

# SST™ DN4 DeviceNet\* Network Interface Cards



**Delivering high reliability and performance with CIP Safety integration, combined client/server SST™ DN4 DeviceNet\* PCIe NICs enable real-time control in data-acquisition applications**

## Features and Benefits

Scans DeviceNet\* signals in 3 to 5 milliseconds

Enables real-time control

Combined Group 2 Client (Master) and Server (Slave) operations in one Network Interface Card (NIC)

Provides simultaneous execution of master and slave operations. Allows implementation of control schemes where multiple functions may be required (ie robotic control cells)

Common Industrial Protocol (CIP\*) Safety Server (Slave) integration

Reduces the effort and time required to implement Molex CIP Safety Software Stacks. Enables compatibility for future applications and safety requirements

Field-Programmable Gate Array (FPGA) design

Boosts performance and reliability. Lowers component counts. Results in an extended product lifecycle

Poll, strobe, change-of-state (COS) and cyclic input/output messaging

Broadens application flexibility for DeviceNet control schemes

Quick-connect capability in Client (Master) mode

Accesses devices in less than 500 milliseconds on activation

Supports multiple networks and PC card buses: Controller Area Network (CAN) (2A and 2B, up to 1Mbps per second); DeviceNet networks (at 125, 250 or 500 kbps); (PCIe, PCI, PC/104) and channels (1, 2 channel)

Expands application and system flexibility. Ensures reduced inventory for OEMs and distributors

Multi-server (slave) versions of the PCI bus card are available (1 channel only)

Supports control system simulation. Reduces design and field commission time

Form-fit-function replacement for existing DN3 cards

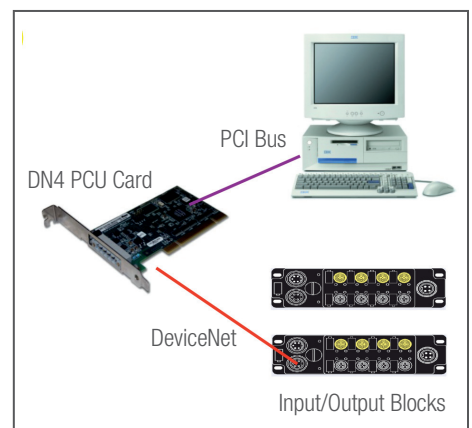
Provides backwards compatibility with DN3 cards for legacy system connections

Tested to ODVA standards (Volume 3, v.1.8)

Meets industry standard requirements



DN4 DeviceNet PCIe Card Series 112113



PC Control Example



Semiconductor Wafer Assembly

## Applications

### Industrial Automation: Automotive Applications

- PC Control Systems
- HMI/SCADA Systems
- Robot and Other Machine Control
- Diagnostics

### Industrial Automation: Semiconductor Applications

- PC Control Systems
- HMI/SCADA Systems
- Diagnostics

### Material Handling

- PC Control Systems
- HMI/SCADA Systems
- Robot and Other Machine Control
- Diagnostics

### Other Markets

- Pulp and Paper
- Food and Beverage
- Mining and Metal



Automotive Robot Controller

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# SST™ DN4 DeviceNet\* Network Interface Cards



