog Input	Analog Input
Range	±10 V	4-20 mA, ±20 mA
Number of Channels	4	4
Channel-to-Channel Isolation	1500 VAC (RMS), ±2000 VDC	1500 VAC (RMS), ±2000 VDC
Input Impedance	1 Megohm	100 ohms
A/D Type, Resolution	Integrating, 18 bits	Integrating, 18 bits
Useable Resolution	13 bits plus sign	13 bits plus sign
I/O Required	4 %AI, 4 %AQ, 16 %I	8 %AI, 8 %AQ, 16 %I
Sample Rate	45 channels/second	45 channels/second
Analog Filtering	1 KHz, 3 pole Bessel	1 KHz, 3 pole Bessel
Digital Filtering	1-128 samples/update	1-128 samples/update
Maximum Error	.05% full scale	.05% full scale
Common Mode Range	1500 VAC (RMS), ±2000 VDC	1500 VAC (RMS), ±2000 VDC
Common Mode Rejection	>100 dB	>100 dB
Power Consumption at Steady State, Maximum	0.7 W @ 5 V, 1.2 W @ 24 V	0.7 W @ 5 V, 1.2 W @ 24 V
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	140 mA @ 5 VDC ; 50 mA @ 24 VDC Relay	140 mA @ 5 VDC; 50 mA @ 24 VDC Relay



Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC693MDL310	IC693MDL330	IC693MDL340	IC693MDL390	IC693MDL350	IC693MDL730
Product Name	AC Voltage Output Module, 120 VAC, 0.5 A, 12 Point Output	AC Voltage Output Module, 120/240 VAC, 1 A, 8 Point Output	AC Voltage Output Module, 120 VAC, 0.5 A, 16 Point Output	AC Voltage Output Module, 120/240 VAC Isolated, 2 A, 5 Point Output	AC Voltage Output Module, 120 VAC Isolated, 2 A, 16 Point Output	DC Voltage Output Module, 12/24 VDC Positive Logic, 2 A, 8 Point Output
Lifecycle Status	Discontinued	Active	Active	Active	Active	Active
Power Type	AC	AC	AC	AC	AC	DC
Output Voltage Range	85-132 VAC	85-264 VAC	85-132 VAC	85-264 VAC	74-264 VAC	12-24 VDC
Number of Points	12	8	16	5	16	8
Isolation	N/A	N/A	N/A	Yes	Yes	N/A
Load Current per Point	0.5 A	1.0 A	0.5 A	2.0 A	Per Point 2A max. @ 30°C & 1A max. @ 60°C (Linear derating)	2.0 A
Response Time (ms)	1 on 1/2 cy off	1 on 1/2 cy off	1 on 1/2 cy off	1 on 1/2 cy off	1 on 1/2 cy off	2 on/2 off
Output Type	Triac	Triac	Triac	Triac	Triac	Transistor
Polarity	N/A	N/A	N/A	N/A	N/A	Positive
Points per Common	6	4	4	1	1	8
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	IC694TBBx32 or IC694TBSx32. Sold Separately.	Terminal Block (20 screws), included with module.
Internal Power Used	210 mA @ 5 VDC	160 mA @ 5 VDC	315 mA @ 5 VDC	110 mA @ 5 VDC	110 mA @ 5 VDC	55 mA @ 5 VDC



Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC693MDL731	IC693MDL732	IC693MDL733	IC693MDL734	IC693MDL740	IC693MDL741
Product Name	DC Voltage Output Module, 12/24 VDC Negative Logic, 2 A, 8 Point Output	DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5 A, 8 Point Output	DC Voltage Output Module, 12/24 VDC Negative Logic, 0.5 A, 8 Point Output	DC Voltage Output Module, 125 VDC Pos/Neg Logic, 6 Point Output	DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5 A, 16 Point Output	DC Voltage Output Module, 12/24 VDC Negative Logic, 0.5 A, 16 Point Output
Lifecycle Status	Active	Active	Active	Active	Active	Active
Power Type	DC	DC	DC	DC	DC	DC
Output Voltage Range	12-24 VDC	12-24 VDC	12-24 VDC	11-150 VDC	12-24 VDC	12-24 VDC
Number of Points	8	8	8	6	16	16
Isolation	N/A	N/A	N/A	N/A	N/A	N/A
Load Current per Point	2.0 A	0.5 A	0.5 A	1.0 A	0.5 A	0.5 A
Response Time (ms)	2 on/2 off	2 on/2 off	2 on/2 off	7 on/5 off	2 on/2 off	2 on/2 off
Output Type	Transistor	Transistor	Transistor	Transistor	Transistor	Transistor
Polarity	Negative	Positive	Negative	Positive/Negative	Positive	Negative
Points per Common	8	8	8	1	8	8
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	55 mA @ 5 VDC	50 mA @ 5 VDC	55 mA @ 5 VDC	90 mA @ 5 VDC	110 mA @ 5 VDC	110 mA @ 5 VDC



Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC693MDL742	IC693MDL748	IC693MDL752	IC693MDL753	IC693MDL754	IC693MDL930
Product Name	DC Voltage Output Module, 12/24 VDC Positive Logic ESCP, 1 A, 16 Point Output	DC Voltage Output Module, 48/24 VDC Positive Logic, 0.5 A, 8 Point Output	DC Voltage Output Module, 5/24 VDC (TTL) Negative Logic, 0.5 A, 32 Point Output	DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5 A, 32 Point Output	DC Voltage Output Module, 12/24 VDC Positive Logic, 0.75 A, with ESCP protection, 32 Point Output	AC/DC Voltage Output Module, Relay, N.O., 4 A Isolated, 8 Point Output
Lifecycle Status	Active	Active	Active	Active	Active	Active
Power Type	DC	DC	DC	DC	DC	Mixed
Output Voltage Range	12-24 VDC	24-48 VDC	5, 12-24 VDC	12-24 VDC	12-24 VDC	0 to 125 VDC, 5/24/125 VDC nominal 0 to 265 VAC (47 to 63Hz), 120/240 VAC nominal
Number of Points	16	8	32	32	32	8
Isolation	N/A	N/A	N/A	N/A	N/A	Yes
Load Current per Point	1.0 A	0.5 A	0.5 A	0.5 A	0.75 A with ESCP protection	4.0 A
Response Time (ms)	2 on/2 off	2 on/2 off	0.5 on/0.5 off	0.5 on/0.5 off	0.5 on/0.5 off	15 on/15 off
Output Type	Transistor	Transistor	Transistor	Transistor	Transistor	Relay
Polarity	Positive	Positive	Negative	Positive	Positive	N/A
Points per Common	8	8	8	8	16	1
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Fujitsu Connector	Fujitsu Connector	IC694TBBx32 or IC694TBSx32. Sold Separately.	Terminal Block (20 screws), included with module.
Internal Power Used	130 mA @ 5 VDC	110 mA @ 5 VDC	260 mA @ 5 VDC	260 mA @ 5 VDC	300 mA @ 5 VDC	6 mA @ 5 VDC; 70 mA @ 24 VDC Relay



Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	IC693MDL916	IC693MDL931	IC693MDL940	IC693MAR590	IC693MDR390
Product Name	AC/DC Voltage Output Module, Relay, N.O., 4 A Isolated, 16 Point Output	AC/DC Voltage Output Module, Relay, N.C. and Form C, 8 A Isolated, 8 Point Out	AC/DC Voltage Output Module, Relay, N.O., 2 A, 16 Point Output	AC/DC Voltage I/O Module, AC In/Relay Out N.O.	AC/DC Voltage Output Module, 24 VDC Input, Relay Output, 8 In/8 Out
Lifecycle Status	Active	Active	Active	Active	Active
Power Type	Mixed	Mixed	Mixed	Mixed	Mixed
Output Voltage Range	5 – 125 VDC, 5/24/125 VDC nominal 5 – 250 VAC (47 to 63 Hz), 120-240 VAC nominal	0 to 125 VDC, 5/24/125 VDC nominal 0 to 265 VAC (47 to 63 Hz), 120/240 VAC nominal	0 to 125 VDC, 5/24/125 VDC nominal 0 to 265 VAC (47 to 63 Hz), 120/240 VAC nominal	5-250 VAC/5-30 VDC	0 to 125 VDC, 5/24/125 VDC nominal 0 to 265 VAC (47 to 63 Hz), 120/240 VAC nominal
Number of Points	16	8	16	8	8
Isolation	Yes	Yes	N/A	N/A	N/A
Load Current per Point	4.0 A	8.0 A	2.0 A	2.0 A	2.0 A
Response Time (ms)	10ms maximum (At nominal voltage excluding contact bounce)	15 on/15 off	15 on/15 off	30 on/45 off	1 on/1 off
Output Type	Relay	Relay	Relay	Relay	Relay
Polarity	N/A	N/A	N/A	N/A	N/A
Points per Common	1	1	4	8	8
Connector Type	IC694TBBx32 or IC694TBSx32. Sold Separately.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	300 mA @ 5 VDC from backplane maximum	6 mA @ 5 VDC; 110 mA @ 24 VDC Relay	7 mA @ 5 VDC; 135 mA @ 24 VDC Relay	80 mA @ 5 VDC; 70 mA @ 24 VDC Relay	80 mA @ 5 VDC; 70 mA @ 24 VDC Relay



Discrete I/O Modules (Output)

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps. GE offers a variety of modules that support different voltage ranges and types, current capacity, isolation and response time to meet your application needs.

	HE693RLY100	HE693RLY110
Product Name	DC Voltage Output Module, AC In/Relay Out (isolated)	DC Voltage Output Module, AC In/Relay Out (fused)
Lifecycle Status	Active	Active
Power Type	Mixed	Mixed
Output Voltage Range	12-120 VAC, 12-30 VDC	12-120 VAC, 12-30 VDC
Number of Points	8	8
Isolation	Yes	No
Load Current per Point	8.0 A	8.0 A
Response Time (ms)	11 on/11 off	11 on/11 off
Output Type	Relay	Relay
Polarity	N/A	N/A
Points per Common	1	1
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	180 mA @ 5 VDC; 200 mA @ 24 VDC Relay	180 mA @ 5 VDC; 200 mA @ 24 VDC Relay



Analog I/O Modules (Output)

GE offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	IC693ALG390	IC693ALG391	IC693ALG392	IC693ALG442
Product Name	Analog Output, Voltage, 2 Channel	Analog Output, Current/Voltage, 2 Channel	Analog Current/Voltage Output, 8 Channel	Analog Current/Voltage Combination 4 Channel In/2 Channel Out
Lifecycle Status	Active	Active	Active	Active
Module Type	Analog Output	Analog Output	Analog Output	Analog Input/Output
Isolation	1500 volts RMS field to logic side	1500 volts RMS field to logic side	1500 volts RMS field to logic side	1500 volts RMS field to logic side
Range	-10 V to +10 V, 4-20 mA	1-5 V and 0-5 V, 0-20 mA, 4-20 mA	0 V to +10 V, -10 V to +10 V, 0-20 mA, 4-20 mA	0 V to +10 V, -10 V to +10 V, 0-20 mA, 4-20 mA
Number of Channels	2	2	8	4 in/2 out
Channel-to-Channel Isolation	N/A	N/A	N/A	N/A
Diagnostics	N/A	N/A	Open Wire	N/A
Update Rate	5 ms all channels	5 ms all channels	8 ms all channels	8 ms all channels In / 4 ms all channels Out
Resolution	12 bit; 2.5 mV/bit	12 bit; 0-20 mA, 5µA/bit	16 bit; 0.312 mV/bit	(Input)12 bit; 0 V to 10 V, 2.5 mV/bit; -10 V to +10 V, 5 mV/bit; 0-20 mA, 4-20 mA 5µA/bit (Output) 16 bit; 0.312 mV/bit; 4-20 mA 0.5 µA/bit; 0-20 mA 0.625 µA/bit
Accuracy	±5 mV at 25°C (77°F)	0-20 mA, ±8 µA at 25°C (77°F); 0-20 mA, 4-20 mA ±0.1% at 25°C (77°F)	0-20 mA, 4-20 mA ±0.1% at 25°C (77°F); 0-10 V, -10F + 10 V ±0.25 at 25°C (77°F)	(Input) 0.25 % at 25°C (77°F) (Output) 0-20 mA, 4-20 mA ±0.1% at 25°C (77°F)
Maximum Output Load	5 mA (2 K ohms)	5 mA (2 K ohms)	5 mA (2 K ohms)	5 mA (2 K ohms); 850 ohms
Output Load Capacitance	2000 pF	2000 pF, Inductance 1H	2000 pF, Inductance 1H	2000 pF, Inductance 1H
Power Consumption at Steady State, Maximum	N/A	N/A	N/A	N/A
User Supplied Loop Voltage	N/A	N/A	N/A	N/A
Maximum Load (ohms)	N/A	N/A	N/A	N/A
Maximum Linearity Error	N/A	N/A	N/A	N/A
Common Mode Isolation	N/A	N/A	N/A	N/A
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	32 mA @ 5 VDC; 120 mA @ 24 VDC Isolated	30 mA @ 5 VDC; 215 mA 24 VDC Isolated	110 mA @ 5 VDC; 315 mA -User Supplied 24 VDC	95 mA @ 5 VDC; 129 mA 24 VDC Isolated



Analog I/O Modules (Output)

GE offers easy-to-use analog modules for control processes such as flow, temperature and pressure.

	HE693DAC410	HE693DAC420
Product Name	Isolated Analog Output Module, Voltage	Isolated Analog Output Module, Current
Lifecycle Status	Active	Active
Module Type	Analog Output	Analog Output
Isolation	N/A	N/A
Range	±10 V	4-20 mA or 0-20 mA
Number of Channels	4	4
Channel-to-Channel Isolation	1500 VAC (RMS),±2000 VDC	1500 VAC (RMS),±2000 VDC
Diagnostics	N/A	N/A
Update Rate	N/A	N/A
Resolution	13 bits plus sign, 1.2 5mV	13 bits plus sign, 2.0 µA (4-20 mA); 2.5 µA (±20 mA)
Accuracy	N/A	N/A
Maximum Output Load	N/A	N/A
Output Load Capacitance	N/A	N/A
Power Consumption at Steady State, Maximum	0.75 W @ 5 V; 3.6 W @ 24 V	0.75 W @ 5 V; 3.6 W @ 24 V
User Supplied Loop Voltage	N/A	2-32 VDC
Maximum Load (ohms)	>= 2 Kohms	</= 1.1 Kohms @ 24 V loop voltage
Maximum Linearity Error	0.02% full scale	0.02% full scale
Common Mode Isolation	1500 VAC (RMS),±2000 VDC	1500 VAC (RMS), ±2000 VDC
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	500 mA @ 5 VDC; 150 mA @ 24 VDC Relay	150 mA @ 5 VDC; 110 mA @ 24 VDC Relay



Millivolt I/O Modules

The Millivolt Input Modules allow millivolt level signals, such as bridged strain gages (load cells) to be directly connected to the PLC without external signal processing (transducers, transmitters, etc.) All analog and digital processing of the signal is performed on the module.

HE693ADC409

Product Name	Analog I/O Module, Millivolt Input
Lifecycle Status	Active
Module Type	Millivolt Input
Input Voltage Range	±25 mV, ±50 mV and ±100 mV
Number of Channels	4
Resolution	3 μV, 6μV, 9μV (respectively)
Accuracy	±0.5%
Input Impedance	>20 Mohms
A/D Conversion Type	Integrating
A/D Conversion Time	35 Channels/second
Strain Gages Supported	Bridged (load cells)
Maximum Normal Voltage Input	100 mV
Maximum Voltage Input	±35 V
Connector Type	Terminal Block (20 screws), included with module.
Internal Power Used	100 mA @ 5 VDC



RTD I/O Modules

The RTD Input Modules provide six RTD inputs that allow the direct connection of 3-wire RTD temperature sensors without using external signal processing (transducers, transmitters, etc.). All analog and digital processing of the RTD signal is performed on the module.

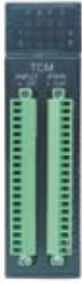
	HE693RTD600	HE693RTD601	HE693RTD660	HE693RTD665	HE693RTD666
Product Name	RTD Input Module, Low Resolution	RTD Input Module, High Resolution	RTD Input Module, Isolated	RTD Input Module, Isolated	RTD Input Module, Isolated
Lifecycle Status	Active	Active	Active	Discontinued	Discontinued
Module Type	RTD Input	RTD Input	RTD Input	RTD Input	RTD Input
Number of Channels	6	6	6	6	6
RTD Types Supported	3-wire, Pt-100E, Pt-100C, Pt-100Z, Pt-1000, Cu-10, Cu-50, PT-100, Cu-53, Cu-100, Ni-120, TD5R, TD5R, Pt-90 (MIL-7990)	3-wire, Pt-100E, Pt-100C, Pt-100Z, Pt-1000, Cu-10, Cu-50, PT-100, Cu-53, Cu-100, Ni-120, TD5R, TD5R, Pt-90 (MIL-7990)	3 wire, Pt-100E, Pt-100C, Ni-120, Cu-10, Pt-1000, TD5R Si	3 wire, Pt-100E, Pt-100C, Ni-120, Cu-10, Pt-1000, TD5R Si	3 wire, Pt-100E, Pt-100C, Ni-120, Cu-10, Pt-1000, TD5R Si
Channel-to-Channel Isolation	N/A	N/A	5 VAC	5 VAC	5 VAC
Notch Filter	N/A	N/A	None	50 Hz	60 Hz
Resolution	0.5°C or 0.5°F	0.125°C, 0.1°C, or 0.1°F	0.05°C, 0.05°F, 0.1°C, 0.1°F, 0.5°C or 0.5°F	0.05°C, 0.05°F, 0.1°C, 0.1°F, 0.5°C or 0.5°F	0.05°C, 0.05°F, 0.1°C, 0.1°F, 0.5°C or 0.5°F
Accuracy	±0.5°C, typical	±0.5°C, typical	±0.3°C	±0.3°C	±0.3°C
Input Impedance	>1000 Megohms	>1000 Megohms	>1000 Megohms	>1000 Megohms	>1000 Megohms
Fault Protection	Zener Diode Clamp	Zener Diode Clamp	Suppression Diode	Suppression Diode	Suppression Diode
Update Time	50 Channels/second	50 Channels/second	50 Channels/second	50 Channels/second	50 Channels/second
A/D Conversion Type	18 bit, integrating	18 bit, integrating	18 bit, integrating	18 bit, integrating	18 bit, integrating
Average RTD Current, Pt-100	330 microamps	330 microamps	330 microamps	330 microamps	330 microamps
Channel-to-Channel Tracking	0.1°C	0.1°C	0.1°C	0.1°C	0.1°C
Channel-to-Bus Isolation	N/A	N/A	1500 VAC	1500 VAC	1500 VAC
RTD Short	N/A	N/A	Indefinite without damage	Indefinite without damage	Indefinite without damage
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	70 mA @ 5 VDC	70 mA @ 5 VDC	200 mA @ 5 VDC	200 mA @ 5 VDC	200 mA @ 5 VDC



Strain Gage I/O Modules

The Millivolt Input Modules allow millivolt level signals, such as bridged strain gages (load cells) to be directly connected to the PLC without external signal processing (transducers, transmitters, etc.) All analog and digital processing of the signal is performed on the module.

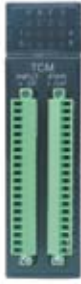
	HE693STG883	HE693STG884
Product Name	Analog I/O Module, Strain Gage	Analog I/O Module, Strain Gage
Lifecycle Status	Active	Active
Module Type	Strain Gage Input	Strain Gage Input
Input Voltage Range	±20 mV, ±25 mV and ±30mV	±25 mV, ±50 mV and ±100mV
Number of Channels	8	8
Resolution	0.6 µV, 0.8 µV, 0.9 µV (respectively)	0.8 µV, 1.6 µV, 3.2 µV (respectively)
Accuracy	±0.3%	±0.3 %
Input Impedance	>1000 Mohms	>1000 Mohms
A/D Conversion Type	Integrating	Integrating
A/D Conversion Time	35 Channels/second	35 Channels/second
Strain Gages Supported	Bridged (load cells)	Bridged (load cells)
Maximum Normal Voltage Input	100 mV	100 mV
Maximum Voltage Input	±35 V	±35 V
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	60 mA @ 5 VDC; 30 mA @ 24 VDC Relay	60 mA @ 5 VDC; 30 mA @ 24 VDC Relay



Temperature Control Modules

The Temperature Control Module (TCM), is a high performance control module providing eight channels of thermocouple input and eight channels of control output in a single Series 90-30 module. Each channel can operate in closed or open loop mode relieving the PLC of providing the temperature control functions. The module also supports Autotuning.

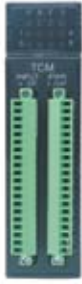
	IC693TCM302	IC693TCM303
Product Name	Temperature Control Module, (8) T/C, (1) RTD and (8) 24 VDC Output	Temperature Control Module, Extended Range, 8 T/C, 1RTD and 8 24 VDC Output
Lifecycle Status	Mature	Mature
Module Type	Thermocouple Input	Thermocouple Input
Thermocouples	8 channels (Type J, K or L); J=0-450°C; K=0 -600°C; L=0-450°C; 1 internal/external compensation channel, 12-bits or 0.2°C resolution, 100 ms/ channel update, ±1°C accuracy with automatic calibration	8 channels (Type J, K or L); J=0-600°C; K=0 -1050°C; L=0-600°C; 1 internal/external compensation channel, 12-bits or 0.2°C resolution, 100 ms/ channel update, ±1°C accuracy with automatic calibration
RTD Input	1 channel with Open/Short Circuit Detection; Type: Pt-100 ($\mu=0.00392$) for temperature compensation	1 channel with Open/Short Circuit Detection; Type: Pt-100 ($\mu=0.00392$) for temperature compensation
Temperature Range	J=0-600°C, K=0-1050°C, L=0-600°C	J=0-450°C, K=0-600°C, L=0-450°C
Output Voltage Range	18 to 30 volts DC	18 to 30 volts DC
Load Current per point	100 mA maximum sourcing	100 mA maximum sourcing
Number of Channels	8 T/C In / 8 DC Out	8 T/C In / 8 DC Out
Diagnostics	Open thermocouple and reverse connection detection capability; Detection and indication of out-of-tolerance temperature readings	Open thermocouple and reverse connection detection capability; Detection and indication of out-of-tolerance temperature readings
Connector Type	Two 20 pin connectors (screw type)	Two 20 pin connectors (screw type)
Internal Power Used	150 mA @ 5 VDC	150 mA @ 5 VDC



Thermocouple I/O Modules

The Thermocouple Input Modules allow thermocouple temperature sensors to be directly connected to the PLC with external signal processing (transducers, transmitters, etc.). The module performs all analog and digital processing of the thermocouple signal. The enhanced thermocouple input modules add isolation or high-resolution. On these modules, each channel can be configured for a specific type of sensor wire. An autodetect external AD592 cold junction compensation feature is also available.

	HE693THM166	HE693THM409	HE693THM449
Product Name	Analog I/O Thermocouple Input Module	Analog I/O Thermocouple Input Module	Analog I/O Thermocouple Input Module
Lifecycle Status	Active	Active	Active
Module Type	Thermocouple Input	Thermocouple Input	Thermocouple Input
Range	J, K, N, T, E, R, S, B, C, X	J, K, N, T, E, R, S	J, K, N, T, E, R, S
Number of Channels	16	4	4
Channel-to-Channel Isolation	N/A	N/A	N/A
Notch Filter	N/A	N/A	N/A
Open Circuit Alarm	Yes	No	Yes
Resolution	0.5°C or 0.5°F	0.5°C or 0.5°F	0.5°C or 0.5°F
Accuracy	±0.5°C, typical (J,K,N,T)	±0.5°C, typical (J,K,N,T)	±0.5°C, typical (J,K,N,T)
A/D Conversion Type	Integrating	Integrating	Integrating
A/D Conversion Time	40 Channels/second	40 Channels/second	40 Channels/second
Open Circuit Detection	Yes	Yes	Yes
Setpoint Alarm	N/A	N/A	N/A
Diagnostics	Open Circuit Detection	Open Circuit Detection	Open Circuit Detection
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	80 mA @ 5 VDC; 30 mA @ 24 VDC Relay	80 mA @ 5 VDC; 60 mA @ 24 VDC Relay	80 mA @ 5 VDC; 60 mA @ 24 VDC Relay



Thermocouple I/O Modules

The Thermocouple Input Modules allow thermocouple temperature sensors to be directly connected to the PLC with external signal processing (transducers, transmitters, etc.). The module performs all analog and digital processing of the thermocouple signal. The enhanced thermocouple input modules add isolation or high-resolution. On these modules, each channel can be configured for a specific type of sensor wire. An autodetect external AD592 cold junction compensation feature is also available.

	HE693THM809	HE693THM884	HE693THM888	HE693THM889
Product Name	Analog I/O Thermocouple Input Module	Analog I/O Thermocouple Input Module (Enhanced)	Analog I/O Thermocouple Input Module (Enhanced)	Analog I/O Thermocouple Input Module
Lifecycle Status	Active	Active	Active	Active
Module Type	Thermocouple Input	Thermocouple Input	Thermocouple Input	Thermocouple Input
Range	J, K, N, T, E, R, S	J, K, N, T, E, R, S, B, C	J, K, N, T, E, R, S, B, C	J, K, N, T, E, R, S
Number of Channels	8	8	8	8
Channel-to-Channel Isolation	N/A	N/A	N/A	N/A
Notch Filter	N/A	None	60 Hz	N/A
Open Circuit Alarm	No	Yes	Yes	Yes
Resolution	0.5°C or 0.5°F	N/A	N/A	0.5°C or 0.5°F
Accuracy	±0.5°C, typical (J,K,N,T)	N/A	N/A	±0.5°C, typical (J,K,N,T)
A/D Conversion Type	Integrating	N/A	N/A	Integrating
A/D Conversion Time	40 Channels/second	N/A	N/A	40 Channels/second
Open Circuit Detection	Yes	Yes	Yes	Yes
Setpoint Alarm	N/A	Yes	Yes	N/A
Diagnostics	Open Circuit Detection	Open Circuit Detection and Alarms	Open Circuit Detection and Alarms	Open Circuit Detection
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	80 mA @ 5 VDC; 60 mA @ 24 VDC Relay	100 mA @ 5 VDC; 60 mA @ 24 VDC Relay	100 mA @ 5 VDC; 60 mA @ 24 VDC Relay	80 mA @ 5 VDC; 60 mA @ 24 VDC Relay



Networks and Distributed I/O Systems

The Series 90-30 features a variety of communications options for distributed control and/or I/O. Choose from Ethernet EGD, Profibus-DP, Genius, DeviceNet, Interbus-S, Series 90 Protocol (SNP) and RTU modules. These communication modules are easy to install and quick to configure.

	IC693PBM200	IC693PBS201	IC693BEM331
Product Name	Communications Module, Profibus-DP Module (Master)	Communications Module, Profibus-DP Module (Slave)	Series 90-30 I/O Bus Module, Genius Bus Controller
Lifecycle Status	Active	Active	Active
Module Type	Profibus-DP Master	Profibus-DP Slave	Genius Bus Controller
Protocol Support	Profibus DP	Profibus DP	Genius
Entity Type	Master	Slave	Master
Bus Speed	12Mbaud	12Mbaud	153.6Kbaud
Network Distance	Baud Rate Dependent. Supports all standard data rates (9.6 kBit/s, 19.2 kBit/s, 93.75 kBit/s, 187.5 kBit/s, 500 kBit/s, 1.5 MBit/s, 3 MBit/s, 6 MBit/s and 12 MBit/s)	Baud Rate Dependent. Supports all standard data rates (9.6 kBit/s, 19.2 kBit/s, 93.75 kBit/s, 187.5 kBit/s, 500 kBit/s, 1.5 MBit/s, 3 MBit/s, 6 MBit/s and 12 MBit/s)	7500 feet (2286 meters) at 38.4 Kbaud; 4500 feet (1371 meters) at 76.8 Kbaud; 3500 feet (1066 meters) at 153.6 Kbaud extended; 2000 feet (609 meters) at 153.6 Kbaud standard. Maximum length at each baud rate also depends on cable type.
Bus Diagnostics	Supported	Supported	Supported
Number of Drops Supported	125 Slaves	One	32
Message Size	244 bytes of input and 244 bytes of output for each slave. Not to exceed 3584 bytes input and 3584 bytes outputs total for the system.	244 bytes of input and 244 bytes of output	255 bytes
Internal Power Used	450 @ 5 VDC	450 @ 5 VDC	300 mA @ 5 VDC



Networks and Distributed I/O Systems

The Series 90-30 features a variety of communications options for distributed control and/or I/O. Choose from Ethernet EGD, Profibus-DP, Genius, DeviceNet, Interbus-S, Series 90 Protocol (SNP) and RTU modules. These communication modules are easy to install and quick to configure.

	IC693DNM200	IC693DNS201	IC693CMM302
Product Name	Series 90-30 Communications Module, DeviceNet, Master	Series 90-30 Communications Module, DeviceNet, Slave	Series 90-30 Enhanced Genius Communications Module
Lifecycle Status	Active	Active	Active
Module Type	DeviceNet Master	DeviceNet Slave	Genius Peer to Peer
Protocol Support	DeviceNet	DeviceNet	N/A
Entity Type	Master	Slave	Peer-to-Peer
Bus Speed	500Kbaud	500Kbaud	153.6Kbaud
Network Distance	500Kbaud 100 meters to 125Kbaud 500 meters. Maximum length at each baud rate also depends on cable type.	500Kbaud 100 meters to 125Kbaud 500 meters. Maximum length at each baud rate also depends on cable type.	7500 feet (2286 meters) at 38.4 Kbaud; 4500 feet (1371 meters) at 76.8 Kbaud; 3500 feet (1066 meters) at 153.6 Kbaud extended; 2000 feet (609 meters) at 153.6 Kbaud standard. Maximum length at each baud rate also depends on cable type.
Bus Diagnostics	Supported	Supported	N/A
Number of Drops Supported	64	N/A	N/A
Message Size	3972 bytes Input and 3972 bytes Output	255 bytes In and 255 bytes Out	N/A
Internal Power Used	450 @ 5 VDC	450 @ 5 VDC	300 mA @ 5 VDC



Networks and Distributed I/O Systems

The Series 90-30 features a variety of communications options for distributed control and/or I/O. Choose from Ethernet EGD, Profibus-DP, Genius, DeviceNet, Interbus-S, Series 90 Protocol (SNP) and RTU modules. These communication modules are easy to install and quick to configure

	IC693BEM320	IC693BEM321
Product Name	Series 90-30 Communication, I/O Link Interface Module (Slave)	Series 90-30 Communication, I/O Link Interface Module (Master)
Lifecycle Status	Active	Active
Module Type	I/O Link	I/O Link
Protocol Support	N/A	N/A
Entity Type	Slave	Master
Bus Speed	1.5 mHz	1.5 mHz
Network Distance	10 meters (33 feet) RS-485; 200 meters (660 feet)	10 meters (33 feet) RS-485; 200 meters (660 feet)
Bus Diagnostics	N/A	N/A
Number of Drops Supported	N/A	N/A
Message Size	N/A	N/A
Internal Power Used	205 mA @ 5 VDC	415 mA @ 5 VDC



Serial Communications Modules

The Series 90-30 features a variety of communications options for distributed control and/or I/O. Choose from Ethernet EGD, Profibus-DP, Genius, DeviceNet, Interbus-S, Series 90 Protocol (SNP) and RTU modules. These communication modules are easy to install and quick to configure.

	IC693CMM311	HE693SNP900	HE693RTM705
Product Name	Series 90-30 Communications Control Module	Communications Module, SNP Slave Module from Horner Electric	Communications Module, Modbus RTU Master from Horner Electric
Lifecycle Status	Discontinued	Active	Discontinued
Module Type	Serial Communications	SNP Module	Modbus RTU Master
Protocol Support	SNP/SNPX; CCM; Modbus RTU Slave	SNP Slave	Modbus Master support Report by Exception
Communication Ports	1 RS-232, 1 RS-485	RS-232, RS-232/485	RS-232, RS-232/485, modem
Backplane Compatibility	N/A	No Restrictions	Restricted to IC693CHS391 and IC693CHS397
Internal Power Used	400 mA @ 5 VDC	250 mA @ 5 VDC	375 mA @ 5 VDC



Power Measurement Modules

The Power Transducer Module (PTM) and Power Synchronization and Measurement (PSM) module measure and calculate critical data for control of electrical power systems and synchronization of power grids. Both the PTM and PSM connect to user supplied current and potential transformers, which translate power grid signals to proportionate, low-level signals for measurement and analysis. The PTM module is not intended to provide a protective relay function or be used for energy billing purposes. The PSM module provides ANSI protective relay calculations and revenue grade monitoring for a complete genset, paralleling switchgear or infrastructure management solution. Both the PTM and PSM consist of a processing module that plugs into the PLC backplane, an interface module for field wiring connections, and cables to interconnect the two modules. The PTM and PSM can be used with Wye or Delta type three-phase power or with single-phase power systems.

IC693PTM101

Product Name	Power Transducer Module Processing Module interface board (a panel mounted circuit board). This board interfaces between the Power Transducer module and the input transformers (current and potential), 1.0 meter Interface cable that connects the module to the Interface board.	
Lifecycle Status	Mature	
Module Type	Power Transducer Modules	
Input Voltage Range	10-120 VAC (nominal)	
Power Measurement Configurations	Grids 1 0	Circuits 0 up to 4
Current Input Range	0 to 7.5 Amps RMS (5 A RMS nominal)	
Frequency Range	35Hz to 70Hz	
Output Rating	N/A	
Number of Outputs	0	
Data	<p>Data availability</p> <ul style="list-style-type: none"> • Data calculation rate: 20ms @ 50Hz, 16.67ms @ 60Hz • Data latency: 15ms @ 50Hz, 16.67ms @ 60Hz <p>Measured Data</p> <ul style="list-style-type: none"> • RMS voltage of phase A, B, and C (in Volts x 10) • RMS currents of phase A, B, C, and Neutral (in Amperes x 1000) for each grid • DC component of measured RMS voltages (in Volts x 10) • Frequency of phase A grid 1 (in Hz x 100) • Phase angle between phase A grid 1 and phase A grid 2 (in degrees x 10) <p>Power and Energy Data</p> <ul style="list-style-type: none"> • Active and reactive power reported per phase and total in Watts, Volt-Amperes-Reactive (VAR) • Active and reactive total energy consumption in Watt-Seconds and Volt-Amperes-Reactive-Seconds (updated once per second), re-settable by the user • Total power factor • Average real and reactive power consumption (sliding 15 minute window updated once per second) 	
Status and Diagnostics	<ul style="list-style-type: none"> • Module Heartbeat (indicates module health) • Utility Phase A voltage present • Phase polarity valid • Voltage measurements valid • Current measurements valid 	
Internal Power Used	400 mA @ 5 VDC	



Pneumatic Module

This IC693MDL760 output module provides eleven pneumatic outputs and five 24 VDC sourcing outputs. For each pneumatic output, the module contains an internal 3-way solenoid-actuated valve and an associated output fitting, which is located on the front panel. When an output is turned ON, its internal valve connects a user supplied pressure source (100 psi maximum) to the output fitting. The pressure source is connected to the fitting on the bottom of the module. When the output is turned OFF, the valve's output port is vented to atmosphere inside the module. Solenoid power is supplied from an external 24 VDC source to the "DC Outputs" connector on the front panel.

IC693MDL760

Product Name	Series 90-30 Solenoid Module
Lifecycle Status	Active
Number of Points	(11) Pneumatic Outputs (5) 24 VDC Outputs
Pneumatic Outputs	11
Supply Pressure	100 PSI
Pressure Drop	25 psi max.@ 0.25 scfm
External Solenoid Power	21.6-26.4 VDC, 24 VDC nominal
ON Response Time/Off Response Time	12 ms max. ON 12 ms max. OFF
Solenoid Inrush Current	33 mA/valve @ 24 VDC
Solenoid Holding Current	13 mA/valve @ 24 VDC
Output Fitting	Threaded for 10-32 adapter, 1/16" hose barb provided
Supply Fitting	Threaded for 10-32 adapter, 1/8" hose barb provided
Load Current per Point	0.5 A @ 30 VDC per point, 2.0 A total for all five points
Response Time (ms)	0.5 on/0.5 off
Output Type	Transistor
Polarity	Positive
Internal Power Used	75 mA from 5 VDC bus (solenoid LEDs are powered from external power source)



Programmable Coprocessor Modules

GE Series 90-30's feature a wide range of Specialty Modules to meet all of your application needs. From temperature controls, high-speed counters, I/O processors, coprocessors, to PID auto-tuning modules, these Specialty Modules are designed to meet the demand for versatile industrial solutions.

	IC693PCM311	IC693PCM301	HE693ASC900
Product Name	Series 90-30, Programmable Coprocessor Module, 640 KB (190 KB Basic Prgm)	Series 90-30, Programmable Coprocessor Module, 192 KB (47 KB Basic Prgm)	Horner ASCII Basic Module
Lifecycle Status	Discontinued	Discontinued	Active
Module Type	Programmable Coprocessor Module	Programmable Coprocessor Module	Co-Processor ASCII Basic Module
Programming Languages	BASIC or C	BASIC or C	BASIC
Program Storage	640K of Battery Backed RAM	192K of Battery Backed RAM or EPROM option	64K EEPROM
Communication Ports	(2) One RS-232 and one RS-232/RS-485	(2) One RS-232 and one RS-232/RS-485	RS-232, RS-232/485
Backplane Compatibility	Restricted to IC693CHS391 and IC693CHS397	Restricted to IC693CHS391 and IC693CHS397	No Restrictions
Internal Power Used	400 mA @ 5 VDC	425 mA @ 5 VDC	375 mA @ 5 VDC



Motion Modules (High Speed Counting)

Motion control integrated into the Series 90-30 fosters high performance point-to-point applications. GE Motion Control modules can be flexibly applied to a variety of digital, analog, and stepper motion applications.

	IC693APU300	IC693APU305
Product Name	Series 90-30 High Speed Counter	Series 90-30 I/O Processor Module
Lifecycle Status	Active	Active
Module Type	High Speed Counter	I/O Processor Module
Count Rate	High Frequency - 80 kHz; Low Frequency - 20 Hz	30 khz (Absolute Encoder) 200 khz (A Quad B Encoder)
Input/Output Type	Positive Logic	N/A
Off State Leakage Current	10 µA per point	10 µA per point
Output Protection	3 Amp Fuse for all points	5 A Fuse for all points
Counter Operation	Type A - Up or Down-Independent Pulse-4 counters; Type B - Both Directions-A QUAD B Encoder Inputs-2 Counters; Type C - Difference Between 2 changing values-A QUAD B Encoder Inputs -1 Counter	N/A
Input Filters (Selectable)	High Frequency Filter - 2.5 µS; Low Frequency Filter - 12.5 ms	N/A
Selectable On/Off Output Presets	Each Counter has 2 present points, On and Off	N/A
Counters per Timebase	Each counter stores the number of counts that have occurred in a specified time. A timebase value measurement from 1 ms to 65535 ms is configurable.	N/A
Strobe Register	Each counter has one or more strobe registers that capture the current accumulator value when a strobe input transition in the direction selected during the last configuration of the module.	N/A
Local Fast Inputs	(12) 5 VDC or 10 to 30 VDC	(12) 8.0 VDC (non-TTL), 1.5 VDC (TTL)
Local Fast Outputs	(4) 10 to 30 VDC @ 500 mA maximum 4.75 to 6 VDC @ 20 mA maximum	Continuous Output Current (10-30 VDC supply) 1.0 A (each output 1-4) 0.5 A (each output 5-V8)
Connector Type	Terminal Block (20 screws), included with module.	Terminal Block (20 screws), included with module.
Internal Power Used	250 mA @ 5 VDC	360 mA @ 5 VDC



Motion Modules (Servo Control)

Motion control integrated into the Series 90-30 fosters high performance point-to-point applications. GE Motion Control modules can be flexibly applied to a variety of digital, analog, and stepper motion applications.

	IC693DSM324	IC693DSM314
Product Name	Series 90-30 Digital Servo Module, 4-Axis	Series 90-30 Digital Servo Module, 4-Axis (Fiber Optic Interface to Amplifiers)
Lifecycle Status	Active	Active
Module Type	Servo Module	Servo Module
Drive	Beta i Series Digital Servos	Beta i Series Digital and Analog Servos
Drive Interface	Fiber Optic, Up to 100 meters between Amplifiers with total length of 400 meters.	Digital for Alpha and Beta Series. ±10V velocity or torque command for analog
Axes	4 Digital	2 Digital and 1 analog or 4 analog
Encoder Support	Incremental Master (1Mhz)	Incremental Master (1Mhz)
Axis Configuration	Parallel or Cascade	Parallel or Cascade
User Memory	15 KBytes	15 KBytes
Analog Inputs	2	4 - In Digital Mode 8 - In Analog Mode
Analog Outputs	2	4 - In Digital Mode 0 - In Analog Mode
Local Fast Inputs	12 (24 V), 8 (5 V)	12 (24 V), 8 (5 V)
Local Fast Outputs	4 SSR Outputs (24 VDC, 125 mA)	4 SSR Outputs (24 VDC, 125 mA)
Connector Type	(1) 36 pin (5 VDC) (1) 24 pin (24 VDC)	(4) 36 pin
Internal Power Used	1360 mA @ 5 VDC	1300 mA @ 5 VDC



Remote Expansion Modules

The Ethernet distributed I/O interface (Ethernet Interface Unit), is a high performance Ethernet network interface module. The ENIU enables users to connect Series 90-30 I/O remotely over Ethernet to a master controller. The ENIU provides the power of Single Point of Connect. You can connect anywhere on the I/O network and monitor, configure, and troubleshoot any ENIU. The master controller is also accessible over the same network to program, troubleshoot and configure. The ENIU features a built-in Ethernet switch with two 10/100Mbit ports (RJ-45) allowing the user to daisy chain to the next ENIU. The ENIU automatically senses the cable type, eliminating the need for a crossover cable. The ENIU supports one IP address. Redundancy is provided as a standard feature with the ENIU.

IC693NIU004

Product Name	Ethernet Remote I/O Expansion (Slave)
Lifecycle Status	Active
Module Type	Ethernet Remote I/O Interface Module
I/O Discrete Points	2048 Inputs/2048 Outputs maximum
I/O Analog Points	1264 Inputs and 512 Outputs maximum
User Logic Memory	N/A
Network Data Rate	10/100Mbit ports (RJ-45)
Entity Type	Slave
Network Distance	Media Dependent
Bus Diagnostics	Supported
Number of Drops Supported	Network Dependent. Each Ethernet NIU can also support up to 7 additional local I/O racks (IC693CHSxxx)
Internal Power Used	N/A

Portable Program Download Device (PPDD)

The Portable Program Download Device enables the user to easily upload and download Series 90-30 configuration and logic from/to a USB Memory Stick. Portable Program Download Device (PPDD) will support commercial memory stick devices using USB connection. The purpose of the PPDD is to allow users to store and download their logic applications and configuration to GE Series 90-30 PLCs without the need of a PC. The PPDD plugs into the 15 pin RS-485 port on the Series 90-30 CPU base power supply. The RS-485 port provides the power for the PPDD. Series 90-30 logic and configuration files can be zipped and easily emailed to remote locations for Series 90-30 downloads.



There are many advantages of the PPDD such as:

- No PC required to backup applications or download applications
- No expensive travel to perform field upgrades, just email the file to the remote location
- Compatible with commercial off the shelf USB Memory Sticks
- The PPDD can be panel mounted, DIN rail mounted or hand held
- Supports diagnostics to ensure that the CPU is compatible with the application
- OEM Password Protection supported
- Simple to operate, LEDs to show activity, error and status. Push button to start download and selector switch for direction of download, to the PLC or to the memory stick.
- Designed for the industrial environment UL and CE (not Class 1 Div 2 approved)

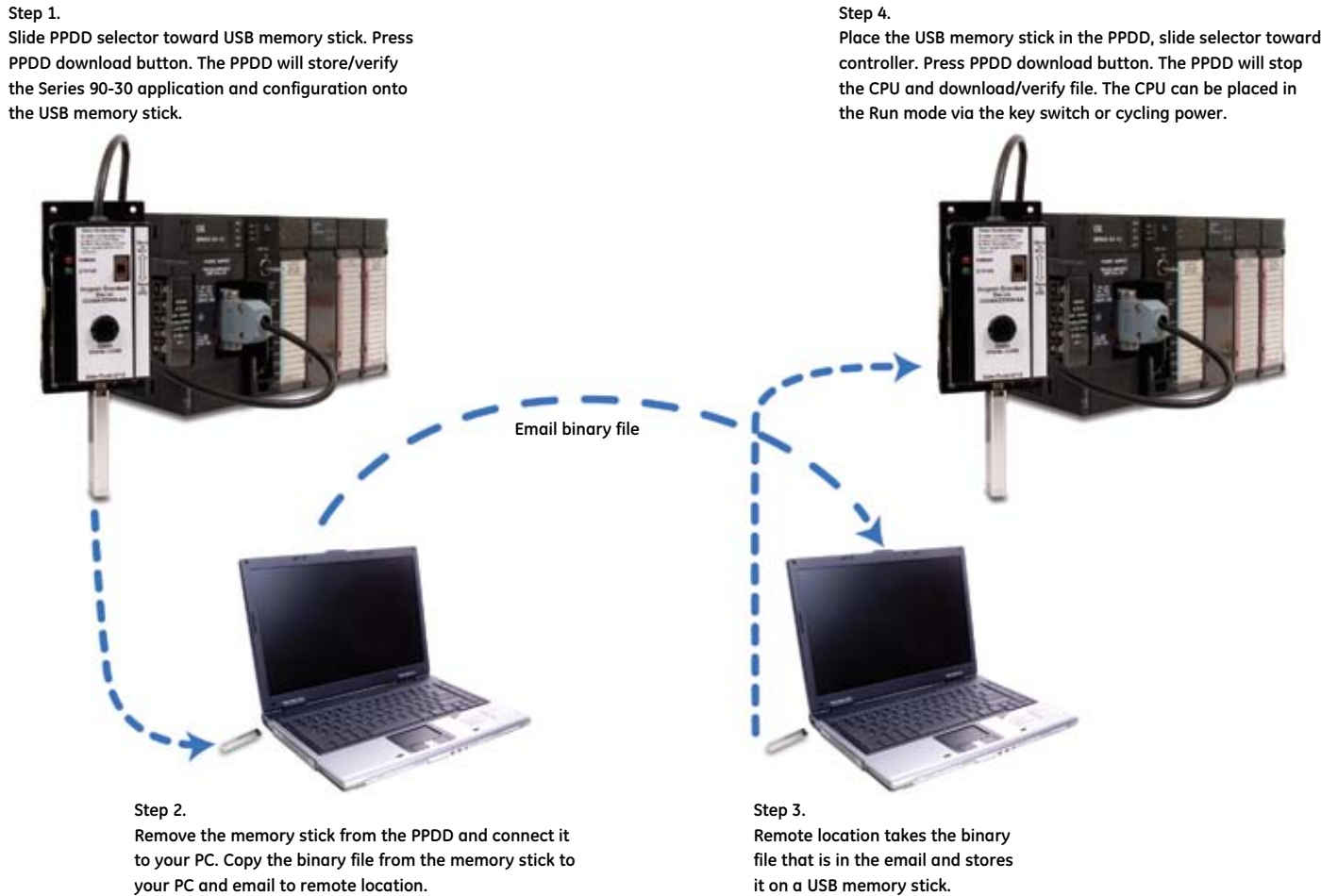
PPDD features:

- Slide switch for direction of data storage
- Status and Diagnostic LEDs

LEDs Status

	Error (Red)	Status (Green)
LED On Steady	On when there isn't a Memory Stick attached	On after button has been pushed and name in PLC matches and when download is complete
LED Flashing Fast Flash (500msec on 500msec off) Slow Flash (1 sec on 1 sec off)	Flashing when CPU doesn't match or Memory Stick doesn't have the proper file Flashing if Verify fails	Slow Flash During Download Fast Flash when CPU type matches but name in PLC doesn't match
LED Off	Off during normal conditions with no errors	Off prior to button being pushed for download

The Portable Program Download Device is simple to use. The example below demonstrates the four easy steps of downloading an application and emailing it to a remote location for application upgrade.



Portable Program Download Device

IC690ACC990

Portable Program Download Device. Supports standard USB memory devices to store and load Series 90-30 PLC applications without the need of a PC.

Accessories

IC694TBB032	High Density 32 Point Terminal Block Box Style	Active
IC694TBB132	High Density 32 Point Terminal Block Box Style with Extended Shroud for Large Wiring Bundles	Active
IC694TBS032	High Density 32 Point Terminal Block Spring Style	Active
IC694TBS132	High Density 32 Point Terminal Block Spring Style with Extended Shroud for Large Wiring Bundles	Active
IC690ACC901	Mini-Converter Kit with cable (RS-485/RS-232)	Active
IC690ACC903	RS-485 Port Isolator	Active
IC690CDR002	User Manuals, InfoLink CD-ROM Documentation, single-user license	Active
IC693ACC301	Replacement Battery, CPU & PCM (qty 2)	Active
IC693ACC302	High capacity battery pack. The new Auxiliary Battery Pack (IC693ACC302) will enable Series 90-30 (except CPU374) to go up to 75 months (shelf life of 10 years) of RAM memory backup w/no power & the CPU374 backup for 15 months	Active
IC693ACC307	I/O Bus Terminator Plug	Active
IC693ACC308	Rack Adaptor Bracket, Series 90-30 10 Slot to 19" (Front Mount)	Active
IC693ACC310	Filler Module, Blank Slot	Active
IC693ACC311	Twenty Point Terminal Blocks (qty 6)	Active
IC200ACC003	EZ Store Device, CPU374 program download without the need of a PC.	Active
IC693ACC319	Spare Plastic Cases Parts Kit (I/O, CPU, PCM)	Active
IC693MLX000	Spare Series 90-30 I/O Modules Label Kit (various quantities)	Active

Terminal Block Quick Connect

Terminal Block Quick Connect (TBQC) for selected I/O modules enables the user to easily connect interposing terminal blocks. The TBQC consists of an I/O faceplate adapter that includes a 24 pin Fujitsu male connector (the faceplate replaces the 20 screw terminal connector on front of I/O module, not compatible with the high density 36 screw terminals), cable and interposing terminal block.

TBQC I/O Module Face Plate Adapter

IC693ACC334	I/O module face plate adapter for 20 screw type I/O modules. Faceplate provides a 24 pin male Fujitsu connector.	Active
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TBQC Interposing Terminal Block

IC693ACC329	Interposing terminal block base for IC693MDL645, IC693MDL646, and IC693MDL240. The base can also be used with any 20 point terminal discrete or analog modules not listed.	Active
IC693ACC330	Interposing terminal block base for IC693MDL740 and IC693MDL742	Discontinued
IC693ACC331	Interposing terminal block base for IC693MDL741	Discontinued
IC693ACC332	Interposing terminal block base for IC693MDL940	Active
IC693ACC333	Interposing terminal block base for IC693MDL340	Active
IC693ACC337	Interposing terminal block base for IC693MDL654/655/752/753	Active

TBQC Cables

IC693CBL327	Cable, Left Side, One - 24 Pin 90 Degree Connector, 3 Meter. Cable has a connector on only one end and open on the other. Cable used with TBQC I/O Face Plate Adapter or Fujitsu style I/O modules.	Active
IC693CBL328	Cable, Right Side, One - 24 Pin 90 Degree Connector, 3 Meter. Cable has a connector on only one end and open on the other. Cable used with TBQC I/O Face Plate Adapter or Fujitsu style I/O modules.	Active
IC693CBL329	Cable, Left Side, One - 24 Pin 90 Degree Connector, 1 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	Active
IC693CBL330	Cable, Right Side, One - 24 Pin 90 Degree Connector, 1 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	Active
IC693CBL331	Cable, Left Side, One - 24 Pin 90 Degree Connector, 2 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	Active
IC693CBL332	Cable, Right Side, One - 24 Pin 90 Degree Connector, 2 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	Active
IC693CBL333	Cable, Left Side, One - 24 Pin 90 Degree Connector, 0.5 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	Active
IC693CBL334	Cable, Right Side, One - 24 Pin 90 Degree Connector, 0.5 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	Active

External Power Supplies

IC690PWR024	Field Power Supply 24 VDC 5 Amps	Active
IC690PWR124	Field Power Supply 24 VDC 10 Amps	Active

Rack to Rack Expansion Cables

IC693CBL300	Cable, I/O Base Expansion, 1 Meter, Shielded	Active
IC693CBL301	Cable, I/O Base Expansion, 2 Meters, Shielded	Active
IC693CBL302	Cable, I/O Base Expansion, 15 Meters, Shielded with built-in terminator	Active
IC693CBL312	Cable, I/O Base Expansion, 0.15 Meter, Shielded	Active
IC693CBL313	Cable, I/O Base Expansion, 8 Meters, Shielded	Active
IC693CBL314	Cable, I/O Base Expansion, 15 Meters, Shielded with no built-in terminator	Discontinued
IC693ACC307	I/O Bus Terminator Plug	Active

Configuration Guidelines

When configuring a Series 90-30 the following guidelines should be considered

1. High density IC693 I/O modules require a terminal block assembly. IC694TBSxxx (spring clamp termination) or IC694TBBxxx (box style termination) are required.
2. If the CPU is powered down frequently a high capacity battery should be considered. (IC693ACC302)
3. Add up the power consumption to ensure enough power supply capacity.

Examples of Typical Application

Configuration for Controller (Example application requiring (120) 24 VDC inputs and (80) Relay outputs AC power supply)

Power Supply Current Required (mA)	Qty	Part Number	Description
670 mA @ 5 VDC	1	IC693CPU350	CPU with 32K of memory
	1	IC693PWR321	120/240 VAC, 125 VDC Power Supply, 3 Amps @ 5 VDC; 0.625 @ 24 VDC relay and 0.833 @ 24 VDC isolated
420 mA @ 5 VDC	1	IC693CHS391	10 Slot CPU Base
1200 mA @ 5 V	4	IC693MDL660	Discrete Input Module, 24 VDC Positive Logic, 32 points (Requires terminal block)
35 mA @ 5 V; 110 mA @ 24 VDC Relay	5	IC693MDL940	Discrete Output Module, Relay 2.0 A per point Form A, 16 points (Terminal block included).
	4	IC694TBB032	Terminal Block, Box Style
	1	BC646MPS001	Logic Developer - PLC Standard - w/Programming Cable
Total current from power supply required:		2325 mA @ 5 V; 110 mA @ 24 VDC Relay.	

Options to consider

1.4 Amps @ 5 VDC	1	IC693CPU374	CPU with built-in Ethernet 10/100Mbps and Web support
	1	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
	1	IC693ACC302	Long term battery for CPU
	1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch Operator Interface

Configuration for Controller (100) 24 VDC inputs, (50) 24 VDC Outputs with ESCP protection, (20) Relay outputs, (12) 4 to 20 mA Analog Inputs, (12) 4 to 20 mA Analog Outputs and 24 VDC power supply. Also requires Profibus Master and Ethernet communications.

Power Supply Current Required	Qty	Part Number	Description
1.4 Amps @ 5 VDC	1	IC693CPU374	CPU with built-in Ethernet 10/100 Mbps and Web support
	2	IC693PWR331	24 VDC Power Supply, current available 6 Amps @ 5 VDC; 0.625 Amps @ 24 VDC relay; 0.833 @ 24 VDC isolated
420 mA @ 5 VDC	1	IC693CHS391	10 Slot CPU Base
1200 mA @ 5 VDC	4	IC693MDL660	Discrete Input Module, 24 VDC Positive Logic, 32 points (Requires terminal block)
600 mA @ 5 VDC	2	IC693MDL754	Discrete Output Module, 24 VDC Output with ESCP, 32 points (Requires terminal block)
35 mA @ 5 VDC; 110 mA @ 24 VDC Relay	2	IC693MDL940	Discrete Output Module, Relay 2.0 A per point Form A, 16 points (Terminal block included).
120 mA @ 5 VDC; 65 mA-User Supplied 24 VDC	1	IC693ALG223	Analog Input, 16 channels, current. (Terminal block included).
220 mA @ 5 VDC; 630 mA-User Supplied 24 VDC	2	IC693ALG392	Analog Output module, supports voltage and current, 8 channels (Terminal block included).
450 mA @ 5 VDC	1	IC693PBM200	Profibus Master module, supports V0
150 mA @ 5VDC	1	IC693CHS392	10 slot I/O expansion rack
	1	IC693CBL312	Rack Expansion Cable, 0.15 meters
	1	IC693ACC307	I/O Bus Terminator Plug
	6	IC694TBB032	Terminal Block, Box Style
	1	BC646MPS001	Logic Developer - PLC Standard - w/Programming Cable

In the above configuration, all of the modules cannot go into one base. Therefore the I/O modules are divided into two bases.

Options to consider

	1	IC200ACC003	EZ Store Device, CPU374 program download without the need of a PC.
	1	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
	1	IC693ACC302	Long term battery for CPU
	1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch Operator Interface

α and β i Series Servo Amplifiers

All Digital Servo Systems Offer High Performance and Reliability. FANUC HV*is* and β i Series Servo Drives, based on over five million axes installed worldwide, offer superior reliability and performance for unprecedented mean time between failure. The HV*is* and β i Series Servos are available in a wide range of ratings for use with the PACMotion motion controller.

High-Performance Serial Encoders

Standard serial encoders built into the motors provide exceptional feedback resolution of 64K or 128K counts per revolution for *is* Series motors and one million counts per revolution for HV*is* Series motors. Serial encoders support higher resolutions at high motor velocities than standard quadrature encoders and are more immune to noise. An optional battery connection provides absolute position feedback, eliminating the need to home the system after a power shutdown.

Reduced Tuning and Setup

There is no need for potentiometer tuning or personality modules; little tuning is required for properly sized drives. All drive parameters are stored in the controller in a standard motor database. Configuration settings are not stored in the drive, making it possible to replace drives with little set-up time. Stored drive and machine parameters are quickly transferred to repeat production machines.

All-Digital System

All control loops—current, velocity, and position—are closed in the GE PACMotion controller. High-speed microprocessors and/or digital signal processors (DSPs) in the controller provide loop update times of 250 μ s. The high response servo system can compensate for machine design limitations, yielding faster acceleration/deceleration rates and better responses to load changes.



Series	Motor Series	Controllers	Command Interface	Continuous Torque Range		Power Supply
				In-lb	Nm	
aHVi	aHVi, aHVis	PMM335	Fiber Optic	195-664	22-75	Separate PSM
β i	β is	PMM335	Fiber Optic	3.5-177	0.4-20	Built-in
β HVi	β HVis	PMM335	Fiber Optic	17.7-177	20-Feb	Built-in

All-Digital Servo Command Signals

The PMM335 PACMotion Controller and β i or α i Series amplifiers use a high speed fiber optic command interface. This digital interface improves efficiency by varying the on-time of the transistor switches that control motor voltage and current. With its superior noise immunity, both of these FANUC digital command interfaces allows for an increased signal to noise ratio for improved accuracy and performance.

Agency Approvals

UL, IEC rating and CE mark compliant

INFO

For application, installation, and tuning information, consult the Services website at www.ge-ip.com.

VersaMotion

VersaMotion is a family of servo motors and amplifiers that can be easily connected to the Series 90-30 DSM314. The VersaMotion amplifier supports high speed pulse and direction commands from the controllers. The VersaMotion servo drive is simple to use and maintain with the added diagnostics and removable terminal strips. Amplifier setup can be accomplished using the VersaMotion software included with Proficy Machine Edition or using the convenient front panel keypad.



Key Features:

- Versatile analog or pulse command interface
- Position/Speed/Torque modes
- Dual control modes
- Internal single-axis position control
- Electronic gearing
- External JOG function
- Speed/Torque limit operation
- Built-in keypad/display for setup and diagnostics
- Motor settling time below 1 ms
- Low speed stability and performance: less than 0.5% error at 1 RPM
- 10msec acceleration time from running without load +/- 3000 RPM
- High speed inertia corrections (16 levels of system stiffness and responsiveness)

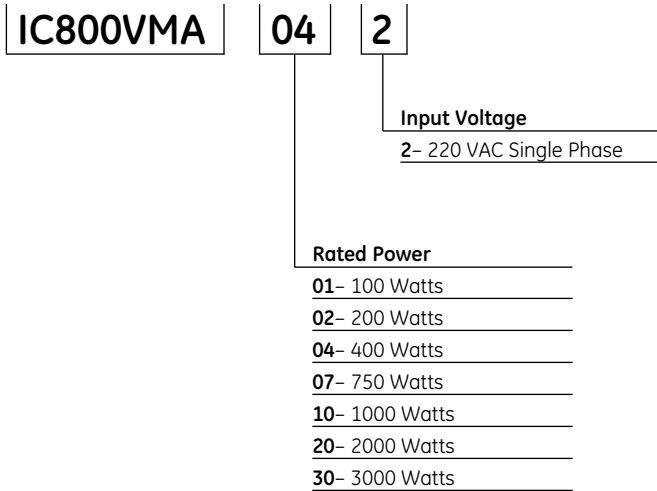
Built-in Functions:

- Point-to-Point single axis position control
- Simple stand-alone positioning function with 8 internal stored position settings
- Move to Home function
- Position Teaching capability
- Incremental encoder feedback (2500 ppr)
- User-definable Acceleration/Deceleration with jerk limiting (s-curve)
- Feed step control function
- Modbus Slave serial port (RS-485/RS-422) for reading and writing parameters from Machine Edition

Machine Edition VersaMotion Set-up Features:

- Configuration Parameter Editor (clear, read, write functions) and initial configuration wizard
- Calculation tools to determine proper conversion from encoder counts to desired user programming units
- Three channel digital oscilloscope to display and record drive status on-line
- Alarm history and status monitor diagnostic screens
- Digital I/O set-up and monitoring

Servo Amplifier Part Number Sequence



Example: IC800VMA042 is a 400 watt 220 VAC servo amplifier

Amplifiers Technical Data

Permissible Frequency Fluctuation	50 / 60 Hz ±5%
Resolution/Quadrature Feedback Counts	2500 ppr / 10000 cpr
Control Modes	Position/Velocity/Torque
Dynamic Brake	Built-in
Position Control Mode:	
Maximum Input Pulse Frequency	500KPPS (Line Driver) / Maximum 200KPPS (Open Collector)
Pulse Type	Pulse/Direction; CW/CCW; A/B Phase
Command Source	External pulse train/ Internal parameters
Torque Limit Operation	Yes
Feed Forward Compensation	Yes
Analog Commands: Voltage Range	0 to ±10 VDC
Torque and Velocity Control Mode: Command Source	External analog signal / Internal parameters
Speed Control Range	3.513888889
Speed Control Frequency Response	Maximum 450 Hz
Torque Control Mode Permissible Time for Overload	8 seconds under 200% rated output
Communications Interface	RS-232 / RS-485 / RS-422
Environmental Altitude	Altitude 1000 meters above sea level or lower
Environmental Operating Temperature	0 to 55°C (Forced cooling for operation above 55°C)
Environmental Storage Temperature	-20°C to 65°C
Environmental Humidity	0 to 90% (Non condensing)
Vibration	<20 Hz: 9.8 m/sec/sec (1G); 20 to 50 Hz: 5.88 m/sec/sec (0.6 G)
Standards	IEC/EN 61800-5-1, UL 508C, TUV, C-tick



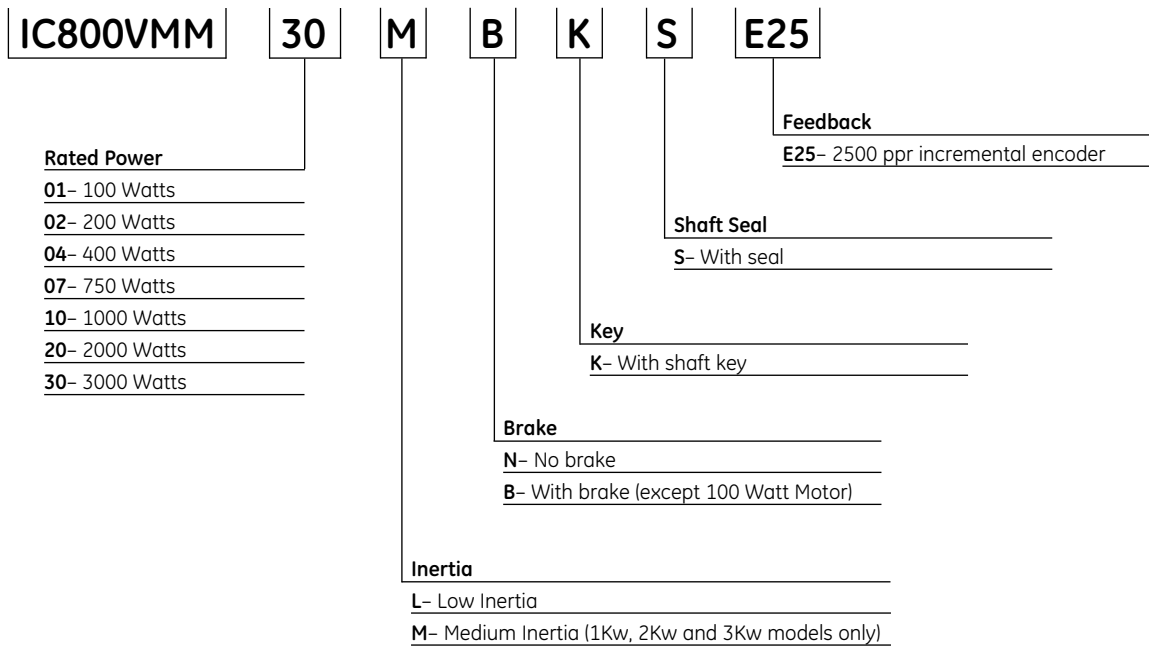
Amplifiers

The VersaMotion family of servo amplifiers offers a cost effective solution for a broad range of motion applications. These versatile amplifiers support simple stand-alone positioning capability using up to 8 stored motion profiles or can be connected to any motion controller using an analog or pulse command interface. A built-in touchpad and display provides convenient access to configuration parameters and system information. The serial interface supports multi-drop system configurations and Modbus communication protocol.

	IC800VMA012	IC800VMA022	IC800VMA042	IC800VMA072
Product Name	VersaMotion Amplifier	VersaMotion Amplifier	VersaMotion Amplifier	VersaMotion Amplifier
Lifecycle Status	Active	Active	Active	Active
Rated Output Power	100W	200W	400W	750W
Voltage/Frequency	Three-phase or Single-phase 220 VAC 50/60 Hz	Three-phase or Single-phase 220 VAC 50/60 Hz	Three-phase or Single-phase 220 VAC 50/60 Hz	Three-phase or Single-phase 220 VAC 50/60 Hz
Permissible Voltage Fluctuation	Three-phase: 170 ~ 255 VAC Single-phase: 200 ~ 255 VAC	Three-phase: 170 ~ 255 VAC Single-phase: 200 ~ 255 VAC	Three-phase: 170 ~ 255 VAC Single-phase: 200 ~ 255 VAC	Three-phase: 170 ~ 255 VAC Single-phase: 200 ~ 255 VAC
Cooling System	Convection	Convection	Convection	Fan Cooling
Electronic Gear Ratio	Gear Ratio = N/M where N 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)

	IC800VMA102	IC800VMA202	IC800VMA302
Product Name	VersaMotion Amplifier	VersaMotion Amplifier	VersaMotion Amplifier
Lifecycle Status	Active	Active	Active
Rated Output Power	1KW	2KW	3KW
Voltage/Frequency	Three-phase or Single-phase 220 VAC 50/60 Hz	Three-phase 220 VAC 50/60 Hz	Three-phase 220 VAC 50/60 Hz
Permissible Voltage Fluctuation	Three-phase: 170 ~ 255 VAC Single-phase: 200 ~ 255 VAC	Three-phase: 170 ~ 255 VAC	Three-phase: 170 ~ 255 VAC
Cooling System	Fan Cooling	Fan Cooling	Fan Cooling
Electronic Gear Ratio	Gear Ratio = N/M where N 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Electronic gear N/M multiple N: 1~32767, M: 1:32767 (1/50<N/M<200)

Servo Motor Part Number Sequence



Example: IC800VMM30MBKSE25 is a 3000 watt medium Inertia motor with 2500 ppr encoder, brake, keyway and shaft seal.

Motors Technical Data

Insulation Class	Class B
Insulation Resistance	>100M ohm, 500 VDC
Insulation Strength	1500 VAC, 50Hz, 60 seconds
Vibration Grade (um)	15
Brake Power (VDC)	24
Operating Temperature (C)	0°~40°
Storage Temperature (C)	-10°~80°
Humidity	20~90%RH (non condensing)
Vibration	2.5G
IP Rating	IP65 (except shaft and connector)

Motors



The VersaMotion family of servo motors offers high servo performance in a compact package. The motors range from 100 W to 3 kW with continuous torque ratings from 0.3 Nm to 14.3 Nm. All motors have metric mounting configurations and include a shaft key and oil seal. For vertical axes or applications that need to hold position during power loss motors with 24 VDC holding brakes are available. Motors are matched with the VersaMotion amplifiers.

	IC800VMM01L	IC800VMM02L	IC800VMM04L	IC800VMM07L
Product Name	VersaMotion 100 Watt	VersaMotion 200 Watt	VersaMotion 400 Watt	VersaMotion 750 Watt
Lifecycle Status	Active	Active	Active	Active
Rated Output (kW)	0.1	0.2	0.4	0.75
Rated Torque (Nm)	0.32	0.64	1.27	2.39
Maximum Torque (Nm)	0.96	1.92	3.82	7.16
Rated Speed (RPM)	3000	3000	3000	3000
Maximum Speed (RPM)	5000	5000	5000	5000
Rated Current (Amps)	0.9	1.55	2.6	5.1
Maximum Current (Amps)	2.7	4.65	7.8	15.3
Rotor Moment of Inertia (Kg.m ² x 10 ⁻⁴)	0.037	0.177	0.277	1.13
Mechanical Time Constant (msec)	0.75	0.8	0.53	0.63
Torque Constant - KT (Nm)	0.36	0.41	0.49	0.47
Voltage Constant - KE (mV/rmp)	13.6	16	17.4	17.2
Armature Resistance (Ohm)	9.3	2.79	1.55	0.42
Armature Inductance (mH)	24	10.84	6.84	3.53
Electrical Time Constant (msec)	2.58	3.89	4.43	8.37
Maximum Radial Shaft Load (Newton)	78.4	196	196	245
Maximum Thrust Shaft Load (Newton)	39.2	68	68	98



Motors

The VersaMotion family of servo motors offers high servo performance in a compact package. The motors range from 100 W to 3 kW with continuous torque ratings from 0.3 Nm to 14.3 Nm. All motors have metric mounting configurations and include a shaft key and oil seal. For vertical axes or applications that need to hold position during power loss motors with 24 VDC holding brakes are available. Motors are matched with the VersaMotion amplifiers.

	IC800VMM10L	IC800VMM10M	IC800VMM20L	IC800VMM20M	IC800VMM30M
Product Name	VersaMotion 1000 Watt	VersaMotion 1000 Watt	VersaMotion 2000 Watt	VersaMotion 2000 Watt	VersaMotion 3000 Watt
Lifecycle Status	Active	Active	Active	Active	Active
Rated Output (kW)	1	1	2	2	3
Rated Torque (Nm)	3.18	4.77	6.37	9.55	14.32
Maximum Torque (Nm)	9.54	14.32	19.11	28.66	42.96
Rated Speed (RPM)	3000	2000	3000	2000	2000
Maximum Speed (RPM)	5000	3000	5000	3000	3000
Rated Current (Amps)	7.3	5.6	11.3	11	16.1
Maximum Current (Amps)	21.9	24.9	33.9	33	48.3
Rotor Moment of Inertia (Kg.m ² x 10 ⁻⁴)	2.65	9.14	4.45	15.88	55
Mechanical Time Constant (msec)	0.74	1.64	0.66	1.05	1.06
Torque Constant - KT (Nm/A)	0.44	0.85	0.53	0.87	0.89
Voltage Constant - KE (mV/rpm)	16.8	31.9	19.2	31.8	32
Armature Resistance (Ohm)	0.2	0.465	0.14	0.174	0.052
Armature Inductance (mH)	2	5.99	1.53	2.76	1.38
Electrical Time Constant (msec)	10.26	12.88	10.63	15.86	26.39
Maximum Radial Shaft Load (Newton)	490	490	490	490	1470
Maximum Thrust Shaft Load (Newton)	98	98	98	98	490
Amplifier Model	IC800VMA102	IC800VMA102	IC800VMA202	IC800VMA202	IC800VMA302

VersaMotion Accessories

Accessories

IC800VMACONCN1	CN1 I/O Connector	Active
IC800VMACONCN2	CN2 Encoder Connector	Active
IC800VMACONCN3	CN3 Communication Connector	Active
IC800VMACONACP	AC Power Connector (100W to 1kW models only)	Active
IC800VMACONMTRP	Motor Power Connector (100W to 1kW models only)	Active
IC800VMADBR001	External Braking Resistor Connector (100W to 1kW models only)	Active

Motor Connectors

IC800VMMCONP001	Motor Power Connector for 100 Watt to 750 Watt motors without brake	Active
IC800VMMCONP002	Motor Power Connector for 100 Watt to 750 Watt motors with brake	Active
IC800VMMCONP003	Motor Power Connector for 1000 Watt or 2000 Watt motors with or without brake	Active
IC800VMMCONP004	Motor Power Connector for 3000 Watt motors with or without brake	Active
IC800VMMCONE001	Encoder Connector for 100 Watt to 750 Watt motors	Active
IC800VMMCONE002	Encoder Connector for 1000 Watt and larger motors	Active

Motor Power Cables

IC800VMCP030	Power Cable for 100 Watt to 750 Watt servo motor without brake, 3 m (9.8 feet)	Active
IC800VMCP050	Power Cable for 100 Watt to 750 Watt servo motor without brake, 5 m (16.4 feet)	Active
IC800VMCP100	Power Cable for 100 Watt to 750 Watt servo motor without brake, 10 m (32.8 feet)	Active
IC800VMCP200	Power Cable for 100 Watt to 750 Watt servo motor without brake, 20 m (65.7 feet)	Active
IC800VMCP1030	Power Cable for 1000 Watt servo motor without brake, 3 m (9.8 feet)	Active
IC800VMCP1050	Power Cable for 1000 Watt servo motor without brake, 5 m (16.4 feet)	Active
IC800VMCP1100	Power Cable for 1000 Watt servo motor without brake, 10 m (32.8 feet)	Active
IC800VMCP1200	Power Cable for 1000 Watt servo motor without brake, 20 m (65.7 feet)	Active
IC800VMCP2030	Power Cable for 2000 Watt servo motor without brake, 3 m (9.8 feet)	Active
IC800VMCP2050	Power Cable for 2000 Watt servo motor without brake, 5 m (16.4 feet)	Active
IC800VMCP2100	Power Cable for 2000 Watt servo motor without brake, 10 m (32.8 feet)	Active
IC800VMCP2200	Power Cable for 2000 Watt servo motor without brake, 20 m (65.7 feet)	Active
IC800VMCP3030	Power Cable for 3000 Watt servo motor without brake, 3 m (9.8 feet)	Active
IC800VMCP3050	Power Cable for 3000 Watt servo motor without brake, 5 m (16.4 feet)	Active
IC800VMCP3100	Power Cable for 3000 Watt servo motor without brake, 10 m (32.8 feet)	Active
IC800VMCP3200	Power Cable for 3000 Watt servo motor without brake, 20 m (65.7 feet)	Active

Brake and Motor Power Cables

IC800VMCB030	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 3 m (9.8 feet)	Active
IC800VMCB050	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 5 m (16.4 feet)	Active
IC800VMCB100	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 10 m (32.8 feet)	Active
IC800VMCB200	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 20 m (65.7 feet)	Active
IC800VMCB1030	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 3 m (9.8 feet)	Active
IC800VMCB1050	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 5 m (16.4 feet)	Active
IC800VMCB1100	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 10 m (32.8 feet)	Active
IC800VMCB1200	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 20 m (65.7 feet)	Active
IC800VMCB2030	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 3 m (9.8 feet)	Active
IC800VMCB2050	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 5 m (16.4 feet)	Active
IC800VMCB2100	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 10 m (32.8 feet)	Active
IC800VMCB2200	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 20 m (65.7 feet)	Active
IC800VMCB3030	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 3 m (9.8 feet)	Active
IC800VMCB3050	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 5 m (16.4 feet)	Active
IC800VMCB3100	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 10 m (32.8 feet)	Active
IC800VMCB3200	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 20 m (65.7 feet)	Active

Encoder Cables

IC800VMCE030	Encoder Cable for 100 to 750 Watt, 3 m (9.8 feet)	Active
IC800VMCE050	Encoder Cable for 100 to 750 Watt, 5 m (16.4 feet)	Active
IC800VMCE100	Encoder Cable for 100 to 750 Watt, 10 m (32.8 feet)	Active
IC800VMCE200	Encoder Cable for 100 to 750 Watt, 20 m (65.7 feet)	Active
IC800VMCE1030	Encoder Cable for 1000 Watt and greater, 3 m (9.8 feet)	Active
IC800VMCE1050	Encoder Cable for 1000 watt and greater, 5 m (16.4 feet)	Active
IC800VMCE1100	Encoder Cable for 1000 watt and greater, 10 m (32.8 feet)	Active
IC800VMCE1200	Encoder Cable for 1000 watt and greater, 20 m (65.7 feet)	Active

I/O Terminal Block

IC800VMTBC005	I/O Terminal Block Breakout Board and 0.5 m (1.6 feet) Cable	Active
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External Braking Resistors

IC800VMBR040	40 Ohm, 400 Watt External Braking (Regeneration) Resistor	Active
IC800VMBR020	20 Ohm, 1000 Watt External Braking (Regeneration) Resistor	Active

Communications and I/O Interface Cables

IC800VMCS030	Communications Cable from servo amplifier to PC, 3 m (9.8 feet)	Active
IC800VMCI010	Flying lead I/O interface cable, 1 meter	Active
IC800VMCI030	Flying lead I/O interface cable, 3 meter	Active

Software Configuration Tool

IC646MPM101	Proficy Logic Developer - PLC Nano/Micro and VersaMotion, Programming Cable (No Upgrades included)	Active
BC646MPM101	Proficy Logic Developer - PLC Nano/Micro and VersaMotion, Programming Cable (Includes 15 months of upgrades)	Discontinued

Examples of Typical Application using a Series 90-30

Application: 1000 Watt Low Inertia Motor with Brake. Configuration for Controller (100) 24 VDC inputs, (50) 24 VDC Outputs with ESCP protection, (20) Relay outputs, (12) 4 to 20 mA Analog Inputs, (12) 4 to 20 mA Analog Outputs and 24 VDC power supply. Also requires Profibus Master and Ethernet communications.

Qty	Part Number	Description
Controller, I/O and Display		
1	IC693CPU374	CPU with built-in Ethernet 10/100Mbps and Web support
2	IC693PWR331	24 VDC Power Supply, current available 6 Amps @ 5 VDC; 0.625 Amps @ 24 VDC relay; 0.833 @ 24 VDC isolated
1	IC693CHS391	10 Slot CPU Base
1	IC693DSM314	Servo Motion Module, 2 digital and 1 analog axis supported
1	IC693ACC336	DSM Analog Servo Interface Terminal Board
1	IC693CBL324	DSM Analog TB Interface Cable, 1 m (3.28 feet)
1	IC800VMCI010	VersaMotion Flying Lead I/O Interface Cable, 1 m (3.28 feet)
4	IC693MDL660	Discrete Input Module, 24 VDC Positive Logic, 32 points (Requires terminal block)
2	IC693MDL754	Discrete Output Module, 24 VDC Output with ESCP, 32 points (Requires terminal block)
2	IC693MDL940	Discrete Output Module, Relay 2.0 A per point Form A, 16 points (Terminal block included)
1	IC693ALG223	Analog Input Module, 16 channels, current. (Terminal block included)
2	IC693ALG392	Analog Output Module, supports voltage and current, 8 channels (Terminal block included)
1	IC693PBM200	Profibus Master Module, supports V0
1	IC693CHS392	10 slot I/O Expansion Rack
1	IC693CBL312	Rack Expansion Cable, 0.15 meter
1	IC693ACC307	I/O Bus Terminator Plug
6	IC694TBB032	Terminal Block, Box Style
1	BC646MPS001	Logic Developer - PLC Standard - w/Programming Cable
Servo and Motor		
1	IC800VMM10LBKSE25	VersaMotion 1000 Watt Low Inertia Servo Motor with Brake. Motor has keyway and oil seal
1	IC800VMA102	Servo Amplifier, 1000 Watts, 220 VAC
1	IC800VMCB1030	Brake and Power Cable for 1000 Watt Servo Motor with Brake, 3 m (9.8 feet)
1	IC800VMCE1030	Encoder Cable for 1000 Watt and greater, 3 m (9.8 feet)
1	IC800VMTBC005	I/O Terminal Block and Cable (0.5 meter)
1	IC800VMCS030	Communications Cable from Servo Driver to PC, 3 m (9.8 feet)
Programming Software for Control, Display and Motion		
1	BC646MPS001	Machine Edition Standard Development Suite with Proficy GlobalCare Complete. Includes VersaMotion configuration tool, View Development for QuickPanel and PLC Standard with programming cable. Proficy GlobalCare with 15 months of free upgrades which is renewable on an annual basis.

VersaMax Nano and Micro Controllers

Don't let size fool you. Although they are easy on valuable panel space, the VersaMax Nano and Micro PLCs are big on features. For high-volume applications where cost and fast processor speeds are an issue, the VersaMax Nano is the PLC of choice. For additional functionality, the modular VersaMax Micro offers the features and the flexibility to match application needs in such industries as food processing, chemicals, packaging, water and wastewater, construction equipment and plastics.

For tight spaces, the VersaMax Nano PLC is the perfect solution. Thanks to its all-in-one construction, installation is a breeze. All you have to do is snap it onto a DIN rail or screw it into a panel. With the VersaMax Nano, you save on initial as well as life cycle costs.

The small-footprint VersaMax Micro PLC offers the flexibility of modular design and a variety of built-in features, including up to 64 I/O points (expandable to 170 I/O points), fast cycle times, a robust instruction set and extensive memory that multiplies your programming options.

Proficiency Machine Edition

Proficiency Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control, and execution logic are developed with a single programmer.

Publication Reference Chart

GFK-1645	VersaMax Micro PLCs and Nano PLCs User's Manual
IC690CDU002	InfoLink for PLC CD-ROM



Nano PLCs, page 1.136



Micro PLCs, pages 1.137-1.145



Expansion Units, pages 1.146-1.156



DataPanel Operator Interfaces, page 1.157



Communications Options, pages 1.158-1.159



Portable Program Download Device (PPDD), pages 1.160-1.161



VersaMotion Servo Motors and Amplifiers, pages 1.166-1.174

Accessories, pages 1.162-1.163

Configuration Guidelines, pages 1.164-1.165

VersaMax Nano and Micro Selection Guide

Features	Nano 10	Micro 14	Micro 23	Micro 28	Micro 20	Micro 40	Micro 64
Built-in Discrete I/O	6 in/ 4out	8 in/ 6 out	13 in/10 out	16 in/12 out	12 in/8 out	24 in/16 out	40 in/24 out
Built-in Analog I/O	1 on some models	none	2 in/ 1 out	none	none	none	none
I/O Expansion Units	none	Up to 4 units	Up to 4 units	Up to 4 units	Up to 4 units	Up to 4 units	Up to 4 units
Logic Memory (Words)	2K	9K	9K	9K	24K	24K	24K
Data Storage (Words)	256	256	2K	2K	32K	32K	32K
Scan Time (msec/K)	1.3 msec	1.1 msec	1.1 msec	1.1 msec	1.1 msec	1.1 msec	1.1 msec
Battery Backed RAM	Super Cap only	Super Cap only	Yes and Super Cap	Yes and Super Cap	Yes and Super Cap	Yes and Super Cap	Yes and Super Cap
Real Time Clock	none	none	Yes, Included	Yes, Included	Yes, Included	Yes, Included	Yes, Included
Ports Available	1 RS-232	1 RS-232	1 RS-232 and 1 RS-485	1 RS-232 and 1 RS-485	1 RS-232 and second port optional RS-232, RS-485, USB or Ethernet	1 RS-232 and second port optional RS-232, RS-485, USB or Ethernet	1 RS-232 and second port optional RS-232, RS-485, USB or Ethernet
Ethernet Option	Yes, VersaMax SE	Yes, VersaMax SE	Yes, VersaMax SE	Yes, VersaMax SE	Yes on second port	Yes on second port	Yes on second port
High Speed Counter	Up to 4 at 10Khz (16 bit)	Up to 4 at 10Khz (16 bit)	Up to 4 at 10Khz (16 bit)	Up to 4 at 10Khz (16 bit)	Up to 4 at 100Khz (32 bit)	Up to 4 at 100Khz (32 bit)	Up to 4 at 100Khz (32 bit)
Pulse Train/PWM	Up to 4 at 5Khz (16 bit)	Up to 4 at 5Khz (16 bit)	Up to 4 at 5Khz (16 bit)	Up to 4 at 5Khz (16 bit)	Up to 4 at 65Khz (32 bit)	Up to 4 at 65Khz (32 bit)	Up to 4 at 65Khz (32 bit)
Motion Commands	N/A	N/A	N/A	N/A	Find Home, Go Home, Jog, Ramp, Blended Move (4 Consecutive Moves)	Find Home, Go Home, Jog, Ramp, Blended Move (4 Consecutive Moves)	Find Home, Go Home, Jog, Ramp, Blended Move (4 Consecutive Moves)
Write Register Values to Internal Flash	No	Yes	Yes	Yes	Yes	Yes	Yes
On Line Program Support	No	No	No	No	Yes with Firmware 3.9 & Hardware revision B	Yes with Firmware 3.9	Yes with Firmware 3.9

Powerful Instruction Set

Bit Operation Functions

- Logic AND, Logic OR
- Exclusive OR, Logical Invert
- Shift Right/Left
- Rotate Right/Left
- Bit Test/Set/Clear
- Masked Compare
- Bit Position
- Bit Sequencer

Control Functions

- Do I/O
- Call
- End
- Subroutines
- Comments
- Master Control Relay
- Service Request
- PID

Table Functions

- Array Move
- Search

Data Move Functions

- Move
- Block Move
- Block Clear
- Shift Register
- Communications Request
 - Motion Moves
 - High Speed Counter
 - Serial Read/Write
 - Modbus Master

Conversion Functions

- BCD- 4
- Signed Integer
- Double Precision Signed Integer
- Real
- Real to Word
- Truncate Real Number

Math and Numerical Functions

- +, -, x, /
- Modulo division
- Scaling
- Square Root
- Trigonometric Functions
- Logarithmic/Exponential
- Convert Radians

Relation Functions

- Equal
- Not Equal
- Greater Than
- Less Than
- Greater or Equal
- Less or Equal
- Range

Relay Functions

- Contacts, Coils
- Fault and No Fault Contacts
- Alarm Contacts

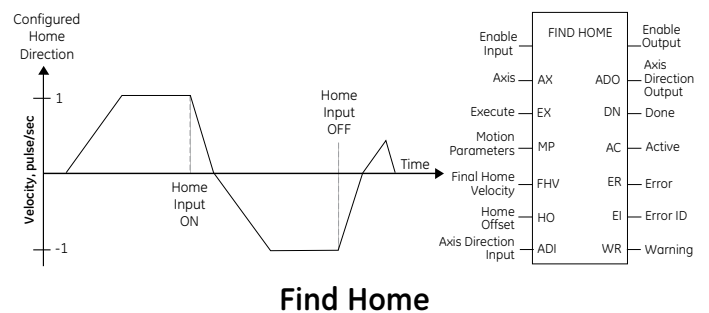
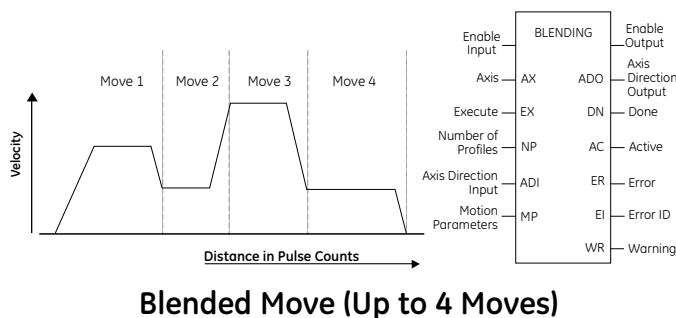
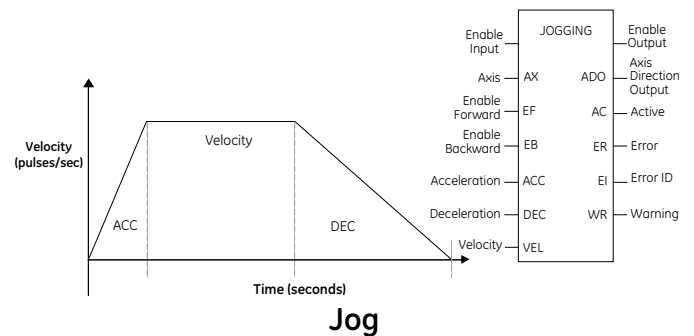
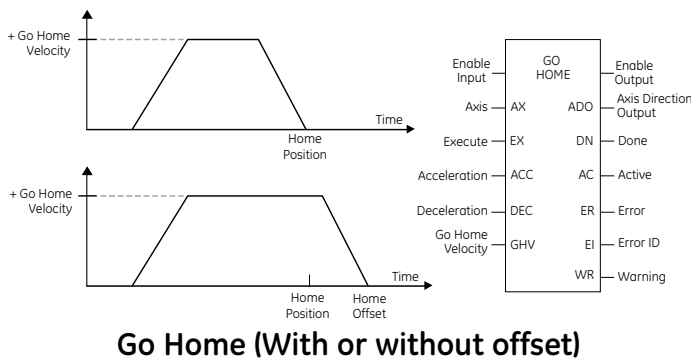
Timer and Counters

- Time-tick Contacts
- On-delay Stopwatch timer
- On-delay timer
- Off-delay timer
- Up Counter
- Down Counter

Motion Functions

- Find Home/Go Home
- Ramp
- Jog
- Blended Move
- Stop Move
- Windowing
- Follower Mode

New Powerful Motion Functions





Nano 10 PLCs

The palm-sized VersaMax Nano PLC is highly compact, with an all-in-one construction that saves panel space. Installation is a breeze: simply snap it onto a DIN-rail or mount it on a panel. Because it gives you more capabilities in a smaller, less expensive package, the Nano PLC is ideal for high-volume applications that require low cost, compact size, and fast processor speeds. The Nano decreases your life-cycle costs as well, with easy installation and long-term reliability.

	IC200NAL110	IC200NAL211	IC200NDD010	IC200NDD101	IC200NDR001	IC200NDR010
Product Name	10 point (6) 12 VDC In, (1) Analog Voltage In, (4) Relay Out, 12 VDC Powered	10 point (6) 24 VDC In, (1) Analog Voltage In, (4) Relay Out, 24 VDC Powered	10 point (6) 12 VDC In, (4) 12 VDC Out, 12 VDC Powered	10 point (6) 24 VDC In, (4) 24 VDC Out, 24 VDC Powered	10 point (6) 24 VDC In, (4) Relay Out, 24 VDC Powered	10 point (6) 12 VDC In, (4) Relay Out, 12 VDC Powered
Lifecycle Status	Active	Active	Active	Active	Active	Active
Number of Discrete Inputs/Outputs	6 In / 4 Out (Non Expandable)	6 In / 4 Out (Non Expandable)	6 In / 4 Out (Non Expandable)	6 In / 4 Out (Non Expandable)	6 In / 4 Out (Non Expandable)	6 In / 4 Out (Non Expandable)
Number of Analog Inputs/Outputs	1 In	1 In	N/A	N/A	N/A	N/A
Physical I/O Maximum	10	10	10	10	10	10
User Program Logic Memory (Words)	2 K	2 K	2 K	2 K	2 K	2 K
Registers (Words)	256	256	256	256	256	256
Analog Pots for Data Adjustment	Yes, 2	Yes, 2	Yes, 2	Yes, 2	Yes, 2	Yes, 2
Serial Port Connector Type	RJ-45 (RS-232)	RJ-45 (RS-232)	RJ-45 (RS-232)	RJ-45 (RS-232)	RJ-45 (RS-232)	RJ-45 (RS-232)
Protocols	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write
Power Voltage	12 VDC	24 VDC	12 VDC	24 VDC	24 VDC	12 VDC
Input Power Supply Rating	3 watts internal	3 watts internal	3 watts internal	3 watts internal	3 watts internal	3 watts internal
Input Device Voltage	12 VDC	24 VDC	12 VDC	24 VDC	24 VDC	12 VDC
Maximum Type A and B Counters	2 Type A and 1 Type B @ 10Khz (16 bit)	2 Type A and 1 Type B @ 10Khz (16 bit)	2 Type A and 1 Type B @ 10Khz (16 bit)	2 Type A and 1 Type B @ 10Khz (16 bit)	2 Type A and 1 Type B @ 10Khz (16 bit)	2 Type A and 1 Type B @ 10Khz (16 bit)
Analog Input Ranges	0 to 10 VDC (8 bit)	0 to 10 VDC (8 bit)	N/A	N/A	N/A	N/A
Output Control Voltage	Relay Out	Relay Out	12 VDC	24 VDC	Relay Out	Relay Out
Relay Maximum Resistive Load Rating	2 Amps at 5 VDC and 240 VAC	2 Amps at 5 VDC and 240 VAC	N/A	N/A	2 Amps at 5 VDC and 240 VAC	2 Amps at 5 VDC and 240 VAC
Maximum Number of PWM/Pulse Outputs	0	0	3 @ 5Khz (16 bit)	3 @ 5Khz (16 bit)	0	0
Dimensions (WxHxD) mm	75x80x47	75x80x47	75x80x47	75x80x47	75x80x47	75x80x47
Operating Temperature	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C
Programming Software	VersaPro 2.0 or greater, Proficy Machine Edition Logic Developer	VersaPro 2.0 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer
Portable Memory Module Support	No	No	No	No	No	No



Micro 14 PLCs

The Micro 14 PLC is big on features; from up to 14 I/O built-in (expandable to 126 I/O) points to fast cycle times, robust instruction set, and generous memory to allow more flexible programming. And it's all packaged in a sturdy modular design for easy access and long-term durability. This all-in-one PLC gives you everything you need to control a wide variety of applications.

	IC200UAA003	IC200UAR014	IC200UDD104	IC200UDD112
Product Name	14 point (8) 120 VAC In, (6) 120 VAC Out, 120/240 VAC Powered	14 point, (8) 120 VAC In, (6) Relay Out, 120/240 VAC Powered	14 point (8) 24 VDC In, (6) 12/24 VDC Out, (2) @ 1.0 A, (4) @ 0.5 A, 24 VDC Powered	14 point (8) 12 VDC In, (6) 12 VDC Out, 0.7 A, 12 VDC Powered
Lifecycle Status	Active	Active	Active	Active
Number of Discrete Inputs/Outputs	8 In / 6 Out (Supports 4 Expansion Units)	8 In / 6 Out (Supports 4 Expansion Units)	8 In / 6 Out (Supports 4 Expansion Units)	8 In / 6 Out (Supports 4 Expansion Units)
Number of Analog Inputs/Outputs	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)
Physical I/O Maximum	126	126	126	126
User Program Logic Memory (Words)	9 K	9 K	9 K	9 K
Registers (Words)	256	256	256	256
Analog Pots for Data Adjustment	Yes, 2	Yes, 2	Yes, 2	Yes, 2
Serial Port Connector Type	RJ-45 (RS-232)	RJ-45 (RS-232)	RJ-45 (RS-232)	RJ-45 (RS-232)
Protocols	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write
Power Voltage	120/240 VAC	120/240 VAC	24 VDC	12 VDC
Input Power Supply Rating	11 VA	11 VA	4 Watts	3 Watts
24 VDC User Power for Sensors	N/A	200 mA	200 mA	200 mA
Input Device Voltage	120 VAC	120 VAC	24 VDC	12 VDC
Maximum Type A and B Counters	N/A	N/A	4 Type A and 1 Type B @ 10Khz (16 bit)	4 Type A and 1 Type B @ 10Khz (16 bit)
Output Control Voltage	120 VAC	N/A	24 VDC	12 VDC
Relay Maximum Resistive Load Rating	N/A	6 @ 2 Amps at 24 VDC and 240 VAC; 2 @10 Amps at 24 VDC and 240 VAC	N/A	N/A
Maximum Number of PWM/Pulse Outputs	N/A	N/A	4 @ 5Khz (16 bit)	4 @ 5Khz (16 bit)
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76	95x90x76
Programming Software	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer
Portable Memory Module Support	No	No	No	No



Micro 14 PLCs

The Micro 14 PLC is big on features; from up to 14 I/O built-in (expandable to 126 I/O) points to fast cycle times, robust instruction set, and generous memory to allow more flexible programming. And it's all packaged in a sturdy modular design for easy access and long-term durability. This all-in-one PLC gives you everything you need to control a wide variety of applications.

	IC200UDR001	IC200UDR002	IC200UDR003
Product Name	14 point (8) 24 VDC In, (6) Relay Out, 120/240 VAC Powered	14 point (8) 24 VDC In, (6) Relay Out, 24 VDC Powered	14 point (8) 12 VDC In, (6) Relay Out, 12 VDC Powered
Lifecycle Status	Active	Active	Active
Number of Discrete Inputs/Outputs	8 In / 6 Out (Supports 4 Expansion Units)	8 In / 6 Out (Supports 4 Expansion Units)	8 In / 6 Out (Supports 4 Expansion Units)
Number of Analog Inputs/Outputs	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)
Physical I/O Maximum	126	126	126
User Program Logic Memory (Words)	9 K	9 K	9 K
Registers (Words)	256	256	256
Analog Pots for Data Adjustment	Yes, 2	Yes, 2	Yes, 2
Serial Port Connector Type	RJ-45 (RS-232)	RJ-45 (RS-232)	RJ-45 (RS-232)
Protocols	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write
Power Voltage	120/240 VAC	24 VDC	12 VDC
Input Power Supply Rating	13 VA	4 Watts	3 Watts
24 VDC User Power for Sensors	200 mA	200 mA	200 mA
Input Device Voltage	24 VDC	24 VDC	12 VDC
Maximum Type A and B Counters	4 Type A and 1 Type B @ 10KHz (16 bit)	4 Type A and 1 Type B @ 10KHz (16 bit)	4 Type A and 1 Type B @ 10KHz (16 bit)
Output Control Voltage	Relay Out	Relay Out	Relay Out
Relay Maximum Resistive Load Rating	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC
Maximum Number of PWM/Pulse Outputs	0	0	0
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76
Programming Software	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer
Portable Memory Module Support	No	No	No

Micro 23 PLCs



The Micro 23 PLC is big on features with 23 discrete I/O and two analog inputs and one analog output built-in (expandable to 135 I/O) points. The Micro 23 executes fast cycle times, robust instruction set, and generous memory to allow more flexible programming. And it's all packaged in a sturdy modular design for easy access and long-term durability.

	IC200UAL004	IC200UAL005	IC200UAL006
Product Name	23 point; (13) 12 VDC In, (10) Relay Out, (2) Analog In and (1) Analog Out, 12 VDC Powered.	23 point; (13) 24 VDC In, (9) Relay Out, (1) 24 VDC Out, (2) Analog In and (1) Analog Out, 24 VDC Powered.	23 point; (13) 24 VDC In, (9) Relay Out, (1) 24 VDC Out, (2) Analog In and (1) Analog Out, 120/240 VAC Powered.
Lifecycle Status	Active	Active	Active
Number of Discrete Inputs/Outputs	13 In / 10 Out (Supports 4 Expansion Units)	13 In / 10 Out (Supports 4 Expansion Units)	13 In / 10 Out (Supports 4 Expansion Units)
Number of Analog Inputs/Outputs	2 analog in / 1 analog out built-in and supports up to 4 analog expansion units (16 analog in/ 8 analog out)	2 analog in / 1 analog out built-in and supports up to 4 analog expansion units (16 analog in/ 8 analog out)	2 analog in / 1 analog out built-in and supports up to 4 analog expansion units (16 analog in/ 8 analog out)
Physical I/O Maximum	135	135	135
User Program Logic Memory (Words)	9 K	9 K	9 K
Registers (Words)	2 K	2 K	2 K
Analog Pots for Data Adjustment	Yes, 2	Yes, 2	Yes, 2
Serial Port Connector Type	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)
Protocols	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write
Power Voltage	12 VDC	24 VDC	120/240 VAC
Input Power Supply Rating	8 Watts	8 Watts	34 VA
24 VDC User Power for Sensors	200 mA	200 mA	200 mA
Input Device Voltage	12 VDC	24 VDC	24 VDC
Maximum Type A and B Counters	4 Type A and 1 Type B @ 10KHz (16 bit)	4 Type A and 1 Type B @ 10KHz (16 bit)	4 Type A and 1 Type B @ 10KHz (16 bit)
Analog Input Ranges	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit Resolution	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit Resolution	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit Resolution
Output Control Voltage	Relay Out	Relay Out	Relay Out
Relay Maximum Resistive Load Rating	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC
Maximum Number of PWM/Pulse Outputs	N/A	1 @ 5KHz (16 bit)	1 @ 5KHz (16 bit)
Analog Output Ranges	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit Resolution	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit Resolution	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit Resolution
Dimensions (WxHxD) mm	150x90x76	150x90x76	150x90x76
Programming Software	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer
Portable Memory Module Support	No	No	No

Micro 28 PLC



The Micro 28 PLC is big on features with the built-in 28 I/O (expandable to 140 I/O) points to fast cycle times, two built-in serial ports, robust instruction set, and generous memory to allow more flexible programming. And it's all packaged in a sturdy modular design for easy access and long-term durability. This all-in-one PLC gives you everything you need to control a wide variety of applications.

	IC200UAA007	IC200UAR028	IC200UDD110	IC200UDD120
Product Name	28 point; (16) 120 VAC In, (12) 120 VAC Out, 120/240 VAC Powered.	28 point, (16) 120 VAC In, (12) Relay Out, 120/240 VAC Powered.	28 point; (16) 24 VDC In, (12) 24 VDC Out (6) @ 1.0 A, (6) @ 0.5 A, 24 VDC Powered.	28 point; (16) 24 VDC In, (12) 24 VDC Out (6) @ 1.0 A, (6) @ 0.5 A, 24 VDC Powered.
Lifecycle Status	Active	Active	Active	Active
Number of Discrete Inputs/Outputs	16 In / 12 Out (Supports 4 Expansion Units)	16 In / 12 Out (Supports 4 Expansion Units)	16 In / 12 Out (Supports 4 Expansion Units)	16 In / 12 Out (Supports 4 Expansion Units)
Number of Analog Inputs/Outputs	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)
Physical I/O Maximum	140	140	140	140
User Program Logic Memory (Words)	9 K	9 K	9 K	9 K
Registers (Words)	2 K	2 K	2 K	2 K
Analog Pots for Data Adjustment	Yes, 2	Yes, 2	Yes, 2	Yes, 2
Serial Port Connector Type	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)
Protocols	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write
Power Voltage	120/240 VAC	120/240 VAC	24 VDC	24 VDC
Input Power Supply Rating	16 VA	16 VA	5 Watts	5 Watts
24 VDC User Power for Sensors	N/A	200 mA	200 mA	200 mA
Input Device Voltage	120 VAC	120 VAC	24 VDC	24 VDC
Maximum Type A and B Counters	N/A	N/A	4 Type A and 1 Type B @ 10Khz (16 bit)	4 Type A and 1 Type B @ 10Khz (16 bit)
Output Control Voltage	120 VAC	Relay Out	24 VDC	24 VDC ESCP, Self Healing, No External Fusing Required
Relay Maximum Resistive Load Rating	N/A	10 @ 2 Amps at 24 VDC and 240 VAC; 2 @ 10 Amps at 24 VDC and 240 VAC	N/A	N/A
Maximum Number of PWM/Pulse Outputs	N/A	N/A	4 @ 5Khz (16 bit)	4 @ 5Khz (16 bit)
Dimensions (WxHxD) mm	150x90x76	150x90x76	150x90x76	150x90x76
Programming Software	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer
Portable Memory Module Support	No	No	No	No

Micro 28 PLC



The Micro 28 PLC is big on features with the built-in 28 I/O (expandable to 140 I/O) points to fast cycle times, two built-in serial ports, robust instruction set, and generous memory to allow more flexible programming. And it's all packaged in a sturdy modular design for easy access and long-term durability. This all-in-one PLC gives you everything you need to control a wide variety of applications.

	IC200UDD212	IC200UDR005	IC200UDR006	IC200UDR228	IC200UDR010
Product Name	28 point (16) 12 VDC In, (12) 12 VDC Out, 0.7A, 12 VDC Powered	28 point (16) 24 VDC In, (11) Relay Out, (1) 24 VDC Out, 120/240 VAC Powered	28 point (16) 12 VDC In, (12) Relay Out, 12 VDC Powered	28 point (16) 24 VDC In, (11) Relay Out, (1) 24 VDC Out, 12/24 VDC Powered	28 point (16) 24 VDC In, (11) Relay Out, (1) 24 VDC Out, 24 VDC Powered
Lifecycle Status	Active	Active	Active	Active	Active
Number of Discrete Inputs/Outputs	16 In / 12 Out (Supports 4 Expansion Units)	16 In / 12 Out (Supports 4 Expansion Units)	16 In / 12 Out (Supports 4 Expansion Units)	16 In / 12 Out (Supports 4 Expansion Units)	16 In / 12 Out (Supports 4 Expansion Units)
Number of Analog Inputs/Outputs	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)
Physical I/O Maximum	140	140	140	140	140
User Program Logic Memory (Words)	9 K	9 K	9 K	9 K	9 K
Registers (Words)	2 K	2 K	2 K	2 K	2 K
Analog Pots for Data Adjustment	Yes, 2	Yes, 2	Yes, 2	Yes, 2	Yes, 2
Serial Port Connector Type	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)
Protocols	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write
Power Voltage	12 VDC	120/240 VAC	12 VDC	12/24 VDC	24 VDC
Input Power Supply Rating	8 Watts	26 VA	8 Watts	8 Watts	8 Watts
24 VDC User Power for Sensors	200 mA	200 mA	200 mA	140 mA	200 mA
Input Device Voltage	12 VDC	24 VDC	12 VDC	24 VDC	24 VDC
Maximum Type A and B Counters	4 Type A and 1 Type B @ 10Khz (16 bit)	4 Type A and 1 Type B @ 10Khz (16 bit)	4 Type A and 1 Type B @ 10Khz (16 bit)	4 Type A and 1 Type B @ 10Khz (16 bit)	4 Type A and 1 Type B @ 10Khz (16 bit)
Output Control Voltage	12 VDC	Relay Out	Relay Out	Relay Out	Relay Out
Relay Maximum Resistive Load Rating	N/A	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC
Maximum Number of PWM/Pulse Outputs	4 @ 5Khz (32 bit)	1 @ 5Khz (16 bit)	1 @ 5Khz (16 bit)	1 @ 5Khz (16 bit)	1 @ 5Khz (16 bit)
Dimensions (WxHxD) mm	150x90x76	150x90x76	150x90x76	150x90x76	150x90x76
Programming Software	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer
Portable Memory Module Support	No	No	No	No	No

Micro 20 PLC



The Micro 20 PLC is big on features, expandable to 132 I/O points to fast cycle times, robust instruction set, and generous memory to allow more flexible programming. The optional second port provides you with the option of an additional RS-232 port, RS-485, USB, or Ethernet. The serial expansion ports come with two analog input channels. A user-friendly memory module is available to easily download changes to the controller without the need of a PC. And it's all packaged in a sturdy modular design for easy access and long-term durability. This all-in-one PLC gives you everything you need to control a wide variety of applications.

	IC200UDD020	IC200UDD220	IC200UDR120	IC200UDR020
Product Name	Micro 20; (12) 24 VDC In, (8) 24 VDC Source Out 0.7 amps with ESCP protection, 24 VDC Powered	Micro 20; (12) 24 VDC In, (8) 24 VDC Sink Out, 24 VDC Powered	Micro 20; (12) 24 VDC In, (8) Relay Out 2.0 amps, 120/240VAC Powered	Micro 20; (12) 24 VDC In, (8) Relay Out 2.0 amps, 24VDC Powered
Lifecycle Status	Active	Active	Active	Active
Number of Discrete Inputs/Outputs	12 In / 8 Out (Supports 4 Expansion Units)	12 In / 8 Out (Supports 4 Expansion Units)	12 In / 8 Out (Supports 4 Expansion Units)	12 In / 8 Out (Supports 4 Expansion Units)
Number of Analog Inputs/Outputs	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)
Physical I/O Maximum	132	132	132	132
User Program Logic Memory (Words)	24 K	24 K	24 K	24 K
Registers (Words)	32 K	32 K	32 K	32 K
Analog Pots for Data Adjustment	No	No	No	No
Serial Port Connector Type	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)
Protocols	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave 2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave 2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave 2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave 2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling
Power Voltage	24 VDC	24 VDC	120/240 VAC	24 VDC
Input Power Supply Rating	10 Watts	10 Watts	35 VA	10 Watts
24 VDC User Power for Sensors	435 mA	435 mA	435 mA	435 mA
Input Device Voltage	24 VDC	24 VDC	24 VDC	24 VDC
Maximum Type A and B Counters	4 Type A and 1 Type B @ 100Khz (32 bit)	4 Type A and 1 Type B @ 100Khz (32 bit)	4 Type A and 1 Type B @ 100Khz (32 bit)	4 Type A and 1 Type B @ 100Khz (32 bit)
Output Control Voltage	24 VDC ESCP; Self Healing; No External Fusing Required	24 VDC Sink	Relay Out	Relay Out
Relay Maximum Resistive Load Rating	N/A	N/A	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC
Maximum Number of PWM/Pulse Outputs	4 @ 65Khz (32 bit)	4 @ 65Khz (32 bit)	N/A	N/A
Dimensions (WxHxD) mm	150x90x76	150x90x76	150x90x76	150x90x76
Programming Software	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix
Portable Memory Module Support	Yes	Yes	Yes	Yes

Micro 40 PLC



The Micro 40 PLC is big on features, expandable to 152 I/O points to fast cycle times, robust instruction set, and generous memory to allow more flexible programming. The optional second port provides you with the option of an additional RS-232 port, RS-485, USB, or Ethernet. The serial expansion ports come with two analog input channels. A user-friendly memory module is available to easily download changes to the controller without the need of a PC. And it's all packaged in a sturdy modular design for easy access and long-term durability. This all-in-one PLC gives you everything you need to control a wide variety of applications.

	IC200UDD040	IC200UDD240	IC200UDR140	IC200UDR040	IC200UDR440
Product Name	Micro 40; (24) 24 VDC In, (16) 24 VDC Source Out, 0.7 amps with ESCP protection, 24 VDC Powered	Micro 40; (24) 24 VDC In, (16) 24 VDC Sink Out, 24 VDC Powered	Micro 40; (24) 24 VDC In, (16) Relay Out 2.0 amps, 120/240 VAC Powered	Micro 40; (24) 24 VDC In, (16) Relay Out 2.0 amps, 24 VDC Powered	Micro 40; (24) 24 VDC In, (16) Relay Out 2.0 amps, 12/24 VDC Powered
Lifecycle Status	Active	Active	Active	Active	Active
Number of Discrete Inputs/Outputs	24 In / 16 Out (Supports 4 Expansion Units)	24 In / 16 Out (Supports 4 Expansion Units)	24 In / 16 Out (Supports 4 Expansion Units)	24 In / 16 Out (Supports 4 Expansion Units)	24 In / 16 Out (Supports 4 Expansion Units)
Number of Analog Inputs/Outputs	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)
Physical I/O Maximum	152	152	152	152	152
User Program Logic Memory (Words)	24 K	24 K	24 K	24 K	24 K
Registers (Words)	32 K	32 K	32 K	32 K	32 K
Analog Pots for Data Adjustment	No	No	No	No	No
Serial Port Connector Type	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)
Protocols	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling
Power Voltage	24 VDC	24 VDC	120/240 VAC	24 VDC	12/24 VDC
Input Power Supply Rating	10 Watts	10 Watts	35 VA	10 Watts	10 Watts
24 VDC User Power for Sensors	435 mA	435 mA	435 mA	435 mA	120 mA
Input Device Voltage	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC
Maximum Type A and B Counters	4 Type A and 1 Type B @ 100Khz (32 bit)	4 Type A and 1 Type B @ 100Khz (32 bit)	4 Type A and 1 Type B @ 100Khz (32 bit)	4 Type A and 1 Type B @ 100Khz (32 bit)	4 Type A and 1 Type B @ 100Khz (32 bit)
Output Control Voltage	24 VDC ESCP; Self Healing; No External Fusing Required	24 VDC Sink	Relay Out	Relay Out	Relay Out
Relay Maximum Resistive Load Rating	N/A	N/A	2 Amps at 24 VDC and 240 VA	2 Amps at 24 VDC and 240 VA	2 Amps at 24 VDC and 240 VA
Maximum Number of PWM/Pulse Outputs	4 @ 65Khz (32 bit)	4 @ 65Khz (32 bit)	N/A	N/A	N/A
Dimensions (WxHxD) mm	150x90x76	150x90x76	150x90x76	150x90x76	150x90x76
Programming Software	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix
Portable Memory Module Support	Yes	Yes	Yes	Yes	Yes

Micro 64 PLC



The Micro 64 PLC is big on features, expandable to 176 I/O points to fast cycle times, robust instruction set, and generous memory to allow more flexible programming. The optional second port provides you with the option of an additional RS-232 port, RS-485, USB, or Ethernet. The serial expansion ports come with two analog input channels. A user-friendly memory module is available to easily download changes to the controller without the need of a PC. And it's all packaged in a sturdy modular design for easy access and long-term durability. This all-in-one PLC gives you everything you need to control a wide variety of applications.

	IC200UDD064	IC200UDD164	IC200UDR164	IC200UDR064
Product Name	Micro 64; (40) 24 VDC In, (24) 24 VDC Source Out 0.7 amps with ESCP protection, 24 VDC Powered.	Micro 64; (40) 24 VDC In, (24) 24 VDC Sink Out 0.7 amps, 24 VDC Powered.	Micro 64; (40) 24 VDC In, (24) Relay Out 2.0 amps, 120/240 VAC Powered.	Micro 64; (40) 24 VDC In, (24) Relay Out 2.0 amps, 24 VDC Powered.
Lifecycle Status	Active	Active	Active	Active
Number of Discrete Inputs/Outputs	40 In / 24 Out (Supports 4 Expansion Units)	40 In / 24 Out (Supports 4 Expansion Units)	40 In / 24 Out (Supports 4 Expansion Units)	40 In / 24 Out (Supports 4 Expansion Units)
Number of Analog Inputs/Outputs	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)
Physical I/O Maximum	176	176	176	176
User Program Logic Memory (Words)	24K	24K	24 K	24 K
Registers (Words)	32 K	32 K	32 K	32 K
Analog Pots for Data Adjustment	No	No	No	No
Serial Port Connector Type	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100 Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100 Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100 Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100 Mbit)
Protocols	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling
Power Voltage	24 VDC	24 VDC	120/240 VAC	24 VDC
Input Power Supply Rating	10 Watts	10 Watts	35 VA	10 Watts
24 VDC User Power for Sensors	435 mA	435 mA	435 mA	435 mA
Input Device Voltage	24 VDC	24 VDC	24 VDC	24 VDC
Maximum Type A and B Counters	4 Type A and 1 Type B @ 100Khz (32 bit) 24 VDC ESCP, Self Healing, No External Fusing Required	4 Type A and 1 Type B @ 100Khz (32 bit) 24 VDC Sink	4 Type A and 1 Type B @ 100Khz (32 bit) Relay Out	4 Type A and 1 Type B @ 100Khz (32 bit) Relay Out
Relay Maximum Resistive Load Rating	N/A	N/A	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC
Maximum Number of PWM/Pulse Outputs	4 @ 65Khz (32 bit)	4 @ 65Khz (32 bit)	N/A	N/A
Dimensions (WxHxD) mm	190x90x76	190x90x76	190x90x76	190x90x76
Programming Software	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix
Portable Memory Module Support	Yes	Yes	Yes	Yes

Discrete Expansion Selection Guide

Model	Module Input Power	12 VDC Inputs	12 VDC Outputs	24 VDC Inputs	120 VAC Input	24 VDC Outputs Source	24 VDC Outputs with ESCP	24 VDC Sink Outputs	120 VAC Output	Relay Outputs, 2 Amps	Relay Outputs, 5 Amps	Relay Outputs 10 Amps
IC200UEI08	24 VDC			8 Inputs								
IC200UEI016	24 VDC			16 Inputs								
IC200UEO008	24 VDC						8 Outputs					
IC200UEO016	24 VDC						16 Outputs					
IC200UEO108	24 VDC							8 Outputs				
IC200UEO116	24 VDC							16 Outputs				
IC200UER508	24 VDC										8 Outputs	
IC200UER008	24 VDC									8 Outputs		
IC200UER016	24 VDC									16 Outputs		
IC200UEC008	24 VDC			4 Inputs/ 4 Source Outputs			4 Inputs/ 4 Source Outputs					
IC200UEC108	24 VDC			4 Inputs/ 4 Sink Outputs				4 Inputs/ 4 Sink Outputs				
IC200UEC208	24 VDC			4 Inputs/ 4 Relay Outputs						4 Inputs/ 4 Relay Outputs		
IC200UEX015	12 VDC	8 Inputs/ 6 12 VDC Outputs	8 Inputs/ 6 12 VDC Outputs									
IC200UEX013	12 VDC	8 Inputs/ 6 Relay Outputs								8 Inputs/ 6 Relay Outputs		
IC200UEX014	24 VDC			8 Inputs/ 6 24 VDC Outputs		8 Inputs/ 6 24 VDC Outputs						
IC200UEX122	24 VDC			8 Inputs/ 6 24 VDC Outputs with ESCP			8 Inputs/ 6 24 VDC Outputs with ESCP					
IC200UEX012	24 VDC			8 Inputs/ 6 Relay Outputs						8 Inputs/ 6 Relay Outputs		
IC200UEX011	120/240 VAC			8 Inputs/ 6 Relay Outputs						8 Inputs/ 6 Relay Outputs		
IC200UEX009	120/240 VAC				8 Inputs/ 6 Relay Outputs (4 @ 2 amps and 2 @ 10 amps)					8 Inputs/ 6 Relay Outputs (4 @ 2 amps and 2 @ 10 amps)		8 Inputs/ 6 Relay Outputs (4 @ 2 amps and 2 @ 10 amps)
IC200UEX010	120/240 VAC				8 Inputs/ 6 AC Outputs				8 Inputs/ 6 AC Outputs			
IC200UEX215	12 VDC	16 Inputs/ 12 12 VDC Outputs	16 Inputs/ 12 12 VDC Outputs									
IC200UEX213	12 VDC	16 Inputs/ 12 Relay Outputs								8 Inputs/ 6 Relay Outputs		
IC200UEX214	24 VDC			16 Inputs/ 12 24 VDC Outputs		16 Inputs/ 12 24 VDC Outputs						
IC200UEX222	24 VDC			16 Inputs/ 12 24 VDC Outputs with ESCP			16 Inputs/ 12 24 VDC Outputs with ESCP					
IC200UEX212	24 VDC			16 Inputs/ 12 Relay Outputs						16 Inputs/ 12 Relay Outputs		
IC200UEX211	120/240 VAC			16 Inputs/ 12 Relay Outputs						16 Inputs/ 12 Relay Outputs		
IC200UEX209	120/240 VAC				16 Inputs/ 12 Relay Outputs (10 @ 2 amps and 2 @ 10 amps)					16 Inputs/ 12 Relay Outputs (10 @ 2 amps and 2 @ 10 amps)		16 Inputs/ 12 Relay Outputs (10 @ 2 amps and 2 @ 10 amps)
IC200UEX210	120/240 VAC				16 Inputs/ 12 AC Outputs				16 Inputs/ 12 AC Outputs			
IC200UEX264*	24 VDC			40 Inputs/ 24 24 VDC Outputs			40 Inputs/ 24 24 VDC Outputs					
IC200UEX364*	24 VDC			40 Inputs/ 24 24 VDC Outputs		40 Inputs/ 24 24 VDC Outputs						
IC200UEX064*	24 VDC			40 Inputs/ 24 Relay Outputs						40 Inputs/ 24 Relay Outputs		
IC200UEX164*	120/240 VAC			40 Inputs/ 24 Relay Outputs						40 Inputs/ 24 Relay Outputs		

* Micro 20, 40 and 64 support only.

Discrete Expansion Units



The VersaMax Micro's modular design provides you with remarkable flexibility in a compact control. The versatile Micro PLC can support up to four Expansion Units of any mix of discrete or analog.

	IC200UEI008	IC200UEI016	IC200UEO008	IC200UEO016	IC200UEO108	IC200UEO116
Product Name	8 point (8) 24 VDC In, 24 VDC Powered	16 point (16) 24 VDC In, 24 VDC Powered	8 point (8) 24 VDC Output with ESCP Protection, 24 VDC Powered	16 point (16) 24 VDC Output with ESCP Protection, 24 VDC Powered	8 point (8) 24 VDC Sink Output, 24 VDC Powered	16 point (16) 24 VDC Sink Output, 24 VDC Powered
Lifecycle Status		Active	Active	Active	Active	Active
Micro Type Restrictions	N/A	N/A	N/A	N/A	N/A	N/A
Number of Discrete Inputs/Outputs	8 In	16 In	8 Out	16 Out	8 Out	16 Out
Power Voltage	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC
Input Power Supply Rating	4 Watts	4 Watts	4 Watts	4 Watts	4 Watts	4 Watts
24 VDC User Power for Sensors	200 mA	200 mA	200 mA	200 mA	200 mA	200 mA
Input Device Voltage	24 VDC	24 VDC	N/A	N/A	N/A	N/A
Output Control Voltage	N/A	N/A	24 VDC ESCP, Self Healing, No External Fusing Required	24 VDC ESCP, Self Healing, No External Fusing Required	24 VDC Sink	24 VDC Sink
Relay Maximum Resistive Load Rating	N/A	N/A	N/A	N/A	N/A	N/A
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76	95x90x76	95x90x76	95x90x76

Discrete Expansion Units



The VersaMax Micro’s modular design provides you with remarkable flexibility in a compact control. The versatile Micro PLC can support up to four Expansion Units of any mix of discrete or analog.

	IC200UER508	IC200UER008	IC200UER016	IC200UEC008	IC200UEC108	IC200UEC208
Product Name	8 point (8) 5 Amp Relay Out, 24 VDC Power Supply (not UL approved)	8 point (8) 2 Amp Relay Out, 24 VDC Power Supply	16 point (16) Relay Out, 24 VDC Power Supply	8 point (4) 24 VDC In, (4) 24 VDC Out with ESCP Protection, 24 VDC Power Supply	8 point (4) 24 VDC In, (4) 24 VDC Sink Out, 24 VDC Power Supply	8 point (4) 24 VDC In, (4) Relay Out, 24 VDC Power Supply
Lifecycle Status	Active	Active	Active	Active	Active	Active
Micro Type Restrictions	None	None	None	None	None	None
Number of Discrete Inputs/Outputs	8 Out	8 Out	16 Out	4 In / 4 Out	4 In / 4 Out	4 In / 4 Out
Power Voltage	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC
Input Power Supply Rating	4 Watts	4 Watts	4 Watts	4 Watts	4 Watts	4 Watts
24 VDC User Power for Sensors	200 mA	200 mA	200 mA	200 mA	200 mA	200 mA
Input Device Voltage	N/A	N/A	N/A	24 VDC	24 VDC	24 VDC
Output Control Voltage	Relay Out	Relay Out	Relay Out	24 VDC ESCP, Self Healing, No External Fusing Required	24 VDC Sink	Relay Out
Relay Maximum Resistive Load Rating	5 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC	N/A	N/A	2 Amps at 24 VDC and 240 VAC
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76	95x90x76	95x90x76	95x90x76

Discrete Expansion Units



The VersaMax Micro's modular design provides you with remarkable flexibility in a compact control. The versatile Micro PLC can support up to four Expansion Units of any mix of discrete or analog.

	IC200UEX015	IC200UEX013	IC200UEX014	IC200UEX122	IC200UEX012	IC200UEX011
Product Name	14 point (8) 12 VDC In, (6) 12 VDC Out, 12 VDC Powered	14 point (8) 12 VDC In, (6) Relay Out, 12 VDC Powered	14 point (8) 24 VDC In, (6) 24 VDC Out, 24 VDC Powered	14 point (8) 24 VDC In, (6) 24 VDC Out with ESCP, 24 VDC Powered	14 point (8) 24 VDC In, (6) Relay Out, 24 VDC Powered	14 point (8) 24 VDC In, (6) Relay Out, 120/240 VAC Powered
Lifecycle Status	Active	Active	Active	Active	Active	Active
Micro Type Restrictions	N/A	N/A	N/A	N/A	N/A	N/A
Number of Discrete Inputs/Outputs	8 In / 6 Out	8 In / 6 Out	8 In / 6 Out	8 In / 6 Out	8 In / 6 Out	8 In / 6 Out
Power Voltage	12 VDC	12 VDC	24 VDC	24 VDC	24 VDC	120/240 VAC
Input Power Supply Rating	4 Watts	4 Watts	4 Watts	4 Watts	4 Watts	13 VA
24 VDC User Power for Sensors	200 mA	200 mA	200 mA	200 mA	200 mA	200 mA
Input Device Voltage	12 VDC	12 VDC	24 VDC	24 VDC	24 VDC	24 VDC
Output Control Voltage	12 VDC	Relay Out	24 VDC	24 VDC ESCP, Self Healing, No External Fusing Required	Relay Out	Relay Out
Relay Maximum Resistive Load Rating	N/A	2 Amps at 24 VDC and 240 VAC	N/A	N/A	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76	95x90x76	95x90x76	95x90x76

Discrete Expansion Units



The VersaMax Micro’s modular design provides you with remarkable flexibility in a compact control. The versatile Micro PLC can support up to four Expansion Units of any mix of discrete or analog.

	IC200UEX009	IC200UEX010	IC200UEX215	IC200UEX213	IC200UEX214
Product Name	14 point (8) 120 VAC In, (6) Relay Out (2 outputs at 10 amp and 4 outputs at 2 amp), 120/240 VAC Powered	14 point (8) 120 VAC In, (6) 120 VAC Out, 120/240 VAC Powered	28 point (16) 12 VDC In, (12) 12 VDC Out, 12 VDC Powered	28 point (16) 12 VDC In, (12) Relay Out, 12 VDC Powered	28 point (16) 24 VDC In, (12) 24 VDC Out, 24 VDC Powered
Lifecycle Status	Active	Active	Active	Active	Active
Micro Type Restrictions	N/A	N/A	N/A	N/A	N/A
Number of Discrete Inputs/Outputs	8 In / 6 Out	8 In / 6 Out	16 In / 12 Out	16 In / 12 Out	16 In / 12 Out
Power Voltage	120/240 VAC	120/240 VAC	12 VDC	12 VDC	24 VDC
Input Power Supply Rating	11 VA	11 VA	8 Watts	8 Watts	5 Watts
24 VDC User Power for Sensors	200 mA	200 mA	200 mA	200 mA	200 mA
Input Device Voltage	120 VAC	120 VAC	12 VDC	12 VDC	24 VDC
Output Control Voltage	Relay Out (2 at 10 Amps and 4 at 2 Amps)	120 VAC	12 VDC	Relay Out	24 VDC
Relay Maximum Resistive Load Rating	2 Amps at 24 VDC and 240 VAC; 10 Amp at 24 VDC and 240 VAC	N/A	N/A	2 Amps at 24 VDC and 240 VAC	N/A
Dimensions (WxHxD) mm	95x90x76	95x90x76	150x90x76	150x90x76	150x90x76

Discrete Expansion Units



The VersaMax Micro's modular design provides you with remarkable flexibility in a compact control. The versatile Micro PLC can support up to four Expansion Units of any mix of discrete or analog.

	IC200UEX222	IC200UEX212	IC200UEX211	IC200UEX209	IC200UEX210
Product Name	28 point (16) 24 VDC In, (12) 24 VDC Out with ESCP, 24 VDC Powered	28 point (16) 24 VDC In, (12) Relay Out, 24 VDC Powered	28 point (16) 24 VDC In, (12) Relay Out, 120/240 VAC Powered	28 point (16) 120 VAC In, (12) Relay Out (2 outputs at 10 amp and 10 outputs at 2 amp), 120/240 VAC Powered	28 point (16) 24 VDC In, (12) 120 VAC Out, 120/240 VAC Powered
Lifecycle Status	Active	Active	Active	Active	Active
Micro Type Restrictions	N/A	N/A	N/A	N/A	N/A
Number of Discrete Inputs/Outputs	16 In / 12 Out	16 In / 12 Out	16 In / 12 Out	16 In / 12 Out	16 In / 12 Out
Power Voltage	24 VDC	24 VDC	120/240 VAC	120/240 VAC	120/240 VAC
Input Power Supply Rating	5 Watts	8 Watts	26 VA	16 VA	16 VA
24 VDC User Power for Sensors	200 mA	200 mA	200 mA	200 mA	200 mA
Input Device Voltage	24 VDC	24 VDC	24 VDC	120 VAC	120 VAC
Output Control Voltage	24 VDC ESCP, Self Healing, No External Fusing Required	Relay Out	Relay Out	Relay Out (2 at 10 Amps and 10 at 2 Amps)	120 VAC
Relay Maximum Resistive Load Rating	N/A	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC; 10 Amps at 24 VDC and 240 VAC	N/A
Dimensions (WxHxD) mm	150x90x76	150x90x76	150x90x76	150x90x76	150x90x76

Discrete Expansion Units



The VersaMax Micro’s modular design provides you with remarkable flexibility in a compact control. The versatile Micro PLC can support up to four Expansion Units of any mix of discrete or analog.

	IC200UEX064	IC200UEX164	IC200UEX264	IC200UEX364
Product Name	64 point (40) 24 VDC In, (24) Relay Out, 24 VDC Powered	64 point (40) 24 VDC In, (24) Relay Out, 120/240 VAC Powered	64 point (40) 24 VDC In, (24) 24 VDC Source Out, 24 VDC Powered	64 point (40) 24 VDC In, (24) 24 VDC Sink Out, 24 VDC Powered
Lifecycle Status	Active	Active	Active	Active
Micro Type Restrictions	Micro 20, 40, 64 Support Only	Micro 20, 40, 64 Support Only	Micro 20, 40, 64 Support Only	Micro 20, 40, 64 Support Only
Number of Discrete Inputs/Outputs	40 In / 24 Out	40 In / 24 Out	40 In / 24 Out	40 In / 24 Out
Power Voltage	24 VDC	120/240 VAC	24 VDC	24 VDC
Input Power Supply Rating	10 Watts	35 VA	10 Watts	10 Watts
24 VDC User Power for Sensors	435 mA	435 mA	435 mA	435 mA
Input Device Voltage	24 VDC	24 VDC	24 VDC	24 VDC
Output Control Voltage	Relay Out	Relay Out	24 VDC Sourced	24 VDC Sink
Relay Maximum Resistive Load Rating	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC	N/A	N/A
Dimensions (WxHxD) mm	190x90x76	190x90x76	190x90x76	190x90x76

Analog Expansion Selection Guide

Model	Module Input Power	Input Range 0 to 10V -10V to +10V 0 to 20mA 4 to 20mA	Input Range RTD Pt 100	Input Range RTD Pt 100 Input Range Thermocouple Type K, J, E, S, T, B, N	Input Range millivolt ±50mV ±100mV	Output Range 0-10 VDC 0-20 mA
IC200UEX616	12 VDC	4 in / 2 out				4 in / 2 out
IC200UEX624	24 VDC	4 in				
IC200UEX626	24 VDC	4 in / 2 out				4 in / 2 out
IC200UEX636	120/240 VAC	4 in / 2 out				4 in / 2 out
IC200UEX724	24 VDC		4 in			
IC200UEX726	24 VDC		4 in / 2 out			4 in / 2 out
IC200UEX734	120/240 VAC		4 in			
IC200UEX736	120/240 VAC		4 in / 2 out			4 in / 2 out
IC200UEX824	24 VDC			4 in	4 in	
IC200UEX826	24 VDC			4 in / 2 out	4 in / 2 out	4 in / 2 out

Analog Expansion Units

The VersaMax Micro analog I/O is versatile and the Micro PLC can support up to four Analog Expansion Units, allowing you to expand up to 16 inputs and 8 outputs.



	IC200UEX624	IC200UEX616	IC200UEX626	IC200UEX636
Product Name	4 Analog I/O Channels 0 to 10VDC, 4 to 20mA, 24 VDC Powered	6 Analog I/O Channels (4) 0 to 10 VDC, ±10 VDC, 4 to 20 mA, 0 to 20 mA In, (2) 0 to 10 VDC, 4 to 20 mA, 0 to 20 mA Out, 12 VDC Powered	6 Analog I/O Channels (4) 0 to 10 VDC, ±10 VDC, 4 to 20 mA, 0 to 20 mA In, (2) 0 to 10 VDC, 4 to 20 mA, 0 to 20 mA Out, 24 VDC Powered	6 Analog I/O Channels (4) 0 to 10 VDC, ±10 VDC, 4 to 20 mA, 0 to 20 mA In, (2) 0 to 10 VDC, 4 to 20 mA, 0 to 20 mA Out, 120/240 VAC Powered
Lifecycle Status	Active	Active	Active	Active
Micro Type Restrictions	N/A	N/A	N/A	N/A
Number of Analog Inputs/Outputs	4 Channels In, Voltage or Current	4 Channels In / 2 Channels Out, Voltage or Current	4 Channels In / 2 Channels Out, Voltage or Current	4 Channels In / 2 Channels Out, Voltage or Current
Power Voltage	24 VDC	12 VDC	24 VDC	120/240 VAC
Input Power Supply Rating	3 Watts	2.25 Watts	3 Watts	15 VA
24 VDC User Power for Sensors	200 mA	200 mA	200 mA	200 mA
Analog Input Ranges	0-10V (10.23V Max); 0-±10V (±10.23V Max); 0-20 mA (20.47 mA Max); 4-20 mA; 12 bit resolution.	0-10V (10.23V Max); 0-±10V (±10.23V Max); 0-20 mA (20.47 mA Max); 4-20 mA; 12 bit resolution.	0-10V (10.23V Max); 0-±10V (±10.23V Max); 0-20 mA (20.47 mA Max); 4-20 mA; 12 bit resolution.	0-10V (10.23V Max); 0-±10V (±10.23V Max); 0-20 mA (20.47 mA Max); 4-20 mA; 12 bit resolution.
Analog Output Ranges	N/A	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit resolution.	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit resolution.	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit resolution.
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76	95x90x76

Analog Expansion Units

The VersaMax Micro analog I/O is versatile and the Micro PLC can support up to four Analog Expansion Units, allowing you to expand up to 16 inputs and 8 outputs.



	IC200UEX724	IC200UEX734	IC200UEX726	IC200UEX736
Product Name	4 RTD PT 100 Channels IN, 120/240 VAC Powered	4 RTD PT 100 Channels IN, 24 VDC Powered	4 RTD PT 100 Channels IN, 2 Analog Channels OUT 0 to 10 VDC, 4 to 20 mA, 0 to 20 mA Out, 24 VDC Powered	4 RTD PT 100 Channels IN, 2 Analog Channels OUT 0 to 10 VDC, 4 to 20 mA, 0 to 20 mA Out, 120/240 VAC Powered
Lifecycle Status	Active	Active	Active	Active
Micro Type Restrictions	16 bit supported on Micro 20, 40, 64 only	16 bit supported on Micro 20, 40, 64 only	16 bit supported on Micro 20, 40, 64 only	16 bit supported on Micro 20, 40, 64 only
Number of Analog Inputs/Outputs	4 Channels RTD In	4 Channels RTD In	4 Channels RTD In / 2 Channels Out, Voltage or Current	4 Channels RTD In / 2 Channels Out, Voltage or Current
Power Voltage	24 VDC	120/240 VAC	24 VDC	120/240 VAC
Input Power Supply Rating	3 Watts	15 VA	3 Watts	15 VA
24 VDC User Power for Sensors	200 mA	200 mA	200 mA	200 mA
Analog Input Ranges	2- and 3-wire types, PT 100; 16 bit	2- and 3-wire types, PT 100; 16 bit	2- and 3-wire types, PT 100; 16 bit	2- and 3-wire types, PT 100; 16 bit
Analog Output Ranges	N/A	N/A	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit resolution.	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit resolution.
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76	95x90x76

Analog Expansion Units

The VersaMax Micro analog I/O is versatile and the Micro PLC can support up to four Analog Expansion Units, allowing you to expand up to 16 inputs and 8 outputs.



