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## N-Tron Networking Series

### Unmanaged Industrial Ethernet Switch

#### PRODUCT FEATURES

- Full IEEE 802.3 and 1613 Compliance
- NEMA TS1/TS2 Compliance
- American Bureau of Shipping (ABS) Type Approval
- Sixteen (16) 10/100 BaseTX RJ-45 Ports
- One (1) 100BaseFX Port, ST (shown) or SC
- -40°C to 85°C Operating Temperature
- Auto Sensing 10/100BaseTX, Duplex, and MDIX
- Store-and-Forward Technology
- Up to 2.6 Gb/s Backplane Throughput
- Rugged Industrial DIN-Rail Enclosure
- Redundant Power Inputs (10-30 VDC)

Bi-Color LEDs For Link, Speed, Activity & Duplex Status

Advanced Management Functions (With -A option only):

- IGMP Snooping
- VLAN
- QoS
- Trunking and Mirroring
- N-View<sup>™</sup> (Remote Monitoring Using OPC Technology)

#### PRODUCT OVERVIEW

The N-TRON® 517FX Series Industrial Ethernet Switch offers outstanding performance and ease of use. It is ideally suited for connecting Ethernet enabled industrial and/or security equipment and can be optionally configured with advanced Ethernet communication management functions.

#### Industrial Packaging and Specifications

The 517FX, designed to operate in industrial environments, is housed in a rugged DIN-rail-mounted steel enclosure. Optional panel and rack mount kits are also available. The switch comes standard with extended temperature rating, extended shock and vibration specs, redundant power inputs, and a high MTBF (greater than 2M hours).

#### Ease of Use

The 517FX requires no setup unless the advanced port functions are utilized. The sixteen 10/100BaseTX ports are auto sensing and auto configuring. Each copper port automatically negotiates for maximum speed and performance by default. The fiber optic port supports full 200Mb/s communications via 100BaseFX. Bi-color LEDs are provided to display the link status, link speed and activity of each port as well as power on/off status.

#### Performance

The 517FX supports up to 4,000 MAC addresses and uses advanced IEEE 802.3 Fast Ethernet 10/100BaseTX switching technology to eliminate network collisions and increase network determinism. A high-speed processor and backplane provide outstanding throughput performance.



#### ADVANCED MANAGEMENT FEATURES

The 517FX-A offers several management functions that can be easily configured using the COM Port (DB 9 connector located on the right side of the switch).

**IGMP Snooping:** Internet Group Management Protocol allows the N-Tron switch to intelligently forward and filter multicast traffic.

**VLAN:** Virtual Local Area Network allows switch segmentation in order to create two or more separate local area network domains.

**QoS:** Quality of Service streamlines network operation by managing packet priority. The primary goal of QoS is to improve the latency of prioritized Ethernet packets required for ring management, real-time and other interactive applications.

**Trunking**: Trunking (aggregation) enables multiple physical ports to be linked together and function as one uplink to another identically configured trunking-capable switch. This feature increases the bandwidth between switches and creates redundancy for applications requiring high levels of fault tolerant operation.

**Port Mirroring:** Port mirroring allows traffic on one port to be duplicated and sent to a designated mirror port. This function can be used to monitor Ethernet traffic on the designated source port using the assigned mirror port.

**N-View OPC Switch Monitoring:** (With -A or -N Option Only) N-View OPC server software can be used with popular HMI software packages to transmit operational information from N-View-capable switches. This technology enables network traffic monitoring, as well as alarm and trending details. In all, the N-View OPC Server collects 41 different traffic variables per port and five system level variables per switch, providing a complete overview of network load, service quality, and packet traffic. Empowered with N-View OPC Server data, users can resolve network problems faster and make more informed decisions about overall system performance.



4,000

2.1 µs

### **Specifications**

Switch Properties Number of MAC Addresses: Aging Time: Latency Typical: Switching Method:

**Case Dimensions** 

Height: Width: Depth: Weight: Din-Rail: Store & Forward 2.3" (5.8 cm) 7.4" (18.8 cm) 3.5" (8.8 cm)

1.9 lbs (0.9 kg)

35 mm

300s, Programmable (-A option)

Electrical Redundant Input Voltage: Input Current: BTU/hr: Inrush: N-Tron Power Supply:

10-30 VDC 440 mA @ 24 VDC 36 @ 24 VDC 8.5 amp/0.8 ms @ 24 VDC NTPS-24-1.3 (1.3 A @ 24 VDC)

#### Environmental

Operating Temperature: Storage Temperature: **Operating Humidity:** Operating Altitude:

-40°C to 85°C -40°C to 85°C 10% to 95% (Non Condensing) 0 to 10,000 ft.