## Specifications

### General

|                       | PCIe (PCI Express) NIC  | PCU (Universal PCI) NIC   | PC/104 NIC   |
|-----------------------|---|---|--|
| Bus Interface         | PCI Express x1 (Times 1)  | 32-bit, 33 MHz, PCI universal 3.3/5V interface (compliant signaling with PCI v2.2 & v2.3) | 16-bit PC/104 interface (compliant with PC/104, v2.3 & v2.4)                                   |
| Processor             | 64 MHz NIOS Processor   |   |  |
| Memory                | 128 bytes for PCI configuration   | 128 bytes for PCI configuration   | 256 KB of shared RAM per channel   |
| Diagnostics           | Bi-color LEDs showing card status PCI: health, communication PC/104 only: power, health, communication  |   |  |
| Dimensions            | 119.00 by 68.00 by 18.00mm (LxWxH)  | Standard half-height (1 channel)<br>Standard full-height (2 channel)                      | 95.90 by 90.20mm (LxW)   |
| Typical Current Draw  | +3.3V, ± 12 % 0.3 A (1 channel)   | +5V, ± 5 % 0.3 A (1 channel)<br>600 mA (2 channel)  | +5V, ± 5 % 0.3 A (1 channel)<br>600 mA (2 channel)   |
| Addressing: Memory    | 256 kB window available per channel   | 256 kB window available per channel   | 256kB in a window of 8, 16, 32, 64, 128 or 256kB on even window boundary between 512kB and 1MB |
| Addressing: I/O       | 16 bytes allocated per channel  | 16 bytes allocated per channel  | 8 bytes on any even 8-bit boundary from 200h-2F8h or 600h-6F8h                                 |
| Operating Temperature | 0 to +60°C  | 0 to +60°C  | 0 to +55°C   |
| Storage Temperature   | -40 to +85°C  |   |  |
| Humidity              | 5 to 95% non-condensing   |   |  |
| RoHS Compliant        | Yes   |   |  |
| Protocol              | DeviceNet™ Master – Group 2 Client, Group 2 only Client<br>DeviceNet Slave – Group 2 Server<br>Compliant with DeviceNet Specification 1.8 CAN 2.0 B<br>Isolated Controller Area Network (CAN) physical layer on each channel (where applicable) |   |  |
| Cable                 | Shielded twisted pair, compatible with target network   |   |  |
| Connector             | DeviceNet compliant 5-pin CAN connector   |   |  |
| External Power        | 11-24V DC, 50 mA typical  |   |  |
| Isolation             | 500V  |   |  |
| Data Rate             | Up to 1 Mbaud for CAN<br>125K, 250K and 500K baud for DeviceNet   |   |  |

## Ordering Information

### DeviceNet Network Interface Cards

| Order No.                   | Catalog No.      | Component   | Channel | Multi-Server (Slave) Version | Bracket Height |
|-----------------------------|------------------|-------------|---------|------------------------------|----------------|
| <a href="#">112005-0040</a> | SST-DN4-104-1    | PC/104 Card | 1       | No                           | N/A            |
| <a href="#">112005-0048</a> | SST-DN4-104-2    |             | 2       |                              |                |
| <a href="#">112113-0001</a> | SST-DN4-PCU-H    | PCU Card    | 1       |                              | Half           |
| <a href="#">112113-0005</a> | SST-DN4-PCU-2    |             | 2       |                              | Full           |
| <a href="#">112113-0007</a> | SST-DN4-PCU      |             | 1       | Yes                          |                |
| <a href="#">112113-0009</a> | SST-DN4MS-PCU    |             |         |                              |                |
| <a href="#">112113-0010</a> | SST-DN4MS-PCU-H  | PCle Card   | 1       | No                           | Half           |
| <a href="#">112113-0011</a> | SST-DN4-PCIE     |             |         |                              | Full           |
| <a href="#">112113-0012</a> | SST-DN4-PCIE-H   |             |         | Half                         |                |
| <a href="#">112113-0013</a> | SST-DN4MS-PCIE   |             |         | Yes                          | Full           |
| <a href="#">112113-0014</a> | SST-DN4MS-PCIE-H |             |         |                              | Half           |

### DeviceNet Network Interface Cards

| Order No.                   | Catalog No.                    | Key |
|-----------------------------|--------------------------------|-----|
| <a href="#">112030-0007</a> | SST-DN3-CNF-U (single license) | USB |
| <a href="#">112027-0014</a> | SST-DN3-OPC (single license)   | N/A |

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[www.molex.com/link/bradnics.html](http://www.molex.com/link/bradnics.html)