	IC200UEX824	IC200UEX826
Product Name	4 Thermocouple or mV Input Channels, 24 VDC Powered	4 Thermocouple or mV Input Channels and 2 Analog Output Channels, 24 VDC Powered
Lifecycle Status	Active	Active
Micro Type Restrictions	16 bit supported on Micro 20, 40, 64 only	16 bit supported on Micro 20, 40, 64 only
Number of Analog Inputs/Outputs	4 Channels Thermocouple In or $\pm 50\text{mV}$ or $\pm 100\text{mV}$, 24 VDC Power Supply	4 Channels Thermocouple In or $\pm 50\text{mV}$ or $\pm 100\text{mV}$ and 2 channel analog outputs, 24 VDC Power Supply
Power Voltage	24 VDC	24 VDC
Input Power Supply Rating	3 Watts	3 Watts
24 VDC User Power for Sensors	200 mA	200 mA
Analog Input Ranges	Type K, J, E, S, T, B, N, $\pm 50\text{mV}$, $\pm 100\text{mV}$; 12 bit (16 bit 4th QTR 2009)	Type K, J, E, S, T, B, N, $\pm 50\text{mV}$, $\pm 100\text{mV}$; 12 bit (16 bit 4th QTR 2009)
Analog Output Ranges	N/A	0 to 10 VDC (10.24 V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit resolution.
Dimensions (WxHxD) mm	95x90x76	95x90x76

Micro Motion Expansion Unit



The Micro Motion expansion module is ideal for either Micro integrated motion control or standalone motion control over serial or Ethernet networking. The Micro Motion expansion module is loaded with features and supports a wide range of stepper and servo control. The module supports a powerful function set, with up to 256 move profiles stored on the module. Micro Motion module supports the Portable Memory device (removable Flash device) for easy program storage of the motion moves.

	IC200UMM002	IC200UMM102
Product Name	VersaMax Micro 2 Axis Motion Module	VersaMax Micro 2 Axis Motion Module
Lifecycle Status	Active	Active
Micro Type Restrictions	Micro 20, 40, 64 Support Only	Micro 20, 40, 64 Support Only
Number of Axis	2	2
Follower Mode	Axis A can follow B or Axis B can follow A within the module only.	Axis A can follow B or Axis B can follow A within the module only.
Motion Control Method	Motion commands can be controlled by Micro 20, 40, 64 or by Modbus Slave interface (RS-232 IC200USB001 or RS-485 IC200USB002) or Ethernet (IC200UEM001)	Motion commands can be controlled by Micro 20, 40, 64 or by Modbus Slave interface (RS-232 IC200USB001 or RS-485 IC200USB002) or Ethernet (IC200UEM001)
Power Voltage	24 VDC	120/240VAC
Input Voltages	line driver (5V) 24 DC	line driver (5V) 24 DC
Output Voltages	5VDC and 24VDC	5VDC and 24VDC
Max Speed	500k Pulse/s	500k Pulse/s
Number of Moves Stored on Unit	256 (non-volatile)	256 (non-volatile)
Move Types	(1) Absolute + Increment method (2) Increment method	(1) Absolute + Increment method (2) Increment method
Position Rollover	Linear, rotation	Linear, rotation
Positioning Command Unit	Pulse, μ m, inch, degree, Free-form	Pulse, μ m, inch, degree, Free-form
Speed Command Range	6.25 to 500k Pulse/second	6.25 to 500k Pulse/second
Acceleration and Deceleration	Linear Acc/Dec, S-shaped Acc/Dec	Linear Acc/Dec, S-shaped Acc/Dec
Dwell Time	0 to 65535 ms (1 ms unit)	0 to 65535 ms (1 ms unit)
Acc/Dec Rate	1 to 50,000,000 (pulse/s ² , μ m/s ² , inch/s ² , degree/s ²)	1 to 50,000,000 (pulse/s ² , μ m/s ² , inch/s ² , degree/s ²)
Backlash Correction	0 to 65,535 (pulses, μ m, inch, degree, Free-form)	0 to 65,535 (pulses, μ m, inch, degree, degree, Free-form)
Range	Range +2,147,463,647 to -2,147,463,648 pulses	Range +2,147,463,647 to -2,147,463,648 pulses
Pulse Output Type	(1) Pulse column [CW / CCW] (2) Clock + direction signal [CK/direction]	(1) Pulse column [CW / CCW] (2) Clock + direction signal [CK/direction]
Pulse Output Method	Line Driver Output	Line Driver Output
Operating Mode	Auto operation and manual operation	Auto operation and manual operation
Home Function	Free homing Low-speed homing High-speed homing 1 (OFF edge) High-speed homing 2 (marker stop)	Free homing Low-speed homing High-speed homing 1 (OFF edge) High-speed homing 2 (marker stop)
Manual (JOG) operation	Manual input signal or pulse output by command	Manual input signal or pulse output by command
Feedrate Override Function	1 to 100% (Speed scale rate)	1 to 100% (Speed scale rate)
High Speed Input Registration	Differential Input. Supports Windowing	Differential Input. Supports Windowing
Motion Module I/O Assignment	Inputs: A-Channel position data from encoder. (differential) B-Channel position data from encoder. (differential) Z-Channel position data from encoder. (differential) Positioning finish signal from servo driver (COIN) Home limit switch input Common for Digital Inputs Jog Forward Jog Reverse Feedrate Override Estop Drive OK/Ready Outputs: Clockwise Pulse (Pulse) (differential) Counter Clockwise Pulse (Direction) (differential)	Inputs: A-Channel position data from encoder. (differential) B-Channel position data from encoder. (differential) Z-Channel position data from encoder. (differential) Positioning finish signal from servo driver (COIN) Home limit switch input Common for Digital Inputs Jog Forward Jog Reverse Feedrate Override Estop Drive OK/Ready Outputs: Clockwise Pulse (Pulse) (differential) Counter Clockwise Pulse (Direction) (differential)
Portable Memory Module Support	Yes	Yes
I/O Bus Data Assignment	Module requires 8 words in and 8 words out. The module appears as two expansion units. A maximum of two motion modules allowed per controller. If one motion module is in system, 2 additional discrete or analog expansions can be used.	Module requires 8 words in and 8 words out. The module appears as two expansion units. A maximum of two motion modules allowed per controller. If one motion module is in system, 2 additional discrete or analog expansions can be used.
Dimensions (WxHxD) mm	150x90x76	150x90x76



IC200DTX200



IC200DTX450



IC200DTX850



IC200DTX650

DataPanels Operator Interfaces

GE VersaMax DataPanels are ideal for a broad range of applications ranging from simple timer/counter/register access to full text message display with numeric keypad. All VersaMax DataPanels are preprogrammed to connect quickly to a VersaMax Micro or Nano PLC without user configuration.

	IC200DTX200	IC200DTX450	IC200DTX650	IC200DTX850
Product Name	Operator Interface for changing timer/counter/register values. 2x16 character LCD backlight display and 6 operation keys. No stored messaging, PLC stores messages. Requires IC200CBL550 cable or equivalent. Operates on 5 VDC @ 100 mA from Micro or Nano.	Operator Interface with up to 200 stored messages. 2x16 character LCD backlight display and 6 function keys. Requires IC200CBL555 or equivalent. Operates on external 24 VDC @ 40 mA.	Operator Interface with up to 200 stored messages. 4x16 character LCD backlight display and 8 function keys. Requires IC200CBL555 cable or equivalent. Operates on external 24 VDC @ 80 mA.	Operator Interface with up to 200 stored messages. 4x20 character LCD backlight display, 8 function keys and numeric keypad. Requires IC200CBL555 cable or equivalent. Operates on external 24 VDC @ 50 mA.
Lifecycle Status	Active	Active	Active	Active
Characters Per Line	16	16	16	20
Function Keys	0	6	8	8
Numeric Keypad	0	0	0	Yes
Memory Size (Number of Messages)	Messages stored in PLC	200 stored in operator interface	200 stored in operator interface	200 stored in operator interface
DataPanel Dimensions (WxHxD) mm	108x60x27	108x60x45	96x96x44	182x101x37
Number of Lines	2	2	4	4
Display Type	LCD Display with Backlight	LCD Display with Backlight	LCD Display with Backlight	LCD Display with Backlight
Operating Temperature	0°C to +50°C	0°C to +50°C	0°C to +50°C	0°C to +50°C
NEMA Rating	NEMA 4	NEMA 4	NEMA 4	NEMA 4
Programming Software	None required	DataDesigner (IC752DDZ000)	DataDesigner (IC752DDZ000)	DataDesigner (IC752DDZ000)

Micro 20, Micro 40 and Micro 64 Port 2 Communication Options



The VersaMax Micro 20, Micro 40 and Micro 64 Port 2 is modular by design and enables the user to select a wide range of communications options. The user can select RS-232, RS-485, Ethernet or USB. The RS-232 and RS-485 also come with two analog input channels (0 to 10 VDC, 10 bit). Port 2 also supports Memory Module Board that enables the user to download logic and settings without a PC.

	IC200UEM001	IC200USB001	IC200USB002	IC200UUB001
Product Name	Ethernet module	RS-232 option board with (2) 0 -10 VDC analog in	RS-485 option board with (2) 0 -10 VDC analog in	USB option board (no analog option)
Lifecycle Status	Active	Active	Active	Active
Micro Type Restrictions	Micro 20, 40, 64 Support Only	Micro 20, 40, 64 Support Only	Micro 20, 40, 64 Support Only	Micro 20, 40, 64 Support Only
Connection Type	10/100Mbps port supporting RJ45 connection	RS-232 (RJ-45)	RS-485 (RJ-45)	USB (Slave Only) version 2.0, Straight B type
Protocol Supported	SRTP and Modbus TCP (server)	SNP, SNP Master, SNP X, Modbus Master, Modbus Slave, Serial Read and Write	SNP, SNP Master, SNP X, Modbus Master, Modbus Slave, Serial Read and Write	SNP, SNP X, Modbus Slave, Serial Read
Analog Support on Communications Module	No Analog Support	Two Analog Inputs. 0 to 10 VDC (10 bits)	Two Analog Inputs. 0 to 10 VDC (10 bits)	No Analog Support
Memory Module Board Support	Yes	Yes	Yes	Yes
Programming Support	Yes, SRTP only	Yes	Yes	Yes
Programming Software	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix



Ethernet Communication Option

The VersaMax SE enables the VersaMax Micro and Nano to easily be connected to an Ethernet LAN via the VersaMax SE. The user can easily download, upload and monitor VersaMax Micro and Nano controllers.

IC200SET001

Product Name	Ethernet to Serial Network Module
Lifecycle Status	Active
Ethernet Port	10/100Mbps port supporting RJ45 connection
Serial Port	One RS-232 and one RS-485 port (up to 16 devices supported)
Communications Configurations	Communication configurations include Ethernet SRTP to SNP or Modbus TCP to Modbus Slave
Power Voltage	12/24 VDC
Dimensions (WxHxD) mm	36x90x60
Programming Software	VersaPro 2.0 or greater, Proficy Machine Edition Logic Developer
Mounting	35 mm DIN-Rail or Panel Mount
Power Supply Voltage Range	12/24 VDC

Portable Program Download Device (PPDD)

The Portable Program Download Device enables the user to easily upload and download VersaMax Micro 23/28 configuration and logic from/to a USB Memory Stick. Portable Program Download Device (PPDD) will support commercial memory stick devices using USB connection. The purpose of the PPDD is to allow users to store and download their logic applications and configuration to GE VersaMax Micro 23/28 PLCs without the need of a PC. The PPDD plugs into the 15 pin RS-485 port on the VersaMax Micro 23/28 CPU base power supply. The RS-485 port provides the power for the PPDD. VersaMax Micro 23/28 logic and configuration files can be zipped and easily emailed to remote locations for VersaMax Micro 23/28 downloads.



There are many advantages of the PPDD such as:

- No PC required to backup applications or download applications
- No expensive travel to perform field upgrades, just email the file to the remote location
- Compatible with commercial off the shelf USB Memory Sticks
- The PPDD can be panel mounted, DIN rail mounted or hand held
- Supports diagnostics to ensure that the CPU is compatible with the application
- OEM Password Protection supported
- Simple to operate, LEDs to show activity, error and status. Push button to start download and selector switch for direction of download, to the PLC or to the memory stick.
- Designed for the industrial environment UL and CE (not Class 1 Div 2 approved)

PPDD features:

- Slide switch for direction of data storage
- Status and Diagnostic LEDs

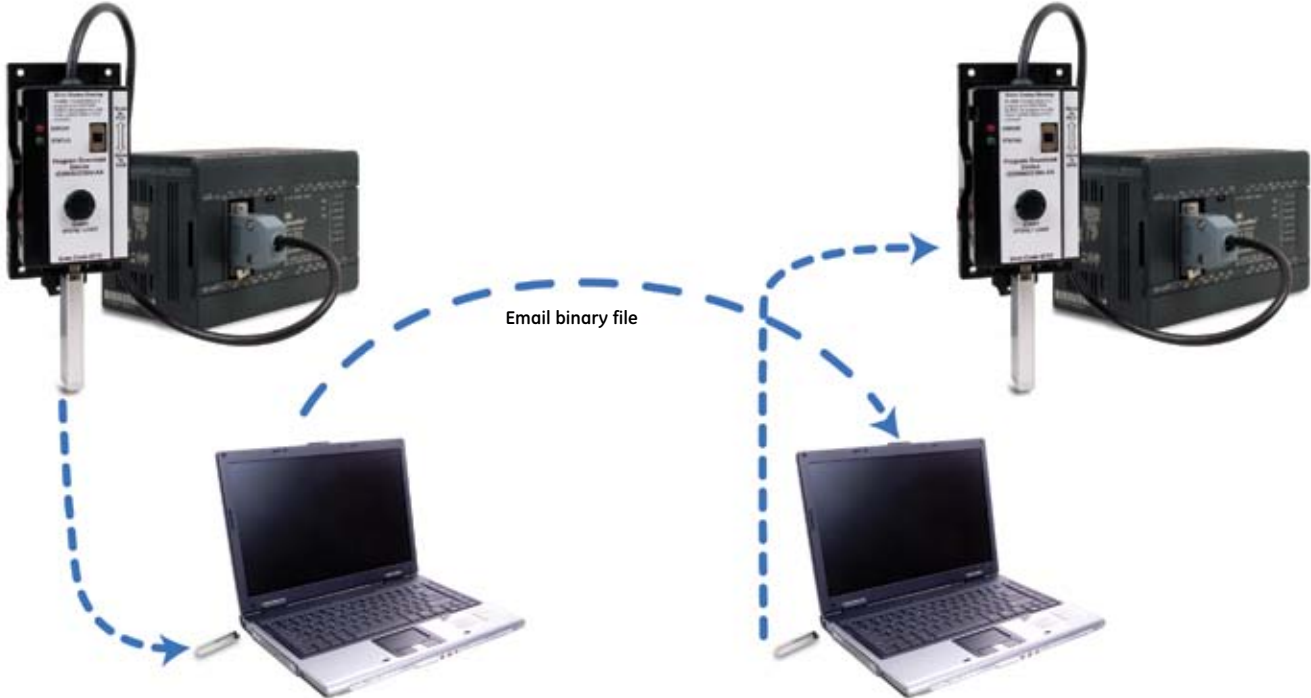
LEDs Status

	Error (Red)	Status (Green)
LED On Steady	On when there isn't a Memory Stick attached	On after button has been pushed and name in PLC matches and when download is complete
LED Flashing Fast Flash (500msec on 500msec off) Slow Flash (1 sec on 1 sec off)	Flashing when CPU doesn't match or Memory Stick doesn't have the proper file\ Flashing if Verify fails	Slow Flash During Download Fast Flash when CPU type matches but name in PLC doesn't match
LED Off	Off during normal conditions with no errors	Off prior to button being pushed for download

The Portable Program Download Device is simple to use. The example below demonstrates the four easy steps of downloading an application and emailing it to a remote location for application upgrade.

Step 1.
Slide PPDD selector toward USB memory stick. Press PPDD download button. The PPDD will store/verify the VersaMax Micro application and configuration onto the USB memory stick.

Step 4.
Place the USB memory stick in the PPDD, slide selector toward controller. Press PPDD download button. The PPDD will stop the CPU and download/verify file. The CPU can be placed in the Run mode via the key switch or cycling power.



Step 2.
Remove the memory stick from the PPDD and connect it to your PC. Copy the binary file from the memory stick to your PC and email to remote location.

Step 3.
Remote location takes the binary file that is in the email and stores it on a USB memory stick.

Portable Program Download Device

IC690ACC990

Portable Program Download Device. Supports standard USB memory devices to store and load VersaMax Micro 23/28 PLC applications without the need of a PC.

Accessories

IC200ACC402	Spare Removable Terminal Strips, 10 per pack. (Micro 14, Micro 23 and Micro 28 and all expansion units)	Active
IC200ACC403	Battery for Micro 23 and Micro 28 for data retention (5.2 months minimum @ 70°C and 32.4 months minimum @ 20°C)	Active
IC200ACC404	Spare parts kit. Two terminal strips and four plastic doors and four covers for Micro 14, Micro 23 and Micro 28.	Active
IC200ACC414	Long Term Battery for Micro 23, Micro 28 and Micro 64 (19 months minimum @ 70°C and 121 months minimum @ 20°C)	Active
IC200ACC415	RS-232 to RS-485 Converter requires IC200CBL500 or equivalent.	Active
IC200ACC451	Simulator for VersaMax Micro 14, Micro 23 and Micro 28. (8 Inputs)	Active
IC200UMB001	Flash Memory Board for program download and compatible with Micro 64 (128Kbytes)	Active

External Power Supplies

IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply	Active
IC690PWR124	24 VDC, 10 Amp Output Power and 120/230 VAC Input Power Power Supply	Active

Programming and Trouble Shooting Tools

IC646MPM101	Proficy Logic Developer - PLC Nano/Micro, Programming Cable (No Upgrades included)	Active
IC752DDZ000	VersaMax DP Operator Interface DataDesigner editor	Active

Cables

(0.1 meter cable, IC200CBL501, is included in every expansion base package)

IC200CBL500	Programming cable (RJ-45 to DB-9 pin) RS-232. 3 Meters.	Active
IC200CBL501	I/O Expansion cable, 0.1 meter long (Qty 5)	Active
IC200CBL505	I/O Expansion cable, 0.5 meter long	Active
IC200CBL510	I/O Expansion cable, 1 meter long	Active

Starter Kits

IC200TBX010	Tool box, Nano 10 and software. Includes (IC200NDR001) 24 VDC In/Relay Out, 24 VDC powered (requires an external 24 VDC Supply) with software, manuals and cables (IC646MPH101)	Active
IC200TBX110	Tool box, Nano 10, operator interface and software. Includes (IC200NDR001) 24 VDC In/Relay Out, 24 VDC powered (requires an external 24 VDC Supply), VersaMax DataPanel DP45 with programming software and cables, (IC640VPS00, IC752DDZ000, IC200CBL555)	Active
IC200TBX210	Tool box, Nano 10, Ethernet interface and software. Includes (IC200NDR001) 24 VDC In/Relay Out, 24 VDC powered (requires an external 24 VDC Supply), VersaMax SE (IC200SET001) with all software, cables (IC646MPH101) and manuals.	Active
IC200TBX014	Tool box, Micro 14 and software. Includes (IC200UDR001) 24 VDC In/Relay Out, AC Power Supply with software, manuals and cables (IC646MPH101)	Active
IC200TBX114	Tool box, Micro 14, operator interface and software. Includes (IC200UDR001) 24 VDC In/Relay Out, AC Power Supply, VersaMax DataPanel DP45 with programming software and cables, (IC640VPS00, IC752DDZ000, IC200CBL555)	Active
IC200TBX214	Tool box, Micro 14, Ethernet interface and software. Includes (IC200UDR001) 24 VDC In/Relay Out, requires 120 VAC power, VersaMax SE (IC200SET001) with all software, cables (IC646MPH101) and manuals.	Active
IC200TBX023	Tool box, Micro 23 and software. Includes (IC200UAL006) DC In/Relay Out, 2 analog In, 1 analog out, AC Power Supply with software, manuals and cables (IC646MPH101)	Active
IC200TBX123	Tool box, Micro 23, operator interface and software. Includes (IC200UAL006) 24 VDC In/Relay Out, 2 Analog In/1 Analog out, AC P/S, VersaMax DataPanel DP45 with programming software and cables, (IC640VPS00, IC752DDZ000, IC200CBL555)	Active
IC200TBX223	Tool box, Micro 23, Ethernet interface and software. Includes (IC200UAL006) 24 VDC In/Relay Out, requires 120 VAC Power, VersaMax SE (IC200SET001) with all software, cables (IC646MPH101) and manuals.	Active
IC200TBX028	Tool box, Micro 28 and software. Includes (IC200UDR005) 24 VDC In/Relay Out, AC Power Supply with software, manuals and cables (IC646MPH101)	Active
IC200TBX128	Tool box, Micro 28, operator interface and software. Includes (IC200UDR005) 24 VDC In/Relay Out, AC P/S, VersaMax DataPanel DP45 with programming software and cables, (IC640VPS00, IC752DDZ000, IC200CBL555)	Active
IC200TBX228	Tool box, Micro 28, Ethernet interface and software. Includes (IC200UDR005) 24 VDC In/Relay Out, requires 120 VAC Power, VersaMax SE (IC200SET001) with all software, cables (IC646MPH101) and manuals.	Active
IC200TBX020	Tool box, Micro 20 and software. Includes (IC200UDD020) 24VDC In/24VDC Out, DC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10VDC analog in with Proficy software, manuals and cables (IC646MPM101)	Active
IC200TBX120	Tool box, Micro 20 and software. Includes (IC200UDR120) 24VDC In/Relay Out, AC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10VDC analog in with Proficy software, manuals and cables (IC646MPM101)	Active
IC200TBX220	Tool box, Micro 20, operator interface and software. Includes (IC200UDD020) 24VDC In/24VDC Out, DC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10VDC analog in with VersaMax DataPanel DP45 with Proficy programming software and cables, (IC646MPM101, IC752DDZ000, IC200CBL555)	Active
IC200TBX320	Tool box, Micro 20, operator interface and software. Includes (IC200UDR120) 24VDC In/Relay Out, AC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10VDC analog in with VersaMax DataPanel DP45 with Proficy Logic Developer programming software and cables, (IC646MPM101, IC752DDZ000, IC200CBL555)	Active
IC200TBX520	Tool box, Micro 20, QuickPanel color touch screen and software. Includes (IC200UDR164) 24VDC In/Relay Out, AC Power Supply, (IC200UEM001) Ethernet option board, QuickPanel Display (IC754VSI06STD) with Proficy software, manuals and cables (BC646MBL001)	Active
IC200TBX040	Tool box, Micro 40 and software. Includes (IC200UDD040) 24VDC In/24VDC Out, DC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10VDC analog in with Proficy software, manuals and cables (IC646MPM101)	Active
IC200TBX140	Tool box, Micro 40 and software. Includes (IC200UDR140) 24VDC In/Relay Out, AC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10VDC analog in with Proficy software, manuals and cables (IC646MPM101)	Active
IC200TBX240	Tool box, Micro 40, operator interface and software. Includes (IC200UDD040) 24VDC In/24VDC Out, DC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10VDC analog in with VersaMax DataPanel DP45 with Proficy programming software and cables, (IC646MPM101, IC752DDZ000, IC200CBL555)	Active
IC200TBX340	Tool box, Micro 40, operator interface and software. Includes (IC200UDR140) 24VDC In/Relay Out, AC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10VDC analog in with VersaMax DataPanel DP45 with Proficy Logic Developer programming software and cables, (IC646MPM101, IC752DDZ000, IC200CBL555)	Active
IC200TBX540	Tool box, Micro 40, QuickPanel color touch screen and software. Includes (IC200UDR140) 24VDC In/Relay Out, AC Power Supply, (IC200UEM001) Ethernet option board, QuickPanel Display (IC754VSI06STD) with Proficy software, manuals and cables (BC646MBL001)	Active
IC200TBX064	Tool box, Micro 64 and software. Includes (IC200UDD064) 24 VDC In/24 VDC Out, DC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10 VDC analog in with Proficy software, manuals and cables (IC646MPM101)	Active
IC200TBX164	Tool box, Micro 64 and software. Includes (IC200UDR164) 24 VDC In/Relay Out, AC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10 VDC analog in with Proficy software, manuals and cables (IC646MPM101)	Active
IC200TBX264	Tool box, Micro 64, operator interface and software. Includes (IC200UDD064) 24 VDC In/24 VDC Out, DC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10 VDC analog in with VersaMax DataPanel DP45 with Proficy programming software and cables, (IC646MPM101, IC752DDZ000, IC200CBL555)	Active
IC200TBX364	Tool box, Micro 64, operator interface and software. Includes (IC200UDR164) 24 VDC In/Relay Out, AC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10 VDC analog in with VersaMax DataPanel DP45 with Proficy Logic Developer programming software and cables, (IC646MPM101, IC752DDZ000, IC200CBL555)	Active
IC200TBX564	Tool box, Micro 64, QuickPanel color touch screen and software. Includes (IC200UDR164) 24 VDC In/Relay Out, AC Power Supply, (IC200UEM001) Ethernet option board, QuickPanel Display (IC754VSI06STD) with Proficy software, manuals and cables (BC646MBL001)	Active

Configuration Guidelines

Examples of Typical Application

Configuration for Nano 10 (Applications needing less than 6 (24 VDC) inputs and 4 relay outputs)

Qty	Part Number	Description
1	IC200NDR001	10 point (6) 24 VDC In, (4) Relay Out, 24 VDC Powered
1	BC646MPM101	Proficy Logic Developer - PLC Nano/Micro, Programming Cable included and Proficy GlobalCare Complete (Upgrades included for 15 months of upgrades)

Options to consider

1	IC200ACC450	Simulator for VersaMax Nano 10. (6 Inputs)
1	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply

Configuration for Micro 14 (Example Application needing 12 (24 VDC) discrete inputs, 6 relay outputs and 3 Analog inputs with 24 VDC power)

Qty	Part Number	Description
1	IC200UDR002	14 point (8) 24 VDC In, (6) Relay Out, 24 VDC Powered
1	IC200UEI008	8 point 24 VDC In, 24 VDC Powered
1	IC200UEX626	6 Analog I/O Channels (4) 0 to 10 VDC, ± 10 VDC, 4 to 20 mA, 0 to 20 mA In, (2) 0 to 10 VDC, 4 to 20 mA, 0 to 20 mA Out, 24 VDC Powered
1	BC646MPM101	Proficy Logic Developer - PLC Nano/Micro, Programming Cable included and Proficy GlobalCare Complete (Upgrades included for 15 months of upgrades)

Options to consider

1	IC200UDR010	28 point (16) 24 VDC In, (12) Relay Out, 24 VDC Powered - advantage is two serial ports, Real Time clock and more data memory.
1	IC200ACC451	Simulator for VersaMax Micro 14, Micro 23 and Micro 28. (8 Inputs)
1	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
1	IC200DTX650	Operator Interface with up to 200 stored messages. 4x16 character LCD backlight display and 8 function keys. Requires IC200CBL550 cable or equivalent. Operates on external 24 VDC @ 80 mA.

Configuration for Micro 28 (Example Application needing 22 (24 VDC) discrete inputs, 16 outputs [Ten Relay and Six 24 VDC], 2 RTD inputs, 1 Analog output using AC power. Also requires Display with keypad)

Qty	Part Number	Description
1	IC200UDR005	28 point; (16) 24 VDC In, (11) Relay Out, (1) 24 VDC Out, 120/240 VAC Powered.
1	IC200ACC403	Battery for Micro 23 and Micro 28 for data retention
1	IC200UEX014	14 point (8) 24 VDC In, (6) 24 VDC Out, 24 VDC Powered
1	IC200UEX736	4 RTD PT 100 Channels IN, 2 Analog Channels OUT 0 to 10 VDC, 4 to 20 mA, 0 to 20 mA Out, 120/240 VAC Powered
1	BC646MPM101	Proficy Logic Developer - PLC Nano/Micro, Programming Cable included and Proficy GlobalCare Complete (Upgrades included for 15 months of upgrades)
1	IC200DTX850	Operator Interface with up to 200 stored messages. 4x20 character LCD backlight display, 8 function keys and numeric keypad. Requires IC200CBL550 cable or equivalent. Operates on external 24 VDC @ 50 mA.
1	IC752DDZ000	VersaMax DP Operator Interface DataDesigner editor

Options to consider

1	IC200ACC451	Simulator for VersaMax Micro 14, Micro 23 and Micro 28. (8 Inputs)
1	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply

Configuration for Micro 644 (Example Application needing 45 (24VDC) discrete inputs, 32 outputs (Twelve Relay and Twenty 24VDC), 2 Servo motors.
Application also requires Color Touch Graphic Display

Qty	Part Number	Description
1	IC200UDD064	Micro 64; (40) 24 VDC In, (24) 24 VDC Source Out 0.7 amps with ESCP protection, 24 VDC Power Supply.
1	IC200ACC414	Long Term Battery for Micro 23, Micro 28 and Micro 64
1	IC200UEX211	28 point (16) 24 VDC In, (12) Relay Out, 120/240 VAC Power Supply
1	IC200UEM001	Ethernet Module
1	IC200UMM002	2 Axis Motion Module
1	IC800VMM10LBKSE25	VersaMotion 1000 Watt Motor with brake
1	IC800VMA102	Servo Amplifier, 1000 Watts, 220VAC
1	IC800VMCB1030	Brake and Power Cable for 1000 Watt Servo Motor and brake, 3 meters
1	IC800VMCE1030	Encoder Cable for 1000 Watt and greater, 3 meters
1	IC800VMTBC005	I/O terminal block and cable .5 meters
1	IC800VMCS030	Communications cable and servo driver to PC, 3 meters
1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch
1	BC646MBL001	Machine Edition Lite Development Suite with Proficy GlobalCare Complete. Includes View Development for QuickPanel and LD-PLC Nano/Micro with 15 months of Proficy GlobalCare which is renewable on an annual basis.
1	IC200CBL500	Programming cable (RJ-45 to DB-9 pin) RS-232. 3 Meters.
Options to consider		
1	IC200UMB001	Flash Memory Board for program download and compatible with Micro 64 (128Kbytes)
1	IC690PWR124	24VDC, 10 Amp Output Power and 120/230VAC Input Power Power Supply

VersaMotion

VersaMotion is a family of servo motors and amplifiers. The VersaMotion amplifier supports high speed pulse and direction commands from the controllers. The VersaMotion servo drive is simple to use and maintain with the added diagnostics and removable terminal strips. Amplifier setup can be accomplished using the VersaMotion software included with Proficiency Machine Edition or using the convenient front panel keypad.

Key Features:

- Versatile analog or pulse command interface
- Position/Speed/Torque modes
- Dual control modes
- Internal single-axis position control
- Electronic gearing
- External JOG function
- Speed/Torque limit operation
- Built-in keypad/display for setup and diagnostics
- Motor settling time below 1 ms
- Low speed stability and performance: less than 0.5% error at 1 RPM
- 10msec acceleration time from running without load \pm 3000 RPM
- High speed inertia corrections (16 levels of system stiffness and responsiveness)

Built-in Functions:

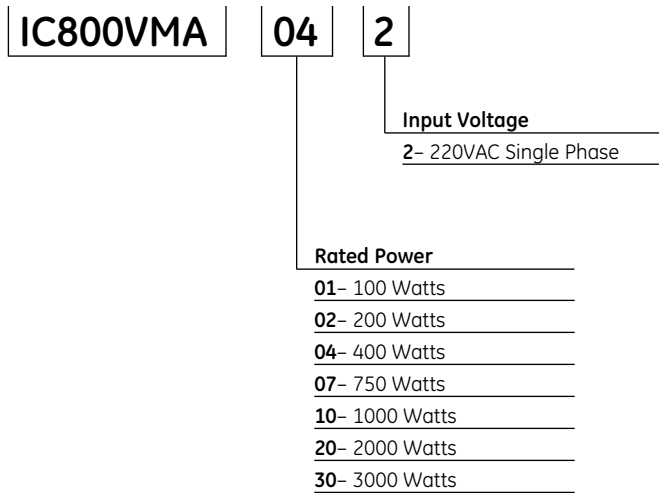
- Point-to-Point single axis position control
- Simple stand-alone positioning function with 8 internal stored position settings
- Move to Home function
- Position Teaching capability
- Incremental encoder feedback (2500 ppr)
- User-definable Acceleration/Deceleration with jerk limiting (s-curve)
- Feed step control function
- Modbus Slave serial port (RS-485/RS-422) for reading and writing parameters from Machine Edition

Machine Edition VersaMotion Set-up Features:

- Configuration Parameter Editor (clear, read, write functions) and initial configuration wizard
- Calculation tools to determine proper conversion from encoder counts to desired user programming units
- Three channel digital oscilloscope to display and record drive status on-line
- Alarm history and status monitor diagnostic screens
- Digital I/O set-up and monitoring



Servo Amplifier Part Number Sequence



Example: IC800VMA042 is a 400 watt 220VAC servo amplifier

Amplifiers Technical Data

Permissible Frequency Fluctuation	50 / 60 Hz +/-5%
Resolution/Quadrature Feedback Counts	2500 ppr /10000 cpr
Control Modes	Position/Velocity/Torque
Dynamic Brake	Built-in
Position Control Mode:	
Maximum Input Pulse Frequency	500KPPS (Line Driver) / Maximum 200KPPS (Open Collector)
Pulse Type	Pulse/Direction; CW/CCW; A/B Phase
Command Source	External pulse train/ Internal parameters
Torque Limit Operation	Yes
Feed Forward Compensation	Yes
Analog Commands: Voltage Range	0 to +/-10 VDC
Torque and Velocity Control Mode: Command Source	External analog signal / Internal parameters
Speed Control Range	1:5000
Speed Control Frequency Response	Maximum 450 Hz
Torque Control Mode Permissible Time for Overload	8 seconds under 200% rated output
Communications Interface	RS-232 / RS-485 /RS-422
Environmental Altitude	Altitude 1000 meters above sea level or lower
Environmental Operating Temperature	0 to 55°C (Forced cooling for operation above 55°C)
Environmental Storage Temperature	-20°C to 65°C
Environmental Humidity	0 to 90% (Non condensing)
Vibration	<20 Hz: 9.8 m/sec/sec (1G); 20 to 50 Hz: 5.88 m/sec/sec (0.6 G)
Standards	IEC/EN 61800-5-1, UL 508C, TUV, C-tick



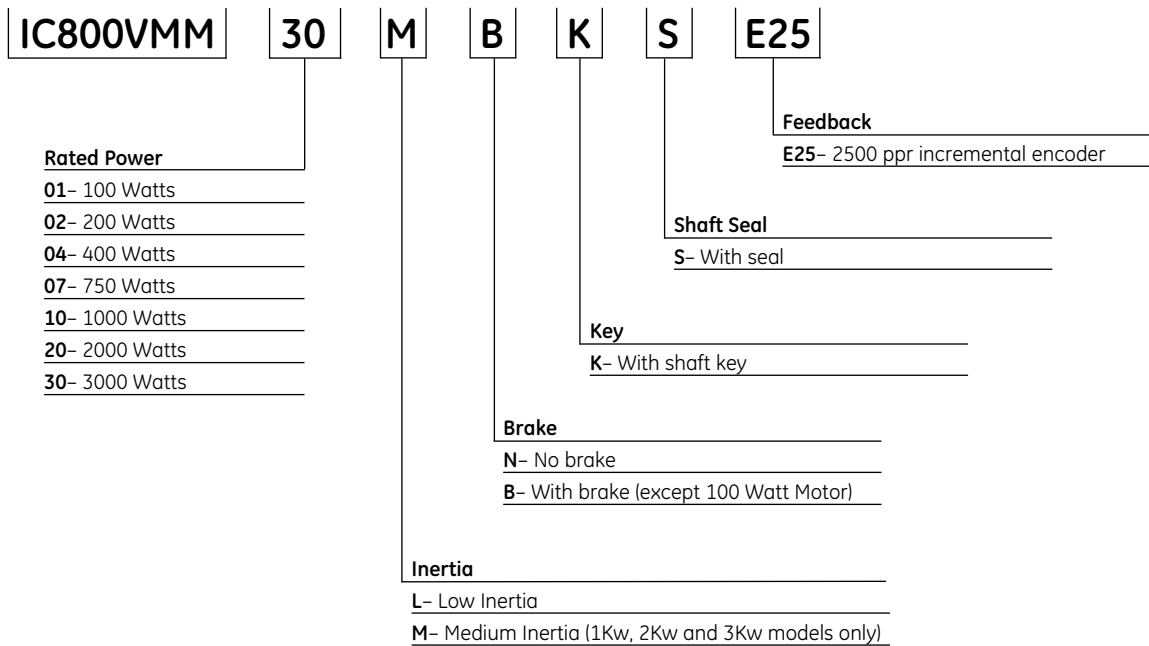
Amplifiers

The VersaMotion family of servo amplifiers offers a cost effective solution for a broad range of motion applications. These versatile amplifiers support simple stand-alone positioning capability using up to 8 stored motion profiles or can be connected to any motion controller using an analog or pulse command interface. A built-in touchpad and display provides convenient access to configuration parameters and system information. The serial interface supports multi-drop system configurations and Modbus communication protocol.

	IC800VMA012	IC800VMA022	IC800VMA042	IC800VMA072
Product Name	VersaMotion Amplifier	VersaMotion Amplifier	VersaMotion Amplifier	VersaMotion Amplifier
Lifecycle Status	Active	Active	Active	Active
Rated Output Power	100W	200W	400W	750W
Voltage/Frequency	Three-phase or Single-phase 220VAC 50/60 Hz	Three-phase or Single-phase 220VAC 50/60 Hz	Three-phase or Single-phase 220VAC 50/60 Hz	Three-phase or Single-phase 220VAC 50/60 Hz
Permissible Voltage Fluctuation	Three-phase: 170 ~ 255VAC Single-phase: 200 ~ 255VAC	Three-phase: 170 ~ 255VAC Single-phase: 200 ~ 255VAC	Three-phase: 170 ~ 255VAC Single-phase: 200 ~ 255VAC	Three-phase: 170 ~ 255VAC Single-phase: 200 ~ 255VAC
Cooling System	Convection	Convection	Convection	Fan Cooling
Electronic Gear Ratio	Gear Ratio = N/M where N 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/ M<200)

	IC800VMA102	IC800VMA202	IC800VMA302
Product Name	VersaMotion Amplifier	VersaMotion Amplifier	VersaMotion Amplifier
Lifecycle Status	Active	Active	Active
Rated Output Power	1KW	2KW	3KW
Voltage/Frequency	Three-phase or Single-phase 220VAC 50/60 Hz	Three-phase 220VAC 50/60 Hz	Three-phase 220VAC 50/60 Hz
Permissible Voltage Fluctuation	Three-phase: 170 ~ 255VAC Single-phase: 200 ~ 255VAC	Three-phase: 170 ~ 255VAC	Three-phase: 170 ~ 255VAC
Cooling System	Fan Cooling	Fan Cooling	Fan Cooling
Electronic Gear Ratio	Gear Ratio = N/M where N 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Electronic gear N/M multiple N: 1~32767, M: 1:32767 (1/50<N/M<200)

Servo Motor Part Number Sequence



Example: IC800VMM30MBKSE25 is a 3000 watt medium Inertia motor with 2500 ppr encoder, brake, keyway and shaft seal.

Motors Technical Data

Insulation Class	Class B
Insulation Resistance	>100M ohm, 500 VDC
Insulation Strength	1500 VAC, 50Hz, 60 seconds
Vibration Grade (um)	15
Brake Power (VDC)	24
Operating Temperature (C)	0°~40°
Storage Temperature (C)	-10°~80°
Humidity	20~90%RH (non condensing)
Vibration	2.5G
IP Rating	IP65 (except shaft and connector)

Motors



The VersaMotion family of servo motors offers high servo performance in a compact package. The motors range from 100 W to 3 kW with continuous torque ratings from 0.3 Nm to 14.3 Nm. All motors have metric mounting configurations and include a shaft key and oil seal. For vertical axes or applications that need to hold position during power loss motors with 24 VDC holding brakes are available. Motors are matched with the VersaMotion amplifiers.

	IC800VMM01L	IC800VMM02L	IC800VMM04L	IC800VMM07L
Product Name	VersaMotion 100 Watt	VersaMotion 200 Watt	VersaMotion 400 Watt	VersaMotion 750 Watt
Lifecycle Status	Active	Active	Active	Active
Rated Output (kW)	0.1	0.2	0.4	0.75
Rated Torque (Nm)	0.32	0.64	1.27	2.39
Maximum Torque (Nm)	0.96	1.92	3.82	7.16
Rated Speed (RPM)	3000	3000	3000	3000
Maximum Speed (RPM)	5000	5000	5000	5000
Rated Current (Amps)	0.9	1.55	2.6	5.1
Maximum Current (Amps)	2.7	4.65	7.8	15.3
Rotor Moment of Inertia (Kg.m ² x 10 ⁻⁴)	0.037	0.177	0.277	1.13
Mechanical Time Constant (msec)	0.75	0.8	0.53	0.63
Torque Constant - KT (Nm)	0.36	0.41	0.49	0.47
Voltage Constant - KE (mV/rmp)	13.6	16	17.4	17.2
Armature Resistance (Ohm)	9.3	2.79	1.55	0.42
Armature Inductance (mH)	24	10.84	6.84	3.53
Electrical Time Constant (msec)	2.58	3.89	4.43	8.37
Maximum Radial Shaft Load (Newton)	78.4	196	196	245
Maximum Thrust Shaft Load (Newton)	39.2	68	68	98



Motors

The VersaMotion family of servo motors offers high servo performance in a compact package. The motors range from 100 W to 3 kW with continuous torque ratings from 0.3 Nm to 14.3 Nm. All motors have metric mounting configurations and include a shaft key and oil seal. For vertical axes or applications that need to hold position during power loss motors with 24 VDC holding brakes are available. Motors are matched with the VersaMotion amplifiers.

	IC800VMM10L	IC800VMM10M	IC800VMM20L	IC800VMM20M	IC800VMM30M
Product Name	VersaMotion 1000 Watt	VersaMotion 1000 Watt	VersaMotion 2000 Watt	VersaMotion 2000 Watt	VersaMotion 3000
Lifecycle Status	Active	Active	Active	Active	Active
WattRated Output (kW)	1.0	1.0	2.0	2.0	3.0
Rated Torque (Nm)	3.18	4.77	6.37	9.55	14.32
Maximum Torque (Nm)	9.54	14.32	19.11	28.66	42.96
Rated Speed (RPM)	3000	2000	3000	2000	2000
Maximum Speed (RPM)	5000	3000	5000	3000	3000
Rated Current (Amps)	7.3	5.6	11.3	11.0	16.1
Maximum Current (Amps)	21.9	24.9	33.9	33.0	48.3
Rotor Moment of Inertia (Kg.m ² x 10 ⁻⁴)	2.65	9.14	4.45	15.88	55
Mechanical Time Constant (msec)	0.74	1.64	0.66	1.05	1.06
Torque Constant - KT (Nm/A)	0.44	0.85	0.53	0.87	0.89
Voltage Constant - KE (mV/rpm)	16.8	31.9	19.2	31.8	32
Armature Resistance (Ohm)	0.20	0.465	0.14	0.174	0.052
Armature Inductance (mH)	2.0	5.99	1.53	2.76	1.38
Electrical Time Constant (msec)	10.26	12.88	10.63	15.86	26.39
Maximum Radial Shaft Load (Newton)	490	490	490	490	1470
Maximum Thrust Shaft Load (Newton)	98	98	98	98	490
Amplifier Model	IC800VMA102	IC800VMA102	IC800VMA202	IC800VMA202	IC800VMA302

VersaMotion Accessories

Amplifier Connectors

IC800VMAACONCN1	CN1 I/O Connector	Active
IC800VMAACONCN2	CN2 Encoder Connector	Active
IC800VMAACONCN3	CN3 Communication Connector	Active
IC800VMAACONACP	AC Power Connector (100W to 1kW models only)	Active
IC800VMAACONMTRP	Motor Power Connector (100W to 1kW models only)	Active
IC800VMADBR001	External Braking Resistor Connector (100W to 1kW models only)	Active

Motor Connectors

IC800VMMCONP001	Motor Power Connector for 100 Watt to 750 Watt motors without brake	Active
IC800VMMCONP002	Motor Power Connector for 100 Watt to 750 Watt motors with brake	Active
IC800VMMCONP003	Motor Power Connector for 1000 Watt or 2000 Watt motors with or without brake	Active
IC800VMMCONP004	Motor Power Connector for 3000 Watt motors with or without brake	Active
IC800VMMCONE001	Encoder Connector for 100 Watt to 750 Watt motors	Active
IC800VMMCONE002	Encoder Connector for 1000 Watt and larger motors	Active

Motor Power Cables

IC800VMCP030	Power Cable for 100 Watt to 750 Watt servo motor without brake, 3 m (9.8 feet)	Active
IC800VMCP050	Power Cable for 100 Watt to 750 Watt servo motor without brake, 5 m (16.4 feet)	Active
IC800VMCP100	Power Cable for 100 Watt to 750 Watt servo motor without brake, 10 m (32.8 feet)	Active
IC800VMCP200	Power Cable for 100 Watt to 750 Watt servo motor without brake, 20 m (65.7 feet)	Active
IC800VMCP1030	Power Cable for 1000 Watt servo motor without brake, 3 m (9.8 feet)	Active
IC800VMCP1050	Power Cable for 1000 Watt servo motor without brake, 5 m (16.4 feet)	Active
IC800VMCP1100	Power Cable for 1000 Watt servo motor without brake, 10 m (32.8 feet)	Active
IC800VMCP1200	Power Cable for 1000 Watt servo motor without brake, 20 m (65.7 feet)	Active
IC800VMCP2030	Power Cable for 2000 Watt servo motor without brake, 3 m (9.8 feet)	Active
IC800VMCP2050	Power Cable for 2000 Watt servo motor without brake, 5 m (16.4 feet)	Active
IC800VMCP2100	Power Cable for 2000 Watt servo motor without brake, 10 m (32.8 feet)	Active
IC800VMCP2200	Power Cable for 2000 Watt servo motor without brake, 20 m (65.7 feet)	Active
IC800VMCP3030	Power Cable for 3000 Watt servo motor without brake, 3 m (9.8 feet)	Active
IC800VMCP3050	Power Cable for 3000 Watt servo motor without brake, 5 m (16.4 feet)	Active
IC800VMCP3100	Power Cable for 3000 Watt servo motor without brake, 10 m (32.8 feet)	Active
IC800VMCP3200	Power Cable for 3000 Watt servo motor without brake, 20 m (65.7 feet)	Active

Brake and Motor Power Cables

IC800VMCB030	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 3 m (9.8 feet)	Active
IC800VMCB050	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 5 m (16.4 feet)	Active
IC800VMCB100	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 10 m (32.8 feet)	Active
IC800VMCB200	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 20 m (65.7 feet)	Active
IC800VMCB1030	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 3 m (9.8 feet)	Active
IC800VMCB1050	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 5 m (16.4 feet)	Active
IC800VMCB1100	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 10 m (32.8 feet)	Active
IC800VMCB1200	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 20 m (65.7 feet)	Active
IC800VMCB2030	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 3 m (9.8 feet)	Active
IC800VMCB2050	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 5 m (16.4 feet)	Active
IC800VMCB2100	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 10 m (32.8 feet)	Active
IC800VMCB2200	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 20 m (65.7 feet)	Active
IC800VMCB3030	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 3 m (9.8 feet)	Active
IC800VMCB3050	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 5 m (16.4 feet)	Active
IC800VMCB3100	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 10 m (32.8 feet)	Active
IC800VMCB3200	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 20 m (65.7 feet)	Active

Encoder Cables

IC800VMCE030	Encoder Cable for 100 to 750 Watt, 3 m (9.8 feet)	Active
IC800VMCE050	Encoder Cable for 100 to 750 Watt, 5 m (16.4 feet)	Active
IC800VMCE100	Encoder Cable for 100 to 750 Watt, 10 m (32.8 feet)	Active
IC800VMCE200	Encoder Cable for 100 to 750 Watt, 20 m (65.7 feet)	Active
IC800VMCE1030	Encoder Cable for 1000 Watt and greater, 3 m (9.8 feet)	Active
IC800VMCE1050	Encoder Cable for 1000 watt and greater, 5 m (16.4 feet)	Active
IC800VMCE1100	Encoder Cable for 1000 watt and greater, 10 m (32.8 feet)	Active
IC800VMCE1200	Encoder Cable for 1000 watt and greater, 20 m (65.7 feet)	Active

I/O Terminal Block

IC800VMTBC005	I/O Terminal Block Breakout Board and 0.5 m (1.6 feet) Cable	Active
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External Braking Resistors

IC800VMBR040	40 Ohm, 400 Watt External Braking (Regeneration) Resistor	Active
IC800VMBR020	20 Ohm, 1000 Watt External Braking (Regeneration) Resistor	Active

Communications and I/O Interface Cables

IC800VMCS030	Communications Cable from servo amplifier to PC, 3 m (9.8 feet)	Active
IC800VMCI010	Flying lead I/O interface cable, 1 meter	Active
IC800VMCI030	Flying lead I/O interface cable, 3 meter	Active

Software Configuration Tool

IC646MPM101	Proficy Logic Developer - PLC Nano/Micro and VersaMotion, Programming Cable (No Upgrades included)	Active
BC646MPM101	Proficy Logic Developer - PLC Nano/Micro and VersaMotion, Programming Cable (Includes 15 months of upgrades)	Active

Examples of Typical Application using a VersaMax Micro

Application: 1000 Watt Low Inertia Motor with Brake and micro controller (14) 24VDC inputs and (10) Relay outputs (AC power supply). In addition the application needs Ethernet LAN to 6 inch color STN touch display.

Qty	Part Number	Description
Controller, I/O and Display		
1	IC200UDR120	VersaMax Micro 20 point PLC, (12) 24VDC In, (8) Relay Out, 120/240VAC Power Supply
1	IC200UEC208	VersaMax 8 point expansion unit, (4) 24VDC inputs, (4) Relay Outputs and 24VDC Power Supply (The VersaMax Micro 20 controller 24VDC user power supply can support the expansion module)
1	IC200UMM102	VersaMax Micro Motion 2 Axis Servo Module, 120/240VAC Supply
1	IC200UEM001	VersaMax Micro 10/100Mbps Ethernet Module
1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch
Servo Amplifier and Motor		
1	IC800VMM10LBKSE25	VersaMotion 1000 Watt Low Inertia Servo Motor with brake. Motor has keyway and oil seal
1	IC800VMA102	Servo Amplifier, 1000 Watts, 220VAC
1	IC800VMCB1030	Brake and Power Cable for 1000 Watt Servo Motor with brake, 3 m (9.8 feet)
1	IC800VMCE1030	Encoder Cable for 1000 Watt and greater, 3 m (9.8 feet)
1	IC800VMTBC005	I/O terminal block and cable (0.5 meter)
1	IC800VMCS030	Communications cable from servo driver to PC, 3 m (9.8 feet)
Programming Software for Control, Display and Motion		
1	BC646MBL001	Machine Edition Lite Development Suite with Proficy GlobalCare Complete. Includes VersaMotion configuration tool, View Development for QuickPanel and LD-PLC Nano/Micro. Proficy GlobalCare with 15 months of free upgrades which is renewable on an annual basis.

Durus Controllers

The Durus PLUS Controllers are loaded with features such as easy to use built-in display/keypad, high current outputs, and multiple communication options and very affordable. They can be programmed using both the built-in display and keypad or with the Durus Controllers programming software. The Durus PLUS Controllers are ideal for applications that require some logic, a few timers/counters and real-time clock

control. They provide added features such as math, PID and data move functionality. The Durus Plus Controllers are designed for simple control applications such as light control, gate control, HVAC, pump control and much more.

Key Features:

- Isolated 8 Amp Relay Outputs, analog in and out and temperature monitoring

- Support for Ethernet, Modbus Slave, Profibus Slave and DeviceNet Slave
- Durus Controllers Software enables the user to fully simulate applications without the hardware
- Memory Module enables easy program downloads without a PC
- Software is free for downloading from the Web
- LCD Backlit display for easy viewing in all environments

AC Models	pages 1.175-1.176
DC Models	pages 1.177-1.180
Discrete Expansion Units	page 1.181
Analog Expansion Unit	page 1.182
Communications Options	page 1.183
Software	page 1.184
Accessories	page 1.185
Configuration Guidelines	page 1.186



- Backlit LCD Display**
- Keypad**
- Socket for memory module or communications interface cable**
- Optional Expansion (Up to 3 discrete and 1 analog expansion units)**

Durus Controllers Selection Guide

Features	Durus PLUS -10 and -12	Durus PLUS -20
Built-in Discrete I/O	6 in/4 out	12 in/8 out (AC powered models) 8 in/8 out (DC powered models)
Maximum Discrete I/O	18 in/16 out	24 in/20 out
Built-in Analog I/O	2 on DC powered models	4 on DC powered models
I/O Expansion Units	Maximum of eight expansion bases are supported. <ul style="list-style-type: none"> • Up to 3 Discrete I/O modules • 1 Analog input module • 1 Temperature input module (RTD) • Up to 2 Analog output modules • 1 Communications module 	
Logic Memory	300 Lines (4 cells wide per rung) or 260 Function Blocks	
Programming Language	Ladder or Function Block Diagram (FBD)	
Execution Speed	10ms/cycle	
LCD Display	4 line x16 character LCD backlit display	
Maximum Text Displays	31	
Display Languages	English, French, German, Spanish, Portuguese, Chinese, Italian	
Address Assignments	Up to 32 discrete inputs and 146 outputs; 8 analog inputs, 4 RTD inputs and 4 analog outputs; 240 registers (16 bit signed or unsigned)	
Coils	63 Auxiliary M, 63 Auxiliary N Coils and 31 HMI Coils	
Real Time Clock	Up to 15 uses (250 FBD)	
Number of Timers	Up to 31; 0.01seconds to 9999 minutes (250 FBD)	
Number of Counters	Up to 31; 0 to 999999 counts (250 FBD)	
Math Functions	Up to 31: Add, Subtract (250 FBD); Up to 31 Multiply, Divide (250 FBD)	
PID	Up to 15: PI and PID (30 FBD)	
Data Multiplexer	Up to 15: Four registers deep (250 FBD)	
Analog Ramp Control	Up to 15: Multiple steps supported (30 FBD)	
Comparator Instruction	Up to 31; Supports <= or >= for Timers, Counters or Analog (250 FBD)	
High Speed Input Frequency	1kHz	
PWM Output Frequency	0.5kHz (1msec On, 1msec Off)	
Modbus Master Built-in	No	Yes on selective models
Modbus Slave Support Built-in	No	
Modbus Slave Support	Yes (built-in on certain models and available for all controllers that support expansion (Modbus Slave expansion module)	
Profibus Slave Support	Yes	
DeviceNet Slave Support	Yes	
Agency Approvals	CE, C-UL, UL	
Temperature Range	0°C to 55°C	



AC Models

The AC versions of the Durus Controllers come with 10 points (6 discrete inputs and 4 discrete outputs) or 20 points (12 discrete inputs and 8 discrete outputs). The units are available with or without display and keypad and with or without expansion. Up to 3 discrete and 1 analog expansion units can be added for either additional I/O. One communication module can be added.

	IC210DAR012	IC210DAR010	IC210BAR010	IC210NAR010
Product Name	10 point (8) 24 VAC Inputs, (4) Isolated Relay Out (8 Amps), 24 VAC input power, supports expansion and display/keypad	10 point (6) AC Inputs, (4) Isolated Relay Out (8 Amps), AC input power, supports expansion and display/keypad	10 point (6) AC Inputs, (4) Isolated Relay Out (8 Amps), AC input power, supports expansion and no display/keypad	10 point (6) AC Inputs, (4) Isolated Relay Out (8 Amps), AC input power, no expansion, no plastic case and no display/keypad
Lifecycle Status	Active	Active	Active	Active
Number of Discrete Inputs/Outputs	8 In/ 4 Out	6 In/ 4 Out	6 In/ 4 Out	6 In/ 4 Out
Number of Analog Inputs/Outputs	None built in, 4 with Analog Expansion	None built in, 4 with Analog Expansion	None built in, 4 with Analog Expansion	None
Physical I/O Maximum	34 I/O	34 I/O	34 I/O	34 I/O
Support Expansion	Yes	Yes	Yes	No
LCD Display and Keypad	Yes (4 lines x 12 characters)	Yes (4 lines x 12 characters)	No	No
User Program Logic Memory	200 Rungs and 99 Blocks	200 Rungs and 99 Blocks	200 Rungs and 99 Blocks	200 Rungs and 99 Blocks
Protocols Supported	Modbus Slave, DeviceNet Slave, Profibus Slave expansion modules	Modbus Slave, DeviceNet Slave, Profibus Slave expansion modules	Modbus Slave, DeviceNet Slave, Profibus Slave expansion modules	None
Input Power Voltage	24 VAC	85 to 240 VAC; 85 to 240 VDC	85 to 240 VAC; 85 to 240 VDC	85 to 240 VAC; 85 to 240 VDC
Power Supply Power Consumption	90 mAmps	90 mAmps	90 mAmps	90 mAmps
Input Device Voltage	24 VAC	85 to 240 VAC; 85 to 240 VDC	85 to 240 VAC; 85 to 240 VDC	85 to 240 VAC
Output Control Voltage	250 VAC / 30 VDC Relay Outputs, 8A Resistive Load (Isolated)	250 VAC / 30 VDC Relay Outputs, 8A Resistive Load (Isolated)	250 VAC / 30 VDC Relay Outputs, 8A Resistive Load (Isolated)	250 VAC / 30 VDC Relay Outputs, 8A Resistive Load (Isolated)
Dimensions (W x H x D) mm	72mm x 90mm x 58mm	72 mm x 90 mm x 58 mm	72 mm x 90 mm x 58 mm	72 mm x 90 mm x 58 mm



AC Models

The AC versions of the Durus Controllers come with 10 points (6 discrete inputs and 4 discrete outputs) or 20 points (12 discrete inputs and 8 discrete outputs). The units are available with or without display and keypad and with or without expansion. Up to 3 discrete and 1 analog expansion units can be added for either additional I/O. One communication module can be added.

	IC210DAR020	IC210BAR020	IC210NAR020
Product Name	20 point (12) AC Inputs, (8) Isolated Relay Out (8 Amps), AC input power, supports expansion and display/keypad	20 point (12) AC Inputs, (8) Isolated Relay Out (8 Amps), AC input power, supports expansion and no display/keypad	20 point (12) AC Inputs, (8) Isolated Relay Out (8 Amps), AC input power, no expansion and no display/keypad
Lifecycle Status	Active	Active	Active
Number of Discrete Inputs/Outputs	12 In/ 8 Out	12 In/ 8 Out	12 In/ 8 Out
Number of Analog Inputs/Outputs	None built in, 4 with Analog Expansion	None built in, 4 with Analog Expansion	None
Physical I/O Maximum	44 I/O	44 I/O	44 I/O
Support Expansion	Yes	Yes	No
LCD Display and Keypad	Yes (4 lines x 12 characters)	No	No
User Program Logic Memory	200 Rungs and 99 Blocks	200 Rungs and 99 Blocks	200 Rungs and 99 Blocks
Protocols Supported	Modbus Slave, DeviceNet Slave, Profibus Slave expansion modules	Modbus Slave, DeviceNet Slave, Profibus Slave expansion modules	None
Input Power Voltage	85 to 240 VAC; 85 to 240 VDC	85 to 240 VAC; 85 to 240 VDC	85 to 240 VAC; 85 to 240 VDC
Power Supply Power Consumption	150 mAmps	150 mAmps	150 mAmps
Input Device Voltage	85 to 240 VAC; 85 to 240 VDC	85 to 240 VAC; 85 to 240 VDC	85 to 240 VAC; 85 to 240 VDC
Output Control Voltage	250 VAC / 30 VDC Relay Outputs, 8A Resistive Load (Isolated)	250 VAC / 30 VDC Relay Outputs, 8A Resistive Load (Isolated)	250 VAC / 30 VDC Relay Outputs, 8A Resistive Load (Isolated)
Dimensions (W x H x D) mm	126 mm x 90 mm x 58 mm	126 mm x 90 mm x 58 mm	126 mm x 90 mm x 58 mm

DC Models



The DC versions of the Durus Controllers come in either 12 point (6 discrete inputs, 2 analog and 4 discrete outputs) or 20 point (12 discrete inputs [analog inputs can be configured as either discrete inputs or analog inputs], 4 analog inputs and 8 discrete outputs). The units also support high speed inputs and PWM outputs. The units are available with or without display and keypad and with or without expansion. Up to 3 discrete and 1 analog expansion units can be added for either additional I/O. One communication module can be added.

	IC210DDR112	IC210DDR012	IC210BDR012	IC210NDR012
Product Name	10 point (6) 12 VDC Inputs, (2) analog inputs*, (4) Isolated Relay Out (8 Amps), 12 VDC input power, supports expansion and display/keypad	10 point (6) 24 VDC Inputs, (2) analog inputs*, (4) Isolated, Relay Out (8 Amps), 24 VDC input power, supports expansion and display/keypad	10 point (6) 24 VDC Inputs, (2) analog inputs*, (4) Isolated, Relay Out (8 Amps), 24 VDC input power, supports expansion and display/keypad	10 point (6) 24 VDC Inputs, (2) analog inputs*, (4) Isolated, Relay Out (8 Amps), 24 VDC input power, no expansion, no plastic case and no display/keypad
Lifecycle Status	Active	Active	Active	Active
Number of Discrete Inputs/Outputs	6* In/ 4 Out	6* In/ 4 Out	6* In/ 4 Out	6* In/ 4 Out
Number of Analog Inputs/Outputs	2 built in, 4 additional with Analog Expansion	2 built in, 4 additional with Analog Expansion	2 built in, 4 additional with Analog Expansion	2 built in
Physical I/O Maximum	36 I/O	36 I/O	36 I/O	36 I/O
Support Expansion	Yes	Yes	Yes	No
LCD Display and Keypad	Yes (4 lines x 12 characters)	Yes (4 lines x 12 characters)	No	No
User Program Logic Memory	200 Rungs and 99 Blocks	200 Rungs and 99 Blocks	200 Rungs and 99 Blocks	200 Rungs and 99 Blocks
Protocols Supported	Modbus Slave, DeviceNet Slave, Profibus Slave expansion modules	Modbus Slave, DeviceNet Slave, Profibus Slave expansion modules	Modbus Slave, DeviceNet Slave, Profibus Slave expansion modules	None
Input Power Voltage	12 VDC	24 VDC	24 VDC	24 VDC
Power Supply Power Consumption	90 mAmps	90 mAmps	90 mAmps	90 mAmps
Input Device Voltage	12 VDC	24 VDC	24 VDC	24 VDC
High Speed Frequency	1KHz	1KHz	1KHz	1KHz
Output Control Voltage	250 VAC / 30 VDC Relay Outputs, 8A Resistive Load (Isolated)	250 VAC / 30 VDC Relay Outputs, 8A Resistive Load (Isolated)	250 VAC / 30 VDC Relay Outputs, 8A Resistive Load (Isolated)	250 VAC / 30 VDC Relay Outputs, 8A Resistive Load (Isolated)
PWM Maximum Output Frequency	N/A	N/A	N/A	N/A
Analog Resolution	10 bits	10 bits	10 bits	10 bits
Analog Input Range	0 to 10 VDC	0 to 10 VDC	0 to 10 VDC	0 to 10 VDC
Analog Input Used as Digital Input	Input Current: 0.63 mA @ 24 VDC Input ON Current: 0.161 mA @ 9.8 VDC Input OFF Current: 0.085 mA @ 5 VDC	Input Current: 0.63 mA @ 24 VDC Input ON Current: 0.161 mA @ 9.8 VDC Input OFF Current: 0.085 mA @ 5 VDC	Input Current: 0.63 mA @ 24 VDC Input ON Current: 0.161 mA @ 9.8 VDC Input OFF Current: 0.085 mA @ 5 VDC	Input Current: 0.63 mA @ 24 VDC Input ON Current: 0.161 mA @ 9.8 VDC Input OFF Current: 0.085 mA @ 5 VDC
Dimensions (W x H x D) mm	72 mm x 90 mm x 58 mm	72 mm x 90 mm x 58 mm	72 mm x 90 mm x 58 mm	72mm x 90mm x 58mm

* Analog inputs can be configured as DC input points.

DC Models



The DC versions of the Durus Controllers come in either 12 point (6 discrete inputs, 2 analog and 4 discrete outputs) or 20 point (12 discrete inputs [analog inputs can be configured as either discrete inputs or analog inputs], 4 analog inputs and 8 discrete outputs). The units also support high speed inputs and PWM outputs. The units are available with or without display and keypad and with or without expansion. Up to 3 discrete and 1 analog expansion units can be added for either additional I/O. One communication module can be added.

	IC210DDD012	IC210BDD012	IC210NDD012	IC210MDR124
Product Name	10 point (6) 24 VDC Inputs, (4) 24 VDC Out (Transistor 0.5 Amp), (2) analog inputs*, 24 VDC input power, supports expansion and display/keypad	10 point (6) 24 VDC Inputs, (4) 24 VDC Out (Transistor 0.5 Amp), (2) analog inputs*, 24 VDC input power, supports expansion, no display/keypad	10 point (6) 24 VDC Inputs, (4) 24 VDC Out (Transistor 0.5 Amp), (2) analog inputs*, 24 VDC input power, no expansion, no plastic case and no display/keypad	20 point with Modbus Slave communications built-in (8) 12 VDC Inputs, (4) analog inputs*, (8) Isolated Relay Out (8 Amps), 12 VDC input power, supports expansion and display/keypad
Lifecycle Status	Active	Active	Active	Active
Number of Discrete Inputs/Outputs	6* In/ 4 Out	6* In/ 4 Out	6* In/ 4 Out	8* In/ 8 Out
Number of Analog Inputs/Outputs	2 built in, 4 additional with Analog Expansion	2 built in, 4 additional with Analog Expansion	2 built in	4 built in, 4 with Analog Expansion
Physical I/O Maximum	36 I/O	36 I/O	36 I/O	44 I/O
Support Expansion	Yes	Yes	No	Yes
LCD Display and Keypad	Yes (4 lines x 12 characters)	No	No	Yes (4 lines x 12 characters)
User Program Logic Memory	200 Rungs and 99 Blocks	200 Rungs and 99 Blocks	200 Rungs and 99 Blocks	200 Rungs and 99 Blocks
Protocols Supported	Modbus Slave, DeviceNet Slave, Profibus Slave expansion modules	Modbus Slave, DeviceNet Slave, Profibus Slave expansion modules	None	Modbus Slave built in, and Modbus Slave, DeviceNet Slave, Profibus Slave expansion modules
Input Power Voltage	24 VDC	24 VDC	24 VDC	12 VDC
Power Supply Power Consumption	90 mAmps	90 mAmps	90 mAmps	90 mAmps
Input Device Voltage	24 VDC	24 VDC	24 VDC	12 VDC
High Speed Frequency	1KHz	1KHz	1KHz	1KHz
Output Control Voltage	24 VDC Transistors	24 VDC Transistors	24 VDC Transistors	250 VAC / 30 VDC Relay Outputs, 8A Resistive Load (Isolated)
PWM Maximum Output Frequency	0.5K (1ms ON/ 1ms OFF)	100Hz	100Hz	N/A
Analog Resolution	10 bits	10 bits	10 bits	10 bits
Analog Input Range	0 to 10 VDC	0 to 10 VDC	0 to 10 VDC	0 to 10 VDC
Analog Input Used as Digital Input	Input Current: 0.63 mA @ 24 VDC Input ON Current: 0.161 mA @ 9.8 VDC Input OFF Current: 0.085 mA @ 5 VDC	Input Current: 0.63 mA @ 24 VDC Input ON Current: 0.161 mA @ 9.8 VDC Input OFF Current: 0.085 mA @ 5 VDC	Input Current: 0.63 mA @ 24 VDC Input ON Current: 0.161 mA @ 9.8 VDC Input OFF Current: 0.085 mA @ 5 VDC	Input Current: 0.63 mA @ 24 VDC Input ON Current: 0.161 mA @ 9.8 VDC Input OFF Current: 0.085 mA @ 5 VDC
Dimensions (W x H x D) mm	72 mm x 90 mm x 58 mm	72 mm x 90 mm x 58 mm	72 mm x 90 mm x 58 mm	126 mm x 90 mm x 58 mm

* Analog inputs can be configured as DC input points.

DC Models



The DC versions of the Durus Controllers come in either 12 point (6 discrete inputs, 2 analog and 4 discrete outputs) or 20 point (12 discrete inputs [analog inputs can be configured as either discrete inputs or analog inputs], 4 analog inputs and 8 discrete outputs). The units also support high speed inputs and PWM outputs. The units are available with or without display and keypad and with or without expansion. Up to 3 discrete and 1 analog expansion units can be added for either additional I/O. One communication module can be added.

	IC210DDR024	IC210BDR024	IC210NDR024	IC210DDD024
Product Name	20 point (8) 24 VDC Inputs, (4) analog inputs*, (8) Isolated Relay Out (8 Amps), 24 VDC input power, supports expansion and display/keypad	20 point (8) 24 VDC Inputs, (4) analog inputs*, (8) Isolated Relay Out (8 Amps), 24 VDC input power, supports expansion, no display/keypad	20 point (8) 24 VDC Inputs, (4) analog inputs*, (8) Isolated Relay Out (8 Amps), 24 VDC input power, no expansion, no plastic case and no display/keypad	20 point (4) 24 VDC Inputs, (8) 24 VDC Out (Transistor 0.5 Amp), (4) analog inputs*, 24 VDC input power, supports expansion and display/keypad
Lifecycle Status	Active	Active	Active	Active
Number of Discrete Inputs/Outputs	8* In/ 8 Out	8* In/ 8 Out	8* In/ 8 Out	8* In/ 8 Out
Number of Analog Inputs/Outputs	4 built in, 4 with Analog Expansion	4 built in, 4 with Analog Expansion	4 built in	4 built in, 4 with Analog Expansion
Physical I/O Maximum	44 I/O	44 I/O	44 I/O	44 I/O
Support Expansion	Yes	Yes	No	Yes
LCD Display and Keypad	Yes (4 lines x 12 characters)	No	No	Yes (4 lines x 12 characters)
User Program Logic Memory	200 Rungs and 99 Blocks	200 Rungs and 99 Blocks	200 Rungs and 99 Blocks	200 Rungs and 99 Blocks
Protocols Supported	Modbus Slave, DeviceNet Slave, Profibus Slave expansion modules	Modbus Slave, DeviceNet Slave, Profibus Slave expansion modules	None	Modbus Slave, DeviceNet Slave, Profibus Slave expansion modules
Input Power Voltage	24 VDC	24 VDC	24 VDC	24 VDC
Power Supply Power Consumption	90 mAmps	90 mAmps	90 mAmps	90 mAmps
Input Device Voltage	24 VDC	24 VDC	24 VDC	24 VDC
High Speed Frequency	1KHz	1KHz	1KHz	1KHz
Output Control Voltage	250 VAC / 30 VDC Relay Outputs, 8A Resistive Load (Isolated)	250 VAC / 30 VDC Relay Outputs, 8A Resistive Load (Isolated)	250 VAC / 30 VDC Relay Outputs, 8A Resistive Load (Isolated)	24 VDC Transistors
PWM Maximum Output Frequency	N/A	N/A	N/A	100Hz
Analog Resolution	10 bits	10 bits	10 bits	10 bits
Analog Input Range	0 to 10 VDC	0 to 10 VDC	0 to 10 VDC	0 to 10 VDC
Analog Input Used as Digital Input	Input Current: 0.63 mA @ 24 VDC Input ON Current: 0.161 mA @ 9.8 VDC Input OFF Current: 0.085 mA @ 5 VDC	Input Current: 0.63 mA @ 24 VDC Input ON Current: 0.161 mA @ 9.8 VDC Input OFF Current: 0.085 mA @ 5 VDC	Input Current: 0.63 mA @ 24 VDC Input ON Current: 0.161 mA @ 9.8 VDC Input OFF Current: 0.085 mA @ 5 VDC	Input Current: 0.63 mA @ 24 VDC Input ON Current: 0.161 mA @ 9.8 VDC Input OFF Current: 0.085 mA @ 5 VDC
Dimensions (W x H x D) mm	126 mm x 90 mm x 58 mm	126 mm x 90 mm x 58 mm	126 mm x 90 mm x 58 mm	126 mm x 90 mm x 58 mm

* Analog inputs can be configured as DC input points.

DC Models



The DC versions of the Durus Controllers come in either 12 point (6 discrete inputs, 2 analog and 4 discrete outputs) or 20 point (12 discrete inputs [analog inputs can be configured as either discrete inputs or analog inputs], 4 analog inputs and 8 discrete outputs). The units also support high speed inputs and PWM outputs. The units are available with or without display and keypad and with or without expansion. Up to 3 discrete and 1 analog expansion units can be added for either additional I/O. One communication module can be added.

	IC2108DD024	IC210NDD024	IC210MDR024	IC210MDD024
Product Name	20 point (8) 24 VDC Inputs, (8) 24 VDC Out (Transistor 0.5 Amp), (4) analog inputs*, 24 VDC input power, supports expansion, no display/keypad	20 point (8) 24 VDC Inputs, (8) 24 VDC Out (Transistor 0.5 Amp), (4) analog inputs*, 24 VDC input power, no expansion, no plastic case and no display/keypad	20 point with Modbus Slave communications built-in (8) 24 VDC Inputs, (4) analog inputs*, (8) Isolated Relay Out (8 Amps), 24 VDC input power, supports expansion and display/keypad	20 point Modbus Slave communications built-in (8) 24 VDC Inputs, (8) 24 VDC Out (Transistor 0.5 Amp), (4) analog inputs*, 24 VDC input power, supports expansion and display/keypad
Lifecycle Status	Active	Active	Active	Active
Number of Discrete Inputs/Outputs	8* In/ 8 Out	8* In/ 8 Out	8* In/ 8 Out	8* In/ 8 Out
Number of Analog Inputs/Outputs	4 built in, 4 with Analog Expansion	4 built in	4 built in, 4 with Analog Expansion	4 built in, 4 with Analog Expansion
Physical I/O Maximum	44 I/O	44 I/O	44 I/O	44 I/O
Support Expansion	Yes	No	Yes	Yes
LCD Display and Keypad	No	No	Yes (4 lines x 12 characters)	Yes (4 lines x 12 characters)
User Program Logic Memory	200 Rungs and 99 Blocks	200 Rungs and 99 Blocks	200 Rungs and 99 Blocks	200 Rungs and 99 Blocks
Protocols Supported	Modbus Slave, DeviceNet Slave, Profibus Slave expansion modules	None	Modbus Slave built in, and Modbus Slave, DeviceNet Slave, Profibus Slave expansion modules	Modbus Slave built in, and Modbus Slave, DeviceNet Slave, Profibus Slave expansion modules
Input Power Voltage	24 VDC	24 VDC	24 VDC	24 VDC
Power Supply Power Consumption	90 mAmps	90 mAmps	90 mAmps	90 mAmps
Input Device Voltage	24 VDC	24 VDC	24 VDC	24 VDC
High Speed Frequency	1KHz	1KHz	1KHz	1KHz
Output Control Voltage	24 VDC Transistors	24 VDC Transistors	250 VAC / 30 VDC Relay Outputs, 8A Resistive Load (Isolated)	24 VDC Transistors
PWM Maximum Output Frequency	100Hz	100Hz	N/A	100Hz
Analog Resolution	10 bits	10 bits	10 bits	10 bits
Analog Input Range	0 to 10 VDC	0 to 10 VDC	0 to 10 VDC	0 to 10 VDC
Analog Input Used as Digital Input	Input Current: 0.63 mA @ 24 VDC Input ON Current: 0.161 mA @ 9.8 VDC Input OFF Current: 0.085 mA @ 5 VDC	Input Current: 0.63 mA @ 24 VDC Input ON Current: 0.161 mA @ 9.8 VDC Input OFF Current: 0.085 mA @ 5 VDC	Input Current: 0.63 mA @ 24 VDC Input ON Current: 0.161 mA @ 9.8 VDC Input OFF Current: 0.085 mA @ 5 VDC	Input Current: 0.63 mA @ 24 VDC Input ON Current: 0.161 mA @ 9.8 VDC Input OFF Current: 0.085 mA @ 5 VDC
Dimensions (W x H x D) mm	126 mm x 90 mm x 58 mm	126 mm x 90 mm x 58 mm	126 mm x 90 mm x 58 mm	126 mm x 90 mm x 58 mm

* Analog inputs can be configured as DC input points.



Discrete Expansion Units

The Durus Controllers support a maximum of 7 I/O expansion modules and 1 communications module. The expansion supports a maximum of 3 discrete modules, 1 analog input module, 1 temperature input module (RTD), and 2 analog output expansion units.

	IC210EAR008	IC210EAR208	IC210EDR008	IC210EDD008
Product Name	8 point discrete expansion (4) AC Inputs, (4) Isolated Relay Out (8 Amps), AC input power	8 point discrete expansion (4) 24 VAC Inputs, (4) Isolated Relay Out (8 Amps), AC input power	8 point discrete expansion (4) 24 VDC Inputs, (4) Isolated Relay Output (8 Amps), 24 VDC input power	8 point discrete expansion (4) 24 VDC Inputs, (4) 24 VDC Out (Transistor 0.5 Amp), 24 VDC input power
Lifecycle Status	Active	Active	Active	Active
Number of Discrete Inputs/Outputs	4 In/ 4 Out	4 In/ 4 Out	4 In/ 4 Out	4 In/ 4 Out
Input Power Voltage	85 to 240 VAC; 85 to 240 VDC	24 VAC	24 VDC	24 VDC
Power Supply Power Consumption	90 mAmps	90 mAmps	90 mAmps	90 mAmps
Input Device Voltage	85 to 240 VAC; 85 to 240 VDC	24 VAC	24 VDC	24 VDC
Dimensions (W x H x D) mm	38 mm x 90 mm x 58 mm	38 mm x 90 mm x 58 mm	38 mm x 90 mm x 58 mm	38 mm x 90 mm x 58 mm



Analog Expansion Unit

The Durus Controllers support a maximum of 7 I/O expansion modules and 1 communications module. The total expansion supports 3 discrete modules, 1 analog input module, 1 temperature input module (RTD), and 2 analog output expansion units.

	IC210EAI004	IC210EPT004	IC210EAO002
Product Name	4 point analog expansion (4) analog inputs (voltage and current, 12 bit), 12/24 VDC input power Only one analog expansion supported on the Durus Controller	4 channel PT 100, 12bit, PT100 (-100°~600°). Maximum of temperature modules supported on the Durus Controller.	2 channel analog out expansion (0 – 10VDC or 0 – 20mA). Maximum of 2 analog output modules supported on the Durus Controller.
Lifecycle Status	Active	Active	Active
Number of Channels	4	4	
Input Type			
Output Type			
Analog Input Range	0 to 10 VDC; 0 to 20 mA		
Analog Output Range			0 to 10VDC 0 to 20mA
Resolution	12 bits	0.1C	10mV for Voltage 40 micro Amps for Current
Analog Output Register Range			10mV for Voltage 40 micro Amps for Current
Temperature Range	-100 to 600C		
Dimensions (W x H x D) mm	38 mm x 90 mm x 58 mm	38mm x 90mm x 58mm	38mm x 90mm x 58mm



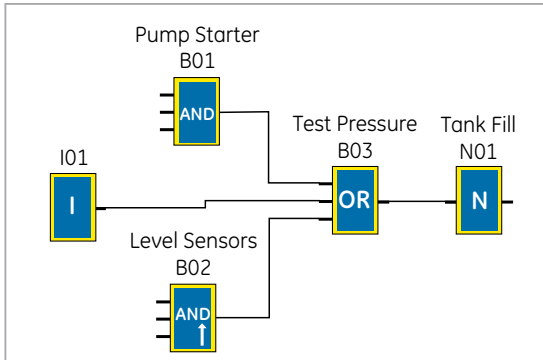
Communications Options

The Durus Controllers support one communication expansion unit. There are three communication options available—Modbus Slave, Profibus Slave and DeviceNet Slave.

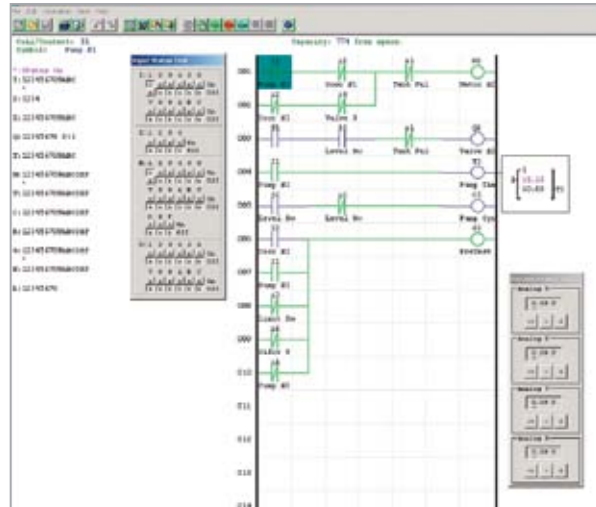
	IC210EMS001	IC210EPS001	IC210EDS001
Product Name	Modbus RTU slave communications expansion module, 24 VDC power source	Profibus-DP slave communications expansion module, 24 VDC power source	DeviceNet slave communications expansion module, 24 VDC power source
Lifecycle Status	Active	Active	Active
Protocol Supported	Modbus Slave	Profibus-DP Slave V0	DeviceNet Group 2 Only Slave Device
Network Data Rate	4800, 9600, 19200, 38400, 57600	9.6K to 12 Meg	125K, 250K, 500 K
Connector Type			
Dimensions (W x H x D) mm	38 mm x 90 mm x 58 mm	38 mm x 90 mm x 58 mm	38 mm x 90 mm x 58 mm

Software

Full featured Durus Software (IC646DUR001) enables you to develop your application in ladder logic or Function Block Diagram programming. The Durus Software also comes with a powerful simulation tool that enables you to easily simulate your application and mimic the keystrokes on the built-in operator keypad.



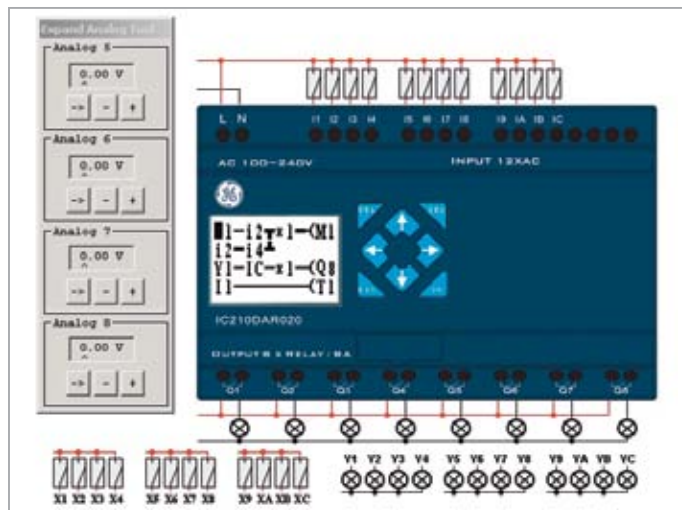
Function Block Diagram



Ladder Logic



I/O Addressing



Easy-to-Use Application Development Simulation on the PC.

User can simulate your entire application without powering up a Durus Controller.

Accessories and Cables

IC210TMP001	Durus Controllers FLASH Memory Pack that enables user to download application and upload application to Durus Controller	Active
IC210CBL001	Durus Controller to PC RS-232 Serial Cable	Active
IC210CBL002	Durus Controller to PDA Transfer Cable	Active

Programming and Trouble Shooting Tools

IC646DUR101	Durus Controllers Program and Simulation Software and PC to Controller RS-232 Cable (IC646DUR001 and IC210CBL001)	Active
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Starter Kits

IC210TBX010	IC210DAR010 10 point Durus controller. AC Power Source, 6 AC in/4out (Relay 8 Amp), Expandable, with LCD/Keypad. Kit includes programming software and cable. (IC646DUR101)	Active
IC210TBX012	IC210DDR012 12 point Durus controller. 24 VDC Power Source, (6) 24 VDC in / (4) out (Relay 8 Amp), (2) analog inputs, Expandable, with LCD/Keypad. Kit includes programming software and cable. (IC646DUR101)	Active
IC210TBX020	IC210DAR020 20 point Durus controller. AC Power Source, (12) AC in/8 out (Relay, 8 Amp), Expandable, with LCD/Keypad. Kit includes programming software and cable. (IC646DUR101)	Active
IC210TBX024	IC210DDR024 20 point Durus-20 controller. 24 point 24 VDC Power Source, (8) 24 VDC in/8 out (Relay, 8 Amp), (4) analog inputs, Expandable, with LCD/Keypad. Kit includes programming software and cable. (IC646DUR101)	Active
IC210TBX124	IC210MDR024 20 point Durus-20 controller. 24 VDC Power Source, (8) 24 VDC in/8 out (Relay, 8 Amp), (4) analog inputs, Expandable, with LCD/Keypad. Support Modbus Slave on port. Kit includes programming software and cable. (IC646DUR101)	Active

Examples of Typical Application using a Series 90-30

Configuration for Durus Controller 10 (Applications needing less than 6 (120/240 VAC) inputs and 4 relay outputs)

Qty	Part Number	Description
1	IC210DAR010	AC Power Source, 6 AC in/4 out (Relay 8 Amp), Expandable, with LCD/Keypad

Options to consider

1	IC646DUR101	Durus Controllers Program and Simulation Software and PC to Controller RS-232 Cable (IC646DUR001 and IC210CBL001)
1	IC210TMP001	Durus Controllers FLASH Memory Pack that enables user to download application and upload application to Durus Controllers
1	IC210EMS001	Modbus RTU slave communications expansion module, 24 VDC power source
1	IC200DTX450	Operator Interface with up to 200 stored messages. 2 x 16 character LCD backlight display and 6 function keys. (Requires 24 VDC power supply)

Configuration for Durus Controller 10 (Example Application needing 16 (24 VDC) discrete inputs, 12 relay outputs and 8 Analog inputs with 24 VDC power and Modbus communications. Modbus communications will connect to Operator Interface that requires 4 x 20 line display and numeric keypad)

Qty	Part Number	Description
1	IC210MDR024	24 VDC Power Source, (12) 24 VDC in/8 out (Relay, 8 Amp), (4) analog inputs, Expandable, with LCD/Keypad. Support Modbus Slave on port.
2	IC210EDR008	24 VDC Power Source, (4) 24 VDC in/(4) out (Relay, 8 Amp)
1	IC210EAI004	24 VDC power source, 10 bit, 4 Analog input
1	IC200DTX850	Operator Interface with up to 200 stored messages. 4 x 20 character LCD backlight display, 8 function keys and numeric keypad.

Options to consider

1	IC646DUR101	Durus Controllers Program and Simulation Software and PC to Controller RS-232 Cable (IC646DUR001 and IC210CBL001)
1	IC210TMP001	Durus Controllers FLASH Memory Pack that enables user to download application and upload application to Durus Controllers

Application requiring six 24 VDC inputs, eight AC inputs, thirteen relay outputs, no display required and Profibus networking.

Qty	Part Number	Description
1	IC210BAR020	AC Power Source, (12) AC in/8 out (Relay, 8 Amp), Expandable, with without LCD/Keypad
2	IC210EDR008	24 VDC Power Source, (4) 24 VDC in/(4) out (Relay, 8 Amp)
1	IC210EPS001	Profibus-DP slave communications expansion module, 24 VDC power source

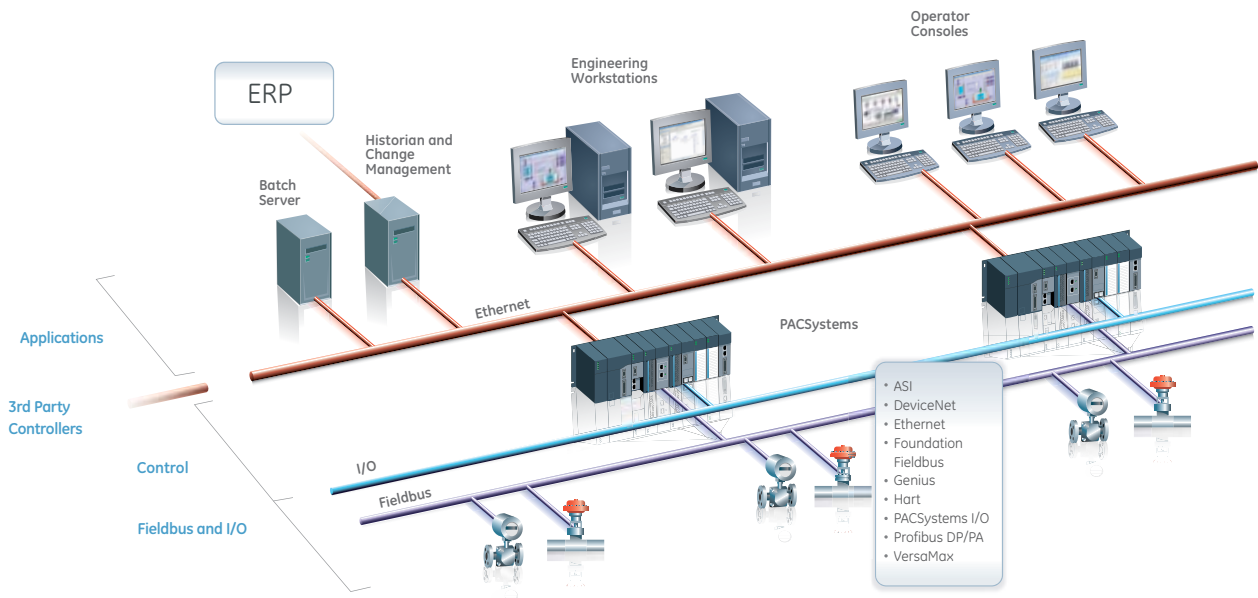
Options to consider

1	IC646DUR101	Durus Controllers Program and Simulation Software and PC to Controller RS-232 Cable (IC646DUR001 and IC210CBL001)
1	IC210TMP001	Durus Controllers FLASH Memory Pack that enables user to download application and upload application to Durus Controllers

Proficy Process Systems 2.3
 Proficy Process Systems Overview 2.3
 Product Selection Guide 2.6

Proficy Process Systems Overview

Proficy Process Systems is a state-of-the-art, scalable, fully-integrated system for process automation and control. It provides the hardware and software needed for a complete process control system. Whether your business has continuous or batch oriented process control needs, Proficy Process Systems will deliver results. Based on contemporary, yet well proven technologies, Proficy Process Systems combines the power of traditional DCS systems with the flexibility, freedom and affordability of a PLC-based approach.



Architecture Overview

The Proficy Process Systems architecture is designed to provide a modular and expandable system to meet your most demanding process control needs. Proficy Process Systems can uniquely range from a small, one-machine architecture to a large, multi-machine architecture. This approach means you can start small and expand your system over time, at your pace. The system consists of several layers.

Applications Layer

The Applications Layer contains the software that powers the information capabilities of Proficy Process Systems, featuring:

Engineering Workstation

This is where you design, create, and maintain your system's configuration. With an advanced Logic Developer, you can create your control strategies in Function Blocks, Ladder Logic, or Structured Text for the PACSystems controllers.

Operator Console

This is where your operators monitor and control the process. Choose between our two industry leading HMI/SCADA visualization technologies for your system – CIMPLICITY® or iFIX®. The consoles communicate with the PACSystems controllers through our Global Namespace.

Historian

The Historian is designed specifically for handling process data. It provides high performance storage and retrieval with sub-second collection and millisecond time-stamping.

Change Management

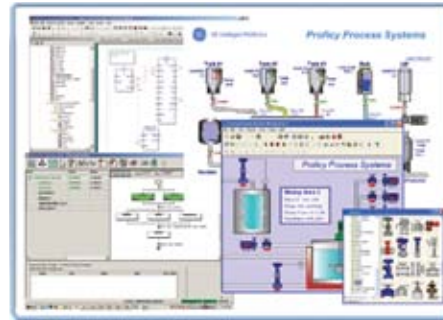
Change Management provides version control for your process control strategies, including audit trail capabilities.

Batch Execution

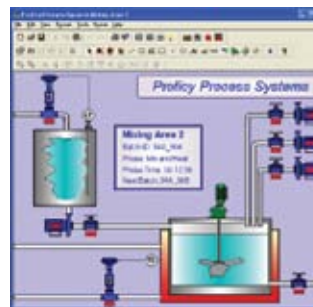
Batch Execution is the perfect option for batch-oriented processes. With advanced batch management, formulation management, batch direct, and tight linkage with our Batch Analysis option, you can optimize campaigns and batch runs.

ERP Connectivity

GE Intelligent Platforms have closed the gap between automation and information with our Proficy Production Management software products and ERP connector. Now you can link your control system to your business systems to truly drive operational excellence in your business.



Engineering Workstation



Operator Console

Controllers

The PACSystems RX7i and RX3i give Proficy Process Systems its flexibility, featuring a common engine which allows you to take programs that are created in one controller and easily move them to another.

Proficy Process Systems also features Control Memory Exchange, a breakthrough technology incorporated from GE's Embedded Systems Business. Through high-speed fiber optics, Control Memory Exchange allows data in one controller to be exchanged and shared with another controller at over a 2 giga baud rate. This allows you to synchronize controllers for distributed control, or reflect the memory state of one controller to another for redundant operations.



PACSystems RX7i



PACSystems RX3i

Fieldbus and I/O

GE has always taken an open approach with our products and technologies. We provide our customers with the best possible technology and give them the freedom to work with the devices and instruments of their choice.

Proficy Process Systems continues with that tradition. We understand that when it comes to process control, there are several choices for Fieldbuses. That's why we chose an Open Fieldbus approach to our system which supports the major Fieldbuses including:

- Foundation Fieldbus
- Profibus™
- Hart
- AS-I Interface
- Ethernet

We also provide you with a comprehensive portfolio of I/O, allowing you to choose the right strategy to meet your needs. Through OPC, native drivers, and by teaming with companies that specialize in Fieldbus and I/O connectivity, we can satisfy your connectivity needs – putting you in control of your Fieldbus strategy.

Product Selection Guide

Notes on Part Numbers and GlobalCare

- Support must be quoted on all new Proficy Process Systems
- Change IC prefix to GC for 15 months of GlobalCare Support

Notes on Licensing

- All Process Systems Licenses are based on Hardware Keys
- System architecture (number of nodes and types) is required at time of order to ensure correct license key manufacture

Proficy Process Systems Products

Proficy Process Systems		Includes				
Part Number	Lifecycle Status	Engineering Workstation	Operator Console	Historian	Change Management	
Proficy Process Systems with iFIX and GlobalCare						
Proficy Process Systems - iFIX - 500 I/O	IC647PSF050	Active	1	1	500 Tag	1
Proficy Process Systems - iFIX - 1000 I/O	IC647PSF100	Active	1	1	1000 Tag	1
Proficy Process Systems - iFIX - 2000 I/O	IC647PSF200	Active	1	1	2000 Tag	1
Proficy Process Systems - iFIX - 3000 I/O	IC647PSF300	Active	1	1	3000 Tag	1
Proficy Process Systems - iFIX - 5000 I/O	IC647PSF500	Active	1	1	5000 Tag	1
Proficy Process Systems - iFIX - 5000+ I/O	IC647PSF000	Active	1	1	5000+ Tag	1
Proficy Process Systems with CIMPLICITY and Global Care						
Proficy Process Systems - CIMPLICITY - 500 I/O	IC647PSC050	Active	1	1	500 Tag	1
Proficy Process Systems - CIMPLICITY - 1000 I/O	IC647PSC100	Active	1	1	1000 Tag	1
Proficy Process Systems - CIMPLICITY - 2000 I/O	IC647PSC200	Active	1	1	2000 Tag	1
Proficy Process Systems - CIMPLICITY - 3000 I/O	IC647PSC300	Active	1	1	3000 Tag	1
Proficy Process Systems - CIMPLICITY - 5000 I/O	IC647PSC500	Active	1	1	5000 Tag	1
Proficy Process Systems - CIMPLICITY - 5000+ I/O	IC647PSC000	Active	1	1	5000+ Tag	1

Product Options

Used to add additional users to your system beyond those included with the base packages above

	Part Number	Lifecycle Status
Additional Engineering Workstation - iFIX	IC647PPSEWF	Active
Additional Engineering Workstation - CIMPLICITY	IC647PPSEWC	Active
Additional Operator Console - iFIX	IC647PPSOFC	Active
Additional Operator Console - CIMPLICITY	IC647PPSOCC	Active
Proficy Process Systems EGD OPC Server	IC647PPSOPC	Active

Complementary Products

These products can be used to expand the capabilities of your Process Systems

Change Management

	Part Number	Lifecycle Status
Change Management 1 user	IC646PCM001	Mature
Change Management 5 users	IC646PCM005	Mature
Change Management 10 users	IC646PCM010	Mature
Change Management 25 users	IC646PCM025	Mature
Change Management Scheduler	IC646PCMSCH	Mature

Batch

	Part Number
Batch Server Small	IC647BSS000
Batch Server Medium	IC647BSM000
Batch Server Large	IC647BSL000
Batch Developer	IC647BSD000
Batch Client	IC647BSC999

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VersaMax I/O and Control

By choosing GE, customers gain access to a complete line of highly versatile and robust I/O modules that offer seamless integration with the PACSystems control family, for reliable, high performance solutions.

The modular design of VersaMax I/O addresses a wide range of discrete and process applications. Its innovative modular architecture combines power and versatility to help provide performance in a compact control solution.

The VersaMax PROFINET network interface provides integrated I/O to PACSystems controllers in both copper and fiber interface. Ideal for any remote I/O application, the PROFINET interface supports ring topology, which permits a node to go down or break without transmission interruption.

Equipment builders are continuously looking for ways to improve the performance of their equipment while augmenting usability and reducing size

and complexity. These requirements extend to the I/O that they use. GE's I/O solutions provide the high performance control solutions with best-in-class integration of distributed (networked) I/O to meet these demanding applications.

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Publication Reference Chart

GFK-1179	Installation Requirements for Conformance to Standards
GFK-1503	VersaMax PLC User's Manual
GFK-1504	VersaMax Modules, Power Supplies, and Carriers User's Manual
GFK-1533	VersaMax System DeviceNet Communications Modules User's Manual
GFK-1534	VersaMax System Profibus Network Modules User's Manual
GFK-1535	VersaMax System Genius Network Interface Unit User's Manual
GFK-1563	VersaMax I/O and Industrial Networking Application Guide

GFK-1697	VersaMax System AS-i Network Master Module User's Manual
GFK-1847	Remote I/O Manager User's Manual
GFK-1852	VersaMax Serial to Ethernet Adapter User's Manual
GFK-1860	VersaMax System Ethernet Network Interface Unit User's Manual
GFK-1868	Proficy Machine Edition Getting Started Guide
GFK-1876	VersaMax Ethernet Station Manager Manual
IC690CDU002	InfoLink for PLC CD-ROM

CPUs



VersaMax CPUs supply a number of features usually found only in PLCs with larger footprints, including up to 128K of memory for application programs, floating point math, and real-time clock. With a modular and scalable architecture, the VersaMax CPU is ideal for standalone control applications with up to 256 local I/O or expanded systems of up to 4,096 I/O points.

	IC200CPU001	IC200CPU002	IC200CPU005	IC200CPU05
Product Name	VersaMax PLC CPU 32K Configurable Memory, 2 Ports RS-232 and RS-485	VersaMax PLC CPU 42K Configurable Memory, 2 Ports RS-232 and RS-485	VersaMax PLC CPU 128K Con- figurable User Memory, 2 Ports RS-232 and RS-485	VersaMax PLC CPU 128K Con- figurable User Memory, 2 Ports RS-232 and RS-485, 10 MBIT Ethernet Port. Supports EGD and SRTP.
Lifecycle Status	Active	Active	Active	Active
I/O Discrete Points	2048 in, 2048 out	2048 in, 2048 out	2048 in, 2048 out	2048 in, 2048 out
I/O Analog Words	Configurable	Configurable	Configurable	Configurable
Registers	Configurable	Configurable	Configurable	Configurable
Discrete Internal Bits	1024 points	1024 points	1024 points	1024 points
Discrete Temporary Bits	256 points	256 points	256 points	256 points
Global Discrete Bits	1280 points	1280 points	1280 points	1280 points
Program Memory	Configurable	Configurable	Configurable	Configurable
Boolean Execution Speed	1.8 ms/K (typical)	1.8 ms/K (typical)	0.8 ms/K (typical)	0.8 ms/K (typical)
Floating Points	Yes	Yes	Yes	Yes
Override	Yes	Yes	Yes	Yes
Built-in Communications	SNP Slave, RTU Master and Slave, Serial I/O	SNP Slave, RTU Master and Slave, Serial I/O	SNP Slave, RTU Master and Slave, Serial I/O	10 MBIT Ethernet Port, Slave, RTU Master and Slave, Serial I/O
Type of Memory Storage	System flash, battery-backed RAM	System flash, battery-backed RAM	System flash, battery-backed RAM	System flash, battery-backed RAM
Battery-Backed Real-time Clock	Yes	Yes	Yes	Yes
5V Backplane Current Consumption (mA)	40 with no EZ Store attached; 140 when EZ Store attached	40 with no EZ Store attached; 140 when EZ Store attached	80 with no EZ Store attached; 180 when EZ Store attached	160 with no EZ Store attached; 260 when EZ Store attached
3.3V Backplane Current Consumption (mA)	100	100	290 (Requires a power supply with 3.3 VDC expanded)	650 (Requires a power supply with 3.3 VDC expanded)
Dimensions (W x H)	2.63" (66.8 mm) x 5.04" (128 mm)	2.63" (66.8 mm) x 5.04" (128 mm)	4.20" (106.7 mm) x 5.04" (128 mm)	4.95" (126 mm) x 5.04" (128 mm)



Carriers

VersaMax provides several types of snap-together I/O carriers and interposing terminals to provide maximum wiring flexibility, as well as module hot insertion and removal. VersaMax carriers support IEC box-style, spring-style, and barrier-style terminals and are also available as snap-on auxiliary terminal strips and interposing terminals that can be mounted separately and connected to a connector-style carrier by an I/O cable.

	IC200CHS022	IC200CHS025
Product Name	VersaMax Compact I/O Carrier, Local Box Clamp Connection Style	VersaMax Compact I/O Carrier, Local Spring Clamp Connection Style
Lifecycle Status	Active	Active
Field Termination Type	Integrated	Integrated
Wiring Termination Style	Local Box	Local Spring
Orientation on Module on Base	Vertical	Vertical
Dimensions (W x H x D)	66.8 mm (2.63 in) x 163.5 mm (6.45 in) x 70 mm (2.75 in), not including the height of DIN Rail	66.8 mm (2.63 in) x 163.5 mm (6.45 in) x 70 mm (2.75 in), not including the height of DIN Rail
Cables	N/A	N/A



Carriers

VersaMax provides several types of snap-together I/O carriers and interposing terminals to provide maximum wiring flexibility, as well as module hot insertion and removal. VersaMax carriers support IEC box-style, spring-style, and barrier-style terminals and are also available as snap-on auxiliary terminal strips and interposing terminals that can be mounted separately and connected to a connector-style carrier by an I/O cable.

	IC200CHS001	IC200CHS002	IC200CHS005
	VersaMax I/O Carrier, Local Barrier Style	VersaMax I/O Carrier, Local Box Style	VersaMax I/O Carrier, Local Spring Clamp Connection Style
Product Name			
Lifecycle Status	Active	Active	Active
Field Termination Type	Integrated	Integrated	Integrated
Wiring Termination Style	Barrier	Box	Spring
Orientation on Module on Base	Horizontal	Horizontal	Horizontal
Dimensions (W x H x D)	110.5 mm (4.35 in) x 139.7 mm (5.5 in) x 70 mm (2.75 in), not including the height of DIN Rail	110.5 mm (4.35 in) x 139.7 mm (5.5 in) x 70 mm (2.75 in), not including the height of DIN Rail	110.5 mm (4.35 in) x 139.7 mm (5.5 in) x 70 mm (2.75 in), not including the height of DIN Rail
Cables	N/A	N/A	N/A



Carriers

VersaMax provides several types of snap-together I/O carriers and interposing terminals to provide maximum wiring flexibility, as well as module hot insertion and removal. VersaMax carriers support IEC box-style, spring-style, and barrier-style terminals and are also available as snap-on auxiliary terminal strips and interposing terminals that can be mounted separately and connected to a connector-style carrier by an I/O cable.

	IC200CHS003	IC200CHS011	IC200CHS012	IC200CHS014	IC200CHS015
Product Name	VersaMax I/O Carrier, VersaMax I/O Carrier, Connector Style. Interposing Barrier A connecting cable (Requires IC200CBL1xxx) and IC200CHS003 base interposing base (IC200CHS011, and connecting CHS012, CHS014, CHS015, cable IC200CBL1xxx) IC200CHS1xx or IC200CHS2xx) are required. This carrier can be used with all VersaMax I/O modules EXCEPT the following, due to their high isolation requirements: IC200MDL144 Input 240 VAC 4 Point Isolated Module; IC200MDL244 Input 240 VAC 8 Point Isolated Module; IC200MDD850 Mixed 240 VAC Isolated 4 Point / Output Relay 2.0A Isolated 8 Point Module	VersaMax I/O Carrier, Interposing Box Style (Requires IC200CHS003 base and connecting cable IC200CBL1xxx)	VersaMax I/O Carrier, Interposing Box Thermocouple Compensation (Requires IC200CHS003 base and connecting cable IC200CBL1xxx)	VersaMax I/O Carrier, Interposing Spring Clamp (Requires IC200CHS003 base and connecting cable IC200CBL1xxx)	VersaMax I/O Carrier, Interposing Spring Clamp (Requires IC200CHS003 base and connecting cable IC200CBL1xxx)
Lifecycle Status	Active	Active	Active	Active	Active
Field Termination Type	Integrated	Non-Integrated	Non-Integrated	Integrated	Non-Integrated
Wiring Termination Style	Connector	Barrier	Box	Box-Thermocouple Compensation	Spring
Orientation on Module on Base	Vertical	N/A	N/A	N/A	N/A
Dimensions (W x H x D)	66.8 mm (2.63 in) x 133.4 mm (5.25 in) x 70 mm (2.75 in), not including the height of DIN Rail	110.5 mm (4.35 in) x 105.4 mm (2.63 in) x 70 mm (2.75 in), not including the height of DIN Rail	110.5 mm (4.35 in) x 105.4 mm (2.63 in) x 70 mm (2.75 in), not including the height of DIN Rail	110.5 mm (4.35 in) x 105.4 mm (2.63 in) x 70 mm (2.75 in), not including the height of DIN Rail	110.5 mm (4.35 in) x 105.4 mm (2.63 in) x 70 mm (2.75 in), not including the height of DIN Rail
Cables	Requires a IC200CBL1xxx cable	Requires a IC200CBL1xxx cable	Requires a IC200CBL1xxx cable	Requires a IC200CBL1xxx cable	Requires a IC200CBL1xxx cable



I/O Interposing Bases

VersaMax I/O interposing disconnect bases enable the IC200CHS003 to connect to a wide range of termination bases. The Relay bases provide additional protection and higher amperage outputs. The Disconnect bases enables the user to easily disconnect signals, on a per point bases, from the I/O module.

	IC200CHS003	IC200CHS101	IC200CHS102	IC200CHS111
Product Name	VersaMax I/O Carrier, Connector Style. A connecting cable (IC200CBL1xxx) and interposing base (IC200CHS011, CHS012, CHS014, CHS015, IC200CHS1xx or IC200CHS2xx) are required. This carrier can be used with all VersaMax I/O modules EXCEPT the following, due to their high isolation requirements: IC200MDL144 Input 240 VAC 4 Point Isolated Module; IC200MDL244 Input 240 VAC 8 Point Isolated Module; IC200MDD850 Mixed 240 VAC Isolated 4 Point / Output Relay 2.0A Isolated 8 Point Module	Input or Output Interposing Disconnect Style 16 Points. The base has an individual knife-switch disconnect for each signal and common terminal and its corresponding pin on the VersaMax cable connector. Requires IC200CHS003 and a connecting cable IC200CBL1xxx.	Expansion Input or Output Interposing Disconnect Style 16 Points. The base has an individual knife-switch disconnect for each signal and common terminal and its corresponding pin on the VersaMax cable connector. Requires a IC200CHS101 main base, can not be directly connected to IC200CHS003.	I/O Interposing Relay Base (replaceable relays), fused (8 amps, replaceable), 16 points. The relays on these interposing terminals are intended to be controlled with standard 24 VDC 0.5A VersaMax output modules (IC200MDL740 and IC200MDL750 using IC200CHS003 base and connected by IC200CBL1xxx).
Lifecycle Status	Active	Active	Active	Active
Field Termination Type	Integrated	Non-Integrated	Non-Integrated	Non-Integrated
Wiring Termination Style	Connector	Box	Box	Box
Removable Terminals Connectors	N/A	No	No	No
Input Voltage	N/A	All discrete modules supported except MDL144, 244, 331, 730 and MDD840, 843, 850.	All discrete modules supported except MDL144, 244, 331, 730 and MDD840, 843, 850.	24 VDC from MDL740 and MDL750
Output Voltage	N/A	All discrete modules supported except MDL144, 244, 331, 730 and MDD840, 843, 850.	All discrete modules supported except MDL144, 244, 331, 730 and MDD840, 843, 850.	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Load Current per Point	N/A	N/A	N/A	8.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC (Replaceable Fuse)
Protection	N/A	N/A	N/A	Replaceable Fuse
Points per Common	N/A	N/A	N/A	Isolated Per Point
Dimensions (W x H x D)	66.8 mm (2.63 in) x 133.4 mm (5.25 in) x 70 mm (2.75 in), not including the height of the DIN Rail	115 mm (4.5 in) x 126 mm (4.95 in) x 65 mm (2.6 in), not including the height of the DIN Rail	115 mm (4.5 in) x 126 mm (4.95 in) x 65 mm (2.6 in), not including the height of the DIN Rail	253.7 mm (9.9 in) x 126 mm (4.95 in) x 73 mm (2.8 in), not including the height of the DIN Rail
Cables	Requires a IC200CBL1xxx cable	Requires a IC200CBL1xxx cable	N/A	Requires a IC200CBL1xxx cable



I/O Interposing Bases

VersaMax I/O interposing disconnect bases enable the IC200CHS003 to connect to a wide range of termination bases. The Relay bases provide additional protection and higher amperage outputs. The Disconnect bases enables the user to easily disconnect signals, on a per point bases, from the I/O module.

	IC200CHS112	IC200CHS211	IC200CHS212
Product Name	I/O Interposing Relay Base (replaceable relays), fused (8 amps, replaceable), 16 points. The relays on these interposing terminals are intended to be controlled with standard 24 VDC 0.5A VersaMax output modules (IC200MDL740 and IC200MDL750 using IC200CHS003 base and connected by IC200CBL1xxx). Expansion base.	I/O Interposing Relay Base (replaceable relays), fused (8 amps, replaceable), 16 points. Field terminals are removable. The relays on these interposing terminals are intended to be controlled with standard 24 VDC 0.5A VersaMax output modules (IC200MDL740 and IC200MDL750 using IC200CHS003 base and connected by IC200CBL1xxx).	I/O Interposing Relay Base (replaceable relays), fused (8 amps, replaceable), 16 points. Field terminals are removable. The relays on these interposing terminals are intended to be controlled with standard 24 VDC 0.5A VersaMax output modules (IC200MDL740 and IC200MDL750 using IC200CHS003 base and connected by IC200CBL1xxx). Expansion base.
Lifecycle Status	Active	Active	Active
Field Termination Type	Non-Integrated	Non-Integrated	Non-Integrated
Connection Style	Box	Box	Box
Removable Terminals Connectors	No	Yes	Yes
Input Voltage	24 VDC from MDL740 and MDL750	24 VDC from MDL740 and MDL750	24 VDC from MDL740 and MDL750
Output Voltage	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Load Current per Point	8.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC (Replaceable Fuse)	8.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC (Replaceable Fuse)	8.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC (Replaceable Fuse)
Protection	Replaceable Fuse	Replaceable Fuse	Replaceable Fuse
Points per Common	Isolated Per Point	Isolated Per Point	Isolated Per Point
Dimensions (W x H x D)	253.7 mm (9.9 in) x 126 mm (4.95 in) x 73 mm (2.8 in), not including the height of the DIN Rail	253.7 mm (9.9 in) x 126 mm (4.95 in) x 73 mm (2.8 in), not including the height of the DIN Rail	253.7 mm (9.9 in) x 126 mm (4.95 in) x 73 mm (2.8 in), not including the height of the DIN Rail
Cables	N/A	Requires a IC200CBL1xxx cable	N/A



Power Supplies

VersaMax Power Supply modules snap onto any VersaMax CPU or Network Interface Unit or onto a power supply booster carrier. Each power supply can be used as the main power source for modules in the I/O station, or as a source of supplemental power for larger I/O applications.

	IC200PWR001	IC200PWR002	IC200PWR011	IC200PWR012	IC200PWR101
Product Name	24 VDC Power Supply	24 VDC Power Supply with Expanded 3.3 V	24VDC Isolated Power Supply	24VDC Isolated Power Supply with Expanded 3.3 V	120/240 VAC Power Supply
Lifecycle Status	Active	Active	Active	Active	Active
Input Voltage	24 VDC	24 VDC	24 VDC	24 VDC	120/240 VAC
Output Voltage	5 VDC, 3.3 VDC	5 VDC, 3.3 VDC	5 VDC, 3.3 VDC	5 VDC, 3.3 VDC	5 VDC, 3.3 VDC
Extended Power	No	Yes	No	Yes	No
Input Power	11 W	11 W	11 W	11 W	27 VA
Isolated Power	No	No	Yes	Yes	N/A
Holdup Time	10 ms	10 ms	10 ms	10 ms	20 ms
Inrush Current	20 A @ 24 VDC; 25 A @ 30 VDC	20 A @ 24 VDC; 25 A @ 30 VDC	20 A @ 24 VDC; 25 A @ 30 VDC	20 A @ 24 VDC; 25 A @ 30 VDC	N/A
Protection	Short circuit, overload, reverse polarity	Short circuit, overload, reverse polarity	Short circuit, overload, reverse polarity	Short circuit, overload, reverse polarity	Short circuit, overload
Total Output Current	1.5 A maximum	1.5 A maximum	1.5 A maximum	1.5 A maximum	1.5 A maximum
3.3V Output Current	0.25 A maximum	1.0 A maximum	0.25 A maximum	1.0 A maximum	0.25 A maximum
5V Output Current	1.5 A minus the 3.3V current used, maximum	1.5 A minus the 3.3V current used, maximum	1.5 A minus the 3.3V current used, maximum	1.5 A minus the 3.3V current used, maximum	1.5 A minus the 3.3V current used, maximum
Dimensions (W x H x D)	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN Rail	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN Rail	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN Rail	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN Rail	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN Rail



Power Supplies

VersaMax Power Supply modules snap onto any VersaMax CPU or Network Interface Unit or onto a power supply booster carrier. Each power supply can be used as the main power source for modules in the I/O station, or as a source of supplemental power for larger I/O applications.

	IC200PWR102	IC200PWR201	IC200PWR202	IC200PWB001
Product Name	120/240 VAC Power Supply with Expanded 3.3 VDC	12 VDC Power Supply	12 VDC Power Supply with Expanded 3.3 VDC	VersaMax Power Supply Booster Carrier. Supplies power to all modules to the right of booster. Requires power supply.
Lifecycle Status	Active	Active	Active	Active
Input Voltage	120/240 VAC	9.6-15 VDC, 12 VDC nominal	9.6-15 VDC, 12 VDC nominal	N/A
Output Voltage	5 VDC, 3.3 VDC	5 VDC, 3.3 VDC	5 VDC, 3.3 VDC	N/A
Extended Power	Yes	No	Yes	N/A
Input Power	27 VA	11 W	11 W	N/A
Isolated Power	N/A	No	No	N/A
Holdup Time	20 ms	10 ms	10 ms	N/A
Inrush Current	N/A	25 A at 12 VDC; 30 A at 15 VDC	25 A at 12 VDC; 30 A at 15 VDC	N/A
Protection	Short circuit, overload	Short circuit, overload, reverse polarity	Short circuit, overload, reverse polarity	N/A
Total Output Current	1.5 A maximum	1.5 A maximum	1.5 A maximum	N/A
3.3V Output Current	1.0 A maximum	0.25 A maximum	1.0 A maximum	N/A
5V Output Current	1.5 A minus the 3.3V current used, maximum	1.5 A minus the 3.3 V current used, maximum	1.5 A minus the 3.3 V current used, maximum	N/A
Dimensions (W x H x D)	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN Rail	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN Rail	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN Rail	66.8 mm (2.63 in) x 133.4 mm (5.25 in) x 70 mm (2.75 in), not including the height of DIN Rail

Discrete Mixed I/O Modules



Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Discrete input modules receive signals from input devices such as sensors, push-buttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Modules require a carrier base (IC200CHSxxx).

	IC200MDD840	IC200MDD842	IC200MDD843
Product Name	VersaMax Discrete Mixed Modules, 24 VDC Pos Logic Input 20 points/Output Relay 2.0 A, 12 points	VersaMax Discrete Mixed Modules 24 VDC Pos Logic Input 16/Output 24 VDC 0.5 A with ESCP	VersaMax Discrete Mixed Modules 24 VDC Positive Logic Input 10/Output Relay 6
Lifecycle Status	Active	Active	Active
Input Voltage	24 VDC	24 VDC	24 VDC
Output Voltage	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	24 VDC	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Number of Points	20 in/12 out	16 in/16 out	10 in/6 out
Channel to Channel Isolation	No	No	No
Load Current per Point	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC	0.5 A for 30 VDC	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC
Input and Output Response Time- On/Off(ms)	0.5 and 10	0.5 and 0.5	0.5 and 10
Protection	No internal fuses or snubbers	Short circuit protection, overcurrent protection, free-wheeling diodes	No internal fuses or snubbers
On State Current	2.0-5.5 mA	2.0-5.5 mA	2.0-5.5 mA
Off State Current	0-0.5 mA	0-0.5 mA	0-0.5 mA
External Power Supply	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	18-30 VDC, 24 VDC nominal	0-125 VDC, 5/24/125 VDC nominal, 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Input Impedance	10 kOhms maximum	10 kOhms maximum	10 kOhms maximum
Load Current	2.0 A for 5-265 VAC or 5-30 VDC, 0.2 A for 31-125 VDC	0.5 Amp at 30 VDC maximum (resistive); 2.0 Amps maximum for 100ms inrush	10mA per point minimum, 8.0A maximum per module; 2.0 Amps for 5 to 265 VAC maximum (resistive); 2.0 Amps for 5 to 30 VDC maximum (resistive); 0.2 Amp for 31 to 125 VDC maximum (resistive)
5V Backplane Current Consumption (mA)	375 maximum	100 maximum	190 maximum
LED Indicators	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Mixed I/O Modules



Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Discrete input modules receive signals from input devices such as sensors, push-buttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Modules require a carrier base (IC200CHSxxx).

	IC200MDD844	IC200MDD845	IC200MDD846
Product Name	VersaMax Discrete Mixed Modules 24 VDC Positive Logic Input 16/Output 24 VDC 0.5 A 16 points	VersaMax Discrete Mixed Modules 24 VDC Positive Logic Input 16/Output Relay 2.0A Isolated 8 points	VersaMax Discrete Mixed Modules 120 VAC Input 8 points/Outputs Relay 2.0A Isolated 8 points
Lifecycle Status	Active	Active	Active
Input Voltage	24 VDC	24 VDC	120 VAC
Output Voltage	24 VDC	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Number of Points	16 in/16 out	16 in/8 out	8 in/8 out
Channel to Channel Isolation	No	Yes, outputs	Yes, outputs
Load Current per Point	0.5 A for 30 VDC	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC
Input and Output Response Time- On/Off(ms)	0.5 and 0.2 ON / 1.0 OFF	0.5 and 10	1 AC cycle minimum and 2 AC cycle (Hz dependent) maximum and 10.0 OFF
Protection	No internal fuses	No internal fuses or snubbers	No internal fuses or snubbers
On State Current	2.0-5.5 mA	2.0-5.5 mA	5 mA minimum
Off State Current	0-0.5 mA	0-0.5 mA	2.5 mA maximum
External Power Supply	18-30 VDC, 24 VDC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Input Impedance	10 kOhms maximum	10 kOhms maximum	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical
Load Current	0.5 Amp at 30 VDC maximum (resistive) 2.0 Amps maximum for 100ms inrush	10mA per point minimum 2.0A for 5 to 265 VAC maximum (resistive) 2.0A for 5 to 30 VDC maximum (resistive) 0.2A for 31 to 125 VDC maximum (resistive)	10mA per point minimum 2.0A for 5 to 265 VAC maximum (resistive) 2.0A for 5 to 30 VDC maximum (resistive) 0.2A for 31 to 125 VDC maximum (resistive)
5V Backplane Current Consumption (mA)	70 maximum	270 maximum	300 maximum
LED Indicators	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Mixed I/O Modules



Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Discrete input modules receive signals from input devices such as sensors, push-buttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Modules require a carrier base (IC200CHSxxx).

	IC200MDD847	IC200MDD848	IC200MDD849
Product Name	VersaMax Discrete Mixed Modules 240 VAC Input 8 points/Output Relay 2.0A Isolated 8 points	VersaMax Discrete Mixed Modules 120 VAC Input 8 points/Output 120 VAC 0.5A Isolated 8 points	VersaMax Discrete Mixed Modules 120 VAC Input Isolated 8 points/Output Relay 2.0 A Isolated 8 points
Lifecycle Status	Active	Active	Active
Input Voltage	240 VAC	120 VAC	0-132 VAC (47 to 63 Hz), 120 VAC nominal
Output Voltage	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	120 VAC	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Number of Points	8 in/8 out	8 in/8 out	8 in/8 out
Channel to Channel Isolation	Yes, outputs	Yes	Yes
Load Current per Point	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC	10 mA min, 0.5 A max, 5 A for 1 cycle (20 ms) max inrush	2.0 A
Input and Output Response Time- On/Off(ms)	1 AC cycle minimum and 2 AC cycle (Hz dependent) maximum and 10.0 OFF	1 cycle/2 cycle and <1/2 cycle/<1/2 cycle	1 cycle/2 cycle and 10/10
Protection	No internal fuses or snubbers	Snubber and MOVs (each output)	No internal fuses or snubbers
On State Current	4 mA minimum	5 mA minimum	5 mA minimum
Off State Current	1.5 mA maximum	2.5 mA maximum	2.5 mA maximum
External Power Supply	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	N/A
Input Impedance	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical
Load Current	10mA per point minimum 2.0 Amps for 5 to 265 VAC maximum (resistive) 2.0 Amps for 5 to 30 VDC maximum (resistive) 0.2 Amp for 31 to 125 VDC maximum (resistive)	10 mA minimum per point, 0.5 A maximum per point, 5.0 A for one cycle (20 ms) maximum inrush	10 mA per point minimum; 2.0 A for 5-265 VAC maximum (resistive); 2.0 A for 5-30 VDC maximum (resistive); 0.2 A for 31-125 VDC maximum (resistive)
5V Backplane Current Consumption (mA)	300 maximum	125 maximum	300 maximum
LED Indicators	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of (the carrier or the mating connectors

Discrete Mixed I/O Modules



Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Discrete input modules receive signals from input devices such as sensors, push-buttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Modules require a carrier base (IC200CHSxxx).

	IC200MDD850	IC200MDD851
Product Name	VersaMax Discrete Mixed Modules 240 VAC Input Isolated 4 points/Output Relay 2.0 A Isolated 8 points	VersaMax Discrete Mixed Modules 5/12 VDC Input 16 points/Output 12/24 VDC 16 points
Lifecycle Status	Active	Active
Input Voltage	0-264 VAC (47-63 Hz), 240 VAC nominal	0 to 15 VDC, +5/12 VDC nominal
Output Voltage	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	+10.2 to +30 VDC, +12/24 VDC nominal
Number of Points	8 out/4 in	16 out/16 in
Channel to Channel Isolation	Yes	No
Load Current per Point	2.0 A	0.5 Amps at 30 VDC maximum (resistive) 2.0 Amps maximum for 100ms inrush
Input and Output Response Time- On/Off(ms)	1 cycle/2 cycle and 10/10	0.25ms maximum/0.2ms ON and 1.0ms OFF maximum
Protection	No internal fuses or snubbers	No internal fuses or snubbers
On State Current	4 mA minimum	1.45mA minimum
Off State Current	1.5 mA maximum	0 to 0.7 mA maximum
External Power Supply	N/A	+10.2 to +30 VDC, +12/24 VDC nominal
Input Impedance	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical	2.4kOhms typical @ 12 VDC
Load Current	10 mA per point minimum; 2.0 A for 5-265 VAC maximum (resistive); 2.0 A for 5-30 VDC maximum (resistive); 0.2 A for 31-125 VDC maximum (resistive)	0.5 Amps at 30 VDC maximum (resistive); 2.0 Amps maximum for 100ms inrush
5V Backplane Current Consumption (mA)	260 maximum	115 maximum
LED Indicators	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Input Modules



Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Modules require a carrier base (IC200CHSxxx).

	IC200MDL140	IC200MDL141	IC200MDL143
Product Name	VersaMax Discrete Input Module 120 VAC, 8 points	VersaMax Discrete Input Module 240 VAC, 8 points	VersaMax Discrete Input Module 120 VAC Isolated, 8 points
Lifecycle Status	Active	Active	Active
Input Voltage	0-132 VAC	0-264 VAC	0-132 VAC
Number of Points	8	8	8
Channel to Channel Isolation	No	No	Yes
Input and Output Response Time- On/Off (ms)	1 cycle/2 cycles	1 cycle/2 cycles	1 cycle/2 cycles
Points per Common	1 group of 8	1 group of 8	8 groups of 1
On State Current	5 mA minimum	7 mA minimum	5 mA minimum
Off State Current	2.5 mA maximum	1.5 mA maximum	2.5 mA maximum
Input Impedance	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical
5V Backplane Current Consumption (mA)	55 maximum	55 maximum	50 maximum
LED Indicators	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Input Modules



Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Modules require a carrier base (IC200CHSxxx).

	IC200MDL144	IC200MDL240	IC200MDL241
Product Name	VersaMax Discrete Input Module 240 VAC Isolated, 4 points	VersaMax Discrete Input Module, 120 VAC Positive Logic, 16 points	VersaMax Discrete Input Module, 240 VAC Positive Logic, 16 points
Lifecycle Status	Active	Active	Active
Input Voltage	0-264 VAC	0-132 VAC	0-264 VAC
Number of Points	4	16	16
Channel to Channel Isolation	Yes	No	No
Input and Output Response Time- On/Off (ms)	1 cycle/2 cycles	1 cycle/2 cycles	1 cycle/2 cycles
Points per Common	4 groups of 1	2 groups of 8	2 groups of 8
On State Current	7 mA minimum	5 mA minimum	4 mA minimum
Off State Current	3 mA maximum	2.5 mA maximum	1.5 mA maximum
Input Impedance	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical
5V Backplane Current Consumption (mA)	30 maximum	110 maximum	110 maximum
LED Indicators	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Input Modules



Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Modules require a carrier base (IC200CHSxxx).

	IC200MDL243	IC200MDL244	IC200MDL631
Product Name	VersaMax Discrete Input Module, 120 VAC Isolated, 16 points	VersaMax Discrete Input Module, 240 VAC Isolated, 8 points	VersaMax Discrete Input Module 125 VDC, Pos/Neg Logic, Isolated, 8 points
Lifecycle Status	Active	Active	Active
Input Voltage	0-132 VAC	0-264 VAC	0-150 VDC, 125 VDC nominal
Number of Points	16	8	8 isolated inputs
Channel to Channel Isolation	Yes	Yes	Yes
Input and Output Response Time- On/Off (ms)	1 cycle/2 cycles	1 cycle/2 cycles	0.5 maximum
Points per Common	16 groups of 1	8 groups of 1	8 groups of 1
On State Current	5 mA minimum	7 mA minimum	1.0 mA minimum
Off State Current	2.5 mA maximum	3 mA maximum	0 to 0.1 mA maximum
Input Impedance	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical	74 K Ohm typical at 125 VDC
5V Backplane Current Consumption (mA)	100 maximum	60 maximum	40 maximum
LED Indicators	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Input Modules



Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Modules require a carrier base (IC200CHSxxx).

	IC200MDL632	IC200MDL635	IC200MDL636
Product Name	VersaMax Discrete Input Module 125 VDC, Pos/Neg Logic, Isolated, 16 points	VersaMax Discrete Input Module 48 VDC, Pos/Neg Logic (2 Groups of 8), 16 points	VersaMax Discrete Input Module 48 VDC, Pos/Neg Logic (4 Groups of 8), 32 points
Lifecycle Status	Active	Active	Active
Input Voltage	0-150 VDC, 125 VDC nominal	0-60 VDC, 48 VDC nominal	0-60 VDC, 48 VDC nominal
Number of Points	16 isolated inputs	16 inputs (2 groups of 8)	32 (4 groups of 8)
Channel to Channel Isolation	Yes	No	No
Input and Output Response Time- On/Off (ms)	0.5 maximum	0.5 maximum	0.5 maximum
Points per Common	16 groups of 1	2 groups of 8	4 groups of 8
On State Current	1.0 mA minimum	1.0 mA minimum	1.0 mA minimum
Off State Current	0 to 0.1 mA maximum	0 to 0.4 mA maximum	0 to 0.4 mA maximum
Input Impedance	74 K Ohm typical at 125 VDC	28 K Ohm typical	28 K Ohm typical
5V Backplane Current Consumption (mA)	80 maximum	70 maximum	140 maximum
LED Indicators	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Input Modules



Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Modules require a carrier base (IC200CHSxxx).

	IC200MDL640	IC200MDL643	IC200MDL644	IC200MDL650
Product Name	VersaMax Discrete Input Module, 24 VDC Pos/Neg Logic, 16 points	VersaMax Discrete Input Module, 5/12 VDC (TTL) Pos/Neg Logic, 16 points	VersaMax Discrete Input Module, 5/12 VDC (TTL) Pos/Neg Logic, 32 points	VersaMax Discrete Input Module, 24 VDC Positive Logic, 32 points
Lifecycle Status	Active	Active	Active	Active
Input Voltage	0-30 VDC	0-15 VDC	0-15 VDC	0-30 VDC
Number of Points	16	16	32	32
Channel to Channel Isolation	No	No	No	No
Input and Output Response Time- On/Off (ms)	0.5	0.25	0.25	0.5
Points per Common	2 groups of 8	2 groups of 8	4 groups of 8	2 groups of 8
On State Current	2.0-5.5 mA	1.45 mA minimum	1.45 mA minimum	2.0-5.5 mA
Off State Current	0-0.5 mA	0-0.7 mA maximum	0-0.7 mA maximum	0-0.5 mA
Input Impedance	10 kOhms maximum	2.4 kOhms at 12 VDC, typical	2.4 kOhms at 12 VDC, typical	10 kOhms maximum
5V Backplane Current Consumption (mA)	25 maximum	70 maximum	140 maximum	50 maximum
LED Indicators	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Output Modules



Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Modules require a carrier base (IC200CHSxxx).

	IC200MDL329	IC200MDL330	IC200MDL331
Product Name	VersaMax Discrete Output Module, 120 VAC, 0.5A per point Isolated, 8 points	VersaMax Discrete Output Module, 120 VAC 0.5A per point Isolated, 16 points	VersaMax Discrete Output Module, 120 VAC 2.0A per point Isolated, 8 points
Lifecycle Status	Active	Active	Active
Output Voltage	85-132 VAC (47-63 Hz), 120 VAC nominal	85-132 VAC (47-63 Hz), 120 VAC nominal	85-132 VAC (47-63 Hz), 120 VAC nominal
Number of Points	8	16	8
Channel to Channel Isolation	Yes	Yes	Yes
Load Current per Point	0.5 A per point	0.5 A per point	2.0 A per point
Input and Output Response Time- On/Off (ms)	<1/2 cycle/<1/2 cycle	<1/2 cycle/<1/2 cycle	<1/2 cycle/<1/2 cycle
Protection	Snubber and MOVs (each output)	Snubber and MOVs (each output)	Snubber and MOVs (each output)
Points per Common	8 groups of 1	Isolated points	Isolated points
External Power Supply	85-132 VAC (47-63 Hz), 120 VAC nominal	85-132 VAC (47-63 Hz), 120 VAC nominal	85-132 VAC (47-63 Hz), 120 VAC nominal
Load Current	10 mA minimum per point, 0.5 A maximum per point, 5.0 A for one cycle (20 ms) maximum inrush	10 mA minimum per point, 0.5 A maximum per point, 5.0 A for one cycle (20 ms) maximum inrush	10 mA minimum per point, 2.0 A maximum per point, 20 A for one cycle (20 ms) maximum inrush
5V Backplane Current Consumption (mA)	70 maximum	140 maximum	85 maximum
LED Indicators	One LED per point shows individual point ON/OFF status (logic side). OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status (logic side). OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status (logic side). OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Output Modules



Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Modules require a carrier base (IC200CHSxxx).

	IC200MDL730	IC200MDL740	IC200MDL741
Product Name	VersaMax Discrete Output Module, 24 VDC Positive Logic 2.0A per point w/ESCP, 8 points	VersaMax Discrete Output Module, 24 VDC Positive Logic, 0.5A per point, 16 points	VersaMax Discrete Output Module, 24 VDC Positive Logic, 0.5A per point w/ESCP, 16 points
Lifecycle Status	Active	Active	Active
Output Voltage	17.5-30 VDC, 24 VDC nominal	10.2-30 VDC, 12/24 VDC nominal	18-30 VDC, 24 VDC nominal
Number of Points	8	16	16
Channel to Channel Isolation	No	No	No
Load Current per Point	2.0 A per point	0.5 A per point	0.5 A per point
Input and Output Response Time- On/Off (ms)	0.5	0.2/1.0	0.5/0.5
Protection	Short circuit protection, overcurrent protection (each output)	No internal fuses (each output)	Short circuit protection, overcurrent protection, free-wheeling diodes (each output)
Points per Common	1 group of 8	1 group of 16	1 group of 16
External Power Supply	18-30 VDC, 24 VDC nominal	10.2-30 VDC, 12/24 VDC nominal	18-30 VDC, 24 VDC nominal
Load Current	2.0 A at 30 VDC maximum (resistive) per point, 8.0 A max per module	0.5 A at 30 VDC maximum (resistive); 2.0 A inrush maximum for 100 ms	0.5 A at 30 VDC maximum (resistive); 2.0 A inrush maximum for 100 ms
5V Backplane Current Consumption (mA)	50 maximum	45 maximum	75 maximum
LED Indicators	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Output Modules



Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Modules require a carrier base (IC200CHSxxx).

	IC200MDL742	IC200MDL743	IC200MDL744
Product Name	VersaMax Discrete Output Module, 24 VDC Positive Logic 0.5A with ESCP, 32 points	VersaMax Discrete Output Module, 5/12/24 VDC Negative Logic, 0.5 A per point (1 group of 16) 16 points	VersaMax Discrete Output Module, 5/12/24 VDC Negative Logic, 0.5 A per point (2 groups of 16) 32 points
Lifecycle Status	Active	Active	Active
Output Voltage	18-30 VDC, 24 VDC nominal	5/12/24 VDC	5/12/24 VDC
Number of Points	32	16 (1 group of 16)	32 (2 groups of 16)
Channel to Channel Isolation	No	No	No
Load Current per Point	0.5 A per point	0.5 A per point	0.5 A per point
Input and Output Response Time- On/Off (ms)	0.5/0.5	0.2/1.0	0.2/1.0
Protection	Short circuit protection, overcurrent protection, free-wheeling diodes (each output)	No internal fuse	No internal fuse
Points per Common	2 groups of 16	1 group of 16	2 groups of 16
External Power Supply	18-30 VDC, 24 VDC nominal	4.75 to 5.25 VDC, 5 VDC nominal for 5 VDC-TTL mode; 10.2 to 30 VDC, 12/24 VDC nominal for 12/24 VDC mode	4.75 to 5.25 VDC, 5 VDC nominal for 5 VDC-TTL mode; 10.2 to 30 VDC, 12/24 VDC nominal for 12/24 VDC mode
Load Current	0.5 A at 30 VDC maximum (resistive); 2.0 A inrush maximum for 100 ms	25 mA maximum for 5 VDC-TTL mode, 0.5 A at 30 VDC maximum, 2.0 A inrush maximum for 100 ms for 12/24 VDC mode	25 mA maximum for 5 VDC-TTL mode, 0.5 A at 30 VDC maximum, 2.0 A inrush maximum for 100 ms for 12/24 VDC mode
5V Backplane Current Consumption (mA)	150 maximum	70 maximum	140 maximum
LED Indicators	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Output Modules



Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Modules require a carrier base (IC200CHSxxx).

	IC200MDL750	IC200MDL930	IC200MDL940
Product Name	VersaMax Discrete Output Module, 24 VDC Positive Logic, 0.5A per point, 32 points	VersaMax Discrete Output Module, Relay 2.0 A per point Isolated Form A, 8 points	VersaMax Discrete Output Module, Relay 2.0 A per point Isolated Form A, 16 points
Lifecycle Status	Active	Active	Active
Output Voltage	10.2-30 VDC, 12/24 VDC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Number of Points	32	8	16
Channel to Channel Isolation	No	Yes	Yes
Load Current per Point	0.5 A per point	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC
Input and Output Response Time- On/Off (ms)	0.2/1.0	10.0/10.0	10.0/10.0
Protection	No internal fuses	No internal fuses or snubbers	No internal fuses or snubbers
Points per Common	2 groups of 16	Isolated points	Isolated points
External Power Supply	10.2-30 VDC, 12/24 VDC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Load Current	0.5 A at 30 VDC maximum (resistive); 2.0 A inrush maximum for 100 ms	10 mA per point minimum; 2.0 A for 5-265 VAC maximum (resistive); 2.0 A for 5-30 VDC maximum (resistive); 0.2 A for 31-125 VDC maximum (resistive)	10 mA per point minimum; 2.0 A for 5-265 VAC maximum (resistive); 2.0 A for 5-30 VDC maximum (resistive); 0.2 A for 31-125 VDC maximum (resistive)
5V Backplane Current Consumption (mA)	90 maximum	245 maximum	490 maximum
LED Indicators	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Analog Input Modules



Analog input modules receive signals from current and voltage input devices. Modules require a carrier base (IC200CHSxxx).

