N-TRON *900B* Modular Industrial Ethernet Switch
Built to Operate Reliably in Industrial Applications

The *N-TRON™ 900B* Modular Industrial Ethernet Switch offers outstanding performance, ease of use, and flexible expansion options. It is ideally suited for connecting Ethernet enabled industrial equipment such as PLC's, Industrial PC's, Ethernet I/O and Data Acquisition Equipment.

Product Features

- Full IEEE 802.3 Compliance
- Up to Twenty Four 10/100BaseTX Ports
- Up to Twelve 100BaseFX Ports, ST or SC
- Extended Environmental Specifications
- Scaleable Three Slot Switch
- Flexible Combinations of TX & FX Modules
- Support for Full/Half Duplex Operation
- LED Link/Activity Status Indication
- Auto Sensing Speed and Flow Control
- Store-and-Forward Technology
- Auto Cable Sensing (MDIX)
- Up to 2.6 Gb/s Maximum Throughput
- Rugged Industrial DIN-Rail Enclosure
- Redundant Power Inputs (10-30 VDC)
- N-View Switch Monitoring Option

Flexibility

Mix and match fiber ports with twisted pair ports. Three module slots are available for the installation of *900* Series expansion modules providing maximum flexibility. Up to 24 twisted pair 10/100BaseTX or 12 100BaseFX fiber ports can be installed with multiple combinations available in between. Any expansion module can be installed in any slot.

Industrial Packaging and Specifications

The *900B* is designed to operate in industrial environments. It is housed in a rugged steel enclosure and standard 35mm DIN-RAIL mounting. An Optional kit is available for rackmount applications. Like all *N-TRON* products, the *900B* comes standard with extended temperature ratings, extended shock and vibration specs, redundant power inputs, and a high MTBF.

Ease of Use

The *900B* is a plug and play device. No configuration is required. All 10/100BaseTX ports are auto sensing and auto configuring. Each port is automatically set for maximum speed and performance. In addition, each twisted pair port has an Auto MDIX feature, eliminating the need for crossover cables.

LED's are provided to display the link status and activity of each port as well as power on/off status.

Performance

The *900B* uses "state of the art" Ethernet switching technology. This eliminates network collisions and increases network determinism. Up to 12,000 MAC addresses (4,000 per module) are supported enabling sophisticated and complex network architectures. A backplane speed of 2.6 Gb/s allows full wire speed capability on all ports simultaneously.

N-View OPC Switch Monitoring Option

The *N-TRON* N-View OLE for Process Control (OPC) Server Software can be combined with popular HMI software packages to add network traffic monitoring, trending and alarming to any application using *N-TRON* switches configured with the N-View option. *N-TRON*'s N-View OPC Server collects 41 different traffic variables per port and 5 system level variables per switch. This information can provide a complete overview of the network load, service quality, and packet traffic. OPC client software can use N-View OPC Server data to resolve network problems quickly and improve system reliability.

N-TRON
THE INDUSTRIAL NETWORK COMPANY

900B

Optional Expansion Modules

908TX	Slide in module with eight 10/100BaseTX Ports
902FX	Slide in module with two 100BaseFX Multimode Fiber Ports (SC or ST Connectors - 2 km fiber length)
902FXE	Slide in module with two 100BaseFX Singlemode Fiber Ports (SC or ST Connectors - 15, 40, or 80 km fiber length)
904FX	Slide in module with four 100BaseFX Multimode Fiber Ports (SC or ST Connectors - 2 km fiber length)
904FXE	Slide in module with four 100BaseFX Singlemode Fiber Ports (SC or ST Connectors - 15, 40, or 80 km fiber length)

Specifications

Physical
Height:	3.2"	(8.13 cm)
Width:	7.1"	(18.03 cm)
Depth:	4.1"	(10.41 cm)
Weight:	~3.0 lbs	(2.3 kg)

(note: can be mounted horizontally or vertically

Electrical
Input Voltage:	10-30 VDC (Redundant Inputs)
Input/Inrush Current:	200/400mA@24V per backplane
Input/Inrush Current:	250/500mA@24V per 908TX module
Input/Inrush Current:	400/800mA@24V per 902/904FX module

Environmental
Operating Temperature:	-20°C to 70°C
Storage Temperature:	-40°C to 85°C
Operating Humidity:	10% to 95% (Non Condensing)
Operating Altitude:	0 to 10,000 ft.

Shock and Vibration (bulkhead mounted)
Shock:	200g @ 10ms
Vibration:	1g, 10-500Hz, 3 axis
Seismic:	20g, 5-200Hz, 15s

Reliability
MTBF:	>2M Hours (measured)

Network Media
10BaseT:	>Cat3 Cable
100BaseTX:	>Cat5 Cable
100BaseFX	
Multimode:	50-62.5/125μm
Singlemode:	7-10/125μm

Fiber Transceiver Characteristics

Fiber Length	2km*	15km**	40km**	80km**
TX Power Min	-19dBm	-15dBm	-5dBm	-5dBm
RX Sensitivity Max	-32dBm	-29dBm	-34dBm	-34dBm
Wavelength	1310nm	1310nm	1310nm	1550nm

* Multimode Fiber Optic Cable
** Singlemode Fiber Optic Cable

Recommended Wiring Clearance:
Front TX / (FX):	2" (5.08 cm) / 4" (10.16 cm)
Side:	1" (2.54 cm)

Emissions and Safety Approvals:
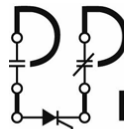FCC Part 15 Class A, CE, UL Listed (US & Canada)
CLASS I, DIV 2, GROUPS A,B,C,D,T4A

Ordering Information

900B	Industrial Ethernet switch chassis with 3 slots for optional expansion modules
900B-N	with N-View Firmware Option
900B-FP	Filler Panel
900B-PM	Panel Mount Kit
900-RM	19" Rackmount Kit
908TX	Eight ports 10/100BaseTX (RJ-45)
902FX-XX	Two ports 100BaseFX multimode fiber
902FXE-XX-YY	Two ports 100BaseFX singlemode fiber
904FX-XX	Four ports 100BaseFX multimode fiber
904FXE-XX-YY	Four ports 100BaseFX singlemode fiber

Where "XX" is:	ST for ST style fiber connector
	SC for SC style fiber connector
Where "YY" is:	15 for 15km max. fiber segment length
	40 for 40km max. fiber segment length
	80 for 80km max. fiber segment length

Contact Information

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