

## 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
- Scalable 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
- 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. It has extended industrial specifications and features to meet or exceed the specifications of the equipment it is connecting. These include extended temperature ratings, extended shock and vibration specs, redundant power inputs, and high MTBF.

### Ease of Use

The 900B is a plug and play device. No configuration is



required. All 10/100BaseTX ports are autosensing 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 cross-over 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 45 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.

## 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)

### 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

### Electrical

Input Voltage:	10-30 VDC
Input Current:	260mA@24V per module

## Ordering Information

### 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.

PN	Description
900B	Industrial Ethernet switch chassis with 3 slots for optional expansion modules
900B-N	with N-View Firmware Option
900-RM	19" Rackmount Kit
900B-FP	Filler Panel
908TX	Eight ports 10/100BaseTX (RJ45)
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

### Shock and Vibration (bulkhead mounted)

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

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

### Reliability

MTBF:	>2M Hours (measured)
-------	----------------------

### Network Media

10BaseT:	>Cat3 Cable
100BaseTX:	>Cat5 Cable
100BaseFX	
Multimode:	50-62.5/125µm
Singlemode:	7-9/125µm

## Contact Information

N-TRON Corp.  
820 S. University Blvd., Suite 4E  
Mobile, AL 36609  
TEL: (251) 342-2164  
FAX: (251) 342-6353  
Website: [www.n-tron.com](http://www.n-tron.com)  
Email: [info@n-tron.com](mailto:info@n-tron.com)

## Fiber Transceiver Characteristics

Fiber Length  
TX Power Min  
RX Sensitivity Max  
Wavelength

2km*	15km**	40km**	80km**
-19dBm	-8dBm	-5dBm	-5dBm
-32dBm	-29dBm	-34dBm	-34dBm
1310nm	1310nm	1310nm	1550nm

\* Multimode Fiber Optic Cable  
\*\* Singlemode Fiber Optic Cable