	IC200ALG230	IC200ALG240	IC200ALG260	IC200ALG261
Product Name	VersaMax Analog Input Module, 12 Bit Voltage/Current, 4 Channels	VersaMax Analog Input Module, 16 Bit Voltage/Current Isolated, 8 Channel	VersaMax Analog Input Module, 12 Bit Voltage/Current, 8 Channel	VersaMax Analog Input Module, 15 Bit Differential Voltage, 8 Channel
Lifecycle Status	Active	Active	Active	Active
Input Range	±10 VDC or 0-10 VDC	±10 VDC, 4-20 mA	4-20mA, ±10 VDC or 0-10 VDC	±10 VDC
Number of Channels	4	8 Channel to channel isolated	8	8
External Power Supply	None	Range: 19.5-30 VDC including ripple; Current consumption: 100 mA maximum plus load currents	None	None
Resolution	Bipolar mode: 2.5 mV = 8 counts, Unipolar mode: 2.5 mV = 8 counts	Current mode: 381 nA nominal Voltage mode: 381 µV nominal	Current mode: 4 µA = 8 counts, Bipolar mode: 2.5 mV = 8 counts, Unipolar mode: 2.5 mV = 8 counts	Bipolar mode: 0.3125 mV = 1 counts
Update Rate	0.4 ms	Approximately 20 mS max. @ 50 Hz filter frequency Approximately 16.7 mS max. @ 60 Hz filter frequency	0.4 ms	7.5 ms
Accuracy at 25°C	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.1% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale
Input Impedance	Voltage mode: 126 kOhms maximum, Current mode: 200 Ohms maximum	N/A	Voltage mode: 126 kOhms maximum, Current mode: 200 Ohms maximum	Voltage mode: 100 kOhms maximum
Input Filter Response	5.0 ms	N/A	5.0 ms	N/A
5V Backplane Current Consumption (mA)	125 maximum	15 maximum	130 maximum	200 maximum
3.3V Backplane Current Consumption (mA)	N/A	120 maximum	N/A	N/A
LED Indicators	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates the presence of both logic power and user power. OK LED indicates module status.	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Analog Input Modules



Analog input modules receive signals from current and voltage input devices. Modules require a carrier base (IC200CHSxxx).

	IC200ALG262	IC200ALG263	IC200ALG264
Product Name	VersaMax Analog Input Module, 15 Bit Differential Current, 8 Channel	VersaMax Analog Input Module, 15 Bit Voltage, 15 Channel	VersaMax Analog Input Module, 15 Bit Current, 15 Channel
Lifecycle Status	Active	Active	Active
Input Range	0 to 20mA or 4 to 20mA	±10 VDC	0 to 20mA or 4 to 20mA
Number of Channels	8	15	15
External Power Supply	None	None	None
Resolution	4 to 20mA: 0.5micro Amp = 1 count; 0 to 20mA: 0.625micro Amp = 1 count	Bipolar mode: 0.3125 mV = 1 count	4 to 20mA: 0.5micro Amp = 1 count; 0 to 20mA: 0.625micro Amp = 1 count
Update Rate	7.5 ms	7.5 ms	7.5 ms
Accuracy at 25°C	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale
Input Impedance	Current mode: 100 kOhms maximum	Voltage mode: 100 kOhms maximum	Voltage mode: 100 kOhms maximum, Current mode: 200 Ohms maximum
Input Filter Response	N/A	N/A	24 Hz ±20%
5V Backplane Current Consumption (mA)	200 maximum	150 maximum	100 maximum
3.3V Backplane Current Consumption (mA)	N/A	N/A	N/A
LED Indicators	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in) , not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in) , not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in) , not including the height of the carrier or the mating connectors

Analog Output Modules



Analog output modules provide voltage or current signals to analog output devices. Modules require a carrier base (IC200CHSxxx).

	IC200ALG320	IC200ALG321	IC200ALG322
Product Name	VersaMax Analog Output Module, 12 Bit Current, 4 Channel	VersaMax Analog Output Module, 12 Bit 0-10V Voltage, 4 Channel	VersaMax Analog Output Module, 12 Bit \pm 10V Voltage, 4 Channel
Lifecycle Status	Active	Active	Active
Output Range	4-20 mA	0-10 VDC	\pm 10 VDC
Number of Channels	4	4	4
External Power Supply	Range: 18-30 VDC including ripple; Current consumption: 160 mA maximum including load current	Range: 18-30 VDC including ripple; Current consumption: 125 mA maximum	Range: 18-30 VDC including ripple; Current consumption: 125 mA maximum
Resolution	4 μ A = 8 counts	2.5 mV = 8 counts	5 mV = 16 counts
Update Rate	0.3 ms maximum	0.3 ms maximum	0.3 ms maximum
Accuracy at 25°C	\pm 0.3% typical of full scale, \pm 0.5% maximum of full scale	\pm 0.3% typical of full scale, \pm 0.5% maximum of full scale	\pm 0.3% typical of full scale, \pm 0.5% maximum of full scale
5V Backplane Current Consumption (mA)	50 maximum	50 maximum	50 maximum
3.3V Backplane Current Consumption (mA)	N/A	N/A	N/A
LED Indicators	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Analog Output Modules



Analog output modules provide voltage or current signals to analog output devices. Modules require a carrier base (IC200CHSxxx).

	IC200ALG325	IC200ALG326	IC200ALG327	IC200ALG328	IC200ALG331
Product Name	VersaMax Analog Output Module, 13 Bit ± 10 VDC or 0 to 10 VDC Voltage, 8 Channel	VersaMax Analog Output Module, 13 Bit Current, 8 Channel	VersaMax Analog Output Module, 13 Bit ± 10 VDC or 0 to 10 VDC Voltage, 12 Channel	VersaMax Analog Output Module, 13 Bit, 0 - 20 mA, 4-20 mA Current, 12 Channel	VersaMax Analog Output Module, 14 Bit Voltage/Current 1500 VAC Isolation, 4 Channel
Lifecycle Status	Active	Active	Active	Active	Active
Output Range	± 10 VDC or 0 to 10 VDC	4 to 20mA (default) 0 to 20mA (configured with jumper)	± 10 VDC or 0 to 10 VDC	4 to 20 mA (default) 0 to 20 mA (configured with jumper)	± 10 VDC, 4-20 mA
Number of Channels	8	8	12	12 single ended, one group	4
External Power Supply	Range: 18-30 VDC including ripple; Current consumption: 102 mA maximum	Range: 18-30 VDC including ripple; 2A inrush maximum, 100 mA maximum (no load), 185 mA maximum (all 8 outputs at full scale)	Range: 18-30 VDC including ripple; Current consumption: 112 mA maximum	Range: 18-30 VDC including ripple; Current consumption: 2A inrush maximum 100 mA maximum (no load) 270 mA maximum (all 12 outputs at full scale)	Range: 19.5-30 VDC including ripple; Current consumption: 100 mA maximum plus load currents
Resolution	1.25 mV = 4 counts	4-20 mA: 5 counts = 2.5 μ A (~12.7 bits) 0-20 mA: 4 counts = 2.5 μ A (13 bits)	1.25 mV = 4 counts	4-20 mA: 5 counts = 2.5 μ A (~12.7 bits) 0-20 mA: 4 counts = 2.5 μ A (13 bits)	Current mode: 381 nA nominal Voltage mode: 381 μ V nominal
Update Rate	15.0 ms maximum	15.0 ms maximum	10.0 ms maximum	15 ms maximum	7 ms maximum
Accuracy at 25°C	$\pm 0.3\%$ typical of full scale, $\pm 0.5\%$ maximum of full scale	$\pm 0.3\%$ of full scale (typical), $\pm 0.5\%$ of full scale (max) $\pm 1\%$ of full scale (max)	$\pm 0.3\%$ typical of full scale, $\pm 0.5\%$ maximum of full scale	+/- 0.3% of full scale (typical), +/- 0.5% of full scale (max.) +/- 1% of full scale (max.)	$\pm 0.1\%$ maximum of full scale
5V Backplane Current Consumption (mA)	50 maximum	50 maximum	50 maximum	50 maximum	10 maximum
3.3V Backplane Current Consumption (mA)	N/A	N/A	N/A	N/A	115 maximum
LED Indicators	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates the presence of both logic power and user power. OK LED indicates module status.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Analog Mixed Modules



Analog mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Modules require a carrier base (IC200CHSxxx).

	IC200ALG430	IC200ALG431	IC200ALG432
Product Name	VersaMax Analog Mixed Module, 12 Bit Input Current 4 Channel/Output Current 2 Channel	VersaMax Analog Mixed Module, 12 Bit 0-10V Input 4 Channel/Output 0-10V 2 Channel	VersaMax Analog Mixed Module, 12 Bit $\pm 10V$ Input 4 Channel/Output $\pm 10V$ 2 Channel
Lifecycle Status	Active	Active	Active
Input Range	4-20 mA	0-10 VDC	-10 to +10 VDC
Output Range	4-20 mA	0-10 VDC	-10 to +10 VDC
External Power Supply	Range: 18-30 VDC including ripple; Current consumption: 125 mA maximum	Range: 18-30 VDC including ripple; Current consumption: 125 mA maximum	Range: 18-30 VDC including ripple; Current consumption: 125 mA maximum
Resolution	4 μA = 8 counts	2.5 mV = 8 counts	Input: 2.5 mV = 8 counts, Output: 5 mV = 16 counts
Update Rate	0.3 ms maximum	0.3 ms maximum	0.3 ms maximum
Accuracy at 25°C	$\pm 0.3\%$ typical of full scale, $\pm 0.5\%$ maximum of full scale	$\pm 0.3\%$ typical of full scale, $\pm 0.5\%$ maximum of full scale	$\pm 0.3\%$ typical of full scale, $\pm 0.5\%$ maximum of full scale
Input Impedance	200 Ohms maximum	120 kOhms minimum	125 kOhms minimum
Input Filter Response	5.0 ms	5.0 ms	5.0 ms
LED Indicators	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

RTD and Thermocouple Modules



Specialty modules are available for RTD and Thermocouple inputs. Modules require a carrier base (IC200CHSxxx).

	IC200ALG620	IC200ALG630
Product Name	VersaMax Analog Input Module, 16 Bit RTD, 4 Channel	VersaMax Analog Input Module, 16 Bit Thermocouple, 7 Channel
Lifecycle Status	Active	Active
Input Range	RTD types: 25, 100, and 1000 ohm platinum 10, 50, and 100 ohm copper 100 and 120 ohm nickel 604 ohms nickel/iron	Thermocouple types: J, K, T, S, R, none (used for mV inputs)
Number of Channels	4	7
Resolution	15 bits plus sign	15 bits plus sign
Update Rate	60 Hz: approximately 210 milliseconds per channel 50 Hz: approximately 230 milliseconds per channel	60 Hz: approximately 60 milliseconds per channel 50 Hz: approximately 70 milliseconds per channel
Accuracy at 25°C	on voltage measurement: $\pm 0.15\%$ on resistance measurement on temperature measurement: $\pm 0.15\%$ on RTD (temperature) measurement	on voltage measurement: $\pm 0.2\%$ on temperature measurement: $\pm 0.15\%$
5 V Backplane Current Consumption (mA)	125 maximum	125 maximum
3.3 V Backplane Current Consumption (mA)	125 maximum	125 maximum
LED Indicators	OK LED: green indicates backplane power is present. Amber indicates module fault.	OK LED: green indicates backplane power is present. Amber indicates module fault.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Specialty Modules



Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Modules require a carrier base (IC200CHSxxx).

IC200MDD841

IC200MDD841	
Product Name	VersaMax Discrete Mixed Modules 24VDC Pos Logic Input 20/Output 12/HSC, PWM or Pulse Train
Lifecycle Status	Active
Input Voltage	24 VDC
Output Voltage	24 VDC
Number of Points	20 in/12 out/4 configurable
Channel to Channel Isolation	No
Inrush Current	2.0 A maximum for 100 ms
Input and Output Response Time- On/Off (ms)	7 and 0.5
Protection	No internal fuses
On State Current	3.0-8.0 mA
Off State Current	0-0.5 mA
External Power Supply	24 VDC nominal, 18-30 VDC
Input Impedance	9.6 kOhms maximum
Load Current	0.5 A maximum
5V Backplane Current Consumption (mA)	30
LED Indicators	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors



Expansion Modules

Expansion Modules can be used to extend a VersaMax PLC or I/O station to include up to seven additional groups of up to eight modules each, providing the architectural flexibility to accommodate larger applications.

	IC200ERM001	IC200ERM002	IC200ETM001
Product Name	Expansion Receiver Module, Isolated	Expansion Receiver Module, Non-Isolated	Bus Transmitter Expansion Module
Lifecycle Status	Active	Active	Active
Expansion Type	Receiver	Receiver	Transmitter
Distance	Up to 2460 feet	Up to 50 feet	N/A
5 V Backplane Current Consumption (mA)	430	70	44
3.3 V Backplane Current Consumption (mA)	20	20	N/A
LED Indicators	PWR LED indicates 5 VDC power status; EXP RX LED indicates status of the expansion bus; SCAN indicates whether CPU/NIU is scanning I/O in expansion racks	PWR LED indicates 5 VDC power status; EXP RX LED indicates expansion bus communications status; SCAN indicates whether CPU/NIU is scanning I/O in expansion racks	PWR LED indicates 5 VDC power status; EXP TX LED indicates expansion bus communication status
Dimensions (W x H x D)	2.63 (66.8 mm) x 5.04 (128 mm) not including the height of power supply	2.63 (66.8 mm) x 5.04 (128 mm) not including the height of power supply	37 mm (1.45 in) x 5.04 (128 mm)

Remote I/O Units



A Remote I/O Unit connects VersaMax I/O modules to a host PLC or computer via a variety of networks. This makes it easy to include VersaMax I/O in the innovative PROFINET interface, as well as Genius, Profibus-DP, DeviceNet, or other Ethernet installations. Together, the Remote I/O Unit and its modules form an I/O station capable of providing up to 256 points of I/O.

	IC200PNS001	IC200PNS002	IC200DBI001	IC200EBI001
Product Name	Remote I/O PROFINET Network Interface Unit (Cooper Media) with built-in switch	Bus Transmitter Expansion Module (Fiber Media) with built-in switch	Remote I/O DeviceNet Network Interface Unit (Slave)	Remote I/O Ethernet Network Interface Unit
Lifecycle Status	Active	Active	Active	Active
Protocol Supported	PROFINET Slave, Version 2.2 Class A IO-Device	PROFINET Slave, Version 2.2 Class A IO-Device	DeviceNet Slave	EGD and Modbus TCP Server
Distance	100 Meters max drop length 10/100Mbaud	2 – 2,000 (Full-Duplex) 2 – 400 (Half-Duplex)	500Kbps 100m bus length and branches totaling < 39m 250Kbps 250m bus length and branches totaling < 78m 125Kbps 500m bus length and branches totaling < 156m	100 Meters max drop length 10/100Mbaud
I/O Discrete Points	2880 bytes total 1440 bytes of input data 1440 bytes of output data	2880 bytes total 1440 bytes of input data 1440 bytes of output data	Includes both discrete and analog. Up to 128 bytes of inputs + 2-byte status word Up to 128 bytes of outputs + 2-byte control word.	1024 bytes maximum both discrete and analog. %I: 2048 points %Q: 2048 points
I/O Analog Words	2880 bytes total 1440 bytes of input data 1440 bytes of output data	2880 bytes total 1440 bytes of input data 1440 bytes of output data	Includes both discrete and analog. Up to 128 bytes of inputs + 2-byte status word Up to 128 bytes of outputs + 2-byte control word.	1024 bytes maximum both discrete and analog. %AI: 128 channels %AQ: 128 channels
I/O Data	N/A	N/A	Up to 128 bytes of inputs + 2-byte status word Up to 128 bytes of outputs + 2-byte control word.	256 Bytes of input, output, Analog input and Analog output
I/O Data Update Rate	Configurable: 1ms, 2ms, 4ms, 8ms, 16ms, 32ms, 64ms, 128ms, 256ms and 512ms	Configurable: 1ms, 2ms, 4ms, 8ms, 16ms, 32ms, 64ms, 128ms, 256ms and 512ms	N/A	N/A
Network Topology	Daisy-chain/line, star, or ring (redundant media) topology.	Daisy-chain/line, star, or ring (redundant media) topology.	Linear bus (trunkline/dropline); power and signal on the same network cable	Network dependent
Transmission Media	10/100BASE-T	Fiber 100BASE-FX	Shielded, dual twisted pair cable, terminated at both ends	Ethernet twisted pair
Connector	(2) RJ45 with built-in switch	(2) SC or SC-Duplex with built-in switch	5-pin open pluggable connector	RJ-45
User Diagnostic Data	32 input status bits and 32 output control bits	32 input status bits and 32 output control bits	2 bytes of status/control	4
Number of Modules	8 per NIU/station, not expandable	8 per NIU/station, not expandable	8 per NIU/station	8 per NIU/station
Redundancy	No	No	N/A	No
5V Backplane Current Consumption (mA)	3 Watts	5 Watts	160	175
3.3V Backplane Current Consumption (mA)	N/A	N/A	10	425
Dimensions (W x H x D)	134mm (5.28 in) x 132mm (5.2 in)	134mm (5.28 in) x 132mm (5.2 in)	133.4 mm (5.25 in) x 85.9 mm (3.38 in) not including the height of power supply	133.4 mm (5.25 in) x 85.9 mm (3.38 in) not including the height of power supply

Remote I/O Units



A Remote I/O Unit connects VersaMax I/O modules to a host PLC or computer via a variety of networks, which makes it easy to include VersaMax I/O in Genius, Profibus-DP, DeviceNet, or Ethernet installations. Together, the Remote I/O Unit and its modules form an I/O station capable of providing up to 256 points of I/O.

	IC200GBI001	IC200PBI001
Product Name	Genius Network Interface Unit	Remote I/O Profibus-DP Network Interface Unit (Slave)
Lifecycle Status	Active	Active
Protocol Supported	Genius	Profibus DP
Distance	1372 to 2286 meters - 38.4 Kbaud supports a maximum of 16 devices. 1067 to 1372 meters 76.8 Kbaud supports a maximum of 32 devices. 609 to 1067 meters - 153.6 Kbaud extended supports a maximum of 32 devices. Less than 609 meters 153.6 Kbaud standard or 153.6 Kbaud extended supports a maximum of 32 devices.	9.6Kbits - 1,200 meters 19.2Kbits - 1,200 meters 93.75Kbits - 1,200 meters 187.5Kbits - 600 meters 500Kbits - 400 meters 1.5Mbits - 200 meters 3Mbits; 6Mbits; 12Mbits - 100 meters
I/O Discrete Points	1024 Inputs and 1024 Outputs	375 bytes maximum. Up to 244 bytes of inputs or 244 bytes of outputs
I/O Analog Words	64 Analog In and 64 Analog Out	375 bytes maximum. Up to 244 bytes of inputs or 244 bytes of outputs
I/O Data	128 bytes in and 128 out per bus scan	375 bytes maximum. Up to 244 bytes of inputs or 244 bytes of outputs.
I/O Data Update Rate	N/A	N/A
Network Topology	Bus	Linear bus, terminated at both ends. Stubs are possible.
Transmission Media	Shielded, twisted pair, fiber optic (external option)	Shielded, twisted pair cable
Connector	Removable Connector	9-pin D-sub connector
User Diagnostic Data	Yes	2 bytes of status/control, 5 bytes of standard Profibus diagnostics
Number of Modules	8 per NIU/station	8 per NIU/station
Redundancy	Full media and hardware redundancy supported	N/A
5V Backplane Current Consumption (mA)	250	250
3.3V Backplane Current Consumption (mA)	10	10
Dimensions (W x H x D)	133.4 mm (5.25 in) x 85.9 mm (3.38 in) not including the height of power supply	133.4 mm (5.25 in) x 85.9 mm (3.38 in) not including the height of power supply

Network Interface Modules



Network Interface Modules allow a VersaMax PLC to operate as a master or slave on a network. Modules currently available support DeviceNet master or slave communications and Profibus-DP slave communications. An AS-i master communications is also available.

	IC200BEM002	IC200BEM103	IC200BEM104	IC200CHS006
Product Name	PLC Network Communications Profibus-DP (Slave). Requires IC200CHS006 Communications Carrier.	PLC Network Communications DeviceNet (Master). Requires IC200CHS006 Communications Carrier.	PLC Network Communications AS-i (Master). Requires IC200CHS006 Communications Carrier.	VersaMax I/O, Local Communications Carrier (Supports IC200BEMxxx Modules)
Lifecycle Status	Active	Active	Active	Active
Number of Stations	32 without repeaters; up to 125 with repeaters	N/A	N/A	N/A
I/O Data	384 Bytes maximum; up to 244 bytes of inputs or 244 bytes of outputs	Up to 128 bytes of inputs and 128 bytes of outputs	4 input bits and 4 output bits per slave	N/A
Network Data Rate	9.6 Kbaud to 12 Mbaud	125 Kbaud, 250 Kbaud, 500 Kbaud	166.6Kbits/second	N/A
Network Topology	Linear bus, terminated at both ends. Stubs are possible	Linear bus (trunkline/ dropline); power and signal on the same network cable	Tree Structure	N/A
Transmission Media	Shielded, twisted pair cable	Shielded, dual twisted pair cable	Rubber coated two wire cable	N/A
Connector	9-pin D-sub connector	5-pin open pluggable connector	Box Style	N/A
Number of Nodes	N/A	Supports up to 40 slave devices	Supports up to 31 slave devices	N/A
User Diagnostic Data	N/A	One presence bit per slave device	Display data	N/A
Power Consumption	460 mA maximum from 5 V output, 5 mA from +3.3 V output	490 mA maximum from 5 V output, 2 mA from +3.3 V output	350 mA maximum from 5 V output	N/A
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	66.8 mm (2.63 in) x 133.4 mm (5.25 in) x 70 mm (2.75 in), not including the height of DIN Rail

Serial Communications



The serial communications expansion module provides a Modbus Master port for a Genius NIU remote I/O drop. The serial port can be used to interface with a wide range of Modbus slave devices such as controllers, VFDs, bar code readers, marques and much more. The data is transferred to and from the NIU over the Genius LAN and is compatible with any controller that supports Genius Global Data.

IC200CMM020

Product Name	Modbus Master Module, 1 RS-485 port. Requires IC200CHS006 Communications Carrier.
Lifecycle Status	Active
Module Type	Modbus Master
NIU Type Supported	Genius and Profinet Slave
Number of Serial Communications Modules	Up to 2 per Genius NIU I/O Station
Number of RTU slaves per Serial Communications Module	1 to 247
Serial Port Type	RS-485. 15-pin subminiature 'D' connector. For RS-232 communications, an RS-485 to RS-232 adapter such as IC690ACC901 can be used. Adapter IC690ACC901 can be installed with its right-angle cable hanging down. RS-485 supports both 2-wire and 4-wire electrical interfaces
Baud Rate Supported	1200, 2400, 4800, 9600, and 19200, and half or full duplex operation
COMMREQ command memory (%AQ) required in the GENERIC_COMM module hardware configuration	Depends on individual COMMREQ content. Minimum: 22 words Maximum: 64 words
RTU Master Commands	65520, Initialize RTU Master Port 8000, Clear RTU Master Diag. Status 8001, Read RTU Master Diag. Status 8002, Send RTU Read/Force/Preset Query 8003, Send RTU Diagnostic Query
Power Consumption	460 mA maximum from 5 V output, 5 mA from +3.3 V output
Dimensions (W x H x D)	110mm (4.3in) x 66.8mm (2.63in) x 50mm (1.956 in), not including the height of the carrier or the mating connectors

Accessories

IC200ACC001	Replacement Battery for VersaMax CPUs	Active
IC200ACC003	EZ Program Store, CPU RS-485 Port Update Device	Active
IC200ACC201	Expansion Terminator QTY 1	Active
IC200ACC202	Expansion Terminator QTY 2	Active
IC690ACC905	Encapsulated Thermistor Kit QTY 2	Active
IC200ACC301	I/O Filler Module	Active
IC200ACC302	I/O Input Simulator	Active
IC200ACC303	I/O Shorting Bar QTY 2	Active
IC200ACC304	Cable Connector Kit, QTY 2, for connector base (IC200CHS003) I/O Base (IC200CHS011, CHS012, CHS014, CHS015 and CHS1xx bases)	Active
IC200ACC313	DIN rail clips (Qty 2) to secure modules on DIN rail	Active
IC200TBM001	I/O Auxiliary Terminal Strip, 18 Internally Bussed, Barrier Style	Active
IC200TBM002	I/O Auxiliary Terminal Strip, 18 Internally Bussed, Box Style	Active
IC200TBM005	I/O Auxiliary Terminal Strip, 18 Internally Bussed, Spring Clamp Style	Active

Cables for Connector Type Carrier

IC200CBL105	Cable, I/O Non-Shielded, 2 Connectors. 0.5M used with IC200CHS003 and IC200CHS011, 012, 015.	Active
IC200CBL110	Cable, I/O Non-Shielded, 2 Connectors, 1.0M used with IC200CHS003 and IC200CHS011, 012, 015.	Active
IC200CBL120	Cable, I/O Non-Shielded, 2 Connectors, 2.0M used with IC200CHS003 and IC200CHS011, 012, 015.	Active
IC200CBL230	Cable, I/O Non-Shielded, 1 Connector, 3.0M used with IC200CHS003 and IC200CHS011, 012, 015.	Active

Cables to Connect Rack to Rack Expansion

IC200CBL600	Rack Expansion Cable, Shielded, Single Ended, 1M to One Expansion Receiver Module (IC200ERM00x)	Active
IC200CBL601	Rack Expansion Cable, Shielded, 2 Connectors, 1M. Supports Multidrop to Multiple Expansion Receiver Modules (IC200ERM00x)	Active
IC200CBL602	Rack Expansion Cable, Shielded, 2 Connectors, 2M. Supports Multidrop to Multiple Expansion Receiver Modules (IC200ERM00x)	Active
IC200ACC304	Cable Connector Kit, QTY 2, for connector base (IC200CHS003) I/O Base (IC200CHS011, CHS012, CHS014, CHS015 and CHS1xx bases)	Active

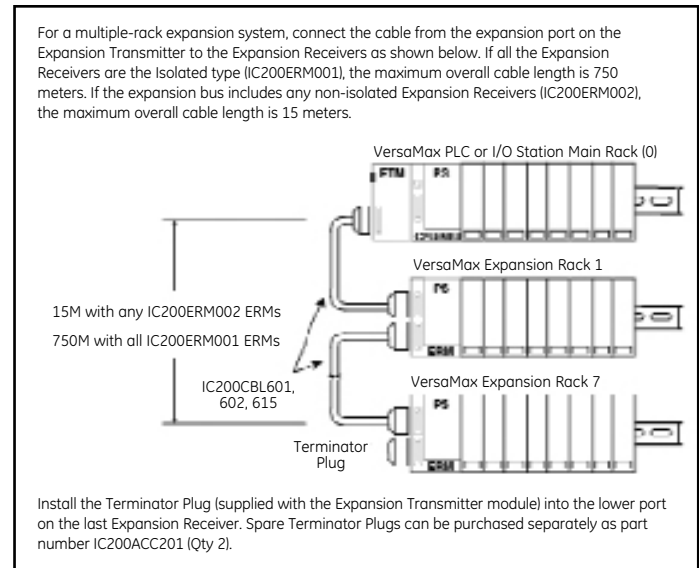
Starter Kits

IC200PKG001	PLC Starter Kit CPU001	Contains CPU001, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1503, GFK-1504, 641VPS300 (Infolink included), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.	Active
IC200PKG010	PLC Starter Kit CPUE05	Contains CPUE05, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1503, GFK-1504, Machine Edition (Infolink included), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.	Active
IC200PKG101	I/O Starter Kit GENIUS	Contains GBI001, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1535, GFK-1504, 690CDR002 (Infolink), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.	Active
IC200PKG102	I/O Starter Kit Profibus-DP	Contains PBI001, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1534, GFK-1504, 690CDR002 (Infolink), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.	Active
IC200PKG103	I/O Starter Kit DeviceNet	Contains DBI001, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1533, GFK-1504, 690CDR002 (Infolink), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.	Active
IC200PKG104	I/O Starter Kit Ethernet	Contains EBI001, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1534, GFK-1504, Machine Edition (Infolink), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.	Active

Configuration Guidelines

When configuring a VersaMax Modular the following guidelines should be considered:

1. All I/O modules require an I/O Carrier (IC200CHS001, 002, 003, 005, 022 or 025).
2. When an I/O Connector Carrier (IC200CHS003) is selected, a cable (IC200CBL6xx) and interposing remote base (IC200CHS011, 012, 014 or 015) are required.
3. When configuring a system, the power consumptions should be tracked to determine what power supply and how many power supplies may be required.
4. DIN rail clips should be used to secure the VersaMax modules (IC200ACC313).
5. A maximum of 8 carriers, any combination of I/O or communications, can be connected directly to either an NIU or CPU. (Power Supply Booster base is not counted as a carrier). CPUs and NIUs can be expanded beyond the 8 carriers using the Bus Transmitter Expansion (IC200ETM001) and up to 7 Expansion Receiver Modules (IC200ERM00x) for a total of 64 carrier modules.



Examples of Typical Application

Configuration for Controller (Example application requiring (30) 24 VDC inputs and (10) Relay outputs AC power supply)

Power Supply Current Required (mA)	Qty	Part Number	Description
40@ 5 V and 100@ 3 V	1	IC200CPU001	VersaMax PLC CPU 32K Configurable Memory, 2 Ports RS-232 and RS-485
	1	IC200PWR101	VersaMax 120/240 VAC Power Supply (1.5 amps 5 V and 0.25 amps 3.3 V)
50 @ 5 V	1	IC200MDL650	VersaMax Discrete Input Module, 24 VDC Positive Logic, 32 points
490 @ 5 V	1	IC200MDL940	VersaMax Discrete Output Module, Relay 2.0 A per point Isolated Form A, 16 points
	2	IC200CHS022	VersaMax Compact I/O Carrier, Local Box Clamp Connection Style
	1	IC200ACC313	DIN rail clips (Qty 2) to secure modules on DIN rail
	1	IC646MPS101	Logic Developer - PLC Standard - w/Programming Cable
Total:			580 @ 5 V and 100 @ 3 V (820 mA remaining). 1500 mA available for 5 V and 3.3 V.

Options to consider

	1	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
100 @ 5 V	1	IC200ACC003	EZ Program Store, CPU RS485 Port Update Device

Configuration for Controller (Application requiring 20K of Registers, (60) 24 VDC inputs, (15) AC Inputs, (12) AC Outputs and (20) Relay outputs also (16) Analog Inputs, (12) Isolated Analog Outputs and 24 VDC power supply. Also requires Profibus Slave connection)

Power Supply Current Required	Qty	Part Number	Description
80 @ 5 V and 650 @ 3 V	1	IC200CPU005	VersaMax PLC CPU 128K Configurable User Memory, 2 Ports RS-232 and RS-485
	3	IC200PWR002	24 VDC Power Supply with Expanded 3.3 V (Logic side supply of 1.5 amps maximum. Up to 1.0 amp can be allocated for 3.3 V usage.)
100 @ 5 V	2	IC200MDL650	VersaMax Discrete Input Module, 24 VDC Positive Logic, 32 points
110 @ 5 V	1	IC200MDL240	VersaMax Discrete Input Module, 120 VAC Positive Logic, 16 points
170 @ 5 V	2	IC200MDL331	VersaMax Discrete Output Module, 120 VAC 2.0 A per point Isolated, 8 points
980 @ 5 V	2	IC200MDL940	VersaMax Discrete Output Module, Relay 2.0 A per point Isolated Form A, 16 points
400 @ 5 V	2	IC200ALG262	VersaMax Analog Input Module, 15 Bit Differential Current, 8 Channel
10 @ 5 V and 115 @ 3 V	2	IC200ALG331	VersaMax Analog Output Module, 14 Bit Voltage/Current 1500 VAC Isolation, 8 Channel
	11	IC200CHS022	VersaMax Compact I/O Carrier, Local Box Clamp Connection Style
460 @ 5 V and 5 @ 3 V	1	IC200BEM002	PLC Network Communications Profibus-DP (Slave)
	1	IC200PWB001	VersaMax Power Supply Booster Carrier. Supplies power to all modules to the right of booster. Requires power supply.
		IC200CHS006	VersaMax I/O, Local Communications Carrier
44 @ 5 V	1	IC200ETM001	Bus Transmitter Expansion Module
70 @ 5 V and 20 @ 3 V	1	IC200ERM002	Expansion Receiver Module, Non-Isolated
	1	IC200CBL600	Cable Expansion Shielded Single Ended 1M
	1	IC200ACC313	DIN rail clips (Qty 2) to secure modules on DIN rail
	1	IC646MPS101	Logic Developer - PLC Standard - w/Programming Cable
Total:			2424 @ 5 V and 790 @ 3 V Required. 4500 mA available for 5 V and 3.3 V. Power Supply to meet power requirements.

(continued on next page)

Options to consider

	1	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
	1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch DC
100 @ 5 V	1	IC200ACC003	EZ Program Store, CPU RS485 Port Update Device

Configuration for Controller Ethernet connectivity, (60) 24 VDC inputs, (20) Relay outputs, (16) Analog Inputs, (12) Thermocouples on a remote Ethernet drop, (12) Isolated Analog Outputs and 24 VDC power supply. Also requires Color TFT Operator Interface with Touch Screen.

Power Supply Current Required	Qty	Part Number	Description
160 @ 5 V and 650 @ 3 V	1	IC200CPUE05	VersaMax PLC CPU 128K Configurable User Memory, 2 Ports RS-232 and RS-485, 10 MBIT Ethernet Port. Supports SRTP and EGD.
	2	IC200PWR002	24 VDC Power Supply with Expanded 3.3 V (Logic side supply of 1.5 amps maximum. Up to 1.0 amp can be allocated for 3.3 V usage.)
	1	IC200PWB001	VersaMax Power Supply Booster Carrier. Supplies power to all modules to the right of booster. Requires power supply.
100 @ 5 V	2	IC200MDL650	VersaMax Discrete Input Module, 24 VDC Positive Logic, 32 points
980 @ 5 V	2	IC200MDL940	VersaMax Discrete Output Module, Relay 2.0 A per point Isolated Form A, 16 points
400 @ 5 V	2	IC200ALG262	VersaMax Analog Input Module, 15 Bit Differential Current, 8 Channel
10 @ 5 V and 115 @ 3 V	2	IC200ALG331	VersaMax Analog Output Module, 14 Bit Voltage/Current 1500 VAC Isolation, 8 Channel
	8	IC200CHS022	VersaMax Compact I/O Carrier, Local Box Clamp Connection Style
	2	IC200ACC313	DIN rail clips (Qty 2) to secure modules on DIN rail
	1	IC646MBT001	Logic Developer PLC Standard Edition and View for QuickPanel with 15 mos. of Proficy GlobalCare which is renewable on an annual basis.
	1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch DC
Total:	1650 @ 5 V and 765 @ 3 V. 3000 mA available for 5 V and 3.3 V.		

Ethernet Remote Drop

175 @ 5 V and 425 @ 3 V	1	IC200ETM001	Bus Transmitter Expansion Module
	1	IC200PWR002	24 VDC Power Supply with Expanded 3.3 V (Logic side supply of 1.5 amps maximum. Up to 1.0 amp can be allocated for 3.3 V usage.)
250 @ 5 V and 250 @ 3 V	2	IC200ALG630	VersaMax Analog Input Module, 16 Bit Thermocouple, 7 Channel
	1	IC690ACC905	Encapsulated Thermistor Kit Qty 2
	2	IC200CHS022	VersaMax Compact I/O Carrier, Local Box Clamp Connection Style
	1	IC200ACC313	DIN rail clips (Qty 2) to secure modules on DIN rail
Total:	2424 @ 5 V and 790 @ 3 V Required. 4500 mA available for 5 V and 3.3 V. Power Supply Booster required with extra Power Supply to meet power requirements.		

Options to consider

	1	IC690PWR124	24 VDC, 10 Amp Output Power and 120/230 VAC Input Power Power Supply
100 @ 5 V	1	IC200ACC003	EZ Program Store, CPU RS485 Port Update Device

Genius Distributed I/O

By providing distributed control on the factory floor, Genius I/O systems offer fewer terminations to document, dramatically shorter wiring runs, and simpler, more effective troubleshooting. Genius I/O blocks automatically provide diagnostic information on field wiring, power conditions and loads, as well as the state of the communication network, blocks and circuits. Genius diagnostics sharply reduce the time needed for initial control and debugging.

Genius blocks provide predictable system operation in the event of a CPU, bus interface or network cable

failure. When connected in a redundant configuration with two or more CPUs running simultaneously, the Genius blocks will shift automatically to a backup CPU if the main controller fails to communicate.

Genius blocks communicate with the system CPU over the Genius LAN, greatly simplifying system installation, and with network tools such as the hand-held monitor, troubleshooting is a snap. In addition to Genius I/O blocks, VersaMax I/O may also be integrated into a single Genius LAN.

AC Discrete I/O Modules	page 3.41
DC Discrete I/O Modules	pages 3.42-3.43
Analog Input Modules	page 3.44
Analog Output Modules	page 3.45
Analog Mixed Modules	page 3.46
RTD and Thermocouple Modules	page 3.47
High Speed Counter	page 3.48
PowerTRAC Monitoring Module	page 3.49
Accessories	page 3.50
Configuration Guidelines	pages 3.51-3.52



Publication Reference Chart

GEK-90486D	I/O Discrete and Analog Blocks
GEK-90486F-1	I/O System and Communications
GFK-0074A	Genius I/O PCIM User's Manual
GFK-0415E	High Speed Counter
GFK-0450D	PowerTRAC
GFK-0881	Single Slot Personal Computer Interface Module (PCIM)
GFK-1179J	Installation Requirements for Conformance to Standards



AC Discrete I/O Modules

Control power for the block is tapped off the input/output device voltages wired to the terminals. No separate block power supply is needed. Configurable features include; Output Pulse Test capability, Selectable Input Filter Time from 10mS to 100mS, Output powerup defaults, Output Hold Last State or default, each circuit has electronic fusing.

	IC660BBD110	IC660BBD101	IC660BBS102	IC660BBS103	IC660BBR100	IC660BBR101
Product Name	Genius Discrete Input Block, 115 VAC Grouped, 16 Point	Genius Discrete I/O Block, 115 VAC Grouped, 8 Point	Genius Discrete I/O Block, 115 VAC/125 VDC Isolated, 8 Point	Genius Discrete I/O Block, 115 VAC/125 VDC Isolated, 8 Point, w/o Failed Switch Diagnostic	Genius Relay Output Block, Grouped, 16 Points, Normally Closed	Genius Relay Output Block, Grouped, 16 Points, Normally Open
Lifecycle Status	Mature	Mature	Mature	Mature	Mature	Mature
Network Support	Genius Bus	Genius Bus	Genius Bus	Genius Bus	Genius Bus	Genius Bus
Input Range	93-132 VAC	93-132 VAC	115 VAC / 125 VDC	115 VAC / 125 VDC	N/A	N/A
Output Range	N/A	93-132 VAC	115 VAC / 125 VDC	115 VAC / 125 VDC	5V to 250 VAC or 5V to 220 VDC; Relay Normally-Closed Relays	5V to 250 VAC or 5V to 220 VDC; Relay Normally-Open Relays
Number of Points	16	8	8	8	16	16
Input and Output Response Time - ON/OFF (msec.)	Input 1 msec plus configurable filter 10 to 100mS in 10mS increments	Input 2msec plus configurable filter 10 to 100mS in 10mS increments; Outputs Zero crossing	Input 2msec plus configurable filter 10 to 100mS in 10mS increments; Outputs Zero crossing	Input 2msec plus configurable filter 10 to 100mS in 10mS increments; Outputs Zero crossing	5.0 msec.	5.0 msec.
Input Impedance	11.6K ohms	13K ohms	13K ohms	13K ohms	N/A	N/A
Load Current Per Point	N/A	2 Amp	2.0 Amp	2.0 Amp	2 Amp	2 Amp
Points Per Common	Two groups of 8	One group of 8	Four groups of 2	Four groups of 2	Four groups of 4	Four groups of 4
Protection	N/A	Internal electronic short circuit trip, 100ms long time trip	Internal electronic short circuit trip, 100ms (AC), 10ms (DC) long time trip	Internal electronic short circuit trip, 100ms (AC), 10ms (DC) long time trip	N/A	N/A
Diagnostics	Input Diagnostics: Open Wire, Short Circuit	Input Diagnostics: Open Wire, Overtemperature, Failed Switch Output Diagnostics: Short Circuit, Overload, No Load, Failed Switch, Overtemperature, Pulse Test	Input Diagnostics: Open Wire, Overtemperature, Loss of I/O Power, Failed Switch Output Diagnostics: Short Circuit, Overload, No Load, Overtemp., Loss of I/O Power, Failed Switch, Pulse Test	Input Diagnostics: Open Wire, Overtemperature, Loss of I/O Power, Failed Switch Output Diagnostics: Short Circuit, Overload, No Load, Overtemp., Loss of I/O Power, Failed Switch, Pulse Test	None	None
Operating Voltage	93-132 VAC	93-132 VAC	93-132 VAC / 105-132 VDC	93-132 VAC / 105-132 VDC	93-132 VAC / 185-265 VAC	93-132 VAC / 185-265 VAC
Dimensions (H x W x D)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)



DC Discrete I/O Modules

Genius DC Discrete I/O blocks interface to a wide range of input devices, including both 2-wire and 3-wire electronic proximity switches. Outputs may be low-power control and indicating devices such as relays, contactors, and lamps. These blocks have identical discrete I/O circuits, each easily configured to be an input or an output. Output circuits can be directly connected to input circuits without the use of other components or inversion of logic states. This flexibility provides maximum design and application efficiency. Each circuit contains built-in protection when used as an output, protecting the driver while allowing short-time surges. It also protects against shorted loads caused by wiring errors.

	IC660BBD020	IC660BBD021	IC660BBD022	IC660BBD023	IC660BBD024
Product Name	Genius Discrete I/O Block, 24/48 VDC Grouped, 16 Point, Source	Genius Discrete I/O Block, 24/48 VDC Grouped, 16 Point, Sink	Genius Discrete I/O Block, 24 VDC Grouped, 16 Point, Source	Genius Discrete I/O Block, 24 VDC Grouped, 16 Point, Sink	Genius Discrete I/O Block, 12/24 VDC Grouped, 32 Point, Source
Lifecycle Status	Mature	Mature	Mature	Mature	Mature
Network Support	Genius Bus	Genius Bus	Genius Bus	Genius Bus	Genius Bus
Input Range	18-56 VDC (24/48 V)	18-56 VDC (24/48 V)	18-30 VDC (24 V)	18-30 VDC (24 V)	18-30 VDC (24 V)
Sink/Source	Source	Sink	Source	Sink	Source
Output Range	18-56 VDC (24/48 V)	18-56 VDC (24/48 V)	18-30 VDC (24 V)	18-30 VDC (24 V)	18-30 VDC (24 V)
Number of Points	16	16	16	16	32
Input and Output Response Time - ON/OFF (msec.)	Input 1.7 msec plus configurable filter: 5 to 100mS for input; Output 1.0 msec	Input 1.7 msec plus configurable filter: 5 to 100mS for input; Output 1.0 msec	Input 1.7 msec plus configurable filter: 5 to 100mS for input; Output 1.0 msec	Input 1.7 msec plus configurable filter: 5 to 100mS for input; Output 1.0 msec	Input 1.4 msec plus configurable filter: 1 to 100mS for input; Output 0.5 msec
Input Impedance	5.6K ohms (24/48V), 1.8K ohms (24V)	5.6K ohms (24/48V), 1.8K ohms (24V)	5.6K ohms (24/48V), 1.8K ohms (24V)	5.6K ohms (24/48V), 1.8K ohms (24V)	3.3 K ohms
Load Current Per Point	2 Amp	2 Amp	2 Amp	2 Amp	0.5 Amp
Points Per Common	One group of 16	One group of 16	One group of 16	One group of 16	One group of 32
Protection	Short circuit level sensor at the switching device	Short circuit level sensor at the switching device	Short circuit level sensor at the switching device	Short circuit level sensor at the switching device	Short circuit level sensor at the switching device
Diagnostics	Input Diagnostics: Open wire, Overtemperature, Failed Switch Output Diagnostics: Short Circuit, Overload, No Load, Failed Switch, Overtemperature, Pulse Test	Input Diagnostics: Open wire, Overtemperature, Failed Switch Output Diagnostics: Short Circuit, Overload, No Load, Failed Switch, Overtemperature, Pulse Test	Input Diagnostics: Open wire, Overtemperature, Failed Switch Output Diagnostics: Short Circuit, Overload, No Load, Failed Switch, Overtemperature, Pulse Test	Input Diagnostics: Open wire, Overtemperature, Failed Switch Output Diagnostics: Short Circuit, Overload, No Load, Failed Switch, Overtemperature, Pulse Test	Output Diagnostics: Short Circuit, Overload, Failed Switch, Pulse Test
Operating Voltage	18-56 VDC (24/48 V)	18-56 VDC (24/48 V)	18-30 VDC (24 V)	18-30 VDC (24 V)	10-30 VDC
Dimensions (H x W x D)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)



DC Discrete I/O Modules

Genius DC Discrete I/O blocks interface to a wide range of input devices, including both 2-wire and 3-wire electronic proximity switches. Outputs may be low-power control and indicating devices such as relays, contactors, and lamps. These blocks have identical discrete I/O circuits, each easily configured to be an input or an output. Output circuits can be directly connected to input circuits without the use of other components or inversion of logic states. This flexibility provides maximum design and application efficiency. Each circuit contains built-in protection when used as an output, protecting the driver while allowing short-time surges. It also protects against shorted loads caused by wiring errors.

	IC660BBD025	IC660BBS102	IC660BBS103	IC660BBR100	IC660BBR101
Product Name	Genius Discrete I/O Block, 5/12/24 VDC Grouped, 32 Point, Sink	Genius Discrete I/O Block, 115 VAC/125 VDC Isolated, 8 Point	Genius Discrete I/O Block, 115 VAC/125 VDC Isolated, 8 Point, w/o Failed Switch Diagnostic	Genius Relay Output Block, Grouped, 16 Points, Normally Closed	Genius Relay Output Block, Grouped, 16 Points, Normally Open
Lifecycle Status	Mature	Mature	Mature	Mature	Mature
Network Support	Genius Bus	Genius Bus	Genius Bus	Genius Bus	Genius Bus
Input Range	10-30 VDC (12/24 V), 4.9-5.3 VDC (5 V)	115 VAC / 125 VDC	115 VAC / 125 VDC	N/A	N/A
Sink/Source	Sink	N/A	N/A	N/A	N/A
Output Range	10-30 VDC (12/24 V), 4.9-5.3 VDC (5 V)	115 VAC / 125 VDC	115 VAC / 125 VDC	5V to 250 VAC or 5V to 220 VDC; Relay Normally-Closed Relays	5V to 250 VAC or 5V to 220 VDC; Relay Normally-Open Relays
Number of Points	32	8	8	16	16
Input and Output Response Time - ON/OFF (msec.)	Input 1.4 msec plus configurable filter: 1 to 100mS for input; Output 0.5 msec	Input 2msec plus configurable filter 10 to 100mS in 10mS increments; Outputs Zero crossing	Input 2msec plus configurable filter 0 to 100mS in 10mS increments; Outputs Zero crossing	5.0 msec.	5.0 msec.
Input Impedance	3.3 K ohms	13K ohms	13K ohms	N/A	N/A
Load Current Per Point	0.5 Amp	2.0 Amp	2.0 Amp	2 Amp	2 Amp
Points Per Common	One group of 32	Four groups of 2	Four groups of 2	Four groups of 4	Four groups of 4
Protection	Short circuit level sensor at the switching device	Internal electronic short circuit trip. 100ms (AC), 10ms (DC) long time trip	Internal electronic short circuit trip. 100ms (AC), 10ms (DC) long time trip	N/A	N/A
Diagnostics	Output Diagnostics: Short Circuit, Overload, Failed Switch, Pulse Test	Input Diagnostics: Open Wire, Overtemperature, Loss of I/O Power, Failed Switch Output Diagnostics: Short Circuit, Overload, No Load, Overtemp., Loss of I/O Power, Failed Switch, Pulse Test	Input Diagnostics: Open Wire, Overtemperature, Loss of I/O Power, Failed Switch Output Diagnostics: Short Circuit, Overload, No Load, Overtemp., Loss of I/O Power, Failed Switch, Pulse Test	None	None
Operating Voltage	10-30 VDC (12/24 V), 4.9-5.3 VDC (5 V)	93-132 VAC / 105-132 VDC	93-132 VAC / 105-132 VDC	93-132 VAC / 185-265 VAC	93-132 VAC / 185-265 VAC
Dimensions (H x W x D)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)



Analog Input Modules

Genius Analog Input blocks provide 6 channels of current inputs with powerful diagnostics.

	IC660BBA026	IC660BBA106
Product Name	Genius Analog Input Block, Current-source, 6 Channels, 24/48 VDC Powered	Genius Analog Input Block, Current-source, 6 Channels, 115 VAC/125 VDC Powered
Lifecycle Status	Mature	Mature
Network Support	Genius Bus	Genius Bus
Input Range	4 mA to 20 mA 0 mA to 25 mA	4 mA to 20 mA 0 mA to 25 mA
Number of Points	6	6
Points Per Common	Channel to Channel Isolation. 6 isolated points	Channel to Channel Isolation. 6 isolated points
Resolution	1 micro Amp	1 micro Amp
Update Rate	16.6mS to 400mS (user selectable)	16.6mS to 400mS (user selectable)
Accuracy	0.1% of full scale reading	0.1% of full scale reading
Diagnostics	Underrange, Overrange, High Alarm, Low Alarm, Open Wire	Underrange, Overrange, High Alarm, Low Alarm, Open Wire
Operating Voltage	18-56 VDC	93-132 VAC / 105-145 VDC
Dimensions (W x H x D)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)



Analog Output Modules

Genius Analog Output blocks provide 6 channels of current and voltage outputs with powerful diagnostics.

	IC660BBA025	IC660BBA105
Product Name	Genius Analog Output Block, Current-source, 6 Channels, 24/48 VDC Powered	Genius Analog Output Block, Current-source, 6 Channels, 115 VAC/125 VDC Powered
Lifecycle Status	Mature	Mature
Network Support	Genius Bus	Genius Bus
Output Range	4 mA to 20 mA 0 mA to 24 mA	4 mA to 20 mA 0 mA to 24 mA
Number of Points	6 Outputs	6 Outputs
Points Per Common	One group of 6	One group of 6
Operating Voltage	18-56 VDC	93-132 VAC / 105-145 VDC
Resolution	6 micro Amp	6 micro Amp
Update Rate	25mS	25mS
Accuracy	0.15% of full-scale reading	0.15% of full-scale reading
Dimensions (W x H x D)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)



Analog Mixed Modules

Genius Analog Mixed blocks provide 4 channels of inputs and 2 channels of outputs. The channels can be configured for current or voltage with powerful diagnostics.

	IC660BBA020	IC660BBA100	IC660BBA024	IC660BBA104
Product Name	Genius Analog I/O Block, Voltage/Current, 4 Inputs/ 2 Outputs, 24/48 VDC Powered	Genius Analog I/O Block, Voltage/Current, 4 Inputs/ 2 Outputs, 115 VAC Powered	Genius Analog I/O Block, Current-source, 4 Inputs/ 2 Outputs, 24/48 VDC Powered	Genius Analog I/O Block, Current-source, 4 Inputs/ 2 Outputs, 115 VAC/ 125 VDC Powered
Lifecycle Status	Mature	Mature	Mature	Mature
Network Support	Genius Bus	Genius Bus	Genius Bus	Genius Bus
Number of Points	4 In / 2 Out	4 In / 2 Out	4 In / 2 Out	4 In / 2 Out
Points Per Common	One group of 4 Inputs and one group of 2 Outputs	One group of 4 Inputs and one group of 2 Outputs	One group of 4 Inputs and one group of 2 Outputs	One group of 4 Inputs and one group of 2 Outputs
Input Range	0–10 VDC, 10 VDC, 5 VDC, 0–5 VDC, 4–20 mA (or 1–5 VDC)	0–10 VDC, 10 VDC, 5 VDC, 0–5 VDC, 4–20 mA (or 1–5 VDC)	4 mA to 20 mA	4 mA to 20 mA
Output Range	0–10 VDC, 10 VDC, 5 VDC, 0–5 VDC, 4–20 mA (or 1–5 VDC)	0–10 VDC, 10 VDC, 5 VDC, 0–5 VDC, 4–20 mA (or 1–5 VDC)	4 mA to 20 mA	4 mA to 20 mA
Operating Voltage	18-56 VDC	98-132 VAC	18-56 VDC	93-132 VAC / 105-145 VDC
Resolution	12 bit + sign	12 bit + sign	Input: 1 micro Amp Output: 6 micro Amp	Output: 6 mA
Update Rate	Once every 4mS	Once every 4mS	Input: 16.6mS to 400mS (user selectable) Output: 6mS to 8mS typical	Input: 16.6mS to 400mS (user selectable) Output: 6mS to 8mS typical
Accuracy	Typical: 0.2% of full scale; Maximum: 0.5% of full scale: within 50mV on the 10 volt range, 25mV on the 5 volt range, and 100mA on the 4 to 20 mA range.	Typical: 0.2% of full scale; Maximum: 0.5% of full scale: within 50mV on the 10 volt range, 25mV on the 5 volt range, and 100mA on the 4 to 20 mA range.	Input: 0.1% of full scale reading Output: 0.15% of full scale reading	Input: 0.1% of full scale reading Output: 0.15% of full scale reading
Input Filter Response	none, 8, 16, 32, 64, 128, 256, 512, 1024mS	none, 8, 16, 32, 64, 128, 256, 512, 1024mS	16.6mS to 400mS (user selectable)	16.6mS to 400mS (user selectable)
Diagnostics	Input: Underrange, Overage, High Alarm, Low Alarm, Open Wire Output: Underrange, Overage	Input: Underrange, Overage, High Alarm, Low Alarm, Open Wire Output: Underrange, Overage	Input: Underrange, Overage, High Alarm, Low Alarm, Open Wire Output: Underrange, Overage, Feedback error	Input: Underrange, Overage, High Alarm, Low Alarm, Open Wire, Output: Underrange, Overage, Feedback error
Dimensions (W x H x D)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)



RTD and Thermocouple Modules

Genius Temperature Sensor blocks support a wide range of temperature sensors. The blocks support powerful diagnostics.

	IC660BBA021	IC660BBA101	IC660BBA023	IC660BBA103
Product Name	Genius Analog Input Block, RTD, 6 Channel, 24/48 VDC Powered	Genius Analog Input Block, RTD, 6 Channel, 115 VAC/125 VDC Powered	Genius Analog Input Block, Thermocouple, 6 Channel, 24/48 VDC Powered	Genius Analog Input Block, Thermocouple, 6 Channel, 115 VAC/125 VDC Powered
Lifecycle Status	Mature	Mature	Mature	Mature
Network Support	Genius Bus	Genius Bus	Genius Bus	Genius Bus
Number of Points	6	6	6	6
Points Per Common	3 groups of 2	3 groups of 2	3 groups of 2	3 groups of 2
Input Range	2 and 3 wire Platinum (DIN 43760), Nickel (DIN 43760), Copper, Linear	2 and 3 wire Platinum (DIN 43760), Nickel (DIN 43760), Copper, Linear	J, K, T, E, B, R, S, and N (#14 AWG Nicrosil vs. Nisil) thermocouples	J, K, T, E, B, R, S, and N (#14 AWG Nicrosil vs. Nisil) thermocouples
Operating Voltage	18-56 VDC	93-132 VAC / 105-145 VDC	18-56 VDC	93-132 VAC / 105-145 VDC
Resolution	0.1°C	0.1°C	Less than 0mV error typ, 20mV max.	Less than 0mV error typ, 20mV max.
Update Rate	Once every 400 ms, 800 ms, or 1600 ms	Once every 400 ms, 800 ms, or 1600 ms	2.0 sec (typ), 3.0 sec (max)	2.0 sec (typ), 3.0 sec (max)
Accuracy	At 25°C - Platinum or Nickel: 0.5°C typical, 1.0°C maximum 10W Copper: 5°C typical, 10°C maximum	At 25°C - Platinum or Nickel: 0.5°C typical, 1.0°C maximum 10W Copper: 5°C typical, 10°C maximum	8 Hz at 25°C	8 Hz at 25°C
Diagnostics	Input shorted, Internal fault, Wiring error, Open wire, Overrange, Underrange, High Alarm, Low Alarm	Input shorted, Internal fault, Wiring error, Open wire, Overrange, Underrange, High Alarm, Low Alarm	Open Wire, Overrange, Underrange, High Alarm, Low Alarm, Internal Fault	Open Wire, Overrange, Underrange, High Alarm, Low Alarm, Internal Fault
Dimensions (W x H x D)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)



High Speed Counter

The Genius I/O High-speed Counter block is a self-contained, configurable I/O module which provides direct processing of rapid pulse signals up to 200kHz.

IC660BBD120

Product Name	Genius High Speed Counter Block
Lifecycle Status	Mature
Network Support	Genius Bus
Input Range	5 VDC to 30 VDC
Count Rate	high-frequency filter selected 200 kHz maximum low-frequency filter selected 40 Hz maximum
Output Range	4.75 VDC to 5.25 VDC
Number of Points	4 Type A or 2 Type B or 1 Type C (12 inputs and 4 outputs)
Input and Output Response Time - ON/OFF (msec.)	high-frequency filter selected 2.5mS minimum low-frequency filter selected 12.5mS minimum
Input Filter Response	High (2.5mS) or low (12.5mS) frequency
Input Impedance	4.0K ohms
Accuracy	0.50% reading + 0.50% full scale
Load Current Per Point	200 mA
Operating Voltage	93-132 VAC / 10-30 VDC
Diagnostics	Outputs: Pulse Test, Failed Switch
Dimensions (W x H x D)	8.83" (22.44cm) x 3.50" (8.89cm) x 3.94" (10.00cm)



PowerTRAC Monitoring Module

The Genius PowerTRAC block is used in many types of power monitoring and industrial applications. The PowerTRAC block monitors current and voltage inputs and stores digitized waveform values for each input. From these values, the block calculates RMS voltage, current, active power, reactive power, KWH, and power factor. The block automatically sends this calculated data to a host PLC or computer approximately twice per second. The same data can be displayed on a Genius Hand-held Monitor, either locally or from any connection point on the bus.

A PowerTRAC block can be used with a wye- or delta-configured three-phase power system or with a single-phase power system. It accepts voltage inputs from one to three potential transformers, and current inputs from up to three line current transformers, plus a neutral current transformer.

IC660BPM100

Product Name	Genius I/O PowerTrac Monitoring Block, Accurately measures RMS voltage, current, power, VARs, power factor, watt-hours, and line frequency, even with distorted waveforms. 115 VAC/125 VDC Powered
Lifecycle Status	Mature
Network Support	Genius Bus
Input Range	0 to 120 VAC RMS at 47 to 63 Hz
Number of Points	(1) Three Phase
Calculated Data	Voltage phase A to B Voltage phase B to C Voltage phase C to A Voltage phase A to N (for line-to-neutral potential transformers only) Voltage phase B to N (for line-to-neutral potential transformers only) Voltage phase C to N (for line-to-neutral potential transformers only) Current phase A Current phase B Current phase C Auxiliary CT current Active power phase A Active power phase B Active power phase C Reactive power phase A Reactive power phase B Reactive power phase C Total power factor Total watt-hours/KWH/MWH Fundamental VARs phase A Fundamental VARs phase B Fundamental VARs phase C Fundamental Power Factor Harmonic VARs as % of Volt-Amps phase A Harmonic VARs as % of Volt-Amps phase B Harmonic VARs as % of Volt-Amps phase C Total Harmonic VARs as % of Volt-Amps Line Frequency Temperature Alarm Extended Watt-hours (high) Extended Watt-hours (low)
Accuracy	0.25% reading +0.25% full scale
Operating Voltage	115 VAC/230 VAC (90–265 VAC), 47–63Hz or 125 VDC (100–150 VDC), 35 VA max.
Dimensions (W x H x D)	11.00" (27.94cm) x 5.21" (13.23cm) x 8.06" (20.47)

Accessories and Cables

IC660BSM021	Genius Bus Switching Module, 24/48 VDC	Mature
IC660BSM120	Genius Bus Switching Module, 115 VAC/125 VDC	Mature
IC660BLC001	Genius bus Cable w/Connectors Alpha 9823 15 In (Qty 3)	Active
IC660BLC003	Genius bus Cable w/Connectors Alpha 9823 3 Ft	Active
IC660BLM506	Bus Terminator 150 Ohm (Qty 4)	Active
IC660BLM508	Bus Terminator 75 Ohm (Qty 4)	Active
IC660BLM507	Genius Block Puller	Active

Hand Held Monitor

IC660HHM501	Hand-Held Monitor can be used to configure and trouble shoot Genius blocks. Kit includes Cable and Battery Charger	Mature
IC660BCM501	Hand-Held Monitor Battery Charger	Active
IC660BPM500	Hand-Held Monitor Battery Pack	Mature

Configuration Guidelines

When configuring a Genius network the following guidelines should be considered

1. Genius LAN is limited to 32 devices. Remember that the Genius Bus Controller reserves one address and if a Hand-Held configurator is used, it also reserves an address.
2. If the application requires redundant networks, a Bus Switching Module is required (IC660BSMxxx).
3. Termination is required at the end of each network (IC660BLM50x)
4. For long distances, beyond 4,500 feet, the number of devices is limited to 16.

Cable Selection

Cable # & Make	Outer Diameter	Terminating Resistor* -10% to +20% 1/2 Watt	Number of Conductors/ AWG	Dielectric Voltage Rating	Ambient Temp Rating	Maximum Length Cable Run, feet/meters at baudrate			
						153.6s	153.6e	76.8	38.4*
(A)9823 (B)9182 (C)4596 (M)M39240	.350 in 8.89mm	150 ohms	2/#22	30V	60°C	2000ft 606m	3500ft 1061m	4500ft 1364m	7500ft 2283m
(B)89182	.322in 8.18mm	150 ohms	2/#22	150V	200°C	2000ft 606m	3500ft 1061m	4500ft 1364m	7500ft 2283m
(B)9841 (M)M3993	.270in 6.86mm	*120 ohms	2/#24	30V	80°C	1000ft 303m	1500ft 455m	2500ft 758m	3500ft 1061m
(A)9818C (B)9207 (M)M4270	.330in 8.38mm	100 ohms	2/#20	300V	80°C	1500ft 455m	2500ft 758m	3500ft 1061m	6000ft 1818m
(A)9109 (B)89207 (C)4798 (M)M44270	.282in 7.16mm	100 ohms	2/#20	150V	200°C	1500ft 455m	2500ft 758m	3500ft 1061m	6000ft 1818m
(A)9818D (B)9815	.330in 8.38mm	100 ohms	2/#20			1500ft 455m	2500ft 758m	3500ft 1061m	6000ft 1818m
(A)9818 (B)9855 (M)M4230	.315in 8.00mm	100 ohms	4 (two pair) #22	150V	60°C	1200ft 364m	1700ft 516m	3000ft 909m	4500ft 1364m
(A)9110 (B)89696 (B)89855 (M)M64230	.274in 6.96mm	100 ohms	4 (two pair) #22	150V	200°C	1200ft 364m	1700ft 516m	3000ft 909m	4500ft 1364m
(A)9814C (B)9463 (M)M4154	0.243 6.17mm	75 ohms	2/#20	150V	60°C	800ft 242m	1500ft 455m	2500ft 758m	3500ft 1061m
(A)5902C (B)9302 (M)M17002	.244in 6.20mm	75 ohms	4 (two pair) #22	300V	80°C	200ft 60m	500ft 152m	1200ft 333m	2500ft 758m

Notes: A=Alpha, B=Belden, C=Consolidated, M=Manhattan, * = Limited to 16 taps at 38.4 Kbaud

Examples of Typical Application

Configuration for Controller (Example application requiring (120) 24 VDC inputs and (80) Relay outputs AC power supply) for local control. System also has five remote cabinets, with each cabinet requiring (64) 24 VDC Inputs, (21) 24 VDC 0.5 Amp, Source Outputs and (2) current inputs and (2) current outputs (24 VDC power source). Maximum distance from control cabinet to the last remote cabinet is 3,500 feet.

Control Cabinet

Backplane Slots Required	Power Supply Current Required (mA)	Qty	Part Number	Description
2	1250mA @ 3.3 VDC; 1000mA @ 5 VDC	1	IC695CPU310	CPU with two built-in serial ports
2		1	IC695PSA040	120/240 VAC, 125 VDC Power Supply, current available 9 Amps @ 3.3 VDC; 6 Amps @ 5 VDC; 1.6 Amps @ 24 VDC maximum
	600mA @ 3.3 VDC; 240 mA @ 5 VDC	1	IC695CHS016	16 Slot Universal Base
4	1200mA @ 5V	4	IC694MDL660	Discrete Input Module, 24 VDC Positive Logic, 32 points (Requires terminal block)
5	35mA @ 5V; 110mA @ 24 VDC Relay	5	IC694MDL940	Discrete Output Module, Relay 2.0 A per point Form A, 16 points (Terminal block included).
		4	IC694TBB032	Terminal Block, Box Style
1	300 mA @ 5 VDC	1	IC694BEM331	Genius Bus Controller (GBC), supports up to 32 devices on a Genius Bus to control remote I/O, Global Data and Datagrams
		1	BC646MPP001	Logic Developer - PLC Professional
14	Total current from power supply required: 2775mA @ 5V; 1850 @ 3.3V; 110mA @ 24 VDC Relay. Only one power supplied needed.			

Remote Cabinets (Qty 5)

	15	IC660BBD024	Block 12/24 VDC Source I/O 32 Circuits
	5	IC660BBA020	Block 24/48 VDC Analog 4 Inputs / 2 Outputs
	1	IC660BLM506	Bus Terminator 150 Ohm (Qty 4)

Options to consider

	1	IC660HHM501	Hand-Held Monitor can be used to configure and troubleshoot Genius blocks. Kit includes Cable and Battery Charger
	5	IC660BLM507	Genius Block Puller
840mA @ 3.3 VDC; 614 mA @ 5 VDC	1	IC695ETM001	RX3i Ethernet module 10/100 Mbps 2 RJ45 connections one IP address occupies one slot on system base
	6	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
	1	IC693ACC302	RX3i Long term battery for CPU
	1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch Operator Interface

VersaPoint and VersaSafe I/O

The VersaPoint Distributed I/O system provides compact flexibility and allows users to install just the right amount of I/O needed for each application.

Adhering to open communications standards including Ethernet, Profibus-DP and DeviceNet™, VersaPoint connects easily to a wide variety of PLCs, DCSs and PC-based control systems. It is ideal for packaging and materials handling applications as well as for supervisory control and data acquisition.

VersaPoint accommodates a series of discrete and analog I/O modules with

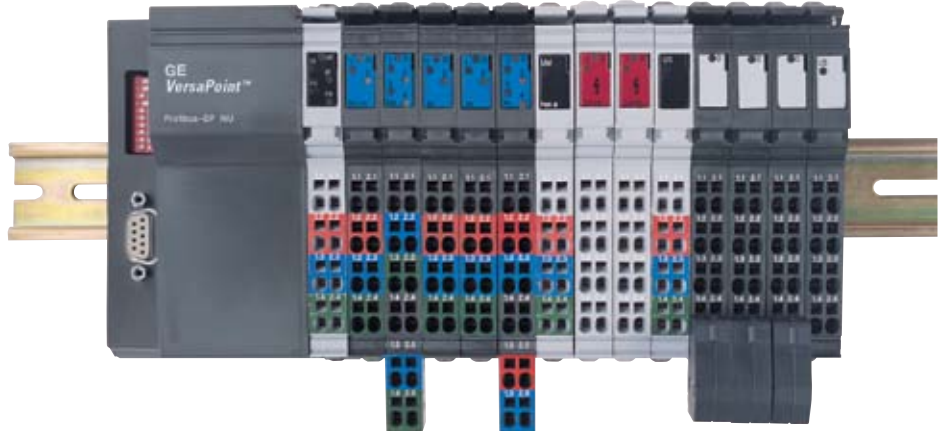
densities from 1 to 16 points. It also supports a host of specialized modules, from RTD and Thermocouple inputs to positioning and counter modules.

Its compact design results in space savings up to 50 percent compared to conventional systems. The modules snap quickly and securely onto a DIN-rail, and the integrated I/O terminals and internal power bus help reduce wiring by as much as 80 percent.

Proficiency Machine Edition

Proficiency Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control, and execution logic are developed with a single programmer.

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Publication Reference Chart

GFK-2134	VersaPoint Motor Starters Manual
GFK-2125	VersaPoint Positioning Modules Manual
GFK-1911	VersaPoint I/O System Profibus-DP NIU
GFK-1912	VersaPoint I/O System DeviceNet NIU User's Manual
GFK-2087	VersaPoint Ethernet NIU (IC220EBI001 and IC220EBI002)

Network Interface Modules



An I/O Network Interface Unit connects VersaPoint I/O modules to a host PLC or computer via a variety of networks, which makes it easy to include VersaPoint I/O in Profibus-DP, Ethernet or DeviceNet installations. Together, the NIU is capable of handling up to 63 modules in one node.

	IC220EBI001	IC220EBI002	IC220PBI002	IC220DBI001
Product Name	Ethernet TCP/IP Advanced Network Interface Unit - 10/100 Base-T(X) - PCP Support	Ethernet TCP/IP Standard Network Interface Unit - 10/100 Base-T(X)	Profibus-DP Network Interface Unit	DeviceNet Network Interface Unit
Lifecycle Status	Active	Active	Active	Active
Protocol	Modbus TCP	Modbus TCP	Profibus DP (V1)	DeviceNet Slave
Data Rate	10/100 Base-T(X)	10/100 Base-T(X)	Up to 12Mbps per second	Up to 500 Kbaud
Serial Communications Support	Yes	No	Yes	Yes
Firmware Upgrade	Yes	No	No	No
Nominal Power Input Voltage	24 VDC	24 VDC	24 VDC	24 VDC
Power Voltage Range	19.2 - 30 VDC	19.2 - 30 VDC	19.2 - 30 VDC	19.2 - 30 VDC
Current for Local Bus UL	2 Amp	2 Amp	2 Amp	2 Amp
Current for Local Bus UA (ma)	500 mA	500 mA	500 mA	500 mA
Maximum Supported Modules	63	63	63	63
Power In	8 Amp maximum	8 Amp maximum	8 Amp maximum	8 Amp maximum
LED Indicators	Bus diagnostics and status indication of voltage	Bus diagnostics and status indication of voltage	Bus diagnostics and status indication of voltage	Bus diagnostics and status indication of voltage
Numeric LCD Display	Yes	None	None	None
Web Support	Web Pages SNMP XML Data Monitoring	Web Pages SNMP XML Data Monitoring	None	None
Required Terminal Strip	(1) IC220TBK082 (Contains 10 strips)	(1) IC220TBK082 (Contains 10 strips)	(1) IC220TBK087 (Contains 10 strips)	(1) IC220TBK201 (Contains 10 strips)
Dimensions (W x H x D)	90mm x 72mm x 116mm (3.543in. x 2.835in. x 4.567in.)	90mm x 72mm x 116mm (3.543in. x 2.835in. x 4.567in.)	91mm x 120mm x 71.5mm (2.874in. x 4.724in. x 2.795in.)	48.8mm x 120mm x 71.5mm (1.92 x 4.72 x 2.82in.)

Power Terminals

Power Terminal modules supply power to the main circuit (UM). In addition, this module can be used to supply power for a segment circuit (Us).



	IC220PWR001	IC220PWR002	IC220PWR003	IC220PWR101	IC220PWR201
Product Name	Power Terminal 24 VDC	Power Terminal Fused 24 VDC	Power Terminal Fused with Diagnostics 24 VDC	Power Terminal 120 VAC	Power Terminal 230 VAC
Lifecycle Status	Active	Active	Active	Active	
Input Voltage	24 VDC	24 VDC	24 VDC	120 VAC	230 VAC
Input Voltage Range	19.2 - 30 VDC	19.2 - 30 VDC	19.2 - 30 VDC	108 -135 VAC	12 -253 VAC
Maximum Current	8 Amps	8 Amps	6.3 Amps	8 Amps	8 Amps
Overload/Short Circuit in Segment Circuit	No	Fuse	Fuse	No	No
Surge Voltage/Over Voltage	Yes, suppressor diode for voltage limitation	Yes, suppressor diode for voltage limitation	Yes, suppressor diode for voltage limitation	Yes, VAR 275 VAC	Yes, VAR 275 VAC
Polarity Reversal	Yes, diode connected in parallel as protection against polarity reversal	Yes, diode connected in parallel as protection against polarity reversal	Yes, diode connected in parallel as protection against polarity reversal	N/A	N/A
Current Consumption from Local Bus UL (mA)	N/A	N/A	25 mA, maximum	N/A	N/A
LED Indicators	24 VDC Voltage Present	24 VDC Voltage Present and Blown Fuse	Bus Diagnostics and Blown Fuse	120 VAC supply Present	230 VAC supply Present
Required Terminal Strip	(1) IC220TBK087 (Contains 10 strips)	(1) IC220TBK087 (Contains 10 strips)	(1) IC220TBK087 (Contains 10 strips)	(1) IC220TBK204	(1) IC220TBK204

Segment Terminals

Segment Terminals are used to create a partial circuit (segment circuit) within a main 24 VDC circuit.



	IC220PWR011	IC220PWR012	IC220PWR013	IC220PWR014
Product Name	Segment Terminal 24 VDC	Segment Terminal Fused 24 VDC	Segment Terminal Fused with Diagnostics 24 VDC	Segment Terminal Electronic Fused 24 VDC
Lifecycle Status	Active	Active	Active	Active
Input Voltage	24 VDC	24 VDC	24 VDC	24 VDC
Input Voltage Range	19.2 - 30 VDC	19.2 - 30 VDC	19.2 - 30 VDC	19.2 - 30 VDC
Maximum Current	8 Amps	8 Amps	6.3 Amps	8 Amps
Overload/Short Circuit in Main Circuit	No	6.3 Amp slow blow fuse	6.3 Amp slow blow fuse	Electronic Fuse
Surge Voltage/Over Voltage	Protective circuits of the power terminal	Protective circuits of the power terminal	Protective circuits of the power terminal	Protective circuits of the power terminal
Polarity Reversal	Protective circuits of the power terminal	Protective circuits of the power terminal	Protective circuits of the power terminal	Protective circuits of the power terminal
Current Consumption from Local Bus UL (mA)	N/A	N/A	25 mA, maximum	30 mA, maximum
LED Indicators	24 VDC Voltage Present	24 VDC Voltage Present and Blown Fuse	Bus Diagnostics and Blown Fuse	Bus Diagnostics and Blown Fuse
Required Terminal Strip	(1) IC220TBK087 (Contains 10 strips)	(1) IC220TBK087 (Contains 10 strips)	(1) IC220TBK087 (Contains 10 strips)	(1) IC220TBK087 (Contains 10 strips)

Discrete Input Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed.



	IC220MDL641	IC220MDL642	IC220MDL643	IC220MDL644	IC220MDL661
Product Name	Input 24 VDC Positive Logic 2 Points	Input 24 VDC Positive Logic 4 Points	Input 24 VDC Positive Logic 8 Points	Input 24 VDC Positive Logic 16 Points	Input 24 VDC Negative Logic 2 Points
Lifecycle Status	Active	Active	Active	Active	Active
Input Voltage	0 - 30 VDC	0 - 30 VDC	0 - 30 VDC	0 - 30 VDC	0 - 30 VDC
Number of Points	2	4	8	16	2
Connection Style	2, 3, and 4 wire	2 and 3 wire	2, 3, and 4 wire	2 and 3 wire	2, 3, and 4 wire
Input Response Time	Less than 1 msec.	Less than 1 msec.	Less than 1 msec.	Less than 1 msec.	Less than 1 msec.
On State Current	5 mA	4 mA	5 mA	4 mA	5 mA
Off State Current	0.4 mA	0.4 mA	0.4 mA	0.4 mA	0.4 mA
Current Consumption for Local Bus UL (mA)	35 mA	40 mA	50 mA	60 mA	35 mA, maximum
Nominal Current Consumption of US	0.5 Amp max	1.0 Amp max	2.0 Amp max	4.0 Amp max	0.5 A (2 x 0.25 A), maximum
LED Indicators	Bus Diagnostics Status indication of inputs	Bus Diagnostics Status indication of inputs	Bus Diagnostics Status indication of inputs	Bus Diagnostics Status indication of inputs	Bus Diagnostics Status indication of inputs
Required Terminal Strip	(1) IC220TBK082 (Contains 10 strips)	(1) IC220TBK122 (Contains 10 strips)	(4) IC220TBK082 (Contains 10 strips)	(4) IC220TBK122 (Contains 10 strips)	(1) IC220TBK082 (Contains 10 strips)



Discrete Output Modules

Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states.

	IC220MDL751	IC220MDL721	IC220MDL752	IC220MDL753
Product Name	Output 24 VDC Positive Logic 0.5 A 2 Points	Output 24 VDC Positive Logic 2.0 A 2 Points	Output 24 VDC Positive Logic 0.5 A 4 Points	Output 24 VDC Positive Logic 0.5 A 8 Points
Lifecycle Status	Active	Active	Active	Active
Output Voltage	24 VDC	24 VDC	24 VDC	24 VDC
Number of Points	2	2	4	8
Connection Style	2, 3, and 4 wire	2, 3, and 4 wire	2 and 3 wire	2, 3, and 4 wire
Load Current per Point	0.5 A	2.0 A	0.5 A	0.5 A
Protection	Electronic Short Circuit, Overload Protection	Electronic Short Circuit, Overload Protection	Electronic Short Circuit, Overload Protection	Electronic Short Circuit, Overload Protection
Current Consumption from Local Bus UL (mA)	33 mA max.	35 mA max.	44 mA max.	60 mA max.
Nominal Current Consumption of US	1 Amp max	4 Amp max	2 Amp max	4 Amp max
LED Indicators	Bus Diagnostics Status indication of outputs	Bus Diagnostics Status indication of outputs	Bus Diagnostics Status indication of outputs	Bus Diagnostics Status indication of outputs
	(1) IC220TBK082 (Contains 10 strips)	(1) IC220TBK082 (Contains 10 strips)	(1) IC220TBK123 (Contains 10 strips)	(4) IC220TBK082 (Contains 10 strips)

Required Terminal Strip

Discrete Output Modules

Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states.



	IC220MDL754	IC220MDL761	IC220MDL930	IC220MDL940
Product Name	Output 24 VDC Positive Logic 0.5 A 16 Points	Output 24 VDC Negative Logic 0.5 A 2 Points	Output Relay 3.0 A 1 Point	Output Relay 3.0 A 1 Point
Lifecycle Status	Active	Active	Active	Active
Output Voltage	24 VDC	24 VDC	5 - 253 VAC	5 - 253 VAC
Number of Points	16	2	1	4
Connection Style	2 and 3 wire	2, 3, and 4 wire	2 and 3 wire	2 and 3 wire
Load Current per Point	0.5 A	0.5 A	3.0 A	3.0 A
Protection	Electronic Short Circuit, Overload Protection	Electronic Short Circuit, Overload Protection	N/A	N/A
Current Consumption from Local Bus UL (mA)	90 mA max.	32 mA max.	60 mA max.	187 mA max.
Nominal Current Consumption of US	8 Amp max	1 Amp (2 x 0.5 A), maximum	N/A	N/A
LED Indicators	Bus Diagnostics Status indication of outputs	Bus Diagnostics Status indication of outputs	Bus Diagnostics Status indication of outputs	Bus Diagnostics Status indication of outputs
	(4) IC220TBK123 (Contains 10 strips)	(1) IC220TBK082 (Contains 10 strips)	(1) IC220TBK085 (Contains 10 strips) Requires Relay Isolation Set (IC220ACC201 and IC220TBK206) if switching voltages are not available in the segment.	(1) IC220TBK085 (Contains 10 strips) Requires Relay Isolation Set (IC220ACC201 and IC220TBK206) if switching voltages are not available in the segment.
Required Terminal Strip				



Analog Input Modules

Analog input modules receive signals from current and voltage input devices. Specialty modules are available for RTD and Thermocouple inputs.

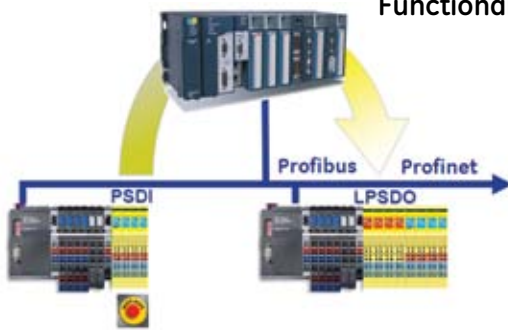
	IC220ALG220	IC220ALG221	IC220ALG620	IC220ALG630
Product Name	Analog In 15 Bit Voltage/ Current 2 Channels	Analog In 15 Bit Voltage/ Current 8 Channel	Analog In 16 Bit RTD 2 Channels	Analog In 16 Bit Thermocouple 2 Channels
Lifecycle Status	Active	Active	Active	Active
Input Voltage	0 - 20 mA, 4 - 20 mA, ±20 mA, 0 - 10 V, ±10 V	0 - 20 mA, 4 - 20 mA, ±20 mA, 0 - 10 V, ±10 V	RTD PT, Ni, Cu, KTY	Thermocouple B, C, E, J, K, L, N, R, S, T, U, W, HK
Number of Points	2	8	2	2
Connection Style	2 wire, shielded sensor cable	2 wire, shielded sensor cable	2, 3, and 4 wire, shielded sensor cable	2 wire, shielded sensor cable
Converter	120 micro seconds	10 micro seconds	120 micro seconds	120 micro seconds
Module Update Rate	Less than 1.5 msec	Less than 0.8 to 1.3 msec	20 to 30 msec (depending on connection method)	30 msec
Input Resistance	Greater than 220 Kohm (voltage) and 50 ohm (current)	Greater than 240 Kohm (voltage) and 25 ohm (current)	N/A	N/A
Limit Frequency of the Input Filter	40 Hz	3.5 Hz	N/A	48 Hz
Current Consumption for Local Bus UL (mA)	45 mA, typical	48 mA, typical	43 mA, typical	43 mA, typical
Nominal Current Consumption of US	N/A	N/A	N/A	N/A
LED Indicators	Bus Diagnostics	Bus Diagnostics	Bus Diagnostics	Bus Diagnostics
Required Terminal Strip	(1) IC220TBK062 (Contains 5 strips)	(4) IC220TBK062 (Contains 5 strips)	(1) IC220TBK062 (Contains 5 strips)	(1) IC220TBK062 (Contains 5 strips)

Analog Output Modules

Analog output modules provide voltage or current signals to analog output devices.



	IC220ALG320	IC220ALG321	IC220ALG322
Product Name	Analog Out 16 Bit Voltage/ Current 1 Channel	Analog Out 16 Bit Voltage 1 Channel	Analog Out 13 Bit Voltage 2 Channels
Lifecycle Status	Active	Active	Active
Output Voltage	0 - 20 mA, 4 - 20 mA, 0 - 10 V	0 - 10 V	0 - 10 V, ±10 V
Number of Points	8	1	2
Connection Style	2 wire, shielded sensor cable	2 wire, shielded sensor cable	2 wire, shielded sensor cable single ended
Module Update Rate	Less than 1 msec	Less than 1 msec	Less than 1 msec
Output Load	Voltage: 2 k ohm minimum Current: 500 k ohm maximum	2 k ohm minimum	2 k ohm minimum
Current Consumption for Local Bus UL (mA)	30 mA typical, 40 mA maximum	30 mA typical, 40 mA maximum	33 mA typical, 40 mA maximum
Current Consumption from Analog Bus UANA (mA)	50 mA typical, 65 mA maximum	15 mA typical, 20 mA maximum	25 mA typical, 35 mA maximum
Nominal Current Consumption of US	N/A	N/A	N/A
LED Indicators	Bus Diagnostics, I/O Voltage for analog terminals present	Bus Diagnostics	Bus Diagnostics Default state set
Required Terminal Strip	(1) IC220TBK203 (Contains 1 strip)	(1) IC220TBK061 (Contains 5 strips)	(1) IC220TBK062 (Contains 5 strips)



Functional Safety Modules

VersaSafe is a SIL3 TUV certified safety solution, well integrated in the PACSystems RX3i platform.

VersaSafe technology offers RX3i users, in particular machine OEMs, a scalable and cost efficient SIL 3 safety solution, without need of an additional, complex safety PLC and safety network. Users can add the exact number of safe I/O modules required, with the ability to expand to more than 100 safe I/Os. Even if the application requires a low number of safe I/O, VersaSafe still offers a cost efficient solution.

The safety I/O is distributed via VersaPoint Profibus NIU or Profinet RT NIU, and can be combined with any standard I/O on the same network.

Well integrated into the RX3i system, VersaSafe is easy to use. Since the RX3i is the single point of connection, both safe and standard I/O can be combined in the same logic program. Integration into the RX3i also enables significant cost reduction because the status of all safe I/Os is directly available in the standard application logic without the need to hard wire. The safety programming tool provides a safe function block library so standard machine safety applications can be realized with configuration instead of complex programming.

	IC220SDL543	IC220SDL953	IC220SDL753	IC220SDL752	IC220SDL840
Product Name	Safe Input, 24 VDC Positive Logic	Safety Logic Modul, Safe Output, 24 VDC Postive Logic	Safe Output, 24 VDC Postive Logic 2 A	Safe Output, 24 VDC Sink/ Source	Safe Output, Relay 4A, 4PT, with 2 contacts each
Lifecycle Status	Active	Active	Active	Active	Active
Voltage	0 - 30 VDC	0 - 30 VDC	0 - 30 VDC	0 - 30 VDC	24V and 230V
Applications	Safe Input	Safe Logic Output	Safe Output	Safe Output	Safe Relay Output
Number of Points SIL2 / CAT3	8	8	8	4	4
Number of Points SIL3 / CAT4	4	4	4	2	2
Clock Outputs	8	-	-	-	2
Diagnostic Inputs	-	-	-	-	2
Alarm Outputs	-	8	-	-	-
Max. Safety Level SIL / IEC61508	3	3	3	3	3
Max. Safety Level SILC / IEC62061	3	3	3	3	3
Max. Safety Level PL / ISO 13849-1	e	e	e	e	e
Max. Safety Level Category / CAT	4	4	4	4	4

Motion Modules

Motion modules enable the user to easily connect to high speed input devices.



	IC220MDD840	IC220MDD841	IC220MDD842
Product Name	High Speed Counter Input, 1 control input, 1 control output	Absolute Encoder Input, 4 digital inputs and 4 digital outputs	Incremental Encoder Input, 4 digital inputs and 4 digital outputs
Lifecycle Status	Active	Active	Active
Number of Points	1	One SSI Encoder	One A QUAD B
Input Frequency	100Khz	400Khz	Up to 500Khz
Maximum Resolution	N/A	26 bit	26 bit
Number of Inputs	1	4	4
Input Voltage	24 VDC / 5 VDC	24 VDC	24 VDC
Number of Outputs	1	4	4
Output Voltage	24 VDC, 500 mA	24 VDC, 500 mA	24 VDC, 500 mA
Connection Style	Input: 2 and 3 wire Output: 2 wire	Input: 2 and 3 wire Output: 2 and 3 wire	Input: 2 and 3 wire Output: 2 and 3 wire
Protection	Short Circuit Protection	Short Circuit Protection	Short Circuit Protection
Current Consumption for Local Bus UL (mA)	40 mA typical, 50 mA maximum	60 mA	110 mA
Nominal Current Consumption of US	1.0 Amp maximum	2.0 Amp maximum	2.0 Amp maximum
LED Indicators	Bus Diagnostics, Sensor supply short circuit, Counter input status, Control input status, Output status	Bus Diagnostics, Sensor supply short circuit, Counter input status, Control input status, Output status	Bus Diagnostics, Sensor supply short circuit, Counter input status, Control input status, Output status
Required Terminal Strip	(1) IC220TBK203 (Contains 1 strip)	(1) IC220TBK202 (Contains 1 strip)	(1) IC220TBK202 (Contains 1 strip)



Motor Starter Modules

VersaPoint motor starter modules enable the user to easily connect directly to three phase motors. The starter control (ON/OFF) and diagnostics is via the VersaPoint bus and no additional I/O modules required. The motor starter modules reduce wiring and installation.

	IC220STR001	IC220STR002	IC220STR003
Product Name	Motor Starter Direct, up to 1.5 kW / 400 VAC (No UL)	Motor Starter Direct, up to 3.7 kW / 480 VAC (UL Approved)	Motor Starter Reversing, up to 1.5 kW / 400 VAC (No UL)
Lifecycle Status	Active	Active	Active
Number of Points	N/A	N/A	N/A
Connection Style	3 - Phase	3 - Phase	3 - Phase
Output Voltage	400 VAC	480 VAC (±10%)	400 VAC
Power Voltage Range	187 VAC to 440 VAC	187 VAC to 519 VAC	187 VAC to 440 VAC
Frequency	50/60Hz	50/60Hz	50/60Hz
Motor Current Range	0.2 to 3.6 A	0.2 to 8.0 A	0.2 to 3.6 A
Protection	Electronic - Configurable Over Current	Electronic - Configurable Over Current	Electronic - Configurable Over Current
Switching Method	Electronic	Mechanical Contactor	Electronic
Current Consumption from Local Bus UL (mA)	45 mA	50 mA	45 mA
LED Indicators	Bus Diagnostics, Motor Protection (group error message), Motor (on/off), Manual Mode (on/off)	Bus Diagnostics, Motor Protection (group error message), Motor (on/off), Manual Mode (on/off)	Bus Diagnostics, Motor Protection (group error message), Motor (on/off), Manual Mode (on/off)
Required Terminal Strip	(1) IC220ACC105 (Contains 10 strips) and (1) IC220ACC103 or IC220ACC104	(1) IC220ACC105 (Contains 10 strips) and (1) IC220ACC103 or IC220ACC104	(1) IC220ACC105 (Contains 10 strips) and (1) IC220ACC103 or IC220ACC104



Serial Communications Modules

The serial interface modules enable the VersaPoint to connect to serial devices via RS-232 or RS-485/422. The modules support the following features:

- Serial I/O channel
- Supports various protocols
- Adjustable number of data bits, stop bits, and parity
- 4 kbyte receive buffer, 1 kbyte transmit buffer
- Supports DTR/CTS handshake
- Baud rate adjustable up to 38400 baud
- Configuration and data exchange using PCP communications services.
- LED diagnostic and status indicators

	IC220BEM232	IC220BEM485
Product Name	RS-232 Communications Module interfaces serial I/O devices to a VersaPoint I/O Station.	RS-485/422 Communications Module interfaces serial I/O devices to a VersaPoint I/O Station.
Lifecycle Status	Active	Active
Number of Points	1	1
Connection Style	RS-232	RS-485 half duplex/422 full duplex
Protocol	Transparent, End-to-end, Dual buffer, 3964R, XON/XOFF	Transparent, End-to-end, Dual buffer, 3964R, XON/XOFF, Modbus RTU, Modbus ASCII
Data Rate	110, 300, 600, 1200, 1800, 2400, 4800, 9600, 19200, 38400	110, 300, 600, 1200, 1800, 2400, 4800, 9600, 19200, 38400
Data Buffer	4-kbyte receive buffer and 1-kbyte transmit buffer	4-kbyte receive buffer and 1-kbyte transmit buffer
Current Consumption for Local Bus UL (mA)	155 mA typical, 225 mA maximum	170 mA typical, 260 mA maximum
LED Indicators	Bus Diagnostics, Transmit and Receive	Bus Diagnostics, Transmit and Receive
Required Terminal Strip	IC220TBK203	IC220TBK203

Accessories and Cables

IC220ACC001	Module Labels Narrow, Qty 10	Active
IC220ACC002	Module Labels Wide, Qty 10	Active
IC220ACC003	Point Labels Numbered 1-100, Qty 10	Active
IC220ACC004	Point Labels Blank, Qty 1000	Active
IC220ACC005	Module Keying Tabs, Qty 100	Active
IC220ACC100	Motor Starter Brake Module DC	Active
IC220ACC101	Motor Starter Brake Module AC/DC	Active
IC220ACC103	Motor Starter Power Connector	Active
IC220ACC104	Motor Starter Power Bridge	Active
IC220ACC105	Motor Circuit Connector, Qty 10	Active
IC220ACC201	Relay Module Isolation Set (Requires 1 IC220TBK206)	Active
IC220DEM001	VersaPoint Demo Case, DEVICENET NIU	Active
IC220DEM002	VersaPoint Demo Case, PROFIBUS NIU	Active
IC220DEM011	VersaPoint Static Demo, DEVICENET NIU	Active
IC220DEM012	VersaPoint Static Demo, PROFIBUS NIU	Active
IC220TBK061	I/O W/Shield, 6 Position Spring Style, Qty 5	Active
IC220TBK062	I/O Terminal Strip W/Dual Shield, 6 Position Spring Style, Qty 5	Active
IC220TBK082	I/O Terminal Strip, 8 Position Spring Style, Qty 10	Active
IC220TBK083	I/O Terminal Strip, 8 Position Spring Style, AC Input, Qty 10	Active
IC220TBK084	I/O Terminal Strip, 8 Position Spring Style, AC Output, Qty 10	Active
IC220TBK085	I/O Terminal Strip, 8 Position Spring Style, Relay, Qty 10	Active
IC220TBK087	Power Terminal Strip, 8 Position Spring Style, Qty 10	Active
IC220TBK122	I/O Terminal Strip, 12 Position Spring Style, Input, Qty 10	Active
IC220TBK123	I/O Terminal Strip, 12 Position Spring Style, Output, Qty 10	Active
IC220TBK201	Terminal Strip Set, Spring Style, DEVICENET NIU	Active
IC220TBK202	Terminal Strip Set, Spring Style, Encoder	Active
IC220TBK203	Terminal Strip Set, Spring Style, Analog Out/HSC	Active
IC220TBK204	Terminal Strip Set, Spring Style, AC Power Terminal	Active
IC220TBK206	Terminal Strip Set, Spring Style, Relay Isolation	Active

Configuration Guidelines

When configuring a VersaPoint the following guidelines should be considered:

1. VersaPoint is limited to 63 modules per Network Interface Unit.
2. Each module requires a terminal strip.
3. Each voltage requires a Power Terminal to separate voltages.
4. Segment Terminals can be used to easily group points within a voltage segment.
5. Internal power/current rating of connectors is 2 amps. A power terminal is required if this rating is exceeded.

Cable Selection

Examples of Typical Application

Configuration for Controller (Example application requiring (120) 24 VDC inputs and (80) Relay outputs AC power supply) for local control. System also has five remote cabinets, with each cabinet requiring (8) 24 VDC Inputs, (4) 24 VDC 0.5 Amp, Source Outputs and (2) current inputs and (2) current outputs (24 VDC power source) over Profibus DP.

Control Cabinet

Backplane Slots Required	Power Supply Current Required (mA)	Qty	Part Number	Description
2	1250 mA @ 3.3 VDC; 1000 mA @ 5 VDC	1	IC695CPU310	CPU with two built-in serial ports
2		1	IC695PSA040	120/240 VAC, 125 VDC Power Supply, current available 9 Amps @ 3.3 VDC; 6 Amps @ 5 VDC; 1.6 Amps @ 24 VDC maximum
	600 mA @ 3.3 VDC; 240 mA @ 5 VDC	1	IC695CHS016	16 Slot Universal Base
4	1200 mA @ 5V	4	IC694MDL660	Discrete Input Module, 24 VDC Positive Logic, 32 points (Requires terminal block)
5	35 mA @ 5V; 110 mA @ 24 VDC Relay	5	IC694MDL940	Discrete Output Module, Relay 2.0 A per point Form A, 16 points (Terminal block included).
		4	IC694TBB032	Terminal Block, Box Style
1	420 mA @ 5 VDC	1	IC695PBM300	Profibus DP Master Module
		1	BC646MPP001	Logic Developer - PLC Professional
14	Total current from power supply required: 2895 mA @ 5V; 1850 @ 3.3V; 110 mA @ 24 VDC Relay. Only one power supplied needed.			

Remote Cabinets (Qty 5)

	5	IC220PBI001	PROFIBUS-DP Network Interface Unit (Requires 1 IC220TBK087)
	5	IC220MDL643	Input, 24 VDC Positive Logic, 8pt (Requires 4 IC220TBK082)
	5	IC220MDL752	Output, 24 VDC Positive Logic 0.5A, 4pt (Requires 1 IC220TBK123)
	5	IC220ALG220	Analog In, 15 Bit, Voltage/Current, 2ch (Requires 1 IC220TBK061)
	10	IC220ALG320	Analog Out, 16 Bit, Voltage/Current, 1ch (Requires 1 IC220TBK203)
	5	IC220PWR003	Power Terminal, Fused with diag 24 VDC Requires 1 IC220TBK087)
	1	IC220TBK087	Power Terminal Strip, 8 Position Spring Style, Qty 10
	2	IC220TBK082	I/O Terminal Strip, 8 Position Spring Style, Qty 10
	1	IC220TBK123	I/O Terminal Strip, 12 Position Spring Style, Output, Qty 10
	1	IC220TBK061	I/O Terminal Strip with Shield, 6 Position Spring Style, Qty 5
	1	IC220TBK203	Terminal Strip Set, Spring Style, Analog Out/HSC

Options to Consider

	840 mA @ 3.3 VDC; 614 mA @ 5 VDC	1	IC695ETM001	RX3i Ethernet module 10/100 Mb/s 2 RJ45 connections one IP address occupies one slot on system base
		6	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
		1	IC693ACC302	RX3i Long term battery for CPU
		1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch Operator Interface

VersaMax IP

VersaMax IP is designed to offer the ruggedness and reliability of a standard I/O system installed in a NEMA 4 cabinet, without the cost and effort to build the cabinet. VersaMax IP is IP67 rated so it can be bolted right to the equipment it controls without the need for an enclosure. I/O, communications, and power connections are made to the blocks with off-the-shelf cordsets – reducing design and installation time and possible wiring errors.

Once installed, VersaMax IP's diagnostics make troubleshooting a snap. In the event of a failure, the connector-style wiring interface comes into play

once again, greatly reducing replacement time and the possibility of wiring errors.

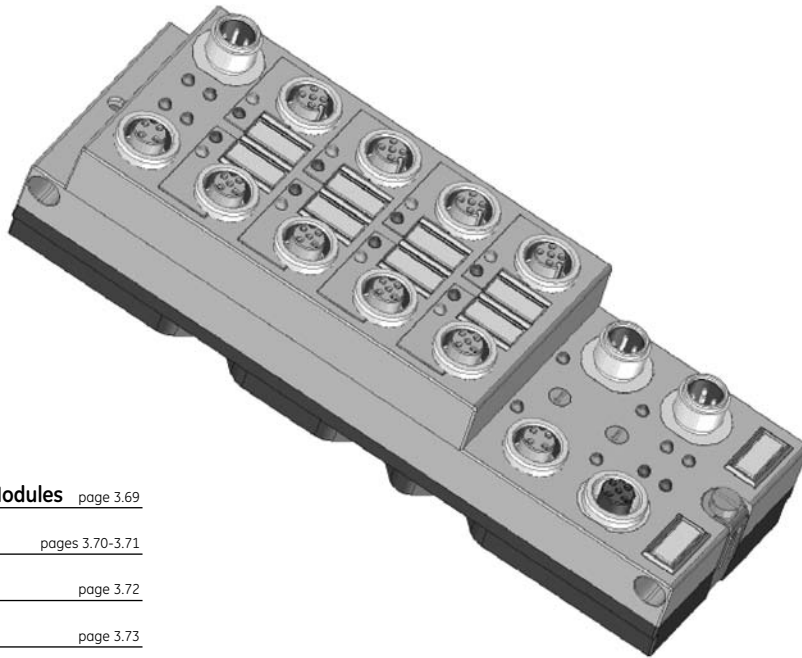
The initial release of VersaMax IP includes Profibus I/O blocks, Profibus Cordsets, and Power Cordsets. The Profibus I/O blocks provide the following:

- Connection to Profibus-DP using M12 connectors
- Baud rates up to 12 MB – autoselect
- Connections to digital sensors using M12 connectors (Input Blocks)
- Connection to digital actuators using M12 connectors, each with load capacity up to 2A (Output Blocks)

- Flexible voltage supply
- Diagnostics and Status indicators
- Short Circuit and Overload protection of Sensor Supply and/or outputs
- IP65 and IP67 Protection
- Operating Temperature: -25°C to 60°C

Proficiency Machine Edition

Proficiency Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control, and execution logic are developed with a single programmer.



Stand Alone Input and Output Modules page 3.69

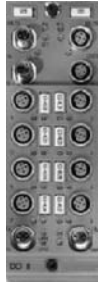
VersaMax IP Modular pages 3.70-3.71

Accessories and Cables page 3.72

Configuration Guidelines page 3.73

Publication Reference Chart

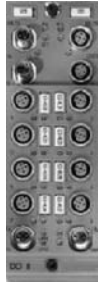
GFK-2307 VersaMax IP Installation Manual



Stand Alone Input and Output Modules

VersaMax IP modules are designed for distributed automation tasks in harsh environmental conditions. Modules meet the requirements for both IP65/IP67 protection. They enable the direct connection of sensors and actuators in an environment close to the station. Every VersaMax IP device is connected directly to the bus system.

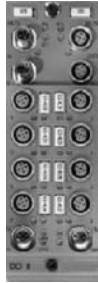
	IC676PBI008	IC676PBI016	IC676PBM442	IC676PBO082
Product Name	8 Point Input Module, Profibus	16 Point Input Module, Profibus	4 Point Input and 4 Point (2 Amp) Output Module, Profibus	8 Point (2 Amp) Output Module, Profibus
Lifecycle Status	Active	Active	Active	Active
Protocol	Profibus DP	Profibus DP	Profibus DP	Profibus DP
Module Power	24 VDC	24 VDC	24 VDC	24 VDC
Module Power Range	18 VDC to 30 VDC	18 VDC to 30 VDC	18 VDC to 30 VDC	18 VDC to 30 VDC
Module Current Consumption UL at 24VDC	35mA typical, 100mA maximum	35mA typical, 100mA maximum	40mA typical, 100mA maximum	40mA typical, 100mA maximum
Module Current Consumption US at 24 VDC	4.5mA typical plus sensor current 700mA maximum	8mA typical plus sensor current 1.2A maximum	4.5mA typical plus sensor current 700mA maximum	3mA typical plus sensor current 700mA maximum
Module Current Consumption UAXX at 24VDC	N/A	N/A	6mA typical plus actuator current, 4A maximum	12mA typical plus actuator current, 4A maximum
Connection Style (M12)	2-, 3-, and 4-wire	2-, 3-, and 4-wire (Y connector to support two sensors per connector)	2- or 3-wire	2- or 3-wire
Operating Temperature	Range: -25°C to +60°C (-13°F to +131°F)	Range: -25°C to +60°C (-13°F to +131°F)	Range: -25°C to +60°C (-13°F to +131°F)	Range: -25°C to +60°C (-13°F to +131°F)
Degree of Protection	95%. Slight condensation is permitted occasionally on the outer housing, for short periods	95%. Slight condensation is permitted occasionally on the outer housing, for short periods	95%. Slight condensation is permitted occasionally on the outer housing, for short periods	95%. Slight condensation is permitted occasionally on the outer housing, for short periods
Class of Protection	IP65 and IP67 according to IEC 60529	IP65 and IP67 according to IEC 60529	IP65 and IP67 according to IEC 60529	IP65 and IP67 according to IEC 60529
Housing Dimensions (WxHxD)	60mm x 160mm x 44.5mm	60mm x 160mm x 44.5mm	60mm x 178mm x 49.3mm	60mm x 178mm x 49.3mm



VersaMax IP Modular

VersaMax IP Modular modules are designed for distributed automation tasks in harsh environmental conditions. Modules meet the requirements for both IP65/IP67 protection. They enable the direct connection of sensors and actuators in an environment close to the station. Every VersaMax IP device is connected directly to the bus system. Up to 16 expansion modules can be connected to one Profibus VersaMax IP Modular local bus master, supporting up to 136 digital or 64 analog signals or a combination of the two.

	IC677PBI001	IC677DBI008	IC677DBO085
Product Name	Profibus VersaMax IP Modular local bus master with (8) 24 VDC inputs	Expansion VersaMax IP Modular slave with (8) 24 VDC inputs	Expansion VersaMax IP Modular slave with (8) 24 VDC outputs
Lifecycle Status	Active	Active	Active
Protocol	Profibus DP	Profibus DP	Profibus DP
Number of Points	8	8	8
Module Power	24 VDC	24 VDC	24 VDC
Module Power Range	18 VDC to 30 VDC	18 VDC to 30 VDC	18 VDC to 30 VDC
Module Current Consumption UL at 24 VDC	75mA typical, 100mA maximum	35mA typical (50mA maximum) @ 500Kbaud; 40mA typical (50mA maximum) @ 2Mbaud	40mA typical (50mA maximum) @ 500Kbaud; 45mA typical (50mA maximum) @ 2Mbaud
Module Current Consumption US at 24 VDC	15mA typical plus sensor current 600mA maximum	5mA typical plus sensor current 600mA maximum	5mA typical plus actuator current 600mA maximum
Module Current Consumption UAXX at 24 VDC	12mA typical plus actuator current, 4A maximum	N/A	N/A
Connection Style (M12)	2-, 3-, and 4-wire (Y connector to support two sensors per connector)	2-, 3-, and 4-wire	2-, 3-, and 4-wire
Operating Temperature	Range: -25°C to +60°C (-13°F to +131°F)	Range: -25°C to +60°C (-13°F to +131°F)	Range: -25°C to +60°C (-13°F to +131°F)
Degree of Protection	95%. Slight condensation is permitted occasionally on the outer housing, for short periods	95%. Slight condensation is permitted occasionally on the outer housing, for short periods	95%. Slight condensation is permitted occasionally on the outer housing, for short periods
Class of Protection	IP65 and IP67 according to IEC 60529	IP65 and IP67 according to IEC 60529	IP65 and IP67 according to IEC 60529
Housing Dimensions (WxHxD)	70mm x 178mm x 49.3mm	70mm x 178mm x 49.3mm	70mm x 178mm x 49.3mm



VersaMax IP Modular

VersaMax IP Modular modules are designed for distributed automation tasks in harsh environmental conditions. Modules meet the requirements for both IP65/IP67 protection. They enable the direct connection of sensors and actuators in an environment close to the station. Every VersaMax IP device is connected directly to the bus system. Up to 16 expansion modules can be connected to one Profibus VersaMax IP Modular local bus master, supporting up to 136 digital or 64 analog signals or a combination of the two.

	IC677DBM442	IC677ABI004	IC677ABO004
Product Name	Expansion VersaMax IP Modular slave with (4) 24VDC inputs and 4 outputs (2 amp)	Expansion VersaMax IP Modular slave with (4) analog inputs	Expansion VersaMax IP Modular slave with (4) analog outputs
Lifecycle Status	Active	Active	Active
Protocol	Profibus DP	Profibus DP	Profibus DP
Number of Points	4 In/ 4 Out	4	4
Module Power	24 VDC	24 VDC	24 VDC
Module Power Range	18 VDC to 30 VDC	18 VDC to 30 VDC	18 VDC to 30 VDC
Module Current Consumption UL at 24 VDC	40mA typical (50mA maximum) @ 500Kbaud; 45mA typical (50mA maximum) @ 2Mbaud	70 mA, typical	70 mA, typical
Module Current Consumption US at 24 VDC	5mA typical plus sensor current 600mA maximum	500mA typical plus sensor current 400mA maximum	5mA typical plus actuator current 400mA maximum
Module Current Consumption UAXX at 24 VDC	3mA typical plus actuator current, 4A maximum	N/A	N/A
Connection Style (M12)	2-, 3-, and 4-wire for sensor; 2 or 3-wire actuator control	2 or 4 wire technology (shielded)	2 or 4 wire technology (shielded)
Operating Temperature	Range: -25°C to +60°C (-13°F to +131°F)	Range: -25°C to +60°C (-13°F to +131°F)	Range: -25°C to +60°C (-13°F to +131°F)
Degree of Protection	95%. Slight condensation is permitted occasionally on the outer housing, for short periods	95%. Slight condensation is permitted occasionally on the outer housing, for short periods	95%. Slight condensation is permitted occasionally on the outer housing, for short periods
Class of Protection	IP65 and IP67 according to IEC 60529	IP65 and IP67 according to IEC 60529	IP65 and IP67 according to IEC 60529
Housing Dimensions (WxHxD)	70mm x 178mm x 49.3mm	70mm x 178mm x 49.3mm	70mm x 178mm x 49.3mm

Accessories and Cables

IC676ACC001	VersaMax IP Point Labels - Qty 50	Active
IC676ACC002	Protective Caps -Male (For unused I/O connectors and/or outgoing bus & power connectors) - Qty 5	Active
IC676ACC003	Protective Caps -Female (For unused incoming power connectors) - Qty 5	Active
IC676ACC004	Profibus Network Termination Resistor	Active
IC676ACC005	Profibus Network Tee	Active
IC676CBLPBB003	IP67 Profibus Cordset - 0.3 Meters	Active
IC676CBLPBB005	IP67 Profibus Cordset - 0.5 Meters	Active
IC676CBLPBB010	IP67 Profibus Cordset -1 Meter	Active
IC676CBLPBB020	IP67 Profibus Cordset - 2 Meters	Active
IC676CBLPBB050	IP67 Profibus Cordset - 5 Meters	Active
IC676CBLPBB100	IP67 Profibus Cordset - 10 Meters	Active
IC676CBLPBF020	IP67 Profibus Cordset - 2 Meters - Female Connector w/Leads	Active
IC676CBLPBF050	IP67 Profibus Cordset - 5 Meters - Female Connector w/Leads	Active
IC676CBLPBF100	IP67 Profibus Cordset - 10 Meters -Female Connector w/Leads	Active
IC676CBLPBM020	IP67 Profibus Cordset - 2 Meters, Male Connector w/Leads	Active
IC676CBLPBM050	IP67 Profibus Cordset - 5 Meters, Male Connector w/Leads	Active
IC676CBLPBM100	IP67 Profibus Cordset - 10 Meters -Male Connector w/Leads	Active
IC676CBLPWB003	IP67 Power Cordset - 0.3 Meters	Active
IC676CBLPWB005	IP67 Power Cordset - 0.5 Meters	Active
IC676CBLPWB010	IP67 Power Cordset -1 Meter	Active
IC676CBLPWB020	IP67 Power Cordset - 2 Meters	Active
IC676CBLPWB050	IP67 Power Cordset - 5 Meters	Active
IC676CBLPWB100	IP67 Power Cordset -10 Meters	Active
IC676CBLPWF020	IP67 Power Cordset - 2 Meters - Female Connector w/Leads	Active
IC676CBLPWF050	IP67 Power Cordset - 5 Meters - Female Connector w/Leads	Active
IC676CBLPWF100	IP67 Power Cordset -10 Meters -Female Connector w/Leads	Active
IC676CBLPWM020	IP67 Power Cordset - 2 Meters - Male Connector w/Leads	Active
IC676CBLPWM050	IP67 Power Cordset - 5 Meters - Male Connector w/Leads	Active
IC676CBLPWM100	IP67 Power Cordset -10 Meters - Male Connector w/Leads	Active

VersaMax IP Modular Inter-connection Cables

IC677CBLPWB0013	IP67 Voltage supply cable for local bus; A-coded, 5 position, unshielded 13.5 cm.	Active
IC677CBLPWB0013	IP67 Local communications cable for local bus; B-coded, 5 position, shielded 13.5 cm.	Active

Configuration Guidelines

When configuring a VersaMax IP the following guidelines should be considered

1. Remember to select the proper cord set and termination resistor
2. VersaMax IP Modular can support up to 16 Modular expansions with a total expansion length of 20 meters

Examples of Typical Application

Configuration for Controller (Example application requiring (120) 24VDC inputs and (80) Relay outputs AC power supply) for local control. System also has five remote drops that will be mounted external to the machine. Each remote drop requires (8) 24VDC Inputs, (4) 24VDC 0.5 Amp, Source Outputs and (2) current inputs and (2) current outputs (24VDC power source) over Profibus DP.

Control Cabinet

Backplane Slots Required	Power Supply Current Required (mA)	Qty	Part Number	Description
2	1250 mA @ 3.3 VDC; 1000mA @ 5 VDC	1	IC695CPU310	CPU with two built-in serial ports
2		1	IC695PSA040	120/240 VAC, 125 VDC Power Supply, current available 9 Amps @ 3.3 VDC; 6 Amps @ 5 VDC; 1.6 Amps @ 24 VDC maximum
	600 mA @ 3.3 VDC; 240 mA @ 5 VDC	1	IC695CHS016	16 Slot Universal Base
4	1200 mA @ 5V	4	IC694MDL660	Discrete Input Module, 24 VDC Positive Logic, 32 points (Requires terminal block)
5	35 mA @ 5V; 110mA @ 24 VDC Relay	5	IC694MDL940	Discrete Output Module, Relay 2.0 A per point Form A, 16 points (Terminal block included).
		4	IC694TBB032	Terminal Block, Box Style
1	420 mA @ 5 VDC	1	IC695PBM300	Profibus DP Master Module
		1	BC646MPP001	Logic Developer -PLC Professional
14	Total current from power supply required: 2895mA @ 5V; 1850 @ 3.3V; 110mA @ 24 VDC Relay. Only one power supplied needed.			

Remote Cabinets (Qty 5)

5	IC677PBI001	Profibus VersaMax IP Modular local bus master with (8) 24 VDC inputs
5	IC677DBO085	Expansion VersaMax IP Modular slave with (8) 24 VDC outputs
5	IC677ABI004	Expansion VersaMax IP Modular slave with (4) analog inputs
5	IC677ABO004	Expansion VersaMax IP Modular slave with (4) analog outputs
5	IC676CBLPBB100	IP67 Profibus Cordset -10 Meters
5	IC676CBLPWB100	IP67 Power Cordset -10 Meters
15	IC677CBLPWB0013	IP67 Voltage supply cable for local bus; A-coded, 5 position, unshielded 13.5 cm.
15	IC677CBLPWB0013	IP67 Local communications cable for local bus; B-coded, 5 position, shielded 13.5 cm.

Options to Consider

840mA @ 3.3 VDC; 614 mA @ 5 VDC	1	IC695ETM001	RX3i Ethernet module 10/100 Mbits 2 RJ45 connections one IP address occupies one slot on system base
	6	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
	1	IC693ACC302	RX3i Long term battery for CPU
	1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch Operator Interface

RSTi

The new RSTi I/O system is Profinet enabled and ideal for distributed control applications. The compact, granular “build as you go” design of the RSTi enables the user to optimize the design of the system and therefore minimize cost.

The RSTi is also Network Independent with over 10 different bus interfaces available such as Profibus, Modbus (serial and Ethernet), EthernetIP, EtherCAT, CANopen, and CCLink. The RSTi is supported by over 80 discrete, analog, motion and specialty I/O modules to address simple to complex applications.

Benefits of RSTi

- **Network Independence:** OEMs and System Integrators can standardize on their I/O layout without worrying about the controller it is connected to.
- **Reduced Development Time:** Panels can be fabricated in advance, independent of the control system, by simply changing out the network/bus interface without impact to wiring.
- **Reduced Installation Cost:** Distributed I/O networks reduce installation and wiring cost.
- **Lower Cost Per Point:** The RSTi can be configured to meet application needs. The granular design reduces panel space and module cost.
- **“Build as You Go”:** Expansion is simple; just slide in a RSTi I/O module without impacting the wiring back to the main control panel.
- **System Simplification:** The distributed nature of the RSTi greatly reduces the time to dis-assemble and re-assemble a machine, therefore reducing machine commissioning.

The RSTi is ideal for distributed I/O systems with as a few 4 I/O per location or hundreds of I/O.

Network Interfaces [pages 3.75-3.76](#)

Network Interfaces with Built-in I/O [pages 3.77-3.87](#)



Discrete I/O Modules (Input) [pages 3.88-3.90](#)

Discrete I/O Modules (Output) [pages 3.94-3.98](#)

Analog I/O Modules (Input) [pages 3.91-3.93](#)

Analog I/O Modules (Output) [pages 3.99-3.101](#)

High Speed Counting [pages 3.106-3.107](#)

Serial Communications Modules [pages 3.104-3.105](#)

RTD Modules [page 3.102](#)

Power Modules [pages 3.110-3.112](#)

Thermocouple Modules [page 3.103](#)

Motion Control [pages 3.108-3.109](#)

Expansion Modules [page 3.113](#)

Configuration Tools [pages 3.114-3.115](#)

Accessories [page 3.116](#)

Typical Application [page 3.117](#)

Publication Reference Chart

GFK-2745	RSTi I/O User Manual
GFK-2746	RSTi Network Adapter Manual



Network Interfaces

RSTi offers a wide range of network interfaces for Ethernet, Fieldbuses and serial networks. The network independence of the RSTi enables to user to be flexible on system layouts.

	STXPNS001	STXPBS001	STXDNS001	STXCAN001	STXMBS001
Product Name	Slave Network Interface	Slave Network Interface	Slave Network Interface	Slave Network Interface	Slave Network Interface
Lifecycle Status	Active	Active	Target Release April 2012	Target Release October 2012	Target Release April 2012
Module Type	Slave Network Interface	Slave Network Interface	Slave Network Interface	Slave Network Interface	Slave Network Interface
Field Busses/Device Networks	PROFINET Ethernet	Profibus V1	DeviceNet	CANopen	Modbus RS-232
Protocol Supported	PROFINET RT	Freeze mode Sync mode Auto baud rate Fail safe mode	I/O Slave Message (Group 2 only slave) Poll command. Bit_strobe command Cyclic command, COS command		RTU and ASCII
Features	Line or Star topology Built-in Ethernet Switch				
Baud Rate	100Mbps	9.6K to 12Mbps	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection)	10KBps to 1Mbps	1200 to 115.2Kbps
I/O Data Size	Total: Inputs 128bytes/ Outputs 128bytes	Total: Inputs 128bytes/ Outputs 128bytes	Total: Inputs 252bytes/ Outputs 252bytes Max. Discrete I/O: 2016 Inputs/2016 Outputs Max. Analog I/O: 126 Inputs/126 Outputs	Total: Inputs 64 bytes/ Outputs 64 bytes	Total: Inputs 252bytes/ Outputs 252bytes
LEDs	Module Status Network Status I/O Status Port 1 Link Activity Port 2 Link Activity Field Power Status	Module Status Network Status Expansion Module Status Field Power Status	Module Status Network Status Expansion Module Status Field Power Status	Module Status Network Status Expansion Module Status Field Power Status	Module Status Transmit Data Received Data Expansion Module Status Field Power Status
Diagnostic Supported	Yes	Yes	Yes	Yes	Yes
Maximum Bus Length	100 meters between nodes	100 meters to 1.2Km depending on baud rate	Up to 500 meters depending on baud rate		15 meters
Maximum Number of Nodes Supported	Limited by the IP address	100	64	99	1
Number of Expansion I/O Supported	32	32	32	32	32
Interface Connector Type	Two RJ-45 with built-in switch	DB 9 connector (RS-485)	5 pin connector	5 pin connector	DB 9 connector (RS-232)
Configuration Tool	Proficy Machine Edition or GSDML	GSM File	EDS File	EDS File	I/O Guide Pro
Field Power Requirement	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Power Dissipation	115 mA typical @ 24 VDC	60 mA typical @ 24 VDC	300 mA typical	100 mA typical @ 24 VDC	70 mA typical @ 24 VDC
Internal Power Used (5 VDC loading)	1.5 A @ Maximum 5 VDC	1.5 A @ Maximum 5 VDC	1.2 A @ Maximum 5 VDC	1.5 A @ Maximum 5 VDC	1.5 A @ Maximum 5 VDC
Dimensions (H x W x D) in mm	99 x 45 x 70	99 x 45 x 70	99 x 42 x 70	99 x 42 x 70	99 x 45 x 70



Network Interfaces

RSTi offers a wide range of network interfaces for Ethernet, Fieldbuses and serial networks. The network independence of the RSTi enables to user to be flexible on system layouts.

	STXMS002	STXECT001	STXEIP001	STXMBE001
Product Name	Slave Network Interface	Slave Network Interface	Slave Network Interface	Slave Network Interface
Lifecycle Status	Target Release April 2012	Target Release July 2012	Target Release July 2012	Target Release April 2012
Module Type	Slave Network Interface	Slave Network Interface	Slave Network Interface	Slave Network Interface
Field Busses/Device Networks	Modbus RS-485 RTU and ASCII	EtherCAT Ethernet EtherCAT	Ethernet/IP Ethernet 16 IO message connections 64 CIP connections 64 Explicit message connections	Modbus TCP Ethernet 8 Modbus/TCP, 4 HTTP, BOOTP, TBD
Protocol Supported				
Features	Built-in Ethernet Switch			
Baud Rate	1200 to 115.2Kbps	100Mbps	10/100Mbps	10/100Mbps
I/O Data Size	Total: Inputs 252bytes/ Outputs 252bytes	Total: Inputs 252bytes/ Outputs 252bytes	Total: Inputs 252bytes/ Outputs 252bytes	Total: Inputs 252bytes/ Outputs 252bytes
LEDs	Module Status Transmit Data Received Data Expansion Module Status Field Power Status	Module Status Network Status Expansion Module Status Field Power Status	Module Status Network Status I/O Status Link Activity Field Power Status	Module Status Network Status I/O Status Link Activity Field Power Status
Diagnostic Supported	Yes	Yes	Yes	Yes
Maximum Bus Length	1200 meters	100 meters between EtherCAT nodes	100 meters between nodes	100 meters between nodes
Maximum Number of Nodes Supported	64	65,535	Limited by the IP address	Limited by the IP address
Number of Expansion I/O Supported	32	32	32	32
Interface Connector Type	DB 9 connector (RS-485)	Two RJ-45 with built-in switch	One RJ-45	One RJ-45
Configuration Tool	I/O Guide Pro	I/O Guide Pro	EDS File	I/O Guide Pro
Field Power Requirement	24 VDC (11 VDC to 28.8 VDC)	24 VDC (16 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Power Dissipation	70 mA typical @ 24 VDC	100 mA typical @ 24 VDC	60 mA typical @ 24 VDC	60 mA typical @ 24 VDC
Internal Power Used (5 VDC loading)	1.5 A @ Maximum 5 VDC	1.5 A @ Maximum 5 VDC	1.5 A @ Maximum 5 VDC	1.5 A @ Maximum 5 VDC
Dimensions (H x W x D) in mm	99 x 45 x 70	99 x 54.2 x 70	99 x 45 x 70	99 x 45 x 70



Network Interfaces with Built-in I/O

The Profibus and DeviceNet Network Interfaces are also available with built-in I/O to reduce cost and footprint. The network interfaces can be expanded and support all of the RSTi I/O types.

	STXPBS032	STXPBS132	STXPBS232
Product Name	Slave Network Interface with 32 Positive Logic Inputs Built-in	Slave Network Interface with 32 Negative Logic Inputs Built-in	Slave Network Interface with 32 Sink Outputs Built-in
Lifecycle Status	Active	Active	Active
Module Type	Slave Network Interface	Slave Network Interface	Slave Network Interface
Field Busses/Device Networks	Profibus V1	Profibus V1	Profibus V1
Protocol Supported	Freeze mode, Sync mode, Auto baudrate, Fail safe mode	Freeze mode, Sync mode, Auto baudrate, Fail safe mode	Freeze mode, Sync mode, Auto baudrate, Fail safe mode
Features	Profibus DP Network Slave has built-in 32 Positive Logic Inputs with expansion support	Profibus DP Network Slave has built-in 32 Negative Logic Inputs with expansion support	Profibus DP Network Slave has built-in 32 Sink Outputs with expansion support
Baud Rate	9.6K to 12Mbps	9.6K to 12Mbps	9.6K to 12Mbps
I/O Data Size	Total: Inputs 36 bytes/Outputs 36 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/32 bytes Out for expansion modules); Discrete I/O: Maximum Discrete I/O: 256 inputs/ 256 outputs; Analog I/O: 16 Channels In/ 16 Channels Out	Total: Inputs 36 bytes/Outputs 36 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/32 bytes Out for expansion modules); Discrete I/O: Maximum Discrete I/O: 256 inputs/ 256 outputs; Analog I/O: 16 Channels In/ 16 Channels Out	Total: Inputs 36 bytes/Outputs 36 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/32 bytes Out for expansion modules); Discrete I/O: Maximum Discrete I/O: 256 inputs/ 256 outputs; Analog I/O: 16 Channels In/ 16 Channels Out
LEDs	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status
Diagnostic Supported	Yes	Yes	Yes
Maximum Bus Length	100 meters to 1.2Km depending on baud rate	100 meters to 1.2Km depending on baud rate	100 meters to 1.2Km depending on baud rate
Maximum Number of Nodes Supported	100	100	100
Number of Expansion I/O Supported	8	8	8
Number of Points	32	32	32
System Power Requirement	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection
Field Power Requirement	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Type	32 Point 24 VDC Positive Logic	32 Point 24 VDC Negative Logic	
Input Voltage Range	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	
Input Impedance	~5.4K ohms	~5.4K ohms	
Input Signal Delay	< 0.5msec	< 0.5msec	
Response Time (ms)			< 0.3msec
Trigger Voltage	ON State: 9 VDC, OFF State: 5 VDC	ON State: 9 VDC, OFF State: 5 VDC	
Points per Common	32	32	32
Output Type			32 Point 24 VDC Negative Logic
Output Range			Nominal 0 VDC; 11 to 28.8 VDC
Protection			Short protection, Over Temperature Protection, Over Current Limit
Minimum Output Load			0.5 Amps per point
Load Current per Point			
Output Inrush Current			
Polarity			Sink
Configuration Tool	GSM File	GSM File	GSM File
Interface Connector Type	DB 9 connector (RS-485)	DB 9 connector (RS-485)	DB 9 connector (RS-485)
Power Dissipation	50 mA typical @ 24 VDC	50 mA typical @ 24 VDC	50 mA typical @ 24 VDC
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	400 mA @ Maximum 5 VDC	400 mA @ Maximum 5 VDC	400 mA @ Maximum 5 VDC
Dimensions (H x W x D) in mm	99 x 83 x 70	99 x 83 x 70	99 x 83 x 70



Network Interfaces with Built-in I/O

The Profibus and DeviceNet Network Interfaces are also available with built-in I/O to reduce cost and footprint. The network interfaces can be expanded and support all of the RSTi I/O types.

	STXPBS332	STXPBS016	STXPBS116
Product Name	Slave Network Interface with 32 Source Outputs Built-in	Slave Network Interface with 16 Relay Outputs	Slave Network Interface with 16 Isolated Relay Outputs
Lifecycle Status	Active	Target Release July 2012	Target Release July 2012
Module Type	Slave Network Interface	Slave Network Interface	Slave Network Interface
Field Busses/Device Networks	Profibus V1	Profibus V1	Profibus V1
Protocol Supported	Freeze mode, Sync mode, Auto baudrate, Fail safe mode	Freeze mode, Sync mode, Auto baudrate, Fail safe mode	Freeze mode, Sync mode, Auto baudrate, Fail safe mode
Features	Profibus DP Network Slave has built-in 32 Source Outputs with expansion support	Profibus DP Network Slave has built-in 16 Relay Outputs with expansion support	Profibus DP Network Slave has built-in 16 Isolated Relay Outputs with expansion support
Baud Rate	9.6K to 12Mbps	9.6K to 12Mbps	9.6K to 12Mbps
I/O Data Size	Total: Inputs 36 bytes/Outputs 36 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/32 bytes Out for expansion modules); Discrete I/O: Maximum Discrete I/O: 256 inputs/ 256 outputs; Analog I/O: 16 Channels In/ 16 Channels Out	Total: Inputs 32bytes/Outputs 32bytes; Discrete I/O: 256 inputs/ 256 outputs; Analog I/O: 16 Channels In/ 16 Channels Out	Total: Inputs 36 bytes/Outputs 36 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/32 bytes Out for expansion modules); Discrete I/O: Maximum Discrete I/O: 256 inputs/ 256 outputs; Analog I/O: 16 Channels In/ 16 Channels Out
LEDs	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status
Diagnostic Supported	Yes	Yes	Yes
Maximum Bus Length	100 meters to 1.2Km depending on baud rate	100 meters to 1.2Km depending on baud rate	100 meters to 1.2Km depending on baud rate
Maximum Number of Nodes Supported	100	100	100
Number of Expansion I/O Supported	8	8	8
Number of Points	32	16	16
System Power Requirement	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection
Field Power Requirement	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Type			
Input Voltage Range			
Input Impedance			
Input Signal Delay			
Response Time (ms)	< 0.3msec	10msec	10msec
Trigger Voltage			
Points per Common	32	4	1
Output Type	32 Point 24 VDC Positive Logic	16 Point Relay	16 Isolated Relay
Output Range	Nominal 24 VDC; 11 to 28.8 VDC	5 to 28.8 VDC, 48 VDC, 110 VDC, 250 VAC	5 to 28.8 VDC, 48 VDC, 110 VDC, 250 VAC
Protection	Short protection, Over Temperature Protection, Over Current Limit		
Minimum Output Load		100 micro Amps, 100 millivolts VDC per point	100 micro Amps, 100 millivolts VDC per point
Load Current per Point	0.5 Amps per point	2 Amps at 5 to 28.8 VDC, 0.8 Amps at 48 VDC, 0.5 Amps at 110 VDC, 2 Amps at 250 VAC	2 Amps at 5 to 28.8 VDC, 0.8 Amps at 48 VDC, 0.5 Amps at 110 VDC, 2 Amps at 250 VAC
Output Inrush Current			
Polarity	Source		
Configuration Tool	GSM File	GSM File	GSM File
Interface Connector Type	DB 9 connector (RS-485)	DB 9 connector (RS-485)	DB 9 connector (RS-485)
Power Dissipation	50 mA typical @ 24 VDC	50 mA typical @ 24 VDC	50 mA typical @ 24 VDC
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	400 mA @ Maximum 5 VDC	400 mA @ Maximum 5 VDC	400 mA @ Maximum 5 VDC
Dimensions (H x W x D) in mm	99 x 83 x 70	99 x 83 x 70	99 x 83 x 70



Network Interfaces with Built-in I/O

The Profibus and DeviceNet Network Interfaces are also available with built-in I/O to reduce cost and footprint. The network interfaces can be expanded and support all of the RSTi I/O types.

	STXPBS432	STXPBS532	STXPBS824
Product Name	Slave Network Interface with 16 Positive Logic Inputs and 16 Source Outputs	Slave Network Interface with 16 Negative Logic Inputs and 16 Sink Outputs	Slave Network Interface with 16 Positive Logic Inputs and 16 Relay Outputs
Lifecycle Status	Active	Active	Target Release July 2012
Module Type	Slave Network Interface	Slave Network Interface	Slave Network Interface
Field Busses/Device Networks	Profibus V1	Profibus V1	Profibus V1
Protocol Supported	Freeze mode, Sync mode, Auto baudrate, Fail safe mode	Freeze mode, Sync mode, Auto baudrate, Fail safe mode	Freeze mode, Sync mode, Auto baudrate, Fail safe mode
Features			
Baud Rate	9.6K to 12Mbps	9.6K to 12Mbps	9.6K to 12Mbps
I/O Data Size	Total: Inputs 36 bytes/Outputs 36 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/32 bytes Out for expansion modules); Discrete I/O: Maximum Discrete I/O: 256 inputs/ 256 outputs; Analog I/O: 16 Channels In/ 16 Channels Out	Total: Inputs 36 bytes/Outputs 36 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/32 bytes Out for expansion modules); Discrete I/O: Maximum Discrete I/O: 256 inputs/ 256 outputs; Analog I/O: 16 Channels In/ 16 Channels Out	Total: Inputs 36 bytes/Outputs 36 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/32 bytes Out for expansion modules); Discrete I/O: Maximum Discrete I/O: 256 inputs/ 256 outputs; Analog I/O: 16 Channels In/ 16 Channels Out
LEDs	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status
Diagnostic Supported	Yes	Yes	Yes
Maximum Bus Length	100 meters to 1.2Km depending on baud rate	100 meters to 1.2Km depending on baud rate	100 meters to 1.2Km depending on baud rate
Maximum Number of Nodes Supported	100	100	100
Number of Expansion I/O Supported	8	8	8
Number of Points	16 In/16 Out	16 In/16 Out	16 In/16 Out
System Power Requirement	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection
Field Power Requirement	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Type	16 Point 24 VDC Positive Logic	16 Point 24 VDC Negative Logic	16 Point 24 VDC Positive Logic
Input Voltage Range	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Impedance	~5.4K ohms	~5.4K ohms	~5.4K ohms
Input Signal Delay	< 0.5msec	< 0.5msec	< 0.5msec
Response Time (ms)	< 0.3msec	< 0.3msec	10msec
Trigger Voltage	ON State: 9 VDC OFF State: 5 VDC	ON State: 9 VDC OFF State: 5 VDC	ON State: 9 VDC OFF State: 5 VDC
Points per Common	32	32	16 for Inputs and 4 for Outputs
Output Type	16 Point 24 VDC Positive Logic	16 Point 24 VDC Negative Logic	16 Point Relay
Output Range	Nominal 24 VDC; 11 to 28.8 VDC	Nominal 24 VDC; 11 to 28.8 VDC	5 to 28.8 VDC, 48 VDC, 110 VDC, 250 VAC
Protection	Short protection, Over Temperature Protection, Over Current Limit	Short protection, Over Temperature Protection, Over Current Limit	
Minimum Output Load			100 micro Amps, 100 millivolts VDC per point
Load Current per Point	0.5 Amps per point	0.5 Amps per point	2 Amps at 5 to 28.8 VDC, 0.8 Amps at 48 VDC, 0.5 Amps at 110 VDC, 2 Amps at 250 VAC
Output Inrush Current			
Polarity	Source	Sink	
Configuration Tool	GSM File	GSM File	GSM File
Interface Connector Type	DB 9 connector (RS-485)	DB 9 connector (RS-485)	DB 9 connector (RS-485)
Power Dissipation	50 mA typical @ 24 VDC	50 mA typical @ 24 VDC	50 mA typical @ 24 VDC
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	400 mA @ Maximum 5 VDC	400 mA @ Maximum 5 VDC	400 mA @ Maximum 5 VDC
Dimensions (H x W x D) in mm	99 x 83 x 70	99 x 83 x 70	99 x 83 x 70



Network Interfaces with Built-in I/O

The Profibus and DeviceNet Network Interfaces are also available with built-in I/O to reduce cost and footprint. The network interfaces can be expanded and support all of the RSTi I/O types.

	STXPBS924	STXPBS825	STXPBS925
Product Name	Slave Network Interface with 16 Negative Logic Inputs and 16 Relay Outputs	Slave Network Interface with 16 Positive Logic Inputs and 16 Isolated Relay Outputs	Slave Network Interface with 16 Negative Logic Inputs and 16 Isolated Relay Outputs
Lifecycle Status	Target Release July 2012	Target Release July 2012	Target Release July 2012
Module Type	Slave Network Interface	Slave Network Interface	Slave Network Interface
Field Busses/Device Networks	Profibus V1	Profibus V1	Profibus V1
Protocol Supported	Freeze mode, Sync mode, Auto baudrate, Fail safe mode	Freeze mode, Sync mode, Auto baudrate, Fail safe mode	Freeze mode, Sync mode, Auto baudrate, Fail safe mode
Features			
Baud Rate	9.6K to 12Mbps	9.6K to 12Mbps	9.6K to 12Mbps
I/O Data Size	Total: Inputs 36 bytes/Outputs 36 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/32 bytes Out for expansion modules); Discrete I/O: Maximum Discrete I/O: 256 inputs/ 256 outputs; Analog I/O: 16 Channels In/ 16 Channels Out	Total: Inputs 36 bytes/Outputs 36 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/32 bytes Out for expansion modules); Discrete I/O: Maximum Discrete I/O: 256 inputs/ 256 outputs; Analog I/O: 16 Channels In/ 16 Channels Out	Total: Inputs 36 bytes/Outputs 36 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/32 bytes Out for expansion modules); Discrete I/O: Maximum Discrete I/O: 256 inputs/ 256 outputs; Analog I/O: 16 Channels In/ 16 Channels Out
LEDs	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status
Diagnostic Supported	Yes	Yes	Yes
Maximum Bus Length	100 meters to 1.2Km depending on baud rate	100 meters to 1.2Km depending on baud rate	100 meters to 1.2Km depending on baud rate
Maximum Number of Nodes Supported	100	100	100
Number of Expansion I/O Supported	8	8	8
Number of Points	16 In/16 Out	16 In/16 Out	16 In/16 Out
System Power Requirement	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection
Field Power Requirement	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Type	16 Point 24 VDC Negative Logic	16 Point 24 VDC Positive Logic	16 Point 24 VDC Negative Logic
Input Voltage Range	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Impedance	~5.4K ohms	~5.4K ohms	~5.4K ohms
Input Signal Delay	< 0.5msec	< 0.5msec	< 0.5msec
Response Time (ms)	10msec	10msec	10msec
Trigger Voltage	ON State: 9 VDC, OFF State: 5 VDC	ON State: 9 VDC, OFF State: 5 VDC	ON State: 9 VDC, OFF State: 5 VDC
Points per Common	16 for Inputs and 1 for Outputs	16 for Inputs and 1 for Outputs	16 for Inputs and 1 for Outputs
Output Type	16 Point Relay	16 Point Isolated Relay	16 Point Isolated Relay
Output Range	5 to 28.8 VDC, 48 VDC, 110 VDC, 250 VAC	5 to 28.8 VDC, 48 VDC, 110 VDC, 250 VAC	5 to 28.8 VDC, 48 VDC, 110 VDC, 250 VAC
Protection			
Minimum Output Load	100 micro Amps, 100 millivolts VDC per point	100 micro Amps, 100 millivolts VDC per point	100 micro Amps, 100 millivolts VDC per point
Load Current per Point	2 Amps at 5 to 28.8 VDC, 0.8 Amps at 48 VDC, 0.5 Amps at 110 VDC, 2 Amps at 250 VAC	2 Amps at 5 to 28.8 VDC, 0.8 Amps at 48 VDC, 0.5 Amps at 110 VDC, 2 Amps at 250 VAC	2 Amps at 5 to 28.8 VDC, 0.8 Amps at 48 VDC, 0.5 Amps at 110 VDC, 2 Amps at 250 VAC
Output Inrush Current			
Polarity			
Configuration Tool	GSM File	GSM File	GSM File
Interface Connector Type	DB 9 connector (RS-485)	DB 9 connector (RS-485)	DB 9 connector (RS-485)
Power Dissipation	50 mA typical @ 24 VDC	50 mA typical @ 24 VDC	50 mA typical @ 24 VDC
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	400 mA @ Maximum 5 VDC	400 mA @ Maximum 5 VDC	400 mA @ Maximum 5 VDC
Dimensions (H x W x D) in mm	99 x 83 x 70	99 x 83 x 70	99 x 83 x 70



Network Interfaces with Built-in I/O

The Profibus and DeviceNet Network Interfaces are also available with built-in I/O to reduce cost and footprint. The network interfaces can be expanded and support all of the RSTi I/O types.

