# imall

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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
- -40° to 85°C Operating Temperature
- · Auto Sensing 10/100BaseTX, Duplex, and MDIX
- · Store-and-Forward Technology
- · Up to 2.6 Gb/s Maximum 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
- Mirroring
- N-View<sup>™</sup> (Remote Monitoring Using OPC Technology)

#### PRODUCT OVERVIEW

The N-TRON<sup>®</sup> 516TX 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 516TX, 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 516TX requires no setup unless the advanced port functions are utilized. The sixteen 10/100BaseTX ports are auto sensing and auto configuring. Each port automatically negotiates for maximum speed and performance by default. 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 516TX 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 516TX-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.



### Specifications

#### Switch Properties

Number of MAC Addresses: Aging Time: Latency Typical: Switching Method: 4,000 300s, Programmable (-A option) 2.1 μs Store & Forward

#### **Case Dimensions**

Height: Width: Depth: Weight: Din-Rail:

Electrical

Input Current: Inrush: 2.3" (5.8 cm) 7.4" (18.8 cm) 3.5" (8.8 cm) 1.9 lbs (0.9 kg)

35 mm

10-30 VDC 400 mA @ 24 VDC 7.0 amp/0.8ms @ 24 VDC NTPS-24-1.3 (1.3A @ 24 VDC)

#### Environmental

N-Tron Power Supply:

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

Redundant Input Voltage:

-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: ≥Cat3 Cable ≥Cat5 Cable

Connectors 10/100BaseTX:

Sixteen (16) RJ-45 Copper Ports

#### **Recommended Wiring Clearance**

Front:	0	2" (5.1 cm)
Side:		1" (2.6 cm)

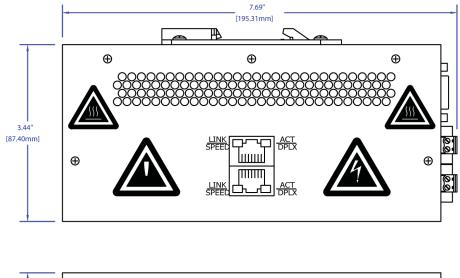
#### **Regulatory Approvals**

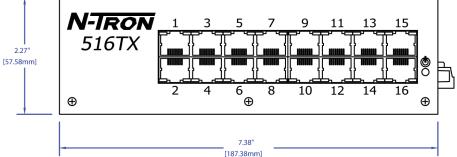
FCC/CE (CFR 47, Part 15, Subpart B, Class A); ICES-003 EMC Dir 89/336/EEC, EN 50204, EN 55011 EN61000-4-2, 3, 4, 5, 6, 8,11, EN61000-6-2, 4 ANSI C63.4 UL /cUL: Class I, Div 2, Groups A, B, C, D and T4 UL 508 and UL 1604 CAN/CSA-C22.2 No.213, ATEX II 3 G Ex nA IEEE 1613 for Electric Utility Substations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

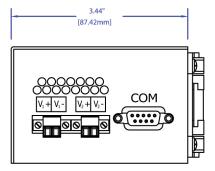
Designed to comply with: NEMA TS1/TS2 for Traffic Control

## ORDERING INFORMATION

PART NUMBER	DESCRIPTION
516TX-A	16-port 10/100BaseTX, Industrial Ethernet Switch, DIN-Rail with Advanced Management Features (includes N-View)
516TX-N	16-port 10/100BaseTX, Industrial Ethernet Switch, DIN-Rail with N-View OPC switch monitoring
516TX	16-port 10/100BaseTX, 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 mounting from DIN-rail to panel mount
URMK	Universal Rack Mount Kit









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As the global experts in communication, monitoring and control for industrial automation and networking, Red Lion has been delivering innovative solutions for over forty years. Our award-winning technology enables companies worldwide to gain real-time data visibility that drives productivity. Product brands include Red Lion, N-Tron and Sixnet. With headquarters in York, Pennsylvania, the company has offices across the Americas, Asia-Pacific and Europe. For more information, please visit www.redlion.net. Red Lion is a Spectris company.