Shock and Vibration (bulkhead mounted) Shock:

Vibration/Seismic:

200 g @ 10 ms 50 g, 5-200 Hz, Triaxial

Reliability MTBF:

>2 Million Hours

9600,n,8,1

Serial Configuration Port Com Parameters:

#### Network Media

10BaseT: 100BaseTX: 100BaseFX: Multimode: Singlemode:

≥Cat5 Cable 50-62.5/125µm 7-10/125µm

Sixteen (16) RJ-45 Copper Ports

One (1) SC or ST Duplex Port

≥Cat3 Cable

Connectors 10/100BaseTX:

100BaseFX:

#### Recommended Wiring Clearance Fro cm) Sid cm)

ont:	4" (10.2
de:	1" (2.6 c

#### Fiber Transceiver Characteristics

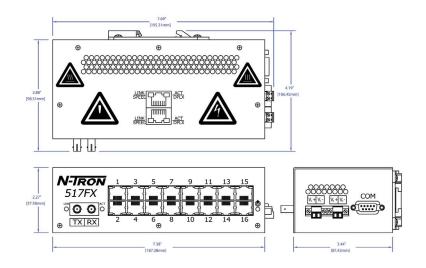
Fiber Length	2km*	15km**	40km**	80km**
TX Power Min	-19dBm	-15dBm	-5dBm	-5dBm
RX Sensitivity Max	-31dBm	-31dBm	-34dBm	-34dBm
Wavelength	1310nm	1310nm	1310nm	1550nm

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

#### Regulatory Approvals

FCC/CE (CFR 47, Part 15, Subpart B, Class A); ICES-003 EMC Dir 89/336/EEC, EN 50204, EN 55011 EN61000-4-2, 3, 4, 5, 6, 8, 11, EN61000-6-2, 4 ANSI C63.4 UL /cUL: Class I, Div 2, Groups A, B, C, D and T4 UL 508 and UL 1604 CAN/CSA-C22.2 No.213, ATEX II 3 G Ex nA IEEE 1613 for Electric Utility Substations ABS Type Approval for Shipboard Applications GOST-R Certified, RoHS Compliant

Designed to comply with: NEMA TS1/TS2 for Traffic Control



### ORDERING INFORMATION

PART NUMBER	DESCRIPTION
517FX-A-XX	17-port (16 10/100BaseTX, 1 100BaseFX Fiber Uplink, Multimode) Industrial Ethernet Switch, DIN-Rail
	with Advanced Management Features (includes N-View)
517FXE-A-XX-YY	17-port (16 10/100BaseTX, 1 100BaseFX Fiber Uplink, Singlemode) Industrial Ethernet Switch, DIN-Rail
	with Advanced Management Features (includes N-View)
517FX-N-XX	17-port (16 10/100BaseTX, 1 100BaseFX Fiber Uplink, Multimode) Industrial Ethernet Switch, DIN-Rail
	with N-View OPC switch monitoring
517FXE-N-XX-YY	17-port (16 10/100BaseTX, 1 100BaseFX Fiber Uplink, Singlemode) Industrial Ethernet Switch, DIN-Rail
	with N-View OPC switch monitoring
517FX-XX	17-port (16 10/100BaseTX, 1 100BaseFX Fiber Uplink, Multimode) Industrial Ethernet Switch, DIN-Rail
517FXE-XX-YY	17-port (16 10/100BaseTX, 1 100BaseFX Fiber Uplink, Singlemode) Industrial Ethernet Switch, DIN-Rail
NTPS-24-1.3	N-Tron Power Supply (1.3 amp @ 24 VDC)
900-PM	Panel Mount Kit - converts switch from DIN-rail to panel mount.
URMK	Universal Rack Mount Kit

Where:

A = Advanced Management Features (includes N-View)

- N = N-View OPC Switch Monitoring
- E = Singlemode
- XX = ST for ST style fiber connector, SC for SC style fiber connector
- YY = Segment length:
  - 15 for 15km max. fiber segment length
  - 40 for 40km max. fiber segment length
  - 80 for 80km max. fiber segment length



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