	STXDNS032	STXDNS132	STXDNC032
Product Name	Slave Network Interface with 32 Positive Logic Inputs Built-in	Slave Network Interface with 32 Negative Logic Inputs Built-in	Slave Network Interface with 32 Positive Logic Inputs Built-in
Lifecycle Status	Target Release April 2012	Target Release April 2012	Target Release April 2012
Module Type	Slave Network Interface	Slave Network Interface	Slave Network Interface
Field Busses/Device Networks	DeviceNet	DeviceNet	DeviceNet
Protocol Supported	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command
Features			
Baud Rate	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection)	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection)	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection)
I/O Data Size	Total: Inputs 36 bytes/Outputs 34 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/30 bytes Out for expansion modules)	Total: Inputs 36 bytes/Outputs 34 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/30 bytes Out for expansion modules)	Total: Inputs 4 bytes/Outputs 4 bytes
LEDs	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status
Diagnostic Supported	Yes	Yes	Yes
Maximum Bus Length	Up to 500 meters depending on baud rate	Up to 500 meters depending on baud rate	Up to 500 meters depending on baud rate
Maximum Number of Nodes Supported	64	64	64
Number of Expansion I/O Supported	10	10	None Supported
Number of Points	32 In	32 In	32
System Power Requirement	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (11 VDC to 28.8 VDC) with Current Limit, Reverse Polarity Protection
Field Power Requirement	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Type	32 Point 24 VDC Positive Logic	32 Point 24 VDC Negative Logic	32 Point 24 VDC Positive Logic
Input Voltage Range	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Impedance	~5.4K ohms	~5.4K ohms	~5.4K ohms
Input Signal Delay	< 0.5msec	< 0.5msec	< 0.5msec
Response Time (ms)			
Trigger Voltage	ON State: 9 VDC, OFF State: 5 VDC	ON State: 9 VDC, OFF State: 5 VDC	ON State: 9 VDC, OFF State: 5VDC
Points per Common	16 for Inputs and 1 for Outputs	16 for Inputs and 1 for Outputs	16
Output Type			
Output Range			
Protection			
Minimum Output Load			
Load Current per Point			
Output Inrush Current			
Polarity			
Configuration Tool	EDS File	EDS File	EDS File
Interface Connector Type	5 pin connector	5 pin connector	5 pin connector
Power Dissipation	110 mA typical	110 mA typical	80 mA typical
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Connector Type
Internal Power Used (5 VDC loading)	600 mA @ Maximum 5 VDC	600 mA @ Maximum 5 VDC	Not Applicable
Dimensions (H x W x D) in mm	99 x 83 x 70	99 x 83 x 70	80 x 35 x 55



Network Interfaces with Built-in I/O

The Profibus and DeviceNet Network Interfaces are also available with built-in I/O to reduce cost and footprint. The network interfaces can be expanded and support all of the RSTi I/O types.

	STXDNC132	STXDNS232	STXDNS332
Product Name	Slave Network Interface with 32 Negative Logic Inputs Built-in	Slave Network Interface with 32 Sink Outputs Built-in	Slave Network Interface with 32 Source Outputs Built-in
Lifecycle Status	Target Release April 2012	Target Release April 2012	Target Release April 2012
Module Type	Slave Network Interface	Slave Network Interface	Slave Network Interface
Field Busses/Device Networks	DeviceNet	DeviceNet	DeviceNet
Protocol Supported	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command
Features			
Baud Rate	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection) Total: Inputs 4 bytes/Outputs 4 bytes	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection) Total: Inputs 36 bytes/Outputs 34 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/30 bytes Out for expansion modules)	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection) Total: Inputs 36 bytes/Outputs 34 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/30 bytes Out for expansion modules)
I/O Data Size			
LEDs	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status
Diagnostic Supported	Yes	Yes	Yes
Maximum Bus Length	Up to 500 meters depending on baud rate	Up to 500 meters depending on baud rate	Up to 500 meters depending on baud rate
Maximum Number of Nodes Supported	64	64	64
Number of Expansion I/O Supported	None Supported	10	10
Number of Points	32	32	32
System Power Requirement	24 VDC (11 VDC to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection
Field Power Requirement	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Type	32 Point 24 VDC Negative Logic		
Input Voltage Range	24 VDC (11 VDC to 28.8 VDC)		
Input Impedance	~5.4K ohms		
Input Signal Delay	< 0.5msec		
Response Time (ms)		< 0.3msec	< 0.3msec
Trigger Voltage	ON State: 9 VDC, OFF State: 5 VDC		
Points per Common	16	32	32
Output Type		32 Point 24 VDC Negative Logic	32 Point 24 VDC Positive Logic
Output Range		Nominal 0 VDC; 11 to 28.8 VDC	Nominal 24 VDC; 11 to 28.8 VDC
Protection		Short protection, Over Temperature Protection, Over Current Limit	Short protection, Over Temperature Protection, Over Current Limit
Minimum Output Load		0.5 Amps per point	0.5 Amps per point
Load Current per Point			
Output Inrush Current			
Polarity		Sink	Source
Configuration Tool	EDS File	EDS File	EDS File
Interface Connector Type	5 pin connector	5 pin connector	5 pin connector
Power Dissipation	80 mA typical	110 mA typical	110 mA typical
Connector Type	Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	Not Applicable	600 mA @ Maximum 5 VDC	600 mA @ Maximum 5 VDC
Dimensions (H x W x D) in mm	80 x 35 x 55	99 x 83 x 70	99 x 83 x 70



Network Interfaces with Built-in I/O

The Profibus and DeviceNet Network Interfaces are also available with built-in I/O to reduce cost and footprint. The network interfaces can be expanded and support all of the RSTi I/O types.

	STXDNC232	STXDNC332	STXDNS016
Product Name	Slave Network Interface with 32 Sink Outputs	Slave Network Interface with 32 Source Outputs	Slave Network Interface with 16 Relay Outputs
Lifecycle Status	Target Release April 2012	Target Release April 2012	Target Release April 2012
Module Type	Slave Network Interface	Slave Network Interface	Slave Network Interface
Field Busses/Device Networks	DeviceNet	DeviceNet	DeviceNet
Protocol Supported	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command*
Features			
Baud Rate	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection) Total: Inputs 4 bytes/Outputs 4 bytes	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection) Total: Inputs 4 bytes/Outputs 4 bytes	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection) Total: Inputs 36 bytes/Outputs 34 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/30 bytes Out for expansion modules)
I/O Data Size			
LEDs	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status
Diagnostic Supported	Yes	Yes	Yes
Maximum Bus Length	Up to 500 meters depending on baud rate	Up to 500 meters depending on baud rate	Up to 500 meters depending on baud rate
Maximum Number of Nodes Supported	64	64	64
Number of Expansion I/O Supported	None Supported	None Supported	10
Number of Points	32	32	16
System Power Requirement	24 VDC (11 VDC to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (11 VDC to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection
Field Power Requirement	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Type			
Input Voltage Range			
Input Impedance			
Input Signal Delay			
Response Time (ms)	< 0.3msec	< 0.3msec	10msec
Trigger Voltage			
Points per Common	16	16	
Output Type	32 Point 24 VDC Negative Logic	32 Point 24 VDC Positive Logic	16 Point Relay
Output Range	Nominal 24 VDC; 11 to 28.8 VDC	Nominal 24 VDC; 11 to 28.8 VDC	5 to 28.8 VDC, 48 VDC, 110 VDC, 250 VAC
Protection	Short protection, Over Temperature Protection, Over Current Limit	Short protection, Over Temperature Protection, Over Current Limit	
Minimum Output Load			100 micro Amps, 100 millivolts VDC per point
Load Current per Point	0.5 Amps per point	0.5 Amps per point	2 Amps at 5 to 28.8 VDC, 0.8 Amps at 48 VDC, 0.5 Amps at 110 VDC, 2 Amps at 250 VAC
Output Inrush Current			
Polarity	Sink	Source	
Configuration Tool	EDS File	EDS File	EDS File
Interface Connector Type	5 pin connector	5 pin connector	5 pin connector
Power Dissipation	80 mA typical	80 mA typical	110 mA typical
Connector Type	Connector Type Hirose, HIF3A-40D-2.54R (ribbon cable), HIF2C-40D-2.54C (crimp connector), HIF2C-2226SCFA (crimp pin) or equal	Connector Type Hirose, HIF3A-40D-2.54R (ribbon cable), HIF2C-40D-2.54C (crimp connector), HIF2C-2226SCFA (crimp pin) or equal	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	Not Applicable	Not Applicable	600 mA @ Maximum 5 VDC
Dimensions (H x W x D) in mm	80 x 35 x 55	80 x 35 x 55	99 x 83 x 70



Network Interfaces with Built-in I/O

The Profibus and DeviceNet Network Interfaces are also available with built-in I/O to reduce cost and footprint. The network interfaces can be expanded and support all of the RSTi I/O types.

	STXDNS116	STXDNS432	STXDNS532
Product Name	Slave Network Interface with 16 Isolated Relay Outputs	Slave Network Interface with 16 Positive Logic Inputs and 16 Source Outputs	Slave Network Interface with 16 Negative Logic Inputs and 16 Sink Outputs
Lifecycle Status	Target Release April 2012	Target Release April 2012	Target Release April 2012
Module Type	Slave Network Interface	Slave Network Interface	Slave Network Interface
Field Busses/Device Networks	DeviceNet	DeviceNet	DeviceNet
Protocol Supported	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command
Features			
Baud Rate	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection)	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection)	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection)
I/O Data Size	Total: Inputs 36 bytes/Outputs 34 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/30 bytes Out for expansion modules)	Total: Inputs 36 bytes/Outputs 34 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/30 bytes Out for expansion modules)	Total: Inputs 36 bytes/Outputs 34 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/30 bytes Out for expansion modules)
LEDs	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status
Diagnostic Supported	Yes	Yes	Yes
Maximum Bus Length	Up to 500 meters depending on baud rate	Up to 500 meters depending on baud rate	Up to 500 meters depending on baud rate
Maximum Number of Nodes Supported	64	64	64
Number of Expansion I/O Supported	10	10	10
Number of Points	16	16 In/ 16 Out	16 In/ 16 Out
System Power Requirement	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection
Field Power Requirement	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Type		16 Point 24 VDC Positive Logic	16 Point 24 VDC Negative Logic
Input Voltage Range		24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Impedance		~5.4K ohms	~5.4K ohms
Input Signal Delay		< 0.5msec	< 0.5msec
Response Time (ms)	10msec	< 0.3msec	< 0.3msec
Trigger Voltage		ON State: 9 VDC, OFF State: 5 VDC	ON State: 9 VDC, OFF State: 5 VDC
Points per Common		32	32
Output Type	16 Point Isolated Relay	16 Point 24 VDC Positive Logic	16 Point 24 VDC Negative Logic
Output Range	5 to 28.8 VDC, 48 VDC, 110 VDC, 250 VAC	Nominal 24 VDC; 11 to 28.8 VDC	Nominal 24 VDC; 11 to 28.8 VDC
Protection		Short protection, Over Temperature Protection, Over Current Limit	Short protection, Over Temperature Protection, Over Current Limit
Minimum Output Load	100 micro Amps, 100 millivolts VDC per point		
Load Current per Point	2 Amps at 5 to 28.8 VDC, 0.8 Amps at 48 VDC, 0.5 Amps at 110 VDC, 2 Amps at 250 VAC	0.5 Amps per point	0.5 Amps per point
Output Inrush Current			
Polarity		Source	Sink
Configuration Tool	EDS File	EDS File	EDS File
Interface Connector Type	5 pin connector	5 pin connector	5 pin connector
Power Dissipation	110 mA typical	110 mA typical	110 mA typical
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	600 mA @ Maximum 5 VDC	600 mA @ Maximum 5 VDC	600 mA @ Maximum 5 VDC
Dimensions (H x W x D) in mm	99 x 83 x 70	99 x 83 x 70	99 x 83 x 70



Network Interfaces with Built-in I/O

The Profibus and DeviceNet Network Interfaces are also available with built-in I/O to reduce cost and footprint. The network interfaces can be expanded and support all of the RTi I/O types.

	STXDNC432	STXDNC532	STXDNC632
Product Name	Slave Network Interface with 16 Positive Logic Inputs and 16 Source Outputs	Slave Network Interface with 16 Negative Logic Inputs and 16 Sink Outputs	Slave Network Interface with 16 Positive Logic Inputs and 16 Sink Outputs
Lifecycle Status	Target Release April 2012	Target Release April 2012	Target Release April 2012
Module Type	Slave Network Interface	Slave Network Interface	Slave Network Interface
Field Busses/Device Networks	DeviceNet	DeviceNet	DeviceNet
Protocol Supported	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command
Features			
Baud Rate	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection) Total: Inputs 4 bytes/Outputs 4 bytes	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection) Total: Inputs 4 bytes/Outputs 4 bytes	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection) Total: Inputs 4 bytes/Outputs 4 bytes

I/O Data Size

LEDs	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status
Diagnostic Supported	Yes	Yes	Yes
Maximum Bus Length	Up to 500 meters depending on baud rate	Up to 500 meters depending on baud rate	Up to 500 meters depending on baud rate
Maximum Number of Nodes Supported	64	64	64
Number of Expansion I/O Supported	None Supported	None Supported	None Supported
Number of Points	16 In/ 16 Out	16 In/ 16 Out	16 In/ 16 Out
System Power Requirement	24 VDC (11 VDC to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (11 VDC to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (11 VDC to 28.8 VDC) with Current Limit, Reverse Polarity Protection
Field Power Requirement	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Type	16 Point 24 VDC Positive Logic	16 Point 24 VDC Negative Logic	16 Point 24 VDC Positive Logic
Input Voltage Range	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Impedance	~5.4K ohms	~5.4K ohms	~5.4K ohms
Input Signal Delay	< 0.5msec	< 0.5msec	< 0.5msec
Response Time (ms)	< 0.3msec	< 0.3msec	< 0.3msec
Trigger Voltage	ON State: 9 VDC, OFF State: 5 VDC	ON State: 9 VDC, OFF State: 5 VDC	ON State: 9 VDC, OFF State: 5 VDC
Points per Common	16	16	16
Output Type	16 Point 24 VDC Positive Logic	16 Point 24 VDC Negative Logic	16 Point 24 VDC Positive Logic
Output Range	Nominal 24 VDC; 11 to 28.8 VDC	Nominal 24 VDC; 11 to 28.8 VDC	Nominal 24 VDC; 11 to 28.8 VDC
Protection	Short protection, Over Temperature Protection, Over Current Limit	Short protection, Over Temperature Protection, Over Current Limit	Short protection, Over Temperature Protection, Over Current Limit
Minimum Output Load	0.5 Amps per point	0.5 Amps per point	0.5 Amps per point
Load Current per Point			
Output Inrush Current			
Polarity	Source	Sink	Sink
Configuration Tool	EDS File	EDS File	EDS File
Interface Connector Type	5 pin connector	5 pin connector	5 pin connector
Power Dissipation	80 mA typical	80 mA typical	80 mA typical
Connector Type	Connector Type Hirose, HIF3A-40D-2.54R (ribbon cable), HIF2C-40D-2.54C (crimp connector), HIF2C-2226SCFA (crimp pin) or equal	Connector Type Hirose, HIF3A-40D-2.54R (ribbon cable), HIF2C-40D-2.54C (crimp connector), HIF2C-2226SCFA (crimp pin) or equal	Connector Type Hirose, HIF3A-40D-2.54R (ribbon cable), HIF2C-40D-2.54C (crimp connector), HIF2C-2226SCFA (crimp pin) or equal
Internal Power Used (5 VDC loading)	Not Applicable	Not Applicable	Not Applicable
Dimensions (H x W x D) in mm	80 x 35 x 55	80 x 35 x 55	80 x 35 x 55



Network Interfaces with Built-in I/O

The Profibus and DeviceNet Network Interfaces are also available with built-in I/O to reduce cost and footprint. The network interfaces can be expanded and support all of the RSTi I/O types.

	STXDNC732	STXDNS824	STXDNS924
Product Name	Slave Network Interface with 16 Negative Logic Inputs and 16 Source Outputs	Slave Network Interface with 16 Positive Logic Inputs and 16 Relay Outputs	Slave Network Interface with 16 Negative Logic Inputs and 16 Relay Outputs
Lifecycle Status	Target Release April 2012	Target Release April 2012	Target Release April 2012
Module Type	Slave Network Interface	Slave Network Interface	Slave Network Interface
Field Busses/Device Networks	DeviceNet	DeviceNet	DeviceNet
Protocol Supported	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command
Features			
Baud Rate	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection) Total: Inputs 4 bytes/Outputs 4 bytes	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection) Total: Inputs 36 bytes/Outputs 34 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/30 bytes Out for expansion modules)	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection) Total: Inputs 36 bytes/Outputs 34 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/30 bytes Out for expansion modules)
I/O Data Size			
LEDs	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status
Diagnostic Supported	Yes	Yes	Yes
Maximum Bus Length	Up to 500 meters depending on baud rate	Up to 500 meters depending on baud rate	Up to 500 meters depending on baud rate
Maximum Number of Nodes Supported	64	64	64
Number of Expansion I/O Supported	None Supported	10	10
Number of Points	16 In/ 16 Out	16 In/ 16 Out	16 In/ 16 Out
System Power Requirement	24 VDC (11 VDC to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection
Field Power Requirement	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Type	16 Point 24 VDC Negative Logic	16 Point 24 VDC Positive Logic	16 Point 24 VDC Negative Logic
Input Voltage Range	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Impedance	~5.4K ohms	~5.4K ohms	~5.4K ohms
Input Signal Delay	< 0.5msec	< 0.5msec	< 0.5msec
Response Time (ms)	< 0.3msec	10msec	10msec
Trigger Voltage	ON State: 9 VDC, OFF State: 5 VDC	ON State: 9 VDC, OFF State: 5 VDC	ON State: 9 VDC, OFF State: 5 VDC
Points per Common	16	16 for Inputs and 4 for Outputs	16 for Inputs and 1 for Outputs
Output Type	16 Point 24 VDC Negative Logic	16 Point Relay	16 Point Relay
Output Range	Nominal 24 VDC; 11 to 28.8 VDC	5 to 28.8 VDC, 48 VDC, 110 VDC, 250 VAC	5 to 28.8 VDC, 48 VDC, 110 VDC, 250 VAC
Protection	Short protection, Over Temperature Protection, Over Current Limit		
Minimum Output Load		100 micro Amps, 100 millivolts VDC per point	100 micro Amps, 100 millivolts VDC per point
Load Current per Point	0.5 Amps per point	2 Amps at 5 to 28.8 VDC, 0.8 Amps at 48 VDC, 0.5 Amps at 110 VDC, 2 Amps at 250 VAC	2 Amps at 5 to 28.8 VDC, 0.8 Amps at 48 VDC, 0.5 Amps at 110 VDC, 2 Amps at 250 VAC
Output Inrush Current			
Polarity	Source		
Configuration Tool	EDS File	EDS File	EDS File
Interface Connector Type	5 pin connector	5 pin connector	5 pin connector
Power Dissipation	80 mA typical	110 mA typical	110 mA typical
Connector Type	Connector Type Hirose, HIF3A-40D-2.54R (ribbon cable), HIF2C-40D-2.54C (crimp connector), HIF2C-2226SCFA (crimp pin) or equal	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	Not Applicable	600 mA @ Maximum 5 VDC	600 mA @ Maximum 5 VDC
Dimensions (H x W x D) in mm	80 x 35 x 55	99 x 83 x 70	99 x 83 x 70



Network Interfaces with Built-in I/O

The Profibus and DeviceNet Network Interfaces are also available with built-in I/O to reduce cost and footprint. The network interfaces can be expanded and support all of the RSTi I/O types.

	STXDNS825	STXDNS925
Product Name	Slave Network Interface with 16 Positive Logic Inputs and 16 Isolated Relay Outputs	Slave Network Interface with 16 Negative Logic Inputs and 16 Isolated Relay Outputs
Lifecycle Status	Target Release April 2012	Target Release April 2012
Module Type	Slave Network Interface	Slave Network Interface
Field Busses/Device Networks	DeviceNet	DeviceNet
Protocol Supported	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command	I/O Slave Message (Group 2 only slave), Poll command, Bit_strobe command, Cyclic command, COS command
Features		
Baud Rate	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection)	125K bits/s, 250Kbps, 500Kbps (Auto baud rate selection)
I/O Data Size	Total: Inputs 36 bytes/Outputs 34 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/30 bytes Out for expansion modules)	Total: Inputs 36 bytes/Outputs 34 bytes total (4 bytes In/ 4 bytes Out for base module and 32 bytes In/30 bytes Out for expansion modules)
LEDs	Module Status, Network Status, I/O Status	Module Status, Network Status, I/O Status
Diagnostic Supported	Yes	Yes
Maximum Bus Length	Up to 500 meters depending on baud rate	Up to 500 meters depending on baud rate
Maximum Number of Nodes Supported	64	64
Number of Expansion I/O Supported	10	10
Number of Points	16 In/ 16 Out	16 In/ 16 Out
System Power Requirement	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection	24 VDC (19.2 to 28.8 VDC) with Current Limit, Reverse Polarity Protection
Field Power Requirement	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Type	16 Point 24 VDC Positive Logic	16 Point 24 VDC Negative Logic
Input Voltage Range	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Input Impedance	~5.4K ohms	~5.4K ohms
Input Signal Delay	< 0.5msec	< 0.5msec
Response Time (ms)	10msec	10msec
Trigger Voltage	ON State: 9 VDC, OFF State: 5 VDC	ON State: 9 VDC, OFF State: 5 VDC
Points per Common	16 for Inputs and 1 for Outputs	16 for Inputs and 1 for Outputs
Output Type	16 Point Isolated Relay	16 Point Isolated Relay
Output Range	5 to 28.8 VDC, 48 VDC, 110 VDC, 250 VAC	5 to 28.8 VDC, 48 VDC, 110 VDC, 250 VAC
Protection		
Minimum Output Load	100 micro Amps, 100 millivolts VDC per point	100 micro Amps, 100 millivolts VDC per point
Load Current per Point	2 Amps at 5 to 28.8 VDC, 0.8 Amps at 48 VDC, 0.5 Amps at 110 VDC, 2 Amps at 250 VAC	2 Amps at 5 to 28.8 VDC, 0.8 Amps at 48 VDC, 0.5 Amps at 110 VDC, 2 Amps at 250 VAC
Output Inrush Current		
Polarity		
Configuration Tool	EDS File	EDS File
Interface Connector Type	5 pin connector	5 pin connector
Power Dissipation	110 mA typical	110 mA typical
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	600 mA @ Maximum 5 VDC	600 mA @ Maximum 5 VDC
Dimensions (H x W x D) in mm	99 x 83 x 70	99 x 83 x 70



Discrete I/O Modules (Input)

RSTi discrete input modules are available for a wide range of applications requiring DC voltages (5 VDC, 24 VDC, 48 VDC) and AC voltages (110 VAC, 220 VAC). The input modules are available in 4, 8 or 16 point density to optimize panel space.

	ST-1124	ST-1114	ST-1214	ST-1224	ST-1314
Product Name	5 VDC Input, 4 points Negative Logic	5 VDC Input, 4 points Positive Logic	12/24 VDC Input, 4 points Positive Logic	12/24 VDC Input, 4 points Negative Logic	48 VDC Input, 4 points Positive Logic
Lifecycle Status	Active	Active	Active	Active	Active
Module Type	Discrete Input	Discrete Input	Discrete Input	Discrete Input	Discrete Input
Input Voltage Range	5 VDC (4.5 VDC to 5.5 VDC)	5 VDC (4.5 VDC to 5.5 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (10.2 VDC to 28.8 VDC)	48 VDC (34 VDC to 60 VDC)
Number of Points	4	4	4	4	4
Points per Common	4	4	4	4	4
Input Impedance	~1.3K ohms	~1.3K ohms	~5.1K ohms	~5.1K ohms	~12K ohms
Input Signal Delay	< 0.5msec	< 0.5msec	3.0msec	3.0msec	3.0msec
Filtering Time	Typical 1.5 msec. (software filtering)	Typical 1.5 msec. (software filtering)	Typical 1.5 msec.	Typical 1.5 msec.	
Trigger Voltage	On State: 2.4 VDC to 5.5 VDC OFF State: 0.8 VDC	On State: 2.4 VDC to 5.5 VDC OFF State: 0.8 VDC	ON State: 10.2 to 28.8 VDC OFF State: 5 VDC	ON State: 10.2 to 28.8 VDC OFF State: 5 VDC	ON State: 48 VDC (34 VDC to 60 VDC) OFF State: 10 VDC
Maximum On State Current	4.5 mA per point at 5.5 VDC	4.5 mA per point at 5.5 VDC	6 mA per point at 28.8 VDC	6 mA per point at 28.8 VDC	4 mA per point at 48 VDC
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	35 mA @ 5.0 VDC Maximum	35 mA @ 5.0 VDC Maximum	35 mA @ 5.0 VDC Maximum	35 mA @ 5.0 VDC Maximum	35 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Discrete I/O Modules (Input)

RSTi discrete input modules are available for a wide range of applications requiring DC voltages (5 VDC, 24 VDC, 48 VDC) and AC voltages (110 VAC, 220 VAC). The input modules are available in 4, 8 or 16 point density to optimize panel space.

	ST-1324	ST-131F	ST-1218	ST-1228	ST-121F
Product Name	48 VDC Input, 4 points Negative Logic	48 VDC Input, 16 points Positive Logic	12/24 VDC Input, 8 points Positive Logic	12/24 VDC Input, 8 points Negative Logic	12/24 VDC Input, 16 points Positive Logic
Lifecycle Status	Active	Active	Active	Active	Active
Module Type	Discrete Input	Discrete Input	Discrete Input	Discrete Input	Discrete Input
Input Voltage Range	48 VDC (34 VDC to 60 VDC)	48 VDC (34 VDC to 60 VDC)	24 VDC (10.2 VDC to 28.8 VDC)	24 VDC (10.2 VDC to 28.8 VDC)	24 VDC (10.2 VDC to 28.8 VDC)
Number of Points	4	16	8	8	16
Points per Common	4	16	8	8	16
Input Impedance	~12K ohms	~12K ohms	~5.1K ohms	~5.1K ohms	~5.1K ohms
Input Signal Delay	3.0msec	3.0msec	3.0msec	3.0msec	3.0msec
Filtering Time		Typical 1.5 msec.	Typical 1.5 msec.	Typical 1.5 msec.	Typical 1.5 msec.
Trigger Voltage	ON State: 48 VDC (34 VDC to 60 VDC) OFF State: 10 VDC	ON State: 48 VDC (34 VDC to 60 VDC) OFF State: 10 VDC	ON State: 10.2 to 28.8 VDC OFF State: 5 VDC	ON State: 10.2 to 28.8 VDC OFF State: 5 VDC	ON State: 10.2 to 28.8 VDC OFF State: 5 VDC
Maximum On State Current	4 mA per point at 48 VDC	2.5 mA per point at 60 VDC	6 mA per point at 28.8 VDC	6 mA per point at 28.8 VDC	6 mA per point at 28.8 VDC
Connector Type	Spring Clamp Terminal Block	Connector Type Hirose, HIF3BA-20D-2.54DSA	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Connector Type Hirose, HIF3BA-20D-2.54DSA
Internal Power Used (5 VDC loading)	35 mA @ 5.0 VDC Maximum	45 mA @ 5.0 VDC Maximum	35 mA @ 5.0 VDC Maximum	35 mA @ 5.0 VDC Maximum	45 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Discrete I/O Modules (Input)

RSTi discrete input modules are available for a wide range of applications requiring DC voltages (5 VDC, 24 VDC, 48 VDC) and AC voltages (110 VAC, 220 VAC). The input modules are available in 4, 8 or 16 point density to optimize panel space.

	ST-122F	ST-1804	ST-1904
Product Name	12/24 VDC Input, 16 points Negative Logic	110 VAC Input, 4 points (47 to 63Hz)	240 VAC Input, 4 points (47 to 63Hz)
Lifecycle Status	Active	Active	Active
Module Type	Discrete Input	Discrete Input	Discrete Input
Input Voltage Range	24 VDC (10.2 VDC to 28.8 VDC)	120 VAC (85 VAC to 132 VAC)	240 VAC (170 VAC to 264 VAC)
Number of Points	16	4	4
Points per Common	16	4	4
Input Impedance	~5.1K ohms	~11K ohms	~22K ohms
Input Signal Delay	3.0msec	10.0msec	10.0msec
Filtering Time	Typical 1.5 msec.		
Trigger Voltage	ON State: 10.2 to 28.8 VDC OFF State: 5 VDC	ON State: 85 VAC to 132 VAC OFF State: 60 VAC	ON State: 170 VAC to 264 VAC OFF State: 130 VAC
Maximum On State Current	6 mA per point at 28.8 VDC	8 mA per point at 132 VAC	12 mA per point at 264 VAC
Connector Type	Connector Type Hirose, HIF3BA-20D-2.54DSA	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	45 mA @ 5.0 VDC Maximum	35 mA @ 5.0 VDC Maximum	35 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Analog I/O Modules (Input)

RSTi analog input modules are available in a wide range of voltage and current signals. Analog input modules are available in 12 bit or 14 bit resolution.

	ST-3114	ST-3118	ST-3134	ST-3214	ST-3218
Product Name	Analog 0 to 20 mA, 12bit Input, 4 channels	Analog 0 to 20 mA, 12bit Input, 8 channels	Analog 0 to 20 mA, 14bit Input, 4 channels	Analog 4 to 20 mA, 12bit Input, 4 channels	Analog 4 to 20 mA, 12bit Input, 8 channels
Lifecycle Status	Active	Active	Active	Active	Active
Module Type	Analog Input	Analog Input	Analog Input	Analog Input	Analog Input
Range	0 to 20 mA Range	0 to 20 mA Range	0 to 20 mA Range	4 to 20 mA Range	4 to 20 mA Range
Number of Points	4	8	4	4	8
Points per Common	4	8	4	4	8
Diagnostic Supported				Open Wire if < 3 mA	
Update Rate	4msec/All channels	4msec/All channels	4msec/All channels	4msec/All channels	4msec/All channels
Resolution	12 bits: 4.88 microAmp/bit	12 bits: 4.88 microAmp/bit	14 bits: 1.22 microAmp/bit	12 bits: 3.9 microAmp/bit	12 bits: 3.9 microAmp/bit
Accuracy	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C
Input Impedance	120 ohms	120 ohms	120 ohms	120 ohms	120 ohms
Internal Power Used (5 VDC loading)	165 mA @ 5.0 VDC Maximum	60 mA @ 5.0 VDC Maximum	165 mA @ 5.0 VDC Maximum	165 mA @ 5.0 VDC Maximum	60 mA @ 5.0 VDC Maximum
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Analog I/O Modules (Input)

RSTi analog input modules are available in a wide range of voltage and current signals. Analog input modules are available in 12 bit or 14 bit resolution.

	ST-3234	ST-3274	ST-3424	ST-3428	ST-3444
Product Name	Analog 4 to 20 mA, 14bit Input, 4 channels	Analog 4 to 20 mA, 12bit Input, 4 channels (connector type)	Analog 0 to 10 VDC, 12bit Input, 4 channels	Analog 0 to 10 VDC, 12bit Input, 8 channels	Analog 0 to 10 VDC, 14bit Input, 4 channels
Lifecycle Status	Active	Active	Active	Active	Active
Module Type	Analog Input	Analog Input	Analog Input	Analog Input	Analog Input
Range	4 to 20 mA Range	4 to 20 mA Range	0 to 10 VDC	0 to 10 VDC	0 to 10 VDC
Number of Points	4	4	4	8	4
Points per Common	4	4	4	8	4
Diagnostic Supported	Open Wire if < 3 mA	Open Wire if < 3 mA			
Update Rate	4msec/All channels	4msec/All channels	4msec/All channels	4msec/All channels	4msec/All channels
Resolution	14 bits: 0.9 microAmp/bit	12 bits: 3.9 microAmp/bit	12 bits: 2.44 mV/bit	12 bits: 2.44 mV/bit	14 bits: 0.6 mV/bit
Accuracy	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C
Input Impedance	120 ohms	120 ohms	500K ohms	500K ohms	500K ohms
Internal Power Used (5 VDC loading)	165 mA @ 5.0 VDC Maximum	165 mA @ 5.0 VDC Maximum	165 mA @ 5.0 VDC Maximum	60 mA @ 5.0 VDC Maximum	170 mA @ 5.0 VDC Maximum
Connector Type	Spring Clamp Terminal Block	Requires Sensor Connect 3M Mini-Clamp Plug, 37104 Series	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Analog I/O Modules (Input)

RSTi analog input modules are available in a wide range of voltage and current signals. Analog input modules are available in 12 bit or 14 bit resolution.

	ST-3524	ST-3544	ST-3624	ST-3644
Product Name	Analog -10 to 10 VDC, 12bit Input, 4 channels	Analog -10 to 10 VDC, 14bit Input, 4 channels	Analog 0 to 5 VDC, 12bit Input, 4 channels	Analog 0 to 5 VDC, 14bit Input, 4 channels
Lifecycle Status	Active	Active	Active	Active
Module Type	Analog Input	Analog Input	Analog Input	Analog Input
Range	-10 to 10 VDC	-10 to 10 VDC	0 to 5 VDC	0 to 5 VDC
Number of Points	4	4	4	4
Points per Common	4	4	4	4
Diagnostic Supported				
Update Rate	4msec/All channels	4msec/All channels	4msec/All channels	4msec/All channels
Resolution	12 bits: 4.8 mV/bit	14 bits: 1.2 mV/bit	12 bits: 1.22 mV/bit	14 bits: 0.3 mV/bit
Accuracy	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C
Input Impedance	500K ohms	500K ohms	500K ohms	500K ohms
Internal Power Used (5 VDC loading)	170 mA @ 5.0 VDC Maximum	170 mA @ 5.0 VDC Maximum	170 mA @ 5.0 VDC Maximum	170 mA @ 5.0 VDC Maximum
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Discrete I/O Modules (Output)

RSTi discrete output modules are available for a wide range of applications requiring DC voltages (5 VDC, 24 VDC, 48 VDC) and AC voltages (12 VAC, 125 VAC). The modules are available in 4, 8 or 16 point density to optimize panel space. Relay output modules are also available. The ST-2792 has an added feature of manual/automatic override.

	ST-2114	ST-2124	ST-2314	ST-2324
Product Name	5 VDC/20 mA TTL Inverting Output, 4 points	5 VDC, 4 Points, TTL Non-Inverting Output (Default: 0V)	4 points, 24 VDC Negative Logic, Output 0.5 Amps	4 points, 24 VDC Positive Logic, Output 0.5 Amps
Lifecycle Status	Active	Active	Active	Active
Module Type	Digital Outputs	Digital Outputs	Digital Outputs	Digital Outputs
Output Range	5 VDC nominal, Min. 4.5 VDC to Max. 5.5 VDC	5 VDC nominal, Min. 4.5 VDC to Max. 5.5 VDC	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC
Number of Points	4	4	4	4
Points per Common	4	4	4	4
Diagnostic Supported				
Protection	Output Short-Circuit protection Field Power Over Voltage Protection (about 6.7 VDC) Field Power Reverse Voltage Protection	Output Short-Circuit protection Field Power Over Voltage Protection (about 6.7 VDC) Field Power Reverse Voltage Protection	Over Temperature shut down: Min. 150°C Over Current Limit : Min. 3.5A/Max. 7A Per Channel Short Circuit Protection ESD Protection: 16.5Kv	Over Temperature shut down: Min. 150°C Over Current Limit: Min. 3.5A/Max.7.5A Per Channel Short Circuit Protection ESD Protection: 5.0Kv
ON Voltage/OFF Voltage	Min. 4.8 VDC @ 5 VDC, 5 mA	Max. 0.3 VDC @ 0 VDC, 5 mA		
Load Current per Point	Max. 20 mA Per Channel Max. 80 mA All Common	Max. 20 mA Per Channel Max. 80 mA All Common	Max. 0.5A Per Channel Max. 2.0A All Common	Max. 0.5A Per Channel Max. 2.0A All Common
Output Inrush Current	40 mA For 10ms, Repeatable Every 1 Sec.	40 mA For 10ms, Repeatable Every 1 Sec.		
Response Time (ms)	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms	OFF to ON : Max. 0.3ms ON to OFF: Max. 0.3ms	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms
Polarity	TTL Inverting	TTL Non-Inverting	Negative Logic	Positive Logic
Field Power Requirement	5 VDC (4.5 VDC to 5.5 VDC)	5 VDC (4.5 VDC to 5.5 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Power Dissipation			5 mA @ 28.8 VDC Per Channel	5 mA @ 28.8 VDC Per Channel
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	50 mA @ 5.0 VDC Maximum	50 mA @ 5.0 VDC Maximum	45 mA @ 5.0 VDC Maximum	45 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Discrete I/O Modules (Output)

RSTi discrete output modules are available for a wide range of applications requiring DC voltages (5 VDC, 24 VDC, 48 VDC) and AC voltages (12 VAC, 125 VAC). The modules are available in 4, 8 or 16 point density to optimize panel space. Relay output modules are also available. The ST-2792 has an added feature of manual/automatic override.

	ST-2414	ST-2424	ST-2514	ST-2524
Product Name	4 points, 24 VDC Negative Logic, Output 0.5 Amps with Diagnostics	4 points, 24 VDC Positive Logic, Output 0.5 Amps with Diagnostics	4 points, 24 VDC Negative Logic, Output 2 Amps with Diagnostics	4 points, 24 VDC Positive Logic, Output 2 Amps with Diagnostics
Lifecycle Status	Active	Active	Active	Active
Module Type	Digital Outputs	Digital Outputs	Digital Outputs	Digital Outputs
Output Range	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC
Number of Points	4	4	4	4
Points per Common	4	4	4	4
Diagnostic Supported	Point Fault Reported to Network Interface	Point Fault Reported to Network Interface	Point Fault Reported to Network Interface	Point Fault Reported to Network Interface
Protection	Over Temperature shut down: Min. 150°C Over Current Limit: Min. 3.5A/Max. 7A Per Channel Short Circuit Protection ESD Protection: 16.5Kv	Over Temperature shut down: Min. 150°C Over Current Limit: Min. 3.5A/Max.7.5A Per Channel Short Circuit Protection ESD Protection: 5.0Kv	Over Temperature shut down: Min. 150°C Over Current Limit: Min. 3.5A/Max. 7A Per Channel Short Circuit Protection ESD Protection: 16.5Kv	Over Temperature shut down: Min. 150°C Over Current Limit: Min. 6A/Max. 15A Per Channel Short Circuit Protection ESD Protection: 5.0Kv
ON Voltage/OFF Voltage				
Load Current per Point	Max. 0.5A Per Channel Max. 2.0A All Common	Max. 0.5A Per Channel Max. 2.0A All Common	Max. 2A Per Channel Max. 8A All Common	Max. 2A Per Channel Max. 8A All Common
Output Inrush Current				
Response Time (ms)	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms	OFF to ON : Max. 0.3ms ON to OFF: Max. 0.3ms
Polarity	Negative Logic	Positive Logic	Negative Logic	Positive Logic
Field Power Requirement	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Power Dissipation	5 mA @ 28.8 VDC Per Channel	5 mA @ 28.8 VDC Per Channel	5 mA @ 28.8 VDC Per Channel	5 mA @ 28.8 VDC Per Channel
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	45 mA @ 5.0 VDC Maximum	45 mA @ 5.0 VDC Maximum	45 mA @ 5.0 VDC Maximum	45 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Discrete I/O Modules (Output)

RSTi discrete output modules are available for a wide range of applications requiring DC voltages (5 VDC, 24 VDC, 48 VDC) and AC voltages (12 VAC, 125 VAC). The modules are available in 4, 8 or 16 point density to optimize panel space. Relay output modules are also available. The ST-2792 has an added feature of manual/automatic override.

	ST-2614	ST-2624	ST-2318	ST-2328
Product Name	4 points, 24 VDC Negative Logic, Output 2 Amps	4 points, 24 VDC Positive Logic, Output 2 Amps	8 points, 24 VDC Negative Logic, Output 0.5 Amps	8 points, 24 VDC Positive Logic, Output 0.5 Amps
Lifecycle Status	Target Release August 2012	Target Release August 2012	Active	Active
Module Type	Digital Outputs	Digital Outputs	Digital Outputs	Digital Outputs
Output Range	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC
Number of Points	4	4	8	8
Points per Common	4	4	8	8
Diagnostic Supported				
Protection	Over Temperature shut down: Min. 150°C Over Current Limit: Min. 3.5A/Max. 7A Per Channel Short Circuit Protection ESD Protection: 16.5Kv	Over Temperature shut down: Min. 150°C Over Current Limit: Min. 6A/Max. 15A Per Channel Short Circuit Protection ESD Protection: 5.0Kv	Over Temperature shut down: Min. 150°C Over Current Limit: Min. 3.5A/Max. 7A Per Channel Short Circuit Protection ESD Protection: 16.5Kv	Over Temperature shut down: Min. 150°C Over Current Limit: Min. 3.5A/Max. 7A Per Channel Short Circuit Protection ESD Protection : 16.5Kv
ON Voltage/OFF Voltage				
Load Current per Point	Max. 2A Per Channel Max. 8A All Common	Max. 2A Per Channel Max. 8A All Common	Max. 0.5A Per Channel Max. 2.0A All Common	Max. 0.5A Per Channel Max. 2.0A All Common
Output Inrush Current				
Response Time (ms)	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms
Polarity	Negative Logic	Positive Logic	Negative Logic	Positive Logic
Field Power Requirement	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Power Dissipation	5 mA @ 28.8 VDC Per Channel	5 mA @ 28.8 VDC Per Channel	5 mA @ 28.8 VDC Per Channel	5 mA @ 28.8 VDC Per Channel
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	45 mA @ 5.0 VDC Maximum	45 mA @ 5.0 VDC Maximum	60 mA @ 5.0 VDC Maximum	45 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Discrete I/O Modules (Output)

RSTi discrete output modules are available for a wide range of applications requiring DC voltages (5 VDC, 24 VDC, 48 VDC) and AC voltages (12 VAC, 125 VAC). The modules are available in 4, 8 or 16 point density to optimize panel space. Relay output modules are also available. The ST-2792 has an added feature of manual/automatic override.

	ST-221F	ST-222F	ST-2742	ST-2744
Product Name	16 points, 24 VDC Negative Logic, Output 0.5 Amps (Connector Style)	16 points, 24 VDC Positive Logic, Output 0.5 Amps (Connector Style)	2 points, Relay Output, 2 Amps	4 points, Relay Output, 2 Amps
Lifecycle Status	Active	Active	Active	Active
Module Type	Digital Outputs	Digital Outputs	Digital Outputs	Digital Outputs
Output Range	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC	5~28.8 VDC @ 2.0A Resistive 48 VDC @ 0.8A Resistive 110 VDC @ 0.5A Resistive 250 VAC @ 2.0A Resistive	5~28.8 VDC @ 2.0A Resistive 48 VDC @ 0.8A Resistive 110 VDC @ 0.5A Resistive 250 VAC @ 2.0A Resistive
Number of Points	16	16	2	4
Points per Common	16	16	1	4
Diagnostic Supported				
Protection	Over Temperature shut down: Min. 150°C Over Current Limit: Min. 3.5A/Max. 7A Per Channel Short Circuit Protection ESD Protection : 16.5Kv	Over Temperature shut down: Min. 150°C Over Current Limit: Min. 3.5A/Max. 7A Per Channel Short Circuit Protection ESD Protection: 16.5Kv		
ON Voltage/OFF Voltage				
Load Current per Point	Max. 0.5A Per Channel Max. 4.0A All Common	Max. 0.5A Per Channel Max. 4.0A All Common	2A @ 5~28.8 VDC 0.8A @ 48 VDC 0.5A @ 110 VDC 2A @ 250 VAC	2A @ 5~28.8 VDC 0.8A @ 48 VDC 0.5A @ 110 VDC 2A @ 250 VAC
Output Inrush Current				
Response Time (ms)	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms	OFF to ON : Max. 10ms ON to OFF: Max. 10ms	OFF to ON: Max. 10ms ON to OFF: Max. 10ms
Polarity	Negative Logic	Positive Logic		
Field Power Requirement	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC, 240 VAC	No Connection with Field Power Field Power passes though to the next module
Power Dissipation	3 mA @ 28.8 VDC Per Channel	3 mA @ 28.8 VDC Per Channel		
Connector Type	Connector Type Hirose, HIF3BA-20D-2.54DSA	Connector Type Hirose, HIF3BA-20D-2.54DSA	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	80 mA @ 5.0 VDC Maximum	80 mA @ 5.0 VDC Maximum	65 mA @ 5.0 VDC Maximum	130 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Discrete I/O Modules (Output)

RSTi discrete output modules are available for a wide range of applications requiring DC voltages (5 VDC, 24 VDC, 48 VDC) and AC voltages (12 VAC, 125 VAC). The modules are available in 4, 8 or 16 point density to optimize panel space. Relay output modules are also available. The ST-2792 has an added feature of manual/automatic override.

	ST-2748	ST-2792	ST-2852
Product Name	8 points, Relay Output, 2 Amps	2 points, Relay Output, 2 Amps (Manual Override or Automatic Operation)	2 points, 12 to 125 VAC Output, 0.5 Amps
Lifecycle Status	Active	Target Release August 2012	Active
Module Type	Digital Outputs	Digital Outputs	Digital Outputs
Output Range	5~28.8 VDC @ 2.0A Resistive 48 VDC @ 0.8A Resistive 110 VDC @ 0.5A Resistive 250 VAC @ 2.0A Resistive	5~28.8 VDC @ 2.0A Resistive 48 VDC @ 0.8A Resistive 110 VDC @ 0.5A Resistive 250 VAC @ 2.0A Resistive	15~132 VAC 47 to 63Hz
Number of Points	8	2	2
Points per Common	8	2	2
Diagnostic Supported			
Protection			
ON Voltage/OFF Voltage			
Load Current per Point	2A @ 5~28.8 VDC 0.8A @ 48 VDC 0.5A @ 110 VDC 2A @ 250 VAC	2A @ 5~28.8 VDC 0.8A @ 48 VDC 0.5A @ 110 VDC 2A @ 250 VAC	0.5 Amp
Output Inrush Current			40 Amp for 16 mSec. or 4 Amp for 30 Sec.
Response Time (ms)	OFF to ON: Max. 10ms ON to OFF: Max. 10ms	OFF to ON: Max. 10ms ON to OFF: Max. 10ms	OFF to ON: Max. 3ms ON to OFF: Max. 1/2 Cycle plus 3ms
Polarity			
Field Power Requirement	No Connection with Field Power Field Power passes though to the next module	No Connection with Field Power Field Power passes though to the next module	120 VAC nominal Voltage Range: 12~125 VAC
Power Dissipation			
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	150 mA @ 5.0 VDC Maximum	70 mA @ 5.0 VDC Maximum	35 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 24 x 70	99 x 12 x 70	99 x 12 x 70



Analog I/O Modules (Output)

RSTi analog output modules are available in a wide range of voltage and current signals. Specialty analog modules are also available for manual over-ride and 0 to 1 Amp analog out.

	ST-4112	ST-4114	ST-4212	ST-4214
Product Name	2 channels Current Output, 0 to 20 mA, 12bit	4 channels Current Output, 0 to 20 mA, 12bit	2 channels Current Output, 4 to 20 mA, 12bit	4 channels Current Output, 4 to 20 mA, 12bit
Lifecycle Status	Active	Active	Active	Active
Module Type	Analog Output	Analog Output	Analog Output	Analog Output
Output Range	0 to 20 mA	0 to 20 mA	4 to 20 mA	4 to 20 mA
Number of Points	2	4	2	4
Points per Common	2	4	2	4
Resolution	12 bits : 4.88uA/Bit	12 bits : 4.88uA/Bit	12 bits : 3.9uA/Bit	12 bits : 3.9uA/Bit
Accuracy	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C (100uA~20 mA) ±0.25% Full Scale @ 25°C(0uA~100uA) ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C
Update Rate	2msec for all channels	4msec for all channels	2msec for all channels	4msec for all channels
Maximum Output Load	Max. 500Ω	Max. 500Ω	Max. 500Ω	Max. 500Ω
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	60 mA @ 5.0 VDC Maximum	60 mA @ 5.0 VDC Maximum	60 mA @ 5.0 VDC Maximum	60 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Analog I/O Modules (Output)

RSTi analog output modules are available in a wide range of voltage and current signals. Specialty analog modules are also available for manual over-ride and 0 to 1 Amp analog out.

	ST-4274	ST-4422	ST-4424	ST-4474
Product Name	4 channels Current Output, 4 to 20 mA, 12bit (Connector Style)	2 channels Voltage Output, 0 to 10 VDC, 12bit	4 channels Voltage Output, 0 to 10 VDC, 12bit	4 channels Current Output, 0 to 10 VDC, 12bit (Connector Style)
Lifecycle Status	Active	Active	Active	Active
Module Type	Analog Output	Analog Output	Analog Output	Analog Output
Output Range	4 to 20 mA	0 to 10 VDC	0 to 10 VDC	0 to 10 VDC
Number of Points	4	2	4	4
Points per Common	4	2	4	4
Resolution	12 bits : 3.91uA/Bit	12 bits : 2.44mV/Bit	12 bits : 2.44mV/Bit	12 bits : 2.44mV/Bit
Accuracy	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C
Update Rate	1.2msec for all channels	2msec for all channels	4msec for all channels	1.2msec for all channels
Maximum Output Load	Max. 500Ω	Min. 5kΩ	Min. 2kΩ	Min. 2kΩ
Connector Type	Requires Sensor Connect 3M Mini-Clamp Plug, 37104 Series AWG#20~22 available	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Requires Sensor Connect 3M Mini-Clamp Plug, 37104 Series AWG#20~22 available
Internal Power Used (5 VDC loading)	40 mA @ 5.0 VDC Maximum	155 mA @ 5.0 VDC Maximum	60 mA @ 5.0 VDC Maximum	60 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Analog I/O Modules (Output)

RSTi analog output modules are available in a wide range of voltage and current signals. Specialty analog modules are also available for manual over-ride and 0 to 1 Amp analog out.

	ST-4491	ST-4522	ST-4622	ST-4911
Product Name	1 channels Voltage Output, 0 to 10 VDC, 12bit. (Manual Override or Automatic Operation)	2 channels Voltage Output, -10 to +10 VDC, 12bit	2 channels Voltage Output, 0 to 5 VDC, 12bit	1 channels Voltage Output, 0 to 1 Amp, 12bit.
Lifecycle Status	Active	Active	Active	Active
Module Type	Analog Output	Analog Output	Analog Output	Analog Output
Output Range	0 to 10 VDC	-10 to +10 VDC	0 to 5 VDC	0 to 1 Amp
Number of Points	1	2	2	1
Points per Common	1	2	2	1
Resolution	12 bits : 2.44mV/Bit	12 bits : 4.88mV/Bit	12 bits : 1.22mV/Bit	12 bits : 2.44 mA/Bit
Accuracy	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C
Update Rate	1.2msec for all channels	2msec for all channels	2msec for all channels	1msec for all channels
Maximum Output Load	Min. 2kΩ	Min. 5kΩ	Min. 5kΩ	13Ω, ±5%
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	60 mA @ 5.0 VDC Maximum	155 mA @ 5.0 VDC Maximum	155 mA @ 5.0 VDC Maximum	60 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



RTD Modules

RSTi RTD input modules 2 and 3 wire sensors. The modules also support diagnostics.

RTD Input Types

- PT100, PT200, PT500, PT1000, PT50
- JPT100, JPT200, JPT500, JPT1000, JPT50
- NI100, NI200, NI500, NI000
- NI120, NI1000LG
- CU10

Resistance Input

- 100mΩ/bit, 10mΩ/bit, 20mΩ/bit, 50mΩ/bit

	ST-3702	ST-3704	ST-3708
Product Name	2 Channels, RTD Input (2 and 3 Wire)	4 Channels, RTD Input (3 Wire) Connector Style	8 Channels, RTD Input (3 Wire) Connector Style
Lifecycle Status	Active	Active	Active
Module Type	Temperature Sensing	Temperature Sensing	Temperature Sensing
Range	PT50, PT100, PT200, PT500, PT1000, JPT100, JPT200, JPT500, JPT1000, NI100, NI200, NI500, NI1000, NI120, CU10, Resistance 100mΩ/Bit, Resistance 10mΩ/Bit, Resistance 20mΩ/Bit	PT100, PT200, PT500, PT1000, PT50 JPT100, JPT200, JPT500, JPT1000, JPT50 NI100, NI200, NI500, NI000 NI120, NI1000LG Resistance Input 100mΩ/bit, 10mΩ/bit, 20mΩ/bit, 50mΩ/bit	PT100, PT200, PT500, PT1000, PT50 JPT100, JPT200, JPT500, JPT1000, JPT50 NI100, NI200, NI500, NI1000 NI120, NI1000LG Resistance Input 100mΩ/bit, 10mΩ/bit, 20mΩ/bit, 50mΩ/bit
Number of Points	2	4	8
Points per Common	2	4	8
Diagnostic Supported	Open Channel	Open Channel Over Range	Open Channel Over Range
Resolution	0.1°C / 10mΩ	±0.1°C/ F, 10mΩ	±0.1°C/ F, 10mΩ
Accuracy	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.3% Full Scale @ 25°C ±0.5% Full Scale @ 0°C, 60°C	±0.3% Full Scale @ 25°C ±0.5% Full Scale @ 0°C, 60°C
Update Rate	200msec for all channels	30msec per channel	30msec per channel
Internal Power Used (5 VDC loading)	70 mA @ 5.0 VDC Maximum	100 mA @ 5.0 VDC Maximum	100 mA @ 5.0 VDC Maximum
Connector Type	Spring Clamp Terminal Block	Requires connector type Hirose, HIF3BA-20D-2.54C	Requires connector type Hirose, HIF3BA-20D-2.54C
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Thermocouple Modules

RSTi Thermocouple/mV input modules support a wide range of thermocouple sensors. The modules also support diagnostics and Cold Junction Compensation.

Thermocouple Inputs

- Type K/J/T/B/R/S/E/N/L/U/C/D

mV Input

- 10uV/bit, 1uV/bit, 2uV/bit

	ST-3802	ST-3804	ST-3808
Product Name	2 Channels, Thermocouple Input/mV	4 Channels, Thermocouple Input/mV (External CJC support)	8 Channels, Thermocouple Input/mV (External CJC support)
Lifecycle Status	Active	Active	Active
Module Type	Temperature Sensing	Temperature Sensing	Temperature Sensing
Range	Type K/J/T/B/R/S/E/N/L/U/C/D mV Input 10uV/Bit, 1uV/Bit, 2uV/Bit	Type K/J/T/B/R/S/E/N/L/U/C/D mV Input 10uV/bit, 1uV/bit, 2uV/bit	Type K/J/T/B/R/S/E/N/L/U/C/D mV Input 10uV/bit, 1uV/bit, 2uV/bit
Number of Points	2	4	8
Points per Common	2	4	8
Diagnostic Supported	Open Channel	Open Channel Over Range	Open Channel Over Range
Resolution	0.1°C / 10mΩ	0.1°C / °F, 10uV	±0.1°C / F, 1uV
Accuracy	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C
Update Rate	200msec for all channels	30msec per channel	30msec per channel
Internal Power Used (5 VDC loading)	70 mA @ 5.0 VDC Maximum	120 mA @ 5.0 VDC Maximum	140 mA @ 5.0 VDC Maximum
Connector Type	Spring Clamp Terminal Block	Requires connector type Hirose, HIF3BA-20D-2.54C	Requires connector type Hirose, HIF3BA-20D-2.54C
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Serial Communications Modules

RSTi serial communications modules enable serial devices, such as bar code readers, scales and printers, to connect to the network interface.

	ST-5211	ST-5212	ST-5221	ST-5231
Product Name	1 Channel Serial RS-232	2 Channel Serial RS-232	1 Channel Serial RS-422	1 Channel Serial RS-485
Lifecycle Status	Active	Active	Active	Active
Module Type	Serial Communications	Serial Communications	Serial Communications	Serial Communications
Protocol Supported	ASCII, TxD, RxD, Full Duplex	ASCII, TxD, RxD, Full Duplex	ASCII, TxD, RxD, Full Duplex	ASCII, TxD, RxD, Full Duplex
Interface Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Baud Rate	300 to 115,200 bps	300 to 115,200 bps	300 to 115,200 bps	300 to 115,200 bps
I/O Data Size	6 Bytes In/6 Bytes Out Buffer: RxD 1024 Bytes; TxD 256 Bytes	12 Bytes In/12 Bytes Out Buffer: RxD 1024 Bytes; TxD 256 Bytes	6 Bytes In/6 Bytes Out Buffer: RxD 1024 Bytes; TxD 256 Bytes	6 Bytes In/6 Bytes Out Buffer: RxD 1024 Bytes; TxD 256 Bytes
Internal Power Used (5 VDC loading)	95 mA @ 5.0 VDC Maximum	110 mA @ 5.0 VDC Maximum	155 mA @ 5.0 VDC Maximum	110 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Serial Communications Modules

RSTi serial communications modules enable serial devices, such as bar code readers, scales and printers, to connect to the network interface.

	ST-5232	ST-5252	ST-5272
Product Name	2 Channel Serial RS-485	2 Channel Serial RS-232 (Expanded Data Size)	2 Channel Serial RS-485 (Expanded Data Size)
Lifecycle Status	Active	Target Release July 2012	Target Release July 2012
Module Type	Serial Communications	Serial Communications	Serial Communications
Protocol Supported	ASCII, TxD, RxD, Full Duplex	ASCII, TxD, RxD, Full Duplex	ASCII, TxD, RxD, Full Duplex
Interface Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Baud Rate	300 to 115,200 bps	1200 to 115,200 bps	1200 to 115,200 bps
I/O Data Size	12 Bytes In/12 Bytes Out Buffer: RxD 1024 Bytes; TxD 256 Bytes	38 Bytes In/38 Bytes Out Buffer: RxD 256 Bytes; TxD 256 Bytes	38 Bytes In/38 Bytes Out Buffer: RxD 256 Bytes; TxD 256 Bytes
Internal Power Used (5 VDC loading)	155 mA @ 5.0 VDC Maximum	110 mA @ 5.0 VDC Maximum	155 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



High Speed Counting

RSTi High Speed Counter modules interface to encoders and high speed pulse input devices. The RSTi offers a wide range of counting functions and control. SSI interface is also supported by the RSTi.

	ST-5101	ST-5111	ST-5112
Product Name	1 Channel High Speed Counter, 5 VDC Input and 1 Output	1 Channel High Speed Counter, 24 VDC Input and 1 Output	2 Channel High Speed Counter, 24 VDC Inputs and 2 Outputs
Lifecycle Status	Active	Active	Active
Module Type	High Speed Counter	High Speed Counter	High Speed Counter
Counter Operation			1-Input Mode - Up, Down 2-Input Mode - Up/Inhibit, Up/Reset, Down/ Inhibit, Down/Reset, Up/Down, Clock/Direction Encoder 1x, Encoder 2x, Encoder 4x
Count Rate	1.5Mhz	1.5Mhz	0~100KHz except Encoder 4x 0~50KHz, Encoder 4x
Counter Range			32 bit wide/channel
Input/Output Type	(1) 5 VDC Input / (1) 24 VDC (5 to 28.8 VDC) Output	(1) 24 VDC Input / (1) 24 VDC (5 to 28.8 VDC) Output	(2) 24 VDC Input / (2) 24 VDC Output 0.5 Amp
Protection			Short Protection
Off State Leakage Current	Max. 0.5 mA	Max. 0.5 mA	
Input Filters (Selectable)	Bypass / 1usec / 5usec / 10usec / 50usec / 100usec / 500usec / 1msec / 5msec / 10msec	Bypass / 1usec / 5usec / 10usec / 50usec / 100usec / 500usec / 1msec / 5msec / 10msec	
Selectable On/Off Output Presets	Force OFF/ON Greater Than Less Than Equal Overflow/Underflow PWM Output	Force OFF/ON Greater Than Less Than Equal Overflow/Underflow PWM Output	
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	80 mA @ 5.0 VDC Maximum	80 mA @ 5.0 VDC Maximum	160 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



High Speed Counting

RSTi High Speed Counter modules interface to encoders and high speed pulse input devices. The RSTi offers a wide range of counting functions and control. SSI interface is also supported by the RSTi.

	ST-5114	ST-5351
Product Name	4 Channel High Speed Counter, 24 VDC Inputs and 2 Outputs	1 Channel SSI Interface. Gray Code or Natural Binary
Lifecycle Status	Active	Active
Module Type	High Speed Counter	High Speed Counter
Counter Operation	1-Input Mode - Up, Down 2-Input Mode - Up/Inhibit, Up/Reset, Down/Inhibit, Down/Reset, Up/Down, Clock/Direction Encoder 1x, Encoder 2x, Encoder 4x	
Count Rate	0~50KHz except Encoder 4x 0~25KHz, Encoder 4x	62.5K, 100K, 125K, 250K, 500K, 1M, 2Mbps
Counter Range	32 bit wide/channel	Max. 30 bit
Input/Output Type	(4) 24 VDC Input / (2) 24 VDC Output 0.5 Amp	D+, D- RS422 Differential Input C+, C- RS422 Differential Output
Protection	Short Protection	
Off State Leakage Current		
Input Filters (Selectable)		
Selectable On/Off Output Presets		
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5VDC loading)	160 mA @ 5.0 VDC Maximum	150 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70



Motion Control

RSTi motion options include Pulse Width Modulation and Pulse Train outputs for simple motion applications. A wide range of control amplifiers is supported with the RSTi motion modules.

	ST-5422	ST-5442	ST-5444
Product Name	2 Channels PWM Output, 1.5A/24 VDC, Source	2 Channels PWM Output, 0.5A/24 VDC, Source	4 Channels PWM Output, 0.5A/24 VDC, Source
Lifecycle Status	Active	Active	Active
Module Type	Motion Control	Motion Control	Motion Control
Drive Type	PWM	PWM	PWM
Number of Axes	2	2	4
Diagnostic Supported	Short Protection	Short Protection	Short Protection
Encoder Support	No	No	No
Load Current per Point	1.5 Amp/Ch, 3 Amp/All Channel, short protection	0.5 Amp/Ch, 1 Amp/All Channel, short protection	0.5 Amp/Ch, 2 Amp/All Channel, short protection
Output Inrush Current	Max. 2 A, 100ms/Channel	Max. 1.5 A, 100ms/Channel	Max. 1.5 A, 100ms/Channel
Frequency	1~2500Hz±0.5%	1~2500Hz±0.5%	1~2500Hz±0.5%
Duty	0.0~100.0%±1.0(0.1%/1LSB), Ton>5us, Toff>5us	0.0~100.0%±1.0(0.1%/1LSB), Ton>5us, Toff>5us	0.0~100.0%±1.0(0.1%/1LSB), Ton>5us, Toff>5us
Field Power Requirement	24 VDC (18 VDC to 28.8 VDC)	24 VDC (18 VDC to 28.8 VDC)	24 VDC (18 VDC to 28.8 VDC)
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	150 mA @ 5.0 VDC Maximum	150 mA @ 5.0 VDC Maximum	150 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Motion Control

RSTi motion options include Pulse Width Modulation and Pulse Train outputs for simple motion applications. A wide range of control amplifiers is supported with the RSTi motion modules.

	ST-5641	ST-5642	ST-5651
Product Name	1 Channel Pulse and Direction Output, 0.5 A/24 VDC, Source	2 Channel Pulse and Direction Output, 0.5 A/24 VDC, Source	1 Channel Pulse and Direction Output, RS-422
Lifecycle Status	Active	Active	Active
Module Type	Motion Control	Motion Control	Motion Control
Drive Type	Pulse Output	Pulse Output	Pulse Output
Number of Axes	1	2	1
Diagnostic Supported	Short Protection	Short Protection	
Encoder Support	No	No	No
Load Current per Point	0.5 Amp/Ch, 1 Amp/All Channel, short protection	0.5 Amp/Ch, 2 Amp/All Channel, short protection	Max. 10 Amps
Output Inrush Current			
Frequency	1~20,000Hz±0.5% Continuous Pulse Output Max. +1~+32767: Pulse Direction Output OFF Max. -1~-32767: Pulse Direction Output ON.	1~20,000Hz±0.5% Continuous Pulse Output Max. +1~+32767: Pulse Direction Output OFF Max. -1~-32767: Pulse Direction Output ON.	5~20,000Hz±1.0% Continuous Pulse Output Max. +1~+32767: Pulse Direction Output OFF Max. -1~-32767: Pulse Direction Output ON.
Duty	50%±3.0% Fixed, Ton>5us, Toff>5us	50%±3.0% Fixed, Ton>5us, Toff>5us	50%±0.1% Fixed, Ton>10ns, Toff>10ns
Field Power Requirement	24 VDC (18 VDC to 28.8 VDC)	24 VDC (18 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	150 mA @ 5.0 VDC Maximum	150 mA @ 5.0 VDC Maximum	150 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Power Modules

The RSTi provides various power modules to reduce wiring and simplify installation. Modules that support Smart Module ID will require one of the addresses on the bus.

The ST-7241 and ST-7641 enable multiple voltages to be supported on the RSTi bus such as 120 VAC. All modules to the right of the module will be based on the supply voltage of the ST-7x41.

The ST-7111 and ST-7511 boost the 5 VDC on the backplane bus when module power requirement is exceeded. The ST-7x11 supplies 1.0 Amps of 5 VDC to the modules to the right of the ST-7x11.

	ST-7008	ST-7408	ST-7108	ST-7508
Product Name	Shield Signal Module, 8 channels	Shield Signal Smart Module, 8 channels	Common for 0 Volts Module, 8 channels	Common for 0 Volts Smart Module, 8 channels
Lifecycle Status	Active	Active	Active	Active
Module Type	Power Modules	Power Modules	Power Modules	Power Modules
Smart Module (Uses Module ID)	No	Yes	No	Yes
Load Current per Point	Max. 10 Amps	Max. 10 Amps	Max. 10 Amps	Max. 10 Amps
LEDs	No	1 Green/Red LED, Module Status	No	1 Green/Red LED, Module Status
Diagnostic Supported	No	No	No	No
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	None	Max. 18 mA @ 5 VDC	None	Max. 18 mA @ 5 VDC
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Power Modules

The RSTi provides various power modules to reduce wiring and simplify installation. Modules that support Smart Module ID will require one of the addresses on the bus.

The ST-7241 and ST-7641 enable multiple voltages to be supported on the RSTi bus such as 120 VAC. All modules to the right of the module will be based on the supply voltage of the ST-7x41.

The ST-7111 and ST-7511 boost the 5 VDC on the backplane bus when module power requirement is exceeded. The ST-7x11 supplies 1.0 Amps of 5 VDC to the modules to the right of the ST-7x11.

	ST-7118	ST-7518	ST-7188	ST-7588
Product Name	Common for 24 VDC Module, 8 channels	Common for 24 VDC Smart Module, 8 channels	Common for (4) 24 VDC Channels and (4) 0 VDC Channels	Common Smart Module for (4) 24 VDC Channels and (4) 0 VDC Channels
Lifecycle Status	Active	Active	Active	Active
Module Type	Power Modules	Power Modules	Power Modules	Power Modules
Smart Module (Uses Module ID)	No	Yes	No	Yes
Load Current per Point	Max. 10 Amps	Max. 10 Amps	Max. 10 Amps	Max. 10 Amps
LEDs	No	1 Green/Red LED, Module Status	No	1 Green/Red LED, Module Status
Diagnostic Supported	No	No	No	No
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	None	Max. 18 mA @ 5 VDC	None	Max. 18 mA @ 5 VDC
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Power Modules

The RSTi provides various power modules to reduce wiring and simplify installation. Modules that support Smart Module ID will require one of the addresses on the bus.

The ST-7241 and ST-7641 enable multiple voltages to be supported on the RSTi bus such as 120 VAC. All modules to the right of the module will be based on the supply voltage of the ST-7x41.

The ST-7111 and ST-7511 boost the 5 VDC on the backplane bus when module power requirement is exceeded. The ST-7x11 supplies 1.0 Amps of 5 VDC to the modules to the right of the ST-7x11.

	ST-7111	ST-7511	ST-7241	ST-7641
Product Name	Bus Expansion Power Supply (Input 24 VDC, Output 1.0 Amp/5 VDC)	Bus Expansion Smart Power Supply (Input 24 VDC, Output 1.0 Amp/5 VDC)	Power Distribution (5 VDC, 24 VDC, 48 VDC, 110 VAC, 220 VAC)	Power Distribution Smart Module (5 VDC, 24 VDC, 48 VDC, 110 VAC, 220 VAC)
Lifecycle Status	Active	Active	Active	Active
Module Type	Power Modules	Power Modules	Power Modules	Power Modules
Smart Module (Uses Module ID)	No	Yes	No	Yes
Load Current per Point	Max. 10 Amps	Max. 10 Amps	Max. 10 Amps	Max. 10 Amps
LEDs	Yes	1 Green/Red LED, Module Status	No	1 Green/Red LED, Module Status
Diagnostic Supported	No	No	No	No
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	1.0 Amp 5 VDC booster	Max. 14 mA @ 24 VDC	None	Max. 18 mA @ 5 VDC
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Expansion Modules

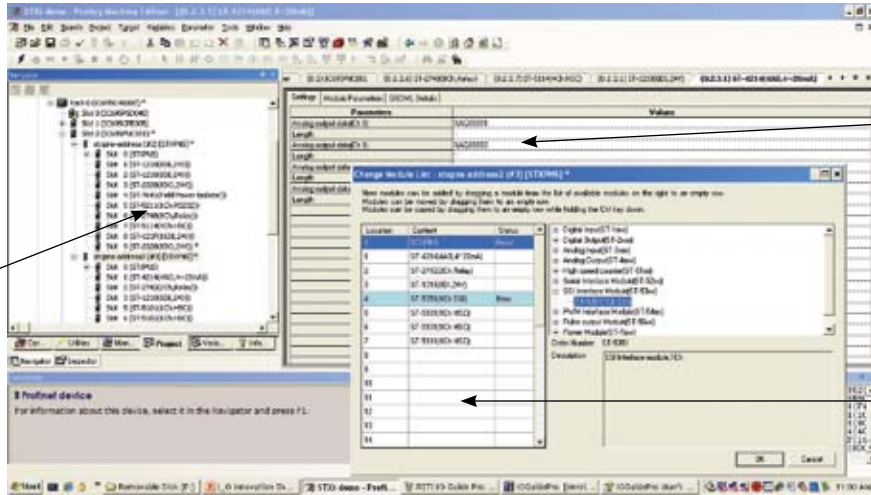
The RSTi network interfaces can be extended beyond the initial bus. The ST-5725 master can connect to a ST-5726 Slave. Up to 3 slave expansions are supported with a maximum distance of 300 meters. Each Slave requires a Master module.

	ST-5725	ST-5726
Product Name	Master expansion module	Slave expansion module
Lifecycle Status	Target Release August 2012	Target Release August 2012
Module Type	Expansion Module	Expansion Module
Features	Master module allows expansion of the RSTi Network Interface unit. The distance between the master and slave is 300 meters. Only 1 ST-5726 Slave unit is supported by the master. Limited to 3 Master/Slave combinations per Network Interface Unit.	Slave expansion requires a ST-5725 master module.
Connector Type	Spring Clamp Terminal Block or Cable	Spring Clamp Terminal Block or Cable
Field Power Requirement	No Connection with Field Power Field Power passes through to the next module	24 VDC (11 VDC to 28.8 VDC)
Internal Power Used (5 VDC loading)	100 mA @ 5.0 VDC Maximum	160 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 19.1 x 70	99 x 31 x 70

Powerful Configuration Tools

The RSTi is tightly integrated with the GE Intelligent Platforms Proficy Machine Edition. The user can easily select an I/O module and configure parameters. The configuration is stored in the folder and once download to the controller it is automatically loaded to the RSTi with a single point of connect.

RSTi modules are part of the controller hardware configuration

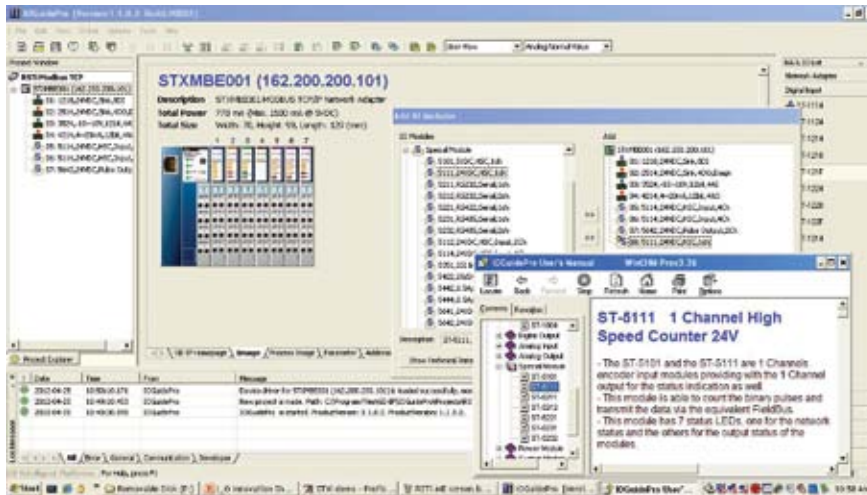


Data is easily mapped to reference memory or symbolic

Module pick list with part number and brief description

IO Guide Pro - Third Party Configuration Tool

The IO Guide Pro enables integrators network independence. I/O systems can be easily configured using the various RSTI network interfaces. Changing from Ethernet IP to Profibus is as simple as a mouse click without impacting the rest of the I/O configuration. The tool provides technical data, address mapping, product image and bus loading.



Network Interface	Configuration Tool
Profinet	Integrated into Proficy Machine Edition and also a GSDML file is available for other platforms
Profibus DP/V1	IO Guide Pro software tool and GSD file
DeviceNet	IO Guide Pro software tool and EDS file
Modbus TCP	IO Guide Pro software tool
Modbus Serial	IO Guide Pro software tool
EtherCAT	IO Guide Pro software tool
Ethernet IP	IO Guide Pro software tool and EDS file
CANOpen	IO Guide Pro software tool and EDS file
CC-Link	CSP file

Accessories

STXACC004	End Module, 7pcs (included with network interface)	Active
STXRTB009	Removable Terminal Block, 9pcs (included with modules)	Active
STXACC001	MARKER 100pcs (included with modules)	Active
STXACC002	BLANK MARKER 100pcs	Active

Expansion Cables

STXCBL005	0.5 meter expansion cable for ST-5725 and ST-5726	Active
STXCBL010	1.0 meter expansion cable for ST-5725 and ST-5726	Active
STXCBL030	3.0 meter expansion cable for ST-5725 and ST-5726	Active

Examples of Typical Application

Profinet Network Interface		with (20) 24 VDC Positive Logic inputs, (12) 24 VDC Source outputs 2 Amps and (8) Relay outputs.	
5 VDC RSTi Bus required (mA)	Qty	Part Number	Description
1500 mA of Provided	1	STXPNS001	Profinet RT Network Adapter
35 mA x 3 = 105 mA	3	ST-1228	8 points, Negative Logic, Source Input module 12V/ 24 VDC
45 mA x 3 = 135 mA	3	ST-2624	4 points, Source, 24 VDC/ 2 A
150 mA	1	ST-2748	Isolated Relay Output 8 Points, 230 VAC/ 2 A
Total:	5 VDC Current Required from Network Interface: 390 mA		
Total 1500 mA @ 5 VDC available from STXPNS001 Profinet Network Adapter. Total I/O current requirement is 390 mA @ 5V. No 5 VDC booster required.			
Profinet Network Interface		with (40) 24 VDC inputs, (20) 24 VDC Outputs with ESCP protection, (20) Relay outputs also (6) 4 to 20 mA Analog Inputs, (3) Type J Thermocouple, (4) 4 to 20 mA Analog Outputs, (14) 120 VAC Inputs and (8) 120 VAC Outputs	
1500 mA of Provided	1	STXPNS001	Profinet RT Network Adapter
35 mA x 5 = 175 mA	5	ST-1228	8 points, Negative Logic, Source Input module 12V/ 24 VDC
60 mA x 3 = 180 mA	3	ST-2328	8 points output, Source, 24 VDC/ 0.5 A
150 mA x 3 = 450 mA	3	ST-2748	Isolated Relay Output 8 Points, 230 VAC/ 2 A
60 mA x 1 = 60 mA	1	ST-3218	Analog Input 8 Channels, 4~20 mA, 12 bit
120 mA x 1 = 120 mA	1	ST-3804	4 Channels, Thermocouple Connector Type
60 mA x 1 = 60 mA	1	ST-4214	Analog Out 4 Channels, 4~20 mA, 12 bit
18 mA x 1 = 18 mA	1	ST-7641*	Isolated Field Power Distribution 5, 24, 48, AC , 10 Amp with LED status
35 mA x 4 = 140 mA	4	ST-1804	4 points, 110 VAC (AC 85V ~ 132V) inputs
35 mA x 4 = 140 mA	4	ST-2852	Triac Output 2 points, 12V ~ 125 VAC/ 0.5 A
Total:	5 VDC Current Required from Network Interface: 1343 mA		
Modules occupy 23 of the 32 module addresses available			
Total 1500 mA @ 5 VDC available from STXPNS001 Profinet Network Adapter. Total I/O current requirement is 1343 mA @ 5V. No 5 VDC booster required.			

*ST-7641 is required for providing AC bus power to the ST-1804 and ST-2852. All bus power to the right of the ST-7641 will be AC.

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QuickPanel Control

GE Intelligent Platforms markets and sells QuickPanel Control products that are designed to meet the market needs of companies in the Americas and Asia Pacific.

QuickPanel Control is designed to meet your converging control and visualization application needs with a combination of bright color TFT, or monochrome touch screens, multiple communication options and Proficy Logic Developer—Machine Edition and Proficy View—Machine Edition software.

Features include:

- Display sizes from 6" to 15"
- Microsoft Windows® CE operating system
- Expandable memory and communication expansion cards
- CompactFlash

- Functions from data collection and trending to system security and alarming
- Built-in web server for access to data and panels via the Internet or your Intranet using any standard browser
- Communication to I/O using GE Series 90-30 I/O Interface, VersaMax I/O Interface, VersaMax Micro I/O Interface, Genius I/O Interface, Open Fieldbus and Ethernet Connectivity
- Multi-language support selectable by the operator when the system is online
- Common database for increased productivity – greatly reduces development time by eliminating the need to re-enter tag names
- Extensive library of pre-configured animation objects
- UL Class 1 Div 2 (A, B, C, D), ATEX Class 1 Zone 2, and CE Mark

Proficy Machine Edition

Proficy Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control, and execution logic are developed with a single programmer.

Controllers	page 4.4
Communications Cards	page 4.7
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Publication Reference Chart

GFK-2243	6 Inch QuickPanel View & Control Hardware Reference Guide
GFK-2507	8 Inch QuickPanel View & Control Hardware Reference Guide
GFK-2284	12 Inch QuickPanel View & Control Hardware Reference Guide
GFK-2402	15 inch QuickPanel View & Control Hardware Reference Guide
GFK-2245	GE Series 90-30 I/O Interface
GFK-2297	GE Genius I/O Interface
GFK-2299	GE VersaMax Expansion I/O Card
GFK-2270	DeviceNet Master Communication Card
GFK-2271	PROFIBUS Master Communication Card
GFK-2276	Expanded User Memory Installation Guide
GFK-2368	PCMCIA Adaptor

Controllers



QuickPanel Control combines control and visualization into one platform for maximum productivity and cost efficiency. By integrating the QuickPanel Control family of touch screens with Proficy Machine Edition software, QuickPanel Control delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy Logic Developer - Machine Edition Control and Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of Ethernet and Fieldbus interfaces.

	IC754CSL06CTD	IC754CBL06CTD	IC754CSL06MTD	IC754CBL06MTD
Product Name	QuickPanel Control Display, 6" TFT-Color Loaded	QuickPanel Control Display, 6" TFT-Color Loaded	QuickPanel Control Display, 6" Monochrome Loaded	QuickPanel Control Display, 6" Monochrome Loaded
Lifecycle Status	Active	Active	Active	Active
Display Size	5.7 inch (Diagonal)	5.7 inch (Diagonal)	5.7 inch (Diagonal)	5.7 inch (Diagonal)
Display Type	TFT	TFT	Monochrome	Monochrome
Resolution	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels
Memory: DRAM	32 MB	32 MB	32 MB	32 MB
Memory: Expandable	to 64 MB or 96 MB	to 64 MB or 96 MB	to 64 MB or 96 MB	to 64 MB or 96 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	RS232	RS232	RS232	RS232
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	None	None	None	None
Communication Expansion	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master
Compact Flash	One, Type 2	One, Type 2	One, Type 2	One, Type 2
Agency Approvals	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark
Environmental Rating	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut-Out (W x H x D)	6.14" x 4.86" x 2.76" (158mm x 126mm x 70mm)	6.14" x 4.86" x 2.76" (158mm x 126mm x 70mm)	6.14" x 4.86" x 2.76" (158mm x 126mm x 70mm)	6.14" x 4.86" x 2.76" (158mm x 126mm x 70mm)
Front of Panel and Depth (W x H x D)	8.00" x 6.17" x 0.85" (203mm x 157mm x 22mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 22mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 22mm)	"8.00" x 6.17" x 0.85" (203mm x 157mm x 22mm)
Input Voltage	12 to 30.0 VDC	12 to 30.0 VDC	12 to 30.0 VDC	12 to 30.0 VDC
Power	Less than 24 W	Less than 24 W	Less than 24 W	Less than 24 W
Operating Temperature	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)
Operating Humidity	5 - 90% non-condensing	5 - 90% non-condensing	10 - 85% non-condensing	10 - 85% non-condensing
Indicators - LEDs	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector

Controllers



QuickPanel Control combines control and visualization into one platform for maximum productivity and cost efficiency. By integrating the QuickPanel Control family of touch screens with Proficy Machine Edition software, QuickPanel Control delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy Logic Developer - Machine Edition Control and Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of Ethernet and Fieldbus interfaces.

	IC754CSF06CTD	IC754CSX06CTD	IC754CBF08CTD
Product Name	QuickPanel Control Display, 6" TFT-Color Fully Loaded	QuickPanel Control Display, 6" TFT-Color Extra Fully Loaded	QuickPanel Control Display, 8" TFT-Color Loaded
Lifecycle Status	Active	Active	Active
Display Size	5.7 inch (Diagonal)	5.7 inch (Diagonal)	8.4 Inch (Diagonal)
Display Type	TFT	TFT	TFT
Resolution	320 x 240 pixels	320 x 240 pixels	800 x 600 pixels
Memory: DRAM	64 MB	64 MB	64 MB
Memory: Expandable	to 128 MB	to 128 MB	to 128 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	RS232	RS232	RS232
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	None	None	None
Communication Expansion	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master and PROFIBUS Master
Compact Flash	One, Type 2	One, Type 2	One, Type 2
Agency Approvals	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark
Environmental Rating	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, UL50 Type 4/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut-Out (W x H x D)	6.14" x 4.86" x 2.76" (158mm x 126mm x 70mm)	6.14" x 4.86" x 2.76" (158mm x 126mm x 70mm)	8.97" x 7.34" x 3.03" (227.8mm x 186.4mm x 76.9mm)
Front of Panel and Depth (W x H x D)	8.00" x 6.17" x 0.85" (203mm x 157mm x 22mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 22mm)	9.8" x 8.18" x 0.35" (248.9mm x 207.7mm x 9mm)
Input Voltage	12 to 30.0 VDC	12 to 30.0 VDC	10.8 to 30.0 VDC
Power	Less than 24 W	Less than 24 W	Less than 24 W
Operating Temperature	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)	0 to 60°C (32 to 140°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)
Operating Humidity	5 - 90% non-condensing	5 - 90% non-condensing	10% - 85% non-condensing
Indicators - LEDs	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector

Controllers



QuickPanel Control combines control and visualization into one platform for maximum productivity and cost efficiency. By integrating the QuickPanel Control family of touch screens with Proficy Machine Edition software, QuickPanel Control delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy Logic Developer - Machine Edition Control and Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of Ethernet and Fieldbus interfaces.

	IC754CSF12CTD	IC754CSF15CTD	IC754CBF15CTD
Product Name	QuickPanel Control Display, 12" TFT-Color Loaded	QuickPanel Control Display, 15" TFT-Color Loaded	QuickPanel Control Display, 15" TFT-Color Loaded
Lifecycle Status	Active	Active	Active
Display Size	12.1 inch (Diagonal)	15.1 inch (Diagonal)	15.1 inch (Diagonal)
Display Type	TFT	TFT	TFT
Resolution	800 x 600 pixels	1024 x 768 pixels	1024 x 768 pixels
Memory: DRAM	64 MB	64 MB	64 MB
Memory: Expandable	to 96 MB or 128 MB	to 96 MB or 128 MB	to 96 MB or 128 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	RS232	RS232	RS232
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	10/100 Mbps	10/100 Mbps	10/100 Mbps
Communication Expansion	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master
Compact Flash	One, Type 2	One, Type 2	One, Type 2
Agency Approvals	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark
Environmental Rating	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut-Out (W x H x D)	11.88" x 8.96" x 2.37" (302mm x 228mm x 60mm)	14.93" x 12.03" x 2.78" (379mm x 305mm x 71mm)	14.93" x 12.03" x 2.78" (379mm x 305mm x 71mm)
Front of Panel and Depth (W x H x D)	13.26" x 10.34" x 0.38" (337mm x 263mm x 10mm)	15.70" x 12.73" x 0.40" (399mm x 323mm x 10mm)	15.70" x 12.73" x 0.40" (399mm x 323mm x 10mm)
Input Voltage	12 VDC @ ±20% or 24 VDC @ ±20%	12 VDC @ ±20% or 24 VDC @ ±20%	12 VDC @ ±20% or 24 VDC @ ±20%
Power	Less than 48 W	Less than 60 W	Less than 60 W
Operating Temperature	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)
Operating Humidity	10 - 85% non-condensing	10 - 85% non-condensing	10 - 85% non-condensing
Indicators - LEDs	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector

Communications Cards



GE 90-30 I/O Interface Card allows the QuickPanel Control unit to interface directly to 90-30 expansion racks using an expansion cable. GE VersaMax Expansion I/O Interface Card allows the QuickPanel Control unit to interface directly to VersaMax I/O interfacing to a VersaMax ERM. GE Genius Interface Card allows the QuickPanel Control unit to interface to devices on a Genius network and act as a controller. DeviceNet - Master Interface Card allows the QuickPanel Control unit to interface to devices on a DeviceNet Network acting as the master. PROFIBUS - Master Interface Card allows the QuickPanel Control unit to interface to devices on a PROFIBUS Network acting as the master.

	IC754PIF001	IC754TAN001	IC754UEX001	IC754GEN001	IC754DVNM01	IC754PBSM01
Product Name	GE Series 90-30 Expansion I/O Interface for QuickPanel Control	GE VersaMax Expansion I/O Interface for QuickPanel Control	GE VersaMax Micro Expansion I/O Interface for QuickPanel Control	GE Genius Communication Card for QuickPanel Control	DeviceNet - Master Interface Card for QuickPanel Control	PROFIBUS - Master Interface Card for QuickPanel Control
Lifecycle Status	Active	Active	Active	Active	Active	Active
Fieldbus Type	90-30 I/O Expansion	VersaMax Expansion I/O	VersaMax Micro Expansion I/O	Genius Interface	DeviceNet Master	PROFIBUS Master
Agency Approvals	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D)	UL/cUL-Class 1 Div 2 (A, B, C, D)
Operating Temperature	0 to 60°C (32 to 140°F)	0 to 60°C (32 to 140°F)	0 to 60°C (32 to 140°F)	0 to 60°C (32 to 140°F)	0 to 60°C (32 to 140°F)	0 to 60°C (32 to 140°F)

Starter Kits



Starter Kits are an ideal package for first time users. The kits include a QuickPanel Control unit, Proficy Machine Edition software, 24 VDC power supply and Ethernet cable. QuickPanel Control combines control and visualization into one platform for maximum productivity and cost efficiency. By integrating the QuickPanel family of touch screens with Proficy Machine Edition software, QuickPanel Control delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy Machine Edition software helps reduce application development time, and connectivity is made easy with a family of Ethernet and Fieldbus interfaces.

	IC754CKL06CTD	IC754CKL06MTD	IC754CKF12CTD	IC754CKF15CTD
Product Name	QuickPanel Control Starter Kit, includes Display, 6" TFT	QuickPanel Control Starter Kit, includes Display, 6" Monochrome	QuickPanel Control Starter Kit, includes Display, 12" TFT	QuickPanel Control Starter Kit, includes Display, 15" TFT
Lifecycle Status	Active	Active	Active	Active
Display Size	5.7 inch (Diagonal)	5.7 inch (Diagonal)	12.1 inch (Diagonal)	15.1 inch (Diagonal)
Display Type	TFT	Monochrome	TFT	TFT
Resolution	320 x 240 pixels	320 x 240 pixels	800 x 600 pixels	1024x768 pixels
Memory: DRAM	32 MB	32 MB	64 MB	64 MB
Memory: Expandable	to 64 MB or 96 MB	to 64 MB or 96 MB	to 96 MB or 128 MB	to 96 MB or 128 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	RS232	RS232	RS232	RS232
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	None	None	10 Mbps	10/100 Mbps
Communication Expansion	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master
Compact Flash	One, Type 2	One, Type 2	One, Type 2	One, Type 2
Agency Approvals	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark
Environmental Rating	NEMA 4/12/4X IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X IP65 when properly mounted in an IP65 rated enclosure
Panel Cut-Out (W x H x D)	6.14" x 4.86" x 2.76" (158mm x 126mm x 70mm)	6.14" x 4.86" x 2.76" (158mm x 126mm x 70mm)	11.88" x 8.96" x 2.37" (302mm x 228mm x 60mm)	14.93" x 12.03" x 2.78" (379mm x 305mm x 71mm)
Front of Panel and Depth (W x H x D)	8.00" x 6.17" x 0.85" (203mm x 157mm x 22mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 22mm)	13.26" x 10.34" x 0.38" (337mm x 263mm x 10mm)	15.70" x 12.73" x 0.40" (399mm x 323mm x 10mm)
Input Voltage	10.8 to 30.0 VDC	10.8 to 30.0 VDC	12 VDC @ ±20% or 24 VDC @ ±20%	12 VDC @ ±20% or 24 VDC @ ±20%
Power	Less than 24 W	Less than 24 W	Less than 48 W	Less than 60 W
Operating Temperature	0 to 60°C (32 to 140°F)	-10 to 60°C (14 to 140°F)	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 60°C (-4 to 140°F)
Operating Humidity	5 - 95% non-condensing	10 - 85% non-condensing	10 - 90% non-condensing	10 - 90% non-condensing
Indicators - LEDs	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector

Accessories

IC754PCMCIA001	PCMCIA Adaptor for QuickPanel Control	Active
IC754ACC32MEM	Expansion Memory 32 MBytes	Active
IC754ACC64MEM	Expansion Memory 64 MBytes	Active
IC754ACC06GAS	Gasket for 6 Inch QuickPanel Control	Active
IC754ACC12GAS	Gasket for 12 Inch QuickPanel Control	Active
IC754ACC15GAS	Gasket for 15 Inch QuickPanel Control	Active
IC754ACC06MNT	Mounting Clips & Power Connector for 6 Inch QuickPanel Control	Active
IC754ACC12MNT	Mounting Clips & Power Connector for 12 Inch QuickPanel Control	Active
IC754ACC15MNT	Mounting Clips & Power Connector for 15 Inch QuickPanel Control	Active
IC754ACC06BEZ01	Stainless Steel Bezel for 6 Inch Mono & TFT-Color QuickPanel Control	Active
IC754ACC12BEZ01	Stainless Steel Bezel for 12 Inch TFT-Color QuickPanel Control	Active
IC754ACC08ADP	8 Inch Adapter Kit to accomodate 9 Inch Legacy Quick Panel Cut-out	Active
IC754ACC12ADP	Adaptor Kit for 12 Inch QuickPanel Control into CELLx Cut-out	Active
IC754BEZ06GAS	Replacement Gasket for 6 Inch Stainless Steel Bezel	Active
IC754BEZ12GAS	Replacement Gasket for 12 Inch Stainless Steel Bezel	Active
IC754UEX05CBL	VersaMax Micro Expansion I/O Cable - 0.5 Meter	Active
IC754UEX10CBL	VersaMax Micro Expansion I/O Cable - 1.0 Meter	Active
IC754ACC06BEZ02	Stainless Steel Bezel for 6 Inch STN-Color Display	Active

QuickPanel Control-Europe, Middle East and Africa

GE Intelligent Platforms markets and sells QuickPanel Control products that are designed to meet the market needs of companies in Europe, the Middle East and Africa.

QuickPanel Control is designed to meet your converging control and visualization application needs with a combination of bright color TFT, or monochrome touch screens, multiple communication options and Proficy Logic Developer—Machine Edition and Proficy View—Machine Edition software.

Features include:

- Display sizes from 6" to 15"
- Microsoft Windows® CE operating system
- Expandable memory and communication expansion cards
- CompactFlash
- Functions from data collection and trending to system security and alarming
- Built-in web server for access to data and panels via the Internet or your Intranet using any standard browser
- Communication to I/O using GE Series 90-30 I/O Interface, VersaMax I/O Interface, VersaMax Micro I/O Interface, Genius I/O Interface, Open Fieldbus and Ethernet Connectivity
- Multi-language support selectable by the operator when the system is online
- Common database for increased productivity – greatly reduces development time by eliminating the need to re-enter tag names
- Extensive library of pre-configured animation objects
- UL Class 1 Div 2 (A, B, C, D), ATEX Class 1 Zone 2, and CE Mark

Proficy Machine Edition

Proficy Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control, and execution logic are developed with a single programmer.

Controllers [page 4.11](#)

Communications Cards [page 4.13](#)

Accessories [page 4.14](#)



Publication Reference Chart

GFK-2305	6 Inch QuickPanel Control (Euro-Loaded) Hardware Reference Guide
GFK-2507	8 Inch QuickPanel View & Control Hardware Reference Guide
GFK-2284	12 Inch QuickPanel View & Control Hardware Reference Guide
GFK-2402	15 inch QuickPanel View & Control Hardware Reference Guide
GFK-2245	GE Series 90-30 I/O Interface
GFK-2297	GE Genius I/O Interface
GFK-2299	GE VersaMax Expansion I/O Card
GFK-2270	DeviceNet Master Communication Card
GFK-2271	PROFIBUS Master Communication Card
GFK-2276	Expanded User Memory Installation Guide
GFK-2368	PCMCIA Adaptor

Controllers



QuickPanel Control combines control and visualization into one platform for maximum productivity and cost efficiency. By integrating the QuickPanel Control family of touch screens with Proficy Machine Edition software, QuickPanel Control delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy Logic Developer - Machine Edition Control and Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of Ethernet and Fieldbus interfaces.

	IC754CGL06CTD	IC754CHL06CTD	IC754CGL06MTD	IC754CHL06MTD
Product Name	QuickPanel Control Display, 6" TFT-Color Loaded	QuickPanel Control Display, 6" TFT-Color Loaded	QuickPanel Control Display, 6" Monochrome Loaded	QuickPanel Control Display, 6" Monochrome Loaded
Lifecycle Status	Active	Active	Active	Active
Display Size	5.7 Inch (Diagonal)	5.7 Inch (Diagonal)	5.7 Inch (Diagonal)	5.7 Inch (Diagonal)
Display Type	TFT	TFT	Monochrome	Monochrome
Resolution	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels
Memory: DRAM	32 MB	32 MB	32 MB	32 MB
Memory: Expandable	to 64 MB or 96 MB	to 64 MB or 96 MB	to 64 MB or 96 MB	to 64 MB or 96 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	RS232	RS232	RS232	RS232
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	None	None	None	None
Communication Expansion	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master and PROFIBUS Master	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master and PROFIBUS Master
Compact Flash	One, Type 2	One, Type 2	One, Type 2	One, Type 2
Agency Approvals	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark
Environmental Rating	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut-Out (W x H x D)	156mm x 123.5mm x 70mm (6.14" x 4.86" x 2.76") or 200mm x 155.45mm x 85.1mm (7.95" x 6.12" x 3.35")	156mm x 123.5mm x 70mm (6.14" x 4.86" x 2.76") or 200mm x 155.45mm x 85.1mm (7.95" x 6.12" x 3.35")	156mm x 123.5mm x 70mm (6.14" x 4.86" x 2.76") or 200mm x 155.45mm x 85.1mm (7.95" x 6.12" x 3.35")	156mm x 123.5mm x 70mm (6.14" x 4.86" x 2.76") or 200mm x 155.45mm x 85.1mm (7.95" x 6.12" x 3.35")
Bezel Dimensions and Depth (W x H x D)	216mm x 170mm x 28.7mm (8.5" x 6.68" x 1.13") or 216mm x 170mm x 7.11mm (8.5" x 6.68" x 0.28")	216mm x 170mm x 28.7mm (8.5" x 6.68" x 1.13") or 216mm x 170mm x 7.11mm (8.5" x 6.68" x 0.28")	216mm x 170mm x 28.7mm (8.5" x 6.68" x 1.13") or 216mm x 170mm x 7.11mm (8.5" x 6.68" x 0.28")	216mm x 170mm x 28.7mm (8.5" x 6.68" x 1.13") or 216mm x 170mm x 7.11mm (8.5" x 6.68" x 0.28")
Input Voltage	12.0 to 30.0 VDC	12.0 to 30.0 VDC	12.0 to 30.0 VDC	12.0 to 30.0 VDC
Power	Less than 24 W	Less than 24 W	Less than 24 W	Less than 24 W
Operating Temperature	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)
Operating Humidity	5% - 90% non-condensing	5% - 90% non-condensing	10% - 85% non-condensing	10% - 85% non-condensing
Indicators - LEDs	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector

Controllers



QuickPanel Control combines control and visualization into one platform for maximum productivity and cost efficiency. By integrating the QuickPanel Control family of touch screens with Proficy Machine Edition software, QuickPanel Control delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy Logic Developer - Machine Edition Control and Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of Ethernet and Fieldbus interfaces.

	IC754CGF08CTD	IC754CGF12CTD	IC754CGF15CTD
Product Name	QuickPanel Control Display, 8" TFT-Color Loaded	QuickPanel Control Display, 12" TFT-Color Loaded	QuickPanel Control Display, 15" TFT-Color Loaded
Lifecycle Status	Active	Active	Active
Display Size	8.4 Inch (Diagonal)	12.1 Inch (Diagonal)	15.1 Inch (Diagonal)
Display Type	TFT	TFT	TFT
Resolution	800 x 600 pixels	800 x 600 pixels	1024 x 768 pixels
Memory: DRAM	64 MB	64 MB	64 MB
Memory: Expandable	to 128 MB	to 96 MB or 128 MB	to 128 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	RS232	RS232	RS232
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	None	10/100 Mbps	10/100 Mbps
Communication Expansion	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master and PROFIBUS Master	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master	GE Series 90-30 I/O, VersaMax Expansion I/O, VersaMax Micro Expansion I/O, Genius I/O, DeviceNet Master, and PROFIBUS Master
Compact Flash	One, Type 2	One, Type 2	One, Type 2
Agency Approvals	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark
Environmental Rating	NEMA 4/4X, UL50 Type 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut-Out (W x H x D)	227.8mm x 186.4mm x 76.9mm (8.97" x 7.34" x 3.03")	301.8mm x 227.6mm x 60.2mm (11.88" x 8.96" x 2.37")	379mm x 305mm x 71mm (14.93" x 12.03" x 2.78")
Bezel Dimensions and Depth (W x H x D)	248.9mm x 207.7mm x 9mm (9.8" x 8.18" x 0.35")	337mm x 263mm x 10mm (13.26" x 10.34" x 0.38")	399mm x 323mm x 10mm (15.70" x 12.73" x 0.40")
Input Voltage	10.8 to 30.0 VDC	12 VDC @ ±20% or 24 VDC @ ±20%	12 VDC @ ±20% or 24 VDC @ ±20%
Power	Less than 24 W	Less than 48 W	Less than 60 W
Operating Temperature	0 to 60°C (32 to 140°F)	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 60°C (-4 to 140°F)
Operating Humidity	10% - 85% non-condensing	10 - 85% non-condensing	10 - 85% non-condensing
Indicators - LEDs	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector	2 Bi-color, 2 on Ethernet Connector

Communications Cards



GE 90-30 I/O Interface Card allows the QuickPanel Control unit to interface directly to 90-30 expansion racks using an expansion cable. GE VersaMax Expansion I/O Interface Card allows the QuickPanel Control unit to interface directly to VersaMax I/O interfacing to a VersaMax ERM. GE Genius Interface Card allows the QuickPanel Control unit to interface to devices on a Genius network and act as a controller. DeviceNet - Master Interface Card allows the QuickPanel Control unit to interface to devices on a DeviceNet Network acting as the master. PROFIBUS - Master Interface Card allows the QuickPanel Control unit to interface to devices on a PROFIBUS Network acting as the master.

	IC754PIF001	IC754TAN001	IC754UEX001	IC754GEN001	IC754DVNM01	IC754PBSM01
Product Name	GE 90-30 I/O Interface Card for QuickPanel Control	GE VersaMax Expansion I/O Interface Card for QuickPanel Control	GE VersaMax Micro Expansion I/O Interface for QuickPanel Control	GE Genius Interface Card for QuickPanel Control	DeviceNet - Master Interface Card for QuickPanel Control	PROFIBUS - Master Interface Card for QuickPanel Control
Lifecycle Status	Active	Active	Active	Active	Active	Active
Fieldbus Type	90-30 I/O Interface	VersaMax Expansion I/O	VersaMax Micro Expansion I/O	Genius Interface	DeviceNet Master	PROFIBUS Master
Agency Approvals	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D); ATEX-Class 1 Zone 2; CE Mark	UL/cUL-Class 1 Div 2 (A, B, C, D)	UL/cUL-Class 1 Div 2 (A, B, C, D)
Operating Temperature	0 to 60°C (32 to 140°F)	0 to 60°C (32 to 140°F)	0 to 60°C (32 to 140°F)	0 to 60°C (32 to 140°F)	0 to 60°C (32 to 140°F)	0 to 60°C (32 to 140°F)

Accessories

IC754PCMCIA001	PCMCIA Adaptor for QuickPanel Control	Active
IC754ACC32MEM	Expansion Memory 32 MBytes	Active
IC754ACC64MEM	Expansion Memory 64 MBytes	Active
IC754ACC06GASE	Gasket for 6 Inch QuickPanel Control	Active
IC754ACC12GAS	Gasket for 12 Inch QuickPanel Control	Active
IC754ACC15GAS	Gasket for 15 Inch QuickPanel Control	Active
IC754ACC06MNTE	Mounting Clips & Power Connector for 6 Inch QuickPanel Control	Active
IC754ACC12MNT	Mounting Clips & Power Connector for 12 Inch QuickPanel Control	Active
IC754ACC15MNT	Mounting Clips & Power Connector for 15 Inch QuickPanel Control	Active
IC754ACC06BEZ01	Stainless Steel Bezel for 6 Inch Mono & TFT-Color QuickPanel Control	Active
IC754ACC12BEZ01	Stainless Steel Bezel for 12 Inch TFT-Color QuickPanel Control	Active
IC754ACC12ADP	Adaptor Kit for 12 Inch QuickPanel Control into CEIIX Cut-out	Active

QuickPanel View

GE Intelligent Platforms markets and sells QuickPanel View products that are designed to meet the market needs of companies in the Americas and Asia Pacific.

QuickPanel View bundled visualization solution provides the tools required for today's application needs. By integrating the QuickPanel family of touch screens with Proficy Machine Edition software, QuickPanel View delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy View – Machine Edition software helps reduce application development time, and connectivity is made easy with a family of serial, Ethernet and Fieldbus interfaces.

Features include:

- Display sizes from 6" to 15"
- Choice of Monochrome, Color-STN, or Color-TFT display
- Microsoft Windows® CE operating system
- Expandable memory and Fieldbus cards[†]
- CompactFlash[†]
- Functions from data collection and trending to system security and alarming
- Built-in web server for access to data, and panels using any standard browser[†]
- Communication over serial, Ethernet, and communication expansion cards[†]
- Multi-language support selectable by the operator when the system is online

- Shared tags for increased productivity – applications developed for QuickPanel View can share tags with other Proficy Machine Edition applications, eliminating the need to enter the data more than once
- Migration of applications developed with QuickDesigner
- Extensive library of pre-configured animation objects
- UL Class 1 Div 2 (A, B, C, D), ATEX Class 1, Zone 2, CE Mark
- Web publishing

[†]Available on select models. See following pages for availability.

Proficy Machine Edition

Proficy Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control and execution logic are developed with a single programmer.

Operator Interfaces pages 4.16-4.22

Starter Kits pages 4.23-4.25

Communication Hardware and Accessories page 4.26



Publication Reference Chart

GFK-2327	6 Inch QuickPanel View (Basic) Hardware Reference Guide
GFK-2580	6 Inch QuickPanel View (Basic TFT) Hardware Reference Guide
GFK-2325	6 Inch QuickPanel View (Intermediate) Hardware Reference Guide
GFK-2243	6 Inch QuickPanel View (Loaded) Hardware Reference Guide
GFK-2512	8 Inch QuickPanel View Hardware Users Guide
GFK-2306	12 Inch QuickPanel View (Intermediate) Hardware Reference Guide
GFK-2284	12 Inch QuickPanel View (Loaded) Hardware Reference Guide
GFK-2402	15 Inch QuickPanel View (Loaded) Hardware Reference Guide
GFK-2297	Genius I/O Communication Card Hardware Reference Guide
GFK-2270	DeviceNet Master & Slave Communication Card Hardware Reference Guide
GFK-2291	PROFIBUS Slave Communication Card Hardware Reference Guide
GFK-2276	Expanded User Memory Installation Guide
GFK-2368	PCMCIA Adaptor Hardware Reference Guide



Operator Interfaces

Available in a variety of display sizes, the QuickPanel View bundled visualization solution provides the tools required for today's application needs. By integrating the best-selling QuickPanel family of touch screens with award-winning Proficy Machine Edition software, QuickPanel View delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of serial, Ethernet and Fieldbus interfaces.

	IC754VSB06MTD	IC754VBB06MTD	IC754VSB06CTD	IC754VBB06CTD
Product Name	QuickPanel View Display, 6" Monochrome Basic	QuickPanel View Display, 6" Monochrome Basic	QuickPanel View Display, 6" TFT Basic	QuickPanel View Display, 6" TFT Basic
Lifecycle Status	Active	Active	Active	Active
Display Size	5.7" (Diagonal)	5.7" (Diagonal)	5.7" (Diagonal)	5.7" (Diagonal)
Display Type	6" Mono	6" Mono	6" TFT	6" TFT
Resolution	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels
Memory: DRAM	16 MB	16 MB	16 MB	16 MB
Memory: Expandable	No	No	No	No
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	None	None	None	None
Ethernet: LAN #1	Download Only	Download Only	Download Only	Download Only
Ethernet: LAN #2	None	None	None	None
	None	None	None	None
Communication Expansion				
Compact Flash	None	None	None	None
Agency Approvals	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark
Environmental Rating	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut-Out (W x H x D)	6.14" x 4.86" x 2.026" (156mm x 123.5mm x 51.5mm)	6.14" x 4.86" x 2.026" (156mm x 123.5mm x 51.5mm)	6.14" x 4.86" x 2.026" (156mm x 123.5mm x 51.5mm)	6.14" x 4.86" x 2.026" (156mm x 123.5mm x 51.5mm)
Front of Panel & Depth (W x H x D)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)
Input Voltage	12 to 30.0 VDC	12 to 30.0 VDC	12 to 30.0 VDC	12 to 30.0 VDC
Power Consumption	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC
Operating Temperature	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)
Operating Humidity	10% to 85% non-condensing	10% to 85% non-condensing	10% to 85% non-condensing	10% to 85% non-condensing
Indicators - LEDs	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)

†Consult factory for availability.



Operator Interfaces

Available in a variety of display sizes, the QuickPanel View bundled visualization solution provides the tools required for today's application needs. By integrating the best-selling QuickPanel family of touch screens with award-winning Proficy Machine Edition software, QuickPanel View delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of serial, Ethernet and Fieldbus interfaces.

	IC754VSI06MTD	IC754VBI06MTD	IC754VSI06STD	IC754VBI06STD
Product Name	QuickPanel View Display, 6" Monochrome Intermediate	QuickPanel View Display, 6" Monochrome Intermediate	QuickPanel View Display, 6" STN-Color Intermediate	QuickPanel View Display, 6" STN-Color Intermediate
Lifecycle Status	Active	Active	Active	Active
Display Size	5.7" (Diagonal)	5.7" (Diagonal)	5.7" (Diagonal)	5.7" (Diagonal)
Display Type	6" Mono	6" Mono	6" Color-STN	6" Color-STN
Resolution	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels
Memory: DRAM	32 MB	32 MB	32 MB	32 MB
Memory: Expandable	To 96 MB	To 96 MB	To 96 MB	To 96 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	None	None	None	None
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	None	None	None	None
Communication Expansion	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave
Compact Flash	One, Type 2	One, Type 2	One, Type 2	One, Type 2
Agency Approvals	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark
Environmental Rating	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut-Out (W x H x D)	6.14" x 4.86" x 2.76" (156mm x 123.5mm x 70mm)	6.14" x 4.86" x 2.76" (156mm x 123.5mm x 70mm)	6.14" x 4.86" x 2.76" (156mm x 123.5mm x 70mm)	6.14" x 4.86" x 2.76" (156mm x 123.5mm x 70mm)
Front of Panel & Depth (W x H x D)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)
Input Voltage	12 to 30.0 VDC	12 to 30.0 VDC	12 to 30.0 VDC	12 to 30.0 VDC
Power Consumption	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC
Operating Temperature	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)	0 to 60°C (32 to 140°F)	0 to 60°C (32 to 140°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)
Operating Humidity	10% to 85% non-condensing	10% to 85% non-condensing	10% to 90% non-condensing	10% to 90% non-condensing
Indicators - LEDs	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)

[†]Consult factory for availability.



Operator Interfaces

Available in a variety of display sizes, the QuickPanel View bundled visualization solution provides the tools required for today's application needs. By integrating the best-selling QuickPanel family of touch screens with award-winning Proficy Machine Edition software, QuickPanel View delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of serial, Ethernet and Fieldbus interfaces.

	IC754VSI06SKD	IC754VBI08CTD	IC754VSI12MTD	IC754VBI12MTD
Product Name	QuickPanel View Display, 6" STN-Color Intermediate with Keypad	QuickPanel View Display, 8" TFT-Color Intermediate	QuickPanel View Display, 12" Monochrome Intermediate	QuickPanel View Display, 12" Monochrome Intermediate
Lifecycle Status	Active	Active	Active	Active
Display Size	5.7" (Diagonal)	8.4" (Diagonal)	12.1" (Diagonal)	12.1" (Diagonal)
Display Type	6" Color-STN	8" Color-TFT	12" Mono	12" Mono
Resolution	320 x 240 pixels	800 x 600 pixels	800 x 600 pixels	800 x 600 pixels
Memory: DRAM	32 MB	32 MB	32 MB	32 MB
Memory: Expandable	To 96 MB	To 64 MB or 96 MB	To 96 MB	To 96 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	None	None	None	None
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	None	None	None	None
Communication Expansion	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave
Compact Flash	One, Type 2	One, Type 2	One, Type 2	One, Type 2
Agency Approvals	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark
Environmental Rating	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, UL50 Type 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut-Out (W x H x D)	11.88" x 8.96" x 2.37" (302mm x 228mm x 60mm)	8.97" x 7.34" x 3.03" (228mm x 186mm x 77mm)	11.88" x 8.96" x 2.37" (302mm x 228mm x 60mm)	11.88" x 8.96" x 2.37" (302mm x 228mm x 60mm)
Front of Panel & Depth (W x H x D)	13.26" x 10.34" x 0.38" (337mm x 263mm x 10mm)	9.8" x 8.18" x 0.35" (249mm x 208mm x 9mm)	13.26" x 10.34" x 0.38" (337mm x 263mm x 10mm)	13.26" x 10.34" x 0.38" (337mm x 263mm x 10mm)
Input Voltage	12 VDC @ ±20% or 24 VDC @ ±20%	10.8 to 30.0 VDC	12 VDC @ ±20% or 24 VDC @ ±20%	12 VDC @ ±20% or 24 VDC @ ±20%
Power Consumption	Less than 24W @ 24 VDC	24W	Less than 48W @ 24 VDC	Less than 48W @ 24 VDC
Operating Temperature	0 to 50°C (32 to 122°F)	0 to 60°C (32 to 140°F)	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)
Operating Humidity	10% to 85% non-condensing	10% to 90% non-condensing	10% to 85% non-condensing	10% to 85% non-condensing
Indicators - LEDs	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)

[†]Consult factory for availability.



Operator Interfaces

Available in a variety of display sizes, the QuickPanel View bundled visualization solution provides the tools required for today's application needs. By integrating the best-selling QuickPanel family of touch screens with award-winning Proficy Machine Edition software, QuickPanel View delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of serial, Ethernet and Fieldbus interfaces.

	IC754VSI12CTD	IC754VSI12CTD CA	IC754VBI12CTD
Product Name	QuickPanel View Display, 12" TFT-Color Intermediate	QuickPanel View Display, 12" TFT-Color Intermediate - Conformal Coated	QuickPanel View Display, 12" TFT-Color Intermediate
Lifecycle Status	Active	Active	Active
Display Size	12.1" (Diagonal)	12.1" (Diagonal)	12.1" (Diagonal)
Display Type	12" Color-TFT	12" Color-TFT	12" Color-TFT
Resolution	800 x 600 pixels	800 x 600 pixels	800 x 600 pixels
Memory: DRAM	32 MB	32 MB	32 MB
Memory: Expandable	To 96 MB	To 96 MB	To 96 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	None	None	None
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	None	None	None
Communication Expansion	GE Genius, Data Highway Plus†, DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus†, DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus†, DeviceNet Slave, & PROFIBUS Slave
Compact Flash	One, Type 2	One, Type 2	One, Type 2
Agency Approvals	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark
Environmental Rating	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut-Out (W x H x D)	11.88" x 8.96" x 2.37" (302mm x 228mm x 60mm)	11.88" x 8.96" x 2.37" (302mm x 228mm x 60mm)	11.88" x 8.96" x 2.37" (302mm x 228mm x 60mm)
Front of Panel & Depth (W x H x D)	13.26" x 10.34" x 0.38" (337mm x 263mm x 10mm)	13.26" x 10.34" x 0.38" (337mm x 263mm x 10mm)	13.26" x 10.34" x 0.38" (337mm x 263mm x 10mm)
Input Voltage	12 VDC @ ±20% or 24 VDC @ ±20%	12 VDC @ ±20% or 24 VDC @ ±20%	12 VDC @ ±20% or 24 VDC @ ±20%
Power Consumption	Less than 48W @ 24 VDC	Less than 48W @ 24 VDC	Less than 48W @ 24 VDC
Operating Temperature	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)
Operating Humidity	10% to 85% non-condensing	10% to 85% non-condensing	10% to 85% non-condensing
Indicators - LEDs	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)

†Consult factory for availability.



Operator Interfaces

Available in a variety of display sizes, the QuickPanel View bundled visualization solution provides the tools required for today's application needs. By integrating the best-selling QuickPanel family of touch screens with award-winning Proficy Machine Edition software, QuickPanel View delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of serial, Ethernet and Fieldbus interfaces. Full-featured QuickPanel View modules take Operator Interface products to an entirely new level of openness. A built-in web server provides access to data and graphics using any standard browser.

	IC754VSL06MTD	IC754VBL06MTD	IC754VSL06CTD	IC754VBL06CTD
Product Name	QuickPanel View Display, 6" Mono Loaded	QuickPanel View Display, 6" Mono Loaded	QuickPanel View Display, 6" TFT-Color Loaded	QuickPanel View Display, 6" TFT-Color Loaded
Lifecycle Status	Active	Active	Active	Active
Display Size	5.7" (Diagonal)	5.7" (Diagonal)	5.7" (Diagonal)	5.7" (Diagonal)
Display Type	6" Mono	6" Mono	6" Color-TFT	6" Color-TFT
Resolution	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels
Memory: DRAM	32 MB	32 MB	32 MB	32 MB
Memory: Expandable	To 96 MB	To 96 MB	To 96 MB	To 96 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	RS232	RS232	RS232	RS232
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	None	None	None	None
Communication Expansion	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave
Compact Flash	One, Type 2	One, Type 2	One, Type 2	One, Type 2
Agency Approvals	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark
Environmental Rating	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut-Out (W x H x D)	6.14" x 4.86" x 2.76" (156mm x 123.5mm x 70mm)	6.14" x 4.86" x 2.76" (156mm x 123.5mm x 70mm)	6.14" x 4.86" x 2.76" (156mm x 123.5mm x 70mm)	6.14" x 4.86" x 2.76" (156mm x 123.5mm x 70mm)
Front of Panel & Depth (W x H x D)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)
Input Voltage	12 to 30.0 VDC	12 to 30.0 VDC	12 to 30.0 VDC	12 to 30.0 VDC
Power Consumption	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC
Operating Temperature	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)
Operating Humidity	10% to 85% non-condensing	10% to 85% non-condensing	5% to 90% non-condensing	5% to 90% non-condensing
Indicators - LEDs	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)

[†]Consult factory for availability.



Operator Interfaces

Available in a variety of display sizes, the QuickPanel View bundled visualization solution provides the tools required for today's application needs. By integrating the best-selling QuickPanel family of touch screens with award-winning Proficy Machine Edition software, QuickPanel View delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of serial, Ethernet and Fieldbus interfaces. Full-featured QuickPanel View modules take Operator Interface products to an entirely new level of openness. A built-in web server provides access to data and graphics using any standard browser.

	IC754VBL06CTDCA	IC754VBF08CTD	IC754VSF12CTD	IC754VBF12CTD
Product Name	QuickPanel View Display, 6" TFT-Color Loaded - Conformal coated	QuickPanel View Display, 8" TFT-Color Loaded	QuickPanel View Display, 12" TFT-Color Loaded	QuickPanel View Display, 12" TFT-Color Loaded
Lifecycle Status	Active	Active	Active	Active
Display Size	5.7" (Diagonal)	8.4" (Diagonal)	12.1" (Diagonal)	12.1" (Diagonal)
Display Type	6" Color-TFT	8" Color-TFT	12" Color-TFT	12" Color-TFT
Resolution	320 x 240 pixels	800 x 600 pixels	800 x 600 pixels	800 x 600 pixels
Memory: DRAM	32 MB	64 MB	64 MB	64 MB
Memory: Expandable	To 96 MB	To 96 MB or 128 MB	To 96 MB or 128 MB	To 96 MB or 128 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	RS232	RS232	RS232	RS232
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	None	None	10/100 Mbps	10/100 Mbps
Communication Expansion	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave
Compact Flash	One, Type 2	One, Type 2	One, Type 2	One, Type 2
Agency Approvals	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark
Environmental Rating	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, UL50 Type 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut-Out (W x H x D)	6.14" x 4.86" x 2.76" (156mm x 123.5mm x 70mm)	6.14" x 4.86" x 2.76" (156mm x 123.5mm x 70mm)	11.88" x 8.96" x 2.37" (302mm x 228mm x 60mm)	11.88" x 8.96" x 2.37" (302mm x 228mm x 60mm)
Front of Panel & Depth (W x H x D)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)	9.8" x 8.18" x 0.35" (249mm x 208mm x 9mm)	13.26" x 10.34" x 0.38" (337mm x 263mm x 10mm)	13.26" x 10.34" x 0.38" (337mm x 263mm x 10mm)
Input Voltage	12 to 30.0 VDC	10.8 to 30.0 VDC	12 VDC @ ±20% or 24 VDC @ ±20%	12 VDC @ ±20% or 24 VDC @ ±20%
Power Consumption	Less than 24W @ 24 VDC	24W	Less than 48W @ 24 VDC	Less than 48W @ 24 VDC
Operating Temperature	-10 to 60°C (14 to 140°F)	0 to 60°C (32 to 140°F)	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)
Operating Humidity	5% to 90% non-condensing	10% to 85% non-condensing	10% to 85% non-condensing	10% to 85% non-condensing
Indicators - LEDs	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)

[†]Consult factory for availability.



Operator Interfaces

Available in a variety of display sizes, the QuickPanel View bundled visualization solution provides the tools required for today's application needs. By integrating the best-selling QuickPanel family of touch screens with award-winning Proficy Machine Edition software, QuickPanel View delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of serial, Ethernet and Fieldbus interfaces. Full-featured QuickPanel View modules take Operator Interface products to an entirely new level of openness. A built-in web server provides access to data and graphics using any standard browser.

	IC754VBF12CTDCA	IC754VSF15CTD	IC754VBF15CTD	IC754VBF15CTDCA
Product Name	QuickPanel View Display, 12" TFT-Color Loaded - Conformal Coated	QuickPanel View Display, 15" TFT-Color Loaded	QuickPanel View Display, 15" TFT-Color Loaded	QuickPanel View Display, 15" TFT-Color Loaded - Conformal coated
Lifecycle Status	Active	Active	Active	Active
Display Size	12.1" (Diagonal)	15.1" (Diagonal)	15.1" (Diagonal)	15.1" (Diagonal)
Display Type	12" Color-TFT	15" Color-TFT	15" Color-TFT	15" Color-TFT
Resolution	800 x 600 pixels	1024 x 768 pixels	1024 x 768 pixels	1024 x 768 pixels
Memory: DRAM	32 MB	64 MB	64 MB	64 MB
Memory: Expandable	To 96 MB	128 MB	128 MB	128 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	RS232	RS232	RS232	RS232
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	10 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps
Communication Expansion	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave
Compact Flash	One, Type 2	One, Type 2	One, Type 2	One, Type 2
Agency Approvals	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark
Environmental Rating	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut-Out (W x H x D)	11.88" x 8.96" x 2.37" (302mm x 228mm x 60mm)	14.93" x 12.03" x 2.78" (379mm x 305mm x 71mm)	14.93" x 12.03" x 2.78" (379mm x 305mm x 71mm)	14.93" x 12.03" x 2.78" (379mm x 305mm x 71mm)
Front of Panel & Depth (W x H x D)	13.26" x 10.34" x 0.38" (337mm x 263mm x 10mm)	15.70" x 12.73" x 0.40" (399mm x 323mm x 10mm)	15.70" x 12.73" x 0.40" (399mm x 323mm x 10mm)	15.70" x 12.73" x 0.40" (399mm x 323mm x 10mm)
Input Voltage	12 VDC @ ±20% or 24 VDC @ ±20%	12 VDC @ ±20% or 24 VDC @ ±20%	12 VDC @ ±20% or 24 VDC @ ±20%	12 VDC @ ±20% or 24 VDC @ ±20%
Power Consumption	Less than 48W @ 24 VDC	Less than 60W @ 24 VDC	Less than 60W @ 24 VDC	Less than 60W @ 24 VDC
Operating Temperature	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 60°C (-4 to 140°F)	-20 to 60°C (-4 to 140°F)	-20 to 60°C (-4 to 140°F)
Operating Humidity	10% to 85% non-condensing	10% to 85% non-condensing	10% to 85% non-condensing	10% to 85% non-condensing
Indicators - LEDs	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)

[†]Consult factory for availability.



Starter Kits

Available in a variety of display sizes, the QuickPanel View bundled visualization solution provides the tools required for today's application needs. By integrating the best-selling QuickPanel family of touch screens with award-winning Proficy Machine Edition software, QuickPanel View delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of serial, Ethernet and Fieldbus interfaces.

	IC754VKB06MTD	IC754VKI06MTD	IC754VKI06STD
Product Name	QuickPanel View Starter Kit, includes 6" Monochrome Basic Display, Proficy ME Development Software, Ethernet Cable and Power Supply	QuickPanel View Starter Kit, includes 6" Monochrome Intermediate Display, Proficy ME Development Software, Ethernet Cable and Power Supply	QuickPanel View Starter Kit, includes 6" STN-Color Intermediate Display, Proficy ME Development Software, Ethernet Cable and Power Supply
Lifecycle Status	Active	Active	Active
Display Size	5.7" (Diagonal)	5.7" (Diagonal)	5.7" (Diagonal)
Display Type	6" Mono	6" Mono	6" Color-STN
Resolution	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels
Memory: DRAM	16 MB	32 MB	32 MB
Memory: Expandable	No	To 96 MB	To 96 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	None	None	None
Ethernet: LAN #1	Download Only	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	None	None	None
Communication Expansion	None	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave
Compact Flash	None	One, Type 2	One, Type 2
Agency Approvals	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark
Environmental Rating	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut-Out (W x H x D)	6.14" x 4.86" x 2.03" (158mm x 126mm x 52mm)	6.14" x 4.86" x 2.76" (156mm x 123.5mm x 70mm)	6.14" x 4.86" x 2.76" (156mm x 123.5mm x 70mm)
Front of Panel & Depth (W x H x D)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)
Input Voltage	10.8 to 30.0 VDC	10.8 to 30.0 VDC	10.8 to 30.0 VDC
Power Consumption	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC
Operating Temperature	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)	0 to 60°C (32 to 140°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)
Operating Humidity	10% to 85% non-condensing	10% to 85% non-condensing	10% to 90% non-condensing
Indicators - LEDs	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)

[†]Consult factory for availability.

Starter Kits



Available in a variety of display sizes, the QuickPanel View bundled visualization solution provides the tools required for today's application needs. By integrating the best-selling QuickPanel family of touch screens with award-winning Proficy Machine Edition software, QuickPanel View delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of serial, Ethernet and Fieldbus interfaces.

	IC754VKI06SKD	IC754VKI12MTD	IC754VKI12CTD
Product Name	QuickPanel View Starter Kit, includes 6" STN-Color Intermediate Display with Keypad	QuickPanel View Starter Kit, includes 12" Monochrome Intermediate Display, Proficy ME Development Software, Ethernet Cable and Power Supply	QuickPanel View Starter Kit, includes 12" TFT-Color Intermediate Display, Proficy ME Development Software, Ethernet Cable and Power Supply
Lifecycle Status	Active	Active	Active
Display Size	5.7" (Diagonal)	12.1" (Diagonal)	12.1" (Diagonal)
Display Type	6" Color-STN	12" Mono	12" Color-TFT
Resolution	320 x 240 pixels	800 x 600 pixels	800 x 600 pixels
Memory: DRAM	32 MB	32 MB	32 MB
Memory: Expandable	To 96 MB	To 96 MB	To 96 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	None	None	None
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	None	None	None
Communication Expansion	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave
Compact Flash	One, Type 2	One, Type 2	One, Type 2
Agency Approvals	UL - Class 1 Div 2 (A, B, C, D), ATEX - Class 1 Zone 2, CE Mark	UL - Class 1 Div 2 (A, B, C, D), ATEX - Class 1 Zone 2, CE Mark	UL - Class 1 Div 2 (A, B, C, D), ATEX - Class 1 Zone 2, CE Mark
Environmental Rating	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut-Out (W x H x D)	11.88" x 8.96" x 2.37" (302mm x 228mm x 60mm)	11.88" x 8.96" x 2.37" (302mm x 228mm x 60mm)	11.88" x 8.96" x 2.37" (302mm x 228mm x 60mm)
Front of Panel & Depth (W x H x D)	13.26" x 10.34" x 0.38" (337mm x 263mm x 10mm)	13.26" x 10.34" x 0.38" (337mm x 263mm x 10mm)	13.26" x 10.34" x 0.38" (337mm x 263mm x 10mm)
Input Voltage	12 VDC @ ±20% or 24 VDC @ ±20%	12 VDC @ ±20% or 24 VDC @ ±20%	12 VDC @ ±20% or 24 VDC @ ±20%
Power Consumption	Less than 24W @ 24 VDC	Less than 48W @ 24 VDC	Less than 48W @ 24 VDC
Operating Temperature	0 to 60°C (32 to 140°F)	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)
Operating Humidity	10% to 90% non-condensing	10% to 90% non-condensing	10% to 90% non-condensing
Indicators - LEDs	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)

[†]Consult factory for availability.

Starter Kits



Available in a variety of display sizes, the QuickPanel View bundled visualization solution provides the tools required for today's application needs. By integrating the best-selling QuickPanel family of touch screens with award-winning Proficy Machine Edition software, QuickPanel View delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of serial, Ethernet and Fieldbus interfaces. Full-featured QuickPanel View modules take Operator Interface products to an entirely new level of openness. A built-in web server provides access to data and graphics using any standard browser.

	IC754VKL06MTD	IC754VKL06CTD	IC754VKF12CTD	IC754VKF15CTD
Product Name	QuickPanel View Starter Kit, includes 6" Mono Loaded Display, Proficy ME Development Software, Ethernet Cable and Power Supply	QuickPanel View Starter Kit, includes 6" TFT-Color Loaded Display, Proficy ME Development Software, Ethernet Cable and Power Supply	QuickPanel View Starter Kit, includes 12" TFT-Color Loaded Display, Proficy ME Development Software, Ethernet Cable and Power Supply	QuickPanel View Starter Kit, includes 15" TFT-Color Loaded Display, Proficy ME Development Software, Ethernet Cable and Power Supply
Lifecycle Status	Active	Active	Active	Active
Display Size	5.7" (Diagonal)	5.7" (Diagonal)	12.1" (Diagonal)	15.1" (Diagonal)
Display Type	6" Mono	6" Color-TFT	12" Color-TFT	15" Color-TFT
Resolution	320 x 240 pixels	320 x 240 pixels	800 x 600 pixels	1024 x 768 pixels
Memory: DRAM	32 MB	32 MB	32 MB	64 MB
Memory: Expandable	To 96 MB	To 96 MB	To 96 MB	128 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	RS232	RS232	RS232	RS232
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	None	None	10 Mbps	10/100 Mbps
Communication Expansion	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave
Compact Flash	One, Type 2	One, Type 2	One, Type 2	One, Type 2
Agency Approvals	UL - Class 1 Div 2 (A, B, C, D), ATEX - Class 1 Zone 2, CE Mark	UL - Class 1 Div 2 (A, B, C, D), ATEX - Class 1 Zone 2, CE Mark	UL - Class 1 Div 2 (A, B, C, D), ATEX - Class 1 Zone 2, CE Mark	UL - Class 1 Div 2 (A, B, C, D), ATEX - Class 1 Zone 2, CE Mark
Environmental Rating	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut-Out (W x H x D)	6.14" x 4.86" x 2.76" (156mm x 123.5mm x 70mm)	6.14" x 4.86" x 2.76" (156mm x 123.5mm x 70mm)	11.88" x 8.96" x 2.37" (302mm x 228mm x 60mm)	14.93" x 12.03" x 2.78" (379mm x 305mm x 71mm)
Front of Panel & Depth (W x H x D)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)	8.00" x 6.17" x 0.85" (203mm x 157mm x 21.5mm)	13.26" x 10.34" x 0.38" (337mm x 263mm x 10mm)	15.70" x 12.73" x 0.40" (399mm x 323mm x 10mm)
Input Voltage	10.8 to 30.0 VDC	10.8 to 30.0 VDC	12 VDC @ ±20% or 24 VDC @ ±20%	12 VDC @ ±20% or 24 VDC @ ±20%
Power Consumption	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC	Less than 48W @ 24 VDC	Less than 60W @ 24 VDC
Operating Temperature	-10 to 60°C (14 to 140°F)	0 to 60°C (32 to 140°F)	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 60°C (-4 to 140°F)
Operating Humidity	10% to 90% non-condensing	10% to 90% non-condensing	10% to 90% non-condensing	10% to 90% non-condensing
Indicators - LEDs	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)

[†]Consult factory for availability.

QuickPanel View Communication Hardware

PLC Manufacturer	PLC Type	Part Number	Description	Lifecycle Status
Allen Bradley	SLC500, 5/01, 5/02, 5/03	HMI-CAB-C83	DH-485 Program Port, 8-pin RJ-45 Male, RS-422, No simultaneous connection to program port	Active
		HMI-CAB-C84	DH-485 Program Port, 8-pin RJ-45 Male, RS-422, with simultaneous connection to program port	Active
	SLC5/03, 5/04, ControlLogix PLC-5	HMI-CAB-C52	Channel 0, 9-pin Female, RS-232	Active
		HMI-CAB-C51	KF2 Module, 25-pin Female, RS-232	Active
		HMI-CAB-C53	Channel 0, 25-pin Male, RS-232	Active
		HMI-CAB-C55	KE Module, 15-pin Male, RS-232	Active
		HMI-CAB-C107	DF1, 25-pin Male, RS-422	Active
	MicroLogix	HMI-CAB-C106	DF1, 8-pin Circular DIN, RS-232	Active
	Data Highway Plus	IC754ABD001	Data Highway Plus communication card for QuickPanel View [†]	Active
	Automation Direct	DL205 & DL305	HMI-CAB-C86	Programming Port, 6-pin Modular Male, RS-232
DL305 & DL405		HMI-CAB-C103	Programming Port, 4-pin Modular Male, RS-232	Mature
DL305 & DL405 w/ 25-pin comm. port		HMI-CAB-C53	Programming Port, 25-pin Male, RS-232	Active
Fieldbus	DeviceNet	IC754DVNS01	DeviceNet Slave Communication Card for QuickPanel View	Active
	PROFIBUS	IC754PBSS01	PROFIBUS Slave Communication Card for QuickPanel View	Active
GE	Series 90 CMM Module	HMI-CAB-C53	25-pin Male, RS-232	Active
		HMI-CAB-C93	25-pin Male, RS-422	Active
	Series 90-30 & 90-70	HMI-CAB-C82	Programming Port, 15-pin Male, RS-422	Active
	Series 90-30 CPU351, 352, 363	HMI-CAB-C120	Program Port, 6-pin Male RJ-11, RS-232	Active
	VersaMax CPU001, 002, 005	HMI-CAB-C111	Program Port, 9-pin Male, RS-232	Active
	VersaMax Nano/Micro	HMI-CAB-C119	Program Port, 8-pin Male RJ-45, RS-232	Active
	Genius	IC754GEN001	Genius Communication Card for QuickPanel View & Control	Active
Mitsubishi	Series A	HMI-CAB-C53	25-pin Male, RS-232	Active
		HMI-CAB-C88	9-pin Male, RS-232	Active
	Series FX	HMI-CAB-C91	25-pin Male, RS-422	Active
Modicon	984 A, B, X	HMI-CAB-C53	25-pin Male, RS-232	Active
	984 Slot and Compact	HMI-CAB-C58	9-pin Male, RS-232	Active
	984 Micro	HMI-CAB-C102	Program Port, 8-pin Male RJ-45, RS-232	Active
Omron	C200H	HMI-CAB-C53	25-pin Male, RS-232	Active
		HMI-CAB-C108	9-pin Male, RS-422	Active
	C20H, CQM1	HMI-CAB-C67	9-pin Male, RS-232	Active
Siemens	500 Series	HMI-CAB-C53	Programming Port, 25-pin Male, RS-232	Active
		HMI-CAB-C101	Programming Port, 9-pin Female, RS-232	Mature
		HMI-CAB-C92	9-pin Male, RS-422	Mature
	TI545-1102	HMI-CAB-C100	Programming Port, 9-pin Female, RS-422	Active
	305 & 405	HMI-CAB-C53	Programming Port, 25-pin Male, RS-232	Active
	S7-200 PPI	HMI-CAB-C110	9-pin Male, RS-422	Active
Square D SY/MAX	SY/MAX Model 100 & greater	HMI-CAB-C94	9-pin Male, RS-422	Active
	SY/MAX Model 50 via link adaptor	HMI-CAB-C53	25-pin Male, RS-232	Active

Accessories

Part Number	Description	Lifecycle Status
IC754PCMCIA001	PCMCIA Adaptor for QuickPanel View	Active
IC754ACC32MEM	Expansion Memory 32 Mbytes	Active
IC754ACC64MEM	Expansion Memory 64 Mbytes	Active
IC754ACC06GAS	Gasket for 6 Inch QuickPanel View	Active
IC754ACC12GAS	Gasket for 12 Inch QuickPanel View	Active
IC754ACC15GAS	Gasket for 15 Inch QuickPanel View	Active
IC754ACC06MNT	Mounting Clips & Power Connector for 6 Inch QuickPanel View	Active
IC754ACC12MNT	Mounting Clips & Power Connector for 12 Inch QuickPanel View	Active
IC754ACC15MNT	Mounting Clips & Power Connector for 15 Inch QuickPanel View	Active
IC754ACC06BEZ01	Stainless Steel Bezel for 6 Inch Mono & TFT-Color QuickPanel View	Active
IC754ACC06BEZ02	Stainless Steel Bezel for 6 Inch STN-Color QuickPanel View	Active
IC754ACC12BEZ01	Stainless Steel Bezel for 12 Inch TFT-Color QuickPanel View	Active
IC754BEZ06GAS	Replacement Gasket for 6 Inch Stainless Steel Bezel	Active
IC754BEZ12GAS	Replacement Gasket for 12 Inch Stainless Steel Bezel	Active
IC754ACC12ADP	Adaptor Kit for 12 Inch QuickPanel View into CEIIx Cut-out	Active
IC754ACC08ADP	Adaptor Kit for 8 Inch QuickPanel View into 9" panel	Active

[†]Consult factory for availability.

