



PRODUCT HIGHLIGHTS

- 32 Channels for Safety and Critical Control Applications
- SIL-3 Approved
- Line Open and Line Short Detection
- 1 millisecond SOE resolution
- Single, Dual or Triple Redundancy



3153 32-Channel Supervised Digital Input Card

Product Overview

The 3153 card functions as a supervised digital input card. It can detect line opens and line shorts. It can be installed into any 3200 N+ family chassis. All input channels are isolated from RTP chassis ground. All channels share a common external 24 Volt power source. This card is IEC61131-2 qualified and performs comprehensive diagnostic tests on all input channels and backplane communications for detecting internal faults; any errors detected are reported to the operating program.

The card can be configured as single, dual or triple redundant. One field sensor can be connected in parallel to one, two or three 3153 cards creating redundant inputs. When using redundant configurations, the signal validation (input voting) function can be used to validate the inputs received by the node processor. Redundant configurations increase system availability. The change of any input channel state initiates the logging of a time stamped sequence-of-events (SOE) record with 1 msec resolution.

I/O bus checking diagnostics, card address tests and configuration tests are performed each time the controller accesses the card. All data and control transfers are performed twice, once using the actual data and once using the inverted data. Both versions of the data are compared to verify that no errors exist. Any faults detected set status bits in an error detection variable returned to the user application program.

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 50,000 years an MTTFS of greater than 60,000 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

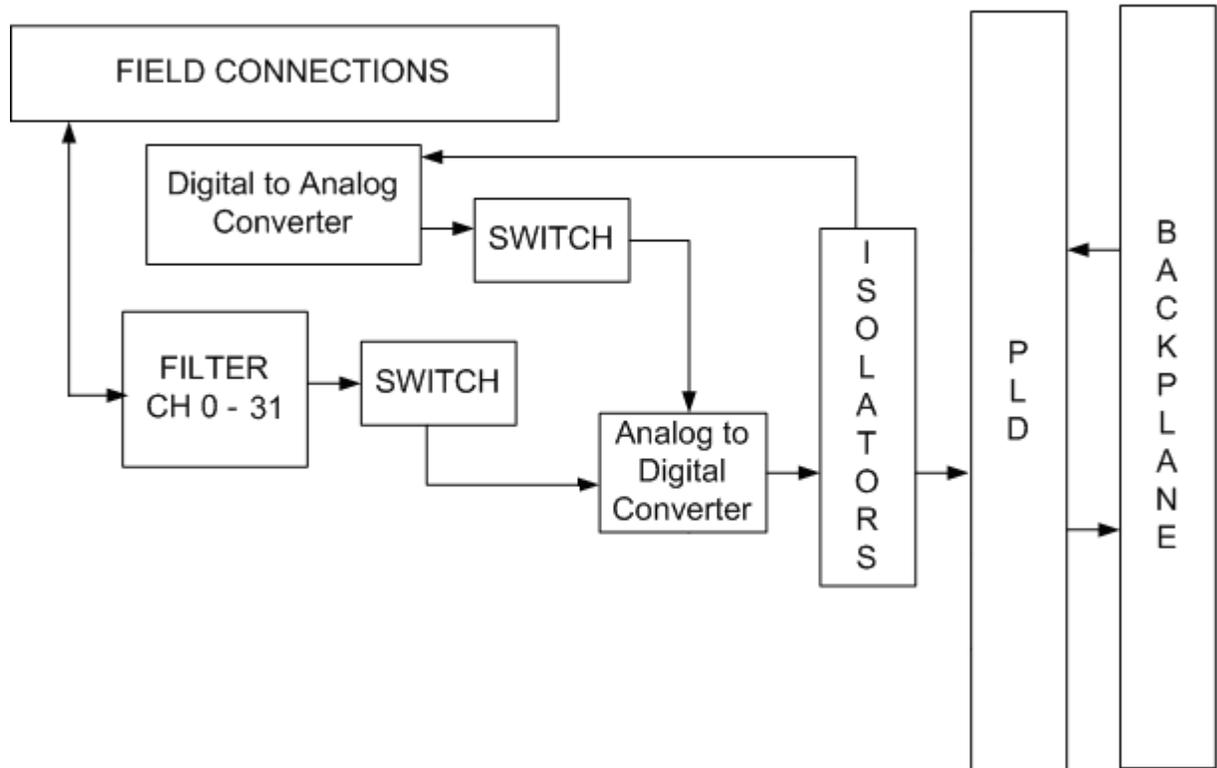
Number of Channels	32
Input levels for Supervised Digital Input Mode	Open > 9.465 VDC Off 7.036.0 to 9.465 VDC ON .5 to 3.13 VDC Short < 1.14 VDC Hold last State 7.036 to 3.13 VDC
Scan Rate	1000 sample sets per second
Input filter characteristics - order	none
Input Filter Supervised Digital	none
Type of protection	15 Volt TVS per channel, Digital isolators (galvanic)
Isolation	500 V Channel to RTP BUS
Common points between channels	All channels share a single common
Backplane Power	5 VDC @ 400 mA 24 VDC @ 125 mA
Termination module Power	+24 VDC (+/- 10%) @ 100 ma

Environmental Specification

Operating Temperature Range	-20 °C to +60 °C
Storage Temperature Range	-25 °C to +85 °C
Relative Humidity Range	10% to 95%, non-condensing

Termination Module

3099/21-101	SIL-3 Single Termination Module - 32 channel supervised digital input, 24 VDC
3099/21-201	SIL-3 Dual Termination Module - 32 channel supervised digital input, 24 VDC
3099/21-001	SIL-3 Triple Termination Module - 32 channel supervised digital input, 24 VDC



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