111FX3 Industrial Ethernet Switch

N-Tron Networking Series

▶▶▶ Unmanaged Industrial Ethernet Switch

PRODUCT FEATURES

- Compact, Space Saving Package
- Full IEEE 802.3 Compliance
- Eight 10/100BaseTX RJ-45 Ports
- Three 100BaseFX Ports, ST or SC Style
- Unmanaged Operation
- Extended Environmental Specifications
- -40ºC to 80ºC Operating Temperature
- >2 Million Hours MTBF
- Supports Full/Half Duplex Operation
- Auto Sensing 10/100BaseTX, Duplex, MDIX
- Full Wire Speed Communication
- Store-and-Forward Technology
- Redundant Power Inputs (10-49 VDC)
- ESD Protection Diodes on all RJ-45 Ports
- Surge Protection Diodes on Power Inputs
- LED Link/Activity Status Indication
- Hardened Metal DIN-Rail Enclosure



PRODUCT OVERVIEW

The N-TRON® 111FX3 unmanaged industrial network switch is designed to meet the most demanding communications requirements while providing high throughput and minimum downtime. The 11-port Ethernet switch is the perfect low-cost solution for mission critical data acquisition, control, and Ethernet I/O applications.

Exceptional Quality

The ultra-compact 111FX3 provides exceptional performance and reliability under harsh conditions. Enclosed in a high-grade metal case, the switch offers a robust feature set that includes an extended temperature range, superior shock and vibration resistance, redundant power inputs, surge and ESD protection, and an exceptional MTBF—greater than two million hours. The space-saving design includes an attached DIN-rail bracket for quick installation.

Versatile Connectivity

The 111FX3 includes eight RJ-45 auto-sensing 10/100BaseTX ports. All ports support full/half duplex transmission and use N-Tron's proven Ethernet switching technology. Setup is easy. The unit automatically configures itself on the network and auto-negotiates both speed and flow control for all copper ports.

For fiber optic networks, the 111FX3 supplies three 100BaseFX ports. These connections provide vital support for applications where EMI immunity or communication over long distances (up to 80 km) is required. N-Tron offers singlemode or multimode installations, as well as SC- or ST-style connectivity.

Excellent Network Support

The 111FX3 is a brilliant plug-and-play solution for unmanaged operations, eliminating virtually all network collisions. Designed with advanced communication processing, store-and-forward programming and memory for up to 8,000 MAC-addresses, this powerful unit handles the demands of even the most complex networks. Intelligent auto-sensing ports instantly recognize and resolve 10/100BaseTX, MDIX and duplex conflicts. For added convenience, LEDs are provided to display link status and activity for each port.

111FX3 Specifications

Specifications

Switch Properties

Number of MAC Addresses:	8000
Latency Typical:	2.6 µs
Switching Method:	Store-and-Forward

Case Dimensions

Height:	4.3"	(10.8 cm)
Width:	2.4"	(6.1 cm)
Depth:	4.6"	(11.5 cm)
Weight (max):	1.4 lbs	(0.64 kg)
DIN-Rail Mount:	35mm	

Electrical

Redundant Input Voltage:	10-49 VDC (Regulated)
Input Current (max):	410mA max.@24 VDC
BTU/hr:	33.6@24 VDC
N-Tron Power Supply:	NTPS-24-1.3 (1.3A@24V)

Environmental

Operating Temperature:	-40°C to 80°C
Storage Temperature:	-40°C to 85°C
Operating Humidity:	5% to 95% (Non Condensing)
Operating Altitude:	0 to 10,000 ft.

Shock and Vibration (bulkhead mounted)

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

Reliability

MTBF:	>2 Million Hours

Network Media

10BaseT:	≥Cat3 Cable
100BaseTX:	≥Cat5 Cable

Connectors

10/100BaseTX:	Eight (8) RJ-45 Copper Ports
100BaseFX:	Three (3) SC or ST Fiber Duplex Ports