QuickPanel View-Europe, Middle East and Africa

GE Intelligent Platforms markets and sells QuickPanel View products that are designed to meet the market needs of companies in Europe, the Middle East and Africa.

QuickPanel View bundled visualization solution provides the tools required for today's application needs. By integrating the QuickPanel family of touch screens with Proficy Machine Edition software, QuickPanel View delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy View – Machine Edition software helps reduce application development time, and connectivity is made easy with a family of serial, Ethernet and Fieldbus interfaces.

Features include:

- Display sizes from 6" to 15"
- Choice of Monochrome, Color-STN, or Color-TFT display
- Microsoft Windows® CE operating system
- Expandable memory and Fieldbus cards[†]
- CompactFlash[†]
- Functions from data collection and trending to system security and alarming
- Built-in web server for access to data, and panels using any standard browser[†]
- Communication over serial, Ethernet, and communication expansion cards[†]
- Multi-language support selectable by the operator when the system is online

- Shared tags for increased productivity – applications developed for QuickPanel View can share tags with other Proficy Machine Edition applications, eliminating the need to enter the data more than once
- Migration of applications developed with QuickDesigner
- Extensive library of pre-configured animation objects
- UL Class 1 Div 2 (A, B, C, D), ATEX Class 1, Zone 2, CE Mark, DNV[†]

[†]Available on select models. See following pages for availability.

Proficy Machine Edition

Proficy Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control and execution logic are developed with a single programmer.

Operator Interfaces pages 4.28-4.32

Communication Hardware and Accessories page 4.33



Publication Reference Chart

GFK-2328	6 Inch QuickPanel View (Euro-Basic) Hardware Reference Guide
GFK-2580	6 Inch QuickPanel View (Basic TFT) Hardware Reference Guide
GFK-2326	6 Inch QuickPanel View (Euro-Intermediate) Hardware Reference Guide
GFK-2305	6 Inch QuickPanel View (Euro-Loaded) Hardware Reference Guide
GFK-2512	8 Inch QuickPanel View Hardware Users Guide
GFK-2306	12 Inch QuickPanel View (Intermediate) Hardware Reference Guide
GFK-2284	12 Inch QuickPanel View (Loaded) Hardware Reference Guide
GFK-2402	15 Inch QuickPanel View (Loaded) Hardware Reference Guide
GFK-2297	Genius I/O Communication Card Hardware Reference Guide
GFK-2270	DeviceNet Master & Slave Communication Card Hardware Reference Guide
GFK-2291	PROFIBUS Slave Communication Card Hardware Reference Guide
GFK-2276	Expanded User Memory Installation Guide
GFK-2368	PCMCIA Adaptor Hardware Reference Guide

Operator Interfaces



Available in a variety of display sizes, the QuickPanel View bundled visualization solution provides the tools required for today's application needs. By integrating the best-selling QuickPanel family of touch screens with award-winning Proficy Machine Edition software, QuickPanel View delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of serial, Ethernet and Fieldbus interfaces.

	IC754VGB06MTD	IC754VHB06MTD	IC754VGB06CTD	IC754VGI06MTD
Product Name	QuickPanel View Display, 6" Monochrome Basic	QuickPanel View Display, 6" Monochrome Basic	QuickPanel View Display, 6" TFT Basic	QuickPanel View Display, 6" Monochrome Intermediate
Lifecycle Status	Active	Active	Active	Active
Display Size	5.7 Inch (Diagonal)	5.7 Inch (Diagonal)	5.7 Inch (Diagonal)	5.7 Inch (Diagonal)
Display Type	Monochrome	Monochrome	6" TFT	Monochrome
Resolution	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels
Memory: DRAM	16 MB	16 MB	16 MB	32 MB
Memory: Expandable	No	No	No	To 96 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	None	None	None	None
Ethernet: LAN #1	Download only	Download only	Download only	10/100 Mbps
Ethernet: LAN #2	None	None	None	None
Communication Expansion	None	None	None	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave
Compact Flash	None	None	None	One, Type 2
Agency Approval	UL/cUL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL/cUL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL/cUL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL/cUL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark
Environmental Rating	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut Out (W x H x D)	156mm x 123.5mm x 51.5mm (6.14" x 4.86" x 2.026") or 200mm x 155mm x 66mm (7.95" x 6.12" x 2.60")	156mm x 123.5mm x 51.5mm (6.14" x 4.86" x 2.026") or 200mm x 155mm x 66mm (7.95" x 6.12" x 2.60")	156mm x 123.5mm x 51.5mm (6.14" x 4.86" x 2.026") or 200mm x 155mm x 66mm (7.95" x 6.12" x 2.60")	156mm x 123.5mm x 51.5mm (6.14" x 4.86" x 2.026") or 200mm x 155mm x 85mm (7.95" x 6.12" x 3.33")
Bezel Dimensions and Depth (W x H x D)	216mm x 170mm x 29mm (8.50" x 6.68" x 1.13") or 216mm x 170mm x 7mm (8.50" x 6.68" x 0.28")	216mm x 170mm x 29mm (8.50" x 6.68" x 1.13") or 216mm x 170mm x 7mm (8.50" x 6.68" x 0.28")	216mm x 170mm x 29mm (8.50" x 6.68" x 1.13") or 216mm x 170mm x 7mm (8.50" x 6.68" x 0.28")	216mm x 170mm x 29mm (8.50" x 6.68" x 1.13") or 216mm x 170mm x 7mm (8.50" x 6.68" x 0.28")
Input Voltage	12 to 30.0 VDC	12 to 30.0 VDC	12 to 30.0 VDC	12 to 30.0 VDC
Power Consumption	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC
Operating Temperature	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)
Operating Humidity	10% to 85% non-condensing	10% to 85% non-condensing	10% to 85% non-condensing	10% to 85% non-condensing
Indicators - LEDs	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)

[†]Consult factory for availability.

Operator Interfaces



Available in a variety of display sizes, the QuickPanel View bundled visualization solution provides the tools required for today's application needs. By integrating the best-selling QuickPanel family of touch screens with award-winning Proficy Machine Edition software, QuickPanel View delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of serial, Ethernet and Fieldbus interfaces.

	IC754VHI06MTD	IC754VGI06STD	IC754VHI06STD	IC754VGI06SKD
Product Name	QuickPanel View Display, 6" Monochrome Intermediate	QuickPanel View Display, 6" STN-Color Intermediate	QuickPanel View Display, 6" STN-Color Intermediate	QuickPanel View Display, 6" STN-Color Intermediate with Keypad
Lifecycle Status	Active	Active	Active	Active
Display Size	5.7 Inch (Diagonal)	5.7 Inch (Diagonal)	5.7 Inch (Diagonal)	5.7 Inch (Diagonal)
Display Type	Monochrome	STN	STN	STN
Resolution	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels
Memory: DRAM	32 MB	32 MB	32 MB	32 MB
Memory: Expandable	To 96 MB	To 96 MB	To 96 MB	To 96 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	N/A	N/A	N/A	N/A
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	N/A	N/A	N/A	N/A
Communication Expansion	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave
Compact Flash	One, Type 2	One, Type 2	One, Type 2	One, Type 2
Agency Approval	UL/cUL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL/cUL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL/cUL - Class 1 Div 2 (A, B, C, D) ATEX Class 1 Zone 2 CE Mark	UL/cUL - Class 1 Div 2 (A, B, C, D) ATEX Class 1 Zone 2 CE Mark
Environmental Rating	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut Out (W x H x D)	156mm x 123.5mm x 70mm (6.14" x 4.86" x 2.76") or 200mm x 155mm x 85mm (7.95" x 6.12" x 3.33")	156mm x 123.5mm x 70mm (6.14" x 4.86" x 2.76") or 200mm x 155mm x 85mm (7.95" x 6.12" x 3.33")	156mm x 123.5mm x 70mm (6.14" x 4.86" x 2.76") or 200mm x 155mm x 85mm (7.95" x 6.12" x 3.33")	302mm x 228mm x 60mm (11.88" x 8.96" x 2.37")
Bezel Dimensions and Depth (W x H x D)	216mm x 170mm x 29mm (8.50" x 6.68" x 1.13") or 216mm x 170mm x 7mm (8.50" x 6.68" x 0.28")	216mm x 170mm x 29mm (8.50" x 6.68" x 1.13") or 216mm x 170mm x 7mm (8.50" x 6.68" x 0.28")	216mm x 170mm x 29mm (8.50" x 6.68" x 1.13") or 216mm x 170mm x 7mm (8.50" x 6.68" x 0.28")	337mm x 263mm x 10mm (13.26" x 10.34" x 0.38")
Input Voltage	12 to 30.0 VDC	12 to 30.0 VDC	12 to 30.0 VDC	12 VDC @ ±20% or 24 VDC @ ±20%
Power Consumption	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC
Operating Temperature	-10 to 60°C (14 to 140°F)	0 to 60°C (32 to 140°F)	0 to 60°C (32 to 140°F)	0 to 50°C (32 to 122°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)
Operating Humidity	10% to 85% non-condensing	10% to 90% non-condensing	10% to 90% non-condensing	10% to 85% non-condensing
Indicators - LEDs	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)

[†]Consult factory for availability.

Operator Interfaces



Available in a variety of display sizes, the QuickPanel View bundled visualization solution provides the tools required for today's application needs. By integrating the best-selling QuickPanel family of touch screens with award-winning Proficy Machine Edition software, QuickPanel View delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of serial, Ethernet and Fieldbus interfaces.

	IC754VGI08CTD	IC754VGI12MTD	IC754VGI12CTD
Product Name	QuickPanel View Display, 8" TFT-Color Intermediate	QuickPanel View Display, 12" Monochrome Intermediate	QuickPanel View Display, 12" TFT-Color Intermediate
Lifecycle Status	Active	Active	Active
Display Size	8.5" (Diagonal)	12.1 Inch (Diagonal)	12.1 Inch (Diagonal)
Display Type	TFT	Monochrome	TFT
Resolution	800 x 600 pixels	800 x 600 pixels	800 x 600 pixels
Memory: DRAM	32 MB	32 MB	32 MB
Memory: Expandable	To 64 MB or 96 MB	To 96 MB	To 96 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	N/A	N/A	N/A
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	N/A	N/A	N/A
Communication Expansion	GE Genius, Data Highway Plus†, DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus†, DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus†, DeviceNet Slave, & PROFIBUS Slave
Compact Flash	One, Type 2	One, Type 2	One, Type 2
Agency Approval	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL/cUL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL/cUL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark
Environmental Rating	NEMA 4/4X, UL50 Type 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut Out (W x H x D)	228mm x 186mm x 77mm (8.97" x 7.34" x 3.03")	302mm x 228mm x 60mm (11.88" x 8.96" x 2.37")	302mm x 228mm x 60mm (11.88" x 8.96" x 2.37")
Bezel Dimensions and Depth (W x H x D)	249mm x 208mm x 9mm (9.8" x 8.18" x 0.35")	337mm x 263mm x 10mm (13.26" x 10.34" x 0.38")	337mm x 263mm x 10mm (13.26" x 10.34" x 0.38")
Input Voltage	10.8 to 30.0 VDC	12 VDC @ ±20% or 24 VDC @ ±20%	12 VDC @ ±20% or 24 VDC @ ±20%
Power Consumption	24W	Less than 48W @ 24 VDC	Less than 48W @ 24 VDC
Operating Temperature	0 to 60°C (32 to 140°F)	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)
Operating Humidity	10% to 90% non-condensing	10% to 85% non-condensing	10% to 85% non-condensing
Indicators - LEDs	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)

†Consult factory for availability.

Operator Interfaces



Available in a variety of display sizes, the QuickPanel View bundled visualization solution provides the tools required for today's application needs. By integrating the best-selling QuickPanel family of touch screens with award-winning Proficy Machine Edition software, QuickPanel View delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of serial, Ethernet and Fieldbus interfaces. Full-featured QuickPanel View modules take Operator Interface products to an entirely new level of openness. A built-in web server provides access to data and graphics using any standard browser.

	IC754VGL06MTD	IC754VHL06MTD	IC754VGL06CTD	IC754VHL06CTD
Product Name	QuickPanel View Display, 6" Mono Loaded	QuickPanel View Display, 6" Mono Loaded	QuickPanel View Display, 6" TFT-Color Loaded	QuickPanel View Display, 6" TFT-Color Loaded
Lifecycle Status	Active	Active	Active	Active
Display Size	5.7 Inch (Diagonal)	5.7 Inch (Diagonal)	5.7 Inch (Diagonal)	5.7 Inch (Diagonal)
Display Type	Monochrome	Monochrome	TFT	TFT
Resolution	320 x 240 pixels	320x240	320 x 240 pixels	320 x 240 pixels
Memory: DRAM	32 MB	32 MB	32 MB	32 MB
Memory: Expandable	N/A	N/A	To 96 MB	To 96 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	RS232	RS232	RS232	RS232
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	N/A	N/A	N/A	N/A
Communication Expansion	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave
Compact Flash	One, Type 2	One, Type 2	One, Type 2	One, Type 2
Agency Approval	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark
Environmental Rating	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/12/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut Out (W x H x D)	156mm x 123.5mm x 70mm (6.14" x 4.86" x 2.76") or 200mm x 155mm x 85mm (7.95" x 6.12" x 3.33")	156mm x 123.5mm x 70mm (6.14" x 4.86" x 2.76") or 200mm x 155mm x 85mm (7.95" x 6.12" x 3.33")	156mm x 123.5mm x 70mm (6.14" x 4.86" x 2.76") or 200mm x 155mm x 85mm (7.95" x 6.12" x 3.33")	156mm x 123.5mm x 70mm (6.14" x 4.86" x 2.76") or 200mm x 155mm x 85mm (7.95" x 6.12" x 3.33")
Bezel Dimensions and Depth (W x H x D)	216mm x 170mm x 29mm (8.50" x 6.68" x 1.13") or 216mm x 170mm x 7mm (8.50" x 6.68" x 0.28")	216mm x 170mm x 29mm (8.50" x 6.68" x 1.13") or 216mm x 170mm x 7mm (8.50" x 6.68" x 0.28")	216mm x 170mm x 29mm (8.50" x 6.68" x 1.13") or 216mm x 170mm x 7mm (8.50" x 6.68" x 0.28")	216mm x 170mm x 29mm (8.50" x 6.68" x 1.13") or 216mm x 170mm x 7mm (8.50" x 6.68" x 0.28")
Input Voltage	12 to 30.0 VDC	12 to 30.0 VDC	12 to 30.0 VDC	12 to 30.0 VDC
Power Consumption	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC	Less than 24W @ 24 VDC
Operating Temperature	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)
Operating Humidity	10% to 85% non-condensing	10% to 85% non-condensing	5% -90% non-condensing	5% -90% non-condensing
Indicators - LEDs	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)

[†]Consult factory for availability.

Operator Interfaces



Available in a variety of display sizes, the QuickPanel View bundled visualization solution provides the tools required for today's application needs. By integrating the best-selling QuickPanel family of touch screens with award-winning Proficy Machine Edition software, QuickPanel View delivers flexible, scalable performance on a rugged hardware platform. The intuitive environment of Proficy View - Machine Edition software helps reduce application development time, and connectivity is made easy with a family of serial, Ethernet and Fieldbus interfaces. Full-featured QuickPanel View modules take Operator Interface products to an entirely new level of openness. A built-in web server provides access to data and graphics using any standard browser.

	IC754VGF08CTD	IC754VGF12CTD	IC754VGF15CTD
Product Name	QuickPanel View Display, 8" TFT-Color Loaded	QuickPanel View Display, 12" TFT-Color Loaded	QuickPanel View Display, 15" TFT-Color Loaded
Lifecycle Status	Active	Active	Active
Display Size	8.5" (Diagonal)	12.1 Inch (Diagonal)	15.1 Inch (Diagonal)
Display Type	TFT	TFT	TFT
Resolution	800 x 600 pixels	800 x 600 pixels	1024 x 768 pixels
Memory: DRAM	64 MB	64 MB	64 MB
Memory: Expandable	To 96 MB or 128 MB	To 96 MB or 128 MB	128 MB
Serial: Com #1	RS232/RS485	RS232/RS485	RS232/RS485
Serial: Com #2	RS232	RS232	RS232
Ethernet: LAN #1	10/100 Mbps	10/100 Mbps	10/100 Mbps
Ethernet: LAN #2	None	10/100 Mbps	10/100 Mbps
Communication Expansion	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave	GE Genius, Data Highway Plus [†] , DeviceNet Slave, & PROFIBUS Slave
Compact Flash	One, Type 2	One, Type 2	One, Type 2
Agency Approval	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark	UL - Class 1 Div 2 (A, B, C, D) ATEX - Class 1 Zone 2 CE Mark
Environmental Rating	NEMA 4/4X, UL50 Type 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure	NEMA 4/4X, IP65 when properly mounted in an IP65 rated enclosure
Panel Cut Out (W x H x D)	228mm x 186mm x 77mm (8.97" x 7.34" x 3.03")	302mm x 228mm x 60mm (11.88" x 8.96" x 2.37")	379mm x 305mm x 71mm (14.93" x 12.03" x 2.78")
Bezel Dimensions and Depth (W x H x D)	249mm x 208mm x 9mm (9.8" x 8.18" x 0.35")	337mm x 263mm x 10mm (13.26" x 10.34" x 0.38")	399mm x 323mm x 10mm (15.70" x 12.73" x 0.40")
Input Voltage	10.8 to 30.0 VDC	12 VDC @ ±20% or 24 VDC @ ±20%	12 VDC @ ±20% or 24 VDC @ ±20%
Power Consumption	24W	Less than 48W @ 24 VDC	Less than 60W @ 24 VDC
Operating Temperature	0 to 60°C (32 to 140°F)	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-20 to 70°C (-4 to 158°F)	-20 to 60°C (-4 to 140°F)
Operating Humidity	10% to 85% non-condensing	10% to 85% non-condensing	10% to 85% non-condensing
Indicators - LEDs	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)	bi-color (pwr), tri-color (user)

[†]Consult factory for availability.

QuickPanel View Communication Hardware

PLC Manufacturer	PLC Type	Part Number	Description	Lifecycle Status
Allen Bradley	SLC500, 5/01, 5/02, 5/03	HMI-CAB-C83	DH-485 Program Port, 8-pin RJ-45 Male, RS-422, No simultaneous connection to program port	Active
		HMI-CAB-C84	DH-485 Program Port, 8-pin RJ-45 Male, RS-422, with simultaneous connection to program port	Active
	SLC5/03, 5/04, ControlLogix PLC-5	HMI-CAB-C52	Channel 0, 9-pin Female, RS-232	Active
		HMI-CAB-C51	KF2 Module, 25-pin Female, RS-232	Active
		HMI-CAB-C53	Channel 0, 25-pin Male, RS-232	Active
		HMI-CAB-C55	KE Module, 15-pin Male, RS-232	Active
		HMI-CAB-C107	DF1, 25-pin Male, RS-422	Active
	MicroLogix	HMI-CAB-C106	DF1, 8-pin Circular DIN, RS-232	Active
	Data Highway Plus	IC754ABD001	Data Highway Plus communication card for QuickPanel View [†]	Active
	Automation Direct	DL205 & DL305	HMI-CAB-C86	Programming Port, 6-pin Modular Male, RS-232
DL305 & DL405		HMI-CAB-C103	Programming Port, 4-pin Modular Male, RS-232	Mature
DL305 & DL405 w/ 25-pin comm. port		HMI-CAB-C53	Programming Port, 25-pin Male, RS-232	Active
Fieldbus	DeviceNet	IC754DVNS01	DeviceNet Slave Communication Card for QuickPanel View	Active
	PROFIBUS	IC754PBSS01	PROFIBUS Slave Communication Card for QuickPanel View	Active
GE	Series 90 CMM Module	HMI-CAB-C53	25-pin Male, RS-232	Active
		HMI-CAB-C93	25-pin Male, RS-422	Active
	Series 90-30 & 90-70	HMI-CAB-C82	Programming Port, 15-pin Male, RS-422	Active
	Series 90-30 CPU351, 352, 363	HMI-CAB-C120	Program Port, 6-pin Male RJ-11, RS-232	Active
	VersaMax CPU001, 002, 005	HMI-CAB-C111	Program Port, 9-pin Male, RS-232	Active
	VersaMax Nano/Micro	HMI-CAB-C119	Program Port, 8-pin Male RJ-45, RS-232	Active
	Genius	IC754GEN001	Genius Communication Card for QuickPanel View & Control	Active
Mitsubishi	Series A	HMI-CAB-C53	25-pin Male, RS-232	Active
		HMI-CAB-C88	9-pin Male, RS-232	Active
	Series FX	HMI-CAB-C91	25-pin Male, RS-422	Active
Modicon	984 A, B, X	HMI-CAB-C53	25-pin Male, RS-232	Active
	984 Slot and Compact	HMI-CAB-C58	9-pin Male, RS-232	Active
	984 Micro	HMI-CAB-C102	Program Port, 8-pin Male RJ-45, RS-232	Active
Omron	C200H	HMI-CAB-C53	25-pin Male, RS-232	Active
		HMI-CAB-C108	9-pin Male, RS-422	Active
	C20H, CQM1	HMI-CAB-C67	9-pin Male, RS-232	Active
Siemens	500 Series	HMI-CAB-C53	Programming Port, 25-pin Male, RS-232	Active
		HMI-CAB-C101	Programming Port, 9-pin Female, RS-232	Mature
		HMI-CAB-C92	9-pin Male, RS-422	Mature
	TI545-1102	HMI-CAB-C100	Programming Port, 9-pin Female, RS-422	Active
	305 & 405	HMI-CAB-C53	Programming Port, 25-pin Male, RS-232	Active
	S7-200 PPI	HMI-CAB-C110	9-pin Male, RS-422	Active
Square D SY/MAX	SY/MAX Model 100 & greater	HMI-CAB-C94	9-pin Male, RS-422	Active
	SY/MAX Model 50 via link adaptor	HMI-CAB-C53	25-pin Male, RS-232	Active

Accessories

Part Number	Description	Lifecycle Status
IC754PCMCIA001	PCMCIA Adaptor for QuickPanel View	Active
IC754ACC32MEM	Expansion Memory 32 Mbytes	Active
IC754ACC64MEM	Expansion Memory 64 Mbytes	Active
IC754ACC06GASE	Gasket for 6 Inch QuickPanel View	Active
IC754ACC12GAS	Gasket for 12 Inch QuickPanel View	Active
IC754ACC15GAS	Gasket for 15 Inch QuickPanel View	Active
IC754ACC06MNTE	Mounting Clips & Power Connector for 6 Inch QuickPanel View	Active
IC754ACC12MNT	Mounting Clips & Power Connector for 12 Inch QuickPanel View	Active
IC754ACC15MNT	Mounting Clips & Power Connector for 15 Inch QuickPanel View	Active
IC754ACC06BEZ01	Stainless Steel Bezel for 6 Inch Mono & TFT-Color QuickPanel View	Active
IC754ACC06BEZ02	Stainless Steel Bezel for 6 Inch STN-Color QuickPanel View	Active
IC754ACC12BEZ01	Stainless Steel Bezel for 12 Inch TFT-Color QuickPanel View	Active
IC754BEZ06GAS	Replacement Gasket for 6 Inch Stainless Steel Bezel	Active
IC754BEZ12GAS	Replacement Gasket for 12 Inch Stainless Steel Bezel	Active
IC754ACC12ADP	Adaptor Kit for 12 Inch QuickPanel View into CEIIx Cutout	Active
IC754ACC08ADP	Adaptor Kit for 8 Inch QuickPanel View into 9" panel	Active

[†]Consult factory for availability.

Motion Controllers	5.3
PACMotion.....	5.3
Servo Amplifiers	5.17
VersaMotion Series.....	5.18
αi and βi Series.....	5.36
Servo Motors	5.51
αi Series.....	5.53
βi Series.....	5.65
Motion Software	5.83
Servo Sizing Software	5.83

FANUC Digital Servos



βi SERIES

Motors (cont-peak torque)

- β0.4/5000is (0.4-1 Nm)
- β0.5/6000is (0.65-2.5 Nm)
- β1/6000is (1.2-5 Nm)
- β2/4000is (2-7 Nm)
- β4/4000is (3.5-10 Nm)
- β8/3000is (7-15 Nm)
- β12/3000is (11-27 Nm)
- β22/2000is (20-45 Nm)

Amplifier Kits

- IC800BIK020
- IC800BIK020
- IC800BIK020
- IC800BIK040
- IC800BIK040

Encoder Cables

(Straight x=0; Right Angle x=7)

- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0140-AZ (14m)
- CFDA-xWPB-0140-AZ (14m)
- CFDA-xWPB-0140-AZ (14m)
- CFDA-xWPB-0140-AZ (14m)
- CFDA-xWPB-0140-AZ (14m)
- CFDA-xWPB-0140-AZ (14m)

Power Cables

(Standard x=P; Shielded x=E)

- CP8B-1WxB-0070-AZ (7m)
- CP3B-0WxB-0070-AZ (7m)
- CP5B-0WxB-0070-AZ (7m)
- CP6B-0WxB-0070-AZ (7m)
- CP8B-1WxB-0140-AZ (14m)
- CP3B-0WxB-0140-AZ (14m)
- CP5B-0WxB-0140-AZ (14m)
- CP6B-0WxB-0140-AZ (14m)

Power & Brake Cable

(Standard x=P; Shielded x=E)

- CP9B-0WxB-0070-AZ (7m)
- CP9B-0WxB-0140-AZ (14m)

Brake Cables (Optional)

- CB6N-5WPM-0070-AZ (7m)
- CB4N-0WPM-0070-AZ (7m)
- CB4N-0WPM-0070-AZ (7m)
- CB4N-0WPM-0070-AZ (7m)
- CB6N-5WPM-0140-AZ (14m)
- CB4N-0WPM-0140-AZ (14m)
- CB4N-0WPM-0140-AZ (14m)
- CB4N-0WPM-0140-AZ (14m)

Encoder Battery (Optional)

Built-In (I-axis) Panel Mounted*

- IC800BBK021 IC800ABK001
- IC800BBK021 IC800ABK001
- IC800BBK021 IC800ABK001
- IC800BBK021 IC800ABK001
- IC800BBK021 IC800ABK001

βHVi SERIES

Motors (cont-peak torque)

- β2/4000is (2-7 Nm)
- β4/4000is (3.5-10 Nm)
- β8/3000is (7-15 Nm)
- β12/3000is (11-27 Nm)
- β22/2000is (20-45 Nm)

Amplifier Kits

- IC800BIHV010
- IC800BIHV010
- IC800BIHV020
- IC800BIHV020

Encoder Cables

(Straight x=0; Right Angle x=7)

- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0140-AZ (14m)
- CFDA-xWPB-0140-AZ (14m)
- CFDA-xWPB-0140-AZ (14m)

Power Cables

(Standard x=P; Shielded x=E)

- CP3I-0WxB-0070-AZ (7m)
- CP3I-0WxB-0070-AZ (7m)
- CP4I-0WxB-0070-AZ (7m)
- CP3I-0WxB-0140-AZ (14m)
- CP3I-0WxB-0140-AZ (14m)
- CP4I-0WxB-0140-AZ (14m)

Power & Brake Cable

(Standard x=P; Shielded x=E)

- CP2I-0WxB-0070-AZ (7m)
- CP2I-0WxB-0140-AZ (14m)

Brake Cables (Optional)

- CB4N-0WPM-0070-AZ (7m)
- CB4N-0WPM-0070-AZ (7m)
- CB4N-0WPM-0070-AZ (7m)
- CB4N-0WPM-0140-AZ (14m)
- CB4N-0WPM-0140-AZ (14m)

Encoder Battery (Optional)

- IC800BBK021
- IC800BBK021
- IC800BBK021
- IC800BBK021

αHVi SERIES

Motors (cont-peak torque)

- α2/6000HVis (2-6 Nm)
- α2/6000HVis (2-6 Nm)
- α4/5000HVis (4-8.8 Nm)
- α4/5000HVis (4-8.8 Nm)
- α8/6000HVis (8-22 Nm)
- α8/6000HVis (8-22 Nm)
- α12/4000HVis (12-46 Nm)
- α12/4000HVis (12-46 Nm)
- α22/4000HVis (22-70 Nm)
- α30/4000HVis (30-100 Nm)
- α40/4000HVis (40-115 Nm)
- α50/3000HVis (75-215 Nm)

Amplifier Kits

- IC800BIHV010
- IC800BIHV040
- IC800AIHV010
- IC800AIHV040
- IC800AIHV080
- IC800AIHV180

Dynamic Braking Module

- ZA06B-6079-H401

Encoder Cables

(Straight x=0; Right Angle x=7)

- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0070-AZ (7m)
- CFDA-xWPB-0140-AZ (14m)
- CFDA-xWPB-0140-AZ (14m)
- CFDA-xWPB-0140-AZ (14m)
- CFDA-xWPB-0140-AZ (14m)
- CFDA-xWPB-0140-AZ (14m)

Power Cables

(Standard x=P; Shielded x=E)

- CP2I-0WxB-0070-AZ (7m)
- CP2I-0WxB-0070-AZ (7m)
- CP3I-0WxB-0070-AZ (7m)
- CP3I-0WxB-0070-AZ (7m)
- CP4I-0WxB-0070-AZ (7m)
- CP9I-0MxB-0070-AZ (7m)
- CP2I-0WxB-0140-AZ (14m)
- CP2I-0WxB-0140-AZ (14m)
- CP3I-0WxB-0140-AZ (14m)
- CP3I-0WxB-0140-AZ (14m)
- CP4I-0WxB-0140-AZ (14m)
- CP4I-0WxB-0140-AZ (14m)
- CP9I-0MxB-0140-AZ (14m)

Brake Cables (Optional)

- CB4N-0WPM-0070-AZ (7m)
- CB4N-0WPM-0070-AZ (7m)
- CB4N-0WPM-0070-AZ (7m)
- CB4N-0WPM-0070-AZ (7m)
- CB4N-0WPM-0140-AZ (14m)
- CB4N-0WPM-0140-AZ (14m)
- CB4N-0WPM-0140-AZ (14m)

Encoder Battery (Optional)

Built-In (I-axis) Panel Mounted*

- IC800BBK021 IC800ABK001
- IC800BBK021 IC800ABK001
- IC800ABK002 IC800ABK001
- IC800ABK002 IC800ABK001
- IC800ABK003 IC800ABK001
- IC800ABK003 IC800ABK001

Power Supply Kits†

- IC800PSHV011 (11kW)
- IC800PSHV018 (18kW)
- IC800PSHV030 (30kW)
- IC800PSHV045 (45kW)

NOTE: Color coding indicates compatible product matches and applies to products within a specific series.

* Each panel mounted battery pack can support up to 6 encoders
 † One PSM power supply can support up to six αHV_i amplifiers depending on the motor ratings. The power supply must be sized to match to system power requirements. See the section "Selecting a Power Supply" on page 50.

Motion Controllers

PACMotion Series

The PACMotion multi-axis motion controller, matched with world class FANUC digital servos, is designed to deliver unsurpassed machine productivity required for today's high-speed machines and lean manufacturing environments. Hosted by the powerful PACSystems RX3i controller, PACMotion is part of a complete automation control solution.



Feature	PACMotion
Architecture	PAC-based
Number of Axes	Up to 4 FANUC Digital Servos Up to 2 analog servos
Dedicated Master Axis	Virtual or Incremental Encoder
Servo Command Interface	Fiberoptic (FANUC Servos) Analog Velocity/Torque
Position Feedback Type	Serial Encoder; Quad Encoder (analog)
Motor Feedback Resolution (counts/rev)	64K, 128K, 1M (FANUC Servos)
Motion Logic Program	Interrupt Driven Task in PAC
PAC/PLC High Speed Interrupts	3 (time or event)
Motion Program	Integrated Function Blocks or Structured Text
Motion Types	
Incremental Moves	Yes
Absolute Moves	Yes
Synchronized Start	Up to 8 axes
Delayed Start	Up to 8 axes
Superimposed Motion	Yes
Jogging	Yes
Homing	Yes
Acc/Dec	Linear/ Programmable Jerk
Cam Function	Advanced
Cam Queuing	Yes
Cam Scaling	Master and Slave
Cam Phase Correction	Yes
Normalized Cam Profiles	Yes
Dynamic Cam Profile Changes	Yes
Cam Curve Fitting	1/2/3/5th order
Ramping onto Cam Profile	Yes
Number of Cam Profiles	2048
Electronic Gearing (Follower)	Advanced
Digital Cam Switch	4 High Speed Outputs
Shortest Path Absolute Moves	Yes
Move Queuing and Blending	Advanced
Master/Slave Configuration	Up to 40 Axes over PLC Backplane

PACMotion

PACMotion

The PACMotion controller is a versatile servo motion controller that combines the benefits of a highly integrated motion and machine logic solution with the performance, flexibility and scalability required for advanced machine automation. PACMotion is designed to deliver unsurpassed machine productivity required for today's high-speed machines and lean manufacturing environments. The 4-axis servo motion controller is built on a high performance hardware platform, with a new enhanced motion engine, operating system, and open standard integrated programming paradigm. Add to that world class reliability of FANUC servos and you have a motion system designed to give you the best productivity and accuracy possible.



Performance to Improve Machine Productivity

- Real-time synchronization of up to 40 axes
- Three high speed time-based or event-driven interrupts enable fast deterministic event response and synchronization
- Demand-driven data exchange model between the PACSystems RX3i CPU and PACMotion modules may significantly reduce scan time impact
- Digital cam switch (PLS) function with multi-track high-speed outputs with microsecond level response
- Reduced downtime with industry leading FANUC servos featuring MTBF ratings in excess of 400,000 hours
- Low MTTR FANUC servos require no tuning or parameter setting; over 5 million axes sold

Open and Integrated to Improve Engineering Productivity

- Single software development environment with shared tag database for logic, motion, I/O and operator interface
- Motion and machine logic in a common program greatly simplifies programming
- Motion function blocks and state model designed to comply with the PLCOpen programming standard to reduce learning curve and training costs
- Buffer mode allows program logic to queue motion command sequences and specify or change the velocity transition between buffered moves on-the-fly
- Advanced diagnostic tools included in Proficy software speed diagnostics and machine time to market

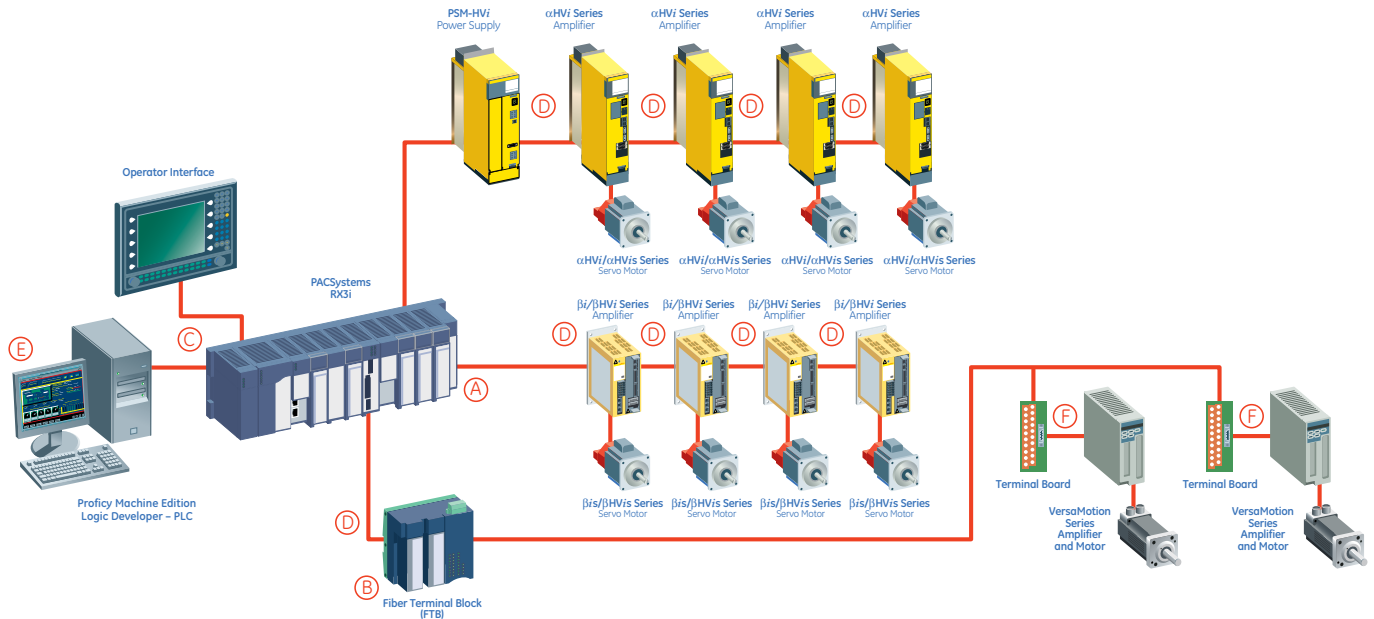
Flexibility and Scalability

- Four servo axes per module; Up to 40 axes in a single PACSystems RX3i rack
- Built-in faceplate I/O and optional fiber I/O terminal block supports extensive user configurable digital and analog I/O
- Amplifiers and motion I/O can be physically distributed using noise immune fiber optic interfaces
- Virtual (time-based) or real (encoder) master axes over the backplane support advanced cam and electronic gearing applications for flexible electronic line shaft applications

PACMotion

Each PACMotion module can control up to 4 axes of FANUC β i, β HVi or α HVi servos via a fiber optic command interface for superior noise immunity, especially in distributed systems. By combining the versatility of the GE PACSystems RX3i and QuickPanel operator interface products, GE provides customers with a complete integrated machine control solution. This single-source system results in such benefits as ease of integration and programming, shorter development cycles, and higher reliability.

PACMotion System Configuration



	Part Number	Description
A Motion Controller	IC695PMM335	PACMotion Motion Controller for RX3i
B Motion I/O Expansion	IC695FTB001	Optional Fiber Terminal Block (without terminal headers)
	IC695FTB1B032	Optional Fiber I/O Terminal Block (with screw terminal headers)
	IC695FTB1S032	Optional Fiber I/O Terminal Block (with spring clip terminal headers)
	IC695FTB1B132	Optional Fiber I/O Terminal Block (with extended shroud screw terminal headers)
	IC695FTB1S132	Optional Fiber I/O Terminal Block (with extended shroud spring clip terminal headers)
C Communication Cable	IC693CBL316	Serial Cable for Programming - 3m (1 per system)
D Fiber Optic Cables	ZA66L-6001-0023#L150R0	FSSB and FTB I/O Cable 0.15 Meter
	ZA66L-6001-0023#L300R0	FSSB and FTB I/O Cable 0.3 Meter
	ZA66L-6001-0023#L1R003	FSSB and FTB I/O Cable 1 Meter
	ZA66L-6001-0023#L2R003	FSSB and FTB I/O Cable 2 Meter
	ZA66L-6001-0023#L3R003	FSSB and FTB I/O Cable 3 Meter
	ZA66L-6001-0026#L1R003	FSSB and FTB I/O Cable Sheathed, 1 Meter
	ZA66L-6001-0026#L3R003	FSSB and FTB I/O Cable Sheathed, 3 Meter
	ZA66L-6001-0026#L5R003	FSSB and FTB I/O Cable Sheathed, 5 Meter
	ZA66L-6001-0026#L10R03	FSSB and FTB I/O Cable Sheathed, 10 Meter
	ZA66L-6001-0026#L20R03	FSSB and FTB I/O Cable Sheathed, 20 Meter
	ZA66L-6001-0026#L30R03	FSSB and FTB I/O Cable Sheathed, 30 Meter
	ZA66L-6001-0026#L50R03	FSSB and FTB I/O Cable Sheathed, 50 Meter
	ZA66L-6001-0026#L100R3	FSSB and FTB I/O Cable Sheathed, 100 Meter
E Proficy Programming Software	IC646MPP001	Logic Developer PLC Professional without GlobalCare. Complete with Software key
	IC646MBP001	Machine Edition Professional Development Suite without GlobalCare. Complete with Software key
F VersaMotion Interface	IC800VTBC005	I/O breakout terminal board and 0.5 meter cable (1 per VersaMotion axis)

APPLICATIONS

- High-speed printing
- Packaging systems
- High-speed assembly
- Woodworking machinery
- Automotive assembly
- Material handling
- Web handling applications
- Infeed conveyors
- Labeling
- Filling

PACMotion

PACMotion Controller Features

- Fast motion path (1ms) planning and position update rates (500µs) deliver improved accuracy and faster response to changing control requirements
- Unlike most PLC-based motion, PACMotion delivers consistent motion update rate regardless of the number of axes
- High reliability FANUC servos improve machine uptime
- High speed synchronization of up to 40 axis over the PACSystems RX3i backplane
- Advanced cam and gearing features for electronic line shaft applications
- Single software development environment for complete automation control solution simplifies programming
- Distributed architecture for greater machine flexibility—up to 100 meters between axes using noise immune fiber cables
- Optional Fiber Terminal Block allows distributed motion centric I/O to reduce wiring complexity and cost
- Two high-speed position capture inputs per axis for registration and sequence control

Unlimited master/slave synchronization of any axis to any other axis over the PACSystems RX3i backplane

Synchronized or delayed start of up to any 8 axes

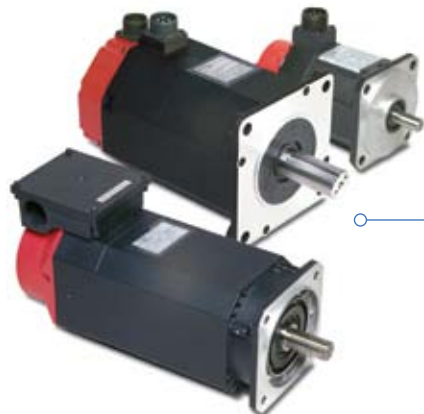
Optional Fiber Terminal Block I/O

- DIN rail mounting
- Remote mount up to 100 meters
- 5V/24V/Analog I/O
- Unique ID prevents connection to wrong PACMotion module
- Configurable I/O functions can be assigned to each point
- Connection for up to 5 incremental encoders without marker or 4 encoders with marker pulse

Axis and Status LEDs

- Hot-swap module in PACSystems RX3i rack
- Fiber optic servo interface (up to 4 axes)
- 8 on-board 24V I/O
- Fiber optic I/O interface

High density plug-on wiring headers available with spring clip or screw terminals and extended shroud (ordered separately)



βi and βHVi Servos

- 0.4 to 22 Nm cont. torque range
- 230 and 460 VAC models
- Noise immune fiber optic interface
- Absolute feedback with optional battery
- 64K or 128K count/rev serial encoder
- Optional holding brake

αHVi and αHVIs Series Servos

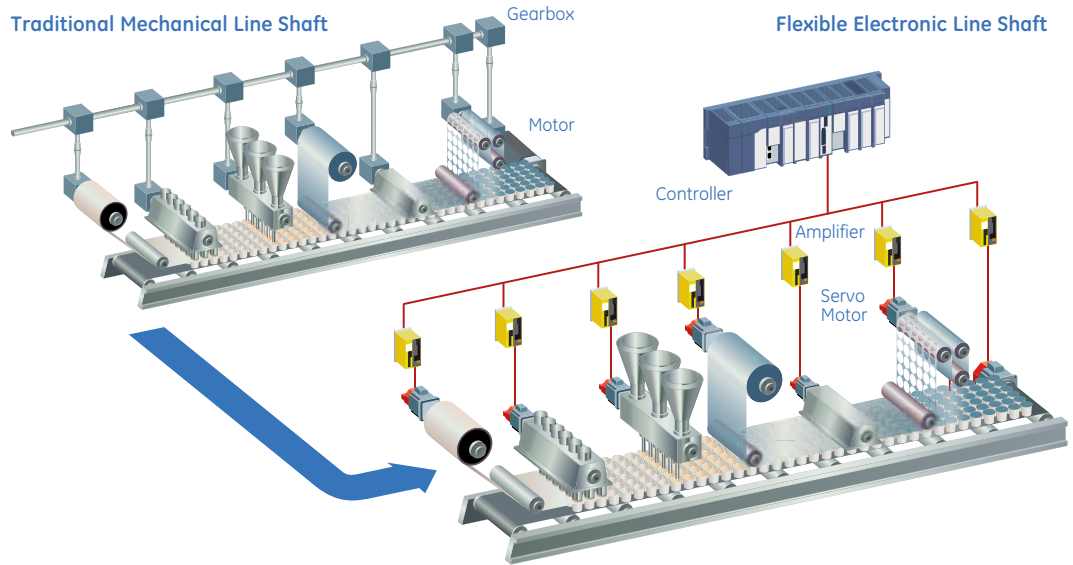
- 2 to 140 Nm cont. torque range
- 460 VAC line regenerative power supplies
- Noise immune fiber optic interface
- Absolute feedback with optional battery
- 1M count/rev serial encoder
- Optional holding brake

PACMotion

Packaging

Faster product turnover, greater variability and shorter production runs are at the heart of some key packaging machinery automation trends in industries such as pharmaceutical, food and beverage and consumer packaged goods. Today's automation systems must provide the flexibility and scalability to keep pace with this explosion of new product introductions, while delivering higher speed, accuracy and reliability to boost line productivity and asset utilization. End users and OEMs alike are now choosing innovation over supplier standardization in order to optimize machine performance. Partnering with automation suppliers who offer complete integrated control solutions can speed time to market and reduce development and deployment costs. Third generation packaging machines demand the PACMotion advantage...high performance multi-axis motion control tightly integrated with a Process Automation Controller (PAC), operator interface and extensive communications options all tied by one powerful software environment... PACMotion delivers.

- Form, fill and seal
- Smart conveyors
- Cartoning
- Wrapping
- Filling and capping
- High speed labeling
- Sorting/Diverting



Printing

Many of the trends driving automation changes in the packaging industry are mirrored by the printing industry. Shorter print runs with greater product variability require flexible, modular machine configurations, higher production speeds while maintaining accurate registration and quick start-up and changeover.

Shaftless press designs offer mechanical simplicity, reduced noise levels, improved flexibility and high reliability to reduce total cost of ownership. PACMotion is part of a complete automation system that tightly integrates line control, motion and operator interface functions in a single software environment, reducing the design cycle for new press designs or line retrofits. PACMotion delivers the performance and scalability required by today's printing lines.

- Flexographic
- Gravure
- Offset
- Winders/Unwinders
- Laminators
- Registration
- Dryer control
- Infeed rollers
- Draw rollers



PACMotion

Material Handling and High-Speed Assembly

Price pressure, smaller products and shorter life cycles in automotive, medical and electronic products require lean manufacturing lines with the flexibility to allow assemblers to reduce time to market for new products and build many product variations on the same line.

Smaller products require automation and motion control systems that can meet the increased assembly precision at ever increasing production speeds. System reliability is a crucial element to maintaining the high production rates necessary to reduce total cost per assembly.

PACMotion is part of a complete automation system that tightly integrates material handling and assembly line control, motion and operator interface functions in a single software environment, improving engineering productivity and delivering faster time to market. PACMotion delivers the precision and flexibility to meet demanding assembly and handling challenges.

- Engine/Transmission Assembly
- Transfer Lines
- Test Stands
- Rotary Dial Tables
- Electronic Assembly
- Adhesive Dispensing
- Smart Conveyors
- Baggage Handling Systems



Converting and Web Handling

Increasing line speed while reducing scrap is a critical factor in maintaining a competitive edge in the web handling and material converting applications. Greater product variability requires flexible modular control systems that enable instant changeover from one product run to the next. Adjusting for different web widths, repositioning edge guides and slitter position, changing cut length, and rewind tension must be fast and accurate. Servo control technology replaces traditional mechanical adjustments, allowing for precise and repeatable adjustments. Programmable jerk control reduces web breaks and film stretching while high servo response ensures fast corrections to web disturbances. PACMotion is part of an integrated automation system for device and I/O control, motion and operator interface to facilitate efficient programming and powerful diagnostics in a single software environment.

- Laminating
- Carton Folding
- Rotary Die Cutting
- Folder/Gluers
- Unwinders/Rewinders
- Slitter Positioning

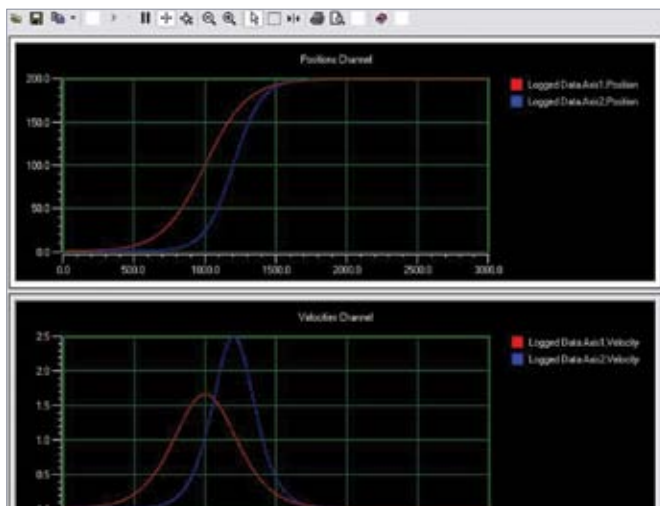
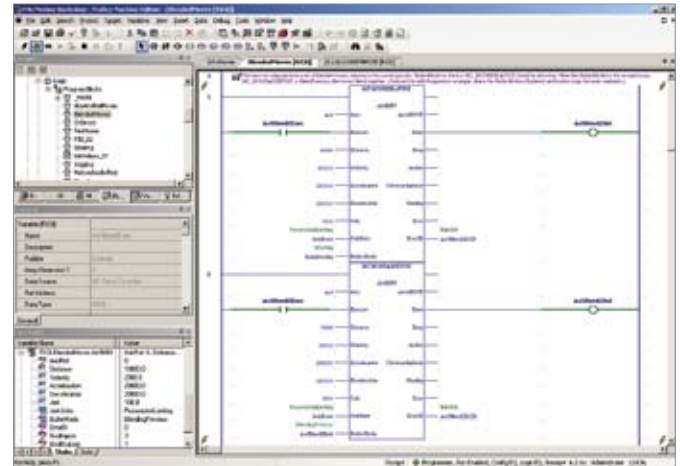


PACMotion

Open and Integrated to Improve Engineering Productivity

Synchronization of separate motion and logic programs and the lack of open motion programming standards can present a challenge even for simple motion applications. Proficy Machine Edition provides one tool for control, view, and motion and provides one universal engineering development environment for all programming, configuration, and diagnostics, resulting in faster time to solution, reduced training, and more compact, efficient design. The high level of PACMotion integration with the RX3i platform can significantly reduce system engineering and commissioning costs:

- Motion and machine logic in a common program greatly simplifies programming
- Motion function blocks and state model designed to comply with the PLCopen programming standard, reduce learning curve and training costs
- Buffer mode allows program logic to queue motion command sequences and specify or change the velocity transition between buffered moves on-the-fly
- All Proficy Machine Edition components— view, logic, and motion— share a common database and common objects across applications, including logic, scripts, and animation. Once a variable is created, it can easily be used in all other domains of the application.
- Proficy Machine Edition components share common development tools such as a common user interface, drag-and-drop editing, and takes full advantage of industry-standard technologies like MEL, COM/DOM, OPC and ActiveX.
- Proficy Machine Edition supports IEC languages such as Relay Ladder, Instruction List, Structured Text, Function Block, and SFC programming. In addition, C programming and Open Process are available.



Powerful Diagnostic Tools

The Data Logger supports the high-speed capture of up to 48 parameters per PACMotion module.

- Logging session can be single shot or continuous
- Sample rates as fast as 500 μs
- Data collection can be set to start based on a trigger event
- Captured data is stored as PLC files and can be archived or viewed using the Data Logger Window

The Diagnostic Logic Block is a separate program that runs independently of the main application program.

- Uses the standard Ladder editor
- Can be executed with the PLC in the Run or Stop I/O Enabled mode
- Library of DLBs can be reused for functions such as machine troubleshooting, servo tuning, data logging, etc.
- DLBs can be saved as toolchest objects
- Program code can be cut/pasted between a DLB and the main program providing a convenient way to test new code segments

PACMotion

PACMotion Module Specifications

Specification	Details	Comments
Motion Path Planning	1 ms	Consistent update regardless of the number of axes in the system
Position Loop Update Rate	500 μ s	All axes in the RX3i rack are updated simultaneously
Velocity Loop Update Rate*	125 μ s	All axes in the RX3i rack are updated simultaneously
Torque Loop Update Rate*	62.5 μ s	All axes in the RX3i rack are updated simultaneously
Controlled Axes/Module	4	β i, β HVi or α HVi series servos are supported via a fiber optic interface
	2	VersaMotion or third party servos via 10Vdc analog velocity or torque command interface
Master Axes/Module	1	Can be a virtual time-based or incremental encoder master
Servo Command Interface	Fiber Optic	50 Mb/s FANUC Serial Servo Bus (FSSB)
FSSB Cable Length	max. 100 meters between nodes	400 meters maximum for a 4 axis system
Maximum Axes per RX3i:		
DC Power Supplies	40 + 10 master axes	Requires 16 slot backplane, CPU and 4 DC power supplies
AC Power Supplies	32 + 8 master axes	Requires 16 slot backplane, CPU and 3 AC power supplies
Position Resolution:		
α HVi Series	1,048,576 counts/rev	—
β i and β HVi Series	65,536 or 131,072 counts/rev	β 2i and larger motors support the higher resolution
Analog Axes	10,000 counts/rev	VersaMotion servo resolution (third party servo resolution dependent on feedback used)
Feedback Type	Incremental/Absolute Serial Encoder	Optional battery backup required for absolute feedback mode
Faceplate I/O:		
24V General Purpose Inputs	4 optically isolated; source/sink	—
24V High-Speed Inputs	2 optically isolated; source/sink	Open circuit detection; can be used to connect a quadrature master encoder (500 kHz max)
24V General Purpose Inputs/Outputs	2 optically isolated; source/sink	125 mA maximum output current each
Connector	Plug-on Screw Terminal	—
Floating Point Support	Yes	Double precision IEEE 754
Module Hot Insertion/Removal	Yes	—
Cam Profiles per Module	256 at one time	Up to 2048 profiles can be stored in the RX3i file system for use by any module
Synch/Delayed Start	Up to 8 axes	Axes can be on any module and are synchronized over the backplane
High Speed Position Capture	2 Inputs per axis	\pm 1 count = 10 μ s jitter

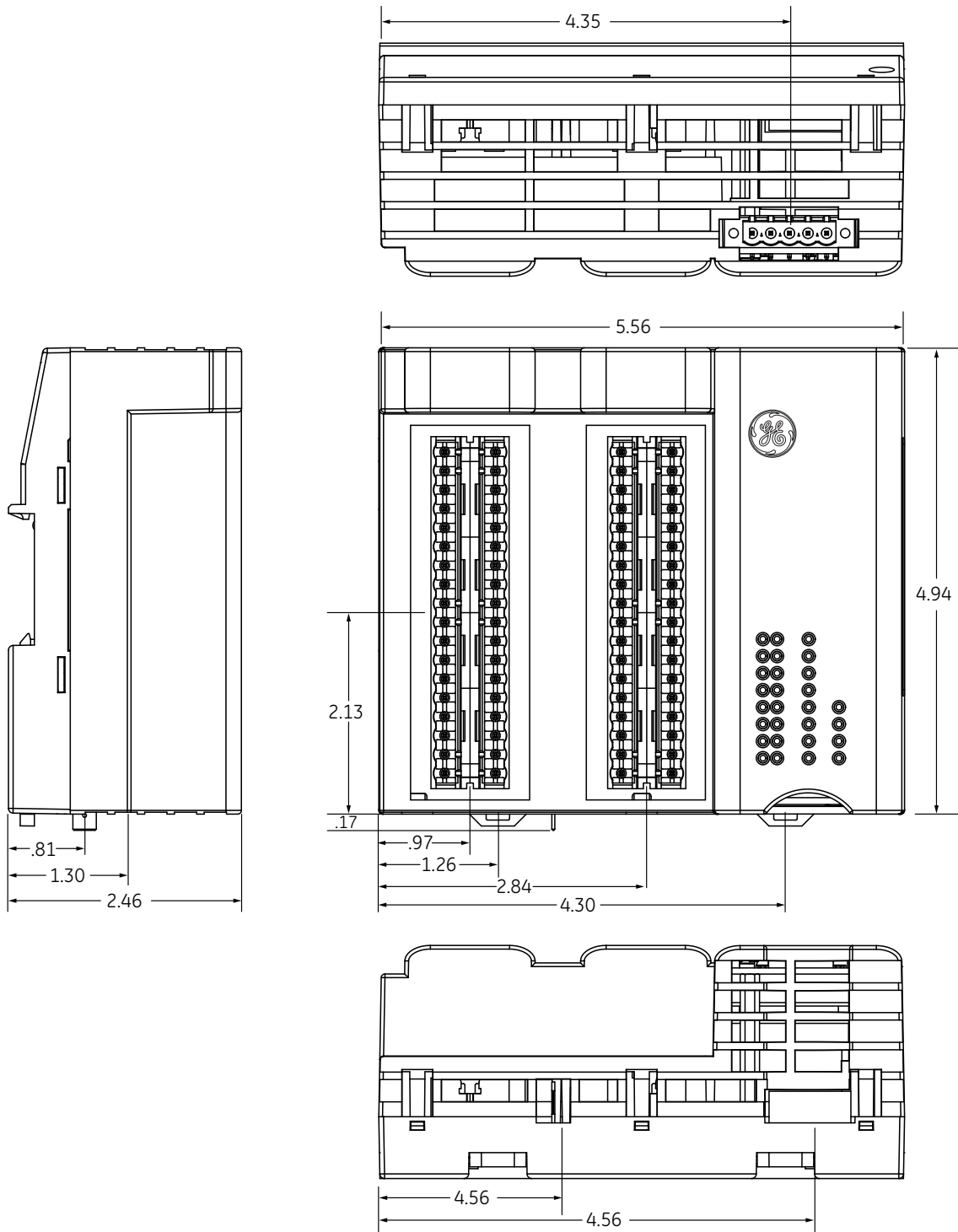
* For analog servos the velocity and the torque loop update rate will depend on the command interface mode selected in the PACMotion module and the update rate of the specific analog amplifier.

Fiber Terminal Block Specifications

Specification	Details	Comments
Mounting	35 mm DIN Rail	Must be mounted on a vertical surface for proper cooling
Dimensions:		
inches	5.56 W x 4.94 H x 2.46 D	—
mm	141.2 W x 125.5 H x 62.5	—
Interface to PACMotion Module	Fiber Optic Cable	Maximum cable length is 100 meters; Interface uses a unique ID for each PMM/FTB pair to prevent cross-connection
Terminal Header Options		
IC694TBS032	High Density 36 point Spring Clip Terminals	2 required per FTB (ordered separately); 14-26 AWG
IC694TBB032	High Density 36 point Captive Screw Terminals	2 required per FTB (ordered separately); 14-26 AWG
IC694TBS132	High Density Spring Clip Terminals, Extended Shroud	2 required per FTB (ordered separately); 14-28 AWG
IC694TBB132	High Density Captive Screw Terminals, Extended Shroud	2 required per FTB (ordered separately); 14-28 AWG
Power Requirements	19.2VDC \pm 28.8VDC; 0.45 Amps @ 24V	one AWG #14 (2.1mm ²) or two AWG #16 (1.3mm ²) copper wires per terminal
24V Outputs (differential)	8 optically isolated; source; open load & short detection	2 groups of 4; 0.5 A max. per point; 4 A max. per group
24V General Purpose Inputs	16 optically isolated; source/sink	4 groups of 4
5V Outputs (differential)	4	RS422 Line Driver with short circuit protection; 48 mA max.
5V Inputs (differential/single-ended)	6	RS422 / RS485 Line Receiver with fault detection
5V Inputs (differential)	6	RS422 / RS485 Line Receiver with fault detection
Analog Inputs	2, \pm 10V differential	14 bit resolution
Analog Outputs	2, \pm 10V single-ended	12 bit resolution
24 V Power Output		Reverse polarity protected by replaceable fuse
5 V Power Output	0.5 amp max.	electronic overload protected
Quad Encoder Open Circuit Detection	Yes	—
I/O Function Assignment	Configurable	I/O functions are assigned during module hardware configuration

PACMotion

Fiber Terminal Block (FTB) Dimensions



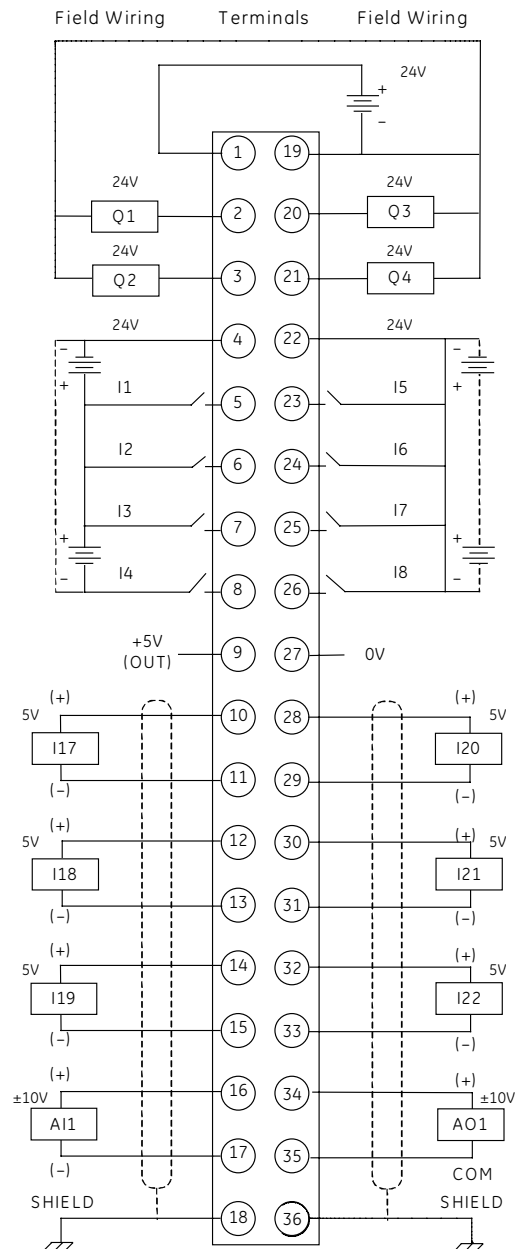
PACMotion

Fiber Terminal Block IC695FTB001 Wiring Diagram and Pin Assignments

FTB Terminal 1 Pin Assignments

Pin	Circuit Identifier	Circuit Type	Default Circuit Function
1	24V+	24V Output	Q1—Q4 Power
2	Q1	24 VDC (ESCP) Output	24V Output
3	Q2	24 VDC (ESCP) Output	24V Output
4	24-	24V-	I1—I4 Common
5	I1	24 VDC Input	Digital Input
6	I2	24 VDC Input	Digital Input
7	I3	24 VDC Input	Digital Input
8	I4	24 VDC Input	Digital Input
9	+5V (OUT)	+5V Output	External Power
10	I17+	5V Diff Input+	Fast Digital Input
11	I17-	5V Diff Input-	Fast Digital Input
12	I18+	5V Diff Input+	Fast Digital Input
13	I18-	5V Diff Input-	Fast Digital Input
14	I19+	5V Diff Input+	Fast Digital Input
15	I19-	5V Diff Input-	Fast Digital Input
16	AI1+	± 10V Analog Input	Analog In 1 (+)
17	AI1-	± 10V Analog Input	Analog In 1 (-)
18	Shield	Shield	Frame Ground
19	24V-	24V-	Q1—Q4 Common
20	Q3	24 VDC (ESCP) Output	24V Output
21	Q4	24 VDC (ESCP) Output	24V Output
22	24V-	24V-	I5—I8 Common
23	I5	24 VDC Input	Digital Input
24	I6	24 VDC Input	Digital Input
25	I7	24 VDC Input	Digital Input
26	I8	24 VDC Input	Digital Input
27	0V	0V	External Power
28	I20+	5V Diff Input+	Fast Digital Input
29	I20-	5V Diff Input-	Fast Digital Input
30	I21+	5V Diff Input+	Fast Digital Input
31	I21-	5V Diff Input-	Fast Digital Input
32	I22+	5V Diff Input+	Fast Digital Input
33	I22-	5V Diff Input-	Fast Digital Input
34	AO1+	±10V Analog Output	Analog Out 1
35	COM	±10V Analog Output	AO1 Common
36	Shield	Shield	Frame Ground

FTB Terminal 1 Wiring Diagram



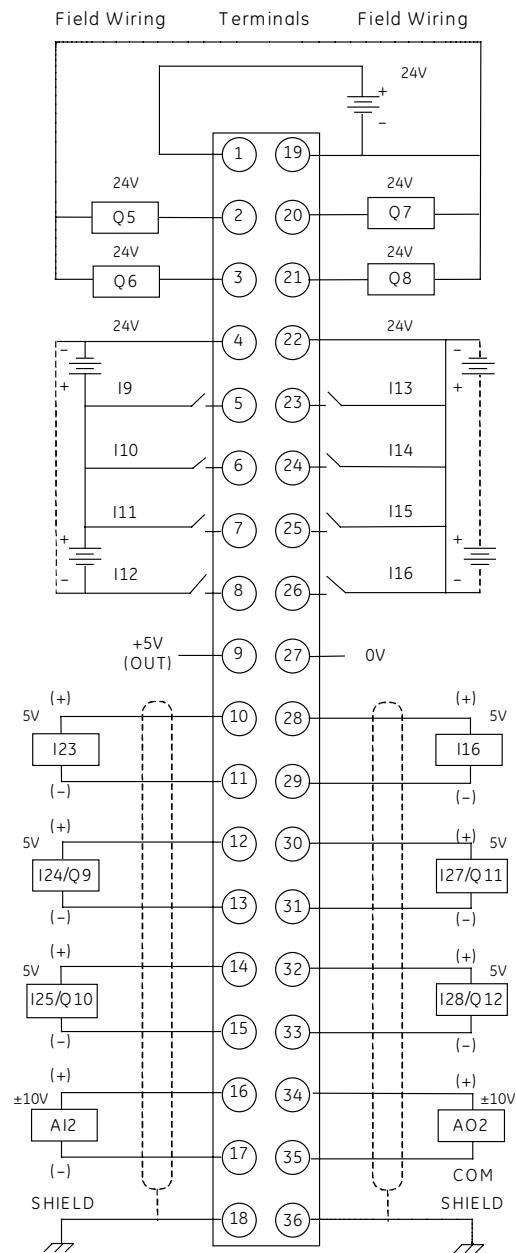
PACMotion

Fiber Terminal Block IC695FTB001 Wiring Diagram and Pin Assignments

FTB Terminal 2 Pin Assignments

Pin	Circuit Identifier	Circuit Type	Default Circuit Function
1	24V+	24V Output	Q5–Q8 Power
2	Q5	24 VDC (ESCP) Output	24V Output
3	Q6	24 VDC (ESCP) Output	24V Output
4	24V+	24V+	I9–I12 Common
5	I9	24 VDC Input	Digital Input
6	I10	24 VDC Input	Digital Input
7	I11	24 VDC Input	Digital Input
8	I12	24 VDC Input	Digital Input
9	+5V (OUT)	+5V OUT	External Power
10	I23+	5V Diff Input+	Fast Digital Input
11	I23-	5V Diff Input-	Fast Digital Input
12	I24+/Q9+	5V Diff Input+/5V Diff Output+	Fast Digital Input
13	I24-/Q9-	5V Diff Input-/5V Diff Output-	Fast Digital Input
14	I25+/Q10+	5V Diff Input+/5V Diff Output+	Fast Digital Input
15	I25-/Q10-	5V Diff Input-/5V Diff Output-	Fast Digital Input
16	AI2+	±10V Analog Input	Analog In 2 (+)
17	AI2-	±10V Analog Input	Analog In 2 (-)
18	SHIELD	Frame Ground	Shield
19	24V-	24V-	Q5–Q8 Common
20	Q7	24 VDC (ESCP) Output	24V Output
21	Q8	24 VDC (ESCP) Output	24V Output
22	24V+	24V+	I13–I16 Common
23	I13	24 VDC (ESCP) Input	Digital Input
24	I14	24 VDC (ESCP) Input	Digital Input
25	I15	24 VDC (ESCP) Input	Digital Input
26	I16	24 VDC (ESCP) Input	Digital Input
27	0V	0V	External Power
28	I26+	5V Diff Input	Fast Digital Input
29	I26-	5V Diff Input	Fast Digital Input
30	I27/Q11+	5V Diff Input+/5V Diff Output+	Fast Digital Input
31	I27/Q11-	5V Diff Input-/5V Diff Output-	Fast Digital Input
32	I28/Q12+	5V Diff Input+/5V Diff Output+	Fast Digital Input
33	I28/Q12-	5V Diff Input-/5V Diff Output-	Fast Digital Input
34	AO2+	± 10V Analog Output	Analog Output 2
35	COM	± 10V Analog Output	AO2 Common
36	SHIELD	Frame Ground	Shield

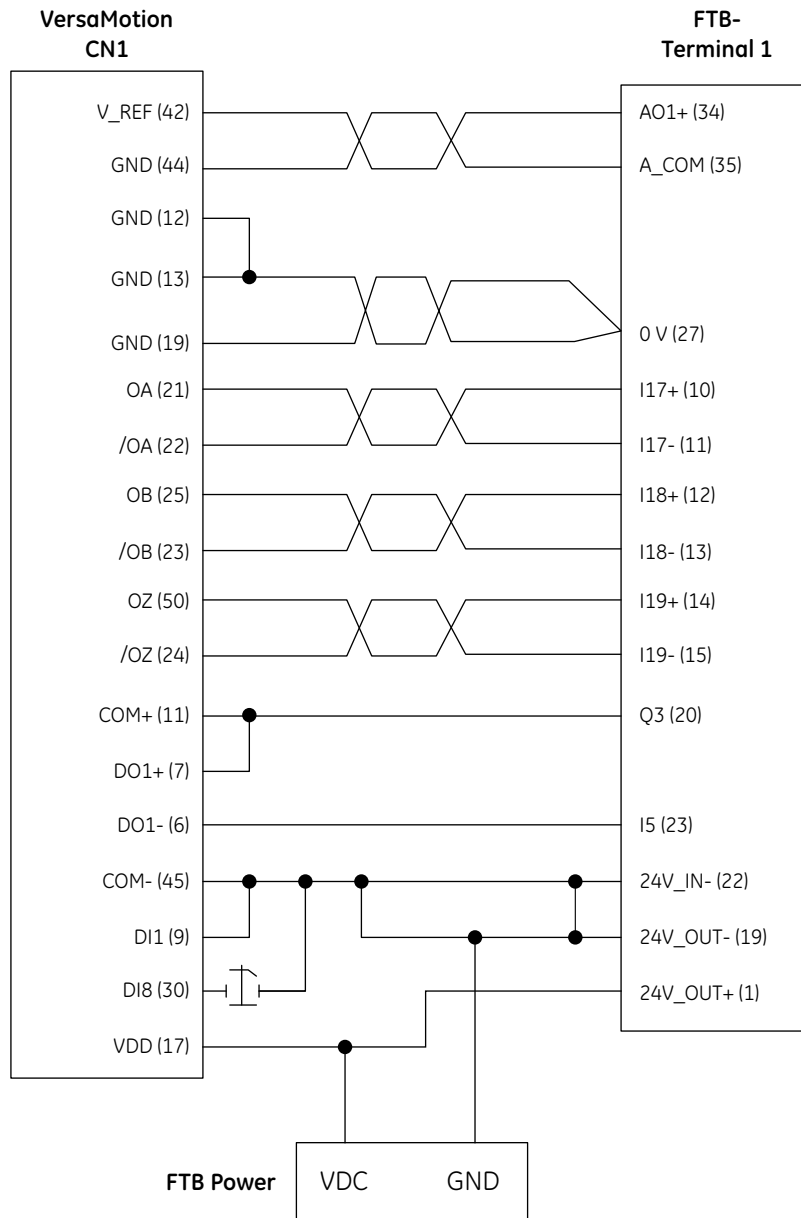
FTB Terminal 2 Wiring Diagram



PACMotion

VersaMotion amplifier connection to the PACMotion Fiber Terminal Block

Up to two VersaMotion amplifiers can be connected to each PACMotion module using the two analog outputs on the Fiber Terminal Block (FTB). The VersaMotion amplifier includes an encoder output that is also connected to the FTB for axis feedback. The interface between the VersaMotion amplifier CN1 connector and the FTB can be made directly using the IC800VMCI010 (1 m) or IC800VMCI030 (3 m) flying lead I/O interface cable or using the IC800VTBC005 I/O terminal breakout board and included 0.5 meter cable. This terminal board will allow easy access to any additional I/O connections to the VersaMotion amplifier from field devices such as emergency stop circuits. The proper wiring interface is shown for direct connection to the CN1 connector however, terminal numbers are the same for the breakout terminal board.



PACMotion

Motion Functions

Function Block Name	Description
Single Axis Administrative Function Blocks	
MC_Power	Controls the Power Stage (MCON); causes all control loops to be closed and the control to be in the Standstill state ready to perform motion commands
MC_ReadStatus	Returns in detail the current axis status of the axis selected
MC_ReadAxisError	Indicates general axis errors not relating to the execution of Functions or Function Blocks; used to read a current error or warning on the axis
MC_ReadParameter	Returns the value of a parameter; used to read an axis parameter
MC_ReadParameters	Returns the values of parameters; used to read one or more axis parameters
MC_ReadBoolParameter	Returns the value of a Boolean parameter; used to read an axis parameter
MC_ReadBoolParameters	Returns the values of Boolean parameters; used to read one or more axis parameters
MC_ReadDwordParameters	Returns the values of 32 bit word parameters; used to read one or more axis parameters
MC_WriteParameter	Modifies the value of a parameter; used to write an axis parameter
MC_WriteParameters	Modifies multiple parameter values; used to write multiple axis parameters
MC_WriteBoolParameter	Modifies the value of a vendor specific parameter; used to write an axis parameter
MC_WriteBoolParameters	Modifies multiple Boolean parameter values; used to write multiple axis parameters
MC_WriteDwordParameters	Modifies multiple 32 bit word parameter values; used to write parameters that can not be expressed as real including packed bits
MC_ReadActualPosition	Used to read the actual axis position
MC_Reset	Makes the transition from the state ErrorStop to StandStill by resetting all internal axis-related errors; used to attempt to clear any errors on an axis and return it from the ErrorStop state to the Standstill state
MC_ModuleReset	Makes the transition from the state ErrorStop to StandStill by resetting all internal errors; used to attempt to clear any errors on a module and return any axes in the ErrorStop state to the Standstill state
MC_ReadDigitalInput	Gives access to the value of the input, referenced by the datatype INPUT_REF; provides the value of the referenced input (BOOL).
MC_ReadDigitalOutput	Gives access to the value of an output, referenced by the datatype OUTPUT_REF; provides the value of the referenced output (BOOL)
MC_WriteDigitalOutput	Writes a value to a discrete output once (with Execute), referenced by the datatype OUTPUT_REF
MC_SetPosition	Shifts the coordinate system of an axis by manipulating both the set-point position as well as the actual position of an axis with the same value without any movement caused. (Re-calibration with same following error).
MC_SetOverride	Sets the values of override for the whole axis, and all functions that are working on that axis
MC_ReadActualVelocity	Returns the value of the actual velocity as long as Enable (EN) is set
MC_ReadTorqueCommand	Returns the value of the torque command as long as Enable (EN) is set
MC_LibraryStatus	Provides the user with visibility into their cam-profile memory usage; provides the number of selected cam-profiles, the total number of bytes available, and the percentage of memory used
MC_ReadAnalogInput	Gives access to the value of an analog input, referenced by the datatype INPUT_REF
MC_ReadAnalogOutput	Gives access to the value of an analog output, referenced by the datatype OUTPUT_REF
MC_WriteAnalogOutput	Writes a value to an analog output once (with Execute), referenced by the datatype OUTPUT_REF
MC_ReadEventQueue	Returns the current PMM module event queue
MC_TouchProbe	Used to record an axis position at a strobe trigger event
MC_AbortTrigger	Used to abort MC_TouchProbe function blocks
MC_DigitalCamSwitch	Commands a group of discrete output bits to switch in analogy to a set of mechanical cam controlled switches connected to an axis
MC_DL_Configure	Specifies the configuration parameters for data logged on the PMM
MC_DL_Activate	Used to start data logging on the module in normal start mode
MC_DL_Get	Writes the data logged into a file specified by the DATALOG_FILE_REF input
MC_DL_Delete	Responsible for deleting data logger configuration from the PMM memory
Single Axis Motion Function Blocks	
MC_MoveAbsolute	Commands a controlled motion at a specified position
MC_MoveRelative	Commands a controlled motion of a specified distance relative to the actual position at the time of the execution
MC_MoveAdditive	Commands a controlled motion of a specified relative distance additional to the original commanded position in the discrete motion state
MC_MoveSuperimposed	Commands a controlled motion of a specified relative distance additional to an existing motion
MC_MoveVelocity	Commands a never ending controlled motion at a specified velocity
MC_Home	Commands the axis to perform the «search home» sequence
MC_Stop	Commands a controlled motion stop and transfers the axis to the state "Stopping"
MC_JogAxis	Jogs an axis forward or backward at the manual operation velocity and acceleration
MC_Halt	Commands a controlled motion stop

PACMotion

Motion Functions

Multiple Axis Administrative Function Blocks

MC_CamTableSelect	Selects the cam-tables (cam-profiles) by setting the pointers to the relevant tables
MC_CamTableDeselect	Deletes a cam-profile from the specified module to free memory

Multiple Axis Motion Function Blocks

MC_CamIn	Engages a cam
MC_CamOut	Disengages a slave axis from the master
MC_GearIn	Commands the slave axis velocity at a ratio of the master axis velocity
MC_GearOut	Used to disengage from a MC_GearIn function block
MC_Phasing	Provides dynamic phase shifting capability for cam profiles
MC_GearInPos	Commands a gear ratio between the position of the slave and master axes from the synchronization point onwards
MC_SyncStart	Identifies which axes should be started at the same time and how much time can elapse before the motion must start
MC_DelayedStart	Identifies which axes should be started with a delay relative to each other and how much time can elapse before the motion must start

PLC Support Function Blocks

MC_CamFileRead	Copies the contents of a cam file from the PLC file system into reference memory
MC_CamFileWrite	Copies cam data from reference memory to an existing cam file in the PLC file system, overwriting the original data in the cam file

Servo Amplifiers

VersaMotion* Series

The VersaMotion family of servo amplifiers offers a cost effective solution for a broad range of motion applications. These versatile amplifiers support stand-alone positioning capability using up to 8 stored motion profiles, or can be connected to any motion controller using an analog or pulse command interface. The VersaMotion Servo Amplifiers are matched for use with the VersaMotion Servo Motors.

αi and βi Series

The all digital αi and βi Series Servo Amplifiers, with over five million installed worldwide, offer superior reliability and performance for unprecedented mean time between failure. They are available in a wide range of ratings for use with GE PACMotion Series motion controller, and are matched for use with the αi and βi Series Servo Motors.



VersaMotion

The VersaMotion family of servo amplifiers offers a cost effective solution for a broad range of motion applications. These versatile amplifiers support simple stand-alone positioning capability using up to 8 stored motion profiles or can be connected to any motion controller using an analog or pulse command interface. A built-in touchpad and display provides convenient access to configuration parameters and system information. The serial interface supports multi-drop system configurations and Modbus communication protocol.

Amplifier setup can be accomplished using the VersaMotion software included with Proficy Machine Edition or using the convenient front panel keypad.

Key Features

- Versatile analog (speed or torque) or pulse command interface
- Position/Speed/Torque modes
- Dual control modes
- Standalone single-axis position control mode for simple point-to-point motion control
- Electronic gearing with user-defined ratio
- External JOG function
- Speed/Torque limit operation
- Built-in keypad/display for setup and diagnostics
- Motor settling time below 1 ms for fast response
- Low speed stability and performance: less than 0.5% error at 1 RPM
- 10msec acceleration time from running without load -/+ 3000 RPM

Built-in Functions

- Simple stand-alone point-to-point positioning control with 8 internal stored position settings (positions can be changed over Modbus for greater application flexibility)
- Move to Home function
- Position Teaching capability
- Incremental encoder feedback (2500 ppr/10,000 counts/rev)
- User-definable Acceleration/Deceleration with jerk limiting (s-curve)
- Feed step control function
- Modbus Slave serial port (RS-485/RS-422) for reading and writing parameters from Machine Edition or updating stored position set points from a host controller.

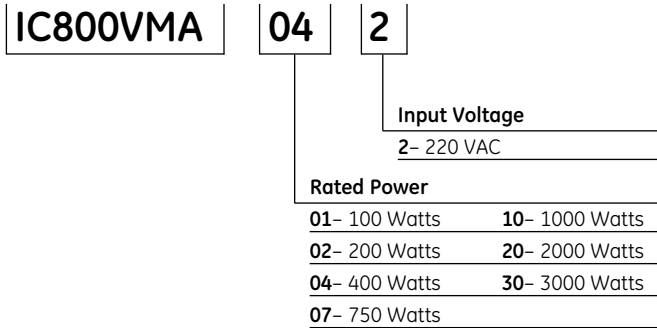


Machine Edition VersaMotion Set-up Features

- Configuration Parameter Editor (clear, read, write functions) and initial configuration wizard
- Calculation tools to determine proper conversion from encoder counts to desired user programming units
- Three channel digital oscilloscope to display and record drive status on-line
- Alarm history and status monitor diagnostic screens
- Digital I/O set-up, monitoring and forcing. Each I/O point can be individually set to one of the built-in functions (45 digital input functions and 11 digital output functions)

VersaMotion

Servo Amplifier Part Number Sequence



Example: IC800VMA042 is a 400 Watt 220 VAC servo amplifier

Amplifier Specifications

Part Number	IC800VMA012	IC800VMA022	IC800VMA042	IC800VMA072	IC800VMA102	IC800VMA202	IC800VMA302
Rated Output Power	100W	200W	400W	750W	1000W	2000W	3000W
Voltage/ Frequency	Three-phase or Single-phase 220VAC; 50/60 Hz	Three-phase or Single-phase 220VAC; 50/60 Hz	Three-phase or Single-phase 220VAC; 50/60 Hz	Three-phase or Single-phase 220VAC; 50/60 Hz	Three-phase or Single-phase 220VAC; 50/60 Hz	Three-phase 220VAC; 50/60 Hz	Three-phase 220VAC; 50/60 Hz
Permissible Voltage Fluctuation	Three-phase: 170 ~ 255VAC Single-phase: 200 ~ 255VAC	Three-phase: 170 ~ 255VAC Single-phase: 200 ~ 255VAC	Three-phase: 170 ~ 255VAC Single-phase: 200 ~ 255VAC	Three-phase: 170 ~ 255VAC Single-phase: 200 ~ 255VAC	Three-phase: 170 ~ 255VAC Single-phase: 200 ~ 255VAC	Three-phase: 170 ~ 255VAC	Three-phase: 170 ~ 255VAC
Cooling System	Convection	Convection	Convection	Fan Cooling	Fan Cooling	Fan Cooling	Fan Cooling
Electronic Gear Ratio	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Electronic gear N/M multiple N: 1~32767, M: 1:32767 (1/50<N/M<200)

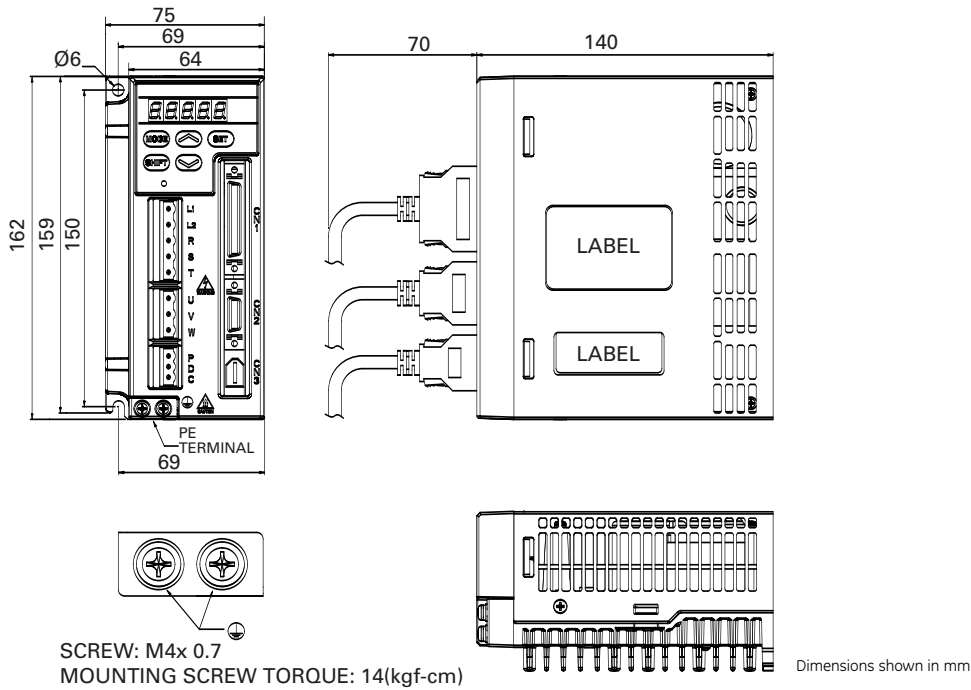
Amplifier

Permissible Frequency Fluctuation	50 / 60 Hz +/-5%
Resolution/Quadrature Feedback Counts	2500 ppr /10000 cpr
Control Modes	Position/Velocity/Torque
Dynamic Brake	Built-in
Position Control Mode:	
Maximum Input Pulse Frequency	500KPPS (Line Driver) / Maximum 200KPPS (Open Collector)
Pulse Type	Pulse/Direction; CW/CCW; A/B Phase
Command Source	External pulse train/ Internal parameters
Torque Limit Operation	Yes
Feed Forward Compensation	Yes
Analog Commands: Voltage Range	0 to +/-10 VDC
Torque and Velocity Control Mode Command Source	External analog signal / Discrete set points stored by internal parameters
Speed Control Range	1:5000
Speed Control Frequency Response	Maximum 450 Hz
Torque Control Mode Permissible Time for Overload	8 seconds under 200% rated output
Communications Interface	RS-232 / RS-485 /RS-422
Environmental	
Altitude	Altitude 1000 meters above sea level or lower
Operating Temperature	0 to 55°C (Forced cooling for operation above 55°C)
Storage Temperature	-20°C to 65°C
Humidity	0 to 90% (Non condensing)
Vibration	<20 Hz: 9.8 m/sec/sec (1G); 20 to 50 Hz: 5.88 m/sec/sec (0.6 G)
Standards	CE (IEC/EN 61800-5-1), UL/cUL (508C), TUV, C-tick

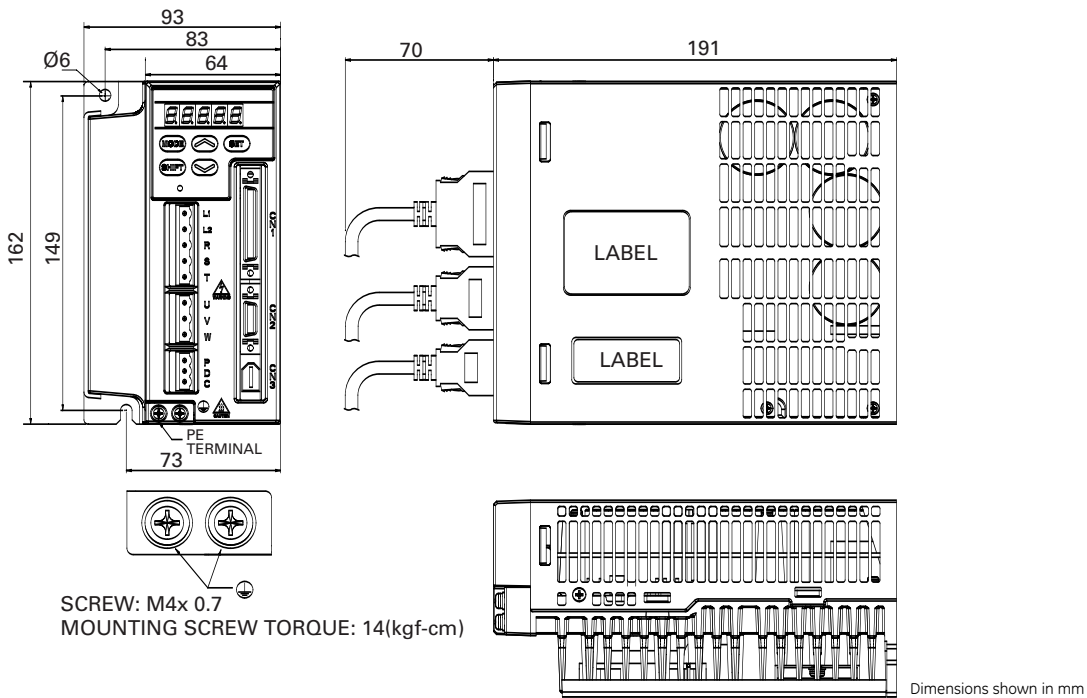
VersaMotion

Dimensions

IC800VMA012, IC800VMA022, IC800VMA042



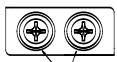
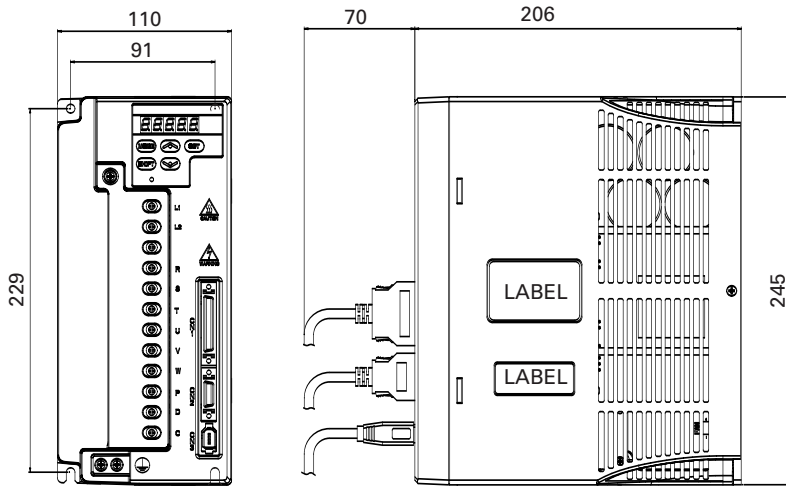
IC800VMA072, IC800VMA102



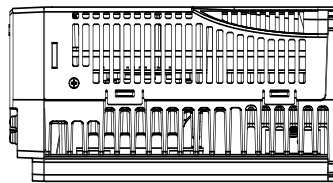
VersaMotion

Dimensions

IC800VMA202, IC800VMA302

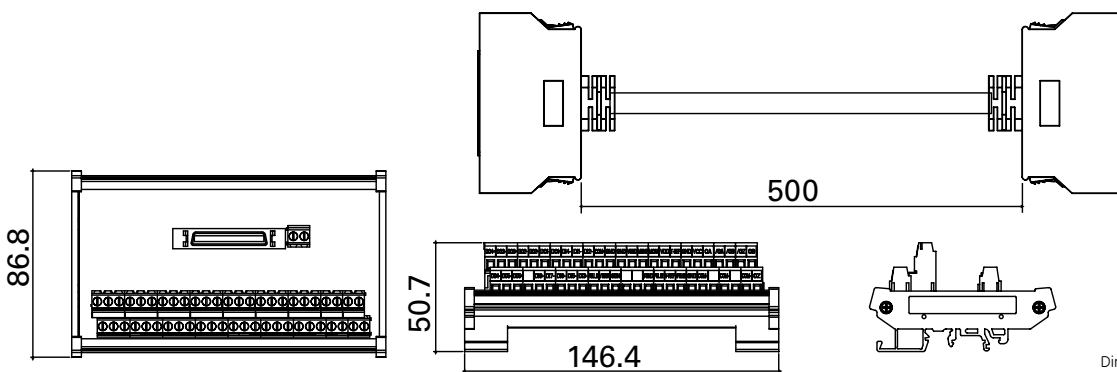


SCREW: M4x 0.7
MOUNTING SCREW TORQUE: 14(kgf-cm)



Dimensions shown in mm

Optional Cable and Terminal Block

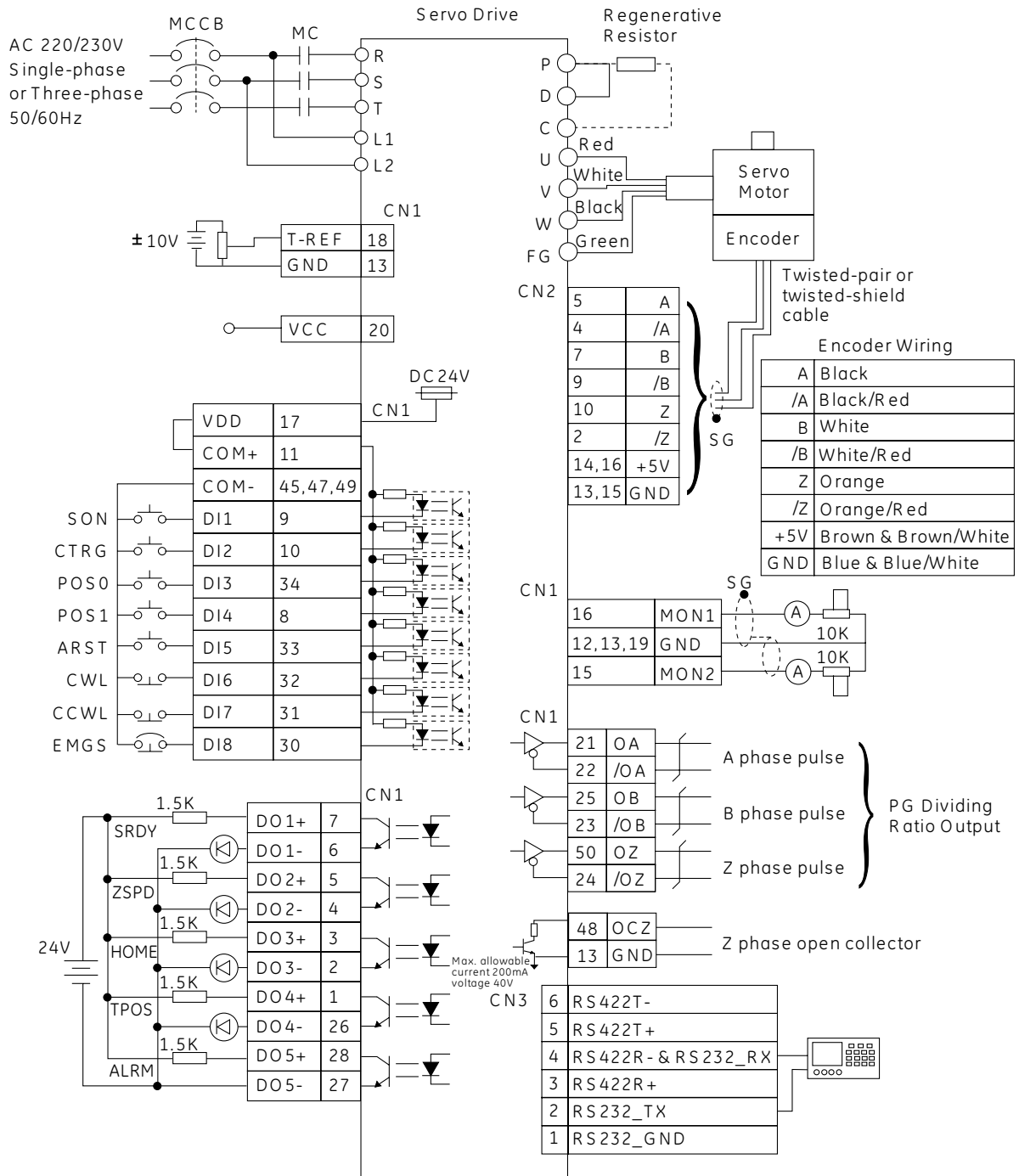


Dimensions shown in mm

VersaMotion

Connection Diagrams

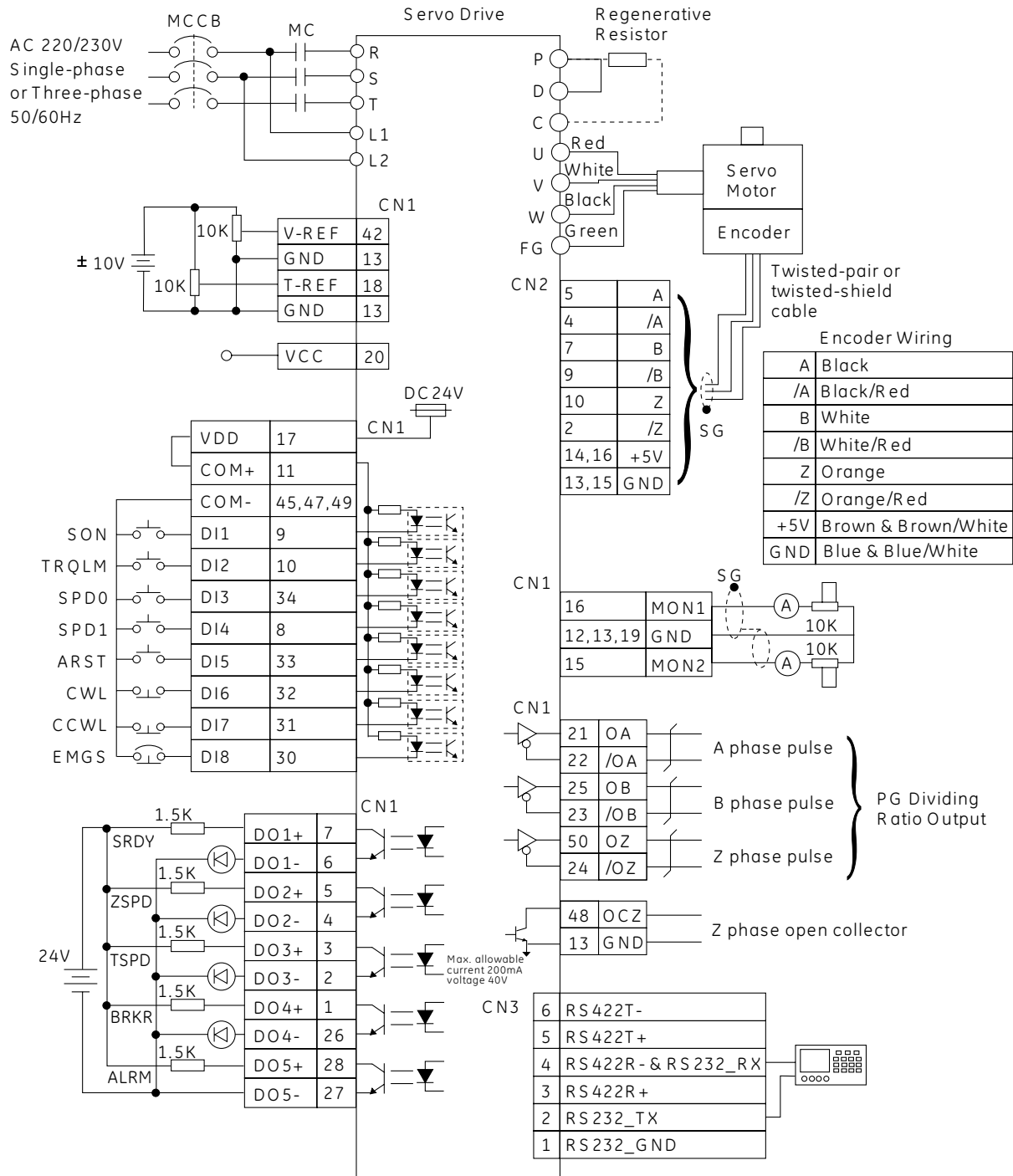
Position Control Mode - Stored Position Commands Mode



VersaMotion

Connection Diagrams

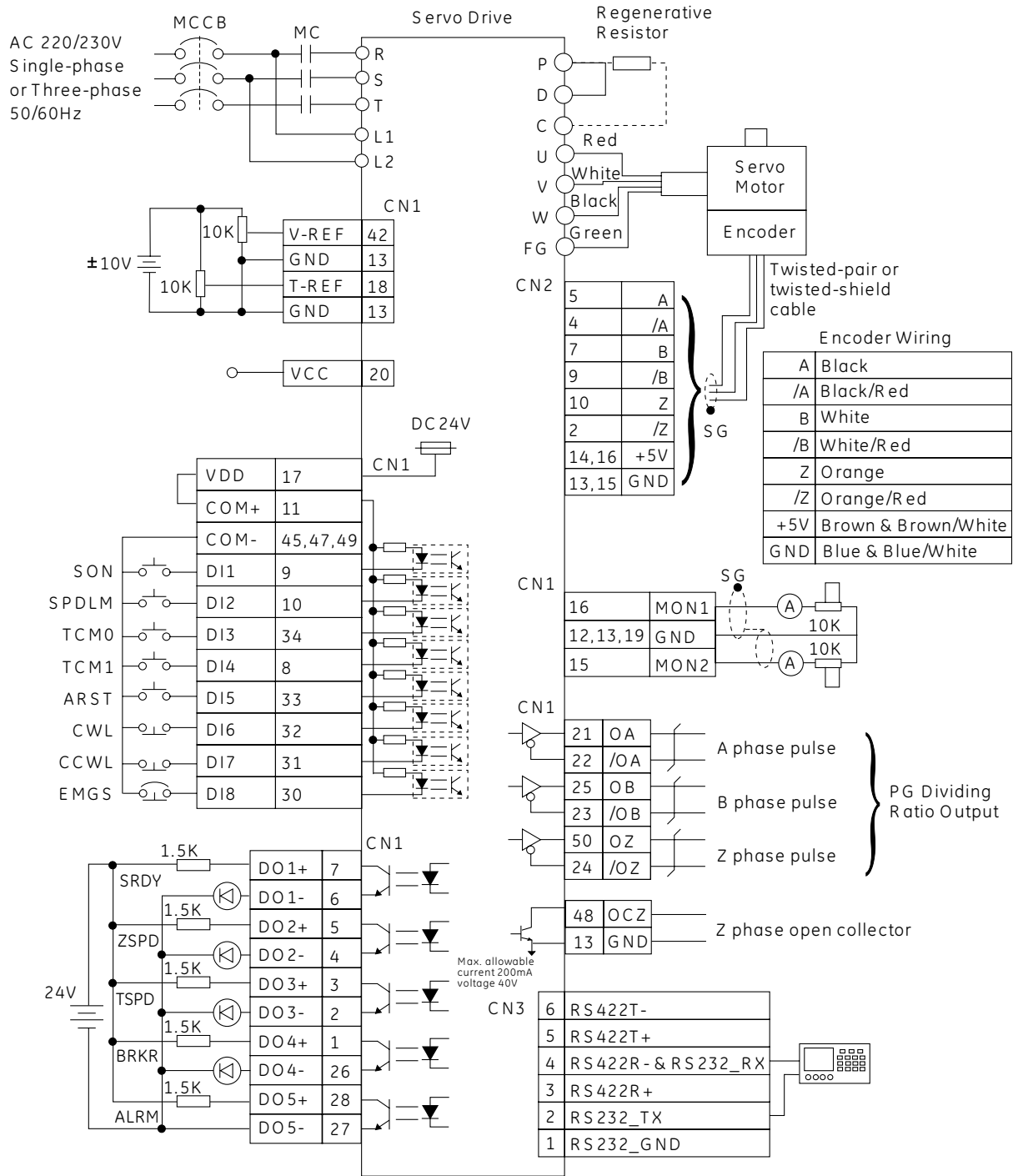
Speed Control Mode



VersaMotion

Connection Diagrams

Torque Control Mode



VersaMotion

Ordering Information

Model	VersaMotion 100 Watt	VersaMotion 200 Watt	VersaMotion 400 Watt	VersaMotion 750 Watt
Motor Part Number	IC800VMM01LNKSE25	IC800VMM02LNKSE25	IC800VMM04LNKSE25	IC800VMM07LNKSE25
Motor/Brake Part Number	N/A	IC800VMM02LBKSE25	IC800VMM04LBKSE25	IC800VMM07LBKSE25
Amplifier Part Number	IC800VMA012	IC800VMA022	IC800VMA042	IC800VMA072

Cables

Power Cable	3 m	IC800VMCP030	IC800VMCP030	IC800VMCP030	IC800VMCP030
	5 m	IC800VMCP050	IC800VMCP050	IC800VMCP050	IC800VMCP050
	10 m	IC800VMCP100	IC800VMCP100	IC800VMCP100	IC800VMCP100
	20 m	IC800VMCP200	IC800VMCP200	IC800VMCP200	IC800VMCP200
Brake and Power Cable	3 m	N/A	IC800VMCB030	IC800VMCB030	IC800VMCB030
	5 m	N/A	IC800VMCB050	IC800VMCB050	IC800VMCB050
	10 m	N/A	IC800VMCB100	IC800VMCB100	IC800VMCB100
	20 m	N/A	IC800VMCB200	IC800VMCB200	IC800VMCB200
Encoder Cable	3 m	IC800VMCE030	IC800VMCE030	IC800VMCE030	IC800VMCE030
	5 m	IC800VMCE050	IC800VMCE050	IC800VMCE050	IC800VMCE050
	10 m	IC800VMCE100	IC800VMCE100	IC800VMCE100	IC800VMCE100
	20 m	IC800VMCE200	IC800VMCE200	IC800VMCE200	IC800VMCE200

Communications & I/O Interface Cables

Communications Cable	3 m	IC800VMCS030	IC800VMCS030	IC800VMCS030	IC800VMCS030
Flying lead I/O interface Cable	1 m	IC800VMCI010	IC800VMCI010	IC800VMCI010	IC800VMCI010
	3 m	IC800VMCI030	IC800VMCI030	IC800VMCI030	IC800VMCI030

Amplifier Connectors

CN1 I/O Connector ^(Note 1)	IC800VMAACONCN1	IC800VMAACONCN1	IC800VMAACONCN1	IC800VMAACONCN1
CN2 Encoder Connector ^(Note 2)	IC800VMAACONCN2	IC800VMAACONCN2	IC800VMAACONCN2	IC800VMAACONCN2
CN3 Communication Connector ^(Note 3)	IC800VMAACONCN3	IC800VMAACONCN3	IC800VMAACONCN3	IC800VMAACONCN3
AC Power Connector ^(Note 4)	IC800VMAACONACP	IC800VMAACONACP	IC800VMAACONACP	IC800VMAACONACP
Motor Power Connector ^(Note 4)	IC800VMAACONMTRP	IC800VMAACONMTRP	IC800VMAACONMTRP	IC800VMAACONMTRP
External Braking Resistor Connector ^(Note 4)	IC800VMADBR001	IC800VMADBR001	IC800VMADBR001	IC800VMADBR001

Motor Connectors

Power Connector (motor only)	IC800VMMCONP001	IC800VMMCONP001	IC800VMMCONP001	IC800VMMCONP001
Power Connector (motor & brake)	N/A	IC800VMMCONP002	IC800VMMCONP002	IC800VMMCONP002
Encoder Connector	IC800VMMCONE001	IC800VMMCONE001	IC800VMMCONE001	IC800VMMCONE001

Accessories

I/O Terminal Breakout Board and Cable ^(Note 5)	0.5 m	IC800VMTBC005	IC800VMTBC005	IC800VMTBC005	IC800VMTBC005
External Braking Resistor ^(Note 6)		IC800VMBR040	IC800VMBR040	IC800VMBR040	IC800VMBR040
40Ω, 400 Watt					
External Braking Resistor ^(Note 6)		IC800VMBR020	IC800VMBR020	IC800VMBR020	IC800VMBR020
20Ω, 1000 Watt					

- 1) The CN1 connector is only required when the I/O breakout terminal board (IC800VMTBC005) or flying lead I/O interface cable (IC800VMCI0xx) are not used for wiring access to the amplifier I/O points.
- 2) The CN2 encoder connector is part of the separately ordered GE feedback cable. This connector is only required when user will manufacture their own motor feedback cable.
- 3) The CN3 communication connector is part of the separately ordered GE serial communication cable (IC800VMCS030). This connector is only required when user will manufacture their own communication cable.
- 4) These connectors are shipped with each VersaMotion amplifier (100W to 1 kW) and are only necessary to replace lost or damaged connector mates. Amplifiers rated 2 kW and larger have fixed wiring terminals and do not use a plug-on connector mate.
- 5) The optional breakout terminal board provides screw terminations for wiring each I/O point on the amplifier CN1 I/O connector. The flying lead I/O interface cable (IC800VMCI0xx) or CN1 connector (IC800VMAACONCN1) may be used.
- 6) The optional external braking resistors are used to dissipate excessive regenerated energy during fast deceleration of large loads from high speeds.

VersaMotion

Ordering Information (continued)

Model		VersaMotion 1000 Watt	VersaMotion 2000 Watt	VersaMotion 3000 Watt
Motor Part Number		IC800VMM10LNKSE25 IC800VMM10MNKSE25	IC800VMM20LNKSE25 IC800VMM20MNKSE25	IC800VMM30MNKSE25
Motor/Brake Part Number		IC800VMM10LBKSE25 IC800VMM10MBKSE25	IC800VMM20LBKSE25 IC800VMM20MBKSE25	IC800VMM30MBKSE25
Amplifier Part Number		IC800VMA102	IC800VMA202	IC800VMA302

Cables

Power Cable	3 m	IC800VMCP1030	IC800VMCP2030	IC800VMCP3030
	5 m	IC800VMCP1050	IC800VMCP2050	IC800VMCP3050
	10 m	IC800VMCP1100	IC800VMCP2100	IC800VMCP3100
	20 m	IC800VMCP1200	IC800VMCP2200	IC800VMCP3200
Brake and Power Cable	3 m	IC800VMCB1030	IC800VMCB2030	IC800VMCB3030
	5 m	IC800VMCB1050	IC800VMCB2050	IC800VMCB3050
	10 m	IC800VMCB1100	IC800VMCB2100	IC800VMCB3100
	20 m	IC800VMCB1200	IC800VMCB2200	IC800VMCB3200
Encoder Cable	3 m	IC800VMCE1030	IC800VMCE1030	IC800VMCE1030
	5 m	IC800VMCE1050	IC800VMCE1050	IC800VMCE1050
	10 m	IC800VMCE1100	IC800VMCE1100	IC800VMCE1100
	20 m	IC800VMCE1200	IC800VMCE1200	IC800VMCE1200

Communications & I/O Interface Cables

Communications Cable	3 m	IC800VMCS030	IC800VMCS030	IC800VMCS030
Flying lead I/O interface Cable	1 m	IC800VMCI010	IC800VMCI010	IC800VMCI010
	3 m	IC800VMCI030	IC800VMCI030	IC800VMCI030

Amplifier Connectors

CN1 I/O Connector		IC800VMACONCN1	IC800VMACONCN1	IC800VMACONCN1
CN2 Encoder Connector		IC800VMACONCN2	IC800VMACONCN2	IC800VMACONCN2
CN3 Communication Connector		IC800VMACONCN3	IC800VMACONCN3	IC800VMACONCN3
AC Power Connector		IC800VMACONACP	N/A	N/A
Motor Power Connector		IC800VMACONMTRP	N/A	N/A
External Braking Resistor Connector		IC800VMADBR001	N/A	N/A

Motor Connectors

Power Connector (motor only)		IC800VMMCONP003	IC800VMMCONP003	IC800VMMCONP004
Power Connector (motor & brake)		IC800VMMCONP003	IC800VMMCONP003	IC800VMMCONP004
Encoder Connector		IC800VMMCONE002	IC800VMMCONE002	IC800VMMCONE002

Accessories

I/O Terminal Breakout Board and Cable	0.5 m	IC800VMTBC005	IC800VMTBC005	IC800VMTBC005
External Braking Resistor 40Ω, 400 Watt		IC800VMBR040	IC800VMBR040	IC800VMBR040
External Braking Resistor 20Ω, 1000 Watt		IC800VMBR020	IC800VMBR020	IC800VMBR020

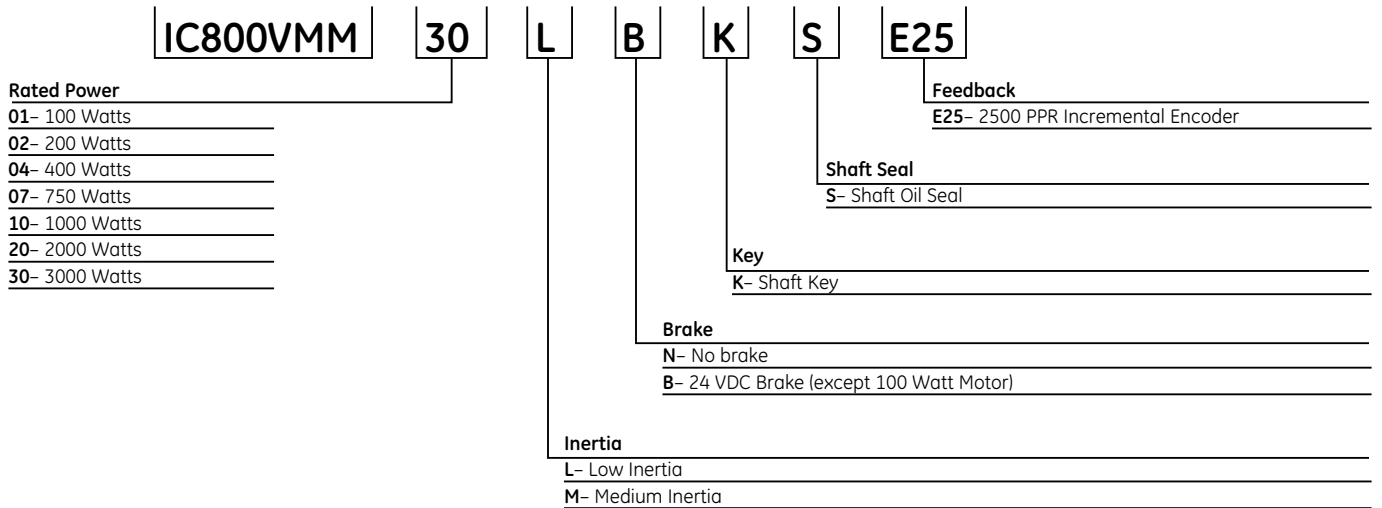
VersaMotion

Motor Specifications

Feature	VersaMotion Series
Cont. Stall Torque Range (In-lb (Nm))	2.83-126 (0.32-14.3)
Cont. Speed Range (RPM)	1500 - 3000
Max. Speed Range (RPM)	3000 - 5000
Compatible Amplifiers	VersaMotion Series
Compatible Controllers	DSM314
Mounting	Metric
Shaft Configuration	Straight/Keyway
Brushless Construction	Yes
Optional Brake	24 VDC
Feedback Type	Incremental Encoder
Feedback Resolution (Counts/rev)	10,000
Absolute Feedback	No
Amplifier Line Voltage	200-255 VAC 1 ϕ (100 W to 1 kW); 170-255 VAC 3 ϕ
Shaft Seal	Standard
Protection Rating	IP65
Inertia	Low/Medium



Motor Part Numbers



VersaMotion Servo Motors

Specifications

Specifications	IC800VMM01L	IC800VMM02L	IC800VMM04L	IC800VMM07L
Product Name	VersaMotion 100 Watt	VersaMotion 200 Watt	VersaMotion 400 Watt	VersaMotion 750 Watt
Rated Output (kW)	0.1	0.2	0.4	0.75
Rated Torque (Nm)	0.32	0.64	1.27	2.39
Maximum Torque (Nm)	0.96	1.92	3.82	7.16
Rated Speed (RPM)	3000	3000	3000	3000
Maximum Speed (RPM)	5000	5000	5000	5000
Rated Current (Amps)	0.9	1.55	2.6	5.1
Maximum Current (Amps)	2.7	4.65	7.8	15.3
Rotor Moment of Inertia (Kg.m ² x 10 ⁻⁴)	0.037	0.177	0.277	1.13
Mechanical Time Constant (msec)	0.75	0.8	0.53	0.63
Torque Constant - KT (Nm/A)	0.36	0.41	0.49	0.47
Voltage Constant - KE (mV/rpm)	13.6	16	17.4	17.2
Armature Resistance (Ohm)	9.3	2.79	1.55	0.42
Armature Inductance (mH)	24	10.84	6.84	3.53
Electrical Time Constant (msec)	2.58	3.89	4.43	8.37
Maximum Radial Shaft Load (Newton)	78.4	196	196	245
Maximum Thrust Shaft Load (Newton)	39.2	68	68	98
Amplifier Model	IC800VMA012	IC800VMA022	IC800VMA042	IC800VMA072

Motor Technical Data

Insulation Class	Class B
Insulation Resistance	>100M ohm, 500 VDC
Insulation Strength	1500 VAC, 50Hz, 60 seconds
Vibration Grade (um)	15
Brake Power (VDC)	24
Vibration	2.5G
IP Rating	IP65 (except shaft and connector)

Environmental Specifications

Relative Humidity	20~90%RH (non condensing)
Operating Temperature	0 to 40°C
Storage Temperature	-10 to 80°C

VersaMotion Servo Motors

Specifications (continued)

Specifications	IC800VMM10L	IC800VMM10M	IC800VMM20L	IC800VMM20M	IC800VMM30M
Product Name	VersaMotion 1000 Watt	VersaMotion 1000 Watt	VersaMotion 2000 Watt	VersaMotion 2000 Watt	VersaMotion 3000 Watt
Rated Output (kW)	1.0	1.0	2.0	2.0	3.0
Rated Torque (Nm)	3.18	4.77	6.37	9.55	14.32
Maximum Torque (Nm)	9.54	14.32	19.11	28.66	42.96
Rated Speed (RPM)	3000	2000	3000	2000	2000
Maximum Speed (RPM)	5000	3000	5000	3000	3000
Rated Current (Amps)	7.3	5.6	11.3	11.0	16.1
Maximum Current (Amps)	21.9	24.9	33.9	33.0	48.3
Rotor Moment of Inertia (Kg.m ² x 10 ⁻⁴)	2.65	9.14	4.45	15.88	55
Mechanical Time Constant (msec)	0.74	1.64	0.66	1.05	1.06
Torque Constant - KT (Nm/A)	0.44	0.85	0.53	0.87	0.89
Voltage Constant - KE (mV/rpm)	16.8	31.9	19.2	31.8	32
Armature Resistance (Ohm)	0.20	0.465	0.14	0.174	0.052
Armature Inductance (mH)	2.0	5.99	1.53	2.76	1.38
Electrical Time Constant (msec)	10.26	12.88	10.63	15.86	26.39
Maximum Radial Shaft Load (Newton)	490	490	490	490	1470
Maximum Thrust Shaft Load (Newton)	98	98	98	98	490
Amplifier Model	IC800VMA102	IC800VMA102	IC800VMA202	IC800VMA202	IC800VMA302

Motor Technical Data

Insulation Class	Class B
Insulation Resistance	>100M ohm, 500 VDC
Insulation Strength	1500 VAC, 50Hz, 60 seconds
Vibration Grade (um)	15
Brake Power (VDC)	24
Vibration	2.5G
IP Rating	IP65 (except shaft and connector)

Environmental Specifications

Relative Humidity	20~90%RH (non condensing)
Operating Temperature	0 to 40°C
Storage Temperature	-10 to 80°C

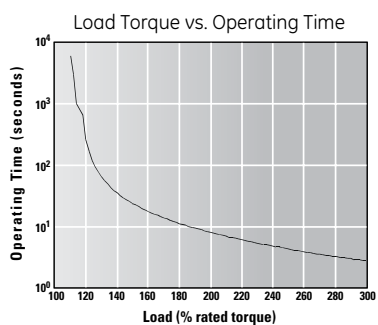
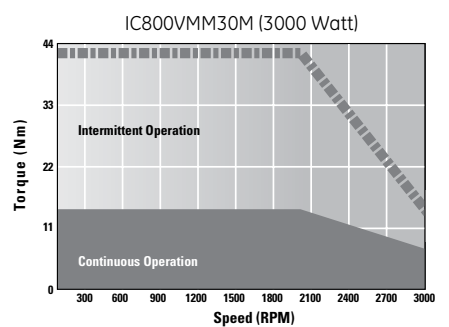
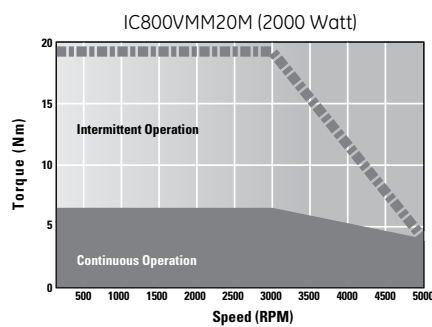
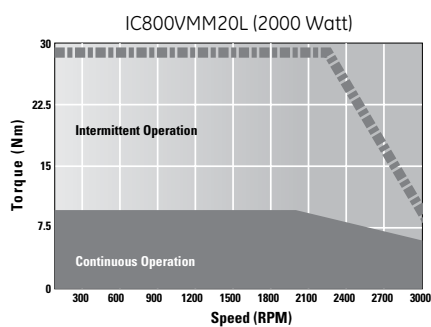
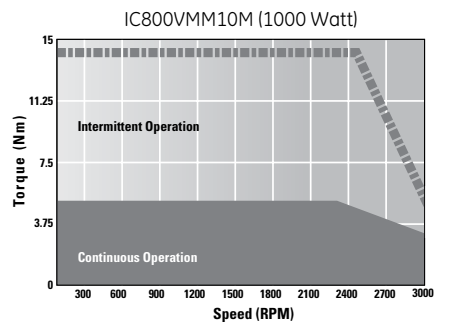
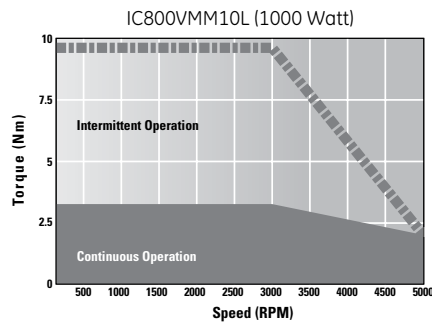
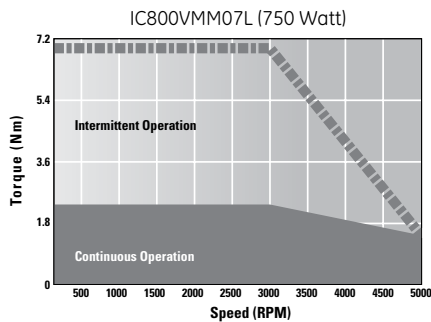
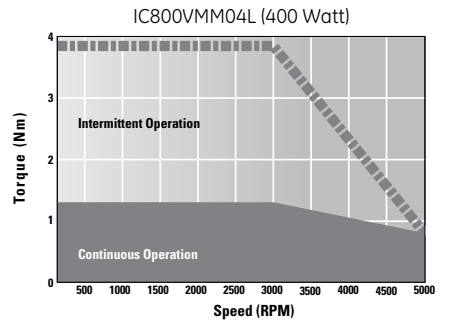
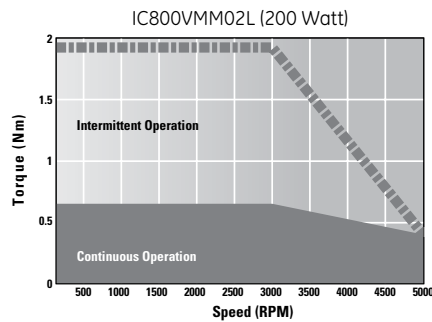
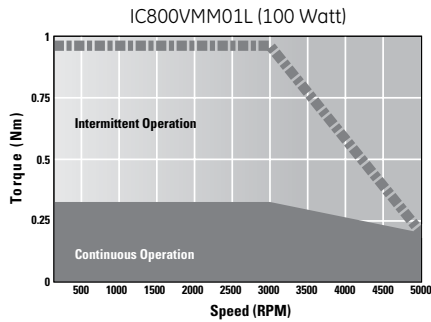
VersaMotion Servo Motors

Speed Torque Curves

The curves illustrate the relationship between motor speed and output torque. The motor can operate continuously at any combination of speed and torque within the prescribed continuous

operating zone. The limit of the continuous operating zone is determined with the motor's ambient temperature at 20°C and its drive current as a pure sine wave. Actual operation is limited by the current

of the servo drive unit. The continuous operating zone must be derated for ambient temperature above 20°C.

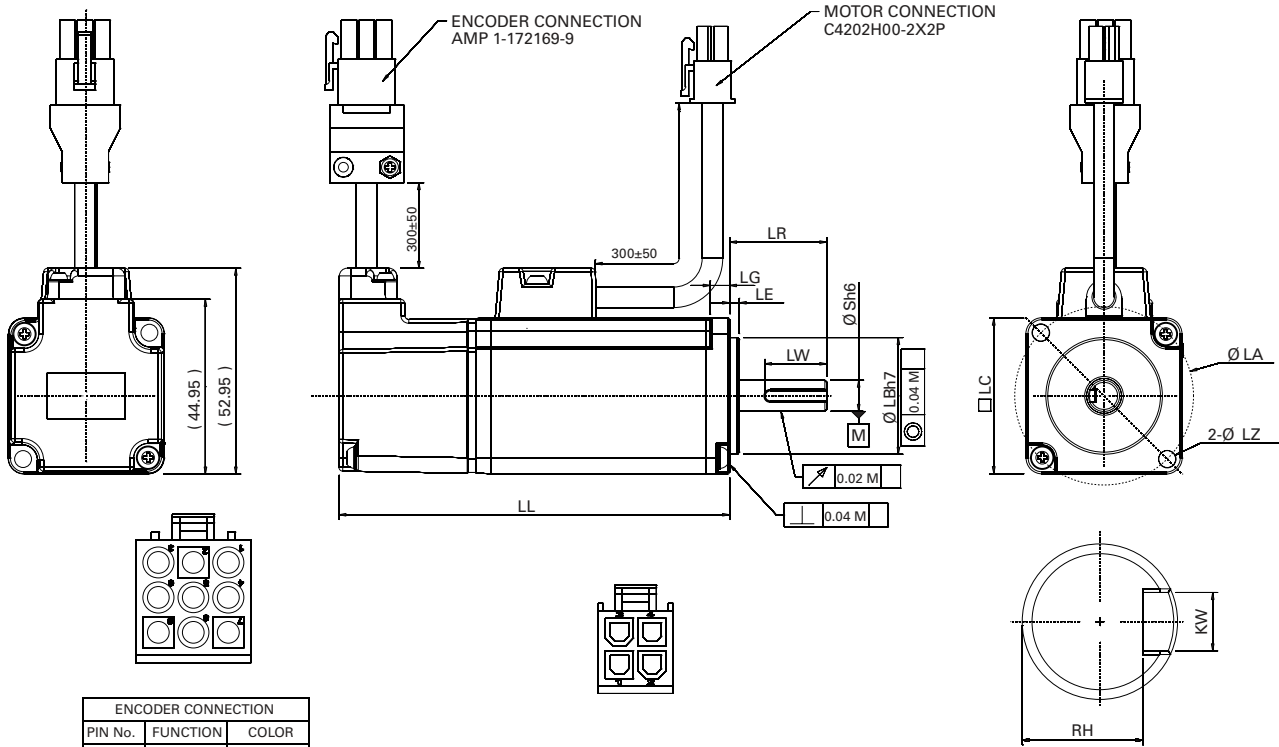


Load	Operating Time
120%	263.8 s
140%	35.2 s
160%	17.6 s
180%	11.2 s
200%	8 s
220%	6.1 s
240%	4.8 s
260%	3.9 s
280%	3.3 s
300%	2.8 s

VersaMotion Servo Motors

Dimensions

IC800VMM01L



ENCODER CONNECTION		
PIN No.	FUNCTION	COLOR
1	A	BLK
2	B	WHT
3	Z	ORG
4	\bar{A}	BLK/RED
5	\bar{B}	WHT/RED
6	\bar{Z}	ORG/RED
7	DC+5V	BRN
8	GND	BLU
9	SHIELD	SHIELD

MOTOR CONNECTION		
PIN No.	FUNCTION	COLOR
1	U	RED
2	V	WHT
3	W	BLK
4	C.G.	GRN/YEL

SHAFT END DETAILS

Dimensions shown mm

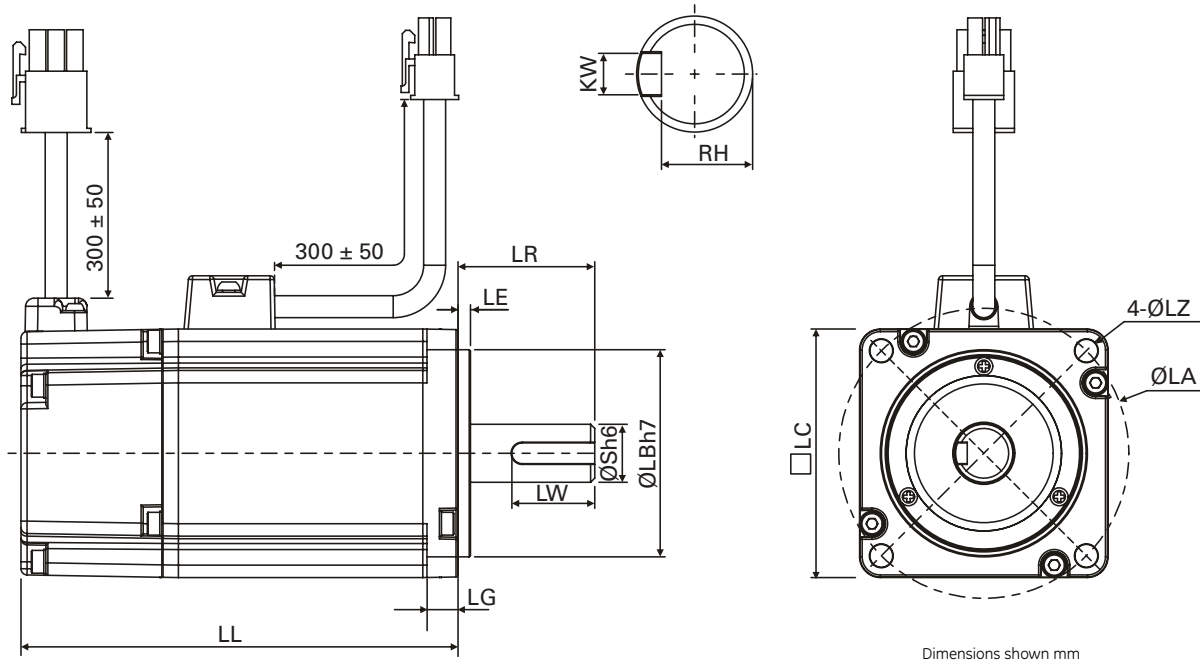
Dimension	IC800VMM01L □
LC	40
LZ	4.5
LA	46
S	8
LB	30
LL	100.6
LL with brake	N/A (no brake available on 100 Watt model at this time)
LR	25
LE	2.5
LG	5
LW	16
RH	6.2
KW	3

The boxes (□) at the ends of the model names are for shaft type or options (keyway, brake and oilseal)

VersaMotion Servo Motors

Dimensions

IC800VMM02L, IC800VMM04L, IC800VMM07L



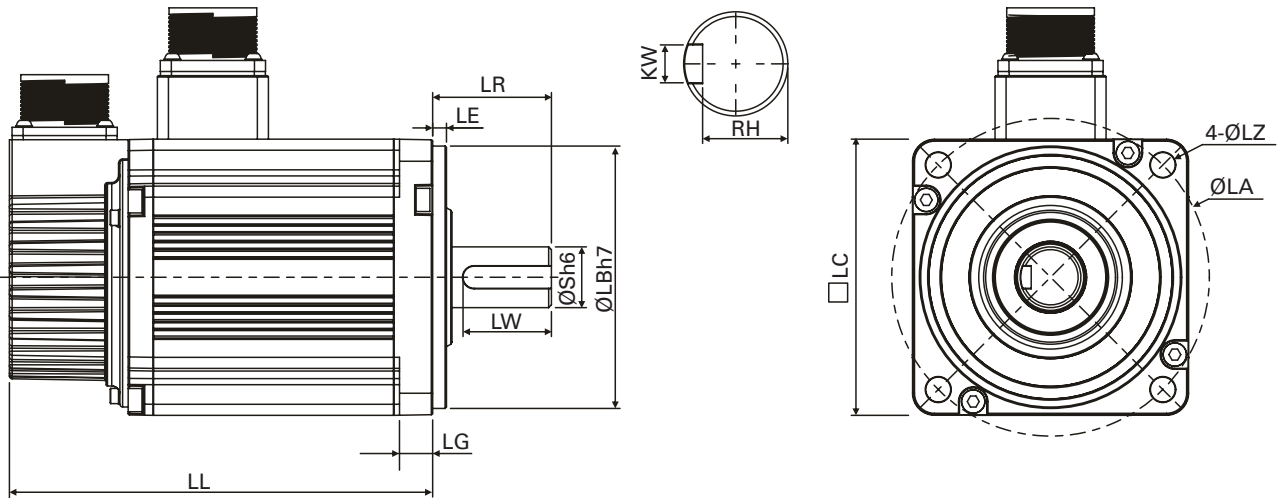
Dimension	IC800VMM02L□	IC800VMM04L□	IC800VMM07L□
LC	60	60	80
LZ	5.5	5.5	6.6
LA	70	70	90
S	14	14	19
LB	50	50	70
LL	105.5	130.7	138.3
LL with brake	141.6	166.8	178
LR	30	30	35
LE	3	3	3
LG	7.5	7.5	8
LW	20	20	25
RH	11	11	15.5
KW	5	5	6

The boxes (□) at the ends of the model names are for shaft type or options (keyway, brake and oilseal)

VersaMotion Servo Motors

Dimensions

IC800VMM10L, IC800VMM10M, IC800VMM20L, IC800VMM20M, IC800VMM30M



Dimensions shown mm

Dimension	IC800VMM10L □	IC800VMM10M □	IC800VMM20L □	IC800VMM20M □	IC800VMM30M □
LC	100	130	100	130	180
LZ	9	4	9	4	13.5
LA	115	145	115	145	200
S	22	22	22	22	35
LB	95	110	95	110	114.3
LL	153.5	147.5	199	187.5	202.1
LL with brake	192.5	183.5	226	216	235
LR	45	55	45	55	79
LE	5	6	5	6	4
LG	12	11.5	12	11.5	20
LW	32	36	32	36	63
RH	18	18	18	18	30
KW	8	8	8	8	10

The boxes (□) at the ends of the model names are for shaft type or options (keyway, brake and oilseal)

VersaMotion Servo Motors

Ordering Information

Part Number		
Motor Only	Description	Amplifier
IC800VMM01LNKSE25	100 Watt VersaMotion Servo Motor	IC800VMA012
IC800VMM02LNKSE25	200 Watt VersaMotion Servo Motor	IC800VMA022
IC800VMM02LBKSE25	200 Watt VersaMotion Servo Motor with Brake	IC800VMA022
IC800VMM04LNKSE25	400 Watt VersaMotion Servo Motor	IC800VMA042
IC800VMM04LBKSE25	400 Watt VersaMotion Servo Motor with Brake	IC800VMA042
IC800VMM07LNKSE25	750 Watt VersaMotion Servo Motor	IC800VMA072
IC800VMM07LBKSE25	750 Watt VersaMotion Servo Motor with Brake	IC800VMA072
IC800VMM10LNKSE25	1000 Watt VersaMotion Servo Motor	IC800VMA102
IC800VMM10MNKSE25	1000 Watt VersaMotion Servo Motor	IC800VMA102
IC800VMM10LBKSE25	1000 Watt VersaMotion Servo Motor with Brake	IC800VMA102
IC800VMM10MBKSE25	1000 Watt VersaMotion Servo Motor with Brake	IC800VMA102
IC800VMM20LNKSE25	2000 Watt VersaMotion Servo Motor	IC800VMA202
IC800VMM20MNKSE25	2000 Watt VersaMotion Servo Motor	IC800VMA202
IC800VMM20LBKSE25	2000 Watt VersaMotion Servo Motor with Brake	IC800VMA202
IC800VMM20MBKSE25	2000 Watt VersaMotion Servo Motor with Brake	IC800VMA202
IC800VMM30MNKSE25	3000 Watt VersaMotion Servo Motor	IC800VMA302
IC800VMM30MBKSE25	3000 Watt VersaMotion Servo Motor with Brake	IC800VMA302

Motor Cables

See applicable amplifier section for information about the proper cables to use with each motor.

