16-Point Supervised and 32-Point Supervised/Non-Supervised Digital Output Modules

Designed for the most critical control programs, Supervised Digital Output (SDO) modules meet the needs of systems whose outputs remain in a single state for extended periods of time (in some applications, for years). An SDO module receives output signals from the Main Processors on each of three channels. Each set of three signals is then voted upon by a fully faulttolerant quadruplicated output switch whose elements are power transistors, so that one voted output signal is passed to the field termination.

Each SDO module has voltage and current loopback circuitry coupled with sophisticated online diagnostics that verify the operation of each output switch, the field circuit and the presence of a load. This design provides complete fault coverage without the need to influence the output signal.

The modules are called "supervised" because fault coverage is extended to include potential field problems. In other words, the field circuit is *supervised* by the SDO module so that the following field faults can be detected:

- Loss of power or blown fuse
- · Open or missing load
- A field short resulting in the load being energized in error
- A shorted load in the de-energized state

Failure to detect field voltage on any output point energizes the power alarm indicator. Failure to detect the presence of a load energizes the load alarm indicator.

All SDO modules support hot-spare modules and require a separate external termination panel (ETP) with a cable interface to the Tricon backplane.

| Model Number | 3623/3623T ¹ | 3624 | 3625 |
|------------------------------|----------------------------------|---------------------------|--------------------------------------|
| Nominal Voltage | 120 VDC | 24 VDC | 24 VDC |
| Туре | TMR, Supervised DO | TMR, Supervised DO | TMR, Supervised/Non-Supervised DO |
| Output Signals | 16, commoned | 16, commoned | 32, commoned |
| Voltage Range | 90-150 VDC | 16-30 VDC | 16-32 VDC |
| Maximum Voltage | 160 VDC | 36 VDC | 36 VDC |
| Voltage Drop | < 1.5 VDC, typical | < 1.5 VDC, typical | < 2.8 VDC @ 1.7A, typical |
| Power Module Load | < 10 watts | < 10 watts | < 13 watts |
| Current Ratings, Maximum | 0.8A per point | 0.7A per point | 1.7A per point |
| | 4A surge per 10 ms | 4.8A surge per 10 ms | 7A surge per 10 ms |
| Minimum Required Load | 30 mA | 30 mA | 10 mA |
| Load Leakage | 4 mA maximum | 4 mA maximum | 4 mA maximum |
| Fuses (on Field Termination) | 1A fast-acting | n/a-self-protecting | n/a-self-protecting |
| Point Isolation | 1,500 VDC/ 2500 VDC ² | 1,500 VDC | 1,500 VDC |
| Diagnostic Indicators | | | |
| On or Off State | 1 per point | 1 per point | 1 per point |
| Module Status | PASS, FAULT, ACTIVE | PASS, FAULT, ACTIVE | PASS, FAULT, LOAD, ACTIVE |
| Field Alarm | POWER, LOAD (1 per point) | POWER, LOAD (1 per point) | LOAD (1 per point) |
| Color Code | Steel blue | Turquoise green | Dark blue |

16-Point and 32-Point Supervised Digital Output Module Specifications

 CAUTION: Triconex highly recommends that you perform compatibility testing before selecting the Model 3623T module for use in applications that have field wiring lengths over 328 feet (100 meters), cable that is not twisted pair, or atypical loads such as smart devices, strobe lights, or klaxons.
For 3623T.