508FX2 Industrial Ethernet Switch

N-Tron Networking Series

red lion®

▶▶▶ Industrial Ethernet Switch

PRODUCT FEATURES

- Full IEEE 802.3 and 1613 Compliance
- NEMA TS1/TS2 Compliance
- American Bureau of Shipping (ABS) Type Approval
- Six (6) 10/100 BaseTX RJ-45 Ports
- Two (2) 100BaseFX Ports, ST (shown) or SC
- -40ºC to 85ºC Operating Temperature
- Auto Sensing 10/100BaseTX, Duplex, and MDIX
- Store-and-Forward Technology
- Up to 1.6 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 and Mirroring
- N-View™ (Remote Monitoring Using OPC Technology)

PRODUCT OVERVIEW

The N-TRON® 508FX2 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 508FX2, 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 508FX2 requires no setup unless the advanced port functions are utilized. The six 10/100BaseTX ports are auto sensing and auto configuring. Each copper port automatically negotiates maximum speed and performance by default. The two fiber optic ports support 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 508FX2 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 allow full-wire speed capability on all ports simultaneously.

ADVANCED MANAGEMENT FEATURES

The 508FX2-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.

industrial
networking

Switch Properties

Number of MAC Addresses:	4,000
Aging Time:	20s, Programmable (-A option)
Latency Typical:	2.1 µs
Switching Method:	Store & Forward

Case Dimensions

Height:	2.3" (5.8 cm)
Width:	5.9" (15.0 cm)
Depth:	3.8" (9.7 cm)
Weight:	1.6 lbs (0.8 kg)
Din-Rail:	35 mm

Electrical

Redundant Input Voltage:	10-30 VDC
Input Current:	380 mA @ 24VDC
BTU/hr:	31.1 @ 24VDC
Inrush:	8.5 amp/0.2ms @ 24VDC

Environmental

Operating Temperature:	-40ºC to 85ºC
Operating Humidity:	10% to 95% (Non Condensing)
Operating Altitude:	0 to 10,000 ft.

Shock and Vibration (bulkhead mounted)

Shock:	200 g @ 10 ms
Vibration/Seismic:	50 g, 5-200 Hz, Triaxial

Reliability

MTBF:	>2 Million Hours

Serial Configuration Port

Com Parameters:	9600,n,8,1

Network Media

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

Connectors

10/100BaseTX:	Six (6) RJ-45 Copper Ports
100BaseFX:	Two (2) SC or ST Duplex Ports

Recommended Wiring Clearance

Front:	4" (10.2 cm)
Side:	1" (2.6 cm)