αi and *βi* Series Servo Amplifiers

All Digital Servo Systems Offer High Performance and Reliability.

GE *αi* and *βi* Series Servo Drives, based on over five million axes installed worldwide, offer superior reliability and performance for unprecedented mean time between failure. The *αi* and *βi* Series Servos are available in a wide range of ratings for use with GE PACMotion PMM335 Series motion controller.

High-Performance Serial Encoders

Standard serial encoders built into the motors provide exceptional feedback resolution of 64K or 128K counts per revolution. Serial encoders support higher resolutions at high motor velocities than standard quadrature encoders and are more immune to noise. An optional battery connection provides absolute position feedback, eliminating the need to home the system after a power shutdown.

Reduced Tuning and Setup

There is no need for potentiometer tuning or personality modules; little tuning is required for properly sized drives. All drive parameters are stored in the controller in a standard motor database. Configuration settings are not stored in the drive, making it possible to replace drives with little set-up time. Stored drive and machine parameters are quickly transferred to repeat production machines.

All-Digital System

All control loops—current, velocity, and position—are closed in the GE motion controller. High-speed microprocessors and/or digital signal processors (DSPs) in the controller provide loop update times of 250 μs. The high response servo system can compensate for machine design limitations, yielding faster acceleration/deceleration rates and better responses to load changes.

All-Digital Servo Command Signals

The PACMotion PMM335 motion controllers use a high speed fiber optic command interface to the *αi* and *βi* Series amplifiers. With its superior noise immunity, both of these GE digital command interfaces allows for an increased signal to noise ratio for improved accuracy and performance.



Series	Motor Series	Controller	Command Interface	Continuous Torque Range		Power Supply
				In-lb	Nm	
<i>αHVi</i>	<i>αHVi</i> , <i>αHVIs</i>	PMM335	Fiber Optic	17.7-1150	2-130	Separate PSM
<i>βi</i>	<i>βis</i>	PMM335	Fiber Optic	3.5-177	0.4-20	Built-in
<i>βHVi</i>	<i>βHVIs</i>	PMM335	Fiber Optic	17.7-177	2-20	Built-in

Agency Approvals

UL, IEC rating and CE mark compliant

Info

For application, installation, and tuning information, consult the Services website at www.ge-ip.com.

αi and *βi* Series Servo Amplifiers

System Power Requirements

Amplifier Specification	<i>βi</i> Series	<i>αHVi</i> */ <i>βHVi</i> Series
Voltage (-15%, +10%): 3-phase 1-phase (see below)	200-240VAC 220-240VAC	400-480VAC n/a
Frequency	50/60Hz	50/60 Hz
Allowable frequency fluctuation	±2 Hz	±2 Hz
Voltage fluctuation during acceleration/deceleration	7% or less	7% or less
Ambient Temperature Range	0-55°C	0-55°C
Humidity (non-condensing)	90%	90%
Vibration	Less than 0.5G	Less than 0.5G

**αHVi* series amplifiers use a separately mounted shared power supply.

The 4A and 20A *βi* Series Servo amplifiers can be run on single phase power; however, the lifetime of the amplifier is reduced because of higher input and ripple current. An AC line filter is strongly recommended to suppress the influences of high-frequency input line noise on the drive power supply. If a power source

within the specified voltage range is not available, a transformer is required. The kVA rating of the transformer should be equal to or greater than the sum of all motor kW ratings. If an isolation-type power transformer is used, an AC line filter is not required.

GE offers the following line filters; transformers must be supplied by the user as required.

Part Number	Description	Amplifier Series
ZA81L-0001-0083#3C	5.4 kW, 3-phase AC line filter	<i>βi</i>
ZA81L-0001-0101#C	10.5 kW, 3-phase AC line filter	<i>βi</i>
ZA81L-0001-0168	5.4 kW, 3-phase AC line filter	<i>βHVi</i>
ZA81L-0001-0169	10.5 kW, 3-phase AC line filter	<i>βHVi</i>
ZA81L-0001-0163	18kW, 3-phase AC line filter	PSM-11HVi, PSM-18HVi
ZA81L-0001-0164	45kW, 3-phase AC line filter	PSM-30HVi, PSM-45HVi

Control Power Specification

The *βi* and *βHVi* Series amplifiers require a 24VDC power supply for amplifier control power. This DC power supply must be supplied by the user. We recommend the GE 24VDC power supply, part number IC690PWR024. The same external DC power supply can be used to provide

power to multiple amplifiers as long as the supply is rated for the total current requirements of all of the amplifiers.

The *αHVi* series power supplies require a single phase 200-230VAC control power input.



Motor Model	Max. kW Rating
<i>β0.4/5000 is</i>	0.13
<i>β0.5/6000 is</i>	0.35
<i>β1/6000 is</i>	0.5
<i>β2/4000 is</i>	0.5
<i>β4/4000 is</i>	0.75
<i>β8/3000 is</i>	1.2
<i>β12/3000 is</i>	1.8
<i>β22/2000 is</i>	2.5
<i>β2/4000 HVis</i>	0.5
<i>β4/4000 HVis</i>	0.75
<i>β8/3000 HVis</i>	1.2
<i>β12/3000 HVis</i>	1.8
<i>β22/2000 HVis</i>	2.5
<i>α2/6000HVis</i>	1.0
<i>α4/5000HVis</i>	1.0
<i>α8/6000HVis</i>	2.2
<i>α12/4000HVis</i>	2.5
<i>α22/3000HVi</i>	4.0
<i>α22/4000HVis</i>	4.5
<i>α30/4000HVis</i>	5.5
<i>α40/4000HVis</i>	5.5
<i>α50/3000HVis w/fan</i>	14
<i>α100/2500HVis</i>	11

Incoming DC Power for *βi* Series

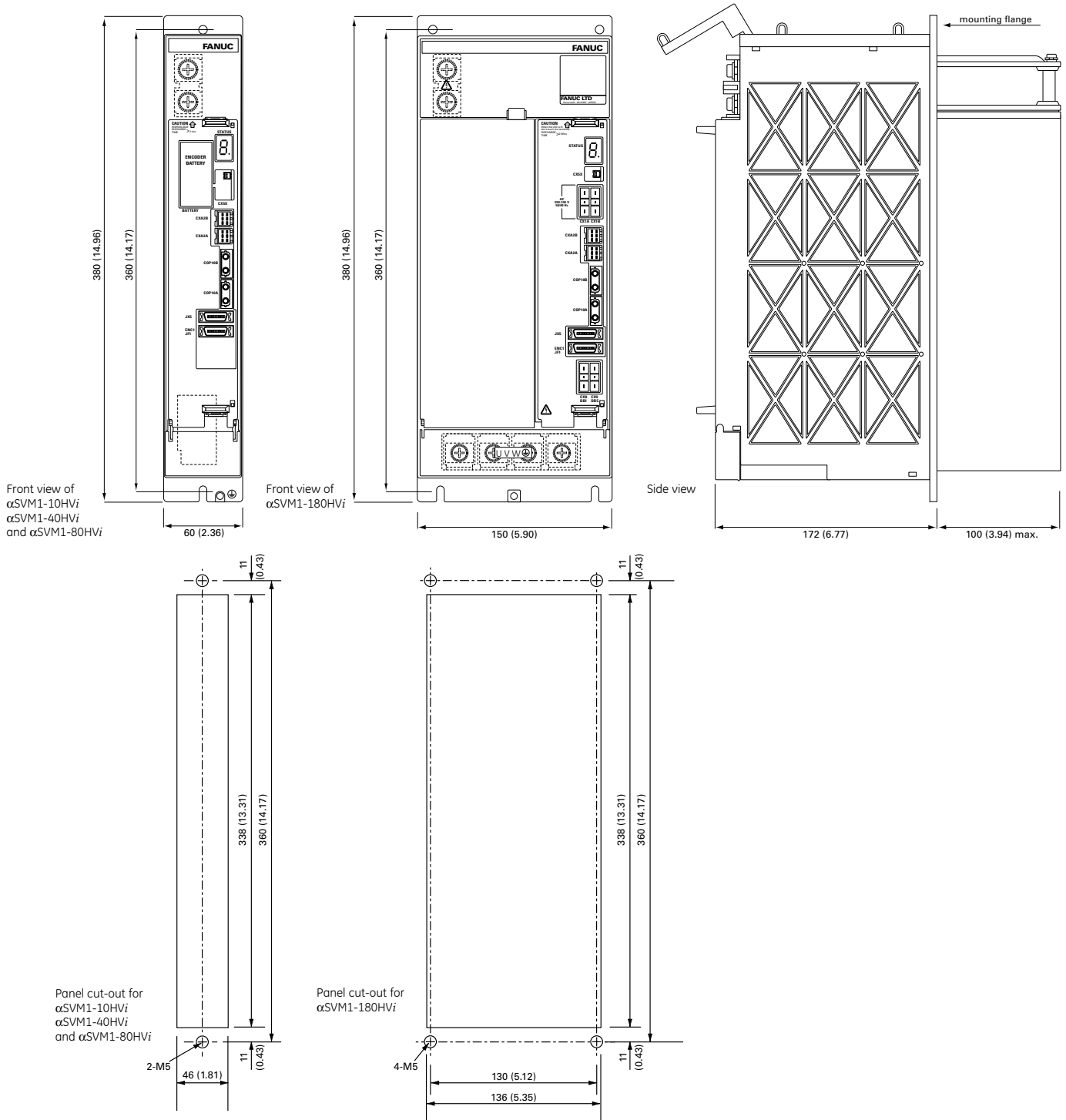
Input Voltage	24VDC (±10%)
Current Requirement (per amplifier):	
<i>βi</i> Series	0.9 amps
<i>βHVi</i> Series	0.9 amps

αHV*i* Series Servo Amplifiers and Power Supplies

Dimensions

The αHV*i* Series amplifiers and PSM-HV*i* power supplies are designed with a rear-mounted heat sink that extends through a hole in the mounting plate. This design eliminates most of the heat dissipation inside the control cabinet, reducing the temperature rise in the cabinet and the load on cabinet cooling equipment.

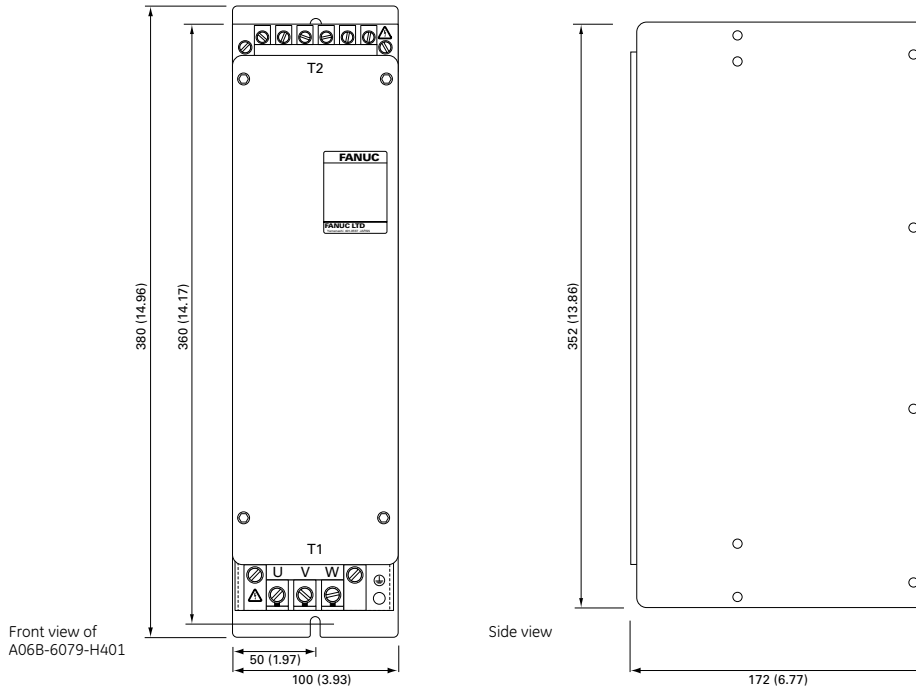
αHV*i* Amplifier Dimension Drawings



αHV Series Servo Amplifiers and Power Supplies

Dimensions

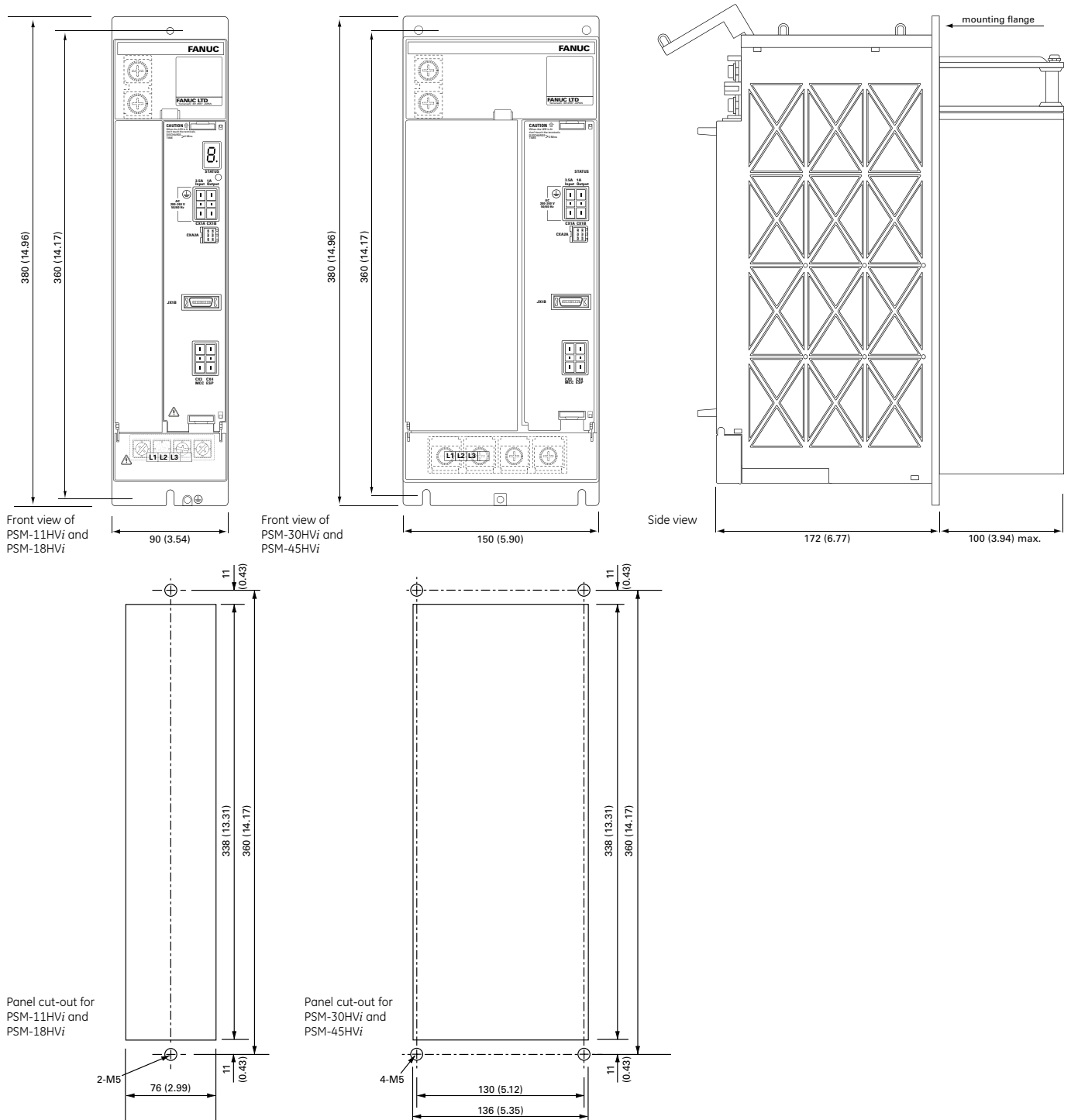
Dynamic Brake Module Dimension Drawings



αHV_i Series Servo Amplifiers and Power Supplies

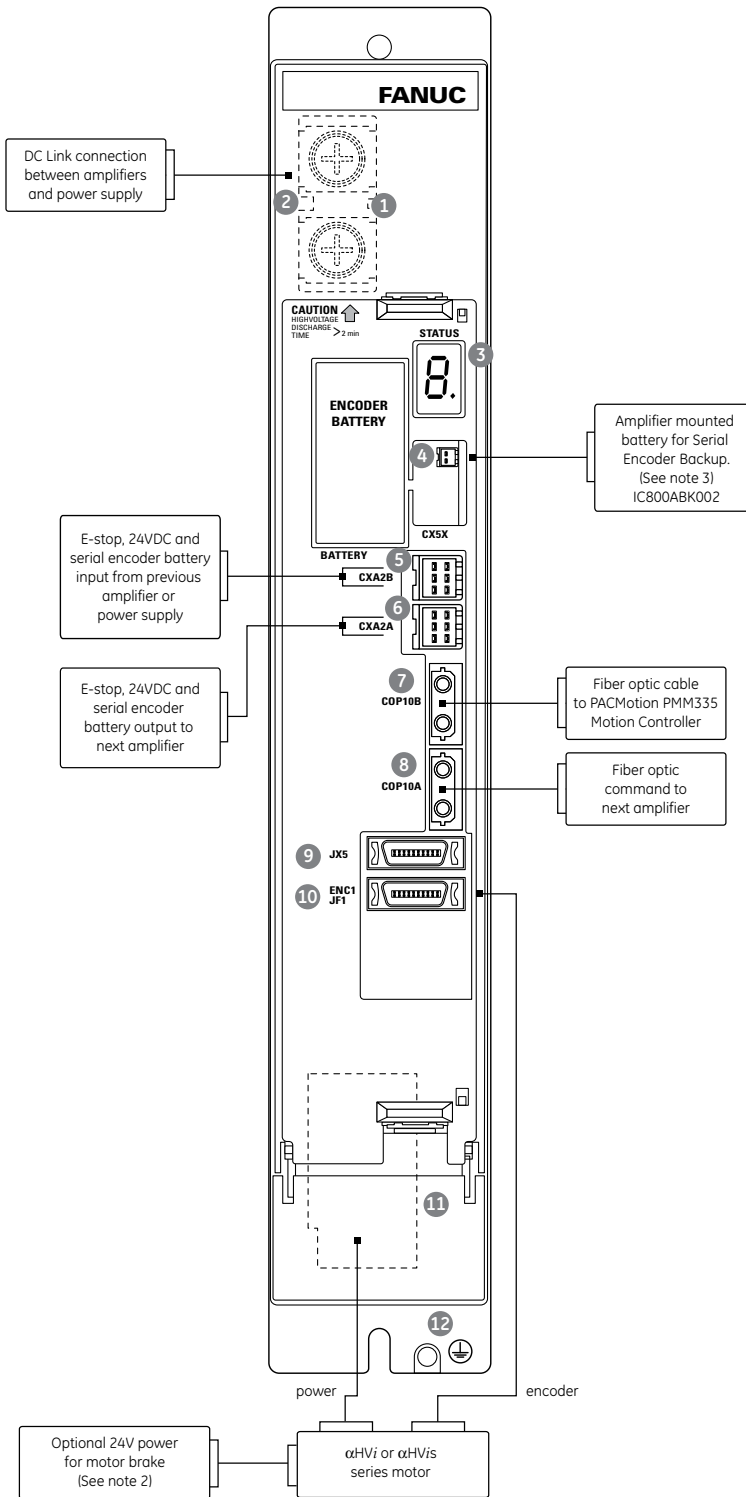
Dimensions

Power Supply Dimension Drawings



αHV*i* Series Servo Amplifiers and Power Supplies

αSVM1-10HV*i*, αSVM1-40HV*i*, αSVM1-80HV*i* Connection Diagram



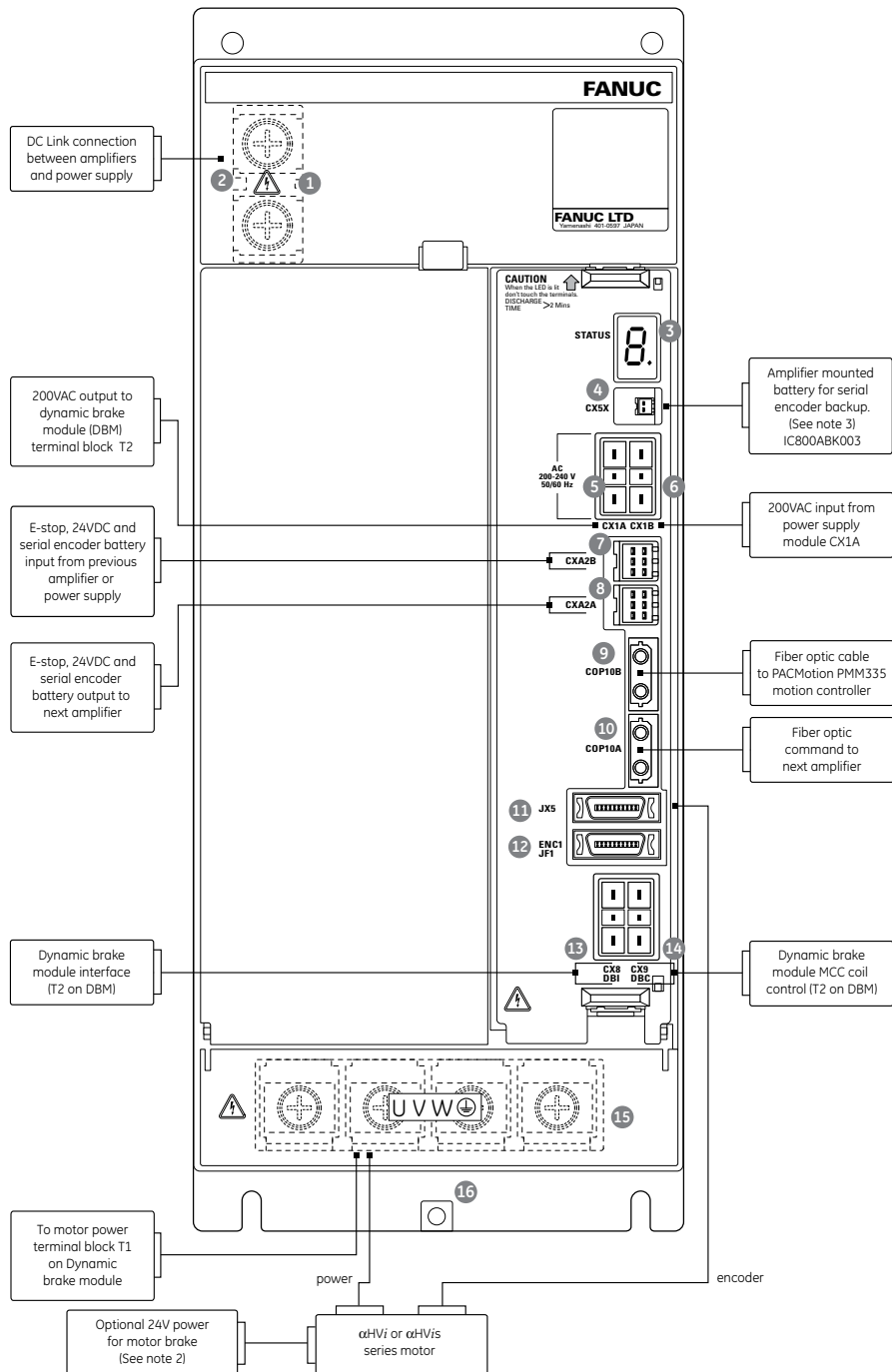
No.	Name	Remarks
1		DC link terminal block
2		DC link charge LED
3	STATUS	Status LED
4	CX5X	Absolute encoder battery input
5	CXA2B	Input connector for PSM interface
6	CXA2A	Output connector for PSM interface
7	COP10B	Fiber optic servo command input
8	COP10A	Fiber optic servo command output
9	JX5	No connection
10	ENC1/JF1	Serial encoder feedback
11	CZ2	Motor power connector
12	⊥	Tapped hole for grounding the amplifier

Notes:

- Always install the circuit breakers, magnetic contactor, and AC line filter.
- Use a regulated 24 VDC power supply for the amplifier. 24 VDC power supply for the amplifier and power supply for the motor brake cannot be shared.
- The IC800ABK001 encoder battery pack mounts separately on the panel and can power up to 4 axes. Alternatively, the IC800ABK002 1-axis lithium battery can be snapped onto each amplifier.

αHVi Series Servo Amplifiers and Power Supplies

αSVM1-180HVi, Connection Diagram



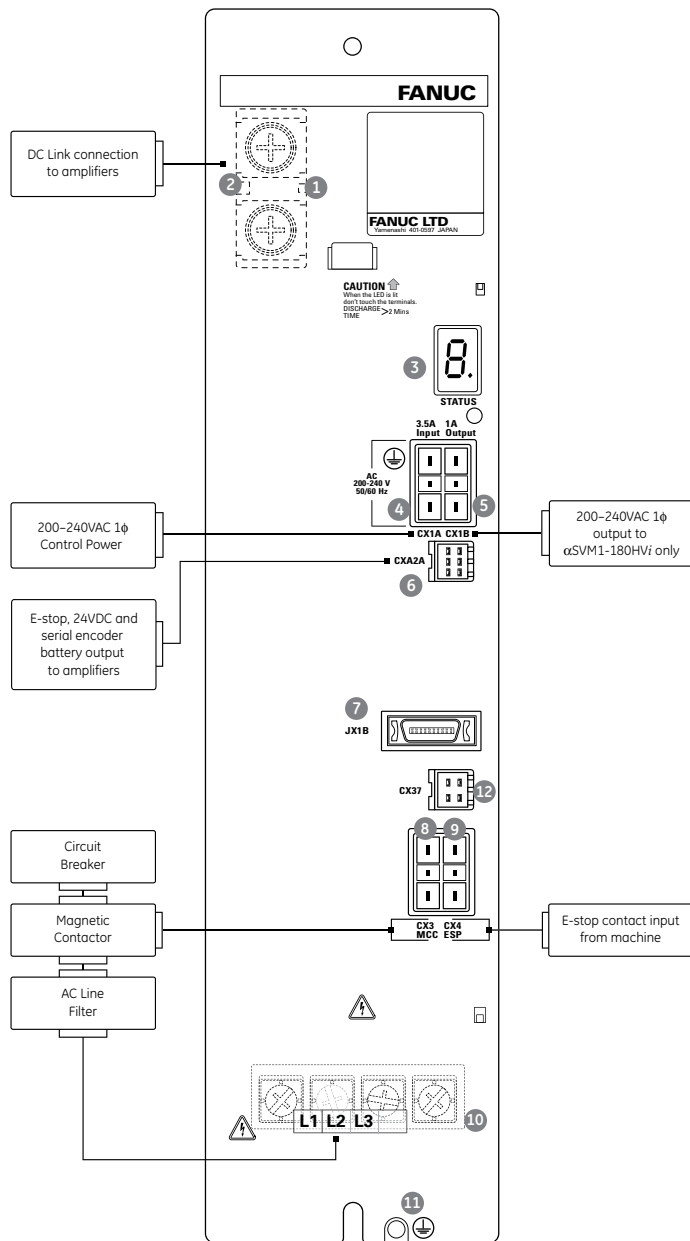
No.	Name	Remarks
1		DC link terminal block
2		DC link charge LED
3	STATUS	Status LED
4	CX5X	Absolute encoder battery input
5	CX1A	200VAC power supply output connector
6	CX1B	200VAC power supply input connector
7	CXA2B	Input connector for PSM interface
8	CXA2A	Output connector for PSM interface
9	COP10B	Fiber optic servo command input
10	COP10A	Fiber optic servo command output
11	JX5	No connection
12	ENC1/JF1	Serial encoder feedback
13	CX8	Dynamic brake module interface connector
14	CX9	Connector for the magnetic contactor (MCC) drive coil of the dynamic brake module
15	TB2	Motor power connector
16		Tapped hole for grounding the amplifier

Notes:

1. Always install the circuit breakers, magnetic contactor, and AC line filter.
2. Use a regulated 24 VDC power supply for the amplifier. 24 VDC power supply for the amplifier and power supply for the motor brake cannot be shared.
3. The IC800ABK001 encoder battery pack mounts separately on the panel and can power up to 4 axes. Alternatively, the IC800ABK003 1-axis lithium battery can be snapped onto each amplifier.

αHV*i* Series Servo Amplifiers and Power Supplies

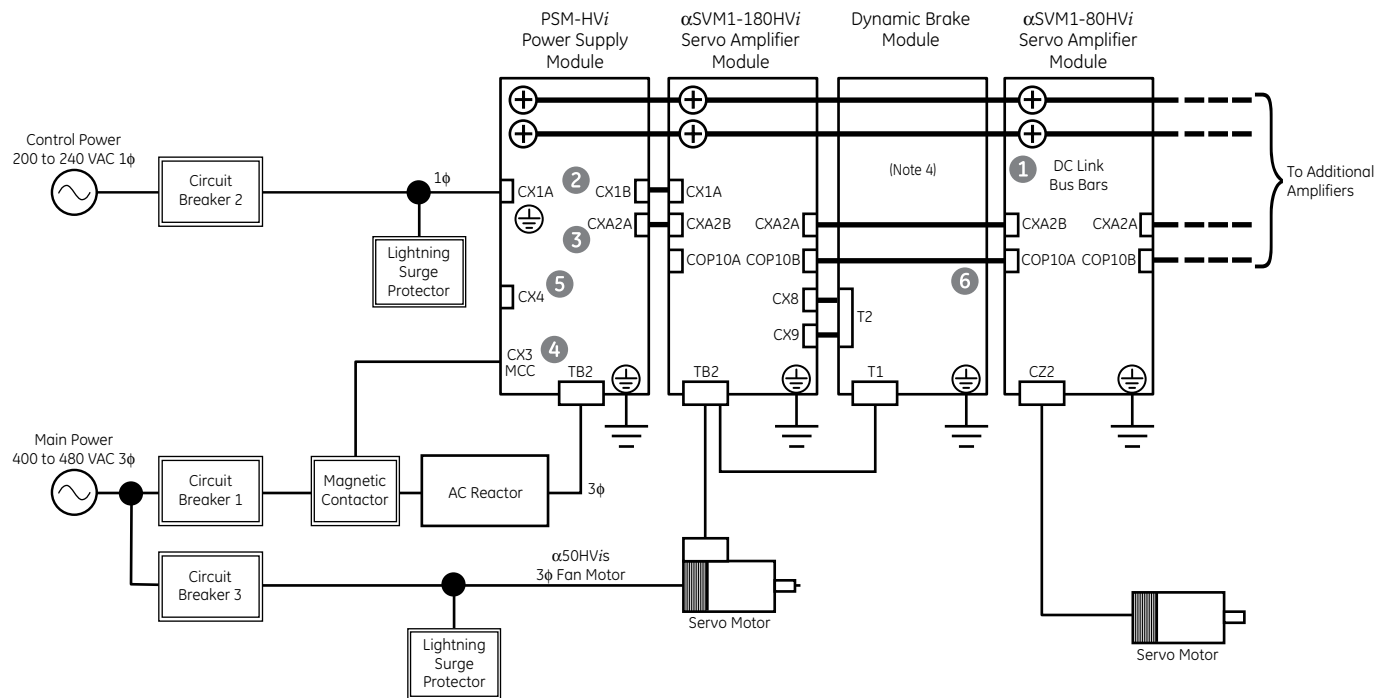
PSM-HV*i* Power Supply Connection Diagram



No.	Name	Remarks
1		DC link terminal block
2		DC link charge LED
3	STATUS	Status LED
4	CX1A	200VAC power supply input connector
5	CX1B	200VAC power supply output connector (used with αSVM1-180HV <i>i</i> only)
6	CXA2A	Output connector for PSM interface
7	JX1B	Not used
8	CX3	Connector for the main magnetic contactor (MCC) drive coil control signal
9	CX4	Connector for ESP signal
10	TB2	Terminal block for main AC power line
11		Tapped hole for grounding the power supply
12	CX37	Power failure detection output

αHV*i* Series Servo Amplifiers and Power Supplies

αHV*i* System Connections



No.	Name	Remarks	Part Numbers
1	DC Link Bus Bars	30, 60 or 90 mm long bar kits available based on width of module ¹	60 mm kit: Z44A718031-G05 90 mm kit: Z44A718031-G03 150 mm kit: Z44A718031-G12
2	CX1A/CX1B	200VAC 1 phase control power unit ²	ZA06B-6071-K203 (PSM connector kit) ZA02B-0120-K321 (2 required for αSVM1-180HV <i>i</i> only)
3	CXA2A/CXA2B	Output/input connectors for PSM interface ³	ZA06B-6110-K210 (connector: 2 required) Z44C746453-001 (200 mm cable for shared encoder battery) Z44C746453-002 (200 mm cable for built-in encoder battery or no battery backup)
4	CX3	Connector for main magnetic contactor (MCC) control signal ²	ZA06B-6071-K203 (PSM connector kit)
5	CX4	E-Stop signal connector ²	ZA06B-6071-K203 (PSM connector kit)
6	COP10A/COP10B	Fiber optic command cable	See page 17 for cable options

Notes:

- Power supply and amplifier kits include appropriate length DC link bus bars.
- The power supply connector kit included with all power supply module kits includes connectors for CX1A, CX3 and CX4. Each αSVM1-180HV*i* amplifier kit includes two of the CX1A/B connectors to jumper the 200VAC single phase power from the power supply module.
- The PSM interface on connectors CXA2A/B supplies 24VDC power from the PSM power supply module to the connected amplifiers. Additionally, this interface allows shared signals such as system emergency stop and battery backup for the motor serial encoders. Connectors are included in the amplifier and power supply kits. Prefabricated cables are also available. Select the correct cable based on the battery type used to backup the motor serial encoder feedback for absolute positioning.
- Position of dynamic brake module is for reference only. Normally this module is mounted above or below the amplifiers or at the end of the module line up so that the standard DC link bus bar length is adequate to make the link connection between adjacent amplifiers.

αHV*i* Series Servo Amplifiers and Power Supplies

Ordering Information

The αHV*i* series amplifiers and PSM-HV*i* power supply modules can be ordered as individual components or as kits that include connectors, spare fuses, and DC link bus bars. The kits are recommended for new installations while spare parts and replacement units should use the part number for the amplifier

or power supply module. To place an order for a complete system, select the servo motor(s) that meet your application requirements, then select the amplifier kit(s), power supply kit, cables, connectors and accessories.

αHV*i* Amplifier Kits

Part Number	Kit Description	Qty.	Kit Contents
IC800AIHV010	10 Amp αHV <i>i</i> Series Amplifier Package	1	αSVM1-10HV <i>i</i> FSSB Amplifier (ZA06B-6127-H102)
		1	SVM Spare Control Power Fuse (ZA06B-6073-K250)
		2	CXA2A/B Connector (ZA06B-6110-K210)
		1	CZ2 Motor Power Output Connector (ZA06B-6110-K203#ZM)
		1	Bus Bar Kit for 60 mm Module (Z44A718031-G05)
IC800AIHV040	40 Amp αHV <i>i</i> Series Amplifier Package	1	αSVM1-40HV <i>i</i> FSSB Amplifier (ZA06B-6127-H104)
		1	SVM Spare Control Power Fuse (ZA06B-6073-K250)
		2	CXA2A/B Connector (ZA06B-6110-K210)
		1	CZ2 Motor Power Output Connector (ZA06B-6110-K203#ZM)
		1	Bus Bar Kit for 60 mm Module (Z44A718031-G05)
IC800AIHV080	80 Amp αHV <i>i</i> Series Amplifier Package	1	αSVM1-80HV <i>i</i> FSSB Amplifier (ZA06B-6127-H105)
		1	SVM Spare Control Power Fuse (ZA06B-6073-K250)
		2	CXA2A/B Connector (ZA06B-6110-K210)
		1	CZ2 Motor Power Output Connector (ZA06B-6110-K203#ZM)
		1	Bus Bar Kit for 60 mm Module (Z44A718031-G05)
IC800AIHV180	180 Amp αHV <i>i</i> Series Amplifier Package	1	αSVM1-180HV <i>i</i> FSSB Amplifier (ZA06B-6127-H106)
		1	SVM Spare Control Power Fuse (ZA06B-6073-K250)
		2	CXA2A/B Connector (ZA06B-6110-K210)
		1	CX8/CX9 DB Module Interface Connector Kit (ZA06B-6073-K216)
		1	Bus Bar Kit for 150 mm Module (Z44A718031-G12)
		2	CX1A/B Control Power Connector Kit (ZA02B-0120-K321)

PSM-HV*i* Power Supply Kits

Part Number	Kit Description	Qty.	Kit Contents
IC800PSHV011	11 kW Power Supply Module Package	1	PSM-11HV <i>i</i> 11 kW HV Power Supply Module (ZA06B-6150-H011)
		1	Spare Control Power Fuse (ZA06B-6077-K250)
		1	Bus Bar Kit for 90 mm Module (Z44A718031-G03)
		1	Power Supply Connector Kit (ZA06B-6071-K203)
IC800PSHV018	18 kW Power Supply Module Package	1	PSM-18HV <i>i</i> 18 kW HV Power Supply Module (ZA06B-6150-H018)
		1	Spare Control Power Fuse (ZA06B-6077-K250)
		1	Bus Bar Kit for 90 mm Module (Z44A718031-G03)
		1	Power Supply Connector Kit (ZA06B-6071-K203)
IC800PSHV030	30 kW Power Supply Module Package	1	PSM-30HV <i>i</i> 30 kW HV Power Supply Module (ZA06B-6150-H030)
		1	Spare Control Power Fuse (ZA06B-6077-K250)
		1	Bus Bar Kit for 150 mm Module (Z44A718031-G12)
		1	Power Supply Connector Kit (ZA06B-6071-K203)
IC800PSHV045	45 kW Power Supply Module Package	1	PSM-45HV <i>i</i> 45 kW HV Power Supply Module (ZA06B-6150-H045)
		1	Spare Control Power Fuse (ZA06B-6077-K250)
		1	Bus Bar Kit for 150 mm Module (Z44A718031-G12)
		1	Power Supply Connector Kit (ZA06B-6071-K203)

The αHV*i* series amplifiers use a separately mounted shared power supply for one or more axes. These power supplies can regenerate energy back to the AC line so no regenerative resistors or modules are required.

αHV_i Series Amplifier and Motor

Ordering Information

Motor Model	α2/6000HV _i	α4/5000HV _i	α8/6000HV _i
Motor Part Number	ZA06B-0219-B200	ZA06B-0216-B200	ZA06B-0233-B200
Motor/Brake Part Number	ZA06B-0219-B500	ZA06B-0216-B500	ZA06B-0233-B500
Beta Amplifier Model	βSVM1-10HV _i	βSVM1-10HV _i	βSVM1-40HV _i
Beta Amplifier Part Number	ZA06B-6131-H001	ZA06B-6131-H001	ZA06B-6131-H003
Beta Amplifier Fan Kit ^(Note 1)	n/a	n/a	ZA06B-6134-K002
Beta Amplifier Kit	IC800BIHV010	IC800BIHV010	IC800BIHV040
Alpha Amplifier Model	αSVM1-10HV _i	αSVM1-10HV _i	αSVM1-40HV _i
Alpha Amplifier Part Number	ZA06B-6127-H102	ZA06B-6127-H102	ZA06B-6127-H104
Alpha Amplifier Kit	IC800AIHV010	IC800AIHV010	IC800AIHV040

Cables		α2/6000HV _i	α4/5000HV _i	α8/6000HV _i
Power Cable	7 M	CP2I-0WPB-0070-AZ	CP2I-0WPB-0070-AZ	CP3I-0WPB-0070-AZ
	14 M	CP2I-0WPB-0140-AZ	CP2I-0WPB-0140-AZ	CP3I-0WPB-0140-AZ
Power Cable (Shielded)	7 M	CP2I-0WEB-0070-AZ	CP2I-0WEB-0070-AZ	CP3I-0WEB-0070-AZ
	14 M	CP2I-0WEB-0140-AZ	CP2I-0WEB-0140-AZ	CP3I-0WEB-0140-AZ
Feedback Cable (Right Angle)	7 M	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ
	14 M	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ
Feedback Cable (Straight)	7 M	CFDA-0WPB-0070-AZ	CFDA-0WPB-0070-AZ	CFDA-0WPB-0070-AZ
	14 M	CFDA-0WPB-0140-AZ	CFDA-0WPB-0140-AZ	CFDA-0WPB-0140-AZ
Brake Power Cable	7 M	Integrated with power cable	Integrated with power cable	CB4N-0WPM-0070-AZ
	14 M	Integrated with power cable	Integrated with power cable	CB4N-0WPM-0140-AZ
PSM Interface Cable (External Battery)	200 mm	Z44C746453-001	Z44C746453-001	Z44C746453-001
PSM Interface Cable (Built-in or No Battery)	200 mm	Z44C746453-002	Z44C746453-002	Z44C746453-002
Fiber Optic Command Cable	15 CM		ZA66L-6001-0023#L150R0	
	30 CM		ZA66L-6001-0023#L300R0	
	1 M		ZA66L-6001-0023#L1R003	
	2 M		ZA66L-6001-0023#L2R003	
	3 M		ZA66L-6001-0023#L3R003	
Fiber Optic Cable (Sheathed)	1 M		ZA66L-6001-0026#L1R003	
	3 M		ZA66L-6001-0026#L3R003	
	5 M		ZA66L-6001-0026#L5R003	
	10 M		ZA66L-6001-0026#L10R03	
	20 M		ZA66L-6001-0026#L20R03	
	30 M		ZA66L-6001-0026#L30R03	
	50 M		ZA66L-6001-0026#L50R03	
	100 M		ZA66L-6001-0026#L100R3	

Connector Kits		α2/6000HV _i	α4/5000HV _i	α8/6000HV _i
Encoder Feedback Connector (JF1)		ZA06B-6073-K214	ZA06B-6073-K214	ZA06B-6073-K214
CXA2A/B Jumper Connector (2 Req)		ZA06B-6110-K210	ZA06B-6110-K210	ZA06B-6110-K210
CZ2 Motor Power Output Connector		ZA06B-6110-K203#ZZM	ZA06B-6110-K203#ZZM	ZA06B-6110-K203#ZZM
Motor Half Keys		Z44A730465-001	Z44A730465-016	Z44A730465-002
Motor Feedback Connector Kit	90 Deg	ZA06B-6114-K204#E	ZA06B-6114-K204#E	ZA06B-6114-K204#E
	Straight	ZA06B-6114-K204#S	ZA06B-6114-K204#S	ZA06B-6114-K204#S
Motor Power/Brake Connector Kit	90 Deg	ZA06B-6114-K220#E	ZA06B-6114-K220#E	n/a
	Straight	ZA06B-6114-K220#S	ZA06B-6114-K220#S	n/a
Motor Power Connector Kit	90 Deg	n/a	n/a	Z44A730464-G18
	Straight	n/a	n/a	Z44A730464-G17
Motor Brake Connector Kit	90 Deg	n/a	n/a	ZA06B-6114-K213#E
	Straight	n/a	n/a	ZA06B-6114-K213#S

Accessories		α2/6000HV _i	α4/5000HV _i	α8/6000HV _i
DC Link Bus Bars		Z44A718031-G05	Z44A718031-G05	Z44A718031-G05
Spare Amplifier Control Power Fuse		ZA06B-6073-K250	ZA06B-6073-K250	ZA06B-6073-K250
Encoder Battery Back-up (Multi-Axis Panel Mounted Kit) ^(Note 2)		IC800ABK001	IC800ABK001	IC800ABK001
Encoder Battery Back-up (Single-Axis Built-in) ^(Note 2)		IC800ABK002	IC800ABK002	IC800ABK002

1) Separate user installed cooling fan is only required for the βSVM1-40HV_i amplifier. This fan kit is included in the IC800BIHV040 amplifier kit but must be separately ordered when the ZA06B-6131-H003 amplifier is ordered.

2) Contents of encoder battery kits is shown on page 78

αHV_i Series Amplifier and Motor

Ordering Information

Motor Model	α12/4000HV _i	α22/3000HV _i	α22/4000HV _i
Motor Part Number	ZA06B-0239-B200	ZA06B-0249-B200	ZA06B-0266-B200
Motor/Brake Part Number	ZA06B-0239-B500	ZA06B-0249-B500	ZA06B-0266-B500
Beta Amplifier Model	βSVM1-40HV _i	βSVM1-40HV _i	n/a
Beta Amplifier Part Number	ZA06B-6131-H003	ZA06B-6131-H003	n/a
Beta Amplifier Fan Kit ^(Note 1)	ZA06B-6134-K002	ZA06B-6134-K002	n/a
Beta Amplifier Kit	IC800BIHV040	IC800BIHV040	n/a
Alpha Amplifier Model	αSVM1-40HV _i	αSVM1-40HV _i	αSVM1-80HV _i
Alpha Amplifier Part Number	ZA06B-6127-H104	ZA06B-6127-H104	ZA06B-6127-H105
Alpha Amplifier Kit	IC800AIHV040	IC800AIHV040	IC800AIHV080

Cables		α12/4000HV _i	α22/3000HV _i	α22/4000HV _i
Power Cable	7 M	CP3I-0WPB-0070-AZ	CP4I-0WPB-0070-AZ	CP4I-0WPB-0070-AZ
	14 M	CP3I-0WPB-0140-AZ	CP4I-0WPB-0140-AZ	CP4I-0WPB-0140-AZ
Power Cable (Shielded)	7 M	CP3I-0WEB-0070-AZ	CP4I-0WEB-0070-AZ	CP4I-0WEB-0070-AZ
	14 M	CP3I-0WEB-0140-AZ	CP4I-0WEB-0140-AZ	CP4I-0WEB-0140-AZ
Feedback Cable (Right Angle)	7 M	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ
	14 M	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ
Feedback Cable (Straight)	7 M	CFDA-0WPB-0070-AZ	CFDA-0WPB-0070-AZ	CFDA-0WPB-0070-AZ
	14 M	CFDA-0WPB-0140-AZ	CFDA-0WPB-0140-AZ	CFDA-0WPB-0140-AZ
Brake Power Cable	7 M	CB4N-0WPM-0070-AZ	CB4N-0WPM-0070-AZ	CB4N-0WPM-0070-AZ
	14 M	CB4N-0WPM-0140-AZ	CB4N-0WPM-0140-AZ	CB4N-0WPM-0140-AZ
PSM Interface Cable (External Battery)	200 mm	Z44C746453-001	Z44C746453-001	Z44C746453-001
PSM Interface Cable (Built-in or No Battery)	200 mm	Z44C746453-002	Z44C746453-002	Z44C746453-002
Fiber Optic Command Cable	15 CM		ZA66L-6001-0023#L150R0	
	30 CM		ZA66L-6001-0023#L300R0	
	1 M		ZA66L-6001-0023#L1R003	
	2 M		ZA66L-6001-0023#L2R003	
	3 M		ZA66L-6001-0023#L3R003	
				ZA66L-6001-0026#L10R03
Fiber Optic Cable (Sheathed)	1 M		ZA66L-6001-0026#L1R003	
	3 M		ZA66L-6001-0026#L3R003	
	5 M		ZA66L-6001-0026#L5R003	
	10 M		ZA66L-6001-0026#L10R03	
	20 M		ZA66L-6001-0026#L20R03	
	30 M		ZA66L-6001-0026#L30R03	
	50 M		ZA66L-6001-0026#L50R03	
	100 M		ZA66L-6001-0026#L100R3	

Connector Kits		α12/4000HV _i	α22/3000HV _i	α22/4000HV _i
Encoder Feedback Connector (JF1)		ZA06B-6073-K214	ZA06B-6073-K214	ZA06B-6073-K214
CXA2A/B Jumper Connector (2 Req)		ZA06B-6110-K210	ZA06B-6110-K210	ZA06B-6110-K210
CZ2 Motor Power Output Connector		ZA06B-6110-K203#ZZM	ZA06B-6110-K203#ZZM	ZA06B-6110-K203#ZZM
Motor Half Keys		Z44A730465-015	Z44A730465-003	Z44A730465-003
Motor Feedback Connector Kit	90 Deg	ZA06B-6114-K204#E	ZA06B-6114-K204#E	ZA06B-6114-K204#E
	Straight	ZA06B-6114-K204#S	ZA06B-6114-K204#S	ZA06B-6114-K204#S
Motor Power Connector Kit	90 Deg	Z44A730464-G18	Z44A730464-G20	Z44A730464-G20
	Straight	Z44A730464-G17	Z44A730464-G19	Z44A730464-G19
Motor Brake Connector Kit	90 Deg	ZA06B-6114-K213#E	ZA06B-6114-K213#E	ZA06B-6114-K213#E
	Straight	ZA06B-6114-K213#S	ZA06B-6114-K213#S	ZA06B-6114-K213#S

Accessories		α12/4000HV _i	α22/3000HV _i	α22/4000HV _i
DC Link Bus Bars		Z44A718031-G05	Z44A718031-G05	Z44A718031-G05
Spare Amplifier Control Power Fuse		ZA06B-6073-K250	ZA06B-6073-K250	ZA06B-6073-K250
Encoder Battery Back-up (Multi-Axis Panel Mounted Kit) ^(Note 2)		IC800ABK001	IC800ABK001	IC800ABK001
Encoder Battery Back-up (Single-Axis Built-in) ^(Note 2)		IC800ABK002	IC800ABK002	IC800ABK002

1) Separate user installed cooling fan is only required for the βSVM1-40HV_i amplifier. This fan kit is included in the IC800BIHV040 amplifier kit but must be separately ordered when the ZA06B-6131-H003 amplifier is ordered.

2) Contents of encoder battery kits is shown on page 78

αHV_i Series Amplifier and Motor

Ordering Information (continued)

Motor Model		α30/4000HV _i	α40/4000HV _i
Motor Part Number		ZA06B-0269-B200	ZA06B-0273-B200
Motor/Brake Part Number		ZA06B-0269-B500	ZA06B-0273-B500
Alpha Amplifier Model		αSVM1-80HV _i	αSVM1-80HV _i
Alpha Amplifier Part Number		ZA06B-6127-H105	ZA06B-6127-H105
Alpha Amplifier Kit		IC800AIHV080	IC800AIHV080
Dynamic Braking Module		n/a	n/a

Cables		α30/4000HV _i	α40/4000HV _i
Power Cable	7 M	CP4I-0WPB-0070-AZ	CP4I-0WPB-0070-AZ
	14 M	CP4I-0WPB-0140-AZ	CP4I-0WPB-0140-AZ
Power Cable (Shielded)	7 M	CP4I-0WEB-0070-AZ	CP4I-0WEB-0070-AZ
	14 M	CP4I-0WEB-0140-AZ	CP4I-0WEB-0140-AZ
Feedback Cable (Right Angle)	7 M	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ
	14 M	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ
Feedback Cable (Straight)	7 M	CFDA-0WPB-0070-AZ	CFDA-0WPB-0070-AZ
	14 M	CFDA-0WPB-0140-AZ	CFDA-0WPB-0140-AZ
Brake Power Cable	7 M	CB4N-0WPM-0070-AZ	CB4N-0WPM-0070-AZ
	14 M	CB4N-0WPM-0140-AZ	CB4N-0WPM-0140-AZ
Fan Cable	7 M	n/a	n/a
	14 M	n/a	n/a
PSM Interface Cable (External Battery)	200 mm	Z44C746453-001	Z44C746453-001
PSM Interface Cable (Built-in or No Battery)	200 mm	Z44C746453-002	Z44C746453-002
Fiber Optic Command Cable	15 CM	ZA66L-6001-0023#L150R0	
	30 CM	ZA66L-6001-0023#L300R0	
	1 M	ZA66L-6001-0023#L1R003	
	2 M	ZA66L-6001-0023#L2R003	
	3 M	ZA66L-6001-0023#L3R003	
Fiber Optic Cable (Sheathed)	1 M	ZA66L-6001-0026#L1R003	
	3 M	ZA66L-6001-0026#L3R003	
	5 M	ZA66L-6001-0026#L5R003	
	10 M	ZA66L-6001-0026#L10R03	
	20 M	ZA66L-6001-0026#L20R03	
	30 M	ZA66L-6001-0026#L30R03	
	50 M	ZA66L-6001-0026#L50R03	
	100 M	ZA66L-6001-0026#L100R3	

Connector Kits		α30/4000HV _i	α40/4000HV _i
Encoder Feedback Connector (JF1)		ZA06B-6073-K214	ZA06B-6073-K214
CXA2A/B Jumper Connector (2 Req)		ZA06B-6110-K210	ZA06B-6110-K210
CZ2 Motor Power Output Connector		ZA06B-6110-K203#ZZM	ZA06B-6110-K203#ZZM
CX8/CX9 DB Module Interface Connector Kit		n/a	n/a
CX1A/B 180HV _i Amplifier Control Power		n/a	n/a
Motor Half Keys		Z44A730465-003	Z44A730465-003
Motor Feedback Connector Kit	90 Deg	ZA06B-6114-K204#E	ZA06B-6114-K204#E
	Straight	ZA06B-6114-K204#S	ZA06B-6114-K204#S
Motor Power Connector Kit	90 Deg	Z44A730464-G20	Z44A730464-G20
	Straight	Z44A730464-G19	Z44A730464-G19
Motor Brake Connector Kit	90 Deg	ZA06B-6114-K213#E	ZA06B-6114-K213#E
	Straight	ZA06B-6114-K213#S	ZA06B-6114-K213#S
Motor Fan Connector Kit	90 Deg	n/a	n/a
	Straight	n/a	n/a

Accessories		α30/4000HV _i	α40/4000HV _i
DC Link Bus Bars		Z44A718031-G05	Z44A718031-G05
Spare Amplifier Control Power Fuse		ZA06B-6073-K250	ZA06B-6073-K250
Encoder Battery Back-up (Panel Mounted Kit) ^(Note 1)		IC800ABK001	IC800ABK001
Encoder Battery Back-up (Built-in) ^(Note 1)		IC800ABK002	IC800ABK002

1) Contents of encoder battery kits is shown on page 78

αHV_i Servo System Connection**Ordering Information (continued)**

Motor Model		α50/3000HV_i w/ Fan	α100/2500HV_i w/ Fan
Motor/Brake Part Number		ZA06B-0276-B210	ZA06B-0286-B310
Motor Part Number		ZA06B-0276-B510	ZA06B-0286-B010
Beta Amplifier Model		n/a	n/a
Beta Amplifier Kit Number		n/a	n/a
Beta Amplifier Part Number		n/a	n/a
Alpha Amplifier Model		αSVM1-180HV _i	αSVM1-180HV _i
Alpha Amplifier Part Number		ZA06B-6124-H106	ZA06B-6124-H106
Alpha Amplifier Kit Number		IC800AIHV180	IC800AIHV180
Dynamic Braking Module (req for SVM1-180HV _i)		ZA06B-6079-H401	ZA06B-6079-H401
Cables		α50/3000HV_i w/ Fan	α100/2500HV_i w/ Fan
Motor Power Cable	7 M	CP9I-0MPB-0070-AZ	Supplied by customer
	14 M	CP9I-0MPB-0140-AZ	
Motor Power Cable (Shielded)	7 M	CP9I-0MEB-0070-AZ	Supplied by customer
	14 M	CP9I-0MEB-0140-AZ	
Motor Feedback Cable (Right Angle)	7 M	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ
	14 M	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ
Motor Feedback Cable (Straight)	7 M	CFDA-0WPB-0070-AZ	CFDA-0WPB-0070-AZ
	14 M	CFDA-0WPB-0140-AZ	CFDA-0WPB-0140-AZ
Motor Brake Power Cable	7 M	CB4N-0WPM-0070-AZ	CB4N-0WPM-0070-AZ
	14 M	CB4N-0WPM-0140-AZ	CB4N-0WPM-0140-AZ
Motor Fan Cable	7 M	CB5N-0WPM-0070-AZ	CB5N-0WPM-0070-AZ
	14 M	CB5N-0WPM-0140-AZ	CB5N-0WPM-0140-AZ
PSM Interface Cable (External Battery)	200 mm	Z44C746453-001	Z44AC746453-001
PSM Interface Cable (Built-in or No Battery)	200 mm	Z44C746453-002	Z44AC746453-002
Fiber Optic Command Cable	15 CM	ZA66L-6001-0023#L150R0	
	30 CM	ZA66L-6001-0023#L300R0	
	1 M	ZA66L-6001-0023#L1R003	
	2 M	ZA66L-6001-0023#L2R003	
	3 M	ZA66L-6001-0023#L3R003	
Fiber Optic Command Cable (Sheathed)	1 M	ZA66L-6001-0026#L1R003	
	3 M	ZA66L-6001-0026#L3R003	
	5 M	ZA66L-6001-0026#L5R003	
	10 M	ZA66L-6001-0026#L10R03	
	20 M	ZA66L-6001-0026#L20R03	
	30 M	ZA66L-6001-0026#L30R03	
	50 M	ZA66L-6001-0026#L50R03	
100 M	ZA66L-6001-0026#L100R3		
Connector Kits		α50/3000HV_i w/ Fan	α100/2500HV_i w/ Fan
Amplifier Encoder Feedback Connector (JF1)		ZA06B-6073-K214	ZA06B-6073-K214
CXA2A/B Jumper Connector (2 Req)		ZA06B-6110-K210	ZA06B-6110-K210
CZ2 Motor Power Output Connector		ZA06B-6110-K203#ZZM	n/a
CX8/CX9 DB Module Interface Connector Kit		ZA06B-6073-K216	ZA06B-6073-K216
CX1A/B 180HV _i Amplifier Control Power		ZA02B-0120-K321	ZA02B-0120-K321
Motor Half Keys		n/a	n/a
Motor Feedback Connector Kit	90 Deg	ZA06B-6114-K204#E	ZA06B-6114-K204#E
	Straight	ZA06B-6114-K204#S	ZA06B-6114-K204#S
Motor Power Connector Kit	90 Deg	Z44A730464-G20	n/a
	Straight	Z44A730464-G19	n/a
Motor Brake Connector Kit	90 Deg	ZA06B-6114-K213#E	ZA06B-6114-K213#E
	Straight	ZA06B-6114-K213#S	ZA06B-6114-K213#S
Motor Fan Connector Kit	90 Deg	ZA06B-6114-K214#E	ZA06B-6114-K214#E
	Straight	ZA06B-6114-K214#S	ZA06B-6114-K214#S
Accessories		α50/3000HV_i w/ Fan	α100/2500HV_i w/ Fan
DC Link Bus Bars		Z44A718031-G12	Z44A718031-G12
Spare Amplifier Control Power Fuse		ZA06B-6073-K250	ZA06B-6073-K250
Encoder Battery Back-up (Panel Mounted Kit)		IC800ABK001	IC800ABK001
Encoder Battery Back-up (Built-in)		IC800ABK002	IC800ABK002

PSM-HV*i* Power Supply

Ordering Information

The αHV*i* series amplifiers use a separately mounted shared power supply. A power supply module (PSM) can service multiple amplifiers in a multi-axis system. A maximum of six amplifiers

may be connected to one power supply module; however, the number of amplifier may be limited by the power supply ratings.

Model Number	PSM-11HV <i>i</i>	PSM-18HV <i>i</i>	PSM-30HV <i>i</i>	PSM-45HV <i>i</i>
Power Supply Kit	IC800PSHV011	IC800PSHV018	IC800PSHV030	IC800PSHV045
Power Supply Only	ZA06B-6150-H011	ZA06B-6150-H018	ZA06B-6150-H030	ZA06B-6150-H045
Continuous Output Rating	11	18	30	45
Peak Output Rating*	34	58	87	124
DC Link Bus Bars	Z44A718031-G03	Z44A718031-G03	Z44A718031-G12	Z44A718031-G12

Connectors and Cables

Connector Kit (Includes CX4 Estop, CX3 MCC and CX1A Control Power Connectors)		ZA06B-6071-K203	ZA06B-6071-K203	ZA06B-6071-K203	ZA06B-6071-K203
MCC Coil Control Output Flying Lead Cable	10 Ft	Z44C742171-001	Z44C742171-001	Z44C742171-001	Z44C742171-001
200V Control Power Input Flying Lead Cable	25 Ft	Z44C742172-001	Z44C742172-001	Z44C742172-001	Z44C742172-001
Estop Input Flying Lead Cable	10 Ft	Z44C742176-001	Z44C742176-001	Z44C742176-001	Z44C742176-001

Accessories

Spare Control Power Fuse		ZA06B-6077-K250	ZA06B-6077-K250	ZA06B-6077-K250	ZA06B-6077-K250
AC Line Filter		ZA81L-0001-0163	ZA81L-0001-0163	ZA81L-0001-0164	ZA81L-0001-0164
Noise Filter for PSM (required for CE)		ZA06B-6077-K155	ZA06B-6077-K156	ZA06B-6077-K156	ZA06B-6077-K157

*Peak rating is for 0.3 seconds

Selecting a Power Supply

Step 1 - Determine the total number and type of αHV*i* or αHV*is* series motors that will be required from the list below. If more than six axes are required divide them into groups of no more than six motors.

Motor Model	Continuous Output	Acceleration Output
α22/3000HV <i>i</i>	4.0 kW	9.6 kW
α22/4000HV <i>is</i>	4.5 kW	20 kW
α30/4000HV <i>is</i>	5.5 kW	22 kW
α40/4000HV <i>is</i>	5.5 kW	24 kW
α50/3000HV <i>is</i> with fan	14 kW	39 kW
α100/2500HV <i>is</i> with fan	11 kW	38 kW

Step 2 - Total the continuous output for all motors in a group and multiply by 0.6.

Step 3 - Total the acceleration output for all motors in each group.

Step 4 - Compare the continuous and acceleration output totals for each group to the continuous rating and peak rating for the power supply modules and select a PSM module to meet the following conditions:

- a) Motor Continuous Output Total * 0.6 must be less than the PSM Continuous Output Rating
- b) Motor Acceleration Output Total must be less than the PSM Peak Output Rating

Example:

An application requires the following motors:

Qty 2 α22/4000HV*is*

Qty 2 α30/4000HV*is*

Qty 1 α50/3000HV*is* with fan

Since the total number of motors is less than six, assume that one PSM will be used. Therefore, the total ratings for the system are:

Total the continuous output for all motors multiplied by 0.6 = 28 kW * 0.6 = 16.8 kW

Total the acceleration output for all motors = 123 kW

Select the PSM-45HV*i* module with a continuous output rating of 45 kW and peak output rating of 124 kW.

αi and βi Series Servo Motors

Servo Motor Performance for Demanding Applications

The FANUC Servo motors are a rugged family of brushless servo motors covering a broad torque and speed range. These motors utilize high energy rare earth magnets for superior cost/performance ratio. Low inertia design provides high acceleration rates for improved machine cycle rates. The αi and βi Series motors use high resolution serial encoder feedback and are matched with amplifiers and PACMotion PMM335 Motion Controllers.



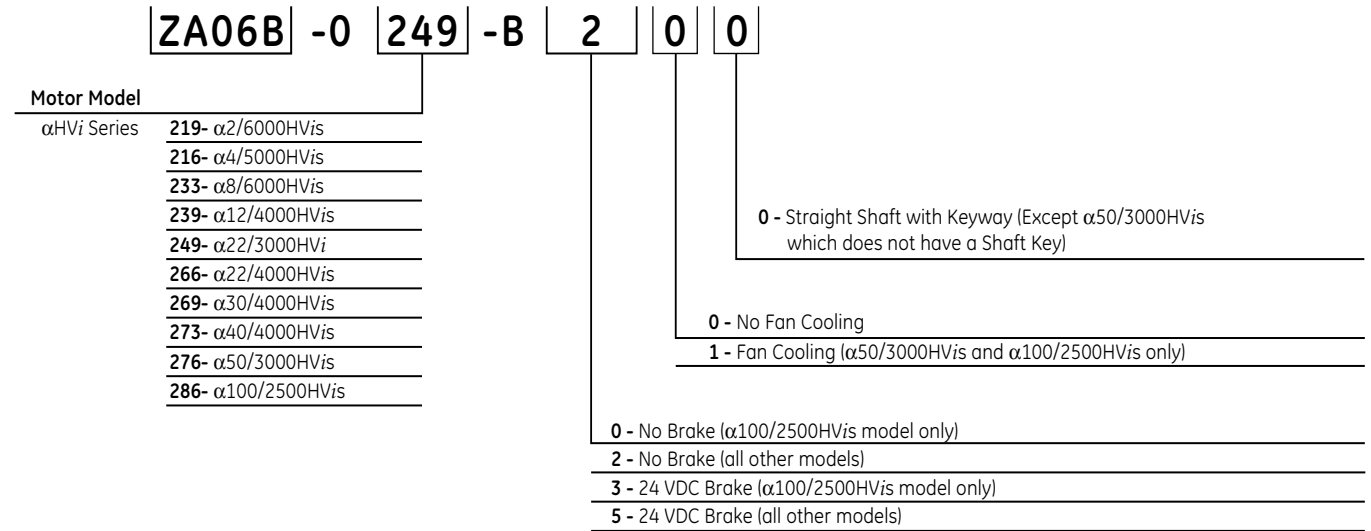
Feature Comparison

Feature	αHVi Series	βi Series	βHVi Series
Cont. Stall Torque Range (In-lb (Nm))	17.7-664 (2-75)	3.5-177 (0.4-20)	17.7-177 (2-20)
Cont. Speed Range (RPM)	2000-6000	2000-6000	2000-4000
Max. Speed Range (RPM)	3000-6000	2000-6000	2000-4000
Compatible Amplifiers	αHVi Series	βi Series	βHVi Series
Compatible Controllers	PMM335/DSM324i	PMM335/DSM324i	PMM335/DSM324i
Mounting	Metric	Metric	Metric
Shaft Configuration	Straight/Keyway	Straight/Keyway	Straight/Keyway
Brushless Construction	Yes	Yes	Yes
Optional Brake	24VDC	24 VDC	24 VDC
Feedback Type	Serial Encoder	Serial Encoder	Serial Encoder
Feedback Resolution (Counts/rev)	1 M	64 K/128 K	128 K
Absolute Feedback	Yes*	Yes*	Yes*
Amplifier Line Voltage	400-480 VAC 3 ϕ	220-240 VAC 1 ϕ 200-240 VAC 3 ϕ	400-480 VAC 3 ϕ
Shaft Seal	Standard	Standard	Standard
Protection Rating	IP65 Standard IP67 Optional	IP65 Standard IP67 Optional	IP65 Standard IP67 Optional
Inertia	Low	Medium	Medium

*Absolute feedback requires optional encoder battery backup for αHVi Series, βi Series, or βHVi Series amplifiers.

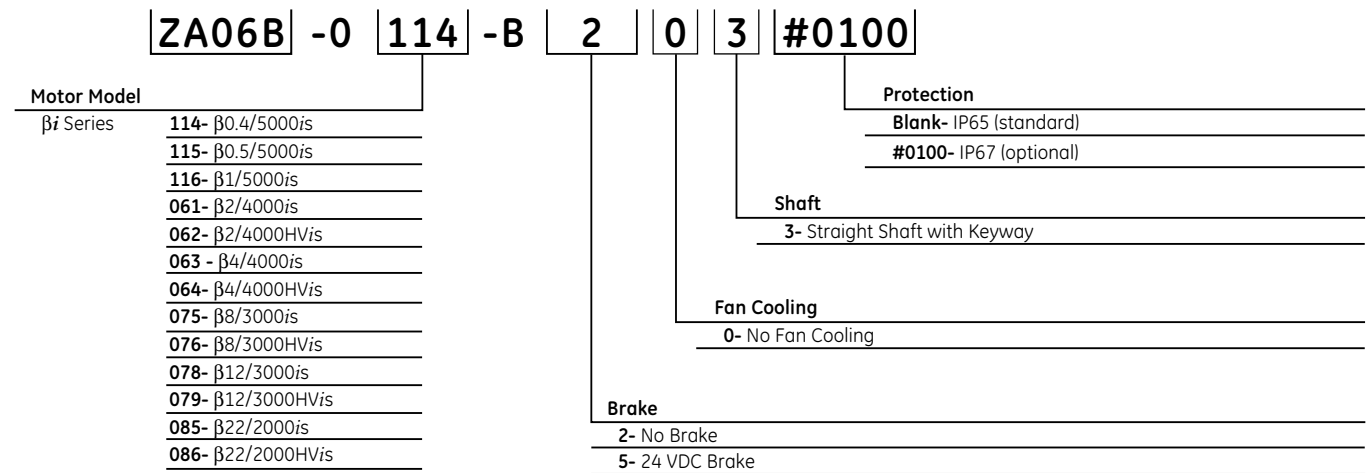
αHV*i* and αHV*is* Series Servo Motors

Motor Part Numbers



β*is* and βHV*is* Series Servo Motors

Motor Part Numbers



α HVi and α HVi Series Servo Motors**Specifications**

Motor Model	Unit	α 2/6000HV <i>i</i>	α 4/5000HV <i>i</i>	α 8/6000HV <i>i</i>	α 12/4000HV <i>i</i>	α 22/3000HV <i>i</i>
Cont Stall Torque*	Nm	2	4	8	12	22
	in-lb	17.7	35.4	70.8	106	195
Peak Torque*	Nm	6	8.8	22	46	64
	in-lb	53.1	77.9	194.7	407	566
Rotor Inertia	kgm ² x 10 ⁻⁴	2.91	5.15	11.7	22.8	120
	in-lb-s ² x 10 ⁻⁴	25.75	45.58	103.54	201.7	1062
Rated Speed	RPM	6000	4000	6000	3000	3000
No Load Speed	RPM	6000	5000	6000	4000	4000
Encoder Resolution	Counts/Rev	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Flange Size	mm	90	90	130	130	174

Mechanical Data

Weight	kg	3	4.3	8	11.9	29
	lb	6.6	9.46	17.6	26.2	63.8
Axial Load Rating	kg	8	8	20	20	60
	lb	17.6	17.6	44	44	132
Radial Load Rating	kg	25	25	70	70	200
	lb	55	55	154	154	440
Mechanical Time Constant	msec	5	3	2	2	4
Thermal Time Constant	min	15	20	20	25	60
Static Friction	Nm	0.1	0.2	0.3	0.3	1.2

Electrical Data

Torque Constant*	Nm/A	0.99	1.32	0.89	1.8	2.41
	in-lb/A	8.76	11.68	7.87	15.9	21.33
Resistance*	ohms	5.6	2.8	0.5	0.84	0.66
Back EMF Constant*	V(rms)/krpm	35	46	31	63	84
Rated Motor Power	kW	1	1	2.2	2.5	4
	HP	1.3	1.3	3	3.4	5.4
Cont. Stall Current	A (rms)	2	3	9	6.7	9.1
Max Current	A (peak)	40	40	40	40	40
Insulation		Class F	Class F	Class F	Class F	Class F

Amplifier Model

α Amp Model Number	α SVM1-10HV <i>i</i>	α SVM1-10HV <i>i</i>	α SVM1-40HV <i>i</i>	α SVM1-40HV <i>i</i>	α SVM1-40HV <i>i</i>
β Amp Model Number	β SVM1-10HV <i>i</i>	β SVM1-10HV <i>i</i>	β SVM1-40HV <i>i</i>	β SVM1-40HV <i>i</i>	β SVM1-40HV <i>i</i>

Brake Data

Holding Torque	Nm	3	3	8	8	35
	in-lb	26.6	26.6	71	71	310
Inertia Adder	kgm ² x 10 ⁻⁴	0.2	0.2	0.7	0.7	6
	in-lb-s ² x 10 ⁻⁴	1.77	1.77	6.18	6.18	53
Weight Adder	kg	1	1	2.2	2.2	6
	lb	2.2	2.2	4.9	4.9	13.2
Current	A	0.9	0.9	1.1	1.1	1.2
Voltage	VDC	24	24	24	24	24
Engage Time	msec	20	20	30	30	30
Release Time	msec	60	60	160	160	160

Cooling Fan Data

AC Input 60 Hz	VAC	n/a	n/a	n/a	n/a	n/a
AC Input 50 Hz	VAC	n/a	n/a	n/a	n/a	n/a
Rated Current 60 Hz	A (rms)	n/a	n/a	n/a	n/a	n/a
Rated Current 50 Hz	A (rms)	n/a	n/a	n/a	n/a	n/a

Environmental Specifications

Humidity	80% non-condensing
Ambient Temperature	0 to 40°C
Vibration	less than 5G (operating)
Altitude	3300 feet (1000 m)

*Data shown are nominal values at 20°C

αHV_i and αHV_is Series Servo Motors

Specifications

Motor Model	Unit	α22/4000HV _i s	α30/4000HV _i s	α40/4000HV _i s	α50/3000HV _i s with fan	α100/2500HV _i s with fan
Cont Stall Torque*	Nm	22	30	40	75	140
	in-lb	195	266	354	664	1240
Peak Torque*	Nm	70	100	115	215	274
	in-lb	620	885	1018	1903	2425
Rotor Inertia	kgm ² x 10 ⁻⁴	52.7	75.9	99	145	252
	in-lb-s ² x 10 ⁻⁴	466	672	876	1283	2230
Rated Speed	RPM	3000	3000	3000	3000	2000
No Load Speed	RPM	4000	4000	4000	3000	2500
Encoder Resolution	Counts/Rev	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Flange Size	mm	174	174	174	174	265

Mechanical Data

Weight	kg	17	23	28	42	100
	lb	37.4	50.6	61.6	92.4	220
Axial Load Rating	kg	60	60	60	60	250
	lb	132	132	132	132	550
Radial Load Rating	kg	200	200	200	200	900
	lb	440	440	440	440	1980
Mechanical Time Constant	msec	2	2	1	1	.06
Thermal Time Constant	min	30	35	40	30	40
Static Friction	Nm	0.8	0.8	1.2	1.8	2.2

Electrical Data

Torque Constant*	Nm/A	1.42	1.9	2.2	1.9	2.53
	in-lb/A	12.57	16.82	19.47	16.82	22.39
Resistance*	ohms	0.25	0.25	0.23	0.1	0.052
Back EMF Constant*	V(rms)/krpm	50	66	77	66	88
Rated Motor Power	kW	4.5	5.5	5.5	14	22
	HP	6.0	7.4	7.4	18.8	30
Cont. Stall Current	A (rms)	15.5	15.9	18.1	39.6	55
Max Current	A (peak)	80	80	80	180	180
Insulation		Class F	Class F	Class F	Class F	Class F

Amplifier Model

α Amp Model Number	αSVM1-80HV _i	αSVM1-80HV _i	αSVM1-80HV _i	αSVM1-180HV _i	αSVM1-180HV _i
β Amp Model Number	n/a	n/a	n/a	n/a	n/a

Brake Data

Holding Torque	Nm	35	35	35	35	150
	in-lb	310	310	310	310	1327
Inertia Adder	kgm ² x 10 ⁻⁴	6	6	6	6	10
	in-lb-s ² x 10 ⁻⁴	53	53	53	53	88.5
Weight Adder	kg	6	6	6	6	15
	lb	13.2	13.2	13.2	13.2	33
Current	A	1.2	1.2	1.2	1.2	2.5
Voltage	VDC	24	24	24	24	24
Engage Time	msec	30	30	30	30	60
Release Time	msec	160	160	160	160	360

Cooling Fan Data

AC Input 60 Hz	VAC	n/a	n/a	n/a	170-220 1-phase	391 to 528 3-phase
AC Input 50 Hz	VAC	n/a	n/a	n/a	170-242 1-phase	323 to 440 3-phase
Rated Current 60 Hz	A (rms)	n/a	n/a	n/a	0.27	0.2
Rated Current 50 Hz	A (rms)	n/a	n/a	n/a	0.32	0.2

Environmental Specifications

Humidity	80% non-condensing
Ambient Temperature	0 to 40° C
Vibration	less than 5G (operating)
Altitude	3300 feet (1000 m)

*Data shown are nominal values at 20° C

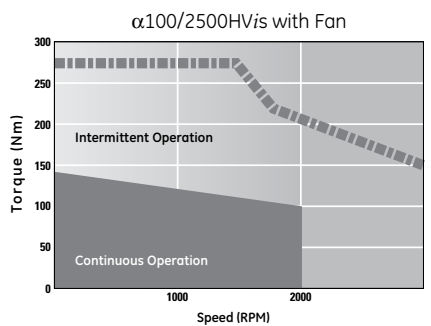
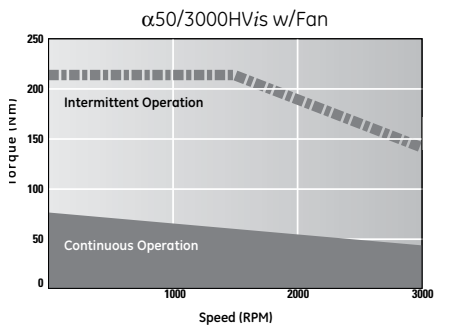
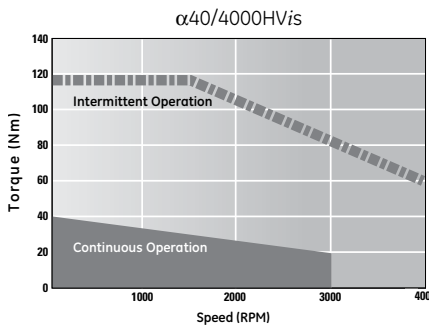
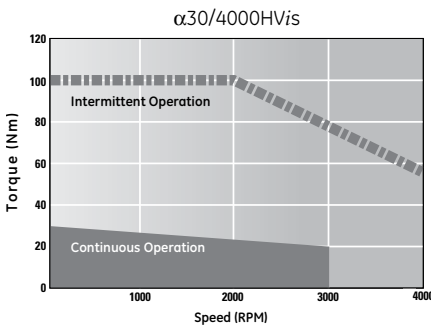
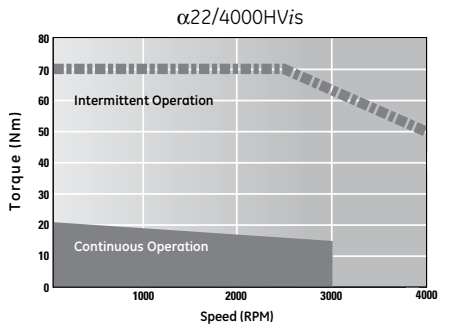
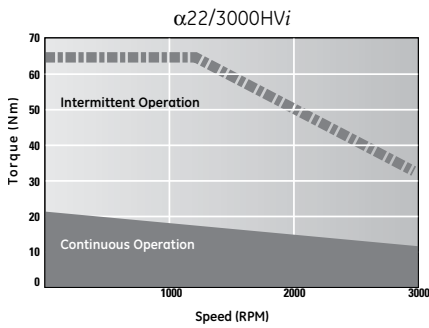
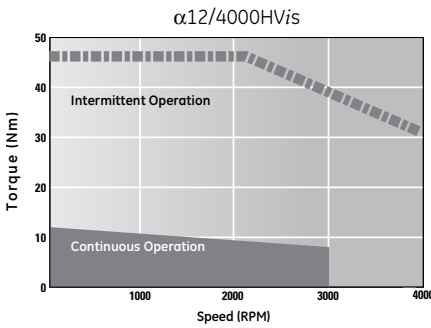
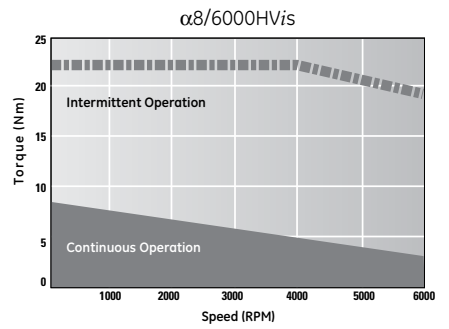
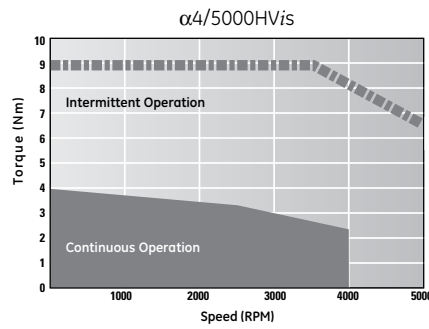
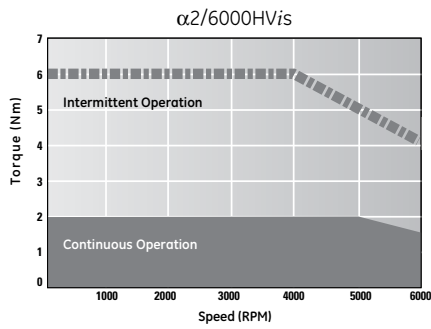
α HVi and α HVis Series Servo Motors

Speed Torque Curves

The curves illustrate the relationship between motor speed and output torque. The motor can operate continuously at any combination of speed and torque within the prescribed continuous

operating zone. The limit of the continuous operating zone is determined with the motor's ambient temperature at 20°C and its drive current as a pure sine wave. Actual operation is limited by the current

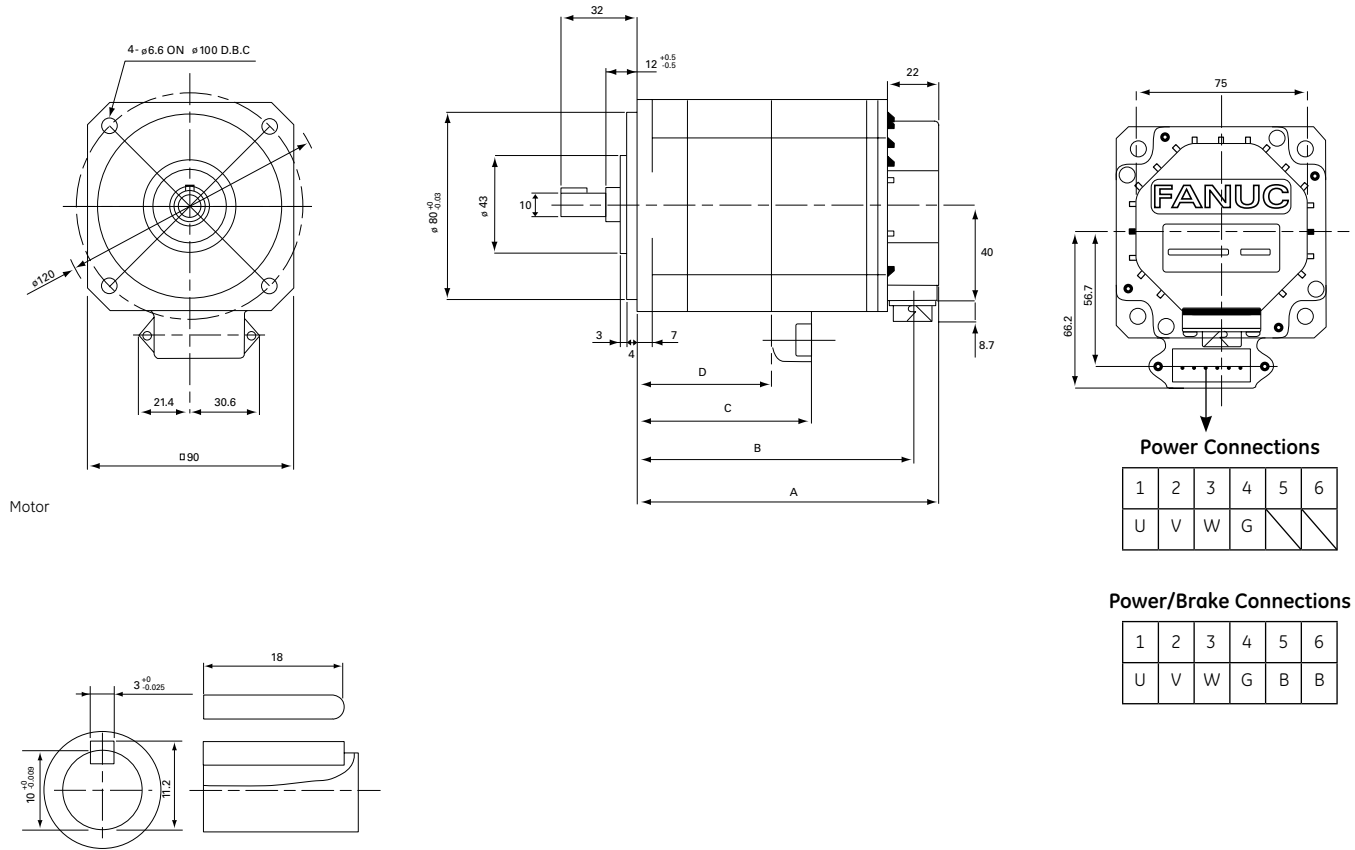
of the servo drive unit. The continuous operating zone must be derated for ambient temperature above 20°C.



αHV Series Servo Motors

Dimensions

α2/6000HV is



Motor

Shaft detail

Dimensions shown mm

Dimension	α2/6000HV is
A	130
A with brake	159
B	119
B with brake	148
C	75
C with brake	75
D	59
D with brake	59

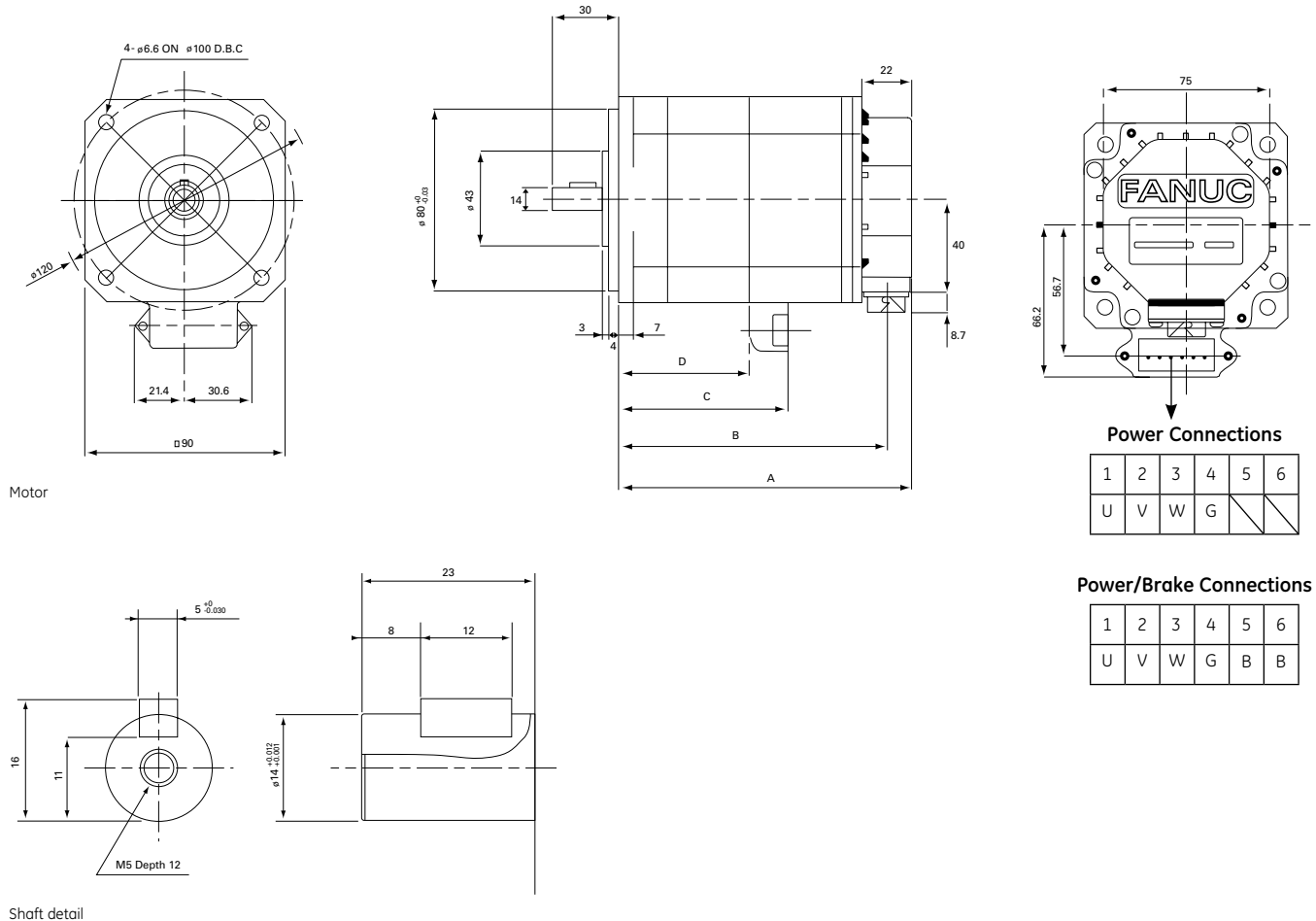
Notes

1. Shaft diameter runout = 0.02 mm max
2. Flange surface runout = 0.06 mm max
3. Maximum radial load for output shaft is 25 kgf (55 lb)

αHV Series Servo Motors

Dimensions

α4/5000HV is



Motor

Shaft detail

Dimensions shown mm

Dimension	α4/5000HV is
A	166
A with brake	195
B	155
B with brake	184
C	111
C with brake	111
D	95
D with brake	95

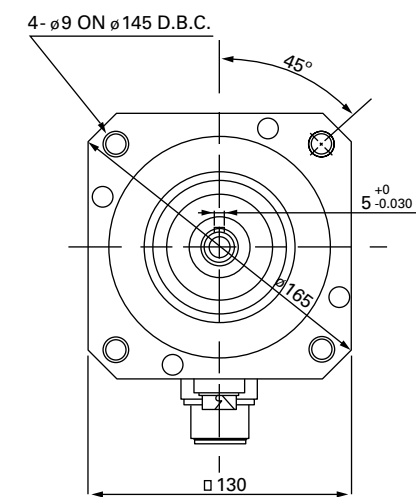
Notes

1. Shaft diameter runout = 0.02 mm max
2. Flange surface runout = 0.06 mm max
3. Maximum radial load for output shaft is 25 kgf (55 lb)

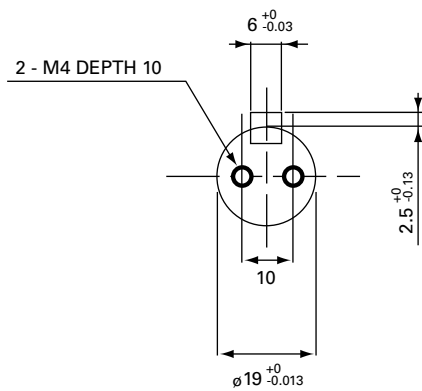
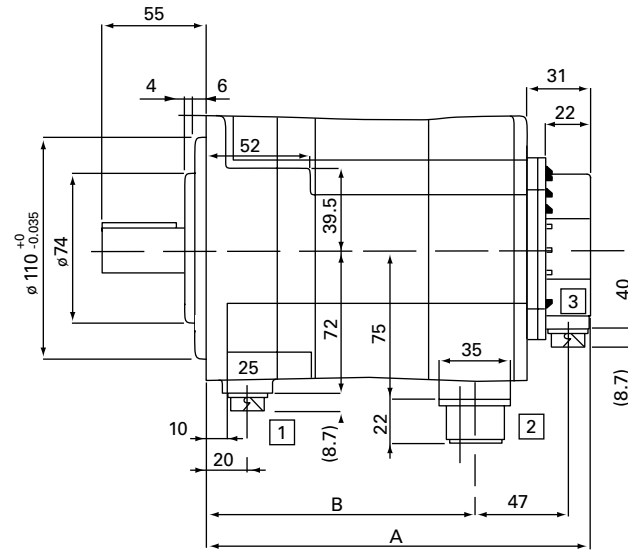
αHV Series Servo Motors

Dimensions

α8/6000HV is and α12/4000HV is

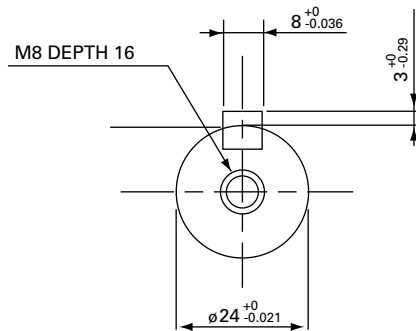


Motor

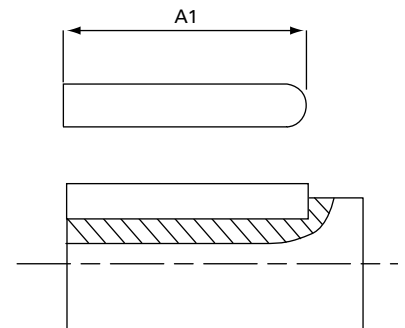


Shaft detail

α8/3000is
α8/3000HV is



α12/3000is
α12/3000HV is



Dimension	α8/6000HV is	α12/4000HV is
A	166	222
A with brake	191	247
B	108	164
B with brake	133	189
C	47	47
C with brake	47	47

Connector	Description
1	Brake (optional)
2	Power
3	Encoder

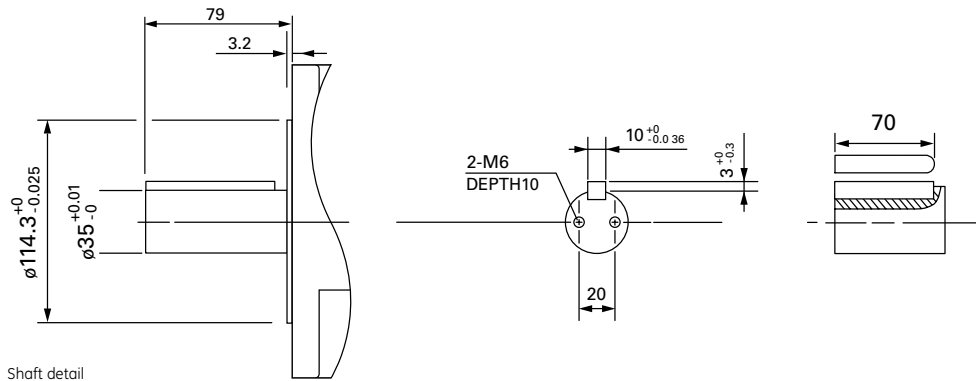
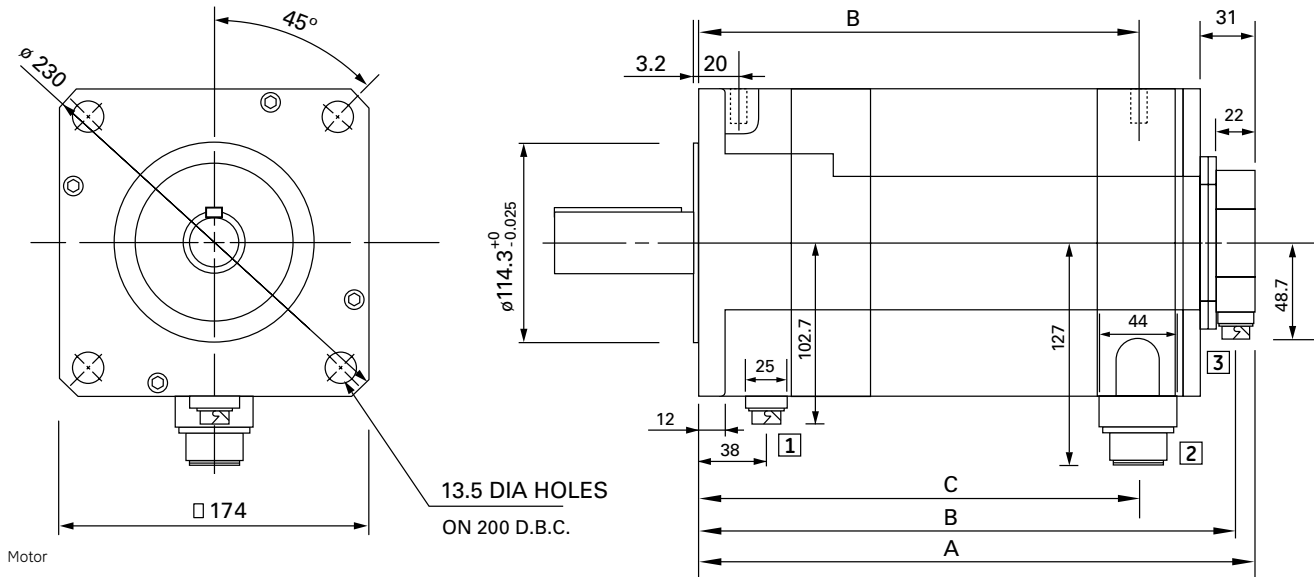
Notes

1. Shaft diameter runout = 0.02 mm max
2. Flange surface runout = 0.05 mm max
3. Maximum radial load for output shaft is 70 kgf (154 lb)

αHV*i* Series Servo Motors

Dimensions

α22/3000HV*i*



Dimensions shown mm

Dimension	α22/3000HV <i>i</i>
A	276
A with brake	317
B	265
B with brake	306
C	215
C with brake	256

Connector	Description
1	Brake (optional)
2	Power
3	Encoder

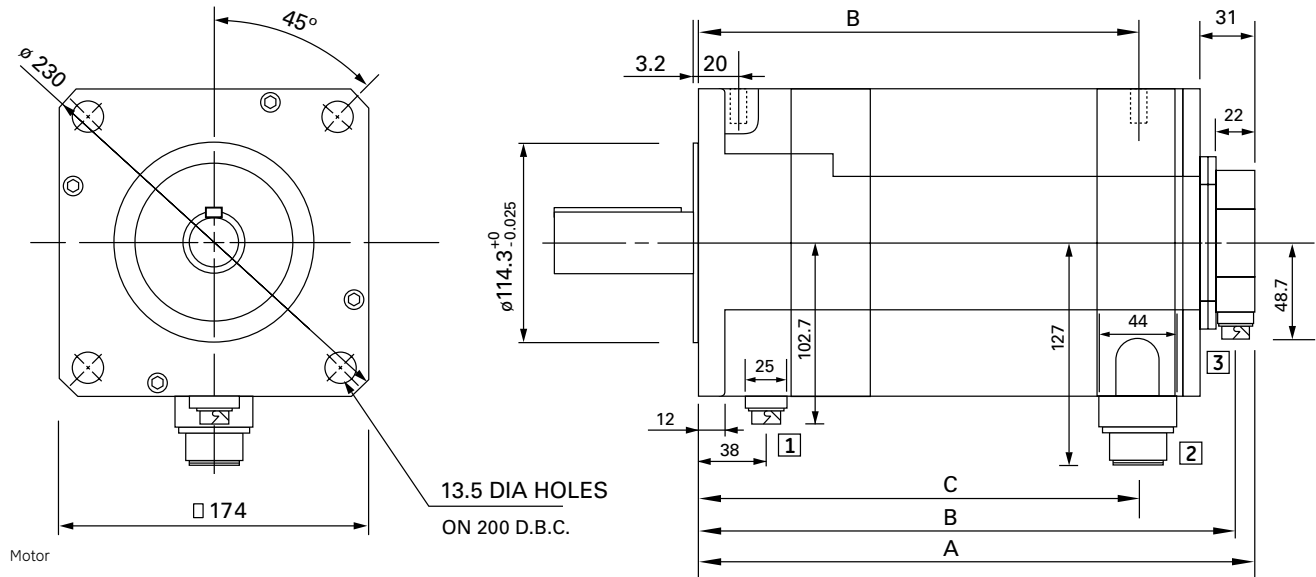
Notes

1. Shaft diameter runout = 0.03 mm max
2. Flange surface runout = 0.06 mm max
3. Maximum radial load for output shaft is 200 kgf (440 lb)

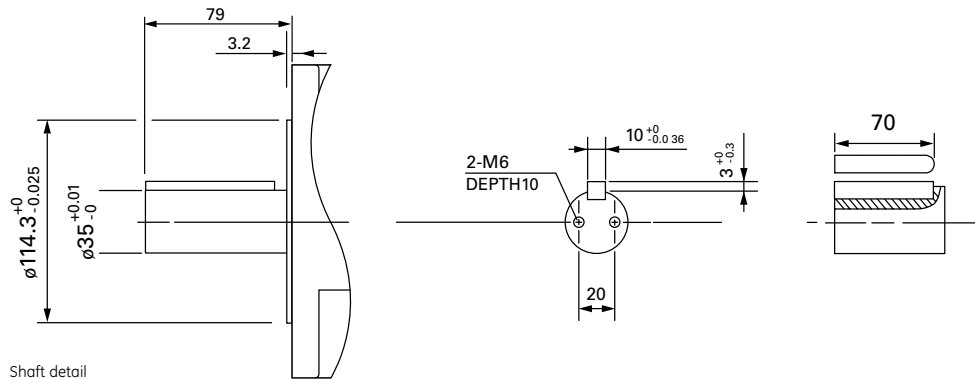
αHV Series Servo Motors

Dimensions

α22/4000HVis, α30/4000HVis, α40/4000HVis



Motor



Shaft detail

Dimensions shown mm

Dimension	α22/4000HVis	α30/4000HVis	α40/4000HVis
A	202	239	276
A with brake	243	280	317
B	191	228	265
B with brake	232	269	306
C	141	178	215
C with brake	182	219	256

Connector	Description
1	Brake (optional)
2	Power
3	Encoder

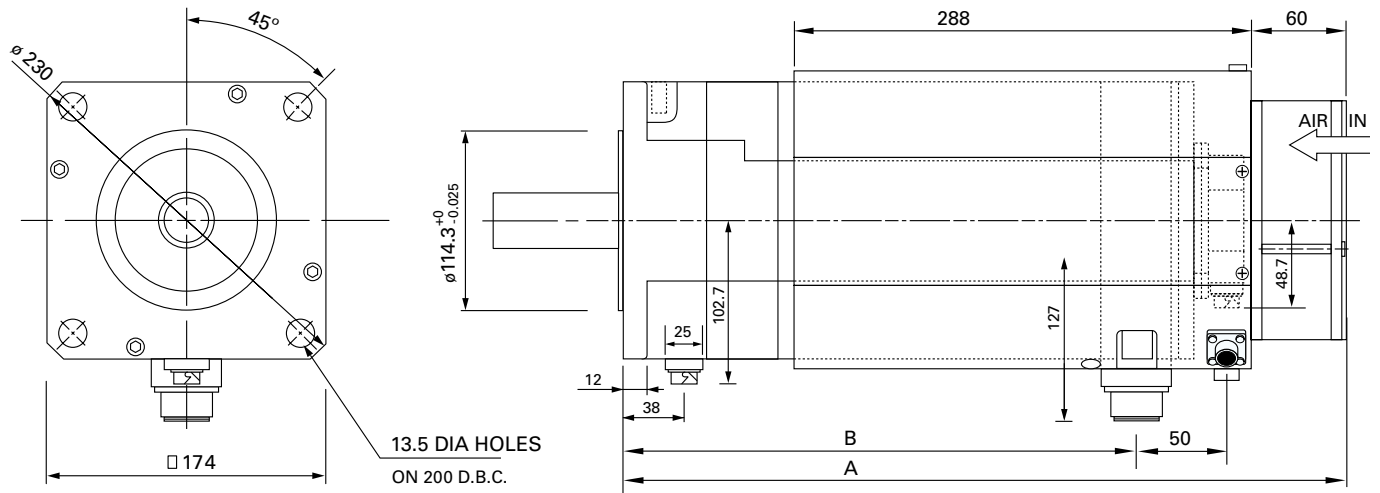
Notes

1. Shaft diameter runout = 0.03 mm max
2. Flange surface runout = 0.06 mm max
3. Maximum radial load for output shaft is 200 kgf (440 lb)

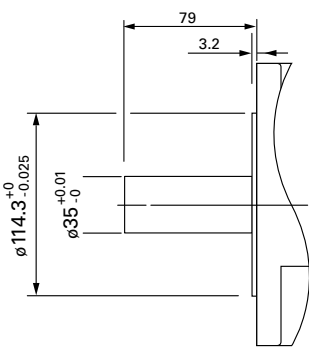
αHV*i* Series Servo Motors

Dimensions

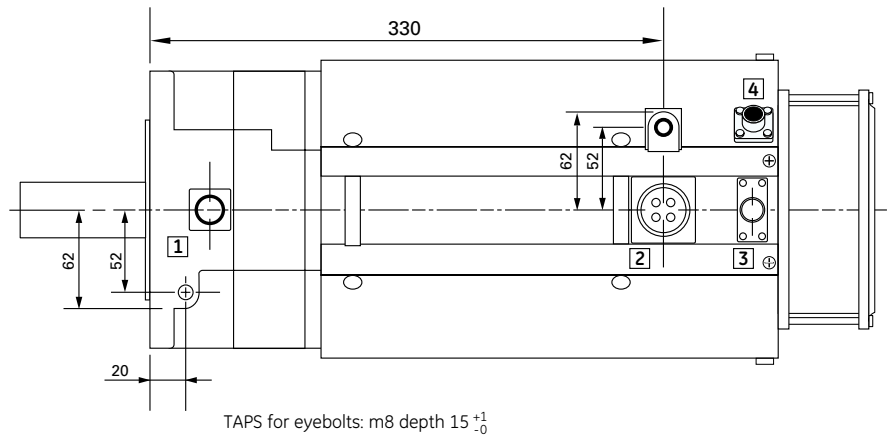
α50/3000HV*i*s with Fan



Motor



Shaft detail



Dimensions shown mm

Dimensions shown mm

Dimension	α50/3000HV <i>i</i> s with Fan
A	416
A with brake	457
B	289
B with brake	330

Connector	Description
1	Brake (optional)
2	Power
3	Encoder
4	Fan

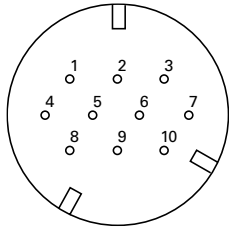
Notes

1. Shaft diameter runout = 0.03 mm max
2. Flange surface runout = 0.06 mm max
3. Maximum radial load for output shaft is 200 kgf (440 lb)

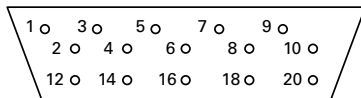
αHV_i and αHV_{is} Series Servo Motors

Connections

Serial Encoder Connections



All αHV_i and αHV_{is} Motors



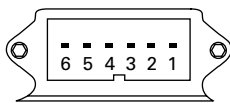
αHV_i Amplifier (JF1)

Description	αHV _i and αHV _{is} Motors	αHV _i Series Amplifier JF1 Connector
N/C	2	1
N/C	1	2
RD	6	5
RD	5	6
+5 VDC	8, 9	9, 20
0 VDC	7, 10	12, 14
+6 VA (battery)	4	7
Frame Ground	3	16
Cable Shield	3	16

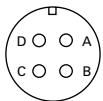
GE Mating Motor Connector: ZA06B-6114-K204#E (90 degree)
ZA06B-6114-K204#S (Straight)

Amplifier Mating Connector (JF1): ZA06B-6073-K214

Power and Brake Connections



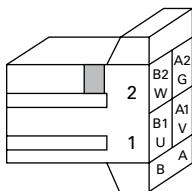
α2/6000HV_{is} and α4/5000HV_{is} Motor Power/Brake



All other αHV_i and αHV_{is} Motor Power



All other αHV_i and αHV_{is} Brake



αSVM1-10HV_i, αSVM1-40HV_i and αSVM1-80HV_i Amplifier (CZ2)

Description	α2HV _{is} and α4HV _{is} Motor Connector	All other αHV _i and αHV _{is} Motor Connector	αSVM1-10HV _i /40HV _i /80HV _i CZ2 Connector	αSVM1-180HV _i Amplifier TB2 Connector
Phase U	1	A	B1	U
Phase V	2	B	A1	V
Phase W	3	C	B2	W
Earth (case)	4	D	A2	PE
Brake VDC	5	n/a	n/a	n/a
Brake VDC	6	n/a	n/a	n/a

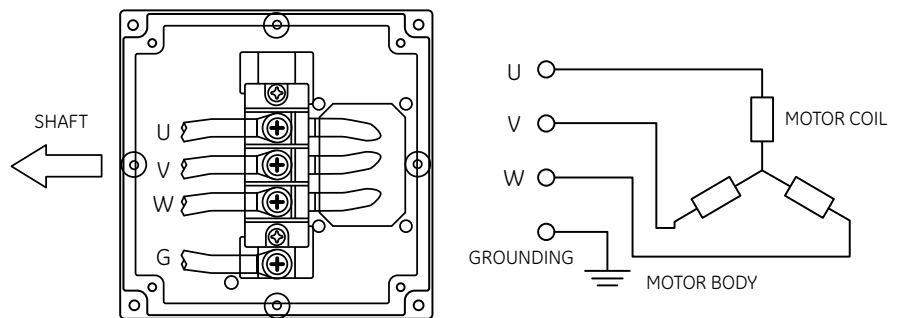
GE Mating Motor Connector: ZA06B-6114-K220#E (90 degree) (α2HV_{is} and α4HV_{is})
ZA06B-6114-K220#S (Straight) (α2HV_{is} and α4HV_{is})
Z44A730464-G20 (90 degree) (αHV_i and αHV_{is})
Z44A730464-G19 (Straight) (αHV_i and αHV_{is})
Z44A730464-G18 (90 degree) (α12/4000HV_{is})
Z44A730464-G17 (Straight) (α12/4000HV_{is})

Amplifier Mating Connector (CZ2): ZA06B-6110-K203#ZZN

Description	α8HV _{is} , α12HV _{is} , α22HV _i , α22HV _{is} , α30HV _{is} , α40HV _{is} , α50HV _{is} , α100HV _{is} Motor Brake Connector
Brake VDC	1
Brake VDC	2
Earth (case)	4

GE Mating Motor Connector: ZA06B-6114-K213#E (90 degree)
ZA06B-6114-K213#S (Straight)

24 VDC Brake power connections are not polarized.



α HVi and α HVis Series Servo Motor**Ordering Information**

Model Number	Description
ZA06B-0216-B200	α 4/5000HVis Servo Motor
ZA06B-0216-B500	α 4/5000HVis Servo Motor with Brake
ZA06B-0219-B200	α 2/6000HVis Servo Motor
ZA06B-0219-B500	α 2/6000HVis Servo Motor with Brake
ZA06B-0233-B200	α 8/6000HVis Servo Motor
ZA06B-0233-B500	α 8/6000HVis Servo Motor with Brake
ZA06B-0239-B200	α 12/4000HVis Servo Motor
ZA06B-0239-B500	α 12/4000HVis Servo Motor with Brake
ZA06B-0249-B200	α 22/3000HVi Servo Motor
ZA06B-0249-B500	α 22/3000HVi Servo Motor with Brake
ZA06B-0266-B200	α 22/4000HVis Servo Motor
ZA06B-0266-B500	α 22/4000HVis Servo Motor with Brake
ZA06B-0269-B200	α 30/4000HVis Servo Motor
ZA06B-0269-B500	α 30/4000HVis Servo Motor with Brake
ZA06B-0273-B200	α 40/4000HVis Servo Motor
ZA06B-0273-B500	α 40/4000HVis Servo Motor with Brake
ZA06B-0276-B210	α 50/3000HVis Servo Motor with Fan
ZA06B-0276-B510	α 50/3000HVis Servo Motor with Fan and Brake
ZA06B-0286-B010	α 100/2500HVis Servo Motor
ZA06B-0286-B310	α 100/2500HVis Servo Motor with Brake

Motor Cables

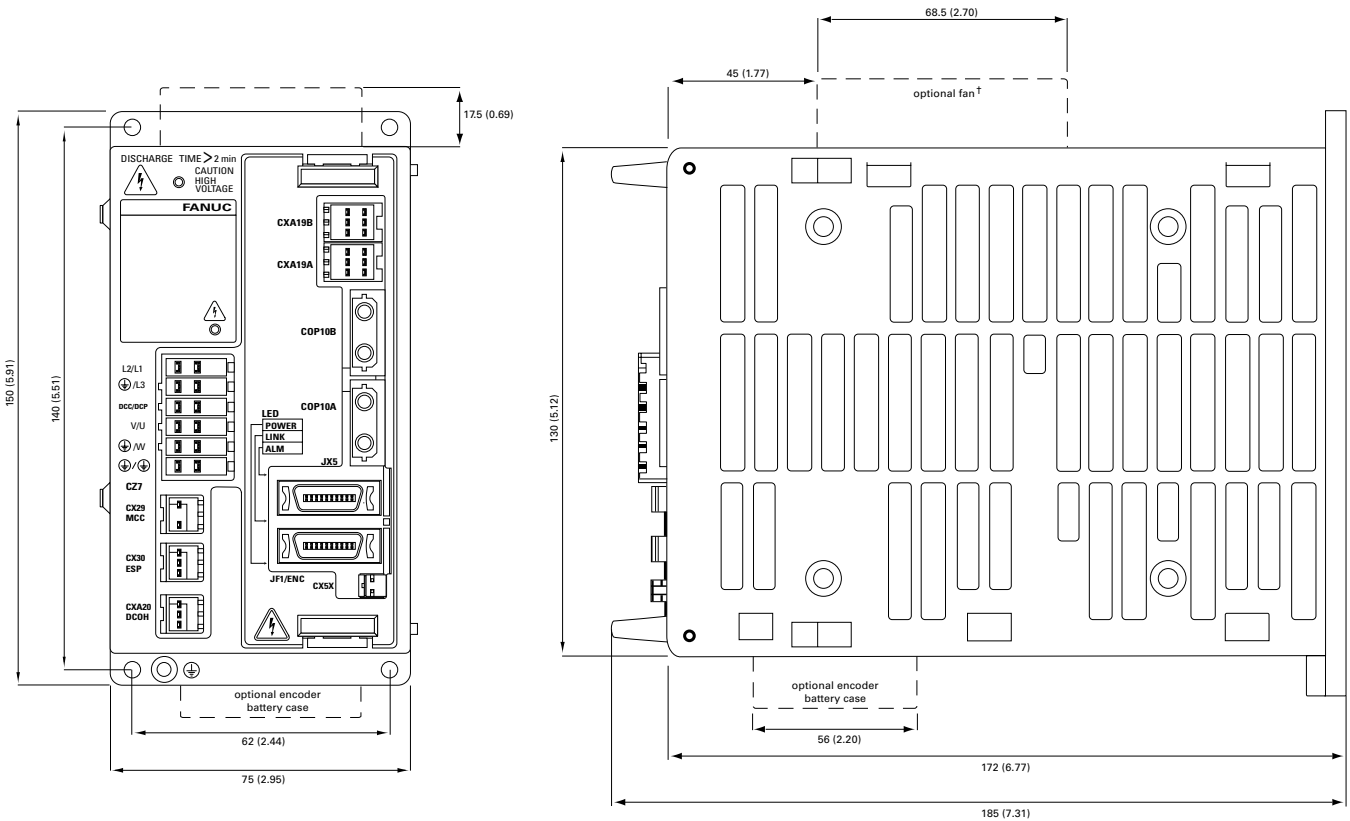
See applicable amplifier section for information about the proper cables to use with each motor.

βi Series Servo Amplifiers

Dimensions

The βi Series amplifiers are panel mounted devices with dimensions as shown. The βi Series amplifiers must be paired with the βis Series motors. When installing the amplifiers make sure to maintain the specified clearances above, below and between adjacent amplifiers to allow for proper convection cooling.

**βi Series Servo Amplifier Unit
βSVM1-20i**



Dimensions shown in mm (in).

βi Series Servo Amplifiers Electrical Specifications

Model	βSVM1-20i
Rated output current (rms amps)	6.8
Current limit (Peak amps)	20
AC Power	200-240 VAC (3-phase), 220-240 VAC (1-phase) 50/60 Hz ± 2 Hz
DC Control Power	24 VDC ± 10% @ 0.9 Amp per amplifier
Max. Heat loss (watts)	66
Regenerative discharge	16J
Maintenance Clearances:	
Above and below amplifier	40 (1.57)
Beside and between amplifiers	10 (0.39)

*These values are standard values at 20°C with a tolerance of ±10%. The speed-torque characteristics vary depending on the parameter setting and input voltage of the digital servo amplifiers. (The above figures show average values.) These values may be changed without prior notice.

†Separately installed cooling fan required for β4is motor when a single phase AC power source is used and always with the β8is motor.

β i Series Servo Amplifiers

Dimensions

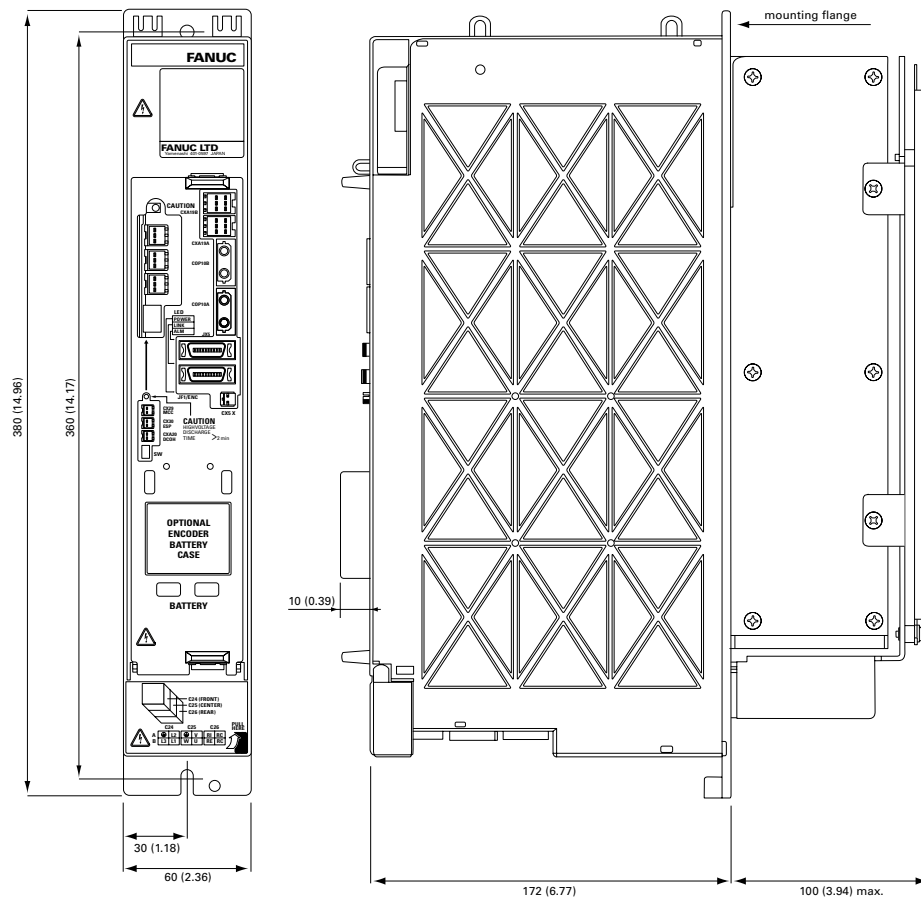
The β i Series amplifiers are panel mounted devices with dimensions as shown. The β i Series amplifiers must be paired with the β is Series motors. When installing the amplifiers make sure to maintain the specified clearances above, below and between adjacent amplifiers to allow for proper convection cooling.

β i Series Servo Amplifier Unit

β SVM1-40i

β SVM1-10HV

β SVM1-40HV



Dimensions shown in mm (in).

β i Series Servo Amplifiers Electrical Specifications


Model	β SVM1-40i	β SVM1-10HV <i></i>	β SVM1-20HV <i></i>	β SVM1-40HV <i></i>
Rated output current (rms amps)	12	3.1	5.6	9.2
Current limit (Peak amps)	40	10	20	40
AC Power	1-phase n/a 3-phase 200-240 VAC, 50/60 Hz \pm 2 Hz	n/a 400-480 VAC	n/a 400-480 VAC	n/a 400-480 VAC
DC Control Power (per amplifier)	24 VDC \pm 10% @ 0.9 Amp	24 VDC \pm 10% @ 0.9 Amp	24 VDC \pm 10% @ 0.9 Amp	24 VDC \pm 10% @ 0.9 Amp
Max. Heat loss (watts)	100	54	82	122
Regenerative discharge	50W	50W	50W	50W
Maintenance Clearances:	Above and below amplifier 50 (1.97) Beside and between amplifiers n/a	50 (1.97) n/a	50 (1.97) n/a	50 (1.97) n/a

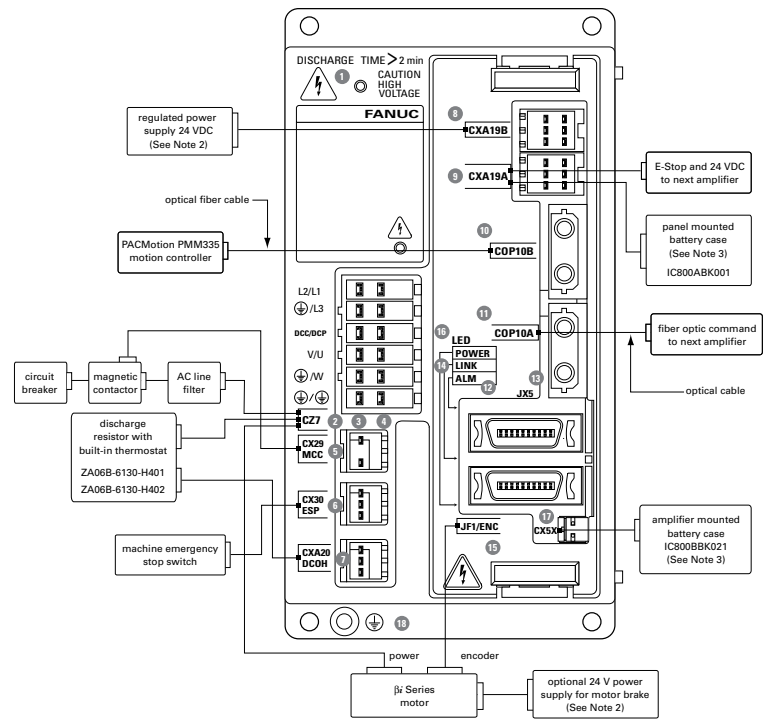
*These values are standard values at 20°C with a tolerance of \pm 10%. The speed-torque characteristics vary depending on the parameter setting and input voltage of the digital servo amplifiers. (The above figures show average values.) These values may be changed without prior notice.

βi Series Servo Amplifiers

βSVM1-20i Connection Diagram

Connector Location

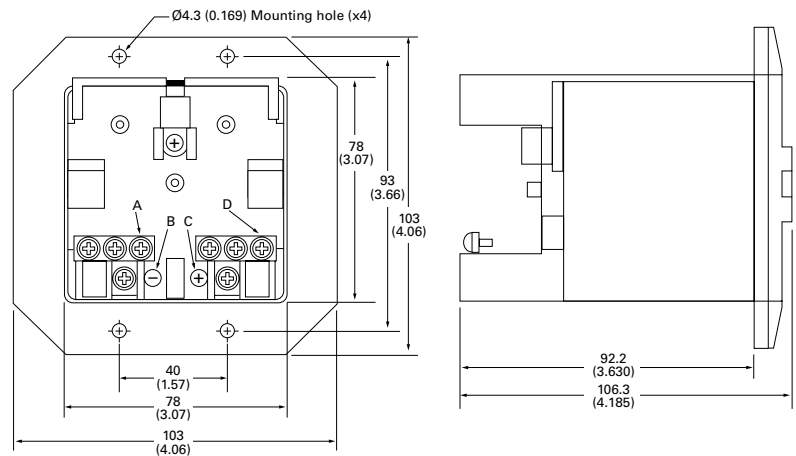
No.	Name	Remarks
1		DC link charge LED
2	CZ7-1	Main power input connector
3	CZ7-2	Discharge resistor connector
4	CZ7-3	Motor power connector
5	CX29	Connector for main power MCC control signal
6	CX30	E-Stop signal connector
7	CXA20	Regenerative resistor overtemperature switch connector
8	CXA19B	24 VDC power input
9	CXA19A	24 VDC power input
10	COP10B	Fiber optic servo command input
11	COP10A	Fiber optic servo command output
12	ALM	Servo alarm status LED
13	JX5	Reserved
14	LINK	Fiber optic link status LED
15	JF1	Serial Encoder Feedback
16	POWER	Control power status display LED
17	CX5X	Absolute encoder battery
18		Tapped hole for grounding the amplifier



IC800ABK001 Encoder Battery Kit Dimensions

Key:

- A 3-M3 negative terminals
- B Negative terminal indication
- C Positive terminal indication
- D 3-M3 positive terminals
- E 4-Ø4.3 (0.169) mounting holes



IC800ABK001 Absolute encoder battery pack

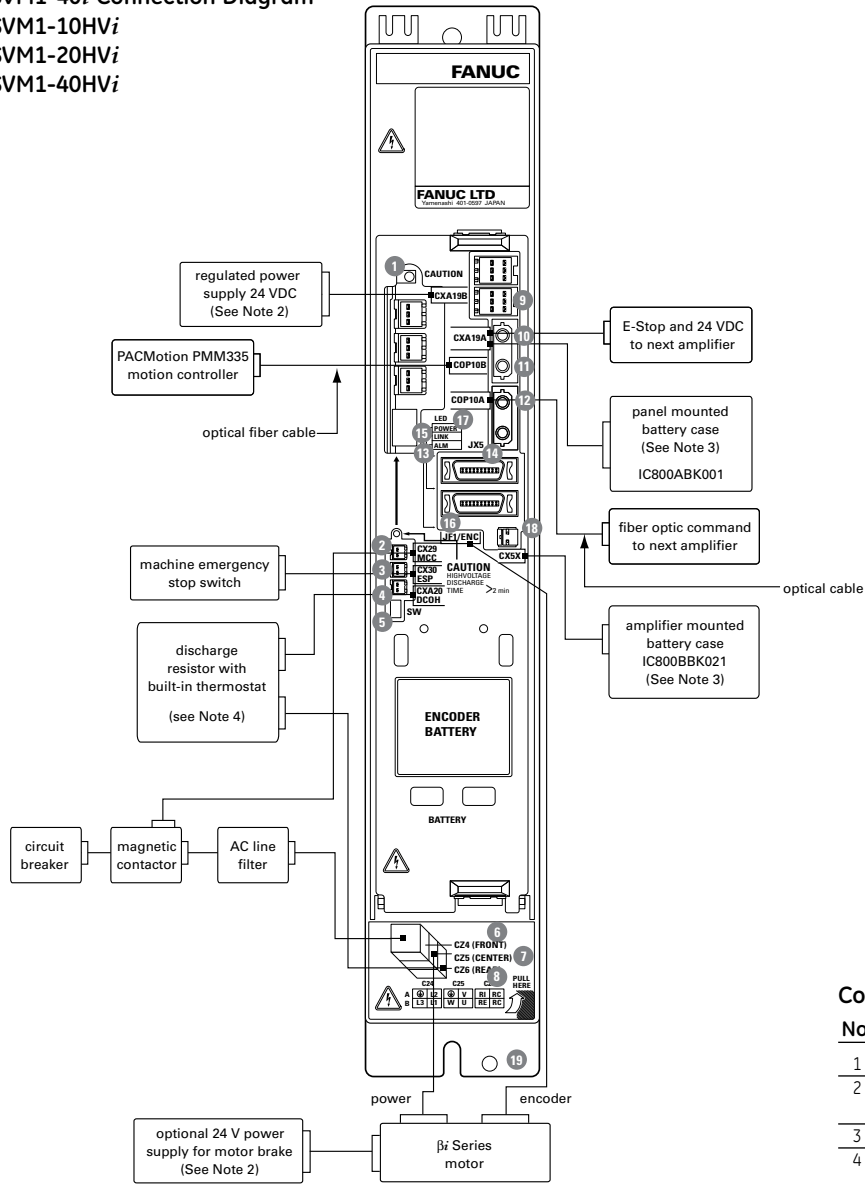
Notes:

- Always install the circuit breakers, magnetic contactor, and AC line filter.
- Use a regulated 24 VDC power supply for the amplifier. 24 VDC power supply for the amplifier and power supply for the motor brake cannot be shared.
- The IC800ABK001 encoder battery pack mounts separately on the panel and can power up to 4 axes. Alternatively, the IC800BBK021 1-axis lithium battery can be snapped onto each amplifier.

βi Series Servo Amplifiers

βSVM1-40i Connection Diagram

βSVM1-10HV*i*
 βSVM1-20HV*i*
 βSVM1-40HV*i*



Connector Location

No.	Name	Remarks
1		DC link charge LED
2	CX29	Connector for main power MCC control signal
3	CX30	E-Stop signal connector
4	CXA20	Regenerative resistor overtemperature switch connector
5	SW	Setting switch (DC alarm level)
6	CZ4	Main power input connector
7	CZ5	Motor power connector
8	CZ6	Discharge resistor connector
9	CXA19B	24 VDC power input
10	CXA19A	24 VDC power input
11	COP10B	Fiber optic servo command input
12	COP10A	Fiber optic servo command output
13	ALM	Servo alarm status LED
14	JX5	Reserved
15	LINK	Fiber optic link status LED
16	JF1	Serial Encoder Feedback
17	POWER	Control power status display LED
18	CX5X	Absolute encoder battery
19		Tapped hole for grounding the amplifier

Notes:

1. Always install the circuit breakers, magnetic contactor, and AC line filter.
2. Use a regulated 24 VDC power supply for the amplifier. 24 VDC power supply for the amplifier and power supply for the motor brake cannot be shared.
3. The IC800ABK001 encoder battery pack mounts separately on the panel and can power up to 4 axes. Alternatively, the IC800BBK021 1-axis lithium battery can be snapped onto each amplifier.
4. The βSVM1-40i can use the ZA06B-6089-H500 or ZA06B-6089-H713 resistors. All Beta HV*i* series amplifiers must use optional ZA06B-6130-H403 resistor when external regeneration capacity is required.

βi Series Servo Amplifiers

Ordering Information

The βi series amplifiers can be ordered as individual components or as kits that include connectors, regenerative discharge resistor and spare fuses. The kit is recommended for new installation while spare parts, or replacement units, should use the amplifier only model number.

To place an order for a complete servo system, select the Servo Motor that meets your application requirements, then select the amplifier kit, cables or connectors (customer built cables) and accessories.

βi and βHVi Series Servo Amplifier Kits*

Part Number	Qty.	Kit Contents
IC800BIK020 20 Amp βi Series Amplifier Package	1	βSVM1-20i Amplifier (ZA06B-6130-H002)
	1	20 W Regenerative Discharge Resistor (ZA06B-6130-H401)
	1	Spare 24 VDC Fuse (ZA06B-6073-K250)
	1	CZ7 Power Connector Kit (ZA06B-6130-K200)
	2	CXA19 24 VDC Connector Kit (ZA06B-6130-K201)
	1	CXA20 Regenerative Discharge Thermostat Connector Kit (ZA06B-6130-K202)
	1	CX29 MCC Connector Kit (ZA06B-6130-K203)
	1	CX30 E-Stop Connector Kit (ZA06B-6130-K204)
	1	βSVM1-40i Amplifier (ZA06B-6130-H003)
	1	Spare 24 VDC Fuse (ZA06B-6073-K250)
IC800BIK040 40 Amp βi Series Amplifier Package	1	CZ4 Power Connector Kit (ZA06B-6110-K200#XXS)
	1	CZ5 Motor Power Connector Kit (ZA06B-6110-K202#YY5)
	1	CZ6 Regenerative Discharge Resistor Connector Kit (ZA06B-6110-K201#XYM)
	2	CXA19 24 VDC Connector Kit (ZA06B-6130-K201)
	1	CXA20 Regenerative Resistor Thermostat Connector Kit (ZA06B-6130-K202)
	1	CX29 MCC Connector Kit (ZA06B-6130-K203)
	1	CX30 E-Stop Connector Kit (ZA06B-6130-K204)
	1	βSVM1-10HVi Amplifier (ZA06B-6131-H001)
	1	Spare 24 VDC Fuse (ZA06B-6073-K250)
	1	CZ4 Power Connector Kit (ZA06B-6110-K200#XXS)
IC800BIHV010 10 Amp βHVi Series Amplifier Package	1	CZ5 Motor Power Connector Kit (ZA06B-6110-K202#YY5)
	1	CZ6 Regenerative Discharge Resistor Connector Kit (ZA06B-6110-K201#XYM)
	2	CXA19 24 VDC Connector Kit (ZA06B-6130-K201)
	1	CXA20 Regenerative Resistor Thermostat Connector Kit (ZA06B-6130-K202)
	1	CX29 MCC Connector Kit (ZA06B-6130-K203)
	1	CX30 E-Stop Connector Kit (ZA06B-6130-K204)
	1	βSVM1-20HVi Amplifier (ZA06B-6131-H002)
	1	Spare 24 VDC Fuse (ZA06B-6073-K250)
	1	CZ4 Power Connector Kit (ZA06B-6110-K200#XXS)
	1	CZ5 Motor Power Connector Kit (ZA06B-6110-K202#YY5)
IC800BIHV020 20 Amp βHVi Series Amplifier Package	1	CZ6 Regenerative Discharge Resistor Connector Kit (ZA06B-6110-K201#XYM)
	2	CXA19 24 VDC Connector Kit (ZA06B-6130-K201)
	1	CXA20 Regenerative Resistor Thermostat Connector Kit (ZA06B-6130-K202)
	1	CX29 MCC Connector Kit (ZA06B-6130-K203)
	1	CX30 E-Stop Connector Kit (ZA06B-6130-K204)
	1	βSVM1-40HVi Amplifier (ZA06B-6131-H003)
	1	Spare 24 VDC Fuse (ZA06B-6073-K250)
	1	CZ4 Power Connector Kit (ZA06B-6110-K200#XXS)
	1	CZ5 Motor Power Connector Kit (ZA06B-6110-K202#YY5)
	1	CZ6 Regenerative Discharge Resistor Connector Kit (ZA06B-6110-K201#XYM)
IC800BIHV040 40 Amp βHVi Series Amplifier Package	2	24 VDC Connector Kit (ZA06B-6130-K201 CXA19)
	1	CXA20 Regenerative Resistor Thermostat Connector Kit (ZA06B-6130-K202)
	1	CX29 MCC Connector Kit (ZA06B-6130-K203)
	1	CX30 Estop Connector Kit (ZA06B-6130-K204)
	1	Amplifier cooling fan kit (ZA06B-6134-K002)

*Amplifier kits provide all of the required amplifier components for complete installation; we strongly encourage kits be ordered for new systems. Separate amplifiers are available for spare or replacement units.

**See dimensions of battery pack on page 76

Holding Brake: For system designs which include a vertical axis that must hold its position when power is removed, a motor holding brake option is available. User supplied 24VDC power is required. To connect to the power, a separate brake cable is required on all motors except β2is, β4is, β2HVis and β4HVis models.

Encoder Battery Kit: All βis Series Servo motors feature a built-in serial encoder that can be used in either incremental or absolute mode. In order to utilize the absolute capability, an optional encoder battery pack must be installed. This pack allows the encoder's position information to be retained so that the machine does not need to be referenced to a home position every time power is restored to the system.

The 1-axis battery pack includes a small lithium battery and case which snaps on the amplifier unit. The 4-axis battery pack is panel mounted and uses standard D-cell batteries.