Recommended Wiring Clearance

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

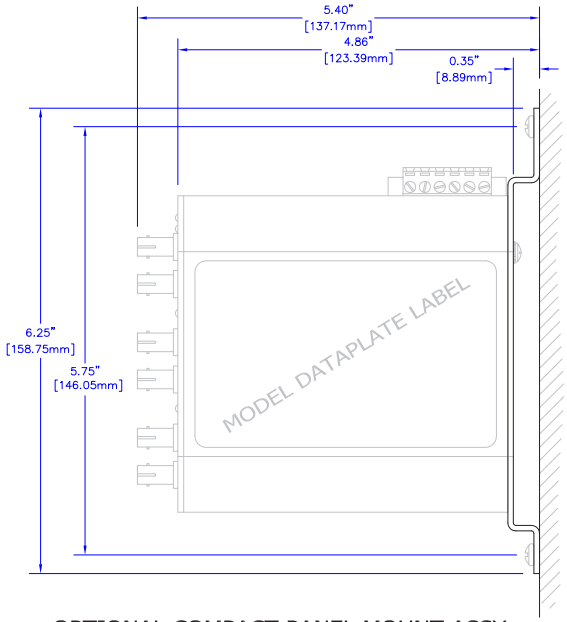
* Multimode Fiber Optic Cable
** Singlemode Fiber Optic Cable

Regulatory Approvals

- FCC: Title 47, Part 15, Subpart B, Class A; ANSI C63.4; ICES-003
- UL /cUL: Class I, Div 2, Groups A, B, C, D and T4
- CE: IEC 61000-4-2/3/4/5/6/8/11, EN 61000-6-2/4
- Other: ABS Type Approval for Shipboard Applications; GOST-R certified; RoHS compliant

Further information regarding this product's regulatory conformity can be found on the N-Tron website at www.n-tron.com/regulator



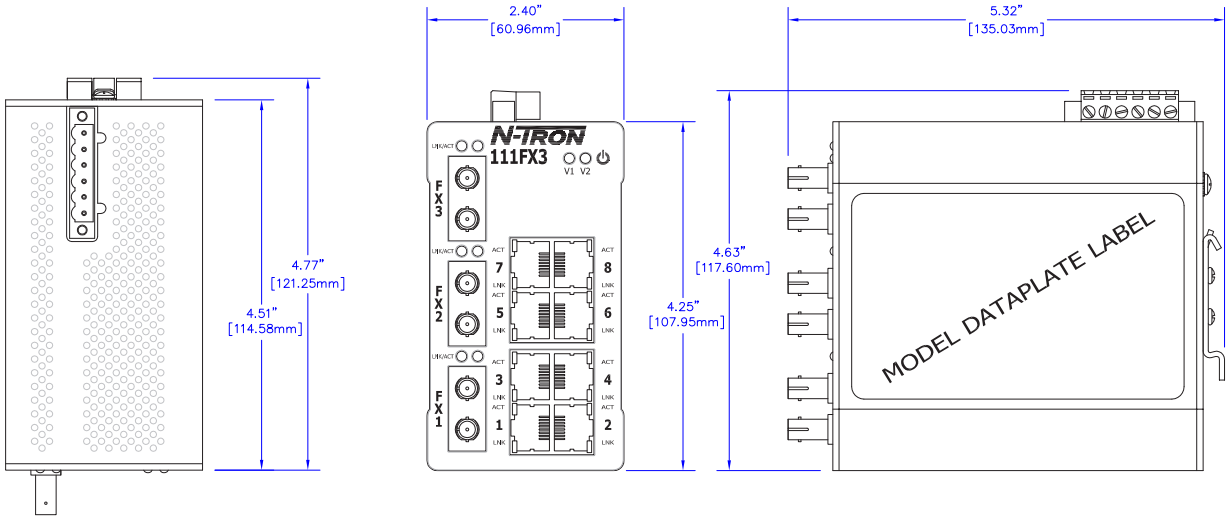


OPTIONAL COMPACT PANEL MOUNT ASSY.
(P/N: CPMA-1)

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
111FX3-XX	11-Port (8 10/100BaseTX, 3 100BaseFX Fiber Ports, multimode) Industrial Ethernet Switch, DIN-Rail
111FXE3-XX-YY	11-Port (8 10/100BaseTX, 3 100BaseFX Fiber Ports, singlemode) Industrial Ethernet Switch, DIN-Rail
NTPS-24-1.3	N-Tron Power Supply (1.3 amp @ 24 VDC)
CPMA-1	Compact Panel Mount (factory installed option)
URMK	Universal Rack Mount Kit

Where: 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
Mixed fiber configurations available.



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