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
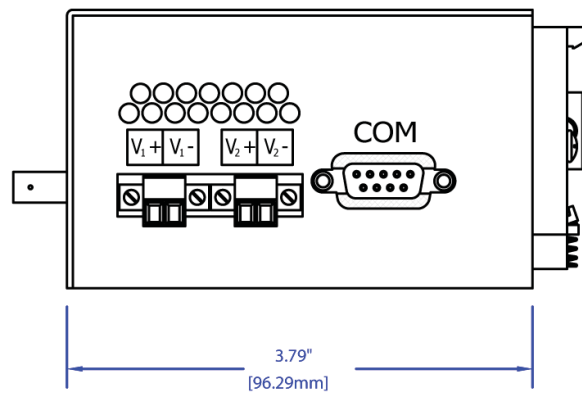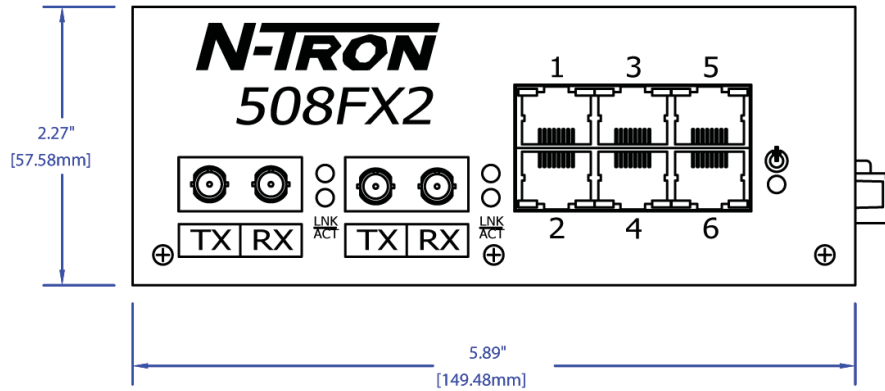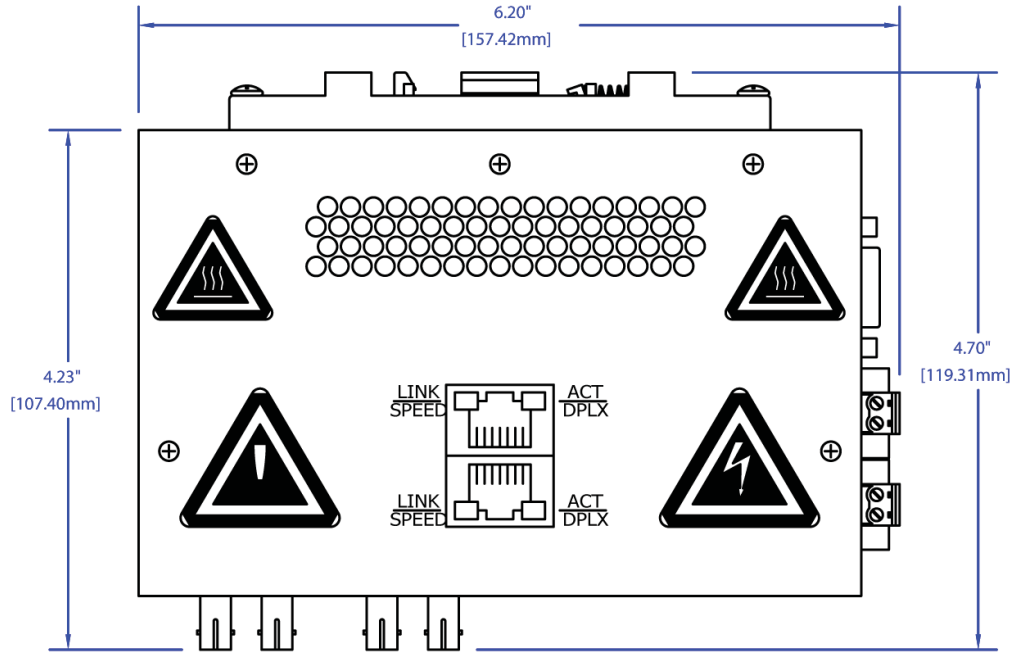** Singlemode Fiber Optic Cable

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

6.20"
[157.42mm]

4.70"
[119.31mm]

4.23"
[107.40mm]

LINK SPEED
ACT DPLX

LINK SPEED
ACT DPLX

N-TRON
508FX2

1   3   5

2   4   6

TX RX   TX RX

LNK ACT

LNK ACT

2.27"
[57.58mm]

5.89"
[149.48mm]

COM

V_1+ V_1- V_2+ V_2-

3.79"
[96.29mm]

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
508FX2-A-XX	8-port (6 10/100BaseTX, 2 100BaseFX Fiber Uplink, Multimode) Industrial Ethernet Switch, DIN-Rail with Advanced Management Features (includes N-View)
508FXE2-A-XX-YY	8-port (6 10/100BaseTX, 2 100BaseFX Fiber Uplink, Singlemode) Industrial Ethernet Switch, DIN-Rail with Advanced Management Features (includes N-View)
508FX2-N-XX	8-port (6 10/100BaseTX, 2 100BaseFX Fiber Uplink, Multimode) Industrial Ethernet Switch, DIN-Rail with N-View OPC switch monitoring
508FXE2-N-XX-YY	8-port (6 10/100BaseTX, 2 100BaseFX Fiber Uplink, Singlemode) Industrial Ethernet Switch, DIN-Rail with N-View OPC switch monitoring
508FX2-XX	8-port (6 10/100BaseTX, 2 100BaseFX Fiber Uplink, Multimode) Industrial Ethernet Switch, DIN-Rail
508FXE2-XX-YY	8-port (6 10/100BaseTX, 2 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
500-UTA89	Metal DIN-Rail Clip

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

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.