Battery Kits

Part Number	Qty.	Kit Contents
IC800BK021	1	Lithium Battery (ZA06B-6093-K001)
1-Axis βi Battery Kit	1	Battery Holder (ZA06B-6093-K002)
IC800ABK001	4	D-Cell Alkaline Battery (ZA98L-0031-0005)
4-Axis D-Cell Panel Mounted Battery Pack	1	Panel Mounted Battery Pack (ZA06B-6050-K060)**
IC800ABK002	1	Lithium Battery (ZA06B-6114-K504)
1-Axis αHVi Battery Kit	1	Battery Holder (ZA06B-6114-K505)
IC800ABK003	1	Lithium Battery (ZA06B-6114-K504)
1-Axis αHVi Battery Kit for αSVM-180HVi Amplifier	1	Battery Holder (ZA06B-6114-K506)

βHV_i Series Servo Amplifier and βHV_is Series Servo Motor

Ordering Information

Model Number	β2/4000HV _i s	β4/4000HV _i s	β8/3000HV _i s	β12/3000HV _i s	β22/2000HV _i s
Servo Motor	ZA06B-0062-B203	ZA06B-0064-B203	ZA06B-0076-B203	ZA06B-0079-B203	ZA06B-0086-B203
Servo Motor w/ Holding Brake	ZA06B-0062-B503	ZA06B-0064-B503	ZA06B-0076-B503	ZA06B-0079-B503	ZA06B-0086-B503
Amplifier Kit	IC800BIHV010	IC800BIHV010	IC800BIHV010	IC800BIHV020	IC800BIHV020
Amplifier Only	ZA06B-6131-H001	ZA06B-6131-H001	ZA06B-6131-H001	ZA06B-6131-H002	ZA06B-6131-H002

Cables and Accessories Ordering Information

Model Number	β2/4000HV _i s		β4/4000HV _i s		β8/3000HV _i s		β12/3000HV _i s		β22/2000HV _i s	
Power Cable	7 M	CP2I-OWPB-0070-AZ	CP2I-OWPB-0070-AZ	CP2I-OWPB-0070-AZ	CP3I-OWPB-0070-AZ	CP3I-OWPB-0070-AZ	CP3I-OWPB-0070-AZ	CP3I-OWPB-0070-AZ	CP4I-OWPB-0070-AZ	CP4I-OWPB-0140-AZ
	14 M	CP2I-OWPB-0140-AZ	CP2I-OWPB-0140-AZ	CP2I-OWPB-0140-AZ	CP3I-OWPB-0140-AZ	CP3I-OWPB-0140-AZ	CP3I-OWPB-0140-AZ	CP3I-OWPB-0140-AZ	CP4I-OWPB-0140-AZ	CP4I-OWPB-0140-AZ
Power Cable (Shielded)	7 M	CP2I-OWEB-0070-AZ	CP2I-OWEB-0070-AZ	CP2I-OWEB-0070-AZ	CP3I-OWEB-0070-AZ	CP3I-OWEB-0070-AZ	CP3I-OWEB-0070-AZ	CP3I-OWEB-0070-AZ	CP4I-OWEB-0070-AZ	CP4I-OWEB-0140-AZ
	14 M	CP2I-OWEB-0140-AZ	CP2I-OWEB-0140-AZ	CP2I-OWEB-0140-AZ	CP3I-OWEB-0140-AZ	CP3I-OWEB-0140-AZ	CP3I-OWEB-0140-AZ	CP3I-OWEB-0140-AZ	CP4I-OWEB-0140-AZ	CP4I-OWEB-0140-AZ
Feedback Cable (Right Angle Motor Connector)	7 M	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ	CFDA-7WPB-0140-AZ
	14 M	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ
Feedback Cable (Straight Motor Connector)	7 M	CFDA-OWPB-0070-AZ	CFDA-OWPB-0070-AZ	CFDA-OWPB-0070-AZ	CFDA-OWPB-0070-AZ	CFDA-OWPB-0070-AZ	CFDA-OWPB-0070-AZ	CFDA-OWPB-0070-AZ	CFDA-OWPB-0070-AZ	CFDA-OWPB-0140-AZ
	14 M	CFDA-OWPB-0140-AZ	CFDA-OWPB-0140-AZ	CFDA-OWPB-0140-AZ	CFDA-OWPB-0140-AZ	CFDA-OWPB-0140-AZ	CFDA-OWPB-0140-AZ	CFDA-OWPB-0140-AZ	CFDA-OWPB-0140-AZ	CFDA-OWPB-0140-AZ
Holding Brake Power Cable	7 M	Integrated with Power Cable	Integrated with Power Cable	CB4N-OWPM-0070-AZ	CB4N-OWPM-0070-AZ	CB4N-OWPM-0070-AZ	CB4N-OWPM-0070-AZ	CB4N-OWPM-0070-AZ	CB4N-OWPM-0070-AZ	CB4N-OWPM-0140-AZ
	14 M	Integrated with Power Cable	Integrated with Power Cable	CB4N-OWPM-0140-AZ	CB4N-OWPM-0140-AZ	CB4N-OWPM-0140-AZ	CB4N-OWPM-0140-AZ	CB4N-OWPM-0140-AZ	CB4N-OWPM-0140-AZ	CB4N-OWPM-0140-AZ
External Regen Resistors	—	ZA06B-6130-H403	ZA06B-6130-H403	ZA06B-6130-H403	ZA06B-6130-H403	ZA06B-6130-H403	ZA06B-6130-H403	ZA06B-6130-H403	ZA06B-6130-H403	ZA06B-6130-H403
CZ4 Power Connector Kit		ZA06B-6110-K200#XXS	ZA06B-6110-K200#XXS	ZA06B-6110-K200#XXS	ZA06B-6110-K200#XXS	ZA06B-6110-K200#XXS	ZA06B-6110-K200#XXS	ZA06B-6110-K200#XXS	ZA06B-6110-K200#XXS	ZA06B-6110-K200#XXS
CZ5 Motor Power Connector Kit		ZA06B-6110-K202#YYS	ZA06B-6110-K202#YYS	ZA06B-6110-K202#YYS	ZA06B-6110-K202#YYS	ZA06B-6110-K202#YYS	ZA06B-6110-K202#YYS	ZA06B-6110-K202#YYS	ZA06B-6110-K202#YYS	ZA06B-6110-K202#YYS
CZ6 Regen Resistor Thermostat Connector Kit		ZA06B-6110-K201#XYM	ZA06B-6110-K201#XYM	ZA06B-6110-K201#XYM	ZA06B-6110-K201#XYM	ZA06B-6110-K201#XYM	ZA06B-6110-K201#XYM	ZA06B-6110-K201#XYM	ZA06B-6110-K201#XYM	ZA06B-6110-K201#XYM
CXA19 Connector Kit		ZA06B-6130-K201	ZA06B-6130-K201	ZA06B-6130-K201	ZA06B-6130-K201	ZA06B-6130-K201	ZA06B-6130-K201	ZA06B-6130-K201	ZA06B-6130-K201	ZA06B-6130-K201
CXA20 Regen Thermostat Connector Kit		ZA06B-6130-K202	ZA06B-6130-K202	ZA06B-6130-K202	ZA06B-6130-K202	ZA06B-6130-K202	ZA06B-6130-K202	ZA06B-6130-K202	ZA06B-6130-K202	ZA06B-6130-K202
CX29 MCC Connector Kit		ZA06B-6130-K203	ZA06B-6130-K203	ZA06B-6130-K203	ZA06B-6130-K203	ZA06B-6130-K203	ZA06B-6130-K203	ZA06B-6130-K203	ZA06B-6130-K203	ZA06B-6130-K203
CX30 Estop Input Connector Kit		ZA06B-6130-K204	ZA06B-6130-K204	ZA06B-6130-K204	ZA06B-6130-K204	ZA06B-6130-K204	ZA06B-6130-K204	ZA06B-6130-K204	ZA06B-6130-K204	ZA06B-6130-K204
Motor Feedback Connector Kit	90 Deg	ZA06B-6114-K204#E	ZA06B-6114-K204#E	ZA06B-6114-K204#E	ZA06B-6114-K204#E	ZA06B-6114-K204#E	ZA06B-6114-K204#E	ZA06B-6114-K204#E	ZA06B-6114-K204#E	ZA06B-6114-K204#E
	Straight	ZA06B-6114-K204#S	ZA06B-6114-K204#S	ZA06B-6114-K204#S	ZA06B-6114-K204#S	ZA06B-6114-K204#S	ZA06B-6114-K204#S	ZA06B-6114-K204#S	ZA06B-6114-K204#S	ZA06B-6114-K204#S
Motor Half Key ^(Note 2)		Z44A730465-001	Z44A730465-016	Z44A730465-002	Z44A730465-015	Z44A730465-003	Z44A730465-015	Z44A730465-003	Z44A730465-015	Z44A730465-003
Motor Power/Brake Connector Kit	90 Deg	ZA06B-6114-K220#E	ZA06B-6114-K220#E	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Straight	ZA06B-6114-K220#S	ZA06B-6114-K220#S	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Motor Power Connector Kit	90 Deg	N/A	N/A	Z44A730464-G18	Z44A730464-G18	Z44A730464-G20	Z44A730464-G18	Z44A730464-G18	Z44A730464-G20	Z44A730464-G20
	Straight	N/A	N/A	Z44A730464-G17	Z44A730464-G17	Z44A730464-G19	Z44A730464-G17	Z44A730464-G17	Z44A730464-G19	Z44A730464-G19
Motor Brake Connector Kit	90 Deg	N/A	N/A	ZA06B-6114-K213#E	ZA06B-6114-K213#E	ZA06B-6114-K213#E	ZA06B-6114-K213#E	ZA06B-6114-K213#E	ZA06B-6114-K213#E	ZA06B-6114-K213#E
	Straight	N/A	N/A	ZA06B-6114-K213#S	ZA06B-6114-K213#S	ZA06B-6114-K213#S	ZA06B-6114-K213#S	ZA06B-6114-K213#S	ZA06B-6114-K213#S	ZA06B-6114-K213#S
Spare Control Power Fuse		ZA06B-6073-K250								
Encoder Battery Kits	1 axis	IC800BBK021 ^(Note 1)								
	4 axis	IC800ABK001 ^(Note 1)								
Fiberoptic Command Cable	15 cm	ZA66L-6001-0023#L150R0								
	1 M	ZA66L-6001-0023#L1R003								
	2 M	ZA66L-6001-0023#L2R003								
	3 M	ZA66L-6001-0023#L3R003								
Sheathed Fiberoptic Cable	1 M	ZA66L-6001-0026#L1R003								
	5 M	ZA66L-6001-0026#L5R003								
	10 M	ZA66L-6001-0026#L10R03								
	20 M	ZA66L-6001-0026#L20R03								
	30M	ZA66L-6001-0026#L30R03								
	50M	ZA66L-6001-0026#L50R03								
100 M	ZA66L-6001-0026#L100R3									
Feedback Connector (JF1)		ZA06B-6073-K214								
AC Line Filter	5.4 kW	ZA81L-0001-0168								
	10.5 kW	ZA81L-0001-0169								
Replacement Encoder Battery		ZA06B-6093-K001 (IC800BBK021 kit); ZA98L-0031-0005 (IC800ABK001 kit)								

1) The IC800ABK001 panel mounted encoder battery pack requires CXA19 connector kit for user supplied cable. Uses 4 D-cell batteries. See breakdown of kit contents in the Ordering Information section.

2) Half Keys are used to fill the motor shaft Keyway when a compression type coupling is used in order to preserve the rotational balance of the motor.

βi Series Servo Amplifier and βi Series Servo Motor

Ordering Information

Model Number	β0.4/5000is	β0.5/6000is	β1/6000is	β2/4000is
Servo Motor	ZA06B-0114-B203	ZA06B-0115-B203	ZA06B-0116-B203	ZA06B-0061-B203
Servo Motor w/ Holding Brake	ZA06B-0114-B503	ZA06B-0115-B503	ZA06B-0116-B503	ZA06B-0061-B503
Amplifier Kit	IC800BIK020	IC800BIK020	IC800BIK020	IC800BIK020
Amplifier Only	ZA06B-6130-H002	ZA06B-6130-H002	ZA06B-6130-H002	ZA06B-6130-H002
Amplifier Fan Kit ^(Note 1)	N/A	N/A	N/A	N/A

Cables and Accessories Ordering Information

Model Number		β0.4/5000is	β0.5/6000is	β1/6000is	β2/4000is
Power Cable	7 M	CP8B-1WPB-0070-AZ	CP8B-1WPB-0070-AZ	CP8B-1WPB-0070-AZ	CP9B-0WPB-0070-AZ
	14 M	CP8B-1WPB-0140-AZ	CP8B-1WPB-0140-AZ	CP8B-1WPB-0140-AZ	CP9B-0WPB-0140-AZ
Power Cable (Shielded)	7 M	CP8B-1WEB-0070-AZ	CP8B-1WEB-0070-AZ	CP8B-1WEB-0070-AZ	CP9B-0WEB-0070-AZ
	14 M	CP8B-1WEB-0140-AZ	CP8B-1WEB-0140-AZ	CP8B-1WEB-0140-AZ	CP9B-0WEB-0140-AZ
Feedback Cable (Right Angle motor connector)	7 M	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ
	14 M	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ
Feedback Cable (Straight motor connector)	7 M	CFDA-0WPB-0070-AZ	CFDA-0WPB-0070-AZ	CFDA-0WPB-0070-AZ	CFDA-0WPB-0070-AZ
	14 M	CFDA-0WPB-0140-AZ	CFDA-0WPB-0140-AZ	CFDA-0WPB-0140-AZ	CFDA-0WPB-0140-AZ
Holding Brake Power Cable	7 M	CB6N-5WPM-0070-AZ	CB6N-5WPM-0070-AZ	CB6N-5WPM-0070-AZ	Integrated with Power Cable
	14 M	CB6N-5WPM-0140-AZ	CB6N-5WPM-0140-AZ	CB6N-5WPM-0140-AZ	Integrated with Power Cable
External Regen Resistors	20 W	ZA06B-6130-H401	ZA06B-6130-H401	ZA06B-6130-H401	ZA06B-6130-H401
	100 W	ZA06B-6130-H402	ZA06B-6130-H402	ZA06B-6130-H402	ZA06B-6130-H402
	200 W	N/A	N/A	N/A	N/A
	800 W	N/A	N/A	N/A	N/A
CZ7 Power Connector Kit		ZA06B-6130-K200	ZA06B-6130-K200	ZA06B-6130-K200	ZA06B-6130-K200
CZ4 Power Connector Kit		N/A	N/A	N/A	N/A
CZ5 Motor Power Connector Kit		N/A	N/A	N/A	N/A
CZ6 Regen Resistor Thermostat Connector Kit		N/A	N/A	N/A	N/A
CXA19 24 VDC Connector Kit		ZA06B-6130-K201	ZA06B-6130-K201	ZA06B-6130-K201	ZA06B-6130-K201
CXA20 Regen Thermostat Connector Kit		ZA06B-6130-K202	ZA06B-6130-K202	ZA06B-6130-K202	ZA06B-6130-K202
CX29 MCC Connector Kit		ZA06B-6130-K203	ZA06B-6130-K203	ZA06B-6130-K203	ZA06B-6130-K203
CX30 E-Stop Input Connector Kit		ZA06B-6130-K204	ZA06B-6130-K204	ZA06B-6130-K204	ZA06B-6130-K204
Motor Feedback Connector Kit	90 Deg	ZA06B-6114-K204#E	ZA06B-6114-K204#E	ZA06B-6114-K204#E	ZA06B-6114-K204#E
	Straight	ZA06B-6114-K204#S	ZA06B-6114-K204#S	ZA06B-6114-K204#S	ZA06B-6114-K204#S
Motor Half Key ^(Note 3)		Z44A730465-013	Z44A730465-013	Z44A730465-011	Z44A730465-001
Motor Power/Brake Connector Kit	90 Deg	N/A	N/A	N/A	ZA06B-6114-K220#E
	Straight	N/A	N/A	N/A	ZA06B-6114-K220#S
Motor Power Connector Kit	90 Deg	ZA06B-6114-K230#E	ZA06B-6114-K230#E	ZA06B-6114-K230#E	N/A
	Straight	ZA06B-6114-K230#S	ZA06B-6114-K230#S	ZA06B-6114-K230#S	N/A
Motor Brake Power Connector Kit	90 Deg	ZA06B-6114-K232#E	ZA06B-6114-K232#E	ZA06B-6114-K232#E	N/A
	Straight	ZA06B-6114-K232#S	ZA06B-6114-K232#S	ZA06B-6114-K232#S	N/A
Spare Amplifier Control Power Fuse			ZA06B-6073-K250		
Encoder Battery Kits	1 axis		IC800BBK021 ^(Note 2)		
	4 axis		IC800ABK001 ^(Note 2)		
Fiberoptic Command Cable	15 cm		ZA66L-6001-0023#L150R0		
	1 M		ZA66L-6001-0023#L1R003		
	2 M		ZA66L-6001-0023#L2R003		
	3 M		ZA66L-6001-0023#L3R003		
Fiberoptic Command Cable (sheathed)	1 M		ZA66L-6001-0026#L1R003		
	5 M		ZA66L-6001-0026#L5R003		
	10 M		ZA66L-6001-0026#L10R03		
	20 M		ZA66L-6001-0026#L20R03		
	30 M		ZA66L-6001-0026#L30R03		
	50 M		ZA66L-6001-0026#L50R03		
	100 M		ZA66L-6001-0026#L100R3		
Amplifier Feedback Connector (JF1)			ZA06B-6073-K214		
AC Line Filter	5.4 kW		ZA81L-0001-0083#3C		
	10.5 kW		ZA81L-0001-0101#C		
Replacement Encoder Battery			ZA06B-6093-K001 (IC800BBK021 kit); ZA98L-0031-0005 (IC800ABK001 kit)		

1) Separate user installed cooling fan is only required for the βSVM1-20i amplifier and β8/3000is motor or when single phase supply is used with the β4/4000is motor
 2) The IC800ABK001 panel mounted encoder battery pack requires CXA19 connector kit for user supplied cable. Uses 4 D-cell batteries. See breakdown of kit contents in the Ordering Information section.
 3) Half Keys are used to fill the motor shaft Keyway when a compression type coupling is used in order to preserve the rotational balance of the motor.

βi Series Servo Amplifier and βi Series Servo Motor

Ordering Information

Model Number	β4/4000is	β8/3000is	β12/3000is	β22/2000is
Servo Motor	ZA06B-0063-B203	ZA06B-0075-B203	ZA06B-0078-B203	ZA06B-0085-B203
Servo Motor w/ Holding Brake	ZA06B-0063-B503	ZA06B-0075-B503	ZA06B-0078-B503	ZA06B-0085-B503
Amplifier Kit	IC800BIK020	IC800BIK020	IC800BIK040	IC800BIK040
Amplifier Only	ZA06B-6130-H002	ZA06B-6130-H002	ZA06B-6130-H003	ZA06B-6130-H003
Amplifier Fan Kit ^(Note 1)	ZA06B-6134-K003	ZA06B-6134-K003	N/A	N/A

Cables and Accessories Ordering Information

Model Number		β4/4000is	β8/3000is	β12/3000is	β22/2000is
Power Cable	7 M	CP9B-0WPB-0070-AZ	CP3B-0WPB-0070-AZ	CP5B-0WPB-0070-AZ	CP6B-0WPB-0070-AZ
	14 M	CP9B-0WPB-0140-AZ	CP3B-0WPB-0140-AZ	CP5B-0WPB-0140-AZ	CP6B-0WPB-0140-AZ
Power Cable (Shielded)	7 M	CP9B-0WEB-0070-AZ	CP3B-0WEB-0070-AZ	CP5B-0WEB-0070-AZ	CP6B-0WEB-0070-AZ
	14 M	CP9B-0WEB-0140-AZ	CP3B-0WEB-0140-AZ	CP5B-0WEB-0140-AZ	CP6B-0WEB-0140-AZ
Feedback Cable (Right Angle motor connector)	7 M	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ	CFDA-7WPB-0070-AZ
	14 M	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ	CFDA-7WPB-0140-AZ
Feedback Cable (Straight motor connector)	7 M	CFDA-0WPB-0070-AZ	CFDA-0WPB-0070-AZ	CFDA-0WPB-0070-AZ	CFDA-0WPB-0070-AZ
	14 M	CFDA-0WPB-0140-AZ	CFDA-0WPB-0140-AZ	CFDA-0WPB-0140-AZ	CFDA-0WPB-0140-AZ
Holding Brake Power Cable	7 M	Integrated with Power Cable	CB4N-0WPM-0070-AZ	CB4N-0WPM-0070-AZ	CB4N-0WPM-0070-AZ
	14 M	Integrated with Power Cable	CB4N-0WPM-0140-AZ	CB4N-0WPM-0140-AZ	CB4N-0WPM-0140-AZ
External Regen Resistors	20 W	ZA06B-6130-H401	ZA06B-6130-H401	N/A	N/A
	100 W	ZA06B-6130-H402	ZA06B-6130-H402	N/A	N/A
	200 W	N/A	N/A	ZA06B-6089-H500	ZA06B-6089-H500
	800 W	N/A	N/A	ZA06B-6089-H713	ZA06B-6089-H713
CZ7 Power Connector Kit		ZA06B-6130-K200	ZA06B-6130-K200	N/A	N/A
CZ4 Power Connector Kit		N/A	N/A	ZA06B-6110-K200#XXS	ZA06B-6110-K200#XXS
CZ5 Motor Power Connector Kit		N/A	N/A	ZA06B-6110-K202#YYs	ZA06B-6110-K202#YYs
CZ6 Regen Resistor Thermostat Connector Kit		N/A	N/A	ZA06B-6110-K201#XYM	ZA06B-6110-K201#XYM
CXA19 24 VDC Connector Kit		ZA06B-6130-K201	ZA06B-6130-K201	ZA06B-6130-K201	ZA06B-6130-K201
CXA20 Regen Thermostat Connector Kit		ZA06B-6130-K202	ZA06B-6130-K202	ZA06B-6130-K202	ZA06B-6130-K202
CX29 MCC Connector Kit		ZA06B-6130-K203	ZA06B-6130-K203	ZA06B-6130-K203	ZA06B-6130-K203
CX30 E-Stop Input Connector Kit		ZA06B-6130-K204	ZA06B-6130-K204	ZA06B-6130-K204	ZA06B-6130-K204
Motor Feedback Connector Kit	90 Deg	ZA06B-6114-K204#E	ZA06B-6114-K204#E	ZA06B-6114-K204#E	ZA06B-6114-K204#E
	Straight	ZA06B-6114-K204#S	ZA06B-6114-K204#S	ZA06B-6114-K204#S	ZA06B-6114-K204#S
Motor Half Key ^(Note 3)		Z44A730465-016	Z44A730465-002	Z44A730465-015	Z44A730465-003
Motor Power/Brake Connector Kit	90 Deg	ZA06B-6114-K220#E	N/A	N/A	N/A
	Straight	ZA06B-6114-K220#S	N/A	N/A	N/A
Motor Power Connector Kit	90 Deg	N/A	Z44A730464-G18	Z44A730464-G18	Z44A730464-G20
	Straight	N/A	Z44A730464-G17	Z44A730464-G17	Z44A730464-G19
Motor Brake Power Connector Kit	90 Deg	N/A	ZA06B-6114-K213#E	ZA06B-6114-K213#E	ZA06B-6114-K213#E
	Straight	N/A	ZA06B-6114-K213#S	ZA06B-6114-K213#S	ZA06B-6114-K213#S
Spare Amplifier Control Power Fuse		ZA06B-6073-K250			
Encoder Battery Kits	1 axis	IC800BBK021 ^(Note 2)			
	4 axis	IC800ABK001 ^(Note 2)			
Fiberoptic Command Cable	15 cm	ZA66L-6001-0023#L150R0			
	1 M	ZA66L-6001-0023#L1R003			
	2 M	ZA66L-6001-0023#L2R003			
	3 M	ZA66L-6001-0023#L3R003			
Fiberoptic Command Cable (sheathed)	1 M	ZA66L-6001-0026#L1R003			
	5 M	ZA66L-6001-0026#L5R003			
	10 M	ZA66L-6001-0026#L10R03			
	20 M	ZA66L-6001-0026#L20R03			
	30 M	ZA66L-6001-0026#L30R03			
	50 M	ZA66L-6001-0026#L50R03			
	100 M	ZA66L-6001-0026#L100R3			
Amplifier Feedback Connector (JF1)		ZA06B-6073-K214			
AC Line Filter	5.4 kW	ZA81L-0001-0083#3C			
	10.5 kW	ZA81L-0001-0101#C			
Replacement Encoder Battery		ZA06B-6093-K001 (IC800BBK021 kit); ZA98L-0031-0005 (IC800ABK001 kit)			

1) Separate user installed cooling fan is only required for the β5VM1-20i amplifier and β8/3000is motor or when single phase supply is used with the β4/4000is motor

2) The IC800ABK001 panel mounted encoder battery pack requires CXA19 connector kit for user supplied cable. Uses 4 D-cell batteries. See breakdown of kit contents in the Ordering Information section.

3) Half Keys are used to fill the motor shaft Keyway when a compression type coupling is used in order to preserve the rotational balance of the motor.

βis Series Servo Motors

Specifications

Motor Model	Unit	β0.4/5000is	β0.5/6000is	β1/6000is	β2/4000is	β4/4000is	β8/3000is	β12/3000is	β22/2000is
Cont Stall Torque*	in-lb (Nm)	3.5 (0.4)	5.8 (0.65)	10.6 (1.2)	17.7 (2)	31 (3.5)	62 (7)	97.4 (11)	177 (20)
Peak Torque*	in-lb (Nm)	8.9 (1)	22.1 (2.5)	44.3 (5)	62 (7)	88.5 (10)	132.8 (15)	239 (27)	398.3 (45)
Rotor Inertia	in-lb-s ² x 10 ⁻⁴ (kg-m ² x 10 ⁻⁴)	0.885 (0.1)	1.593 (0.18)	3.009 (0.34)	25.76 (2.91)	45.58 (5.15)	103.55 (11.7)	201.80 (22.8)	466.43 (52.7)
Rated Speed	RPM	4000	6000	6000	4000	3000	2000	2000	2000
No Load Speed	RPM	5000	6000	6000	4000	4000	3000	3000	2000
Encoder Resolution	Counts/Rev	65,536	65,536	65,536	131,072	131,072	131,072	131,072	131,072
Flange Size	mm	60	60	60	90	90	130	130	174

Mechanical Data

Weight	lb (kg)	1.76 (0.8)	2.2 (1)	3.3 (1.5)	6.16 (2.8)	9.46 (4.3)	16.28 (7.4)	26.18 (11.9)	37.4 (17)
Axial Load Rating	lb (kg)	11 (5)	11 (5)	11 (5)	17.6 (8)	17.6 (8)	44 (20)	44 (20)	132 (60)
Radial Load Rating	lb (kg)	44 (20)	44 (20)	44 (20)	55 (25)	55 (25)	154 (70)	154 (70)	440 (200)
Mechanical Time Constant	msec	1	0.9	0.7	4	3	3	2	2
Thermal Time Constant	min	8	10	15	15	20	20	25	30
Static Friction	Nm	0.04	0.04	0.04	0.1	0.2	0.3	0.4	0.8

Electrical Data

Torque Constant*	in-lb/A (Nm/A)	0.99 (0.11)	1.97 (0.22)	3.98 (0.45)	5.49 (0.62)	6.64 (0.75)	10.27 (1.16)	9.56 (1.08)	15.66 (1.77)
Resistance*	ohms	0.55	0.85	1.5	1.6	0.94	1	0.39	0.44
Back EMF*	V _(rms) /krpm	4	7.7	15.4	21	26	41	38	62
Rated Motor Power*	HP (kW)	0.17 (0.13)	0.47 (0.35)	0.67 (0.5)	0.67 (0.5)	1 (0.75)	1.6 (1.2)	2.4 (1.8)	3.4 (2.5)
Cont. Stall Current	A _(rms)	3.6	2.9	2.7	3.3	4.7	6	10.2	11.3
Max Current	A _(peak)	20	20	20	20	20	20	40	40
Insulation		Class F	Class F	Class F	Class F	Class F	Class F	Class F	Class F

Amplifier Model

Amp Model Number	βSVM1-20i	βSVM1-20i	βSVM1-20i	βSVM1-20i	βSVM1-20i	βSVM1-20i	βSVM1-40i	βSVM1-40i
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Brake Data

Holding Torque	in-lb (Nm)	5.8 (0.65)	5.8 (0.65)	10.6 (1.2)	26.6 (3)	26.6 (3)	70.8 (8)	70.8 (8)	309.8 (35)
Inertia Adder	in-lb-s ² x 10 ⁻⁴ (kg-m ² x 10 ⁻⁴)	0.797 (0.09)	0.797 (0.09)	0.797 (0.09)	1.770 (0.2)	1.770 (0.2)	6.195 (0.7)	6.195 (0.7)	53.100 (6)
Weight Adder	lb (kg)	0.88 (0.4)	0.88 (0.4)	0.88 (0.4)	2.2 (1)	2.2 (1)	4.84 (2.2)	4.84 (2.2)	13.2 (6)
Current	A	0.5	0.5	0.5	0.9	0.9	1.1	1.1	1.2
Voltage	VDC	24	24	24	24	24	24	24	24
Engage time	msec	20	20	20	10	10	30	30	30
Release time	msec	40	40	40	60	60	160	160	160

*Data shown are nominal values at 20°C

Environmental Specifications

Humidity	80% non-condensing
Ambient Temperature	0 to 40°C
Vibration	less than 5G (operating)
Altitude	3300 feet (1000 m)

βHVis Series Servo Motors

Specifications

Motor Model	Unit	β2/4000HVis	β4/4000HVis	β8/3000HVis	β12/3000HVis	β22/2000HVis
Cont Stall Torque*	Nm	2	3.5	7	11	20
	in-lb	17.7	31	62	97.4	177
Peak Torque*	Nm	7	10	15	27	45
	in-lb	62	88.5	132.8	239	398.3
Rotor Inertia	kgm ² x 10 ⁻⁴	2.91	5.15	11.7	22.8	52.7
	in-lb-s ² x 10 ⁻⁴	25.76	45.58	103.55	201.80	466.43
Rated Speed	RPM	4000	3000	2000	2000	2000
No Load Speed	RPM	4000	4000	3000	3000	2000
Encoder Resolution	Counts/Rev	131,072	131,072	131,072	131,072	131,072
Flange Size	mm	90	90	130	130	174

Mechanical Data

Weight	kg	2.8	4.3	7.4	11.9	17
	lb	6.16	9.46	16.28	26.18	37.4
Axial Load Rating	kg	8	8	20	20	60
	lb	17.6	17.6	44	44	132
Radial Load Rating	kg	25	25	70	70	200
	lb	55	55	154	154	440
Mechanical Time Constant	msec	4	3	3	2	2
Thermal Time Constant	min	15	20	20	25	30
Static Friction	Nm	0.1	0.2	0.3	0.4	0.8

Electrical Data

Torque Constant *	Nm/A	1.23	1.5	2.32	2.16	3.5
	in-lb/A	10.89	13.28	20.53	19.12	30.98
Resistance*	ohms	6.6	4	3.9	1.6	1.8
Back EMF Constant*	V(rms)/krpm	43	53	81	76	120
Rated Motor Power*	kW	0.5	0.75	1.2	1.8	2.5
	HP	0.67	1	1.6	2.4	3.4
Cont. Stall Current	A (rms)	1.6	2.3	3	5.1	5.6
Max Current	A (peak)	10	10	10	20	20
Insulation	Class F	Class F	Class F	Class F	Class F	Class F

Amplifier Model

Amp Model Number	βSVM1-10HV _i	βSVM1-10HV _i	βSVM1-10HV _i	βSVM1-20HV _i	βSVM1-20HV _i
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Brake Data

Holding Torque	in-lb	26.6	26.6	70.8	70.8	309.8
	Nm	3	3	8	8	35
Inertia Adder	kgm ² x 10 ⁻⁴	0.2	0.2	0.7	0.7	6
	in-lb-s ² x 10 ⁻⁴	1.770	1.770	6.195	6.195	53.100
Weight Adder	lb	2.2	2.2	4.84	4.84	13.2
	kg	1	1	2.2	2.2	6
Current	A	0.9	0.9	1.1	1.1	1.2
Voltage	VDC	24	24	24	24	24
Engage time	msec	10	10	30	30	30
Release time	msec	60	60	160	160	160

*Data shown are nominal values at 20°C

Environmental Specifications

Humidity	80% non-condensing
Ambient Temperature	0 to 40° C
Vibration	less than 5G (operating)
Altitude	3300 feet (1000 m)

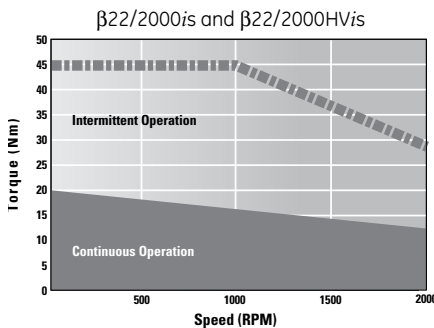
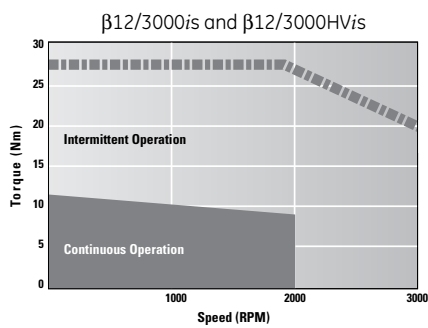
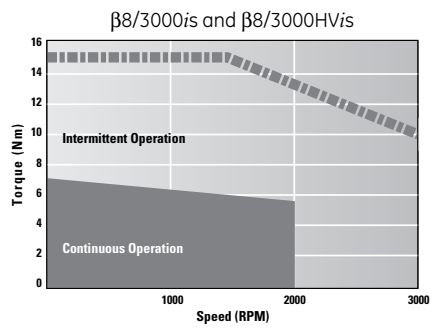
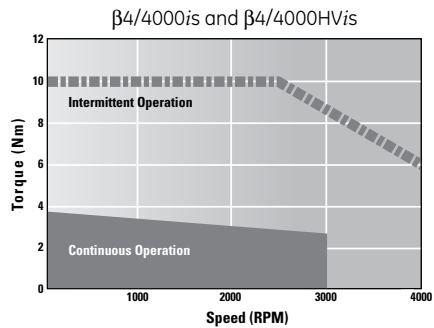
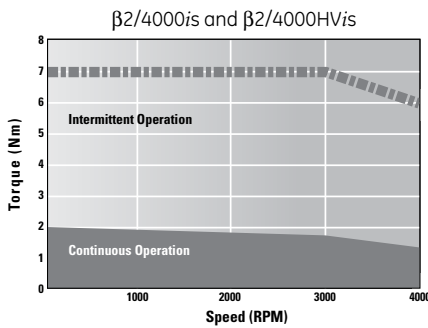
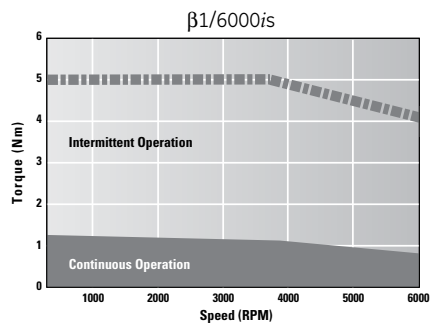
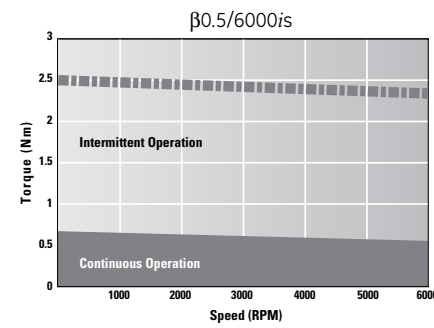
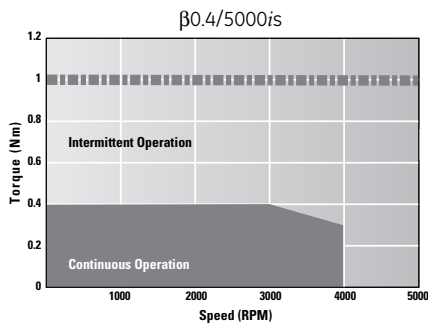
β is and β HVis Series Servo Motors

Speed Torque Curves

The curves illustrate the relationship between motor speed and output torque. The motor can operate continuously at any combination of speed and torque within the prescribed continuous

operating zone. The limit of the continuous operating zone is determined with the motor's ambient temperature at 20°C and its drive current as a pure sine wave. Actual operation is limited by the current

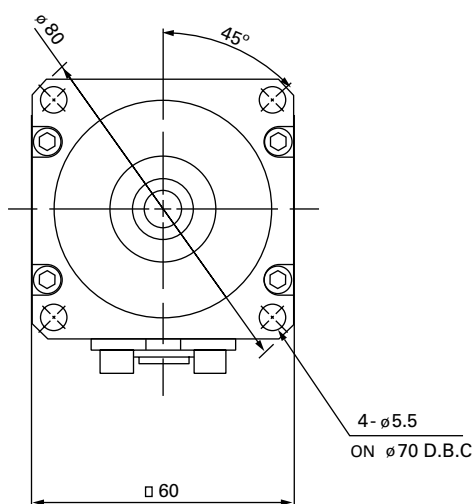
of the servo drive unit. The continuous operating zone must be derated for ambient temperature above 20°C.



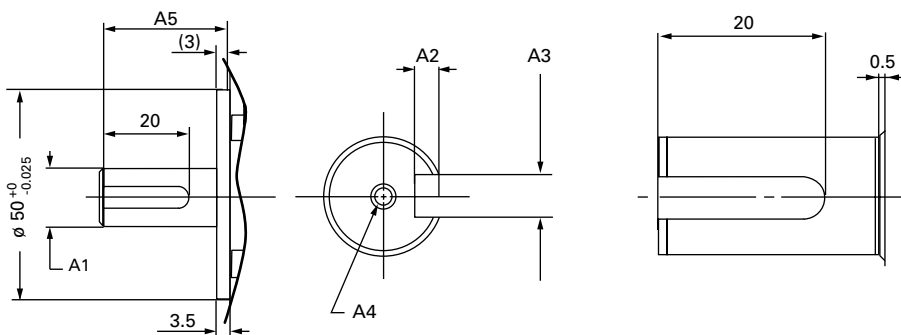
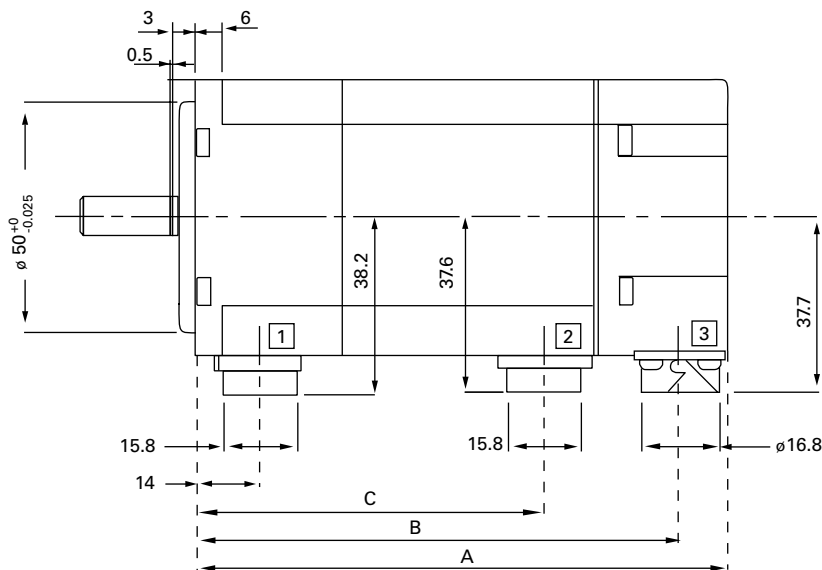
βis Series Servo Motors

Dimensions

β0.4/5000is, β0.5/6000is, β1/6000is



Motor



Shaft detail

Dimensions shown mm

Dimension	β0.4/5000is	β0.5/6000is	β1/6000is
A	75	89.5	118.5
A with brake	101.5	116	145
A1	ø9 ⁰ _{-0.009}	ø9 ⁰ _{-0.009}	ø14 ⁰ _{-0.011}
A2	1.2 ⁰ _{-0.1}	1.2 ⁰ _{-0.1}	2 ⁰ _{-0.1}
A3	3 ⁰ _{-0.025}	3 ⁰ _{-0.025}	5 ⁰ _{-0.33}
A4	M3 Depth 6	M3 Depth 6	M4 Depth 10
A5	25	25	30
B	65	79.5	108.5
B with brake	91.5	106	135
C	34.5	49	78
C with brake	61	75.5	104.5

Connector	Description
1	Brake (optional)
2	Power
3	Encoder

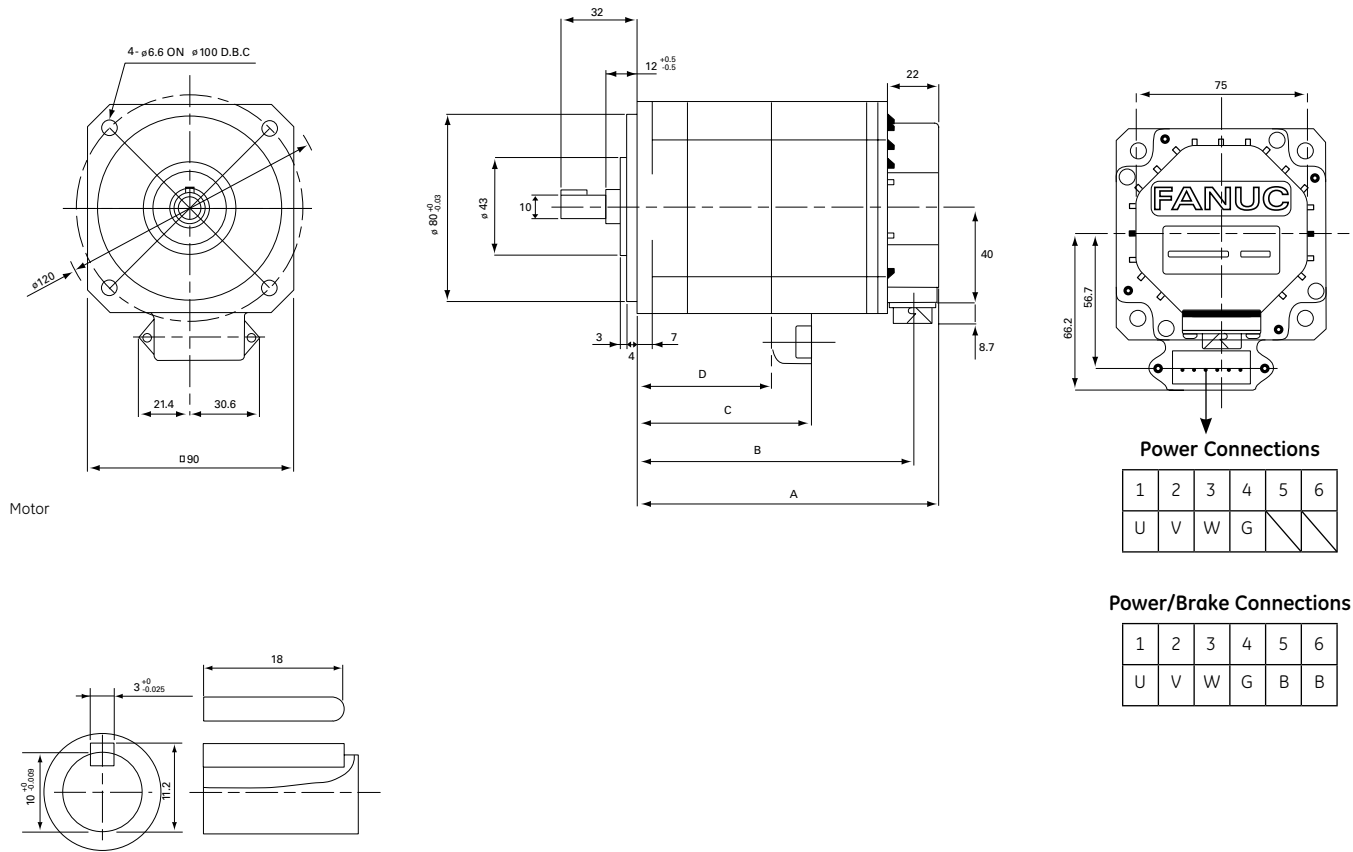
Notes

1. Shaft diameter runout = 0.02 mm max
2. Flange surface runout = 0.06 mm max
3. Maximum radial load for output shaft is 20 kgf (44 lb)

βis Series Servo Motors

Dimensions

β2/4000is, β2/4000HVis



Motor

Shaft detail

Dimensions shown mm

Dimension	β2/4000is
	β2/4000HVis
A	130
A with brake	159
B	119
B with brake	148
C	75
C with brake	75
D	59
D with brake	59

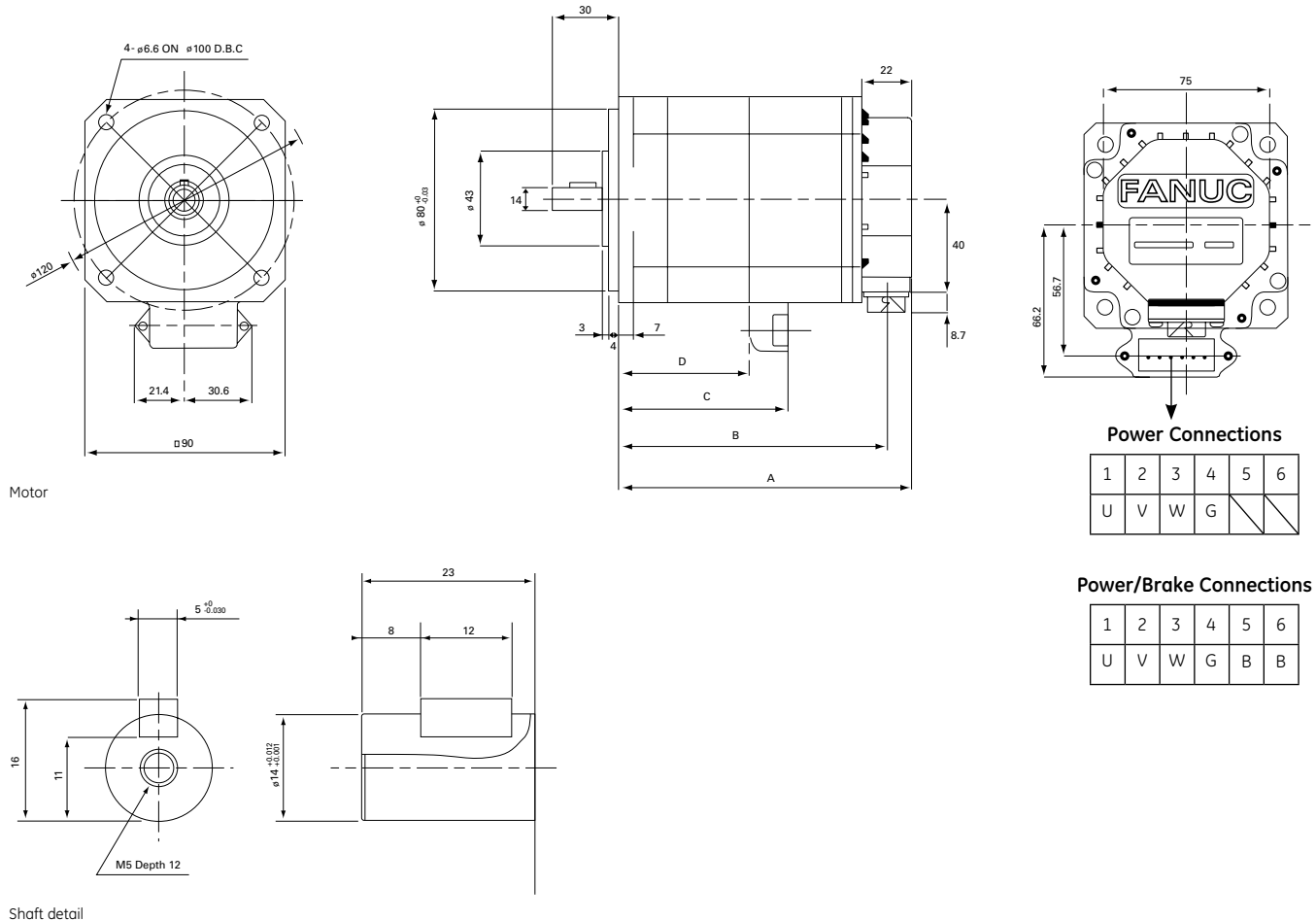
Notes

1. Shaft diameter runout = 0.02 mm max
2. Flange surface runout = 0.06 mm max
3. Maximum radial load for output shaft is 25 kgf (55 lb)

βis Series Servo Motors

Dimensions

β4/4000is, β4/4000HVis



Motor

Shaft detail

Dimensions shown mm

Dimension	β4/4000is β4/4000HVis
A	166
A with brake	195
B	155
B with brake	184
C	111
C with brake	111
D	95
D with brake	95

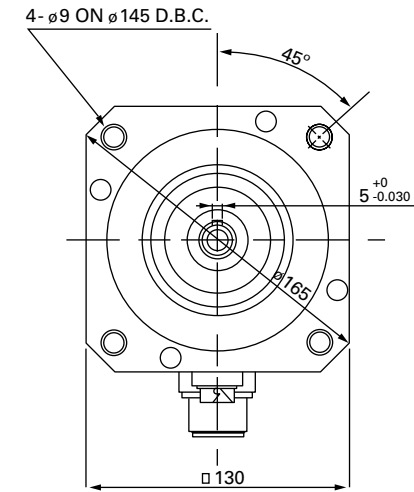
Notes

1. Shaft diameter runout = 0.02 mm max
2. Flange surface runout = 0.06 mm max
3. Maximum radial load for output shaft is 25 kgf (55 lb)

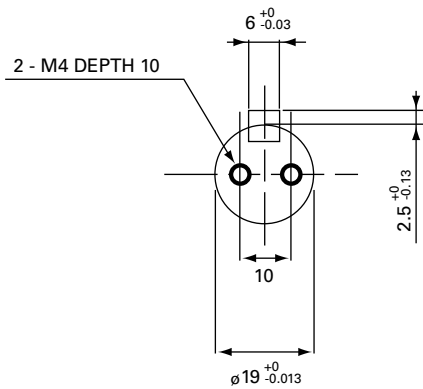
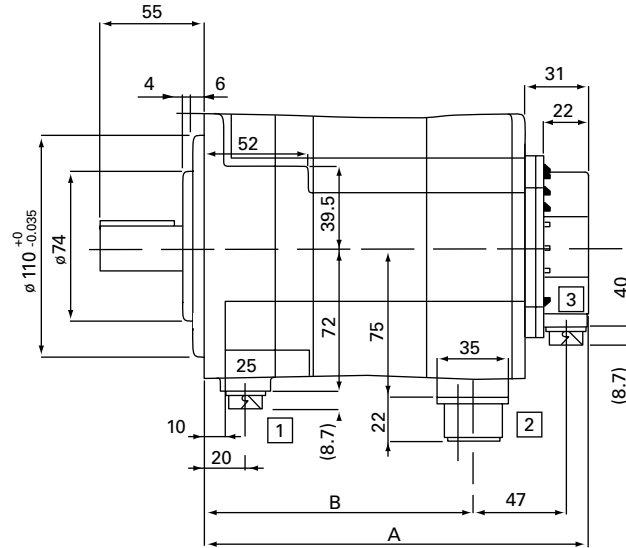
βis Series Servo Motors

Dimensions

**β8/3000is, β8/3000HVis,
β12/3000is, β12/3000HVis**

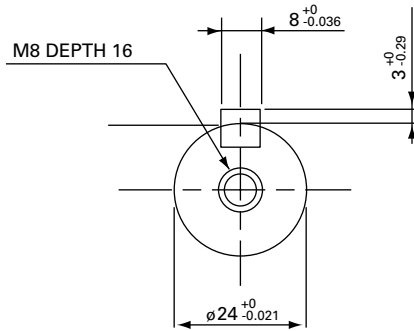


Motor



Shaft detail

β8/3000is
β8/3000HVis



β12/3000is
β12/3000HVis

Dimensions shown mm

Dimension	β8/3000is	β12/3000is
	β8/3000HVis	β12/3000HVis
A	166	222
A with brake	191	247
A1	36	45
B	108	164
B with brake	133	189

Connector	Description
1	Brake (optional)
2	Power
3	Encoder

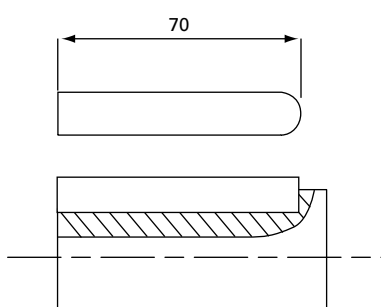
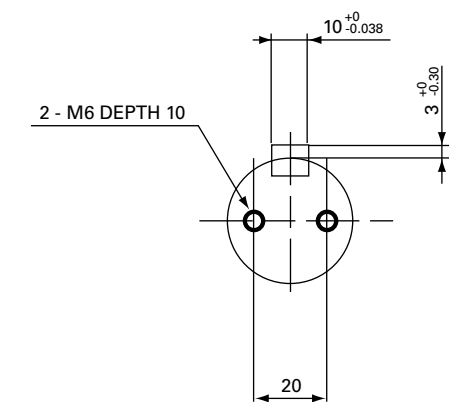
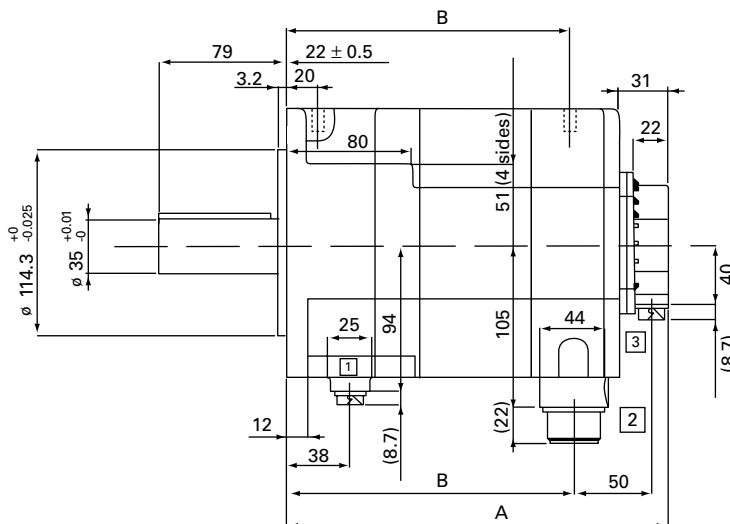
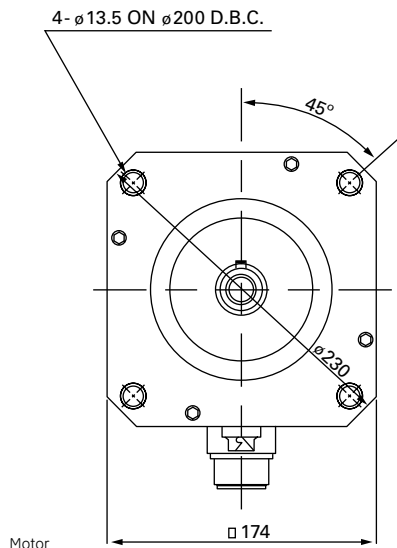
Notes

1. Shaft diameter runout = 0.02 mm max
2. Flange surface runout = 0.05 mm max
3. Maximum radial load for output shaft is 70 kgf (154 lb)

βis Servo Series Motors

Dimensions

β22/2000is, β22/2000HVis



Dimensions shown mm

Dimension	β22/2000is	β22/2000HVis
A	202	
A with brake	243	
B	141	
B with brake	182	

Connector	Description
1	Brake (optional)
2	Power
3	Encoder

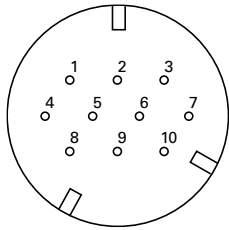
Notes

1. Shaft diameter runout = 0.03 mm max
2. Flange surface runout = 0.06 mm max
3. Maximum radial load for output shaft is 200 kgf (440 lb)

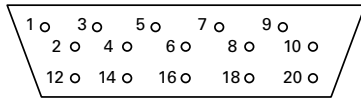
β is and β HVis Series Servo Motors

Connections

Serial Encoder Connections



All β is and β HVis Motors

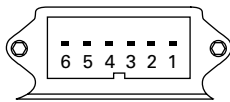


β i and β HVis Amplifier (JF1)

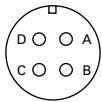
Description	β is and β HVis Motors	β i Series Amplifier JF1 Connector
N/C	2	1
N/C	1	2
RD	6	5
\overline{RD}	5	6
+5 VDC	8, 9	9, 20
0 VDC	7, 10	12, 14
+6 VA (battery)	4	7
Frame Ground	3	16
Cable Shield	3	16

GE Mating Motor Connector:
 ZA06B-6114-K204#E (90 degree)
 ZA06B-6114-K204#S (Straight)

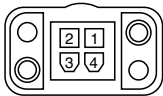
Power and Brake Connections



β 2is and β 4is Motor Power/Brake
 β 2HVis and β 4HVis Motor Power/Brake



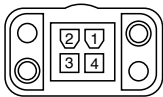
β 8is, β 12is and β 22is Motor Power
 β 8HVis, β 12HVis and β 22HVis Motor Power



β 0.4is, β 0.5is and β 1is Motor Power



β 8is, β 12is and β 22is Brake
 β 8HVis, β 12HVis and β 22HVis Brake



β 0.4is, β 0.5is and β 1is Brake

Description	β 0.4is, β 0.5is & β 1is Motor Connector	β 2is & β 4is β 2HVis & β 4HVis Motor Connector	β 8is, β 12is, & β 22is β 8HVis, β 12HVis, & β 22HVis Motor Connector	β i-Series Amplifier C27/C25 Connector
Phase U	1	1	A	U
Phase V	2	2	B	V
Phase W	3	3	C	W
Earth (case)	4	4	D	PE
Brake VDC	n/a	5	n/a	n/a
Brake VDC	n/a	6	n/a	n/a

GE Mating Motor Connector:
 ZA06B-6114-K220#E (90 degree) (β 2is, β 4is, β 2HVis, β 4HVis)
 ZA06B-6114-K220#S (Straight) (β 2is, β 4is, β 2HVis, β 4HVis)
 Z44A730464-G18 (90 degree) (β 8is, β 12is, β 8HVis, β 12HVis)
 Z44A730464-G17 (Straight) (β 2is, β 4is, β 2HVis, β 4HVis)
 ZA06B-6114-K230#E (β 0.4is, β 0.5is, β 1is)
 Z44A730464-G20 (90 degree) (β 22is, β 22HVis)
 Z44A730464-G19 (Straight) (β 22is, β 22HVis)

Amplifier Mating Connector:
 ZA06B-6130-K200 (β 0.4 to β 8is)
 ZA06B-6110-K202#YY5 (β 12is, β 22is, All β HVis)

Description	β 0.4is, β 0.5is & β 1is Motor Brake Connector	β 8is, β 12is, & β 22is β 8HVis, β 12HVis, & β 22HVis Motor Brake Connector
Brake VDC	1	1
Brake VDC	2	2
Earth (case)	4	4

GE Mating Motor Connector:
 ZA06B-6114-K213#E (90 degree) (β 8is, β 12is, β 22is, β 8HVis, β 12HVis, β 22HVis)
 ZA06B-6114-K213#S (Straight) (β 8is, β 12is, β 22is, β 8HVis, β 12HVis, β 22HVis)
 ZA06B-6114-K232#E (β 0.4is, β 0.5is, β 1is)

24 VDC Brake power connections are not polarized.

βis Series Servo Motors

Ordering Information

Model Number	Description
ZA06B-0114-B203	β0.4/5000is Servo Motor
ZA06B-0114-B203#0100	β0.4/5000is Servo Motor, IP67 Protection
ZA06B-0114-B503	β0.4/5000is Servo Motor with Brake
ZA06B-0114-B503#0100	β0.4/5000is Servo Motor with Brake, IP67 Protection
ZA06B-0115-B203	β0.5/6000is Servo Motor
ZA06B-0115-B203#0100	β0.5/6000is Servo Motor, IP67 Protection
ZA06B-0115-B503	β0.5/6000is Servo Motor with Brake
ZA06B-0115-B503#0100	β0.5/6000is Servo Motor with Brake, IP67 Protection
ZA06B-0116-B203	β1/6000is Servo Motor
ZA06B-0116-B203#0100	β1/6000is Servo Motor, IP67 Protection
ZA06B-0116-B503	β1/6000is Servo Motor with Brake
ZA06B-0116-B503#0100	β1/6000is Servo Motor with Brake, IP67 Protection
ZA06B-0061-B203	β2/4000is Servo Motor
ZA06B-0061-B203#0100	β2/4000is Servo Motor, IP67 Protection
ZA06B-0061-B503	β2/4000is Servo Motor with Brake
ZA06B-0061-B503#0100	β2/4000is Servo Motor with Brake, IP67 Protection
ZA06B-0063-B203	β4/4000is Servo Motor
ZA06B-0063-B203#0100	β4/4000is Servo Motor, IP67 Protection
ZA06B-0063-B503	β4/4000is Servo Motor with Brake
ZA06B-0063-B503#0100	β4/4000is Servo Motor with Brake, IP67 Protection
ZA06B-0075-B203	β8/3000is Servo Motor
ZA06B-0075-B203#0100	β8/3000is Servo Motor, IP67 Protection
ZA06B-0075-B503	β8/3000is Servo Motor with Brake
ZA06B-0075-B503#0100	β8/3000is Servo Motor with Brake, IP67 Protection
ZA06B-0078-B203	β12/3000is Servo Motor
ZA06B-0078-B203#0100	β12/3000is Servo Motor, IP67 Protection
ZA06B-0078-B503	β12/3000is Servo Motor with Brake
ZA06B-0078-B503#0100	β12/3000is Servo Motor with Brake, IP67 Protection
ZA06B-0085-B203	β22/2000is Servo Motor
ZA06B-0085-B203#0100	β22/2000is Servo Motor, IP67 Protection
ZA06B-0085-B503	β22/2000is Servo Motor with Brake
ZA06B-0085-B503#0100	β22/2000is Servo Motor with Brake, IP67 Protection

βHVis Series Servo Motors

Ordering Information

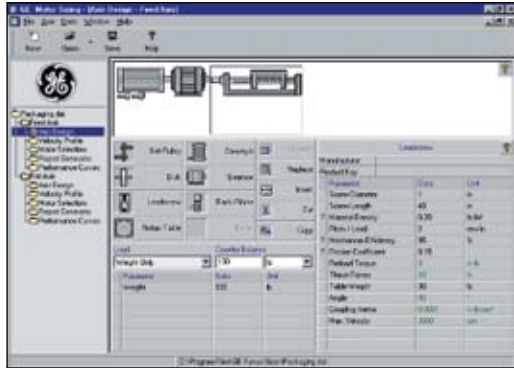
Model Number	Description
ZA06B-0062-B203	β2/4000HVis Servo Motor
ZA06B-0062-B203#0100	β2/4000HVis Servo Motor, IP67 Protection
ZA06B-0062-B503	β2/4000HVis Servo Motor with Brake
ZA06B-0062-B503#0100	β2/4000HVis Servo Motor with Brake, IP67 Protection
ZA06B-0064-B203	β4/4000HVis Servo Motor
ZA06B-0064-B203#0100	β4/4000HVis Servo Motor, IP67 Protection
ZA06B-0064-B503	β4/4000HVis Servo Motor with Brake
ZA06B-0064-B503#0100	β4/4000HVis Servo Motor with Brake, IP67 Protection
ZA06B-0076-B203	β8/3000HVis Servo Motor
ZA06B-0076-B203#0100	β8/3000HVis Servo Motor, IP67 Protection
ZA06B-0076-B503	β8/3000HVis Servo Motor with Brake
ZA06B-0076-B503#0100	β8/3000HVis Servo Motor with Brake, IP67 Protection
ZA06B-0079-B203	β12/3000HVis Servo Motor
ZA06B-0079-B203#0100	β12/3000HVis Servo Motor, IP67 Protection
ZA06B-0079-B503	β12/3000HVis Servo Motor with Brake
ZA06B-0079-B503#0100	β12/3000HVis Servo Motor with Brake, IP67 Protection
ZA06B-0086-B203	β22/2000HVis Servo Motor
ZA06B-0086-B203#0100	β22/2000HVis Servo Motor, IP67 Protection
ZA06B-0086-B503	β22/2000HVis Servo Motor with Brake
ZA06B-0086-B503#0100	β22/2000HVis Servo Motor with Brake, IP67 Protection

Motor Cables

See applicable amplifier section for information about the proper cables to use with each motor.

Servo Motor Sizing Software

The GE Sizer is a powerful motor selection program to assist in the selection of GE servo solutions for a broad range of user defined applications. GE Sizer is one of the most advanced motor selection programs available, providing users the flexibility to quickly define and analyze many possible system configurations in order to determine the optimum solution. Advanced features include:



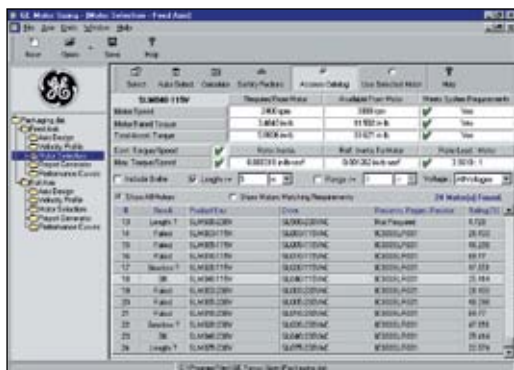
The Axis Design screen (above) is first used to define the system mechanics using graphical icons with fill-in-the-blank data tables.

- Graphical design of system mechanics and motion profiles
- Multiple axes can be analyzed and saved in one file with user defined axes names
- Flexible user defined units of measure
- Inclined loads in increments of 1 degree with user defined counterbalancing
- Graphical display of selected motor torque/speed curve with superimposed loading
- Comprehensive on-line and printed report can be exported to an MS-Word template that can be customized by the user



The Velocity Profile screen (below) is then used to define the motion profile for each axis and supports the following features:

- Quick Set-up for simple triangular or trapezoidal velocity profiles or a free form tool to define complex, multi-speed profiles
- Jerk limited or linear acceleration may be defined for each accel/decel segment
- Thrust load and application load may be defined for each motion segment allowing complex machine cycles to be quickly analyzed
- Enter or view profile data in either linear or rotary units
- Toggle jerk limiting on/off with convenient toolbar button to quickly assess impact on required peak motor torque



The Motor Selection screen (right) is used to search the database of GE motors for the optimum solution. The selection screen includes:

- Automatic selection and ranking of viable GE servo motor solutions
- User defined safety factors for torque margin, load/motor inertia ratio, etc.
- Regeneration resistor calculations automatically recommend GE resistor kit part number
- User defined motor selection criteria includes voltage, motor length and diameter, brake, inertia ratio and torque safety margin

The GE Sizer software can make short work of choosing and documenting the best GE motor solution for your motion applications. The intuitive graphical interface makes it easy to use for a novice without sacrificing the flexibility or features demanded by more experienced users.

Proficy Machine Edition 6.3

- Proficy Overview 6.3
- Proficy Machine Edition Components 6.3
- Proficy Logic Developer-PLC: A Superior Set of PLC Programming Tools 6.4
- Product Selection Guide 6.5

Proficy Overview

At GE Intelligent Platforms, we understand that real-time information is the enabler of the e-business world and the foundation for fast and effective supply-chain execution. In order to help companies realize the full benefits of e-business, we are helping them adapt to a new manufacturing model that utilizes Web-based integration to free the flow of real-time data throughout the enterprise. By combining the best selection of software productivity tools with the latest communication and networking technologies, GE's Proficy software family provides solutions that make it easier for you to integrate your systems and empower your people.

From the machine, to the cell, to the plant floor, and throughout the enterprise, Proficy's interactive set of software business tools provides real-time collaboration between customers, manufacturers, and suppliers.

Proficy Machine Edition

GE's Proficy Machine Edition is a universal development environment for all your operator interface, motion and control applications. Proficy Machine Edition provides a common user interface, drag-and-drop editing, and support for the many editing components required for a project.

Enabling fast, powerful, object-oriented programming, Proficy Machine Edition takes full advantage of industry-standard technologies like XML, COM/DCOM, OPC and ActiveX®. Machine Edition also includes Web-enabled functions like a built-in Web server that delivers real-time data and diagnostics to anyone in the enterprise.

All components and applications within Proficy Machine Edition share a single workspace and tool set. A standardized user interface results in a reduced learning curve, and the integration of new applications does not involve learning additional paradigms. This, coupled with an efficient, user-friendly design makes Proficy Machine Edition the perfect choice for HMI, motion, PLC, and PC-based control.



In addition to sharing common editing tools, all Proficy Machine Edition components share common objects across applications, including logic, scripts, graphical panels, and data structures. Once a variable is created, it can be reused in other components of the project. User Defined Data Types allows you to create custom data structures that represent real world equipment and objects. It significantly reduces application development time and increases productivity.

By combining the best of traditional programming and graphics applications with powerful open industry-standard technologies, Proficy Machine Edition provides a smooth migration path to the latest development tools.

Proficy Machine Edition Components:

Proficy View

An HMI specifically designed for the full range of machine-level operator interface/HMI applications. Includes support for the following Runtime options:

- QuickPanel
- QuickPanel View (Windows CE-based)
- Windows 2000/XP/NT

Proficy Logic Developer-PC

PC Control software combines ease of use and functionality for fast application development. Includes support for the following Runtime options:

- QuickPanel Control (Windows CE-based)
- Windows 2000/XP/NT

Proficy Logic Developer-PLC

Programs and configures all GE PLCs, PACSystems Controllers and Remote I/O

- Available in Professional, Standard, and Nano/Micro versions

Proficy Motion Developer

Programs and configures GE S2K motion controllers

Proficy Logic Developer-PLC: A Superior Set of PLC Programming Tools

Fully Integrated Development System

Proficy Machine Edition's development system provides an easy-to-learn interface for its components. Proficy Logic Developer-PLC automatically shares editing and configuration tools with other components when they are installed, creating an integrated, drag-and-drop workspace that makes developing applications simple. Just drag a PLC variable to an HMI animation panel to link them. Work on all parts of your automation system simultaneously, without switching between programs!

Toolchest Offers Object Oriented Reusability and Pre-defined Tools

Build applications rapidly with pre-configured objects from the Toolchest, a storage system for objects including their associated logic or HMI elements and data structures. Drag your own work to the Toolchest for easy reuse—logic, scripting, graphical objects—anything you want to save and reuse.

Configure

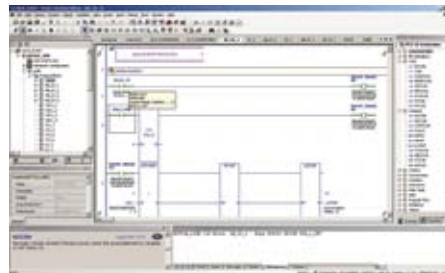
Proficy Logic Developer-PLC supports the full range of GE PLCs, PACSystems controllers and Remote I/O products including the Series 90-30, Series 90-70, PACSystems RX3i and RX7i, VersaMax, and VersaMax Nano/Micro PLCs. Configuration support is also provided for a wide range of field busses such as Ethernet Global Data (EGD), Genius, DeviceNet™, ModBus TCP, and Profibus™.

Program

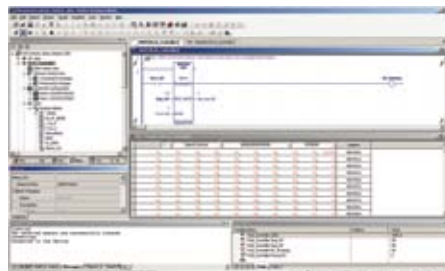
Proficy Logic Developer-PLC provides a full set of programming languages for you to develop your PLC applications. Ladder Diagram (LD), Function Block Diagram (FBD), Structured Text (ST), and C Block programming languages are all supported by Logic Developer-PLC. Leverage the productivity advantages of Application Building Blocks by creating User Defined Function Blocks for your PACSystems controllers.

Commission

Proficy Logic Developer-PLC provides a complete set of on-line tools to aid in commissioning your PLC application. Tools such as Run Mode Store (RMS) of Logic, Online Test Mode and Word-for-



Program: Full set of programming languages, including Ladder Diagram, Function Block Diagram, Structured Text, and C Blocks



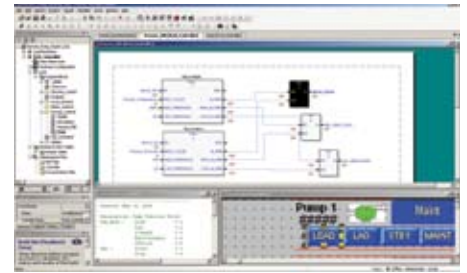
Commission: Complete set of on-line development tools for monitoring and adjusting the application without stopping the process

Word Change of Logic allow you to tune the application in real-time without stopping the process. Data monitoring tools such as Data Watches and Reference View Tables allow you to create custom data monitor tables and provide a window into your PLC application execution.

Use the PACSystems Online LD Compare to visually inspect the differences between the Ladder Diagram Logic in the Controller and in your Project, on a rung-by-rung basis.



Configure: Supports the full array of GE PLCs, PACSystems controllers and remote I/O



Maintain: Diagnostic tools such as On-Line Fault Tables for pinpointing and diagnosing issues with your system

Maintain

Logic Developer-PLC provides a complete set of tools to aid in maintaining your PLC applications. Diagnostic tools such as On-line Fault Tables and Forced Variables Report provide you with the ability to diagnose issues and problems that may have occurred with your system.

Product Selection Guide

Product Suites

Notes on Part Numbers and GlobalCare

- BC Prefix part numbers include 15 months of GlobalCare support
- For the GlobalCare renewal part numbers, change the BC646 or BC647 prefix to GC646
- Licenses without GlobalCare change BC prefix to IC

Machine Edition Product Suites

Machine Edition Product Suites	Supported Platforms/Features													Key		
	VersaMax Nano/Micro	VersaMax and Series 90-30	Series 90-70/PACSystems RX3/RX7i	QuickPanel	QuickPanel View (Basic/Intermediate)	QuickPanel View (Loaded)	ViewStation	QuickPanel Control	ControlStation	View Development 2000, XP	8000 Point RT for View 2000, XP, NT	Motion Developer	Software Authorization	Hardware Key	Single License	Unlimited Seat Site License
Bundles of commonly used Machine Edition components. Advantages include lower cost, easier to authorize, and easier to maintain as one serial number covers the whole suite.																
Machine Edition Lite Development Suite	•			•	•								•		IC646MBL001	IC646MBLS99
Machine Edition Lite Development Suite with hardware key	•			•	•								•		IC647MBL001	-
Machine Edition Traditional Development Suite	•	•		•	•								•		IC646MBT001	IC646MBTS99
Machine Edition Traditional Development Suite with hardware key	•	•		•	•								•		IC647MBT001	-
Machine Edition Standard Development Suite	•	•		•	•	•	•	•	•				•	•	IC646MBS001	IC646MBSS99
Machine Edition Standard Development Suite with hardware key	•	•		•	•	•	•	•	•				•	•	IC647MBS001	-
Machine Edition Professional Development Suite	•	•	•	•	•	•	•	•	•	•			•	•	IC646MBP001	IC646MBPS99
Machine Edition Professional Development Suite with hardware key	•	•	•	•	•	•	•	•	•	•			•	•	IC647MBP001	-
Machine Edition Professional Development Suite with Runtimes	•	•	•	•	•	•	•	•	•	•	•	•	•	•	IC646MBW001	-

Control Products

PLC-Based Control

Development licenses work on a hierarchical basis.	Supported PLC Platforms							Key		
	Remote I/O Config. Tools	VersaMax Nano/Micro	VersaMax	Series 90-30	Series 90-70	PACSystems RX3/RX7i	Software Authorization	Hardware Key	Single License	Unlimited Seat Site License
Logic Developer PLC Configuration	•						•		IC646MPC001	-
Logic Developer PLC Nano/Micro	•	•					•		IC646MPM001	-
Logic Developer PLC Nano/Micro with hardware key	•	•					•		IC647MPM001	-
Logic Developer PLC Standard	•	•	•	•			•		IC646MPS001	IC646MPSS99
Logic Developer PLC Standard with hardware key	•	•	•	•			•		IC647MPS001	-
Logic Developer PLC Professional	•	•	•	•	•	•	•		IC646MPP001	IC646MPPS99
Logic Developer PLC Professional with hardware key	•	•	•	•	•	•	•		IC647MPP001	-
Logic Developer State Professional ¹	•	•	•	•	•	•	•		IC646MSP001	-

¹State Logic licenses also provide basic configuration and programming capability for the indicated PLC platforms. Note that State Logic can only be mixed with other types of Logic (Ladder and C) for the Series 90-70. Note that State Logic only runs on the Series 90-30 and Series 90-70 controller.

To bundle Logic Developer PLC software with corresponding programming cable, change the "001" suffix to "101". For example, change BC646MPP001 to BC646MPP101 to include the cable.

PLC-Based Control Programming Cables:

- IC690ACC901 Series 90 serial cable
- IC200CBL002 NIU Configuration cable
- IC200CBL500 VersaMax Nano/Micro Programming Cable (RS-232 9 PIN TO RJ-45)

Motion Developer

Programming/Configuration software for GE S2K motion controllers.	Key		
	Software Authorization	Hardware Key	Single License
Motion Developer	•		IC646MODEV
Motion Developer with hardware		•	IC647MODEV

Product Selection Guide

OI/HMI Products

Notes on Part Numbers and GlobalCare

- BC Prefix part numbers include 15 months of GlobalCare support
- For the GlobalCare renewal part numbers, change the BC646 or BC647 prefix to GC646
- Licenses without GlobalCare change BC prefix to IC

QuickPanel View & Control Platforms

Development software for QuickPanel, QuickPanel View & QuickPanel Control solutions. Runtime licenses are included in the hardware purchase.

	Supported Platforms/Features								Key						
	QuickPanel	QuickPanel View (Basic/Intermediate)	QuickPanel View (Loaded)	ViewStation CE	QuickPanel Control	ControlStation	Remote I/O Config Tools	Software Authorization	Hardware Key	Single License		Unlimited Seat Site License			
Proficy View for QuickPanel	•	•								IC646MQP001					IC646MQPS99
Proficy View for QuickPanel with hardware key	•	•							•	IC647MQP001					-
Proficy View (CE) Standard Edition	•	•	•	•					•	IC646VSCCEMK					IC646MVSS99
Proficy View (CE) Standard Edition with hardware key	•	•	•	•					•	IC647VSCCEMK					-
QuickPanel Control (CE) Development Software	•	•	•	•	•	•	•	•	•	IC646CSCEMK					IC646MOSS99
QuickPanel Control (CE) Development Software with hardware key	•	•	•	•	•	•	•	•	•	IC647CSCEMK					-

Proficy View & Control PC-Based Platforms

Proficy packages available as View runtime only, View development and runtime, View & Logic Developer PC runtime only, View & Logic Developer PC development.

	Supported Platforms/Features								Key							
	QuickPanel	QuickPanel View (Basic/Intermediate)	QuickPanel View (Loaded)	ViewStation CE	QuickPanel Control	ControlStation	Remote I/O Config Tools	Windows 2000, XP, NT Development	Runtime	Software Authorization	Hardware Key	75 Point	150 Point	300 Point	700 Point	1500 Point
Proficy View Runtime								•	•	•	IC646MRA075	IC646MRA150	IC646MRA300	IC646MRA700	IC646MRA159	IC646MRA000
Proficy View Runtime with hardware key								•	•	•	IC647MRA075	IC647MRA150	IC647MRA300	IC647MRA700	IC647MRA159	IC647MRA000
Proficy View Development & Runtime	•	•	•					•	•	•	IC646MDA075	IC646MDA150	IC646MDA300	IC646MDA700	IC646MDA159	IC646MDA000
Proficy View Development & Runtime w/hardware key	•	•	•					•	•	•	IC647MDA075	IC647MDA150	IC647MDA300	IC647MDA700	IC647MDA159	IC647MDA000
Proficy View & Logic Developer PC Runtime								•	•	•	IC646MRC075	-	-	-	-	IC646MRC000
Proficy View & Logic Developer PC Runtime w/hardware key								•	•	•	IC647MRC075	-	-	-	-	IC647MRC000
Proficy View & Logic Developer PC Development (no-runtime)	•	•	•	•	•	•	•	•	•	•	-	-	-	-	-	IC646MOP001
Proficy View & Logic Developer PC Development (no-runtime) w/hardware key	•	•	•	•	•	•	•	•	•	•	-	-	-	-	-	IC647MOP001
Proficy View OPC Driver License with software key								•	•	•	-	-	-	-	-	IC646MVD000
Proficy View OPC Driver License with hardware key								•	•	•	-	-	-	-	-	IC647MVD000

Demo Products

Proficy Machine Edition Demo Software

Demo Disks in cardboard mailer - 10 Pack	IC646MED010
Machine Edition Installation and Supplemental CD Pack - Single Set	IC646MCD001

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GE Intelligent Platforms Services Overview

To succeed, businesses today must be able to rely on more than just a product solution. From superior technical support, to proper implementation of your technology and training where and when you need it most, the services you receive are every bit as important as the products you put into your facility. GE Intelligent Platforms offer a complete array of support services to help you attain the highest value possible from your technology investments.

Technical Support and Maintenance

Comprehensive offerings to support the full range of your hardware and software. Our unique support solutions provide the tools, resources and experience you need to be successful.

Project and Engineering Services

Advanced engineering solutions that combine proven project application skills, industry expertise and extensive product knowledge with best-in-class partner resources.

Training Services

A flexible family of services that provides hands-on training in the location, format and style that suits you best.

Field Services

A fast, reliable on-site engineering support system designed to get your business up and running as quickly and efficiently as possible.

Spare Parts / Warranty / Factory Repair

Repair and replacement part offerings designed to protect your hardware investment.

Basic Support

In order to ensure your hardware investment is fully protected, GE provides you with basic support for your PLC, I/O and Motion products, as well as the programming software sold with these products. Basic support includes callback telephone support consultation, online case management and access to the GlobalCare[®] support site. Customers can search and download hardware product manuals, articles, Frequently Asked Questions (FAQs), data sheets (functional specs), CAD drawings, service packs, firmware and IPIs from the support site, and can participate in an active online forum. Additional services in support of your complete product hardware and software investment are available by enrolling in the GlobalCare Complete Support program.

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Optimizing Your Investment

Through GlobalCare Support Services, we continue to provide our customers with a comprehensive support offering that helps you realize the highest possible value from our products. And we stand behind our commitment 24 hours a day to support your enterprise.

Just as a GE solution can optimize your business, a GlobalCare Support contract can optimize your investment in our software. Contact us today to learn what we can do for you.

Note: An Extended Hardware Warranty is available upon request. Contact your GE Sales Representative for more information.

GlobalCare Complete Support

Optimizing Your Investment

GlobalCare Complete Support is the best and most comprehensive way to optimize your investment in a GE software solution. With GlobalCare Complete, you can be sure that your software is always up to date, and that you have access to the tools, applications and support to be successful.

A Network of Support Professionals

Whether it comes directly from GE or from our global network of Certified Support Professionals around the world, you'll receive the same high levels of service throughout a support scenario from first-level response to advanced troubleshooting. Our support team meets our strict criteria for product knowledge and experience. And all of our support features are focused on providing you with the tools, resources and assistance to be successful.

24 x 7 Emergency Support

Around the clock emergency support is available for critical cases, through a comprehensive infrastructure of phone and web-based support. To maximize effectiveness, our support professionals are organized into specialized product teams to ensure a high level of expertise in your particular case area.

Product Maintenance

GlobalCare Complete Product Maintenance ensures that you continue to have access to the latest product improvements, enhancements, tools and features that can optimize your investment in our software. In addition, you can go to globalcare.ge-ip.com to download the latest Hot Fixes and Service Packs for products and drivers.

Online Knowledge Center

Our Online Knowledge Center is accessible world-wide, with 24-hour access to a broad range of information and data sources – including top support links, articles and white papers, sample codes, user forums, developer downloads, driver fact sheets and more. The Downloads section of the Support Site provides a comprehensive storage facility for proven tools and resources that can cut development time. And a secure online forum allows you to see and benefit from how customers around the globe are using our products in real-world environments.



Online Case Management

We offer a sophisticated online case management system that allows you to monitor, update and even escalate your case 24 hours a day. When you log a case online, our interface guides you through the process and prompts you to provide our support professionals with relevant information about your case and system. From there, the most qualified professional is automatically assigned to your case and has a working knowledge of your situation. Cases logged outside of North America are delivered directly to local representatives for immediate support.

Knowledge Base CD

We publish the Knowledge Base CD three times a year as an additional resource for GlobalCare customers. It contains an entire library of valuable articles, white papers, remote diagnostic tools and other global and regional materials to help solve your issue when you are not connected to the Internet.

Electronic Newsletter – At Your Service

GlobalCare Complete customers receive our electronic newsletter, which is filled with important updates and helpful tips about using our products and services to your greatest advantage.

For all your support needs contact:

Americas: 1 800 433 2682 or 434 978 5100

Asia Pacific: 86 21 3222 4555

Europe, Middle East and Africa:
800 1 433 2682 or 1 780 401 7717

Europe, Middle East and Africa (CNC): 352 727979 1

www.ge-ip.com/support

Training Services

GE performance-based training combines practical lectures with hands-on lab exercises to ensure that you get the value-added skills you need. From product courses to custom classes to application specific training, we can help you get the most from your automation products by providing expert training for your work force. Courses range from comprehensive introductory level offerings to in-depth advanced level offerings. Let GE Training Services be your one-stop shop for technical training!

Technical training helps your employees set up, configure and troubleshoot more efficiently, decreasing downtime and increasing throughput. It also helps your employees stay current with new technology as well as find new ways to apply your technology, helping make your organization more productive. Industry studies have shown that technical training can lower production costs because of the subsequent increases in employee efficiency and reductions in downtime. Employee skill development and enhancement are invaluable company assets, the benefits of which can be realized in a very short time.

Open Enrollment Training

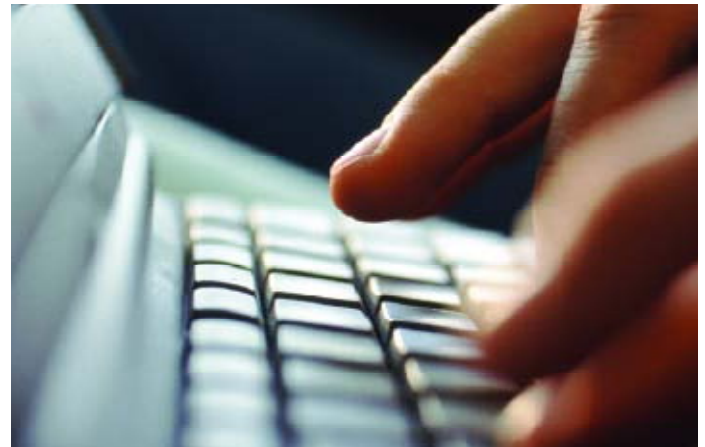
GE has an international network of regional training centers offering world-class technical training for maintenance, operations, and engineering personnel. Open Enrollment Training allows students to interact and network with fellow product users. GE ensures that class sizes enhance student/instructor ratios. All classes are taught by GE factory-certified instructors using GE authorized training materials.

GE continually exceeds customer satisfaction ratings in both course content and in instructor experience, professionalism and knowledge.

Course descriptions and schedule information are available at www.ge-ip.com/ttc.

On-Site Training

In today's fast moving, cost conscious world, on-site training is an extremely effective tool to reduce your travel expenses and ensure your key personnel remain accessible in the event of a plant emergency. Depending on the class and your location, on-site training can be quite cost effective when you take into consideration how much you'll save on T&L expenses—even for as few as four students. Add to this the benefits of maintaining rapid access to your key teams (not to mention the ability to customize and focus the training in order to shorten the learning experience) and it's easy to see how on-site training can be a powerful option.



Online Training

The GE Online Institute offers visually engaging, interactive courses to meet customer-training needs in today's challenging business climate. With the same content as instructor-led courses and available online with 24 x 7 access, the Online Institute has all the training with none of the travel expense. Each course is geared toward performance objectives and provides users with both guided and independent practice of concepts as well as interactive assessments with immediate feedback. You can now meet your time and cost budgets as well as your technical training requirements. Visit the Online Institute today at <http://onlineinstitute.ge-ip.com>.

Needs Assessment

We will perform a training needs assessment for your organization to help us design customized courses and curriculums to support the specific skill requirements of your operation.

Simulators

Train your personnel, test components and debug programs without taking systems out of production. Our classroom simulators are available to meet your training, development and maintenance requirements. We also develop custom simulators that match the equipment configuration in your operation to maximize your benefits.

For all your technical training needs contact:

Americas: 1 800 433 2682 or 434 978 5100

Asia Pacific: 86 21 3222 4555

Europe, Middle East and Africa:
800 1 433 2682 or 1 780 401 7717

Europe, Middle East and Africa (CNC): 352 727979 1

Email: training@ge-ip.com

www.ge-ip.com/ttc

GE Service on Demand

Hardware/Software Services When and Where You Need Them

When your equipment is down, so is your business. And whether your facility is impacted for a few hours or a few weeks is largely dependent upon the quality and responsiveness of your support provider. At GE, we understand your need for fast, reliable service for your hardware and software investments. And we've responded to that need with GE Service on Demand – a service offering designed to get you back up and running as quickly and efficiently as possible.

Superior Responsiveness

When your plant is down, time is money – literally. With over 50 support locations spread throughout the world, our expert engineers can typically be at your facility within 12 hours to begin handling your case. And whether we are working independently or in tandem with your in-house maintenance staff, one call to GE puts you on the short road to being back online.

Have access to:

- Our extensive base of GE field engineers
- Primary and backup personnel
- Factory Authorized Service Providers
- 24 x 7 On-Site Emergency Support

Hardware and Software Expertise

Our engineers are experts in the design, specification and implementation of your GE machines, software and control products. That specialized expertise enables us to troubleshoot your situation quickly, dependably, and accurately.

In addition to our expertise in GE's products and protocols, our worldwide network offers a range of pre and post deployment engineering services to provide the right solution to your business, regardless of what products you decide to implement.

GE Service on Demand is available for a wide range of products, including:

- Automation & Production Software
- Controllers & I/O
- Servo Drives & Motors
- Motion Control
- Visualization (OI) & PC Solutions



Additional Services

Whether you require 24 x 7 on-site emergency services or a long-term maintenance contract, GE can provide you with the training, service and support you need to maximize your automation technology investment. Our on-site training enables your personnel to become experts in problem-solving and general automation. In addition, our service agreements are available on an hourly or yearly basis, providing the help you need for the life of your operation.

GE offers a comprehensive array of services to fully support your investment in our products, including:

- Technical Support & Maintenance (Including Proficiency GlobalCare)
- On-Site Emergency Services
- Legacy & Competitor System Conversions
- Startup Assistance
- Troubleshooting & Diagnostics
- Inspections & Reviews
- Training Services
- Spare Parts/Warranty/Repair
- Product Upgrade Services

Dispatching

Please contact GE for more information about our services, capabilities, rates and products handled by our Service on Demand team, or to schedule an appointment with one of our engineers.

Products

Service On Demand is available for the following GE products. If you don't see the product you're looking for. Please call GE for a complete listing of the hardware and software we support

Software

Custom Interface Drivers
 Custom Scripting
 DataViews*
 FIX®
 I/O Drivers
 iClientTS™
 LAN / WAN
 Microsoft® Open Process*
 Open I/O Protocols
 OpenProcess*
 PLC Programming Software
 Proficy Batch Execution
 Proficy Change Management
 Proficy Enterprise Asset Management
 Proficy Historian
 Proficy HMI/SCADA – CIMPLICITY*
 Proficy HMI/SCADA – iFIX*
 Proficy Plant Applications
 Proficy Real-Time Information Portal
 Proficy Shop Floor SPC
 Proficy Tracker
 QuickDesigner & GP Pro
 SQL / Access DB
 Waltz & Process Window
 WorkInstruction™

Hardware

Critical Control & Redundancy
 Field Control
 Genius I/O
 HMI / OI Devices
 Industrial PC/Workstations
 Legacy PLC Series 1, 3, 5 & 6
 Open I/O Architectures
 PACSystems RX7i, RX3i
 PC Based Control
 PLC Based Motion Control
 Proficy Logic Developer - Machine Edition
 Redundancy & GMR
 Series 1, 3, 5 & 6*
 Series 90-20
 Series 90-30 / 90-70
 Series 90 I/O
 VersaMax Nano & Micro
 VersaPoint
 Waltz*

Operator Interface

DataPanel
 FIX®
 Intelligence Industrial PCs
 Process Window®
 Proficy HMI/SCADA – CIMPLICITY
 Proficy Machine Edition
 Proficy HMI/SCADA – iFIX
 Proficy View - Machine Edition
 QuickPanel
 QuickPanel Control
 QuickPanel View
 Smartscreen®

For all your Service on Demand needs contact:

Americas:
 1 800 433 2682 or 434 978 5100
 Asia Pacific: 86 21 3222 4555
 Europe, Middle East and Africa:
 800 1 433 2682 or
 1 780 401 7717
 Europe, Middle East and Africa (CNC):
 352 727979 1
www.ge-ip.com

Warranty Policy

GE warrants that the GE Programmable Logic Controller and Operator Interface products are free from defects in material, workmanship and title, and will conform with applicable technical descriptions and specifications which are set out in GE technical product data sheets. This warranty shall apply only to defects or non-conformance. Refer to your standard GE warranty policy for details for

your individual product. Your distributor can assist you with any issues experienced during your warranty period.

Programs are available to extend your product warranty coverage to up to 5 years from initial shipment. Check with your local distributor for details on how to purchase.

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Appendix

Agency Approvals and Certifications

	Agency Approvals					Marine Certifications		
	UL (UL508)	C-UL (Class I, DIV II, A, B, C, D)	CE Mark	ATEX	TUV	American Bureau of Shipping	Lloyds	DNV
RX7i	•	•	•	•		•†	•†	•†
RX3i	•	•†	•	•		•†	•†	•†
Series 90-30	•	•†	•	•		•†	•†	
Series 90-70	•	•†	•	•	•†	•†	•†	
VersaMax Modular	•	•	•	•		•†	•†	
VersaMax Micro and Nano	•	•	•					
Genius I/O	•	•	•	•	•†	•†		
VersaPoint I/O	•		•					
VersaMax IP and VersaMax IP Modular	•		•					
Durus Controllers	•		•					

†Selected modules meet these approvals and certificates. Check www.ge-ip.com for more information

Product Number	Product Name	Page Number
44A718031-G05	DC Link Bus Bars, 60mm Kit	5.44-5.48
ACC-5595-208	Rack Mount or Desktop Reflective Memory Hub. Universal power supply, 1x 10BaseT Ethernet, 1x RS232, 8x multimode pluggable transceivers	1.61
ACC-5595-280	Rack Mount or Desktop, 8 Single mode Pluggable Transceivers. And no Multimode Pluggable Transceivers	1.61
BC646MPM101	Proficy Logic Developer -PLC Nano/Micro and VersaMotion, Programming Cable (Includes 15 months of upgrades)	1.74
CB4N-0WPM-0070-AZ	Holding Brake Power Cable, 7 M	5.46-5.49, 5.70, 5.72
CB4N-0WPM-0140-AZ	Holding Brake Power Cable, 14 M	5.46-5.49, 5.70, 5.72
CB5N-0WPM-0070-AZ	Fan Cable, 7 M	5.49
CB5N-0WPM-0140-AZ	Fan Cable, 14 M	5.49
CB6N-5WPM-0070-AZ	Holding Brake Power Cable, 7 M	5.71
CB6N-5WPM-0140-AZ	Holding Brake Power Cable, 14 M	5.71
CBL-000-F5-000	.5 feet (0.15 m)	1.60
CBL-000-F5-001	1 foot (.31 m)	1.60
CBL-000-F5-002	5 feet (1.52 m)	1.60
CBL-000-F5-003	10 feet (3.04 m)	1.60
CBL-000-F5-004	25 feet (7.62 m)	1.60
CBL-000-F5-005	50 feet (15.24 m)	1.60
CBL-000-F5-006	80 feet (24.40 m)	1.60
CBL-000-F5-007	100 feet (30.49 m)	1.60
CBL-000-F5-008	150 feet (45.72 m)	1.60
CBL-000-F5-009	200 feet (60.98 m)	1.60
CBL-000-F5-010	250 feet (76.20 m)	1.60
CBL-000-F5-011	350 feet (106.68 m)	1.60
CBL-000-F5-012	500 feet (152.15 m)	1.60
CBL-000-F5-014	656 feet (200 m)	1.60
CBL-000-F5-015	820 feet (250 m)	1.60
CBL-000-F5-016	1,000 feet (304.30 m)	1.60
CBL-000-F6-000	3 feet (0.9144 m)	1.60
CBL-000-F6-001	6 feet (1.8288 m)	1.60
CBL-000-F6-002	10 feet (3.048 m)	1.60
CBL-000-F6-003	16 feet (4.8768 m)	1.60
CBL-000-F6-004	32 feet (9.7536 m)	1.60
CBL-000-F6-005	66 feet (20.1168 m)	1.60
CBL-000-F6-006	98 feet (29.8704 m)	1.60
CBL-000-F6-007	164 feet (49.9872 m)	1.60
CBL-000-F6-008	230 feet (70.104 m)	1.60
CBL-000-F6-009	328 feet (99.9744 m)	1.60
CBL-000-F6-010	393 feet (119.7864 m)	1.60
CBL-000-F6-011	426 feet (129.8448 m)	1.60
CBL-000-F6-012	492 feet (149.9616 m)	1.60
CBL-000-F6-013	557 feet (169.7736 m)	1.60
CBL-000-F6-014	656 feet (199.9488 m)	1.60
CBL-000-F6-015	721 feet (219.7608 m)	1.60
CBL-000-F6-016	754 feet (229.8192 m)	1.60
CBL-000-F6-017	820 feet (249.936 m)	1.60

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CBL-000-F6-018	885 feet (269.748 m)	1.60
CBL-000-F6-019	984 feet (299.9232 m)	1.60
CFDA-0WPB-0070-AZ	Feedback Cable (Straight motor connector), 7 M	5.46-5.49, 5.70-5.72
CFDA-0WPB-0140-AZ	Feedback Cable (Straight motor connector), 14 M	5.46-5.49, 5.70-5.72
CFDA-7WPB-0070-AZ	Feedback Cable (Right Angle motor connector), 7 M	5.46-5.49, 5.70-5.72
CFDA-7WPB-0140-AZ	Feedback Cable (Right Angle motor connector), 14 M	5.46-5.49, 5.70-5.72
CP21-0WEB-0070-AZ	Power Cable (Shielded), 7 M	5.46, 5.70
CP21-0WEB-0070-AZ	Power Cable (Shielded), 7 M	5.46, 5.70
CP21-0WEB-0140-AZ	Power Cable (Shielded), 14 M	5.46, 5.70
CP21-0WEB-0140-AZ	Power Cable (Shielded), 14 M	5.46, 5.70
CP21-0WPB-0070-AZ	Power Cable, 7 M	5.46, 5.70
CP21-0WPB-0070-AZ	Power Cable, 7 M	5.46, 5.70
CP21-0WPB-0140-AZ	Power Cable, 14 M	5.46, 5.70
CP21-0WPB-0140-AZ	Power Cable, 14 M	5.46, 5.70
CP3B-0WEB-0070-AZ	Power Cable (Shielded), 7 M	5.72
CP3B-0WEB-0140-AZ	Power Cable (Shielded), 14 M	5.72
CP3B-0WPB-0070-AZ	Power Cable, 7 M	5.72
CP3B-0WPB-0140-AZ	Power Cable, 14 M	5.72
CP3I-0WEB-0070-AZ	Power Cable (Shielded), 7 M	5.46, 5.47, 5.70
CP3I-0WEB-0140-AZ	Power Cable (Shielded), 14 M	5.46, 5.47, 5.70
CP3I-0WPB-0070-AZ	Power Cable, 7 M	5.46, 5.47, 5.70
CP3I-0WPB-0140-AZ	Power Cable, 14 M	5.46, 5.47, 5.70
CP4I-0WEB-0070-AZ	Power Cable (Shielded), 7 M	5.47, 5.48, 5.70
CP4I-0WEB-0140-AZ	Power Cable (Shielded), 14 M	5.47, 5.48, 5.70
CP4I-0WPB-0070-AZ	Power Cable, 7 M	5.47, 5.48, 5.70
CP4I-0WPB-0140-AZ	Power Cable, 14 M	5.47, 5.48, 5.70
CP5B-0WEB-0070-AZ	Power Cable (Shielded), 7 M	5.72
CP5B-0WEB-0140-AZ	Power Cable (Shielded), 14 M	5.72
CP5B-0WPB-0070-AZ	Power Cable, 7 M	5.72
CP5B-0WPB-0140-AZ	Power Cable, 14 M	5.72
CP6B-0WEB-0070-AZ	Power Cable (Shielded), 7 M	5.72
CP6B-0WEB-0140-AZ	Power Cable (Shielded), 14 M	5.72
CP6B-0WPB-0070-AZ	Power Cable, 7 M	5.72
CP6B-0WPB-0140-AZ	Power Cable, 14 M	5.72
CP8B-1WEB-0070-AZ	Power Cable (Shielded), 7 M	5.71
CP8B-1WEB-0140-AZ	Power Cable (Shielded), 14 M	5.71
CP8B-1WPB-0070-AZ	Power Cable, 7 M	5.71
CP8B-1WPB-0140-AZ	Power Cable, 14 M	5.71
CP9B-0WEB-0070-AZ	Power Cable (Shielded), 7 M	5.71, 5.72
CP9B-0WEB-0140-AZ	Power Cable (Shielded), 14 M	5.71, 5.72
CP9B-0WPB-0070-AZ	Power Cable, 7 M	5.71, 5.72
CP9B-0WPB-0140-AZ	Power Cable, 14 M	5.71, 5.72
CP9I-0MEB-0070-AZ	Power Cable (Shielded), 7 M	5.49
CP9I-0MEB-0140-AZ	Power Cable (Shielded), 14 M	5.49
CP9I-0MPB-0070-AZ	Power Cable, 7 M	5.49
CP9I-0MPB-0140-AZ	Power Cable, 14 M	5.49
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HE693ADC410	Isolated Analog Input Module, Voltage, 1500 VAC, Isolation	1.26
HE693ADC410	Isolated Analog Input Module, Voltage, 1500 VAC, Isolation	1.95
HE693ADC420	Isolated Analog Input Module, Current, 1500 VAC, Isolation	1.26
HE693ADC420	Isolated Analog Input Module, Current, 1500 VAC, Isolation	1.95
HE693ASC900	Horner ASCII Basic Module	1.50
HE693ASC900	Horner ASCII Basic Module	1.115
HE693DAC410	Isolated Analog Output Module, Voltage	1.35
HE693DAC410	Isolated Analog Output Module, Voltage	1.102
HE693DAC420	Isolated Analog Output Module, Current	1.35
HE693DAC420	Isolated Analog Output Module, Current	1.102
HE693RLY100	DC/AC Voltage Relay Output Module High Current	1.31
HE693RLY100	DC Voltage Output Module, AC In/Relay Out (isolated)	1.100
HE693RLY110	DC/AC Voltage Relay Output Module High Current (fused)	1.31
HE693RLY110	DC Voltage Output Module, AC In/Relay Out (fused)	1.100
HE693RTD600	RTD Input Module, Low Resolution	1.39
HE693RTD600	RTD Input Module, Low Resolution	1.104
HE693RTD601	RTD Input Module, High Resolution	1.40
HE693RTD601	RTD Input Module, High Resolution	1.104
HE693RTD660	RTD Input Module, Isolated	1.40
HE693RTD660	RTD Input Module, Isolated	1.104
HE693RTD665	RTD Input Module, Isolated	1.104
HE693RTD666	RTD Input Module, Isolated	1.104
HE693RTM705	Communications Module, Modbus RTU Master from Horner Electric	1.112
HE693SNP900	Communications Module, SNP Slave Module from Horner Electric	1.112
HE693STG883	Analog I/O Module, Strain Gage	1.42
HE693STG883	Analog I/O Module, Strain Gage	1.105
HE693STG884	Analog I/O Module, Strain Gage	1.42
HE693STG884	Analog I/O Module, Strain Gage	1.105
HE693THM166	Analog I/O Thermocouple Input Module	1.45
HE693THM166	Analog I/O Thermocouple Input Module	1.107
HE693THM409	Analog I/O Thermocouple Input Module	1.45
HE693THM409	Analog I/O Thermocouple Input Module	1.107
HE693THM449	Analog I/O Thermocouple Input Module	1.45
HE693THM449	Analog I/O Thermocouple Input Module	1.107
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HMI-CAB-C100	Programming Port, 9-pin Female, RS-422	4.33
HMI-CAB-C101	Programming Port, 9-pin Female, RS-232	4.26
HMI-CAB-C101	Programming Port, 9-pin Female, RS-232	4.33
HMI-CAB-C102	Program Port, 8-pin Male RJ-45, RS-232	4.26
HMI-CAB-C102	Program Port, 8-pin Male RJ-45, RS-232	4.33
HMI-CAB-C103	Programming Port, 4-pin Modular Male, RS-232	4.26
HMI-CAB-C103	Programming Port, 4-pin Modular Male, RS-232	4.33
HMI-CAB-C106	DF1, 8-pin Circular DIN, RS-232	4.26
HMI-CAB-C106	DF1, 8-pin Circular DIN, RS-232	4.33
HMI-CAB-C107	DF1, 25-pin Male, RS-422	4.26
HMI-CAB-C107	DF1, 25-pin Male, RS-422	4.33
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HMI-CAB-C110	9-pin Male, RS-422	4.26
HMI-CAB-C110	9-pin Male, RS-422	4.33
HMI-CAB-C111	Program Port, 9-pin Male, RS-232	4.26
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HMI-CAB-C119	Program Port, 8-pin Male RJ-45, RS-232	4.26
HMI-CAB-C119	Program Port, 8-pin Male RJ-45, RS-232	4.33
HMI-CAB-C120	Program Port, 6-pin Male RJ-11, RS-232	4.26
HMI-CAB-C120	Program Port, 6-pin Male RJ-11, RS-232	4.33
HMI-CAB-C51	KF2 Module, 25-pin Female, RS-232	4.26
HMI-CAB-C51	KF2 Module, 25-pin Female, RS-232	4.33
HMI-CAB-C52	Channel 0, 9-pin Female, RS-232	4.26
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HMI-CAB-C55	KE Module, 15-pin Male, RS-232	4.26
HMI-CAB-C55	KE Module, 15-pin Male, RS-232	4.33
HMI-CAB-C58	9-pin Male, RS-232	4.26
HMI-CAB-C58	9-pin Male, RS-232	4.33
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HMI-CAB-C82	Programming Port, 15-pin Male, RS-422	4.26
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HMI-CAB-C83	DH-485 Program Port, 8-pin RJ-45 Male, RS-422, No simultaneous connection to program port	4.26
HMI-CAB-C83	DH-485 Program Port, 8-pin RJ-45 Male, RS-422, No simultaneous connection to program port	4.33
HMI-CAB-C84	DH-485 Program Port, 8-pin RJ-45 Male, RS-422, with simultaneous connection to program port	4.26
HMI-CAB-C84	DH-485 Program Port, 8-pin RJ-45 Male, RS-422, with simultaneous connection to program port	4.33
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HMI-CAB-C86	Programming Port, 6-pin Modular Male, RS-232	4.33

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HMI-CAB-C91	25-pin Male, RS-422	4.26
HMI-CAB-C91	25-pin Male, RS-422	4.33
HMI-CAB-C92	9-pin Male, RS-422	4.26
HMI-CAB-C92	9-pin Male, RS-422	4.33
HMI-CAB-C93	25-pin Male, RS-422	4.26
HMI-CAB-C93	25-pin Male, RS-422	4.33
HMI-CAB-C94	9-pin Male, RS-422	4.26
HMI-CAB-C94	9-pin Male, RS-422	4.33
HUB-5595-308	Din Rail Mount Reflective Memory Hub. 21 -32 VDC Power supply, 1x 10BaseT Ethernet, 1x RS232, 8x Multimode Pluggable transceivers	1.61
HUB-5595-380	Din Rail Mount Reflective Memory Hub. 21 -32 VDC Power supply, 1x 10BaseT Ethernet, 1x RS232, 8x Single mode Pluggable transceivers	1.61
IC200ACC001	Replacement Battery for VersaMax CPUs	3.37
IC200ACC003	EZ Program Store, CPU RS-485 Port Update Device.	3.37
IC200ACC003	EZ Store Device, CPU374 program download without the need of a PC.	1.121
IC200ACC201	Expansion Terminator Qty 1	3.37
IC200ACC202	Expansion Terminator Qty 2	3.37
IC200ACC301	I/O FILLER MODULE	3.37
IC200ACC302	I/O INPUT SIMULATOR	3.37
IC200ACC303	I/O SHORTING BAR QTY 2	3.37
IC200ACC304	Cable Connector Kit, QTY 2, for onnector base (IC200CHS003) I/O Base (IC200CHS011, CHS012, CHS014, CHS015 and CHS1xx bases)	3.37
IC200ACC313	DIN rail clips (Qty 2) to secure modules on DIN rail.	3.37
IC200ACC402	Spare Removable Terminal Strips, 10 per pack. (Micro 14, Micro 23 and Micro 28 and all expansion units)	1.162
IC200ACC403	Battery for Micro 23 and Micro 28 for data retention (5.2 months minimum @ 70°C and 32.4 months minimum @ 20°C)	1.162
IC200ACC404	Spare parts kit. Two terminal strips and four plastic doors and four covers for Micro 14, Micro 23, and Micro 28	1.162
IC200ACC414	Long Term Battery for Micro 23, Micro 28 and Micro 64 (19 months minimum @ 70°C and 121 months minimum @ 20°C)	1.162
IC200ACC415	RS-232 to RS-485 Converter requires IC200CBL500 or equivalent.	1.162
IC200ACC451	Simulator for VersaMax Micro 14, Micro 23 and Micro 28. (8 Inputs)	1.162
IC200ALG230	Analog Input Module, 12 Bit Voltage/Current, 4 Channels	3.25
IC200ALG240	Analog Input Module, 16 Bit Voltage/Current Isolated, 8 Channel	3.25
IC200ALG260	Analog Input Module, 12 Bit Voltage/Current, 8 Channel	3.25
IC200ALG261	Analog Input Module, 15 Bit Differential Voltage, 8 Channel	3.25
IC200ALG262	Analog Input Module, 15 Bit Differential Current, 8 Channel	3.26
IC200ALG263	Analog Input Module, 15 Bit Voltage, 15 Channel	3.26

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IC200ALG320	Analog Output Module, 12 Bit Current, 4 Channel	3.27
IC200ALG321	Analog Output Module, 12 Bit 0-10V Voltage, 4 Channel	3.27
IC200ALG322	Analog Output Module, 12 Bit +/-10V Voltage, 4 Channel	3.27
IC200ALG325	Analog Output Module, 13 Bit +/-10 VDC or 0 to 10VDC Voltage, 8 Channel	3.28
IC200ALG326	Analog Output Module, 13 Bit Current, 8 Channels	3.28
IC200ALG327	Analog Output Module, 13 Bit +/-10 VDC or 0 to 10 VDC Voltage, 12 Channel	3.28
IC200ALG328	Analog Output Module, 13 Bit, 0 - 20mA, 4-20 mA Current, 12 Channel	3.28
IC200ALG331	Analog Output Module, 14 Bit Voltage/Current 1500 VAC Isolation, 4 Channel	3.28
IC200ALG430	Analog Mixed Module, 12 Bit Input Current 4 Channel/Output Current 2 Channel	3.29
IC200ALG431	Analog Mixed Module, 12 Bit 0-10V Input 4 Channel/Output 0-10V 2 Channel	3.29
IC200ALG432	Analog Mixed Module, 12 Bit +/-10V Input 4 Channel/Output +/-10V 2 Channel	3.29
IC200ALG620	Analog Input Module, 16 Bit RTD, 4 Channel	3.30
IC200ALG630	Analog Input Module, 16 Bit Thermocouple, 7 Channel	3.30
IC200BEM002	PLC Network Communications Profibus-DP (Slave). Requires IC200CHS006 Communications Carrier.	3.35
IC200BEM103	PLC Network Communications DeviceNet (Master). Requires IC200CHS006 Communications Carrier.	3.35
IC200BEM104	PLC Network Communications AS-i (Master). Requires IC200CHS006 Communications Carrier.	3.35
IC200CBL001	Station Manager Cable for Ethernet Interface	1.10
IC200CBL105	CABLE I/O NON-SHIELDED 2 CONNECTORS .5M USED WITH IC200CHS003 AND IC200CHS011, 012, 015.	3.37
IC200CBL110	CABLE I/O NON-SHIELDED 2 CONNECTORS 1.0M USED WITH IC200CHS003 AND IC200CHS011, 012, 015.	3.37
IC200CBL120	CABLE I/O NON-SHIELDED 2 CONNECTORS 2.0M USED WITH IC200CHS003 AND IC200CHS011, 012, 015.	3.37
IC200CBL230	CABLE I/O NON-SHIELDED 1 CONNECTORS 3.0M USED WITH IC200CHS003 AND IC200CHS011, 012, 015.	3.37
IC200CBL500	Programming cable (RJ-45 to DB-9 pin) RS-232. 3 Meters.	1.162
IC200CBL501	I/O Expansion cable, 0.1 meter long (Qty 5)	1.162
IC200CBL505	I/O Expansion cable, 0.5 meter long	1.162
IC200CBL510	I/O Expansion cable, 1 meter long	1.162
IC200CBL600	RACK EXPANSION CABLE SHIELDED SINGLE ENDED 1M TO ONE Expansion Receiver Modules (IC200ERM00x)	3.37
IC200CBL601	RACK EXPANSION CABLE SHIELDED 2 CONNECTORS (1 meter). Supports multidrop to multiple Expansion Receiver Modules (IC200ERM00x)	3.37
IC200CBL602	RACK EXPANSION CABLE SHIELDED 2 CONNECTORS (2 meter). Supports multidrop to multiple Expansion Receiver Modules (IC200ERM00x)	3.37

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IC200CHS001	I/O Carrier, Local Barrier Style	3.6	IC200EBI001	Remote I/O Ethernet Network Interface Unit	3.33
IC200CHS002	I/O Carrier, Local Box Style	3.6	IC200ERM001	Expansion Receiver Module, Isolated	3.32
IC200CHS003	I/O Carrier, Connector Style.	3.7	IC200ERM002	Expansion Receiver Module, Non-Isolated	3.32
IC200CHS003	I/O Carrier, Connector Style.	3.8	IC200ETM001	Bus Transmitter Expansion Module	3.32
IC200CHS005	I/O Carrier, Local Spring Clamp Connection Style	3.6	IC200GBI001	Genius Network Interface Unit	3.34
IC200CHS006	I/O, Local Communications Carrier (Supports IC200BEMxxx Modules)	3.35	IC200MDD840	Mixed Modules, 24 VDC Pos Logic Input 20 points/Output Relay 2.0 A, 12 points	3.12
IC200CHS011	I/O Carrier, Interposing Barrier Style (Requires IC200CHS003 base and connecting cable IC200CBL1xx)	3.7	IC200MDD841	Mixed Modules 24 VDC Pos Logic Input 20/ Output 12/HSC, PWM or Pulse Train	3.31
IC200CHS012	I/O Carrier, Interposing Box Style (Requires IC200CHS003 base and connecting cable IC200CBL1xx)	3.7	IC200MDD842	Mixed Modules 24 VDC Pos Logic Input 16/ Output 24 VDC 0.5 A with ESCP	3.12
IC200CHS014	I/O Carrier, Interposing Box Thermocouple Compensation (Requires IC200CHS003 base and connecting cable IC200CBL1xx)	3.7	IC200MDD843	Mixed Modules 24 VDC Positive Logic Input 10/Output Relay 6	3.12
IC200CHS015	I/O Carrier, Interposing Spring Clamp (Requires IC200CHS003 base and connecting cable IC200CBL1xx)	3.7	IC200MDD844	Mixed Modules 24 VDC Positive Logic Input 16/Output 24 VDC 0.5 A 16	3.13
IC200CHS022	Compact I/O Carrier, Local Box Clamp Connection Style	3.5	IC200MDD845	Mixed Modules 24 VDC Positive Logic Input 16/Output Relay 2.0 A Isolated 8 points	3.13
IC200CHS025	Compact I/O Carrier, Local Spring Clamp Connection Style	3.5	IC200MDD846	Mixed Modules 120 VAC Input 8 points/ Outpoints Relay 2.0 A Isolated 8 points	3.13
IC200CHS101	Input or Output Interposing Disconnect Style 16 Points.	3.8	IC200MDD847	Mixed Modules 240 VAC Input 8 points/ Output Relay 2.0 A Isolated 8 points	3.14
IC200CHS102	Expansion Input or Output Interposing Disconnect Style 16 Points.	3.8	IC200MDD848	Mixed Modules 120VAC Input 8 points/ Output 120 VAC 0.5 A Isolated 8 points	3.14
IC200CHS111	I/O Interposing Relay Base (replaceable relays), fused (8 amps, replaceable), 16 points.	3.8	IC200MDD849	Mixed Modules 120 VAC Input Isolated 8 points/Output Relay 2.0 A Isolated 8 points	3.14
IC200CHS112	I/O Interposing Relay Base (replaceable relays), fused (8 amps, replaceable), 16 points.	3.9	IC200MDD850	Mixed Modules 240 VAC Input Isolated 4 points/Output Relay 2.0 A Isolated 8 points	3.15
IC200CHS211	I/O Interposing Relay Base (replaceable relays), fused (8 amps, replaceable), 16 points.	3.9	IC200MDD851	Mixed Modules 5/12 VDC Input 16 points/ Output 12/24 VDC 16 points	3.15
IC200CHS212	I/O Interposing Relay Base (replaceable relays), fused (8 amps, replaceable), 16 points.	3.9	IC200MDL140	Input Module 120 VAC, 8 points	3.16
IC200CMM020	Modbus Master Module, 1 RS-485 port. Requires IC200CHS006 Communications Carrier.	3.36	IC200MDL141	Input Module 240 VAC, 8 points	3.16
IC200CPU001	PLC CPU 32K Configurable Memory, 2 Ports RS-232 and RS-485	3.4	IC200MDL143	Input Module 120 VAC Isolated, 8 points	3.16
IC200CPU002	PLC CPU 42K Configurable Memory, 2 Ports RS-232 and RS-485	3.4	IC200MDL144	Input Module 240 VAC Isolated, 4 points	3.17
IC200CPU005	PLC CPU 128K Configurable User Memory, 2 Ports RS-232 and RS-485	3.4	IC200MDL240	Input Module, 120 VAC Positive Logic, 16 points	3.17
IC200CPUE05	PLC CPU 128K Configurable User Memory, 2 Ports RS-232 and RS-485, 10 MBIT Ethernet Port. Supports EGD and SRTP.	3.4	IC200MDL241	Input Module, 240 VAC Positive Logic, 16 points	3.17
IC200DBI001	Remote I/O DeviceNet Network Interface Unit (Slave)	3.33	IC200MDL243	Input Module, 120 VAC Isolated, 16 points	3.18
IC200DTX200	Operator Interface for changing timer/ counter/register values.	1.157	IC200MDL244	Input Module, 240 VAC Isolated, 8 points	3.18
IC200DTX450	Operator Interface with up to 200 stored messages. 2x16 character LCD backlight display and 6 function keys.	1.157	IC200MDL329	Output Module, 120 VAC, 0.5 A per point Isolated, 8 points	3.21
IC200DTX650	Operator Interface with up to 200 stored messages. 4x16 character LCD backlight display and 8 function keys.	1.157	IC200MDL330	Output Module, 120 VAC 0.5 A per point Isolated, 16 points	3.21
IC200DTX850	Operator Interface with up to 200 stored messages. 4x20 character LCD backlight display, 8 function keys and numeric keypad.	1.157	IC200MDL331	Output Module, 120 VAC 2.0 A per point Isolated, 8 points	3.21
			IC200MDL631	Input Module 125 VDC, Pos/Neg Logic, Isolated, 8 points	3.18
			IC200MDL632	Input Module 125 VDC, Pos/Neg Logic, Isolated, 16 points	3.19
			IC200MDL635	Input Module 48 VDC, Pos/Neg Logic (2 Groups of 8), 16 points	3.19
			IC200MDL636	Input Module 48 VDC, Pos/Neg Logic (4 Groups of 8), 32 points	3.19
			IC200MDL640	Input Module, 24 VDC Positive/Negative Logic, 16 points	3.20
			IC200MDL643	Input Module, 5/12 VDC (TTL) Pos/Neg Logic, 16 points	3.20
			IC200MDL644	Input Module, 5/12 VDC (TTL) Pos/Neg Logic, 32 points	3.20
			IC200MDL650	Input Module, 24 VDC Positive Logic, 32 points	3.20

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IC200MDL730	Output Module, 24 VDC Positive Logic 2.0 A per point w/ESCP, 8 points	3.22
IC200MDL740	Output Module, 24 VDC Positive Logic, 0.5 A per point, 16 points	3.22
IC200MDL741	Output Module, 24 VDC Positive Logic, 0.5 A per point w/ESCP, 16 points	3.22
IC200MDL742	Output Module, 24 VDC Positive Logic 0.5 A with ESCP, 32 points	3.23
IC200MDL743	Output Module, 5/12/24 VDC Negative Logic, 0.5 A per point (1 group of 16) 16 points	3.23
IC200MDL744	Output Module, 5/12/24 VDC Negative Logic, 0.5 A per point (2 groups of 16) 32 points	3.23
IC200MDL750	Output Module, 24 VDC Positive Logic, 0.5 A per point, 32 points	3.24
IC200MDL930	Output Module, Relay 2.0 A per point Isolated Form A, 8 points	3.24
IC200MDL940	Output Module, Relay 2.0 A per point Isolated Form A, 16 points	3.24
IC200NAL110	10 point (6) 12 VDC In, (1) Analog Voltage In, (4) Relay Out, 12 VDC Power Supply	1.136
IC200NAL211	10 point (6) 24 VDC In, (1) Analog Voltage In, (4) Relay Out, 24 VDC Power Supply	1.136
IC200NDD010	10 point (6) 12 VDC In, (4) 12 VDC Out, 12 VDC Power Supply	1.136
IC200NDD101	10 point (6) 24 VDC In, (4) 24 VDC Out, 24 VDC Power Supply	1.136
IC200NDR001	10 point (6) 24 VDC In, (4) Relay Out, 24 VDC Power Supply	1.136
IC200NDR010	10 point (6) 12 VDC In, (4) Relay Out, 12 VDC Power Supply	1.136
IC200PBI001	Remote I/O Profibus-DP Network Interface Unit (Slave)	3.34
IC200PKG001	Contains CPU001, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1503, GFK-1504, 641VPS300 (Infolink included), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.	3.37
IC200PKG010	Contains CPUE05, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1503, GFK-1504, Machine Edition (Infolink included), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.	3.37
IC200PKG101	Contains GBI001, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1535, GFK-1504, 690CDR002 (Infolink), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.	3.37
IC200PKG102	Contains PBI001, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1534, GFK-1504, 690CDR002 (Infolink), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.	3.37
IC200PKG103	Contains DBI001, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1533, GFK-1504, 690CDR002 (Infolink), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.	3.37
IC200PKG104	Contains EBI001, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1534, GFK-1504, Machine Edition (Infolink), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.	3.37
IC200PNS001	Remote I/O PROFINET Network Interface Unit (Cooper Media) with built-in switch	3.33
IC200PNS002	Bus Transmitter Expansion Module (Fiber Media) with built-in switch	3.33
IC200PWB001	Power Supply Booster Carrier. Supplies power to all modules to the right of booster. Requires power supply.	3.11

Product Number	Product Name	Page Number
IC200PWR001	24 VDC Power Supply	3.10
IC200PWR002	24 VDC Power Supply with Expanded 3.3 V	3.10
IC200PWR011	24 VDC Isolated Power Supply	3.10
IC200PWR012	24 VDC Isolated Power Supply with Expanded 3.3 V	3.10
IC200PWR101	120/240 VAC Power Supply	3.10
IC200PWR102	120/240 VAC Power Supply with Expanded 3.3 VDC	3.11
IC200PWR201	12 VDC Power Supply	3.11
IC200PWR202	12 VDC Power Supply with Expanded 3.3 VDC	3.11
IC200SET001	Ethernet to Serial Network Module	1.159
IC200TBX010	Tool box, Nano 10 and software.	1.163
IC200TBX014	Tool box, Micro 14 and software.	1.163
IC200TBX020	Tool box, Micro 20 and software.	1.163
IC200TBX023	Tool box, Micro 23 and software.	1.163
IC200TBX028	Tool box, Micro 28 and software.	1.163
IC200TBX040	Tool box, Micro 40 and software.	1.163
IC200TBX064	Tool box, Micro 64 and software.	1.163
IC200TBX110	Tool box, Nano 10, operator interface and software.	1.163
IC200TBX114	Tool box, Micro 14, operator interface and software.	1.163
IC200TBX120	Tool box, Micro 20 and software.	1.163
IC200TBX123	Tool box, Micro 23, operator interface and software.	1.163
IC200TBX128	Tool box, Micro 28, operator interface and software.	1.163
IC200TBX140	Tool box, Micro 40 and software.	1.163
IC200TBX164	Tool box, Micro 64 and software.	1.163
IC200TBX210	Tool box, Nano 10, Ethernet interface and software.	1.163
IC200TBX214	Tool box, Micro 14, Ethernet interface and software.	1.163
IC200TBX220	Tool box, Micro 20, operator interface and software.	1.163
IC200TBX223	Tool box, Micro 23, Ethernet interface and software.	1.163
IC200TBX228	Tool box, Micro 28, Ethernet interface and software.	1.163
IC200TBX240	Tool box, Micro 40, operator interface and software.	1.163
IC200TBX264	Tool box, Micro 64, operator interface and software.	1.163
IC200TBX320	Tool box, Micro 20, operator interface and software.	1.163
IC200TBX340	Tool box, Micro 40, operator interface and software.	1.163
IC200TBX364	Tool box, Micro 64, operator interface and software.	1.163
IC200TBX520	Tool box, Micro 20, QuickPanel color touch screen and software.	1.163
IC200TBX540	Tool box, Micro 40, QuickPanel color touch screen and software.	1.163
IC200TBX564	Tool box, Micro 64, QuickPanel color touch screen and software.	1.163
IC200UAA003	14 point (8) 120 VAC In, (6) 120 VAC Out, 120/240 VAC Power Supply	1.137

Product Number	Product Name	Page Number	Product Number	Product Name	Page Number
IC200UAA007	28 point; (16) 120 VAC In, (12) 120 VAC Out, 120/240 VAC Power Supply.	1.140	IC200UDR228	28 point; (16) 24 VDC In, (11) Relay Out, (1) 24 VDC Out, 12/24 VDC Power Supply.	1.141
IC200UAL004	23 point; (13) 12 VDC In, (10) Relay Out, (2) Analog In and (1) Analog Out, 12 VDC Power Supply.	1.139	IC200UDR440	Micro 40; (24) 24 VDC In, (16) Relay Out 2.0 amps, 12/24 VDC Power Supply.	1.143
IC200UAL005	23 point; (13) 24 VDC In, (9) Relay Out, (1) 24 VDC Out, (2) Analog In and (1) Analog Out, 24 VDC Power Supply.	1.139	IC200UEC008	8 point (4) 24 VDC In, (4) 24VDC Out with ESCP Protection, 24 VDC Power Supply	1.147
IC200UAL006	23 point; (13) 24 VDC In, (9) Relay Out, (1) 24 VDC Out, (2) Analog In and (1) Analog Out, 120/240 VAC Power Supply.	1.139	IC200UEC108	8 point (4) 24 VDC In, (4) 24 VDC Sink Out, 24 VDC Power Supply	1.147
IC200UAR014	14 point, (8) 120 VAC In, (6) Relay Out, 120/240 VAC Power Supply	1.137	IC200UEC208	8 point (4) 24 VDC In, (4) Relay Out, 24 VDC Power Supply	1.147
IC200UAR028	28 point, (16) 120 VAC In, (12) Relay Out, 120/240 VAC Power Supply.	1.140	IC200UEI008	8 point (8) 24 VDC In, 24 VDC Power Supply	1.146
IC200UDD020	Micro 64; (12) 24 VDC In, (8) 24 VDC Source Out 0.7 amps with ESCP protection, 24 VDC Power Supply.	1.142	IC200UEI016	16 point (16) 24 VDC In, 24 VDC Power Supply	1.146
IC200UDD040	Micro 64; (24) 24 VDC In, (16) 24 VDC Source Out 0.7 amps with ESCP protection, 24 VDC Power Supply.	1.143	IC200UEM001	Ethernet module.	1.158
IC200UDD064	Micro 64; (40) 24 VDC In, (24) 24 VDC Source Out 0.7 amps with ESCP protection, 24 VDC Power Supply.	1.144	IC200UEO008	8 point (8) 24 VDC Output with ESCP Protection, 24 VDC Power Supply	1.146
IC200UDD104	14 point (8) 24 VDC In, (6) 12/24 VDC Out (2) @ 1.0 A, (4) @ 0.5 A, 24 VDC Power Supply	1.137	IC200UEO016	16 point (16) 24 VDC Output with ESCP Protection, 24 VDC Power Supply	1.146
IC200UDD110	28 point; (16) 24 VDC In, (12) 24 VDC Out (6) @ 1.0 A, (6) @ 0.5 A, 24 VDC Power Supply.	1.140	IC200UEO108	8 point (8) 24 VDC Sink Output, 24 VDC Power Supply	1.146
IC200UDD112	14 point (8) 12 VDC In, (6) 12 VDC Out, 0.7A, 12 VDC Power Supply	1.137	IC200UEO116	16 point (16) 24 VDC Sink Output, 24 VDC Power Supply	1.146
IC200UDD120	28 point; (16) 24 VDC In, (12) 24 VDC Out (6) @ 1.0 A, (6) @ 0.5 A, 24 VDC Power Supply.	1.140	IC200UER008	8 point (8) 2 Amp Relay Out, 24 VDC Power Supply	1.147
IC200UDD164	Micro 64; (40) 24 VDC In, (24) 24 VDC Sink Out 0.7 amps, 24 VDC Power Supply.	1.144	IC200UER016	16 point (16) Relay Out, 24 VDC Power Supply	1.147
IC200UDD212	28 point (16) 12 VDC In, (12) 12 VDC Out, 0.7A, 12 VDC Power Supply	1.141	IC200UER508	8 point (8) 5 Amp Relay Out, 24 VDC Power Supply (not UL approved)	1.147
IC200UDD220	Micro 64; (12) 24 VDC In, (8) 24 VDC Sink Out, 24 VDC Power Supply.	1.142	IC200UEX009	14 point (8) 120 VAC In, (6) Relay Out (2 outputs at 10 amp and 4 outputs at 2 amp), 120/240 VAC Power Supply	1.149
IC200UDD240	Micro 40; (24) 24 VDC In, (16) 24 VDC Sink Out, 24 VDC Powered	1.143	IC200UEX010	14 point (8) 120 VAC In, (6) 120 VAC Out, 120/240 VAC Power Supply	1.149
IC200UDR001	14 point (8) 24 VDC In, (6) Relay Out, 120/240 VAC Power Supply	1.138	IC200UEX011	14 point (8) 24 VDC In, (6) Relay Out, 120/240 VAC Power Supply	1.148
IC200UDR002	14 point (8) 24 VDC In, (6) Relay Out, 24 VDC Power Supply	1.138	IC200UEX012	14 point (8) 24 VDC In, (6) Relay Out, 24 VDC Power Supply	1.148
IC200UDR003	14 point (8) 12 VDC In, (6) Relay Out, 12 VDC Power Supply	1.138	IC200UEX013	14 point (8) 12 VDC In, (6) Relay Out, 12 VDC Power Supply	1.148
IC200UDR005	28 point; (16) 24 VDC In, (11) Relay Out, (1) 24 VDC Out, 120/240 VAC Power Supply.	1.141	IC200UEX014	14 point (8) 24 VDC In, (6) 24VDC Out, 24 VDC Power Supply	1.148
IC200UDR006	28 point (16) 12 VDC In, (12) Relay Out, 12 VDC Power Supply.	1.141	IC200UEX015	14 point (8) 12 VDC In, (6) 12VDC Out, 12 VDC Power Supply	1.148
IC200UDR010	28 point; (16) 24 VDC In, (11) Relay Out, (1) 24 VDC Out, 24 VDC Power Supply.	1.141	IC200UEX064	64 point (40) 24 VDC In, (24) Relay Out, 24 VDC Power Supply	1.151
IC200UDR020	Micro 20; (12) 24 VDC In, (8) Relay Out 2.0 amps, 24 VDC Power Supply.	1.142	IC200UEX122	14 point (8) 24 VDC In, (6) 24VDC Out with ESCP, 24 VDC Power Supply	1.148
IC200UDR040	Micro 40; (24) 24 VDC In, (16) Relay Out 2.0 amps, 24 VDC Power Supply.	1.143	IC200UEX164	64 point (40) 24 VDC In, (24) Relay Out, 120/240VAC Power Supply	1.151
IC200UDR064	Micro 64; (40) 24 VDC In, (24) Relay Out 2.0 amps, 24 VDC Power Supply.	1.144	IC200UEX209	28 point (16) 120 VAC In, (12) Relay Out (2 outputs at 10 amp and 10 outputs at 2 amp), 120/240 VAC Power Supply	1.150
IC200UDR120	Micro 20; (12) 24 VDC In, (8) Relay Out 2.0 amps, 120/240 VAC Power Supply.	1.142	IC200UEX210	28 point (16) 24 VDC In, (12) 120VAC Out, 120/240 VAC Power Supply	1.150
IC200UDR140	Micro 40; (24) 24 VDC In, (16) Relay Out 2.0 amps, 120/240 VAC Power Supply.	1.143	IC200UEX211	28 point (16) 24 VDC In, (12) Relay Out, 120/240 VAC Power Supply	1.150
IC200UDR164	Micro 64; (40) 24 VDC In, (24) Relay Out 2.0 amps, 120/240 VAC Power Supply.	1.144	IC200UEX212	28 point (16) 24 VDC In, (12) Relay Out, 24 VDC Power Supply	1.150
			IC200UEX213	28 point (16) 12 VDC In, (12) Relay Out, 12 VDC Power Supply	1.149
			IC200UEX214	28 point (16) 24 VDC In, (12) 24VDC Out, 24 VDC Power Supply	1.149

Product Number	Product Name	Page Number
IC200UEX215	28 point (16) 12 VDC In, (12) 12 VDC Out, 12 VDC Power Supply	1.149
IC200UEX222	28 point (16) 24 VDC In, (12) 24 VDC Out with ESCP, 24 VDC Power Supply	1.150
IC200UEX264	64 point (40) 24 VDC In, (24) 24 VDC Source Out, 24 VDC Power Supply	1.151
IC200UEX364	64 point (40) 24 VDC In, (24) 24 VDC Sink Out, 24 VDC Power Supply	1.151
IC200UEX616	6 Analog I/O Channels (4) 0 to 10VDC, +/- 10 VDC, 4 to 20ma, 0 to 20ma In, (2) 0 to 10 VDC, 4 to 20ma, 0 to 20ma Out, 12 VDC Power Supply	1.153
IC200UEX624	4 Analog I/O Channels 0 to 10VDC, +/- 10 VDC, 4 to 20mA, 24 VDC Power Supply	1.153
IC200UEX626	6 Analog I/O Channels (4) 0 to 10 VDC, +/- 10 VDC, 4 to 20ma, 0 to 20ma In, (2) 0 to 10 VDC, 4 to 20ma, 0 to 20ma Out, 24 VDC Power Supply	1.153
IC200UEX636	6 Analog I/O Channels (4) 0 to 10 VDC, +/- 10 VDC, 4 to 20ma, 0 to 20ma In, (2) 0 to 10 VDC, 4 to 20ma, 0 to 20ma Out, 120/240 VAC Power Supply	1.153
IC200UEX724	4 RTD PT 100 Channels IN, 120/240 VAC Power Supply	1.154
IC200UEX726	4 RTD PT 100 Channels IN , 2 Analog Channels OUT 0 to 10 VDC, 4 to 20ma, 0 to 20ma Out, 24 VDC Power Supply	1.154
IC200UEX734	4 RTD PT 100 Channels IN, 24 VDC Power Supply	1.154
IC200UEX736	4 RTD PT 100 Channels IN, 2 Analog Channels OUT 0 to 10 VDC, 4 to 20ma, 0 to 20ma Out, 120/240 VAC Power Supply	1.154
IC200UEX824	4 Thermocouple or mV Input Channels, 24 VDC Powered	1.155
IC200UEX826	4 Thermocouple or mV Input Channels and 2 Analog Output Channels, 24 VDC Powered	1.155
IC200UMB001	Flash Memory Board for program download and compatible with Micro 64 (128Kbytes)	1.162
IC200UMM002	VersaMax Micro 2 Axis Motion Module	1.156
IC200UMM102	VersaMax Micro 2 Axis Motion Module	1.156
IC200USB001	RS-232 option board with (2) 0 -10 VDC analog in	1.158
IC200USB002	RS-485 option board with (2) 0 -10 VDC analog in	1.158
IC200UUB001	USB option board (no analog option)	1.158
IC210BAR010	10 point (6) AC Inputs, (4) Isolated Relay Out (8 Amps), AC input power, supports expansion and no display/keypad	1.175
IC210BAR020	20 point (12) AC Inputs, (8) Isolated Relay Out (8 Amps), AC input power, supports expansion and no display/keypad	1.176
IC210BDD012	10 point (6) 24 VDC Inputs, (4) 24 VDC Out (Transistor 0.5 Amp), (2) analog inputs*, 24 VDC input power, supports expansion, no display/Keypad	1.178
IC210BDD024	20 point (8) 24 VDC Inputs, (8) 24 VDC Out (Transistor 0.5 Amp), (4) analog inputs*, 24 VDC input power, supports expansion, no display/Keypad	1.180
IC210BDR012	10 point (6) 24 VDC Inputs, (2) analog inputs*, (4) Isolated Relay Out (8 Amps), 24 VDC input power, supports expansion, no display/keypad	1.177
IC210BDR024	20 point (8) 24 VDC Inputs, (4) analog inputs*, (8) Isolated Relay Out (8 Amps), 24 VDC input power, supports expansion, no display/keypad	1.179

Product Number	Product Name	Page Number
IC210CBL001	Durus Controller to PC RS-232 Serial Cable	1.185
IC210CBL002	Durus Controller to PDA Transfer Cable	1.185
IC210DAR010	10 point (6) AC Inputs, (4) Isolated Relay Out (8 Amps), AC input power, supports expansion and display/keypad	1.175
IC210DAR012	10 point (8) 24 VAC Inputs, (4) Isolated Relay Out (8 Amps), 24 VAC input power, supports expansion and display/keypad	1.175
IC210DAR020	20 point (12) AC Inputs, (8) Isolated Relay Out (8 Amps), AC input power, supports expansion and display/keypad	1.176
IC210DDD012	10 point (6) 24 VDC Inputs, (4) 24 VDC Out (Transistor 0.5 Amp), (2) analog inputs*, 24 VDC input power, supports expansion and display/Keypad	1.178
IC210DDD024	20 point (8) 24 VDC Inputs, (8) 24 VDC Out (Transistor 0.5 Amp), (4) analog inputs*, 24 VDC input power, supports expansion and display/Keypad	1.179
IC210DDR012	10 point (6) 24 VDC Inputs, (2) analog inputs*, (4) Isolated Relay Out (8 Amps), 24 VDC input power, supports expansion and display/keypad	1.177
IC210DDR024	20 point (8) 24 VDC Inputs, (4) analog inputs*, (8) Isolated Relay Out (8 Amps), 24 VDC input power, supports expansion and display/keypad	1.179
IC210DDR112	10 point (6) 12 VDC Inputs, (2) analog inputs*, (4) Isolated Relay Out (8 Amps), 12 VDC input power, supports expansion and display/keypad	1.177
IC210EAI004	4 point analog expansion (4) analog inputs (voltage and current, 12bit), 12/24 VDC input power. Maximum of 2 analog output modules supported on the Durus Controller.	1.182
IC210EAO002	2 channel analog out expansion (0 – 10 VDC or 0 – 20 mA). Maximum of 2 analog output modules supported on the Durus Controller.	1.182
IC210EAR008	8 point discrete expansion (4) AC Inputs, (4) Isolated Relay Out (8 Amps), AC input power	1.181
IC210EAR208	8 point discrete expansion (4) 24 VAC Inputs, (4) Isolated Relay Out (8 Amps), AC input power	1.181
IC210EDD008	8 point discrete expansion (4) 24 VDC Inputs, (4) 24 VDC Out (Transistor 0.5 Amp), 24 VDC input power	1.181
IC210EDR008	8 point discrete expansion (4) 24 VDC Inputs, (4) Isolated Relay Output (8 Amps), 24 VDC input power	1.181
IC210EDS001	DeviceNet slave communications expansion module, 24 VDC power source	1.183
IC210EMS001	Modbus RTU slave communications expansion module, 24 VDC power source	1.183
IC210EPS001	Profibus-DP slave communications expansion module, 24 VDC power source	1.183
IC210EPT004	4 channel PT 100, 12bit, PT100 (-100°~600°). Maximum of temperature modules supported on the Durus Controller.	1.182
IC210MDD024	20 point with Modbus Slave communications built-in (8) 24 VDC Inputs, (8) 24 VDC Out (Transistor 0.5 Amp), (4) analog inputs*, 24 VDC input power, supports expansion and display/Keypad	1.180
IC210MDR024	20 point with Modbus Slave communications built-in (8) 24 VDC Inputs, (4) analog inputs*, (8) Isolated Relay Out (8 Amps), 24 VDC input power, supports expansion and display/keypad.	1.180

