708FX2 Industrial Ethernet Switch

N-Tron Networking Series



Managed Industrial Ethernet Switch

The N-TRON[®] 708FX2 Industrial Ethernet Switch combines outstanding performance and ease of use. The fully managed switch is ideally suited for connecting Ethernet-enabled industrial and/or security equipment.

PRODUCT FEATURES

- Six 10/100BaseTX RJ-45 Ports
- Two 100BaseFX Fiber ports, ST or SC style
- -40°C to 85°C Operating temperature
- ESD and Surge Protection Diodes on all Ports
- Auto Sensing 10/100BaseTX, Duplex, and MDIX
- Store-and-Forward Technology
- Rugged DIN-Rail Enclosure
- Redundant Power Inputs (10-30 VDC)
- Configurable Alarm Contact
- Configurable Bi-Color Fault Status LED

Fully Managed Features:

- Full SNMP and Web Browser Management
- · Detailed Ring Map and Fault Location Charting
- N-Ring[™] Technology with ~30ms Healing
- N-View[™] OPC Monitoring
- Plug-and-Play IGMP Support
- 802.1Q tag VLAN and Port VLAN
- 802.1p QoS and Port QoS
- EtherNet/IP[™] CIP Messaging
- LLDP (Link Layer Discovery Protocol)
- Trunking
- Mirroring
- 802.1d, 802.1w, 802.1D RSTP
- DHCP Server, Option 82 relay, Option 61, IP Fallback
- · Port Security-MAC Address Based

Management Features

The 708FX2 offers several management functions that can be easily configured using a web browser.

IGMP Snooping - Internet Group Management Protocol is a feature that allows the 708FX2 switch to forward and filter multicast traffic intelligently.

VLAN - Virtual Local Area Network allows you to segment the switch in order to create two or more separate local area network domains.

QoS - Quality of Service provides prioritization of network traffic in order to provide better network service. 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 (link aggregation) enables multiple physical ports to be linked together and function as one uplink to another N-TRON trunking capable switch configured in the same manner, thereby increasing the bandwidth between switches. This configuration can provide increased bandwidth and redundancy to applications requiring high levels of fault tolerant operation.

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



Rapid Spanning Tree

This function allows the switch to be configured in a ring or mesh topology, and provides support for redundant path communications with high-speed (rapid) healing.

Remote Monitoring Options

For ease of configuration and monitoring, the 708FX2 offers web browser management and N-View OLE for Process Control (OPC) server software. The N-TRON N-View software can be combined with popular HMI software packages to add network traffic monitoring, trending, and alarming to any application using N-TRON switches. In addition SNMP is available for switch link and status monitoring. The Alarm Contact and Status LED can be configured to respond to power failure on power input 1 or input 2, N-Ring Broken, Partial Break High, Partial Break Low, or if multiple ring managers are detected.

N-Ring Technology

The switch's ring manager, using N-TRON's N-Ring technology, offers expanded ring size capacity, detailed fault diagnostics, and a standard healing time of ~30ms. The 708FX2 ring manager periodically checks the health of the ring via packets. If the ring manager stops receiving these health check packets, it converts the Ring to a linear bus topology within ~30ms. When all switches in the ring are N-TRON fully managed switches, a detailed ring map and fault location chart will also be provided on the ring manager's web browser and OPC server to identfy the health status of the ring. N-Link allows the linking of two N-Rings. Up to 250 fully managed N-TRON switches can participate in N-Ring topologies.

Industrial Packaging and Specifications

The 708FX2 is designed to operate in industrial environments. It is housed in a rugged steel DIN-Rail enclosure. It has extended industrial specifications and features to meet or exceed the operating parameters of the connected equipment. These include extended temperature ratings, extended shock and vibrations specs, redundant power inputs, and high MTBF (greater than 2M hours).

Ease of Use

The 10/100BaseTX ports are auto sensing and auto configuring. Each copper port is automatically negotiated for maximum speed and performance by default, but can also be hard coded using the user interface. A high-speed processor allows wire speed capability on all 100BaseTX ports simultaneously.



8000

2.9 µs

2.3"

3.8"

1.7 lbs

35mm

10-30 VDC

27 @ 24VDC

-40°C to 85°C

-40°C to 85°C

0 to 10,000 ft.

