

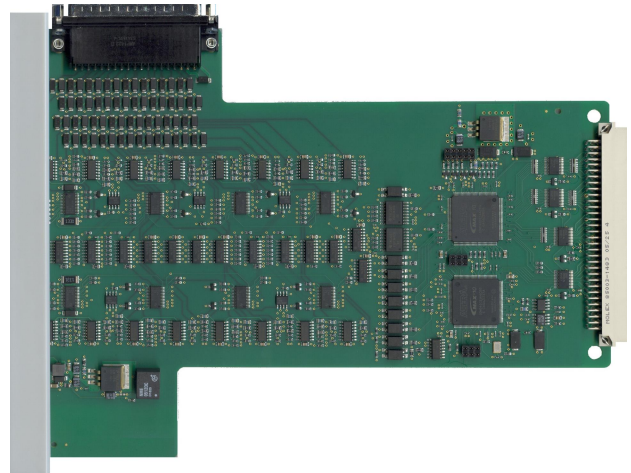


SIL-3 32-Channel Digital Output Card

3159

PRODUCT HIGHLIGHTS

- SIL-3 Approved
- Line and Load checking
- Supports Source Voltages of 10 to 30 VDC
- Source up to 0.5 A per Channel
- Channel Short Protection
- Single, Dual, or Triple Redundancy
- Channel Readback Validation



3159 -32 Ch Digital Output Card

PRODUCT OVERVIEW

The 32 Channel Digital Output Card is designed to be used in any 3200 N+ family chassis. It provides the user with the means to switch up to 32 points of DC voltage under program control. It can support a range of source voltages from 19 VDC to 30 VDC.

Output switching is performed by galvanic isolated power MOSFET drivers. The 32 output channels are factory configured as sourcing outputs. When connected to field devices such as an indicator lamp, solenoid valve, interposing relay, and other discrete control devices, the 32-Channel Digital Output card can source up to 0.5 amps per channel, 8 amps maximum per card.

Active circuit testing provides line open and line short checking, on and off testing of FETs for stuck conditions and channel readback values. Any fault detected is reported in the integer status word for the card.

The 3159 32-Channel card has one safety switch for every eight channels and is rated for SIL-3 applications. The safety switch provides the diagnostics additional capability to de-energize the output channels in response to a fault condition or watchdog timer timeout. Diagnostics test each output channel's safety switch to verify operation and reports any faults detected.

Replacing the card can be done while the system is running. Simply disable the card from within NetArrays, remove the cable attached to the card, replace the card, attach the cable to the card, and enable the card within NetArrays. A front panel LED indicates if the card is online or offline.

RTP is the Best Technology for Your Investment,

Here's why:

This product is compatible with the 3000 TAS and N+ systems. It is a multi-processor architecture that delivers exceptional Performance and Comprehensive Diagnostics. The results speak for themselves: A reaction time of 7 msec, true 1 msec SOE (Analog and Digital), an MBTF of greater than 50000 years an MTTFS of greater than 60000 years, and a PFDavg of 5×10^{-5} . **Compare these numbers to any other system.**

Built-in proof test diagnostics means it will never be necessary to shut down at the proof test interval. Unlimited online downloads of logic and configuration changes do not require a periodic shut down like other systems. **Compare this functionality to any other system.**

NetSuite Software: One-time price includes unlimited use of Logic Development, Alarm Manager, Data Archive and Historian and HMI without hardware or software keys. **Compare this functionality and price to all other systems.**

Finally, a Safety Instrumented System (SIS) should always take the process it protects to a safe state when it is required to do so, and it should never interfere with the operation of the process at the time. **The 3000 TAS does this better than any other system.**

SPECIFICATIONS

Safety Integrity Level	SIL 3
Number of Channels	32
Maximum open circuit voltage	30VDC
Maximum closed circuit current per channel	0.5 Amp, Current limited to 0.6 Amps Total Current for all channels not to exceed 8 Amps
Maximum power dissipation per channel	0.63 Watts
Maximum voltage drop @ 0.5 Amps	1.25 Volts
Minimum Load	4mA (Single card), 8mA (Dual Redundant), 12mA (Triple Redundant)
Maximum Leakage Current with Outputs off	500 μ A
Maximum Output Test Pulse Width	<300 μ s
Output Configuration	32 Outputs with 4 safety switches
Backplane to Card Output Delay Time	<175 μ s (ON to OFF)
Backplane to Card Output Delay Time	<175 μ s (OFF to ON)
Isolation from RTP system	500V AC/DC
Backplane Power	5 VDC @ 200 mA
Field Power	10 VDC to 30 VDC, 8.2 Amps maximum
Power Dissipation	14 Watts $\hat{=}$ 48 BTU/hr
Programmable Watchdog Timer	150 msec
Hardware Watchdog Timer	0.68 to 1.4 seconds

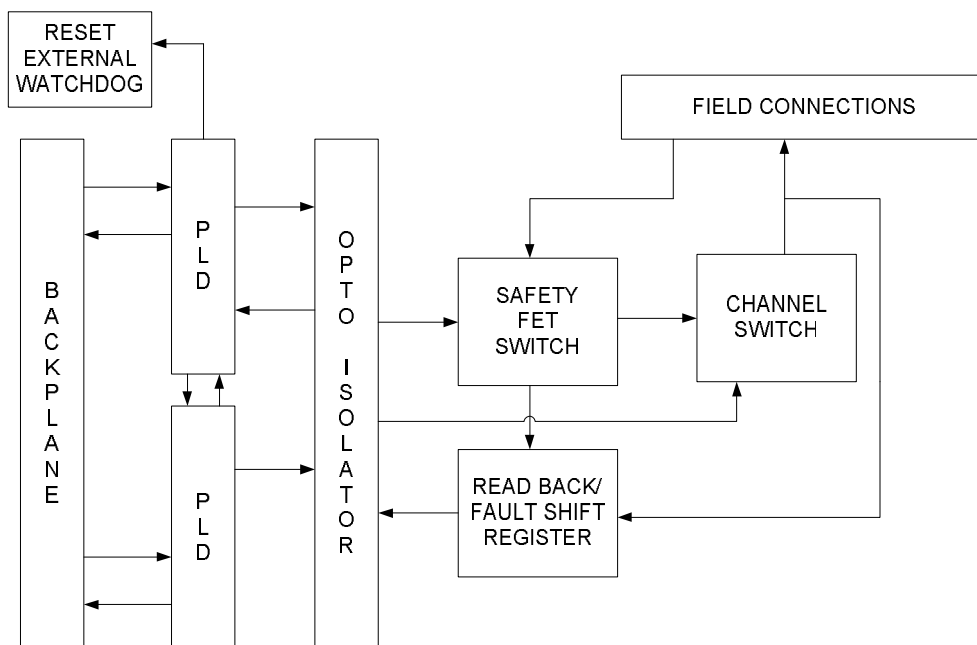
ENVIRONMENTAL SPECIFICATIONS

Operating Temperature Range	$\hat{=}$ 20°C to +60°C
Storage Temperature Range	$\hat{=}$ 25°C to +85°C
Relative Humidity Range	10% to 95%, non-condensing

TERMINATION MODULES

3299-03S/D/T*	Termination Module $\hat{=}$ 32 channel digital output sourcing (breaks the positive), with channel LEDs, 24 VDC
3299-11S	Termination Module $\hat{=}$ Single Universal

*Represents (S)ingle, (D)ual, or (T)riple card redundancy



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