Product Number	Product Name	Page Number
IC210MDR124	20 point with Modbus Slave communications built-in (8) 12 VDC Inputs, (4) analog inputs*, (8) Isolated Relay Out (8 Amps), 12 VDC input power, supports expansion and display/keypad.	1.178
IC210NAR010	10 point (6) AC Inputs, (4) Isolated Relay Out (8 Amps), AC input power, no expansion, no plastic case and no display/keypad	1.175
IC210NAR020	20 point (12) AC Inputs, (8) Isolated Relay Out (8 Amps), AC input power, no expansion, no plastic case and no display/keypad	1.176
IC210NDD012	10 point (6) 24 VDC Inputs, (4) 24 VDC Out (Transistor 0.5 Amp), (2) analog inputs*, 24 VDC input power, no expansion, no plastic case and no display/keypad	1.178
IC210NDD024	20 point (8) 24 VDC Inputs, (8) 24 VDC Out (Transistor 0.5 Amp), (4) analog inputs*, 24 VDC input power, no expansion, no plastic case and no display/keypad	1.180
IC210NDR012	10 point (6) 24 VDC Inputs, (2) analog inputs*, (4) Isolated Relay Out (8 Amps), 24 VDC input power, no expansion, no plastic case and no display/keypad	1.177
IC210NDR024	20 point (8) 24 VDC Inputs, (4) analog inputs*, (8) Isolated Relay Out (8 Amps), 24 VDC input power, no expansion, no plastic case and no display/keypad	1.179
IC210TBX010	IC210DAR010 10 point Durus-10 controller. AC Power Source, 6 AC in/4out (Relay 8 Amp), Expandable, with LCD/Keypad. Kit includes programming software and cable. (IC646DUR101)	1.185
IC210TBX012	IC210DDR012 12 point Durus-12 controller. 24 VDC Power Source, (6) 24 VDC in /(4) out (Relay 8 Amp), (2) analog inputs, Expandable, with LCD/Keypad, with LCD/Keypad. Kit includes programming software and cable. (IC646DUR101)	1.185
IC210TBX020	IC210DAR020 20 point Durus-20 ontroller. AC Power Source, (12) AC in/8 out (Relay, 8 Amp), Expandable, with LCD/Keypad. Kit includes programming software and cable. (IC646DUR101)	1.185
IC210TBX024	IC210DDR024 20 point Durus-20 controller. 24 VDC Power Source, (8) 24 VDC in/8 out (Relay, 8 Amp), (4) analog inputs, Expandable, with LCD/Keypad. Kit includes programming software and cable. (IC646DUR101)	1.185
IC210TBX124	IC210MDR024 20 point Durus-20 controller. 24 VDC Power Source, (8) 24 VDC in/8 out (Relay, 8 Amp), (4) analog inputs, Expandable, with LCD/Keypad. Support Modbus Slave on port. Kit includes programming software and cable. (IC646DUR101)	1.185
IC210TMP001	Durus Controllers FLASH Memory Pack that enables user to download application and upload application to Durus Controllers	1.185
IC220ACC001	Module Labels Narrow, Qty 10	3.66
IC220ACC002	Module Labels Wide, Qty 10	3.66
IC220ACC003	Point Labels Numbered 1-100, Qty 10	3.66
IC220ACC004	Point Labels Blank, Qty 1000	3.66
IC220ACC005	Module Keying Tabs, Qty 100	3.66
IC220ACC100	Motor Starter Brake Module DC	3.66
IC220ACC101	Motor Starter Brake Module AC/DC	3.66
IC220ACC103	Motor Starter Power Connector	3.66
IC220ACC104	Motor Starter Power Bridge	3.66
IC220ACC105	Motor Circuit Connector, Qty 10	3.66

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IC220ACC201	Relay Module Isolation Set (Requires 1 IC220TBK206)	3.66
IC220ALG220	Analog In 15 Bit Voltage/ Current 2 Channels	3.60
IC220ALG221	Analog In 15 Bit Voltage/ Current 8 Channel	3.60
IC220ALG320	Analog Out 16 Bit Voltage/ Current 1 Channel	3.61
IC220ALG321	Analog Out 16 Bit Voltage 1 Channel	3.61
IC220ALG322	Analog Out 13 Bit Voltage 2 Channels	3.61
IC220ALG620	Analog In 16 Bit RTD 2 Channels	3.60
IC220ALG630	Analog In 16 Bit Thermocouple 2 Channels	3.60
IC220BEM232	RS-232 Communications Module interfaces serial I/O devices to a VersaPoint I/O Station.	3.65
IC220BEM485	RS-485/422 Communications Module interfaces serial I/O devices to a VersaPoint I/O Station.	3.65
IC220DBI001	DeviceNet Network Interface Unit	3.54
IC220DEM001	VersaPoint Demo Case, DEVICENET NIU	3.66
IC220DEM002	VersaPoint Demo Case, PROFIBUS NIU	3.66
IC220DEM011	VersaPoint Static Demo, DEVICENET NIU	3.66
IC220DEM012	VersaPoint Static Demo, PROFIBUS NIU	3.66
IC220EBI001	Ethernet TCP/IP Advanced Network Interface Unit - 10/100 Base-T(X) - PCP Support	3.54
IC220EBI002	Ethernet TCP/IP Standard Network Interface Unit - 10/100 Base-T(X)	3.54
IC220MDD840	High Speed Counter input, 1 control input, 1 control output	3.63
IC220MDD841	Absolute Encoder input, 4 digital inputs and 4 digital outputs	3.63
IC220MDD842	Incremental Encoder input, 4 digital inputs and 4 digital outputs	3.63
IC220MDL641	Input 24 VDC Positive Logic 2 Points	3.57
IC220MDL642	Input 24 VDC Positive Logic 4 Points	3.57
IC220MDL643	Input 24 VDC Positive Logic 8 Points	3.57
IC220MDL644	Input 24 VDC Positive Logic 16 Points	3.57
IC220MDL661	Input 24 VDC Negative Logic 2 Points	3.57
IC220MDL721	Output 24 VDC Positive Logic 2.0 A 2 Points	3.58
IC220MDL751	Output 24 VDC Positive Logic 0.5 A 2 Points	3.58
IC220MDL752	Output 24 VDC Positive Logic 0.5 A 4 Points	3.58
IC220MDL753	Output 24 VDC Positive Logic 0.5 A 8 Points	3.58
IC220MDL754	Output 24 VDC Positive Logic 0.5 A 16 Points	3.59
IC220MDL761	Output 24 VDC Negative Logic 0.5 A 2 Points	3.59
IC220MDL930	Output Relay 3.0 A 1 Point	3.59
IC220MDL940	Output Relay 3.0 A 1 Point	3.59
IC220PBI002	Profibus-DP Network Interface Unit	3.54
IC220PWR001	Power Terminal 24 VDC	3.55
IC220PWR002	Power Terminal Fused 24 VDC	3.55
IC220PWR003	Power Terminal Fused with Diagnostics 24 VDC	3.55
IC220PWR011	Segment Terminal 24 VDC	3.56
IC220PWR012	Segment Terminal Fused 24 VDC	3.56
IC220PWR013	Segment Terminal Fused with Diagnostics 24 VDC	3.56
IC220PWR014	Segment Terminal Electronic Fused 24 VDC	3.56
IC220PWR101	Power Terminal 120 VAC	3.55

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IC220PWR102	Power Terminal 230 VAC	3.55
IC220SDL543	Safe Input, 24 VDC Positive Logic	3.62
IC220SDL752	Safe Output, 24 VDC Sink/ Source	3.62
IC220SDL753	Safe Output, 24 VDC Positive Logic 2 A	3.62
IC220SDL840	Safe Output, Relay 4A, 4PT, with 2 contacts each	3.62
IC220SDL953	Safety Logic Module, Safe Output, 24 VDC Positive Logic	3.62
IC220STR001	Motor Starter Direct, up to 1.5 kW/ 400 VAC (No UL)	3.64
IC220STR002	Motor Starter Direct, up to 3.7 kW/ 480 VAC (UL Approved)	3.64
IC220STR003	Motor Starter Reversing, up to 1.5 kW/ 400 VAC (No UL)	3.64
IC220TBK061	I/O W/Shield, 6 Position Spring Style, Qty 5	3.66
IC220TBK062	I/O Terminal Strip W/Dual Shield, 6 Position Spring Style, Qty 5	3.66
IC220TBK082	I/O Terminal Strip, 8 Position Spring Style, Qty 10	3.66
IC220TBK083	I/O Terminal Strip, 8 Position Spring Style, AC Input, Qty 10	3.66
IC220TBK084	I/O Terminal Strip, 8 Position Spring Style, AC Output, Qty 10	3.66
IC220TBK085	I/O Terminal Strip, 8 Position Spring Style, Relay, Qty 10	3.66
IC220TBK087	Power Terminal Strip, 8 Position Spring Style, Qty 10	3.66
IC220TBK122	I/O Terminal Strip, 12 Position Spring Style, Input, Qty 10	3.66
IC220TBK123	I/O Terminal Strip, 12 Position Spring Style, Output, Qty 10	3.66
IC220TBK201	Terminal Strip Set, Spring Style, DEVICENET NIU	3.66
IC220TBK202	Terminal Strip Set, Spring Style, Encoder	3.66
IC220TBK203	Terminal Strip Set, Spring Style, Analog Out/ HSC	3.66
IC220TBK204	Terminal Strip Set, Spring Style, AC Power Terminal	3.66
IC220TBK206	Terminal Strip Set, Spring Style, Relay Isolation	3.66
IC600WD002	I/O Expansion Cable, 2 feet (0.6 meters)	1.10
IC600WD002	I/O Expansion Cable, 2 feet (0.6 meters)	1.83
IC600WD005	I/O Expansion Cable, 5 feet (1.5 meters)	1.10
IC600WD005	I/O Expansion Cable, 5 feet (1.5 meters)	1.83
IC600WD010	I/O Expansion Cable, 10 feet (3 meters)	1.10
IC600WD010	I/O Expansion Cable, 10 feet (3.0 meters)	1.83
IC600WD025	I/O Expansion Cable, 25 feet (7.5 meters)	1.10
IC600WD025	I/O Expansion Cable, 25 feet (7.5 meters)	1.83
IC600WD050	I/O Expansion Cable, 50 feet (15 meters)	1.10
IC600WD050	I/O Expansion Cable, 50 feet (15 meters)	1.83
IC646CSCEMK	QuickPanel Control (CE) Development Software - Single License	6.6
IC646DUR101	Durus Controllers Program and Simulation Software and PC to Controller RS-232 Cable (IC646DUR001 and IC210CBL001)	1.185
IC646MBL001	Machine Edition Lite Development Suite - Single License	6.5
IC646MBLS99	Machine Edition Lite Development Suite - Unlimited Seat Site License	6.5

Product Number	Product Name	Page Number
IC646MBP001	Machine Edition Professional Development Suite without GlobalCare. Complete with Software key	5.5
IC646MBP001	Machine Edition Professional Development Suite - Single License	6.5
IC646MBPS99	Machine Edition Professional Development Suite - Unlimited Seat Site License	6.5
IC646MBS001	Machine Edition Standard Development Suite - Single License	6.5
IC646MBSS99	Machine Edition Standard Development Suite - Unlimited Seat Site License	6.5
IC646MBT001	Machine Edition Traditional Development Suite - Single License	6.5
IC646MBTS99	Machine Edition Traditional Development Suite - Unlimited Seat Site License	6.5
IC646MBW001	Machine Edition Professional Development Suite with Runtimes - Single License	6.5
IC646MCD001	Proficy Machine Edition Installation and Supplemental CD Pack - Single Set	6.6
IC646MDA000	Proficy View Development and Runtime - 8000 Point	6.6
IC646MDA075	Proficy View Development and Runtime - 75 Point	6.6
IC646MDA150	Proficy View Development and Runtime - 150 Point	6.6
IC646MDA159	Proficy View Development and Runtime - 1500 Point	6.6
IC646MDA300	Proficy View Development and Runtime - 300 Point	6.6
IC646MDA700	Proficy View Development and Runtime - 700 Point	6.6
IC646MED010	Proficy Machine Edition Demo Disks in cardboard mailer - 10 Pack	6.6
IC646MODEV	Motion Developer	6.5
IC646MOP001	Proficy View and Logic Developer PC Development (no-runtime) - 8000 Point	6.6
IC646MOSS99	QuickPanel Control (CE) Development Software - Unlimited Seat Site License	6.6
IC646MPC001	Logic Developer PLC Configuration - Single License	6.5
IC646MPM001	Logic Developer PLC Nano/Micro - Single License	6.5
IC646MPM101	Proficy Logic Developer -PLC Nano/Micro and VersaMotion, Programming Cable (No Upgrades included)	1.74
IC646MPM101	Proficy Logic Developer -PLC Nano/Micro and VersaMotion, Programming Cable (No Upgrades included)	1.132
IC646MPM101	Proficy Logic Developer -PLC Nano/Micro and VersaMotion, Programming Cable (No Upgrades included)	1.162
IC646MPP001	Logic Developer PLC Professional without GlobalCare. Complete with Software key	5.5
IC646MPP001	Logic Developer PLC Professional - Single License	6.5
IC646MPPS99	Logic Developer PLC Professional - Unlimited Seat Site License	6.5
IC646MPS001	Logic Developer PLC Standard - Single License	6.5
IC646MPSS99	Logic Developer PLC Standard - Unlimited Seat Site License	6.5
IC646MQP001	Proficy View for QuickPanel - Single License	6.6
IC646MQPS99	Proficy View for QuickPanel - Unlimited Seat Site License	6.6

Product Number	Product Name	Page Number
IC646MRA000	Proficy View Runtime - 8000 Point	6.6
IC646MRA075	Proficy View Runtime - 75 Point	6.6
IC646MRA150	Proficy View Runtime - 150 Point	6.6
IC646MRA159	Proficy View Runtime - 1500 Point	6.6
IC646MRA300	Proficy View Runtime - 300 Point	6.6
IC646MRA700	Proficy View Runtime - 700 Point	6.6
IC646MRC000	Proficy View and Logic Developer PC Runtime - 8000 Point	6.6
IC646MRC075	Proficy View and Logic Developer PC Runtime - 75 Point	6.6
IC646MSP001	Logic Developer State Professional - Single License	6.5
IC646MVD000	Proficy View OPC Driver License with software key - 8000 Point	6.6
IC646MVSS99	Proficy View (CE) Standard Edition - Unlimited Seat Site License	6.6
IC646PCM001	Change Management 1 user	2.6
IC646PCM005	Change Management 5 users	2.6
IC646PCM010	Change Management 10 users	2.6
IC646PCM025	Change Management 25 users	2.6
IC646PCMSCH	Change Management Scheduler	2.6
IC646VSCEMK	Proficy View (CE) Standard Edition - Single License	6.6
IC647BSC999	Batch Client	2.6
IC647BSD000	Batch Developer	2.6
IC647BSL000	Batch Server Large	2.6
IC647BSM000	Batch Server Medium	2.6
IC647BSS000	Batch Server Small	2.6
IC647CSCEMK	QuickPanel Control (CE) Development Software with hardware key - Single License	6.6
IC647MBL001	Machine Edition Lite Development Suite with hardware key - Single License	6.5
IC647MBP001	Machine Edition Professional Development Suite with hardware key - Single License	6.5
IC647MBS001	Machine Edition Standard Development Suite with hardware key - Single License	6.5
IC647MBT001	Machine Edition Traditional Development Suite with hardware key - Single License	6.5
IC647MDA000	Proficy View Development and Runtime with hardware key - 8000 Point	6.6
IC647MDA075	Proficy View Development and Runtime with hardware key - 75 Point	6.6
IC647MDA150	Proficy View Development and Runtime with hardware key - 150 Point	6.6
IC647MDA159	Proficy View Development and Runtime with hardware key - 1500 Point	6.6
IC647MDA300	Proficy View Development and Runtime with hardware key - 300 Point	6.6
IC647MDA700	Proficy View Development and Runtime with hardware key - 700 Point	6.6
IC647MODEV	Motion Developer with hardware	6.5
IC647MOP001	Proficy View and Logic Developer PC Development (no-runtime) w/hardware key - 8000 Point	6.6
IC647MPM001	Logic Developer PLC Nano/Micro with hardware key - Single License	6.5
IC647MPP001	Logic Developer PLC Professional with hardware key - Single License	6.5

Product Number	Product Name	Page Number
IC647MPS001	Logic Developer PLC Standard with hardware key - Single License	6.5
IC647MQP001	Proficy View for QuickPanel with hardware key - Single License	6.6
IC647MRA000	Proficy View Runtime with hardware key - 8000 Point	6.6
IC647MRA075	Proficy View Runtime with hardware key - 75 Point	6.6
IC647MRA150	Proficy View Runtime with hardware key - 150 Point	6.6
IC647MRA159	Proficy View Runtime with hardware key - 1500 Point	6.6
IC647MRA300	Proficy View Runtime with hardware key - 300 Point	6.6
IC647MRA700	Proficy View Runtime with hardware key - 700 Point	6.6
IC647MRC000	Proficy View and Logic Developer PC Runtime w/hardware key - 8000 Point	6.6
IC647MRC075	Proficy View and Logic Developer PC Runtime w/hardware key - 75 Point	6.6
IC647MVD000	Proficy View OPC Driver License with hardware key - 8000 Point	6.6
IC647PPSEWC	Additional Engineering Workstation - CIMPLICITY	2.6
IC647PPSEWF	Additional Engineering Workstation - iFIX	2.6
IC647PPSOCC	Additional Operator Console - CIMPLICITY	2.6
IC647PPSOFC	Additional Operator Console - iFIX	2.6
IC647PPSOPC	Proficy Process Systems EGD OPC Server	2.6
IC647PSC000	Proficy Process Systems - CIMPLICITY - 5000+ I/O	2.6
IC647PSC050	Proficy Process Systems - CIMPLICITY - 500 I/O	2.6
IC647PSC100	Proficy Process Systems - CIMPLICITY - 1000 I/O	2.6
IC647PSC200	Proficy Process Systems - CIMPLICITY - 2000 I/O	2.6
IC647PSC300	Proficy Process Systems - CIMPLICITY - 3000 I/O	2.6
IC647PSC500	Proficy Process Systems - CIMPLICITY - 5000 I/O	2.6
IC647PSF000	Proficy Process Systems - iFIX - 5000+ I/O	2.6
IC647PSF050	Proficy Process Systems - iFIX - 500 I/O	2.6
IC647PSF100	Proficy Process Systems - iFIX - 1000 I/O	2.6
IC647PSF200	Proficy Process Systems - iFIX - 2000 I/O	2.6
IC647PSF300	Proficy Process Systems - iFIX - 3000 I/O	2.6
IC647PSF500	Proficy Process Systems - iFIX - 5000 I/O	2.6
IC647VSCEMK	Proficy View (CE) Standard Edition with hardware key - Single License	6.6
IC660BBA020	Genius Analog I/O Block, Voltage/Current, 4 Inputs/ 2 Outputs, 24/48 VDC Powered	3.46
IC660BBA021	Genius Analog Input Block, RTD, 6 Channel, 24/48 VDC Powered	3.47
IC660BBA023	Genius Analog Input Block, Thermocouple, 6 Channel, 24/48 VDC Powered	3.47
IC660BBA024	Genius Analog I/O Block, Current-source, 4 Inputs/ 2 Outputs, 24/48 VDC Powered	3.46
IC660BBA025	Genius Analog Output Block, Current-source, 6 Channels, 24/48 VDC Powered	3.45
IC660BBA026	Genius Analog Input Block, Current-source, 6 Channels, 24/48 VDC Powered	3.44

Product Number	Product Name	Page Number
IC660BBA100	Genius Analog I/O Block, Voltage/Current, 4 Inputs/ 2 Outputs, 115 VAC Powered	3.46
IC660BBA101	Genius Analog Input Block, RTD, 6 Channel, 115 VAC/125 VDC Powered	3.47
IC660BBA103	Genius Analog Input Block, Thermocouple, 6 Channel, 115 VAC/125 VDC Powered	3.47
IC660BBA104	Genius Analog I/O Block, Current-source, 4 Inputs/ 2 Outputs, 115 VAC/ 125 VDC Powered	3.46
IC660BBA105	Genius Analog Output Block, Current-source, 6 Channels, 115 VAC/125 VDC Powered	3.45
IC660BBA106	Genius Analog Input Block, Current-source, 6 Channels, 115 VAC/125 VDC Powered	3.44
IC660BBD020	Genius Discrete I/O Block, 24/48 VDC Grouped, 16 Point, Source	3.42
IC660BBD021	Genius Discrete I/O Block, 24/48 VDC Grouped, 16 Point, Sink	3.42
IC660BBD022	Genius Discrete I/O Block, 24 VDC Grouped, 16 Point, Source	3.42
IC660BBD023	Genius Discrete I/O Block, 24 VDC Grouped, 16 Point, Sink	3.42
IC660BBD024	Genius Discrete I/O Block, 12/24 VDC Grouped, 32 Point, Source	3.42
IC660BBD025	Genius Discrete I/O Block, 5/12/24 VDC Grouped, 32 Point, Sink	3.43
IC660BBD101	Genius Discrete I/O Block, 115 VAC Grouped, 8 Point	3.41
IC660BBD110	Genius Discrete Input Block, 115 VAC Grouped, 16 Point	3.41
IC660BBD120	Genius High Speed Counter Block	3.48
IC660BBR100	Genius Relay Output Block, Grouped, 16 Points, Normally Closed	3.43
IC660BBR100	Genius Relay Output Block, Grouped, 16 Points, Normally Closed	3.41
IC660BBR101	Genius Relay Output Block, Grouped, 16 Points, Normally Open	3.41
IC660BBR101	Genius Relay Output Block, Grouped, 16 Points, Normally Open	3.43
IC660BBS102	Genius Discrete I/O Block, 115 VAC/125 VDC Isolated, 8 Point	3.41
IC660BBS102	Genius Discrete I/O Block, 115 VAC/125 VDC Isolated, 8 Point	3.41
IC660BBS102	Genius Discrete I/O Block, 115 VAC/125 VDC Isolated, 8 Point	3.43
IC660BBS103	Genius Discrete I/O Block, 115 VAC/125 VDC Isolated, 8 Point, w/o Failed Switch Diagnostic	3.43
IC660BBS103	Genius Discrete I/O Block, 115 VAC/125 VDC Isolated, 8 Point, w/o Failed Switch Diagnostic	3.41
IC660BCM501	Hand-Held Monitor Battery Charger	3.50
IC660BLC001	Genius bus Cable w/Connectors Alpha 9823 15 In (Qty 3)	3.50
IC660BLC003	Genius bus Cable w/Connectors Alpha 9823 3 Ft	3.50
IC660BLM506	Bus Terminator 150 Ohm (Qty 4)	3.50
IC660BLM507	Genius Block Puller	3.50
IC660BLM508	Bus Terminator 75 Ohm (Qty 4)	3.50
IC660BPM100	Genius I/O PowerTrac Monitoring Block, Accurately measures RMS voltage, current, power, VARs, power factor, watt-hours, and line frequency, even with distorted waveforms. 115 VAC/125 VDC Powered	3.49

Product Number	Product Name	Page Number
IC660BPM500	Hand-Held Monitor Battery Pack	3.50
IC660BSM021	Genius Bus Switching Module, 24/48 VDC	3.50
IC660BSM120	Genius Bus Switching Module, 115 VAC/ 125 VDC	3.50
IC660HHM501	Hand-Held Monitor can be used to configure and trouble shoot Genius blocks. Kit includes Cable and Battery Charger	3.50
IC676ACC001	VersaMax IP Point Labels - Qty 50	3.72
IC676ACC002	Protective Caps -Male (For unused I/O connectors and/or outgoing bus & power connectors) - Qty 5	3.72
IC676ACC003	Protective Caps -Female (For unused incoming power connectors) - Qty 5	3.72
IC676ACC004	Profibus Network Termination Resistor	3.72
IC676ACC005	Profibus Network Tee	3.72
IC676CBLPBB003	IP67 Profibus Cordset - 0.3 Meters	3.72
IC676CBLPBB005	IP67 Profibus Cordset - 0.5 Meters	3.72
IC676CBLPBB010	IP67 Profibus Cordset -1 Meter	3.72
IC676CBLPBB020	IP67 Profibus Cordset - 2 Meters	3.72
IC676CBLPBB050	IP67 Profibus Cordset - 5 Meters	3.72
IC676CBLPBB100	IP67 Profibus Cordset -10 Meters	3.72
IC676CBLPBF020	IP67 Profibus Cordset - 2 Meters - Female Connector w/Leads	3.72
IC676CBLPBF050	IP67 Profibus Cordset - 5 Meters - Female Connector w/Leads	3.72
IC676CBLPBF100	IP67 Profibus Cordset -10 Meters -Female Connector w/Leads	3.72
IC676CBLPBM020	IP67 Profibus Cordset - 2 Meters, Male Connector w/Leads	3.72
IC676CBLPBM050	IP67 Profibus Cordset - 5 Meters, Male Connector w/Leads	3.72
IC676CBLPBM100	IP67 Profibus Cordset -10 Meters -Male Connector w/Leads	3.72
IC676CBLPW003	IP67 Power Cordset - 0.3 Meters	3.72
IC676CBLPW005	IP67 Power Cordset - 0.5 Meters	3.72
IC676CBLPW010	IP67 Power Cordset -1 Meter	3.72
IC676CBLPW020	IP67 Power Cordset - 2 Meters	3.72
IC676CBLPW050	IP67 Power Cordset - 5 Meters	3.72
IC676CBLPW100	IP67 Power Cordset -10 Meters	3.72
IC676CBLPWF020	IP67 Power Cordset - 2 Meters - Female Connector w/Leads	3.72
IC676CBLPWF050	IP67 Power Cordset - 5 Meters - Female Connector w/Leads	3.72
IC676CBLPWF100	IP67 Power Cordset -10 Meters -Female Connector w/Leads	3.72
IC676CBLPWM020	IP67 Power Cordset - 2 Meters - Male Connector w/Leads	3.72
IC676CBLPWM050	IP67 Power Cordset - 5 Meters - Male Connector w/Leads	3.72
IC676CBLPWM100	IP67 Power Cordset -10 Meters -Male Connector w/Leads	3.72
IC676PBI008	8 Point Input Module, Profibus	3.69
IC676PBI016	16 Point Input Module, Profibus	3.69
IC676PBM442	4 Point Input and 4 Point (2 Amp) Output Module, Profibus	3.69
IC676PBO082	8 Point (2 Amp) Output Module, Profibus	3.69
IC677ABI004	Expansion VersaMax IP Modular slave with (4) analog inputs	3.71

Product Number	Product Name	Page Number
IC677ABO004	Expansion VersaMax IP Modular slave with (4) analog outputs	3.71
IC677CBLB0013	IP67 Local communications cable for local bus; B-coded, 5 position, shielded 13.5 cm.	3.72
IC677CBLPWB0013	IP67 Voltage supply cable for local bus; A-coded, 5 position, unshielded 13.5 cm.	3.72
IC677DBI008	Expansion VersaMax IP Modular slave with (8) 24 VDC inputs	3.70
IC677DBM442	Expansion VersaMax IP Modular slave with (4) 24 VDC inputs and 4 outputs (2 amp)	3.71
IC677DBO085	Expansion VersaMax IP Modular slave with (8) 24 VDC outputs	3.70
IC677PBI001	Profibus VersaMax IP Modular local bus master with (8) 24 VDC inputs	3.70
IC687BEM731	VME Single Slot Bus Controller	1.8
IC690ACC001	Real Time Clock Battery for CPE305 and CPE310	1.58
IC690ACC901	Mini-Converter Kit with cable (RS-485/RS-232)	1.58
IC690ACC901	Mini-Converter Kit with cable (RS-485/RS-232)	1.121
IC690ACC901	Miniconverter Kit with cable (RS-232 to RS-485)	1.83
IC690ACC903	RS-485 Port Isolator	1.58
IC690ACC903	RS-485 Port Isolator	1.121
IC690ACC905	ENCAPSULATED THERMISTOR KIT QTY 2	3.37
IC690ACC990	Portable Program Download Device. Supports standard USB memory Devices to store and load Series 90-30 PLC applications without the need of a PC.	1.120
IC690ACC990	Portable Program Download Device. Supports standard USB memory devices to store and load VersaMax Micro 23/28 PLC applications without the need of a PC.	1.161
IC690CBL701	Cables - PCM to IC640 or PC-XT Computer, 10 feet (3 meters)	1.83
IC690CBL702	Cables - PCM to PC-AT Computer, 10 feet (3 meters)	1.83
IC690CBL705	Cables - PCM to IC642 or PS/2 Computer, 10 feet (3 meters)	1.83
IC690CDR002	User Manuals, InfoLink CD-ROM Documentation, Single-user License	1.10
IC690CDR002	User Manuals, InfoLink CD-ROM Documentation, single-user license	1.58
IC690CDR002	User Manuals, InfoLink CD-ROM Documentation, Single-user License	1.83
IC690CDR002	User Manuals, InfoLink CD-ROM Documentation, single-user license	1.121
IC690CRG001	Battery charger. Compatible with rechargeable battery (IC690RBT001) only.	1.58
IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply	1.58
IC690PWR024	Field Power Supply 24 VDC 5 Amps	1.122
IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply	1.162
IC690PWR124	24 VDC, 10 Amp Output Power and 120/230 VAC Input Power Power Supply	1.162
IC690PWR124	24 VDC, 10 Amp Output Power and 120/230 VAC Input Power Power Supply	1.58
IC690PWR124	Field Power Supply 24 VDC 10 Amps	1.122
IC690RBK001	Rechargeable battery kit. Includes battery (IC690RBT001) and battery charger (IC690CRG001).	1.58

Product Number	Product Name	Page Number
IC690RBT001	Rechargeable battery is compatible with IC690CRG001 battery charger only.	1.58
IC693ACC300	DC Voltage Input Simulator, 8/16 Points	1.91
IC693ACC301	Replacement Battery, CPU and PCM (qty 2)	1.121
IC693ACC302	External High capacity battery pack. (1.3 years of continuous battery backup for CPU310/CMU310 and 1 month for CPU320/CRU320)	1.58
IC693ACC302	High capacity battery pack.	1.121
IC693ACC307	I/O Bus Terminator Plug	1.62
IC693ACC307	I/O Bus Terminator Plug	1.58
IC693ACC307	I/O Bus Terminator Plug	1.121
IC693ACC307	I/O Bus Terminator Plug	1.122
IC693ACC308	Rack Adaptor Bracket, Series 90-30 10 Slot to 19" (Front Mount)	1.121
IC693ACC310	Filler Module, Blank Slot	1.121
IC693ACC311	Series 90-30 style IC693 I/O modules Terminal Blocks, 20 terminals (qty 6)	1.58
IC693ACC311	Twenty Point Terminal Blocks (qty 6)	1.121
IC693ACC319	Spare Plastic Cases Parts Kit (I/O, CPU, PCM)	1.121
IC693ACC329	Interposing terminal block base for IC694MDL645, IC694MDL646, and IC694MDL240. The base can also be used with any 20 point terminal discrete or analog modules not listed.	1.59
IC693ACC329	Interposing terminal block base for IC693MDL645, IC693MDL646, and IC693MDL240. The base can also be used with any 20 point terminal discrete or analog modules not listed.	1.121
IC693ACC330	Interposing terminal block base for IC694MDL740 and IC694MDL742	1.59
IC693ACC330	Interposing terminal block base for IC693MDL740 and IC693MDL742	1.121
IC693ACC331	Interposing terminal block base for IC694MDL741	1.59
IC693ACC331	Interposing terminal block base for IC693MDL741	1.121
IC693ACC332	Interposing terminal block base for IC694MDL940	1.59
IC693ACC332	Interposing terminal block base for IC693MDL940	1.121
IC693ACC333	Interposing terminal block base for IC694MDL340	1.59
IC693ACC333	Interposing terminal block base for IC693MDL340	1.121
IC693ACC334	I/O module face plate adapter for 20 screw type I/O modules. Faceplate provides a 24 pin male Fujitsu connector	1.58
IC693ACC334	I/O module face plate adapter for 20 screw type I/O modules. Faceplate provides a 24 pin male Fujitsu connector	1.121
IC693ACC337	Interposing terminal block base for IC693MDL654/655/752/753 and IC694MDL654/655/752/753	1.59
IC693ACC337	Interposing terminal block base for IC693MDL654/655/752/753	1.121
IC693ALG220	Analog Input, Voltage, 4 Channel	1.94
IC693ALG221	Analog Input, Current, 4 Channel	1.94
IC693ALG222	Analog Input, Voltage, High Density (16 Channel)	1.94
IC693ALG223	Analog Input, Current, High Density (16 Channel)	1.94

Product Number	Product Name	Page Number
IC693ALG390	Analog Output, Voltage, 2 Channel	1.101
IC693ALG391	Analog Output, Current/Voltage, 2 Channel	1.101
IC693ALG392	Analog Current/Voltage Output, 8 Channel	1.101
IC693ALG442	Analog Current/Voltage Combination 4 Channel In/2 Channel Out	1.101
IC693APU300	Series 90-30 High Speed Counter	1.116
IC693APU305	Series 90-30 I/O Processor Module	1.116
IC693BEM320	Series 90-30 Communication, I/O Link Interface Module (Slave)	1.111
IC693BEM321	Series 90-30 Communication, I/O Link Interface Module (Master)	1.111
IC693BEM331	Series 90-30 I/O Bus Module, Genius Bus Controller	1.109
IC693CBL300	Cable, I/O Base Expansion, 1 Meter, Shielded	1.62
IC693CBL300	Cable, I/O Base Expansion, 1 Meter, Shielded	1.122
IC693CBL301	Cable, I/O Base Expansion, 2 Meters, Shielded	1.62
IC693CBL301	Cable, I/O Base Expansion, 2 Meters, Shielded	1.122
IC693CBL302	Cable, I/O Base Expansion, 15 Meters, Shielded with built in terminator.	1.62
IC693CBL302	Cable, I/O Base Expansion, 15 Meters, Shielded with built in terminator.	1.122
IC693CBL312	Cable, I/O Base Expansion, 0.15 Meters, Shielded	1.62
IC693CBL312	Cable, I/O Base Expansion, 0.15 Meters, Shielded	1.122
IC693CBL313	Cable, I/O Base Expansion, 8 Meters, Shielded	1.62
IC693CBL313	Cable, I/O Base Expansion, 8 Meters, Shielded	1.122
IC693CBL314	Cable, I/O Base Expansion, 15 Meters, Shielded with no built in terminator.	1.62
IC693CBL314	Cable, I/O Base Expansion, 15 Meters, Shielded with no built in terminator.	1.122
IC693CBL316	RS-232 cable for RX3i CPE305 programming port and also the Station Manager Cable for the Ethernet ETM001	1.58
IC693CBL316	Serial Cable for Programming (1 per system)	5.5
IC693CBL327	Cable, Left Side, One - 24 Pin 90 Degree Connector, 3 Meter.	1.59
IC693CBL327	Cable, Left Side, One - 24 Pin 90 Degree Connector, 3 Meter.	1.122
IC693CBL328	Cable, Right Side, One - 24 Pin 90 Degree Connector, 3 Meter.	1.59
IC693CBL328	Cable, Right Side, One - 24 Pin 90 Degree Connector, 3 Meter.	1.122
IC693CBL329	Cable, Left Side, One - 24 Pin 90 Degree Connector, 1 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	1.59
IC693CBL329	Cable, Left Side, One - 24 Pin 90 Degree Connector, 1 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	1.122
IC693CBL330	Cable, Right Side, One - 24 Pin 90 Degree Connector, 1 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	1.59
IC693CBL330	Cable, Right Side, One - 24 Pin 90 Degree Connector, 1 Meter. rom TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	1.122

Product Number	Product Name	Page Number
IC693CBL331	Cable, Left Side, One - 24 Pin 90 Degree Connector, 2 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	1.59
IC693CBL331	Cable, Left Side, One - 24 Pin 90 Degree Connector, 2 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	1.122
IC693CBL332	Cable, Right Side, One - 24 Pin 90 Degree Connector, 2 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	1.59
IC693CBL332	Cable, Right Side, One - 24 Pin 90 Degree Connector, 2 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	1.122
IC693CBL333	Cable, Left Side, One - 24 Pin 90 Degree Connector, 0.5 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	1.59
IC693CBL333	Cable, Left Side, One - 24 Pin 90 Degree Connector, 0.5 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	1.122
IC693CBL334	Cable, Right Side, One - 24 Pin 90 Degree Connector, 0.5 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	1.59
IC693CBL334	Cable, Right Side, One - 24 Pin 90 Degree Connector, 0.5 Meter. from TBQC I/O Face Plate Adapter to TBQC Interposing Terminal Block.	1.122
IC693CHS391	10-slot CPU Baseplate (Model 331 and above)	1.88
IC693CHS392	10-slot Expansion Baseplate (Model 331 and above)	1.88
IC693CHS393	RX3i serial 10-slot Remote Baseplate (serial bus only)	1.15
IC693CHS393	10-slot Remote Baseplate (Model 331 and above)	1.88
IC693CHS397	5-slot CPU Baseplate (Model 331 and above)	1.88
IC693CHS398	5-slot Expansion Baseplate (Model 331 and above)	1.88
IC693CHS399	RX3i serial 5-slot Remote Baseplate (serial bus only)	1.15
IC693CHS399	5-slot Remote Baseplate (Model 331 and above)	1.88
IC693CMM302	Series 90-30 Enhanced Genius Communications Module	1.110
IC693CMM311	Series 90-30 Communications Control Module	1.112
IC693CPU311	5-slot Baseplate (Model 311)	1.85
IC693CPU313	5-slot Baseplate (Model 313)	1.85
IC693CPU323	10-slot Baseplate (Model 323)	1.85
IC693CPU350	CPU (Model 350)	1.85
IC693CPU360	CPU (Model 360)	1.85
IC693CPU363	CPU (Model 363)	1.86
IC693CPU366	CPU (Model 366 with built-in Profibus Master)	1.86
IC693CPU367	CPU (Model 367 built-in Profibus Slave)	1.86
IC693CPU370	CPU (Model 370). Requires High Capacity Power Supply	1.87
IC693CPU372	CPU (Model 372 with built-in 10/100 Mbps Ethernet and WEB Enabled). Requires High Capacity Power Supply	1.87

Product Number	Product Name	Page Number	Product Number	Product Name	Page Number
IC693CPU374 PLUS	CPU (Model 374 PLUS with built-in 10/100 Mbps Ethernet and WEB Enabled). Requires High Capacity Power Supply	1.87	IC693MDL742	DC Voltage Output Module, 12/24 VDC Positive Logic ESCP, 1 A, 16 Point Output	1.98
IC693DNM200	Series 90-30 Communications Module, DeviceNet, Master	1.110	IC693MDL748	DC Voltage Output Module, 48/24 VDC Positive Logic, 0.5 A, 8 Point Output	1.98
IC693DNS201	Series 90-30 Communications Module, DeviceNet, Slave	1.110	IC693MDL752	DC Voltage Output Module, 5/24 VDC (TTL) Negative Logic, 0.5 A, 32 Point	1.98
IC693DSM314	Series 90-30 Digital Servo Module, 4-Axis (Fiber Optic Interface to Amplifiers)	1.117	IC693MDL753	DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5 A, 32 Point Output	1.98
IC693DSM324	Series 90-30 Digital Servo Module, 4-Axis	1.117	IC693MDL754	DC Voltage Output Module, 12/24 VDC Positive Logic, 0.75 A with ESCP protection, 32 Point Output	1.98
IC693MAR590	AC/DC Voltage I/O Module, AC In/Relay Out N.O.	1.99	IC693MDL760	RX3i Solenoid Module	1.56
IC693MDL230	AC Voltage Input Module, 120 VAC Isolated, 8 Point Input	1.91	IC693MDL760	Series 90-30 Solenoid Module	1.114
IC693MDL231	AC Voltage Input Module, 240 VAC Isolated, 8 Point Input	1.91	IC693MDL916	AC/DC Voltage Output Module, Relay, N.O., 4 A Isolated, 16 Point Output	1.99
IC693MDL240	AC Voltage Input Module, 120 VAC, 16 Point Input	1.91	IC693MDL930	AC/DC Voltage Output Module, Relay, N.O., 4 A Isolated, 8 Point Output	1.98
IC693MDL241	AC/DC Voltage Input Module, 24 VAC/VDC	1.92	IC693MDL931	AC/DC Voltage Output Module, Relay, N.C. and Form C, 8 A Isolated, 8 Point Out	1.99
IC693MDL250	PACSystems RX3i AC Voltage Input Module, 120 VAC Isolated, 16 Point Input	1.91	IC693MDL940	AC/DC Voltage Output Module, Relay, N.O., 2 A, 16 Point Output	1.99
IC693MDL260	AC Voltage Input Module, 120 VAC, 32 Point Input	1.92	IC693MDR390	AC/DC Voltage Output Module, 24 VDC Input, Relay Output, 8 In/8 Out	1.99
IC693MDL310	AC Voltage Output Module, 120 VAC, 0.5 A, 12 Point Output	1.96	IC693MLX000	Spare Series 90-30 I/O Modules Label Kit (various quantities)	1.121
IC693MDL330	AC Voltage Output Module, 120/240 VAC, 1 A, 8 Point Output	1.96	IC693NIU004	Series 90-30 Ethernet Remote I/O Expansion (Slave)	1.57
IC693MDL340	AC Voltage Output Module, 120 VAC, 0.5 A, 16 Point Output	1.96	IC693NIU004	Ethernet Remote I/O Expansion (Slave)	1.118
IC693MDL350	AC Voltage Output Module, 120 VAC Isolated, 2 A, 16 Point Output	1.96	IC693PBM200	Communications Module, Profibus-DP Module (Master)	1.109
IC693MDL390	AC Voltage Output Module, 120/240 VAC Isolated, 2 A, 5 Point Output	1.96	IC693PBS201	Communications Module, Profibus-DP Module (Slave)	1.109
IC693MDL632	DC Voltage Input Module, 125 VDC Pos/Neg Logic, 8 Point Input	1.92	IC693PCM301	Series 90-30, Programmable Coprocessor Module, 192 KB (47 KB Basic Prgm)	1.115
IC693MDL634	DC Voltage Input Module, 24 VDC Pos/Neg Logic, 8 Point Input	1.92	IC693PCM311	Series 90-30, Programmable Coprocessor Module, 640 KB (190 KB Basic Prgm)	1.115
IC693MDL645	DC Voltage Input Module, 24 VDC Pos/Neg Logic, 16 Point Input	1.92	IC693PTM101	Power Transduce Module Processing Module interface board	1.55
IC693MDL646	DC Voltage Input Module, 24 VDC Pos/Neg Logic, FAST, 16 Point Input	1.93	IC693PTM101	Power Transduce Module Processing Module interface board	1.113
IC693MDL648	DC Voltage Input Module, 48 VDC Pos/Neg Logic, FAST, 16 Point Input	1.93	IC693PWR321	Power Supply, 120/240 VAC, 125 VDC	1.89
IC693MDL654	DC Voltage Input Module, 5/12 VDC (TTL) Pos/Neg Logic, 32 Point	1.93	IC693PWR328	Power Supply, 48 VDC	1.18
IC693MDL655	DC Voltage Input Module, 24 VDC Pos/Neg Logic, 32 Point Input	1.93	IC693PWR328	Power Supply, 48 VDC	1.90
IC693MDL660	DC Voltage Input Module, 24 VDC Pos/Neg Logic, 32 Point Input	1.93	IC693PWR330	Power Supply, 120/240 VAC, 125 VDC	1.89
IC693MDL730	DC Voltage Output Module, 12/24 VDC Positive Logic, 2 A, 8 Point Output	1.96	IC693PWR331	Power Supply, 24 VDC	1.89
IC693MDL731	DC Voltage Output Module, 12/24 VDC Negative Logic, 2 A, 8 Point Output	1.97	IC693PWR332	Power Supply, 12 VDC	1.17
IC693MDL732	DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5 A, 8 Point Output	1.97	IC693PWR332	Power Supply, 12 VDC	1.89
IC693MDL733	DC Voltage Output Module, 12/24 VDC Negative Logic, 0.5 A, 8 Point Output	1.97	IC693TCM302	RX3i Temperature Control Module, (8) T/C, (1) RTD and (8) 24 VDC Output	1.43
IC693MDL734	DC Voltage Output Module, 125 VDC Pos/Neg Logic, 6 Point Output	1.97	IC693TCM302	Series 90-30 Temperature Control Module, (8) T/C, (1) RTD and (8) 24 VDC Output	1.106
IC693MDL740	DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5 A, 16 Point Output	1.97	IC693TCM303	RX3i Temperature Control Module, Extended Range, (8) T/C, (1) RTD and (8) 24 VDC Output	1.43
IC693MDL741	DC Voltage Output Module, 12/24 VDC Negative Logic, 0.5 A, 16 Point Output	1.97	IC693TCM303	Temperature Control Module, Extended Range, 8 T/C, 1RTD and 8 24 VDC Output	1.106
			IC694ACC300	RX3i DC Voltage Input Simulator, 8/16 Points	1.19
			IC694ACC310	Filler Module, Blank Slot	1.58
			IC694ACC311	Terminal blocks, 20 terminals (qty 6) for IC694xxx low density modules	1.58
			IC694ALG220	RX3i Analog Input, Voltage, 4 Channel	1.25

Product Number	Product Name	Page Number
IC694ALG221	RX3i Analog Input, Current, 4 Channel	1.25
IC694ALG222	RX3i Analog Input, Voltage, High Density (16 Channel)	1.25
IC694ALG223	RX3i Analog Input, Current, High Density (16 Channel)	1.25
IC694ALG232	RX3i Analog Input, Voltage, High Density (16 Channel) 16 Bit with advanced diagnostics	1.22
IC694ALG233	RX3i Analog Input, Current, High Density (16 Channel) 16 Bit with advanced diagnostics	1.22
IC694ALG390	RX3i Analog Output, Voltage, 2 Channel	1.34
IC694ALG391	RX3i Analog Output, Current, 2 Channel	1.34
IC694ALG392	RX3i Analog Output, Current/Voltage, 8 Channel	1.32
IC694ALG442	RX3i Analog Current/Voltage Combination 4 Channel In/2 Channel Out, 12 bit	1.36
IC694ALG542	RX3i Analog Current/Voltage Combination 4 Channel In/2 Channel Out, 16 bit with advanced diagnostics	1.36
IC694APU300	RX3i High Speed Counter	1.51
IC694APU305	RX3i I/O Processor Module	1.51
IC694BEM331	RX3i Genius Bus Controller	1.49
IC694CBL005	.5 meter Cable between IC694TBC032 and IC694RTB032	1.59
IC694CBL010	1.0 meter Cable between IC694TBC032 and IC694RTB032	1.59
IC694CBL030	3.0 meter Cable between IC694TBC032 and IC694RTB032	1.59
IC694CBL130	3 meter Cable with IC694TBC032 connector on one end and open wire on other end	1.59
IC694CHS392	RX3i serial 10-slot Expansion Baseplate (serial bus only)	1.15
IC694CHS398	RX3i serial 5-slot Expansion Baseplate (serial bus only)	1.15
IC694DNM200	RX3i DeviceNet Master Module	1.49
IC694DSM314	RX3i Digital Servo Module, 4-Axis	1.54
IC694DSM324	RX3i Digital Servo Module, 4-Axis (Fiber Optic Interface to Amplifiers)	1.54
IC694MDL230	RX3i AC Voltage Input Module, 120 VAC Isolated, 8 Point Input	1.19
IC694MDL231	RX3i AC Voltage Input Module, 240 VAC Isolated, 8 Point Input	1.19
IC694MDL240	RX3i AC Voltage Input Module, 120 VAC, 16 Point Input	1.19
IC694MDL241	AC/DC Voltage Input Module, 24 VAC/VDC	1.20
IC694MDL250	RX3i AC Voltage Input Module, 120 VAC Isolated, 16 Point Input	1.19
IC694MDL260	RX3i AC Voltage Input Module, 120 VAC, 32 Point Input	1.20
IC694MDL310	RX3i AC Voltage Output Module, 120 VAC, 0.5 A, 12 Point Output	1.27
IC694MDL330	RX3i AC Voltage Output Module, 120/240 VAC, 1 A, 8 Point Output	1.27
IC694MDL340	RX3i AC Voltage Output Module, 120 VAC, 0.5 A, 16 Point Output	1.27
IC694MDL350	RX3i AC Voltage Output Module, 120/240 AC Isolated, 2 A, 16 Point Output	1.28
IC694MDL390	RX3i AC Voltage Output Module, 120/240 VAC Isolated, 2 A, 5 Point Output	1.27
IC694MDL632	RX3i DC Voltage Input Module, 125 VDC Pos/Neg Logic, 8 Point Input	1.20

Product Number	Product Name	Page Number
IC694MDL634	RX3i DC Voltage Input Module, 24 VDC Pos/Neg Logic, 8 Point Input	1.20
IC694MDL645	RX3i DC Voltage Input Module, 24 VDC Pos/Neg Logic, 16 Point Input	1.20
IC694MDL646	RX3i DC Voltage Input Module, 24 VDC Pos/Neg Logic, FAST, 16 Point Input	1.21
IC694MDL654	RX3i DC Voltage Input Module, 5/12 VDC (TTL) Pos/Neg Logic, 32 Point	1.21
IC694MDL655	RX3i DC Voltage Input Module, 24 VDC Pos/Neg Logic, 32 Point Input	1.21
IC694MDL660	RX3i DC Voltage Input Module, 24 VDC Pos/Neg Logic, 32 Point Input	1.21
IC694MDL732	RX3i DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5 A, 8 Point Output	1.28
IC694MDL734	RX3i DC Voltage Output Module, 125 VDC Pos/Neg Logic, 6 Point Output	1.28
IC694MDL740	RX3i DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5 A, 16 Point Output	1.28
IC694MDL741	RX3i DC Voltage Output Module, 12/24 VDC Negative Logic, 0.5 A, 16 Point Output	1.29
IC694MDL742	RX3i DC Voltage Output Module, 12/24 VDC Positive Logic ESCP, 1 A, 16 Point Output	1.29
IC694MDL752	RX3i DC Voltage Output Module, 5/24 VDC (TTL) Negative Logic, 0.5 A, 32 Point	1.29
IC694MDL753	RX3i DC Voltage Output Module, 12/24 VDC Positive Logic, 0.5 A, 32 Point Output	1.29
IC694MDL754	RX3i DC Voltage Output Module, 12/24 VDC Positive Logic with ESCP (Self Healing), 0.75 A, 32 Point Output	1.30
IC694MDL916	RX3i AC/DC Voltage Output Module, Relay, N.O., 4 A Isolated, 16 Point Output	1.30
IC694MDL930	RX3i AC/DC Voltage Output Module, Relay, N.O., 4 A Isolated, 8 Point Output	1.30
IC694MDL931	RX3i AC/DC Voltage Output Module, Relay, N.C. and Form C, 8 A Isolated, 8 Point Out	1.30
IC694MDL940	RX3i AC/DC Voltage Output Module, Relay, N.O., 2 A, 16 Point Output	1.31
IC694PSM101	Power Synchronization and Measurement Module and Interface Module (a panel mounted enclosure).	1.55
IC694PWR321	Power Supply, 120/240 VAC, 125 VDC	1.17
IC694PWR330	Power Supply, 120/240 VAC, 125 VDC	1.17
IC694PWR331	Power Supply, 24 VDC	1.17
IC694RTB032	Remote Terminal Block 36 Pin DIN Rail mount	1.59
IC694TBB032	High Density 32 Point Terminal Block Box Style	1.58
IC694TBB032	High Density 32 Point Terminal Block Box Style	1.121
IC694TBB032	High Density 36 point Captive Screw Terminals	5.1
IC694TBB132	High Density 32 Point Terminal Block Box Style with Extended Shroud for Large Wiring Bundles	1.58
IC694TBB132	High Density 32 Point Terminal Block Box Style with Extended Shroud for Large Wiring Bundles	1.121
IC694TBB132	High Density Captive Screw Terminals, Extended Shroud	5.1
IC694TBC032	High Density 32 Point Terminal Block with a 40 pin Fujitsu connector. Compatible with DC Inputs, Analog Modules only. Not compatible with DC or AC output modules.	1.58

Product Number	Product Name	Page Number
IC694TBC032	High Density 32 Point Terminal Block with a 40 pin Fujitsu connector. Compatible with DC Inputs, Analog Modules only. Not compatible with DC or AC output modules.	1.59
IC694TBS032	High Density 36 point Spring Clip Terminals	5.1
IC694TBS032	High Density 32 Point Terminal Block Spring Style	1.58
IC694TBS032	High Density 32 Point Terminal Block Spring Style	1.121
IC694TBS132	High Density 32 Point Terminal Block Spring Style with Extended Shroud for Large Wiring Bundles	1.58
IC694TBS132	High Density 32 Point Terminal Block Spring Style with Extended Shroud for Large Wiring Bundles	1.121
IC694TBS132	High Density Spring Clip Terminals, Extended Shroud	5.1
IC695ACC400	CPE305 and CPE310 CPU Battery-less Energy Pack for backing up dynamic data	1.58
IC695ACC600	RX3i Cold Junction Compensation Kit (Contains 2 CJC's) for Universal Analog and Thermocouple Input Modules	1.58
IC695ALG106	RX3i Isolated Analog Input. Configurable per channel for Current or Voltage. High Density (6 Isolated Channels)	1.24
IC695ALG112	RX3i Isolated Analog Input. Configurable per channel for Current or Voltage. High Density (12 Isolated Channels)	1.24
IC695ALG306	Isolated Thermocouple Input module provides six isolated differential thermocouple input channels. Each channel can be individually configured for inputs from: Thermocouple types: J, K, T, E, R, S, B, N, or C and Voltage: +/-150mV or +/-50mV.	1.44
IC695ALG306 Millivolt	Isolated Thermocouple Input module provides six isolated differential thermocouple input channels. Each channel can be individually configured for inputs from: Thermocouple types: J, K, T, E, R, S, B, N, or C and Voltage: +/-150mV or +/-50mV.	1.37
IC695ALG306 Strain Gage	Isolated Thermocouple Input module provides six isolated differential thermocouple input channels. Each channel can be individually configured for inputs from: Thermocouple types: J, K, T, E, R, S, B, N, or C and Voltage: +/-150mV or +/-50mV.	1.41
IC695ALG312	Isolated Thermocouple Input module provides twelve isolated differential thermocouple input channels. Each channel can be individually configured for inputs from: Thermocouple types: J, K, T, E, R, S, B, N, or C and Voltage: +/-150mV or +/-50mV.	1.44
IC695ALG312 Millivolt	Isolated Thermocouple Input module provides twelve isolated differential thermocouple input channels. Each channel can be individually configured for inputs from: Thermocouple types: J, K, T, E, R, S, B, N, or C and Voltage: +/-150mV or +/-50mV.	1.38
IC695ALG312 Strain Gage	Isolated Thermocouple Input module provides twelve isolated differential thermocouple input channels. Each channel can be individually configured for inputs from: Thermocouple types: J, K, T, E, R, S, B, N, or C and Voltage: +/-150mV or +/-50mV.	1.41
IC695ALG412	Isolated Thermocouple Input module provides twelve isolated differential thermocouple input channels. Each channel can be individually configured for inputs from: Thermocouple types: J, K, T, E, R, S, B, N, or C and Voltage: +/-50mV. The ALG412 offers a 10dB improvement in noise rejection compared to the ALG312 thermocouple input module.	1.44

Product Number	Product Name	Page Number
IC695ALG412	Isolated Thermocouple Input module provides twelve isolated differential thermocouple input channels. Each channel can be individually configured for inputs from: Thermocouple types: J, K, T, E, R, S, B, N, or C and Voltage: +/-50mV. The ALG412 offers a 10dB improvement in noise rejection compared to the ALG312 thermocouple input module.	1.42
IC695ALG508 Resistive	Isolated Resistive Input module (also supports RTD) provides eight isolated differential Resistive or RTD input channels. Each channel can be individually configured for 2, 3, 4 wire RTD or Resistance.	1.47
IC695ALG508 RTD	Isolated RTD Input module (also supports Resistive) provides eight isolated differential Resistive or RTD input channels. Each channel can be individually configured for 2, 3, 4 wire RTD or Resistance.	1.39
IC695ALG600	Universal Analog and configurable for Current, Voltage, RTD, Thermocouple and Resistive. High Density (8 Channel) Requires Cold Junction Compensation are available for Thermocouple configurations (IC695ACC600 contains 2 CJC's)	1.22
IC695ALG600 Millivolt	Universal Analog and configurable for Current, Voltage, RTD, Thermocouple and Resistive. High Density (8 Channel) Requires Cold Junction Compensation are available for Thermocouple configurations (IC695ACC600 contains 2 CJC's)	1.37
IC695ALG600 Resistive	Universal Analog and configurable for Current, Voltage, RTD, Thermocouple and Resistive. High Density (8 Channel) Requires Cold Junction Compensation are available for Thermocouple configurations (IC695ACC600 contains 2 CJC's)	1.47
IC695ALG600 RTD	Universal Analog and configurable for Current, Voltage, RTD, Thermocouple and Resistive. High Density (8 Channel) Requires Cold Junction Compensation are available for Thermocouple configurations (IC695ACC600 contains 2 CJC's)	1.39
IC695ALG600 Strain Gage	Universal Analog and configurable for Current, Voltage, RTD, Thermocouple and Resistive. High Density (8 Channel) Requires Cold Junction Compensation are available for Thermocouple configurations (IC695ACC600 contains 2 CJC's)	1.41
IC695ALG600 Thermocouple	Universal Analog and configurable for Current, Voltage, RTD, Thermocouple and Resistive. High Density (8 Channel) Requires Cold Junction Compensation are available for Thermocouple configurations (IC695ACC600 contains 2 CJC's)	1.44
IC695ALG608	RX3i Analog Input. Configurable per channel for Current or Voltage. High Density (8 Channel)	1.23
IC695ALG616	RX3i Analog Input. Configurable per channel for Current or Voltage. High Density (16 Channel)	1.23
IC695ALG626	RX3i Analog Input with HART Communications. Configurable per channel for Current or Voltage. High Density (16 Channel)	1.24
IC695ALG628	RX3i Analog Input with HART Communications. Configurable per channel for Current or Voltage. High Density (8 Channel)	1.23
IC695ALG704	RX3i Analog Output, Current/Voltage, 4 Channel	1.32
IC695ALG708	RX3i Analog Output, Current/Voltage, 8 Channel	1.33
IC695ALG728	RX3i Analog Output with HART Communications, Current/Voltage, 8 Channel	1.33

Product Number	Product Name	Page Number
IC695ALG808	RX3i Isolated Analog Output, Current/Voltage, 8 Isolated Channels	1.34
IC695CBL001	Energy Pack Cable	1.58
IC695CHS007	RX3i 7 slot high speed controller base supports only 5 serial bus slots supported. Not expandable.	1.15
IC695CHS012	RX3i 12 slot high speed controller base supports PCI and serial bus	1.15
IC695CHS016	RX3i 16 slot high speed controller base supports PCI and serial bus	1.15
IC695CMM002	Two Port Serial Module	1.50
IC695CMM004	Four Port Serial Module	1.50
IC695CMX128	RX3i Control Memory Xchange Module for Peer to Peer network. 128Megbytes of user shared memory.	1.48
IC695CPE305	RX3i CPU with built-in USB Master port, Ethernet port and serial port	1.12
IC695CPE310	RX3i CPU with built-in USB Master port, Ethernet port and 2 serial port	1.12
IC695CPU315	RX3i CPU with two built-in serial ports	1.12
IC695CPU320	RX3i CPU with two built-in serial ports	1.12
IC695CRU320	RX3i Bumpless Redundant High Availability CPU with two built-in serial ports. (Requires IC695RMX128 Data Sync Module)	1.13
IC695CRU320QP	QuadPAC CPU for RX3i Bumpless Redundant High Availability CPU with two built-in serial ports. (Requires IC695RMX128 Data Sync Module AND Quad Redundancy Solution Code)	1.13
IC695DEM001	RX3i Power PACKage 1 Demo Case that includes CPU, P/S, discrete I/O and analog I/O, high speed counter, Ethernet and analog simulator. CIMPLICITY Machine Edition Professional Edition included.	1.62
IC695DEM002	RX3i Power PACKage 2 Demo Case that includes RX3i and QP Control/View. Includes CPU, P/S, discrete I/O and analog I/O, Ethernet, analog simulator, 6" TFT QuickPanel View/Control. CIMPLICITY Machine Edition Professional Edition included.	1.62
IC695DEM004	Beta i Series 1-Axis Motion Demo Case. Demo case is a self contained table top demo that includes a DSM324i module, Beta i motor and amplifier prewired for connection to a DSM324i motion module. The cables (1 meter) for connection to the DSM324i 5 V I/O and FSSB fiber optic command interface are included. Demo includes an E-stop push button and toggle switches for 5 DSM324i I/O points.	1.62
IC695ETM001	RX3i Ethernet TCP/IP 10/100Mbps, two RJ-45 ports with built-in switch	1.48
IC695FTB001	PACMotion I/O Fiber Terminal Block	1.53
IC695FTB001	Optional Fiber Terminal Block (without terminal headers)	5.5, 5.12, 5.13
IC695FTB1B032	Optional Fiber I/O Terminal Block (with screw terminal headers)	5.5
IC695FTB1B132	Optional Fiber I/O Terminal Block (with extended shroud screw terminal headers)	5.5
IC695FTB1S032	Optional Fiber I/O Terminal Block (with spring clip terminal headers)	5.5
IC695FTB1S132	Optional Fiber I/O Terminal Block (with extended shroud spring clip terminal headers)	5.5
IC695HSC304	RX3i High Speed Counter	1.51
IC695HSC308	RX3i High Speed Counter	1.51

Product Number	Product Name	Page Number
IC695LRE001	RX3i Expansion Module	1.57
IC695MDL664	RX3i DC Voltage Input Module, 24 VDC Positive Logic, Advanced Diagnostics, 16 Point Input	1.21
IC695MDL765	RX3i DC Voltage Output Module, 24/125 volt DC 2 A Smart Digital Output module, 16 Point Output	1.30
IC695NKT001	RX3i Ethernet Remote I/O Expansion Kit. Kit includes a NIU001 with two built-in serial ports and ETM001	1.57
IC695PBM300	RX3i Profibus Master Module, Supports DPV1 Class 1 and Class 2.	1.48
IC695PBS301	RX3i Profibus Slave Module, Supports DPV1 Class 1 and Class 2.	1.49
IC695PMM335	PACMotion Module	1.52
IC695PMM335	PACMotion Motion Controller for RX3i	5.5
IC695PNC001	PROFINET Controller (PNC) module, connects a PACSystems RX3i controller to a high-speed PROFINET local area network. It enables the RX3i controller to communicate with IO-Devices on the LAN.	1.48
IC695PRS015	Pressure Transducer Module supporting Honeywell LG1237 Smart Sensors	1.50
IC695PSA040	Power Supply, 120/240 VAC, 125 VDC (Can not be on the same backplane with more than one power supply)	1.16
IC695PSA140	Multipurpose Power Supply, 120/240 VAC, 125VDC. Supports multiple multipurpose power supplies.	1.16
IC695PSD040	Power Supply, 24 VDC (Can not be on the same backplane with more than one power supply)	1.16
IC695PSD140	Multipurpose Power Supply, 24 VDC. Supports multiple multipurpose power supplies.	1.16
IC695RMX128	RX3i Control Memory Xchange Module for Peer to Peer network. 128Megbytes of user shared memory.	1.14
IC695STK001	RX3i Controller PACKage 1 Starter Kit includes RX3i with software. (includes one each IC695CPU305, IC695CHS012, IC695LRE001,	1.61
IC695STK002	RX3i with Control and View. Power PACKage 2 Starter Kit includes RX3i and QuickPanel View 6" STD with software.	1.61
IC695STK003	RX3i, The Complete PACKage with Control, Motion and View. Power PACKage 3 Starter Kit includes RX3i, motion module	1.61
IC695STK004	RX3i Power PACKage 4 Starter Kit includes (one each IC695CPU305, IC695CHS012, IC695PSA040, IC695ETM001, IC646MPP101)	1.61
IC695STK005	RX3i Power PACKage 5 Starter Kit includes (one each IC695CPU305, IC695CHS012, IC695PSA040, IC646MPP101)	1.61
IC695STK006	RX3i Power PACKage 6 Starter Kit includes (one each IC695CPU305, IC695CHS012, IC695PSD040, IC695ETM001, IC646MPP101)	1.61
IC695STK007	RX3i Power PACKage 7 Starter Kit includes (one each IC695CPU305, IC695CHS012, IC695PSD040, IC646MPP101)	1.61
IC695STK010	RX3i Profinet Power PACKage 10. Kit includes CPE305, 7 slot base, AC power supply, input and output module, Profinet controller, VersaMax Profinet slave, combination I/O and Proficy Machine Edition. (one each IC695CPU305, IC695CHS007, IC695PSA040, IC694ACC300, IC694MDL740, IC200PNS001, IC200PWR102, IC200MDD844, IC200ACC302, IC200CHS002, IC646MPP101)	1.61

Product Number	Product Name	Page Number
IC697ACC621	Short Rack Fan Assembly, 120 VAC	1.10
IC697ACC624	Short Rack Fan Assembly, 240 VAC	1.10
IC697ACC644	Short Rack Fan Assembly, 24 VDC	1.10
IC697ACC700	Terminal Block, 40 Contacts (qty 6)	1.83
IC697ACC701	Replacement Battery	1.10
IC697ACC701	Replacement Battery for CPU and PCM (qty 2)	1.83
IC697ACC702	I/O Bus Terminator Plug	1.83
IC697ACC715	VME Option Kit, J2 Backplane Mounting	1.83
IC697ACC720	Gasketed Filler Faceplate, Double-width	1.10
IC697ACC720	Blank Slot Filler (qty 6)	1.83
IC697ACC721	Rack Fan Assembly, 120 VAC	1.10
IC697ACC721	Rack Fan Assembly, 120 VAC	1.83
IC697ACC722	VME Backplane Connector, Interrupt Jumper (qty 6)	1.83
IC697ACC723	Clear Plastic Doors (qty 6)	1.83
IC697ACC724	Rack Fan Assembly, 240 VAC	1.10
IC697ACC724	Rack Fan Assembly, 240 VAC	1.83
IC697ACC725	CPU-style Painted Door, Blank (qty 6)	1.83
IC697ACC726	Top PWA Cover, CPU-style (qty 6)	1.83
IC697ACC727	Top and Bottom PWA Cover, GBC (qty 2)	1.83
IC697ACC728	Top and Bottom PWA Cover, BTM/BTR (qty 2)	1.83
IC697ACC729	Top and Bottom PWA Cover, I/O Link (qty 2)	1.83
IC697ACC730	Spare Slot Terminal Strip Retainer	1.83
IC697ACC732	Top PWA Cover, CPU77x and CPU78x (qty 2)	1.83
IC697ACC735	Gasketed Filler Faceplate, Single-width	1.10
IC697ACC736	Cable Shield Clamping Assembly	1.10
IC697ACC736	Cable Shield Clamping Assembly	1.83
IC697ACC744	Rack Fan Assembly, 24 VDC	1.10
IC697ACC744	Rack Fan Assembly, 24 VDC	1.83
IC697BEM711	Bus Receiver Module	1.8
IC697BEM711	Bus Receiver Module	1.81
IC697BEM713	Bus Transmitter Module	1.8
IC697BEM713	Bus Transmitter Module	1.81
IC697BEM731	Genius Bus Controller	1.8
IC697BEM731	Genius Bus Controller	1.81
IC697BEM733	Remote I/O Scanner	1.8
IC697BEM733	Remote I/O Scanner	1.81
IC697CBL709	Cable, MAP Controller to Broadband Modem	1.83
IC697CBL811	Cable, RCM Communications (10 feet) I/O Expansion Cable	1.83
IC697CBL826	Cable, RCM Communications (25 feet) I/O Expansion Cable	1.83
IC697CHS750	Standard Series 90-70 Rack, 5-slot, Rear (Panel) Mount	1.78
IC697CHS770	Redundant Series 90-70 Rack, 9-Slot, Rear (Panel) Mount	1.78
IC697CHS771	Redundant Series 90-70 Rack, 9-Slot, Front (Rack) Mount	1.78
IC697CHS782	VME Integrator Rack, 17-slot, Rear (Panel) Mount	1.79
IC697CHS783	VME Integrator Rack, 17-slot, Front (Rack) Mount	1.79

Product Number	Product Name	Page Number
IC697CHS790	Standard Series 90-70 Rack, 9-slot, Rear (Panel) Mount	1.78
IC697CHS791	Standard Series 90-70 Rack, 9-slot, Front (Rack) Mount	1.79
IC697CMM742	Ethernet Interface (Type 2) Module	1.82
IC697CPM790	Central Processing Unit, 64 MHz, 32-Bit, Floating Point, 1 Mbyte On-Board User Memory, (requires 70 CFM forced air cooling)	1.77
IC697MLX000	Series 90-70 Labels Kit	1.83
IC697PWR710	Power Supply, 120/240 VAC or 125 VDC, 55W	1.80
IC697PWR711	Power Supply, 120/240 VAC or 125 VDC, 100W	1.80
IC697PWR724	Power Supply, 24 VDC, 90W	1.80
IC697PWR748	Power Supply, 48 VDC, 90W	1.80
IC698ACC701	Lithium Batter pack that installs in CPU for CPU310 and CMU310 only (28 days of continuous battery backup)	1.58
IC698CHS009	Standard PACSystems 9-slot Wall (Rear) Mount	1.6
IC698CHS017	Standard PACSystems 18-slot Wall (Rear) Mount	1.6
IC698CHS109	Standard PACSystems 9-slot Wall (Panel) Mount	1.6
IC698CHS117	Standard PACSystems 18-slot Wall (Panel) Mount	1.6
IC698CHS217	PACSystems 17-slot Wall (Rear) Mount, Rear I/O Access	1.6
IC698CMX016	Control Memory Xchange Module	1.9
IC698CPE020	Central Processing Unit, 700 MHz, Floating Point	1.4
IC698CPE030	Central Processing Unit, 600 MHz with Embedded 10/100 Ethernet	1.5
IC698CPE040	Central Processing Unit, 1.8 GHz with Embedded 10/100 Ethernet	1.5
IC698CRE020	Redundancy Central Processing Unit, 700 MHz, Floating Point	1.4
IC698CRE030	Redundancy Central Processing Unit, 600 MHz with Embedded 10/100 Ethernet	1.5
IC698CRE040	Redundancy Central Processing Unit, 1.8 GHz with Embedded 10/100 Ethernet	1.5
IC698ETM001	RX7i Standalone Ethernet Module 10/100	1.9
IC698PSA100	PACSystems Power Supply, 100 W	1.7
IC698PSA350	PACSystems Power Supply, 350 W	1.7
IC698PSD300	PACSystems Power Supply, 300 W	1.7
IC698RMX016	Redundancy Memory Xchange Module	1.9
IC752DDZ000	VersaMax DP Operator Interface DataDesigner editor	1.162
IC754ABD001	Data Highway Plus communication card for QuickPanel View	4.26
IC754ABD001	Data Highway Plus communication card for QuickPanel View	4.33
IC754ACC06BEZ01	Stainless Steel Bezel for 6 Inch Mono and TFT-Color QuickPanel Control	4.9
IC754ACC06BEZ01	Stainless Steel Bezel for 6 Inch Mono and TFT-Color QuickPanel Control	4.14
IC754ACC06BEZ01	Stainless Steel Bezel for 6 Inch Mono and TFT-Color QuickPanel View	4.26
IC754ACC06BEZ01	Stainless Steel Bezel for 6 Inch Mono and TFT-Color QuickPanel View	4.33

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IC754ACC06BEZ02	Stainless Steel Bezel for 6 Inch STN-Color Display	4.9
IC754ACC06BEZ02	Stainless Steel Bezel for 6 Inch STN-Color QuickPanel View	4.26
IC754ACC06BEZ02	Stainless Steel Bezel for 6 Inch STN-Color QuickPanel View	4.33
IC754ACC06GAS	Gasket for 6 Inch QuickPanel Control	4.9
IC754ACC06GAS	Gasket for 6 Inch QuickPanel View	4.26
IC754ACC06GASE	Gasket for 6 Inch QuickPanel Control	4.14
IC754ACC06GASE	Gasket for 6 Inch QuickPanel View	4.33
IC754ACC06MNT	Mounting Clips and Power Connector for 6 Inch QuickPanel Control	4.9
IC754ACC06MNT	Mounting Clips and Power Connector for 6 Inch QuickPanel View	4.26
IC754ACC06MNTE	Mounting Clips and Power Connector for 6 Inch QuickPanel Control	4.14
IC754ACC06MNTE	Mounting Clips and Power Connector for 6 Inch QuickPanel View	4.33
IC754ACC08ADP	8 Inch Adapter Kit to accommodate 9 Inch Legacy Quick Panel Cut-out	4.9
IC754ACC08ADP	Adaptor Kit for 8 Inch QuickPanel View into 9" panel	4.26
IC754ACC08ADP	Adaptor Kit for 8 Inch QuickPanel View into 9" panel	4.33
IC754ACC12ADP	Adaptor Kit for 12 Inch QuickPanel Control into CEIIX Cut-out	4.9
IC754ACC12ADP	Adaptor Kit for 12 Inch QuickPanel Control into CEIIX Cut-out	4.14
IC754ACC12ADP	Adaptor Kit for 12 Inch QuickPanel View into CEIIX Cut-out	4.26
IC754ACC12ADP	Adaptor Kit for 12 Inch QuickPanel View into CEIIX Cutout	4.33
IC754ACC12BEZ01	Stainless Steel Bezel for 12 Inch TFT-Color QuickPanel Control	4.9
IC754ACC12BEZ01	Stainless Steel Bezel for 12 Inch TFT-Color QuickPanel Control	4.14
IC754ACC12BEZ01	Stainless Steel Bezel for 12 Inch TFT-Color QuickPanel View	4.26
IC754ACC12BEZ01	Stainless Steel Bezel for 12 Inch TFT-Color QuickPanel View	4.33
IC754ACC12GAS	Gasket for 12 Inch QuickPanel Control	4.9
IC754ACC12GAS	Gasket for 12 Inch QuickPanel Control	4.14
IC754ACC12GAS	Gasket for 12 Inch QuickPanel View	4.26
IC754ACC12GAS	Gasket for 12 Inch QuickPanel View	4.33
IC754ACC12MNT	Mounting Clips and Power Connector for 12 Inch QuickPanel Control	4.9
IC754ACC12MNT	Mounting Clips and Power Connector for 12 Inch QuickPanel Control	4.14
IC754ACC12MNT	Mounting Clips and Power Connector for 12 Inch QuickPanel View	4.26
IC754ACC12MNT	Mounting Clips and Power Connector for 12 Inch QuickPanel View	4.33
IC754ACC15GAS	Gasket for 15 Inch QuickPanel Control	4.9
IC754ACC15GAS	Gasket for 15 Inch QuickPanel Control	4.14
IC754ACC15GAS	Gasket for 15 Inch QuickPanel View	4.26
IC754ACC15GAS	Gasket for 15 Inch QuickPanel View	4.33
IC754ACC15MNT	Mounting Clips and Power Connector for 15 Inch QuickPanel Control	4.9
IC754ACC15MNT	Mounting Clips and Power Connector for 15 Inch QuickPanel Control	4.14

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IC754ACC15MNT	Mounting Clips and Power Connector for 15 Inch QuickPanel View	4.26
IC754ACC15MNT	Mounting Clips and Power Connector for 15 Inch QuickPanel View	4.33
IC754ACC32MEM	Expansion Memory 32 MBytes	4.9
IC754ACC32MEM	Expansion Memory 32 MBytes	4.14
IC754ACC32MEM	Expansion Memory 32 Mbytes	4.26
IC754ACC32MEM	Expansion Memory 32 Mbytes	4.33
IC754ACC64MEM	Expansion Memory 64 MBytes	4.9
IC754ACC64MEM	Expansion Memory 64 MBytes	4.14
IC754ACC64MEM	Expansion Memory 64 Mbytes	4.26
IC754ACC64MEM	Expansion Memory 64 Mbytes	4.33
IC754BEZ06GAS	Replacement Gasket for 6 Inch Stainless Steel Bezel	4.9
IC754BEZ06GAS	Replacement Gasket for 6 Inch Stainless Steel Bezel	4.26
IC754BEZ06GAS	Replacement Gasket for 6 Inch Stainless Steel Bezel	4.33
IC754BEZ12GAS	Replacement Gasket for 12 Inch Stainless Steel Bezel	4.9
IC754BEZ12GAS	Replacement Gasket for 12 Inch Stainless Steel Bezel	4.26
IC754BEZ12GAS	Replacement Gasket for 12 Inch Stainless Steel Bezel	4.33
IC754CBF08CTD	QuickPanel Control Display, 8" TFT-Color Loaded	4.5
IC754CBF15CTD	QuickPanel Control Display, 15" TFT-Color Loaded	4.6
IC754CBL06CTD	QuickPanel Control Display, 6" TFT-Color Loaded	4.4
IC754CBL06MTD	QuickPanel Control Display, 6" Monochrome Loaded	4.4
IC754CGF08CTD	QuickPanel Control Display, 8" TFT-Color Loaded	4.12
IC754CGF12CTD	QuickPanel Control Display, 12" TFT-Color Loaded	4.12
IC754CGF15CTD	QuickPanel Control Display, 15" TFT-Color Loaded	4.12
IC754CGL06CTD	QuickPanel Control Display, 6" TFT-Color Loaded	4.11
IC754CGL06MTD	QuickPanel Control Display, 6" Monochrome Loaded	4.11
IC754CHL06CTD	QuickPanel Control Display, 6" TFT-Color Loaded	4.11
IC754CHL06MTD	QuickPanel Control Display, 6" Monochrome Loaded	4.11
IC754CKF12CTD	QuickPanel Control Starter Kit, includes Display, 12" TFT	4.8
IC754CKF15CTD	QuickPanel Control Starter Kit, includes Display, 15" TFT	4.8
IC754CKL06CTD	QuickPanel Control Starter Kit, includes Display, 6" TFT	4.8
IC754CKL06MTD	QuickPanel Control Starter Kit, includes Display, 6" Monochrome	4.8
IC754CSF06CTD	QuickPanel Control Display, 6" TFT-Color Fully Loaded	4.5
IC754CSF12CTD	QuickPanel Control Display, 12" TFT-Color Loaded	4.6
IC754CSF15CTD	QuickPanel Control Display, 15" TFT-Color Loaded	4.6

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IC754CSL06CTD	QuickPanel Control Display, 6" TFT-Color Loaded	4.4
IC754CSL06MTD	QuickPanel Control Display, 6" Monochrome Loaded	4.4
IC754CSX06CTD	QuickPanel Control Display, 6" TFT-Color Extra Fully Loaded	4.5
IC754DVNM01	DeviceNet - Master Interface Card for QuickPanel Control	4.7
IC754DVNM01	DeviceNet - Master Interface Card for QuickPanel Control	4.13
IC754DVNS01	DeviceNet Slave Communication Card for QuickPanel View	4.26
IC754DVNS01	DeviceNet Slave Communication Card for QuickPanel View	4.33
IC754GEN001	GE Genius Communication Card for QuickPanel Control	4.7
IC754GEN001	GE Genius Interface Card for QuickPanel Control	4.13
IC754GEN001	Genius Communication Card for QuickPanel View & Control	4.26
IC754GEN001	Genius Communication Card for QuickPanel View & Control	4.33
IC754PBSM01	PROFIBUS - Master Interface Card for QuickPanel Control	4.7
IC754PBSM01	PROFIBUS - Master Interface Card for QuickPanel Control	4.13
IC754PBSS01	PROFIBUS Slave Communication Card for QuickPanel View	4.26
IC754PBSS01	PROFIBUS Slave Communication Card for QuickPanel View	4.33
IC754PCMCIA001	PCMCIA Adaptor for QuickPanel Control	4.9
IC754PCMCIA001	PCMCIA Adaptor for QuickPanel Control	4.14
IC754PCMCIA001	PCMCIA Adaptor for QuickPanel View	4.26
IC754PCMCIA001	PCMCIA Adaptor for QuickPanel View	4.33
IC754PIF001	GE Series 90-30 Expansion I/O Interface for QuickPanel Control	4.7
IC754PIF001	GE 90-30 I/O Interface Card for QuickPanel Control	4.13
IC754TAN001	GE VersaMax Expansion I/O Interface for QuickPanel Control	4.7
IC754TAN001	GE VersaMax Expansion I/O Interface Card for QuickPanel Control	4.13
IC754UEX001	GE VersaMax Micro Expansion I/O Interface for QuickPanel Control	4.7
IC754UEX001	GE VersaMax Micro Expansion I/O Interface for QuickPanel Control	4.13
IC754UEX05CBL	VersaMax Micro Expansion I/O Cable - 0.5 Meter	4.9
IC754UEX10CBL	VersaMax Micro Expansion I/O Cable - 1.0 Meter	4.9
IC754VBB06CTD	QuickPanel View Display, 6" TFT Basic	4.16
IC754VBB06MTD	QuickPanel View Display, 6" Monochrome Basic	4.16
IC754VBF08CTD	QuickPanel View Display, 8" TFT-Color Loaded	4.21
IC754VBF12CTD	QuickPanel View Display, 12" TFT-Color Loaded	4.21
IC754VBF12CTDCA	QuickPanel View Display, 12" TFT-Color Loaded - Conformal Coated	4.22
IC754VBF15CTD	QuickPanel View Display, 15" TFT-Color Loaded	4.22

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IC754VBF15CTDCA	QuickPanel View Display, 15" TFT-Color Loaded - Conformal coated	4.22
IC754VBI06MTD	QuickPanel View Display, 6" Monochrome Intermediate	4.17
IC754VBI06STD	QuickPanel View Display, 6" STN-Color Intermediate	4.17
IC754VBI08CTD	QuickPanel View Display, 8" TFT-Color Intermediate	4.18
IC754VBI12CTD	QuickPanel View Display, 12" TFT-Color Intermediate	4.19
IC754VBI12MTD	QuickPanel View Display, 12" Monochrome Intermediate	4.18
IC754VBL06CTD	QuickPanel View Display, 6" TFT-Color Loaded	4.20
IC754VBL06CTDCA	QuickPanel View Display, 6" TFT-Color Loaded - Conformal coated	4.21
IC754VBL06MTD	QuickPanel View Display, 6" Mono Loaded	4.20
IC754VGB06CTD	QuickPanel View Display, 6" TFT Basic	4.28
IC754VGB06MTD	QuickPanel View Display, 6" Monochrome Basic	4.28
IC754VGF08CTD	QuickPanel View Display, 8" TFT-Color Loaded	4.32
IC754VGF12CTD	QuickPanel View Display, 12" TFT-Color Loaded	4.32
IC754VGF15CTD	QuickPanel View Display, 15" TFT-Color Loaded	4.32
IC754VGI06MTD	QuickPanel View Display, 6" Monochrome Intermediate	4.28
IC754VGI06SKD	QuickPanel View Display, 6" STN-Color Intermediate with Keypad	4.29
IC754VGI06STD	QuickPanel View Display, 6" STN-Color Intermediate	4.29
IC754VGI08CTD	QuickPanel View Display, 8" TFT-Color Intermediate	4.30
IC754VGI12CTD	QuickPanel View Display, 12" TFT-Color Intermediate	4.30
IC754VGI12MTD	QuickPanel View Display, 12" Monochrome Intermediate	4.30
IC754VGL06CTD	QuickPanel View Display, 6" TFT-Color Loaded	4.31
IC754VGL06MTD	QuickPanel View Display, 6" Mono Loaded	4.31
IC754VHB06MTD	QuickPanel View Display, 6" Monochrome Basic	4.28
IC754VHI06MTD	QuickPanel View Display, 6" Monochrome Intermediate	4.29
IC754VHI06STD	QuickPanel View Display, 6" STN-Color Intermediate	4.29
IC754VHL06CTD	QuickPanel View Display, 6" TFT-Color Loaded	4.31
IC754VHL06MTD	QuickPanel View Display, 6" Mono Loaded	4.31
IC754VKB06MTD	QuickPanel View Starter Kit, includes 6" Monochrome Basic Display, Proficy ME Development Software, Ethernet Cable and Power Supply	4.23
IC754VKF12CTD	QuickPanel View Starter Kit, includes 12" TFT-Color Loaded Display, Proficy ME Development Software, Ethernet Cable and Power Supply	4.25
IC754VKF15CTD	QuickPanel View Starter Kit, includes 15" TFT-Color Loaded Display, Proficy ME Development Software, Ethernet Cable and Power Supply	4.25

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IC754VKI06MTD	QuickPanel View Starter Kit, includes 6" Monochrome Intermediate Display, Proficy ME Development Software, Ethernet Cable and Power Supply	4.23
IC754VKI06SKD	QuickPanel View Starter Kit, includes 6" STN-Color Intermediate Display with Keypad	4.24
IC754VKI06STD	QuickPanel View Starter Kit, includes 6" STN-Color Intermediate Display, Proficy ME Development Software, Ethernet Cable and Power Supply	4.23
IC754VKI12CTD	QuickPanel View Starter Kit, includes 12" TFT-Color Intermediate Display, Proficy ME Development Software, Ethernet Cable and Power Supply	4.24
IC754VKI12MTD	QuickPanel View Starter Kit, includes 12" Monochrome Intermediate Display, Proficy ME Development Software, Ethernet Cable and Power Supply	4.24
IC754VKL06CTD	QuickPanel View Starter Kit, includes 6" TFT-Color Loaded Display, Proficy ME Development Software, Ethernet Cable and Power Supply	4.25
IC754VKL06MTD	QuickPanel View Starter Kit, includes 6" Mono Loaded Display, Proficy ME Development Software, Ethernet Cable and Power Supply	4.25
IC754VSB06CTD	QuickPanel View Display, 6" TFT Basic	4.16
IC754VSB06MTD	QuickPanel View Display, 6" Monochrome Basic	4.16
IC754VSF12CTD	QuickPanel View Display, 12" TFT-Color Loaded	4.21
IC754VSF15CTD	QuickPanel View Display, 15" TFT-Color Loaded	4.22
IC754VSI06MTD	QuickPanel View Display, 6" Monochrome Intermediate	4.17
IC754VSI06SKD	QuickPanel View Display, 6" STN-Color Intermediate with Keypad	4.18
IC754VSI06STD	QuickPanel View Display, 6" STN-Color Intermediate	4.17
IC754VSI12CTD	QuickPanel View Display, 12" TFT-Color Intermediate	4.19
IC754VSI12CTD CA	QuickPanel View Display, 12" TFT-Color Intermediate - Conformal Coated	4.19
IC754VSI12MTD	QuickPanel View Display, 12" Monochrome Intermediate	4.18
IC754VSL06CTD	QuickPanel View Display, 6" TFT-Color Loaded	4.20
IC754VSL06MTD	QuickPanel View Display, 6" Mono Loaded	4.20
IC800ABK001	Encoder Battery Backup Kits, Panel Mounted, 4 axis	5.41, 5.42, 5.46-5.49, 5.67-5.72
IC800ABK002	Encoder Battery Backup Kits, Built-in	5.41, 5.46-5.49, 5.69
IC800ABK003	Encoder Battery Backup Kits, Built-in	5.42, 5.69
IC800AIHV010	10 Amp α HVi Series Amplifier Package	5.45, 5.46
IC800AIHV040	40 Amp α HVi Series Amplifier Package	5.45-5.47
IC800AIHV080	80 Amp α HVi Series Amplifier Package	5.45, 5.47, 5.48
IC800AIHV180	180 Amp α HVi Series Amplifier Package	5.45, 5.49
IC800BBK021	Encoder Battery Kits, 1 axis	5.67-5.72
IC800BIHV010	10 Amp β HVi Series Amplifier Package	5.46, 5.69, 5.70
IC800BIHV020	20 Amp β HVi Series Amplifier Package	5.69, 5.70
IC800BIHV040	40 Amp β HVi Series Amplifier Package	5.46, 5.47, 5.69
IC800BIK020	20 Amp β i series Amplifier Package	5.69, 5.71, 5.72

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IC800BIK040	40 Amp β i series Amplifier Package	5.69, 5.72
IC800PSHV011	11 kW Power Supply Module Package	5.45, 5.50
IC800PSHV018	18 kW Power Supply Module Package	5.45, 5.50
IC800PSHV030	30 kW Power Supply Module Package	5.45, 5.50
IC800PSHV045	45 kW Power Supply Module Package	5.45, 5.50
IC800VMA012	100W, 220 VAC; 50/60 Hz VersaMotion Servo Amplifier	5.19, 5.20, 5.26, 5.29, 5.35
IC800VMA012	VersaMotion Amplifier	1.69
IC800VMA012	VersaMotion Amplifier	1.127
IC800VMA012	VersaMotion Amplifier	1.168
IC800VMA022	200W, 220 VAC; 50/60 Hz VersaMotion Servo Amplifier	5.19, 5.20, 5.26, 5.29, 5.35
IC800VMA022	VersaMotion Amplifier	1.69
IC800VMA022	VersaMotion Amplifier	1.127
IC800VMA022	VersaMotion Amplifier	1.168
IC800VMA042	400W, 220 VAC; 50/60 Hz VersaMotion Servo Amplifier	5.19, 5.20, 5.26, 5.29, 5.35
IC800VMA042	VersaMotion Amplifier	1.69
IC800VMA042	VersaMotion Amplifier	1.127
IC800VMA042	VersaMotion Amplifier	1.168
IC800VMA072	750W, 220 VAC; 50/60 Hz VersaMotion Servo Amplifier	5.19, 5.20, 5.26, 5.29, 5.35
IC800VMA072	VersaMotion Amplifier	1.69
IC800VMA072	VersaMotion Amplifier	1.127
IC800VMA072	VersaMotion Amplifier	1.168
IC800VMA102	1000W, 220 VAC; 50/60 Hz VersaMotion Servo Amplifier	5.19, 5.20, 5.27, 5.30, 5.35
IC800VMA102	VersaMotion Amplifier	1.69
IC800VMA102	VersaMotion Amplifier	1.127
IC800VMA102	VersaMotion Amplifier	1.168
IC800VMA202	2000W, 220 VAC; 50/60 Hz VersaMotion Servo Amplifier	5.19, 5.20, 5.27, 5.30, 5.35
IC800VMA202	VersaMotion Amplifier	1.69
IC800VMA202	VersaMotion Amplifier	1.127
IC800VMA202	VersaMotion Amplifier	1.168
IC800VMA302	3000W, 220 VAC; 50/60 Hz VersaMotion Servo Amplifier	5.19, 5.20, 5.27, 5.30, 5.35
IC800VMA302	VersaMotion Amplifier	1.69
IC800VMA302	VersaMotion Amplifier	1.127
IC800VMA302	VersaMotion Amplifier	1.168
IC800VMACONACP	AC Power Connector	5.26, 5.27
IC800VMACONACP	AC Power Connector (100W to 1kW models only)	1.73
IC800VMACONACP	AC Power Connector (100W to 1kW models only)	1.131
IC800VMACONACP	AC Power Connector (100W to 1kW models only)	1.172
IC800VMACONCN1	CN1 I/O Connector	1.73
IC800VMACONCN1	CN1 I/O Connector	1.131
IC800VMACONCN1	CN1 I/O Connector	1.172

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IC800VMACONCN2	CN2 Encoder Connector	5.26, 5.27
IC800VMACONCN2	CN2 Encoder Connector	1.73
IC800VMACONCN2	CN2 Encoder Connector	1.131
IC800VMACONCN2	CN2 Encoder Connector	1.172
IC800VMACONCN3	CN3 Communication Connector	5.26, 5.27
IC800VMACONCN3	CN3 Communication Connector	1.73
IC800VMACONCN3	CN3 Communication Connector	1.131
IC800VMACONCN3	CN3 Communication Connector	1.172
IC800VMACONMTRP	Motor Power Connector	5.26, 5.27
IC800VMACONMTRP	Motor Power Connector (100W to 1kW models only)	1.73
IC800VMACONMTRP	Motor Power Connector (100W to 1kW models only)	1.131
IC800VMACONMTRP	Motor Power Connector (100W to 1kW models only)	1.172
IC800VMADBR001	External Braking Resistor Connector	5.26, 5.27
IC800VMADBR001	External Braking Resistor Connector (100W to 1kW models only)	1.73
IC800VMADBR001	External Braking Resistor Connector (100W to 1kW models only)	1.131
IC800VMADBR001	External Braking Resistor Connector (100W to 1kW models only)	1.172
IC800VMBR020	External Braking Resistor, 20Ω, 1000 Watt	5.26, 5.27
IC800VMBR020	20 Ohm, 1000 Watt External Braking (Regeneration) Resistor	1.74
IC800VMBR020	20 Ohm, 1000 Watt External Braking (Regeneration) Resistor	1.132
IC800VMBR020	20 Ohm, 1000 Watt External Braking (Regeneration) Resistor	1.173
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IC800VMBR040	40 Ohm, 400 Watt External Braking (Regeneration) Resistor	1.74
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IC800VMBR040	40 Ohm, 400 Watt External Braking (Regeneration) Resistor	1.173
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IC800VMCB030	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 3 m (9.8 feet)	1.74
IC800VMCB030	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 3 m (9.8 feet)	1.132
IC800VMCB030	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 3 m (9.8 feet)	1.172
IC800VMCB050	Brake and Power Cable, 5 m	5.26
IC800VMCB050	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 5 m (16.4 feet)	1.74
IC800VMCB050	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 5 m (16.4 feet)	1.132
IC800VMCB050	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 5 m (16.4 feet)	1.172
IC800VMCB100	Brake and Power Cable, 10 m	5.26
IC800VMCB100	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 10 m (32.8 feet)	1.74

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IC800VMCB100	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 10 m (32.8 feet)	1.172
IC800VMCB1030	Brake and Power Cable, 3 m	5.27
IC800VMCB1030	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 3 m (9.8 feet)	1.74
IC800VMCB1030	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 3 m (9.8 feet)	1.132
IC800VMCB1030	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 3 m (9.8 feet)	1.172
IC800VMCB1050	Brake and Power Cable, 5 m	5.27
IC800VMCB1050	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 5 m (16.4 feet)	1.74
IC800VMCB1050	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 5 m (16.4 feet)	1.132
IC800VMCB1050	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 5 m (16.4 feet)	1.172
IC800VMCB1100	Brake and Power Cable, 10 m	5.27
IC800VMCB1100	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 10 m (32.8 feet)	1.74
IC800VMCB1100	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 10 m (32.8 feet)	1.132
IC800VMCB1100	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 10 m (32.8 feet)	1.172
IC800VMCB1200	Brake and Power Cable, 20 m	5.27
IC800VMCB1200	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 20 m (65.7 feet)	1.74
IC800VMCB1200	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 20 m (65.7 feet)	1.132
IC800VMCB1200	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 20 m (65.7 feet)	1.172
IC800VMCB200	Brake and Power Cable, 20 m	5.26
IC800VMCB200	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 20 m (65.7 feet)	1.74
IC800VMCB200	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 20 m (65.7 feet)	1.132
IC800VMCB200	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 20 m (65.7 feet)	1.172
IC800VMCB2030	Brake and Power Cable, 3 m	5.27
IC800VMCB2030	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 3 m (9.8 feet)	1.74
IC800VMCB2030	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 3 m (9.8 feet)	1.132
IC800VMCB2030	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 3 m (9.8 feet)	1.172
IC800VMCB2050	Brake and Power Cable, 5 m	5.27
IC800VMCB2050	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 5 m (16.4 feet)	1.74
IC800VMCB2050	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 5 m (16.4 feet)	1.132
IC800VMCB2050	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 5 m (16.4 feet)	1.172
IC800VMCB2100	Brake and Power Cable, 10 m	5.27
IC800VMCB2100	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 10 m (32.8 feet)	1.74
IC800VMCB2100	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 10 m (32.8 feet)	1.132

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IC800VMCB2200	Brake and Power Cable, 20 m	5.27
IC800VMCB2200	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 20 m (65.7 feet)	1.74
IC800VMCB2200	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 20 m (65.7 feet)	1.132
IC800VMCB2200	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 20 m (65.7 feet)	1.172
IC800VMCB3030	Brake and Power Cable, 3 m	5.27
IC800VMCB3030	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 3 m (9.8 feet)	1.74
IC800VMCB3030	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 3 m (9.8 feet)	1.132
IC800VMCB3030	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 3 m (9.8 feet)	1.172
IC800VMCB3050	Brake and Power Cable, 5 m	5.27
IC800VMCB3050	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 5 m (16.4 feet)	1.74
IC800VMCB3050	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 5 m (16.4 feet)	1.132
IC800VMCB3050	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 5 m (16.4 feet)	1.172
IC800VMCB3100	Brake and Power Cable, 10 m	5.27
IC800VMCB3100	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 10 m (32.8 feet)	1.74
IC800VMCB3100	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 10 m (32.8 feet)	1.132
IC800VMCB3100	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 10 m (32.8 feet)	1.172
IC800VMCB3200	Brake and Power Cable, 20 m	5.27
IC800VMCB3200	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 20 m (65.7 feet)	1.74
IC800VMCB3200	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 20 m (65.7 feet)	1.132
IC800VMCB3200	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 20 m (65.7 feet)	1.172
IC800VMCE030	Encoder Cable, 3 m	5.26
IC800VMCE030	Encoder Cable for 100 to 750 Watt, 3 m (9.8 feet)	1.74
IC800VMCE030	Encoder Cable for 100 to 750 Watt, 3 m (9.8 feet)	1.132
IC800VMCE030	Encoder Cable for 100 to 750 Watt, 3 m (9.8 feet)	1.173
IC800VMCE050	Encoder Cable, 5 m	5.26
IC800VMCE050	Encoder Cable for 100 to 750 Watt, 5 m (16.4 feet)	1.74
IC800VMCE050	Encoder Cable for 100 to 750 Watt, 5 m (16.4 feet)	1.132
IC800VMCE050	Encoder Cable for 100 to 750 Watt, 5 m (16.4 feet)	1.173
IC800VMCE100	Encoder Cable, 10 m	5.26
IC800VMCE100	Encoder Cable for 100 to 750 Watt, 10 m (32.8 feet)	1.74
IC800VMCE100	Encoder Cable for 100 to 750 Watt, 10 m (32.8 feet)	1.132
IC800VMCE100	Encoder Cable for 100 to 750 Watt, 10 m (32.8 feet)	1.173
IC800VMCE1030	Encoder Cable, 3 m	5.27
IC800VMCE1030	Encoder Cable for 1000 Watt and greater, 3 m (9.8 feet)	1.74

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IC800VMCE1030	Encoder Cable for 1000 Watt and greater, 3 m (9.8 feet)	1.173
IC800VMCE1050	Encoder Cable, 5 m	5.27
IC800VMCE1050	Encoder Cable for 1000 watt and greater, 5 m (16.4 feet)	1.74
IC800VMCE1050	Encoder Cable for 1000 watt and greater, 5 m (16.4 feet)	1.132
IC800VMCE1050	Encoder Cable for 1000 watt and greater, 5 m (16.4 feet)	1.173
IC800VMCE1100	Encoder Cable, 10 m	5.27
IC800VMCE1100	Encoder Cable for 1000 watt and greater, 10 m (32.8 feet)	1.74
IC800VMCE1100	Encoder Cable for 1000 watt and greater, 10 m (32.8 feet)	1.132
IC800VMCE1100	Encoder Cable for 1000 watt and greater, 10 m (32.8 feet)	1.173
IC800VMCE1200	Encoder Cable, 20 m	5.27
IC800VMCE1200	Encoder Cable for 1000 watt and greater, 20 m (65.7 feet)	1.74
IC800VMCE1200	Encoder Cable for 1000 watt and greater, 20 m (65.7 feet)	1.132
IC800VMCE1200	Encoder Cable for 1000 watt and greater, 20 m (65.7 feet)	1.173
IC800VMCE200	Encoder Cable, 20 m	5.26
IC800VMCE200	Encoder Cable for 100 to 750 Watt, 20 m (65.7 feet)	1.74
IC800VMCE200	Encoder Cable for 100 to 750 Watt, 20 m (65.7 feet)	1.132
IC800VMCE200	Encoder Cable for 100 to 750 Watt, 20 m (65.7 feet)	1.173
IC800VMCI010	Flying lead I/O interface Cable, 1 m	5.14, 5.26, 5.27
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IC800VMCI010	Flying lead I/O interface cable, 1 meter	1.132
IC800VMCI010	Flying lead I/O interface cable, 1 meter	1.173
IC800VMCI030	Flying lead I/O interface Cable, 3 m	5.14, 5.26, 5.27
IC800VMCI030	Flying lead I/O interface cable, 3 meter	1.74
IC800VMCI030	Flying lead I/O interface cable, 3 meter	1.132
IC800VMCI030	Flying lead I/O interface cable, 3 meter	1.173
IC800VMCP030	Power Cable for 100 Watt to 750 Watt servo motor without brake, 3 m (9.8 feet)	1.73
IC800VMCP030	Power Cable for 100 Watt to 750 Watt servo motor without brake, 3 m (9.8 feet)	1.131
IC800VMCP030	Power Cable for 100 Watt to 750 Watt servo motor without brake, 3 m (9.8 feet)	1.172
IC800VMCP030	Power Cable, 3 m	5.26
IC800VMCP050	Power Cable, 5 m	5.26
IC800VMCP050	Power Cable for 100 Watt to 750 Watt servo motor without brake, 5 m (16.4 feet)	1.73
IC800VMCP050	Power Cable for 100 Watt to 750 Watt servo motor without brake, 5 m (16.4 feet)	1.131
IC800VMCP050	Power Cable for 100 Watt to 750 Watt servo motor without brake, 5 m (16.4 feet)	1.172
IC800VMCP100	Power Cable, 10 m	5.26
IC800VMCP100	Power Cable for 100 Watt to 750 Watt servo motor without brake, 10 m (32.8 feet)	1.73
IC800VMCP100	Power Cable for 100 Watt to 750 Watt servo motor without brake, 10 m (32.8 feet)	1.131

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IC800VMCP1030	Power Cable for 1000 Watt servo motor without brake, 3 m (9.8 feet)	1.73
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IC800VMCP1030	Power Cable for 1000 Watt servo motor without brake, 3 m (9.8 feet)	1.172
IC800VMCP1050	Power Cable, 5 m	5.27
IC800VMCP1050	Power Cable for 1000 Watt servo motor without brake, 5 m (16.4 feet)	1.73
IC800VMCP1050	Power Cable for 1000 Watt servo motor without brake, 5 m (16.4 feet)	1.131
IC800VMCP1050	Power Cable for 1000 Watt servo motor without brake, 5 m (16.4 feet)	1.172
IC800VMCP1100	Power Cable, 10 m	5.27
IC800VMCP1100	Power Cable for 1000 Watt servo motor without brake, 10 m (32.8 feet)	1.73
IC800VMCP1100	Power Cable for 1000 Watt servo motor without brake, 10 m (32.8 feet)	1.131
IC800VMCP1100	Power Cable for 1000 Watt servo motor without brake, 10 m (32.8 feet)	1.172
IC800VMCP1200	Power Cable, 20 m	5.27
IC800VMCP1200	Power Cable for 1000 Watt servo motor without brake, 20 m (65.7 feet)	1.73
IC800VMCP1200	Power Cable for 1000 Watt servo motor without brake, 20 m (65.7 feet)	1.131
IC800VMCP1200	Power Cable for 1000 Watt servo motor without brake, 20 m (65.7 feet)	1.172
IC800VMCP200	Power Cable, 20 m	5.26
IC800VMCP200	Power Cable for 100 Watt to 750 Watt servo motor without brake, 20 m (65.7 feet)	1.73
IC800VMCP200	Power Cable for 100 Watt to 750 Watt servo motor without brake, 20 m (65.7 feet)	1.131
IC800VMCP200	Power Cable for 100 Watt to 750 Watt servo motor without brake, 20 m (65.7 feet)	1.172
IC800VMCP2030	Power Cable, 3 m	5.27
IC800VMCP2030	Power Cable for 2000 Watt servo motor without brake, 3 m (9.8 feet)	1.73
IC800VMCP2030	Power Cable for 2000 Watt servo motor without brake, 3 m (9.8 feet)	1.131
IC800VMCP2030	Power Cable for 2000 Watt servo motor without brake, 3 m (9.8 feet)	1.172
IC800VMCP2050	Power Cable, 5 m	5.27
IC800VMCP2050	Power Cable for 2000 Watt servo motor without brake, 5 m (16.4 feet)	1.73
IC800VMCP2050	Power Cable for 2000 Watt servo motor without brake, 5 m (16.4 feet)	1.131
IC800VMCP2050	Power Cable for 2000 Watt servo motor without brake, 5 m (16.4 feet)	1.172
IC800VMCP2100	Power Cable, 10 m	5.27
IC800VMCP2100	Power Cable for 2000 Watt servo motor without brake, 10 m (32.8 feet)	1.73
IC800VMCP2100	Power Cable for 2000 Watt servo motor without brake, 10 m (32.8 feet)	1.131
IC800VMCP2100	Power Cable for 2000 Watt servo motor without brake, 10 m (32.8 feet)	1.172
IC800VMCP2200	Power Cable, 20 m	5.27
IC800VMCP2200	Power Cable for 2000 Watt servo motor without brake, 20 m (65.7 feet)	1.73

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IC800VMCP2200	Power Cable for 2000 Watt servo motor without brake, 20 m (65.7 feet)	1.172
IC800VMCP3030	Power Cable, 3 m	5.27
IC800VMCP3030	Power Cable for 3000 Watt servo motor without brake, 3 m (9.8 feet)	1.73
IC800VMCP3030	Power Cable for 3000 Watt servo motor without brake, 3 m (9.8 feet)	1.131
IC800VMCP3030	Power Cable for 3000 Watt servo motor without brake, 3 m (9.8 feet)	1.172
IC800VMCP3050	Power Cable, 5 m	5.27
IC800VMCP3050	Power Cable for 3000 Watt servo motor without brake, 5 m (16.4 feet)	1.73
IC800VMCP3050	Power Cable for 3000 Watt servo motor without brake, 5 m (16.4 feet)	1.131
IC800VMCP3050	Power Cable for 3000 Watt servo motor without brake, 5 m (16.4 feet)	1.172
IC800VMCP3100	Power Cable, 10 m	5.27
IC800VMCP3100	Power Cable for 3000 Watt servo motor without brake, 10 m (32.8 feet)	1.73
IC800VMCP3100	Power Cable for 3000 Watt servo motor without brake, 10 m (32.8 feet)	1.131
IC800VMCP3100	Power Cable for 3000 Watt servo motor without brake, 10 m (32.8 feet)	1.172
IC800VMCP3200	Power Cable, 20 m	5.27
IC800VMCP3200	Power Cable for 3000 Watt servo motor without brake, 20 m (65.7 feet)	1.73
IC800VMCP3200	Power Cable for 3000 Watt servo motor without brake, 20 m (65.7 feet)	1.131
IC800VMCP3200	Power Cable for 3000 Watt servo motor without brake, 20 m (65.7 feet)	1.172
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IC800VMCS030	Communications Cable from servo amplifier to PC, 3 m (9.8 feet)	1.132
IC800VMCS030	Communications Cable from servo amplifier to PC, 3 m (9.8 feet)	1.173
IC800VMM01L	VersaMotion 100 Watt	1.71
IC800VMM01L	VersaMotion 100 Watt	1.129
IC800VMM01L	VersaMotion 100 Watt	1.170
IC800VMM01LNKSE25	100 Watt VersaMotion Servo Motor	5.26, 5.35
IC800VMM02L	VersaMotion 200 Watt	1.71
IC800VMM02L	VersaMotion 200 Watt	1.129
IC800VMM02L	VersaMotion 200 Watt	1.170
IC800VMM02LBKSE25	200 Watt VersaMotion Servo Motor with Brake	5.26, 5.35
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IC800VMM04L	VersaMotion 400 Watt	1.71
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IC800VMM04L	VersaMotion 400 Watt	1.170
IC800VMM04LBKSE25	400 Watt VersaMotion Servo Motor with Brake	5.26, 5.35
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IC800VMM10L	VersaMotion 1000 Watt	1.171
IC800VMM10LBKSE25	1000 Watt VersaMotion Servo Motor with Brake	5.27, 5.35
IC800VMM10LNKSE25	1000 Watt VersaMotion Servo Motor	5.27, 5.35
IC800VMM10M	VersaMotion 1000 Watt	1.72
IC800VMM10M	VersaMotion 1000 Watt	1.130
IC800VMM10M	VersaMotion 1000 Watt	1.171
IC800VMM10MBKSE25	1000 Watt VersaMotion Servo Motor with Brake	5.27, 5.35
IC800VMM10MNKSE25	1000 Watt VersaMotion Servo Motor	5.27, 5.35
IC800VMM20L	VersaMotion 2000 Watt	1.72
IC800VMM20L	VersaMotion 2000 Watt	1.130
IC800VMM20L	VersaMotion 2000 Watt	1.171
IC800VMM20LBKSE25	2000 Watt VersaMotion Servo Motor with Brake	5.27, 5.35
IC800VMM20LNKSE25	2000 Watt VersaMotion Servo Motor	5.27, 5.35
IC800VMM20M	VersaMotion 2000 Watt	1.72
IC800VMM20M	VersaMotion 2000 Watt	1.130
IC800VMM20M	VersaMotion 2000 Watt	1.171
IC800VMM20MBKSE25	2000 Watt VersaMotion Servo Motor with Brake	5.27, 5.35
IC800VMM20MNKSE25	2000 Watt VersaMotion Servo Motor	5.27, 5.35
IC800VMM30M	VersaMotion 3000 Watt	1.72
IC800VMM30M	VersaMotion 3000 Watt	1.130
IC800VMM30M	VersaMotion 3000 Watt	1.171
IC800VMM30MBKSE25	3000 Watt VersaMotion Servo Motor with Brake	5.27, 5.35
IC800VMM30MNKSE25	3000 Watt VersaMotion Servo Motor	5.27, 5.35
IC800VMMCONE001	Encoder Connector	5.26
IC800VMMCONE001	Encoder Connector for 100 Watt to 750 Watt motors	1.73
IC800VMMCONE001	Encoder Connector for 100 Watt to 750 Watt motors	1.131
IC800VMMCONE001	Encoder Connector for 100 Watt to 750 Watt motors	1.172
IC800VMMCONE002	Encoder Connector	5.27
IC800VMMCONE002	Encoder Connector for 1000 Watt and larger motors	1.73
IC800VMMCONE002	Encoder Connector for 1000 Watt and larger motors	1.131
IC800VMMCONE002	Encoder Connector for 1000 Watt and larger motors	1.172
IC800VMMCONP001	Power Connector (motor only)	5.26
IC800VMMCONP001	Motor Power Connector for 100 Watt to 750 Watt motors without brake	1.73
IC800VMMCONP001	Motor Power Connector for 100 Watt to 750 Watt motors without brake	1.131
IC800VMMCONP001	Motor Power Connector for 100 Watt to 750 Watt motors without brake	1.172
IC800VMMCONP002	Power Connector (motor and brake)	5.26
IC800VMMCONP002	Motor Power Connector for 100 Watt to 750 Watt motors with brake	1.73

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IC800VMMCONP002	Motor Power Connector for 100 Watt to 750 Watt motors with brake	1.172
IC800VMMCONP003	Power Connector (motor only) and (motor and brake)	5.27
IC800VMMCONP003	Motor Power Connector for 1000 Watt or 2000 Watt motors with or without brake	1.73
IC800VMMCONP003	Motor Power Connector for 1000 Watt or 2000 Watt motors with or without brake	1.131
IC800VMMCONP003	Motor Power Connector for 1000 Watt or 2000 Watt motors with or without brake	1.172
IC800VMMCONP004	Power Connector (motor only) and (motor and brake)	5.27
IC800VMMCONP004	Motor Power Connector for 3000 Watt motors with or without brake	1.73
IC800VMMCONP004	Motor Power Connector for 3000 Watt motors with or without brake	1.131
IC800VMMCONP004	Motor Power Connector for 3000 Watt motors with or without brake	1.172
IC800VMTBC005	I/O Terminal Breakout Board and Cable	5.5, 5.14, 5.26, 5.27
IC800VMTBC005	I/O Terminal Block Breakout Board and 0.5 m (1.6 feet) Cable	1.74
IC800VMTBC005	I/O Terminal Block Breakout Board and 0.5 m (1.6 feet) Cable	1.132
IC800VMTBC005	I/O Terminal Block Breakout Board and 0.5 m (1.6 feet) Cable	1.173
PCI-5565PIORC-110000	PCI, 2 GIGA Baud RM w/FO Options, 128 Mbyte Memory, 4K FIFOs, Multimode Transmission	1.61
PCI-5565PIORC-111000	PCI, 2 GIGA Baud RM w/FO Options, 128 Mbyte Memory, 4K FIFOs, Single Mode Transmission	1.61
PCI-5565PIORC-210000	PCI, 2 GIGA Baud RM w/FO Options, 256 Mbyte Memory, 4K FIFOs, Multimode Transmission	1.61
PCI-5565PIORC-211000	PCI, 2 GIGA Baud RM w/FO Options, 256 Mbyte Memory, 4K FIFOs, Single Mode Transmission	1.61
PCIE-5565RC-100000	PCI Express, 2 GIGA Baud RM w/FO Options, 128 Mbyte Memory, 4K FIFOs, Multimode Transmission	1.61
PCIE-5565RC-101000	PCI Express, 2 GIGA Baud RM w/FO Options, 128 Mbyte Memory, 4K FIFOs, Single Mode Transmission	1.61
PCIE-5565RC-200000	PCI Express, 2 GIGA Baud RM w/FO Options, 256 Mbyte Memory, 4K FIFOs, Multimode Transmission	1.61
PCIE-5565RC-201000	PCI Express, 2 GIGA Baud RM w/FO Options, 256 Mbyte Memory, 4K FIFOs, Single Mode Transmission	1.61
PMC-5565PIORC-110000	PMC, 2 GIGA Baud RM w/FO Options, 128 Mbyte Memory, 4K FIFOs, Multimode Transmission	1.61
PMC-5565PIORC-111000	PMC, 2 GIGA Baud RM w/FO Options, 128 Mbyte Memory, 4 K FIFOs, Single Mode Transmission	1.61
PMC-5565PIORC-210000	PMC, 2 GIGA Baud RM w/FO Options, 256 Mbyte Memory, 4K FIFOs, Multimode Transmission	1.61
PMC-5565PIORC-211000	PMC, 2 GIGA Baud RM w/FO Options, 256 Mbyte Memory, 4 K FIFOs, Single Mode Transmission	1.61
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ST-1124	5 VDC Input, 4 points Negative Logic	3.88

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ST-1214	12/24 VDC Input, 4 points Positive Logic	3.88
ST-1218	12/24 VDC Input, 8 points Positive Logic	3.89
ST-121F	12/24 VDC Input, 16 points Positive Logic	3.89
ST-1224	12/24 VDC Input, 4 points Negative Logic	3.88
ST-1228	12/24 VDC Input, 8 points Negative Logic	3.89
ST-122F	12/24 VDC Input, 16 points Negative Logic	3.90
ST-1314	48 VDC Input, 4 points Positive Logic	3.88
ST-131F	48 VDC Input, 16 points Positive Logic	3.89
ST-1324	48 VDC Input, 4 points Negative Logic	3.89
ST-1804	110 VAC Input, 4 points (47 to 63Hz)	3.90
ST-1904	240 VAC Input, 4 points (47 to 63Hz)	3.90
ST-2114	5 VDC/20 mA TTL Inverting Output, 4 points	3.94
ST-2124	5 VDC, 4 Points, TTL Non-Inverting Output (Default: 0V)	3.94
ST-221F	16 points, 24 VDC Negative Logic, Output 0.5 Amps (Connector Style)	3.97
ST-222F	16 points, 24 VDC Positive Logic, Output 0.5 Amps (Connector Style)	3.97
ST-2314	4 points, 24 VDC Negative Logic, Output 0.5 Amps	3.94
ST-2318	8 points, 24 VDC Negative Logic, Output 0.5 Amps	3.96
ST-2324	4 points, 24 VDC Positive Logic, Output 0.5 Amps	3.94
ST-2328	8 points, 24 VDC Positive Logic, Output 0.5 Amps	3.96
ST-2414	4 points, 24 VDC Negative Logic, Output 0.5 Amps with Diagnostics	3.95
ST-2424	4 points, 24 VDC Positive Logic, Output 0.5 Amps with Diagnostics	3.95
ST-2514	4 points, 24 VDC Negative Logic, Output 2 Amps with Diagnostics	3.95
ST-2524	4 points, 24 VDC Positive Logic, Output 2 Amps with Diagnostics	3.95
ST-2614	4 points, 24 VDC Negative Logic, Output 2 Amps	3.96
ST-2624	4 points, 24 VDC Positive Logic, Output 2 Amps	3.96
ST-2742	2 points, Relay Output, 2 amps	3.97
ST-2744	4 points, Relay Output, 2 amps	3.97
ST-2748	8 points, Relay Output, 2 amps	3.98
ST-2792	2 points, Relay Output, 2 amps (Manual Override or Automatic Operation)	3.98
ST-2852	2 points, 12 to 125 VAC Output, 0.5 amps	3.98
ST-3114	Analog 0 to 20 mA, 12bit Input, 4 channels	3.91
ST-3118	Analog 0 to 20 mA, 12bit Input, 8 channels	3.91
ST-3134	Analog 0 to 20 mA, 14bit Input, 4 channels	3.91
ST-3214	Analog 4 to 20 mA, 12bit Input, 4 channels	3.91
ST-3218	Analog 4 to 20 mA, 12bit Input, 8 channels	3.91
ST-3234	Analog 4 to 20 mA, 14bit Input, 4 channels	3.92
ST-3274	Analog 4 to 20 mA, 12bit Input, 4 channels (connector type)	3.92
ST-3424	Analog 0 to 10 VDC, 12bit Input, 4 channels	3.92
ST-3428	Analog 0 to 10 VDC, 12bit Input, 8 channels	3.92
ST-3444	Analog 0 to 10 VDC, 14bit Input, 4 channels	3.92
ST-3524	Analog -10 to 10 VDC, 12bit Input, 4 channels	3.93

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ST-3544	Analog -10 to 10 VDC, 14bit Input, 4 channels	3.93
ST-3624	Analog 0 to 5 VDC, 12bit Input, 4 channels	3.93
ST-3644	Analog 0 to 5 VDC, 14bit Input, 4 channels	3.93
ST-3702	2 Channels, RTD Input (2 and 3 Wire)	3.102
ST-3704	4 Channels, RTD Input (3 Wire) Connector Style	3.102
ST-3708	8 Channels, RTD Input (3 Wire) Connector Style	3.102
ST-3802	2 Channels, Thermocouple Input/mV	3.103
ST-3804	4 Channels, Thermocouple Input/mV (External CJC support)	3.103
ST-3808	8 Channels, Thermocouple Input/mV (External CJC support)	3.103
ST-4112	2 channels Current Output, 0 to 20 mA, 12bit	3.99
ST-4114	4 channels Current Output, 0 to 20 mA, 12bit	3.99
ST-4212	2 channels Current Output, 4 to 20 mA, 12bit	3.99
ST-4214	4 channels Current Output, 4 to 20 mA, 12bit	3.99
ST-4274	4 channels Current Output, 4 to 20 mA, 12bit (Connector Style)	3.100
ST-4422	2 channels Voltage Output, 0 to 10 VDC, 12bit	3.100
ST-4424	4 channels Voltage Output, 0 to 10 VDC, 12bit	3.100
ST-4474	4 channels Current Output, 0 to 10 VDC, 12bit (Connector Style)	3.100
ST-4491	1 channels Voltage Output, 0 to 10 VDC, 12bit, (Manual Override or Automatic Operation)	3.101
ST-4522	2 channels Voltage Output, -10 to +10 VDC, 12bit	3.101
ST-4622	2 channels Voltage Output, 0 to 5 VDC, 12bit	3.101
ST-4911	1 channels Voltage Output, 0 to 1 Amp, 12bit.	3.101
ST-5101	1 Channel High Speed Counter, 5 VDC input and 1 Output	3.106
ST-5111	1 Channel High Speed Counter, 24 VDC input and 1 Output	3.106
ST-5112	2 Channel High Speed Counter, 24 VDC inputs and 2 Outputs	3.106
ST-5114	4 Channel High Speed Counter, 24Vdc inputs and 2 Outputs	3.107
ST-5211	1 Channel Serial RS-232	3.104
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ST-7111	Bus Expansion Power Supply (Input 24 VDC, Output 1.0 Amp/5VDC)	3.112
ST-7118	Common for 24 VDC Module, 8 channels	3.111
ST-7188	Common for (4) 24 VDC Channels and (4) 0 VDC Channels	3.111
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ST-7408	Shield Signal Smart Module, 8 channels.	3.110
ST-7508	Common for 0 Volts Smart Module, 8 channels	3.110
ST-7511	Bus Expansion Smart Power Supply (Input 24 VDC, Output 1.0 Amp/5 VDC)	3.112
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ST-7588	Common Smart Module for (4) 24 VDC Channels and (4) 0 VDC Channels	3.111
ST-7641	Power Distribution Smart Module (5 VDC, 24 VDC, 48 VDC, 110 VAC, 220 VAC)	3.112
STXACC001	MARKER 100pcs (included with modules)	3.116
STXACC002	BLANK MARKER 100pcs	3.116
STXACC004	End Module, 7pcs (included with network interface)	3.116
STXCAN001	Slave Network Interface	3.75
STXCBL005	0.5 meter expansion cable for ST-5725 and ST-5726	3.116
STXCBL010	1.0 meter expansion cable for ST-5725 and ST-5726	3.116
STXCBL030	3.0 meter expansion cable for ST-5725 and ST-5726	3.116
STXDNC032	Slave Network Interface with 32 Positive Logic Inputs Built-in	3.81
STXDNC132	Slave Network Interface with 32 Negative Logic Inputs Built-in	3.82
STXDNC232	Slave Network Interface with 32 Sink Outputs	3.83
STXDNC332	Slave Network Interface with 32 Source Outputs	3.83
STXDNC432	Slave Network Interface with 16 Positive Logic Inputs and 16 Source Outputs	3.85
STXDNC532	Slave Network Interface with 16 Negative Logic Inputs and 16 Sink Outputs	3.85
STXDNC632	Slave Network Interface with 16 Positive Logic Inputs and 16 Sink Outputs	3.85
STXDNC732	Slave Network Interface with 16 Negative Logic Inputs and 16 Source Outputs	3.86
STXDNS001	Slave Network Interface	3.75
STXDNS016	Slave Network Interface with 16 Relay Outputs	3.83
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STXDNS232	Slave Network Interface with 32 Sink Outputs Built-in	3.82
STXDNS332	Slave Network Interface with 32 Source Outputs Built-in	3.82
STXDNS432	Slave Network Interface with 16 Positive Logic Inputs and 16 Source Outputs	3.84
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STXEIP001	Slave Network Interface	3.76
STXMBE001	Slave Network Interface	3.76
STXMB5001	Slave Network Interface	3.75
STXMB5002	Slave Network Interface	3.76
STXPBS001	Slave Network Interface	3.75
STXPBS016	Slave Network Interface with 16 Relay Outputs	3.78
STXPBS032	Slave Network Interface with 32 Positive Logic Inputs Built-in	3.77
STXPBS116	Slave Network Interface with 16 Isolated Relay Outputs	3.78
STXPBS132	Slave Network Interface with 32 Negative Logic Inputs Built-in	3.77
STXPBS232	Slave Network Interface with 32 Sink Outputs Built-in	3.77
STXPBS332	Slave Network Interface with 32 Source Outputs Built-in	3.78
STXPBS432	Slave Network Interface with 16 Positive Logic Inputs and 16 Source Outputs	3.79
STXPBS532	Slave Network Interface with 16 Negative Logic Inputs and 16 Sink Outputs	3.79
STXPBS824	Slave Network Interface with 16 Positive Logic Inputs and 16 Relay Outputs	3.79
STXPBS825	Slave Network Interface with 16 Positive Logic Inputs and 16 Isolated Relay Outputs	3.80
STXPBS924	Slave Network Interface with 16 Negative Logic Inputs and 16 Relay Outputs	3.80
STXPBS925	Slave Network Interface with 16 Negative Logic Inputs and 16 Isolated Relay Outputs	3.80
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STXRTB009	Removable Terminal Block, 9pcs (included with modules)	3.116
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Z44A718031-G12	DC Link Bus Bars, 150mm Kit	5.44, 5.45, 5.49, 5.50
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Z44A730465-002	Motor Half Key	5.46, 5.70, 5.72
Z44A730465-003	Motor Half Key	5.47, 5.48, 5.70, 5.72
Z44A730465-011	Motor Half Key	5.71
Z44A730465-013	Motor Half Key	5.71
Z44A730465-015	Motor Half Key	5.47, 5.70, 5.72
Z44A730465-016	Motor Half Key	5.46, 5.70, 5.72
Z44C742171-001	MCC Coil Control Output Flying Lead Cable, 25 Ft.	5.5
Z44C742172-001	200V Control Power Input Flying Lead Cable, 25 Ft.	5.5
Z44C742176-001	Estop Input Flying Lead Cable 10 Ft.	5.5
Z44C746453-001	200 mm PSM Interface Cable (External Battery)	5.44, 5.46-5.49
Z44C746453-002	200 mm PSM Interface Cable (Built-in or No Battery)	5.44, 5.46-5.49
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ZA06B-0061-B203	β 2/4000is Servo Motor	5.71, 5.82
ZA06B-0061-B203#0100	β 2/4000is Servo Motor, IP67 Protection	5.82
ZA06B-0061-B503	β 2/4000is Servo Motor with Brake	5.71, 5.82
ZA06B-0061-B503#0100	β 2/4000is Servo Motor with Brake, IP67 Protection	5.82
ZA06B-0062-B203	β 2/4000HVis Servo Motor	5.70, 5.82
ZA06B-0062-B203#0100	β 2/4000HVis Servo Motor, IP67 Protection	5.82
ZA06B-0062-B503	β 2/4000HVis Servo Motor with Brake	5.70, 5.82
ZA06B-0062-B503#0100	β 2/4000HVis Servo Motor with Brake, IP67 Protection	5.82
ZA06B-0063-B203	β 4/4000is Servo Motor	5.72, 5.82
ZA06B-0063-B203#0100	β 4/4000is Servo Motor, IP67 Protection	5.82
ZA06B-0063-B503	β 4/4000is Servo Motor with Brake	5.72, 5.82
ZA06B-0063-B503#0100	β 4/4000is Servo Motor with Brake, IP67 Protection	5.82
ZA06B-0064-B203	β 4/4000HVis Servo Motor	5.70, 5.82
ZA06B-0064-B203#0100	β 4/4000HVis Servo Motor, IP67 Protection	5.82
ZA06B-0064-B503	β 4/4000HVis Servo Motor with Brake	5.70, 5.82
ZA06B-0064-B503#0100	β 4/4000HVis Servo Motor with Brake, IP67 Protection	5.82
ZA06B-0075-B203	β 8/3000is Servo Motor	5.72, 5.82
ZA06B-0075-B203#0100	β 8/3000is Servo Motor, IP67 Protection	5.82
ZA06B-0075-B503	β 8/3000is Servo Motor with Brake	5.72, 5.82
ZA06B-0075-B503#0100	β 8/3000is Servo Motor with Brake, IP67 Protection	5.82
ZA06B-0076-B203	β 8/3000HVis Servo Motor	5.70, 5.82
ZA06B-0076-B203#0100	β 8/3000HVis Servo Motor, IP67 Protection	5.82
ZA06B-0076-B503	β 8/3000HVis Servo Motor with Brake	5.70, 5.82
ZA06B-0076-B503#0100	β 8/3000HVis Servo Motor with Brake, IP67 Protection	5.82
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ZA06B-0078-B503	β 12/3000is Servo Motor with Brake	5.72, 5.82
ZA06B-0078-B503#0100	β 12/3000is Servo Motor with Brake, IP67 Protection	5.82
ZA06B-0079-B203	β 12/3000HVis Servo Motor	5.70, 5.82
ZA06B-0079-B203#0100	β 12/3000HVis Servo Motor, IP67 Protection	5.82
ZA06B-0079-B503	β 12/3000HVis Servo Motor with Brake	5.70, 5.82
ZA06B-0079-B503#0100	β 12/3000HVis Servo Motor with Brake, IP67 Protection	5.82
ZA06B-0086-B203	β 22/2000HVis Servo Motor	5.70, 5.82
ZA06B-0086-B203#0100	β 22/2000HVis Servo Motor, IP67 Protection	5.82
ZA06B-0086-B503	β 22/2000HVis Servo Motor with Brake	5.70, 5.82
ZA06B-0086-B503#0100	β 22/2000HVis Servo Motor with Brake, IP67 Protection	5.82
ZA06B-0114-B203	β 0.4/5000is Servo Motor	5.71, 5.82
ZA06B-0114-B203#0100	β 0.4/5000is Servo Motor, IP67 Protection	5.82
ZA06B-0114-B503	β 0.4/5000is Servo Motor with Brake	5.71, 5.82
ZA06B-0114-B503#0100	β 0.4/5000is Servo Motor with Brake, IP67 Protection	5.82
ZA06B-0115-B203	β 0.5/6000is Servo Motor	5.71, 5.82
ZA06B-0115-B203#0100	β 0.5/6000is Servo Motor, IP67 Protection	5.82
ZA06B-0115-B503	β 0.5/6000is Servo Motor with Brake	5.71, 5.82
ZA06B-0115-B503#0100	β 0.5/6000is Servo Motor with Brake, IP67 Protection	5.82
ZA06B-0116-B203	β 1/6000is Servo Motor	5.71, 5.82
ZA06B-0116-B203#0100	β 1/6000is Servo Motor, IP67 Protection	5.82
ZA06B-0116-B503	β 1/6000is Servo Motor with Brake	5.71, 5.82
ZA06B-0116-B503#0100	β 1/6000is Servo Motor with Brake, IP67 Protection	5.82
ZA06B-0216-B200	α 4/5000HVis Servo Motor	5.46, 5.64
ZA06B-0216-B500	α 4/5000HVis Servo Motor with Brake	5.46, 5.64
ZA06B-0219-B200	α 2/6000HVis Servo Motor	5.46, 5.64
ZA06B-0219-B500	α 2/6000HVis Servo Motor with Brake	5.46, 5.64
ZA06B-0233-B200	α 8/6000HVis Servo Motor	5.46, 5.64
ZA06B-0233-B500	α 8/6000HVis Servo Motor with Brake	5.46, 5.64
ZA06B-0239-B200	α 12/4000HVis Servo Motor	5.47, 5.64
ZA06B-0239-B500	α 12/4000HVis Servo Motor with Brake	5.47, 5.64
ZA06B-0249-B200	α 22/3000HVi Servo Motor	5.47, 5.64
ZA06B-0249-B500	α 22/3000HVi Servo Motor with Brake	5.47, 5.64
ZA06B-0266-B200	α 22/4000HVis Servo Motor	5.47, 5.64
ZA06B-0266-B500	α 22/4000HVis Servo Motor with Brake	5.47, 5.64
ZA06B-0269-B200	α 30/4000HVis Servo Motor	5.47, 5.64
ZA06B-0269-B500	α 30/4000HVis Servo Motor with Brake	5.48, 5.64
ZA06B-0273-B200	α 40/4000HVis Servo Motor	5.48, 5.64
ZA06B-0273-B500	α 40/4000HVis Servo Motor with Brake	5.48, 5.64
ZA06B-0276-B210	α 50/3000HVis Servo Motor with Fan	5.49, 5.64
ZA06B-0276-B510	α 50/3000HVis Servo Motor with Fan and Brake	5.49, 5.64
ZA06B-0286-B010	α 100/2500HVis Servo Motor	5.49, 5.64
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ZA06B-6077-K156	Noise Filter for PSM	5.5
ZA06B-6077-K157	Noise Filter for PSM	5.5
ZA06B-6077-K250	Spare Control Power Fuse	5.45, 5.50
ZA06B-6079-H401	Dynamic Braking Module	5.49
ZA06B-6089-H500	External Regen Resistors, 200 W	5.68, 5.72
ZA06B-6089-H713	External Regen Resistors, 800 W	5.68, 5.72
ZA06B-6093-K001	Lithium Encoder Battery (replacement battery for IC800BBK021 Kit)	5.69-5.72
ZA06B-6093-K002	Battery Holder (for IC800BBK021 Kit)	5.69
ZA06B-6110-K200#XXS	CZ4 Power Connector Kit	5.69, 5.70, 5.72
ZA06B-6110-K201#XYM	CZ6 Regen Resistor Thermostat Connector Kit	5.69, 5.70, 5.72
ZA06B-6110-K202#YYS	CZ5 Motor Power Connector Kit	5.69, 5.70, 5.72, 5.81
ZA06B-6110-K203#ZZM	CZ2 Motor Power Output Connector	5.45-5.49
ZA06B-6110-K210	Connector for PSM Interface	5.44-5.49
ZA06B-6114-K204#E	Motor Feedback Connector Kit, 90 Deg	5.46-5.49, 5.63, 5.70-5.72, 5.81
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ZA06B-6114-K220#S	Motor Power/Brake Connector Kit, Straight	5.46, 5.63, 5.70-5.72, 5.81
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ZA06B-6114-K504	Lithium Battery (for IC800ABK002 Kit)	5.69
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ZA06B-6127-H102	α SVM1-10HVi FSSB Amplifier	5.45, 5.46
ZA06B-6127-H104	α SVM1-40HVi FSSB Amplifier	5.45-5.47
ZA06B-6127-H105	α SVM1-80HVi FSSB Amplifier	5.45, 5.47, 5.48
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ZA06B-6130-H401	External Regen Resistors, 20 W	5.69, 5.71, 5.72
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ZA06B-6150-H011	PSM-11HVi 11kW Power Supply Module	5.45, 5.50
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ZA66L-6001-0023#L150R0	Fiber optic Command Cable, 15 cm	5.5, 5.46-5.49, 5.70-5.72
ZA66L-6001-0023#L1R003	Fiber optic Command Cable, 1 M	5.5, 5.46-5.49, 5.70-5.72
ZA66L-6001-0023#L2R003	Fiber optic Command Cable, 2 M	5.5, 5.46-5.49, 5.70-5.72
ZA66L-6001-0023#L300R0	Fiber optic Command Cable, 3 M	5.5, 5.46-5.49
ZA66L-6001-0023#L3R003	Fiber optic Command Cable, 3 M	5.5, 5.46-5.49, 5.70-5.72
ZA66L-6001-0026#L100R3	Fiber optic Command Cable (sheathed), 100 M	5.5, 5.46-5.49, 5.70-5.72
ZA66L-6001-0026#L10R03	Fiber optic Command Cable (sheathed), 10 M	5.5, 5.46-5.49, 5.70-5.72
ZA66L-6001-0026#L1R003	Fiber optic Command Cable (sheathed), 1 M	5.5, 5.46-5.49, 5.70-5.72
ZA66L-6001-0026#L20R03	Fiber optic Command Cable (sheathed), 20 M	5.5, 5.46-5.49, 5.70-5.72
ZA66L-6001-0026#L30R03	Fiber optic Command Cable (sheathed), 30 M	5.5, 5.46-5.49, 5.70-5.72
ZA66L-6001-0026#L3R003	Fiber optic Command Cable (sheathed), 3 M	5.5, 5.46-5.49
ZA66L-6001-0026#L50R03	Fiber optic Command Cable (sheathed), 50 M	5.5, 5.46-5.49, 5.70-5.72
ZA66L-6001-0026#L5R003	Fiber optic Command Cable (sheathed), 5 M	5.5, 5.46-5.49, 5.70-5.72
ZA81L-0001-0083#3C	5.4 kW, 3-phase AC line filter	5.37, 5.71, 5.72
ZA81L-0001-0101#C	10.5 kW, 3-phase AC line filter	5.37, 5.71, 5.72
ZA81L-0001-0163	18 kW, 3-phase AC line filter	5.37, 5.50
ZA81L-0001-0164	45 kW, 3-phase AC line filter	5.37, 5.50
ZA81L-0001-0168	5.4 kW, 3-phase AC line filter	5.37, 5.70
ZA81L-0001-0169	10.5 kW, 3-phase AC line filter	5.37, 5.70
ZA98L-0031-0005	D-Cell Alkaline Battery (replacement battery for IC800ABK001 Kit)	5.69-5.72



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