200g @ 10ms

(Non Condensing)

50g, 5-200Hz, Triaxial

5% to 95%

330mA max @ 24VDC

NTPS-24-1.3 (1.3 A @ 24V)

6"

Programmable

Store-and-Forward

(5.8cm)

(15.3cm)

(9.6cm)

(0.75kg)

708FX2 Specifications

Switch Properties

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

Physical

Height: Width: Depth: Weight (max): DIN-Rail Mount:

Electrical

Redundant Input Voltage: Input Current (max): BTU/hr: N-TRON Power Supply:

N-TRON Power St

Environmental Operating Temperature:

Storage Temperature: Operating Humidity:

Operating Altitude:

Shock and Vibration (bulkhead mounted)

Shock: Vibration/Seismic:

Reliability MTBF:

>2 Million Hours

Network Media

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

7-10/125µm

Fiber Transceiver Characteristics

2km*	15km**	40km**	80km**
-19dBm	-15dBm	-5dBm	-5dBm
-31dBm	-31dBm	-34dBm	-34dBm
1310nm	1310nm	1310nm	1550nm
	-19dBm -31dBm	-19dBm -15dBm -31dBm -31dBm	-19dBm -15dBm -5dBm -31dBm -31dBm -34dBm

* Multimode Fiber Optic Cable ** Singlemode Fiber Optic Cable

Connectors

10/100BaseTX:	Six (6) RJ-45 Copper Ports			
100BaseFX:	Two (2) SC or ST			
	Fiber Duplex Ports			
Recommended Wiring Clearance				
– (411 (40.40)			

Front:	4"	(10.16cm)
Side:	1"	(2.54cm)

Regulatory Approvals

FCC/CE (CFR 47, Part 15, Subpart B, Class A) EN 55011 ICES-003- Class A EN61000-4-2/3/4/5/6/8/11, EN61000-6-2/4 UL /cUL: Class I, Div 2, Groups A, B, C, D and T4A ANSI/ISA 12.12.01-2007 ATEX II 3 G Ex nC (DEMKO 03 ATEX 0316686U) ABS Type Approval for Shipboard Applications DNV Type Approval Certification EN50155 for Railway Applications GOST-R Certified RoHS Compliant

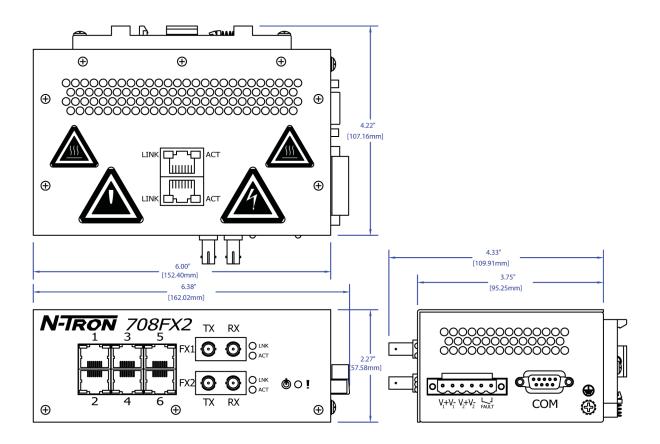
Designed to comply with:

IEEE 1613 for Electric Utility Substations NEMA TS1/TS2 for Traffic Control

EtherNet/IP[®]

708FX2 Industrial Ethernet Switch Ordering Information

708FX2-XXSix 10/100BaseTX Ports, Two Multimode 100BaseFX Fiber Optic Ports708FXE2-XX-YYSix 10/100BaseTX Ports, Two Singlemode 100BaseFX Fiber Optic Ports700-PMPanel Mount Kit9000-UTA107Optional Metal DIN rail MountURMK19" Universal Rack Mount KitNTPS-24-1.3N-TRON Power Supply - (1.3 Amp @ 24VDC)Where: XX = ST or SC,YY = 15, 40 or 80 for Singlemode, Blank for MultimodeE = Singlemode, and Blank Otherwise





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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 automation, Ethernet and cellular M2M 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. Red Lion is part of Spectris plc, the productivity-enhancing instrumentation and controls company. For more information, please visit www.redlion.net.

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