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# NT24k<sup>®</sup>-12FX4-POE Industrial PoE+ Switch

N-Tron<sup>®</sup> Networking Series



## ▶▶▶ Industrial Managed Gigabit PoE+ Ethernet Switch

Red Lion's N-Tron<sup>®</sup> series NT24k<sup>®</sup>-12FX4-POE compact managed Gigabit Ethernet switch features eight 10/100/1000Base-T(X) ports with PoE+ and four 100Base-FX fiber ports with SC or ST connectors, providing a robust solution for transmitting power and data to equipment in harsh environments.

The NT24k-12FX4-POE managed switch features 12 ports (eight Gigabit IEEE 802.3af/at Power over Ethernet Plus (PoE+) ports and four 100Base-FX fiber ports) and is housed in a compact, hardened metal DIN-rail enclosure with redundant 22-49 VDC power inputs. Designed to handle the most demanding environments, the NT24k-12FX4-POE provides up to 30 Watts of power per port, high shock and vibration ratings and a wide -40° to 80°C operating temperature range.



### APPLICATIONS

- > Alternative Energy
- > Manufacturing
- > Oil & Gas
- > Transportation
- > Water/Wastewater

### PRODUCT HIGHLIGHTS

- > IEEE 802.3af/at PoE+ Output
- > Smart Plug-and-Play Operation
- > 22 to 49 VDC Redundant Power Inputs
- > -40° to 80°C Wide Operating Temperature
- > Robust Remote Monitoring
- > N-Ring<sup>™</sup> & N-Link<sup>™</sup> Network Ring Technology

### FEATURES & BENEFITS

- > 12 Copper and Fiber Ports
  - Eight 10/100/1000Base-T(X) copper ports, supporting PoE+ on each port
  - Four 100Base-FX ports with SC/ST connectors
- > Redundant 22 to 49 VDC Power Inputs
  - Boosts power to meet PoE+ output requirements
- > IEEE 802.3af/at PoE Output
  - Supports PoE+ output on all copper ports simultaneously
- > Extended Environmental Specifications
  - -40° to 80°C operating temperature range
  - > 2M hours MTBF
  - UL/cUL: Class I, Div. 2 Groups A, B, C and D
- > Plug-and-Play Operation:
  - IGMP auto-configuration
  - MDIX auto-sensing cable
  - Simple network ring configuration
  - Backup and restore via recovery card or XML
- > Fully Managed Features Include:
  - Jumbo frame support
  - SNMP v1, v2, v3
  - Web browser management
  - Detailed ring map and fault location charting
  - RSTP - 802.1d, 802.1w, 802.1D
  - Trunking and port mirroring
  - 802.1Q tag VLAN and port VLAN
  - IEEE 802.1x with RADIUS remote server authentication
  - 802.1p QoS, port QoS and DSCP
  - DHCP client
  - Event Log
  - SNTP (Simple Network Time Protocol)
  - Multi-Member N-Ring technology with ~30ms healing
  - N-Link redundant ring technology
  - N-View<sup>™</sup> monitoring technology
  - EtherNet/IP<sup>™</sup> CIP<sup>™</sup> messaging

industrial  
networking



EtherNet/IP<sup>®</sup>



# ▶▶▶ NT24k-12FX4-POE Specifications

## SWITCH PROPERTIES

Operation: Managed  
Number of MAC Addresses: 16,000  
IEEE Compliant: 802.3, 802.3u, 802.3ab, 802.3x, 802.3af/at,  
802.1d/D/w, 802.1p, 802.1Q, 802.1x  
Latency (Typical): 1.6  $\mu$ s  
Switching Method: Store-and-Forward  
Supports 30 Watts per Port (25.5 Watts at the PD)  
LED Status Indicators  
Configurable Alarm Contact  
Onboard Temperature Sensor  
Supports Full/Half Duplex Operation  
Maximum Throughput: Up to 16.8 Gb/s  
MDIX Auto Sensing Cable  
Auto Sensing Speed and Flow Control  
Communications: Full Wire Speed  
MTBF: >2 million hours

## POWER INPUT

Input Voltage: 22-49 VDC  
Steady Input Current: 11.24 A @ 24 VDC  
Inrush: 60.8 A / .2 ms @ 24 VDC  
BTU/HR: 122

## POWER OVER ETHERNET

PoE Standard: IEEE 802.3af/at Gigabit PSE  
PoE Output Power: 57 VDC / 30 Watts Output (25.5 W at PD)  
Power Pin Assignment: Pins 1/2 (-), Pins 3/6 (+)  
PSE Type: Type 2

## CONNECTORS

10/100/1000BaseT: Eight (8) RJ-45 ports  
ESD and surge protection diodes on all copper ports  
100BaseFX: Four (4) ST or SC duplex fiber ports  
Configuration Port: One (1) USB Type B

## NETWORK MEDIA

10BaseT:  $\geq$  Cat3 cable  
100BaseTX:  $\geq$  Cat5 cable  
1000BaseT:  $\geq$  Cat5e cable  
100BaseFX Multimode: 50-62.5/125  $\mu$ m  
100BaseFX Singlemode: 7-10/125  $\mu$ m

## RECOMMENDED WIRING CLEARANCE

Front: 4" (10.16 cm)  
Top: 4" (10.16 cm)

## ENVIRONMENTAL

Operating Temperature: -40°C to 80°C  
Storage Temperature: -40°C to 85°C  
Operating Humidity: 10% to 95% (non condensing)  
Operating Altitude: 0 to 10,000 ft.  
Shock: 200 g @ 10 ms (bulkhead mounted)  
Vibration: 50 g @ 5-200 Hz, Triaxial (bulkhead mounted)

## CERTIFICATION & COMPLIANCE

Product Safety:  
ANSI/ISA 12.12.01-2013 Class I and II, Div. 2 and Class III, Div. 1 and 2, Groups A, B, C and D Hazardous Locations  
UL508 Industrial Control Equipment  
CAN/CSA-C22.2 No. 213-M1987 Class I Div. 2 Hazardous Locations  
CAN/CSA-C22.2 No. 14-M1987 Industrial Control Equipment

### Emissions:

FCC Title 47, Part 15, Radio Frequency Devices, Subpart B ANSI  
C63.4-2009; Industry Canada ICES-003, EN 55011; EN 61000-6-4,  
EN 61000-3-2, EN61000-3-3, EN 55032

### Immunity:

EN 55024, EN 61000-6-2; IEC 61000-4-2 (ESD); IEC 61000-4-3 (RFAM); IEC 61000-4-4 (EFT); IEC 61000-4-5 (SURGE); IEC 61000-4-6 (RFM); IEC 61000-4-8 (PFMF); IEC 61000-4-11 (VDI)

### Rail:

EN 50155, EN 50121 and EN 61373

### Designed to Comply with:

IEEE 1613 (Electric Utility Substations), NEMA TS1/TS2 (Traffic Control)

### Other:

ABS Type Approval for Shipboard Applications; EMC Directive  
2014/30/EU; LV Directive 2014/35/EU GOST-R, RoHS Compliant

## MECHANICAL

### Case Dimensions:

Height: 5.88" (14.92 cm)  
Width: 4.28" (10.88 cm)  
Depth: 5.54" (14.07 cm)  
Weight: 3.32 lbs (1.51 kg)  
Mount: DIN Rail 35 mm

## WARRANTY

3 Years on Design and Manufacturing Defects

# ▶▶▶ NT24k-12FX4-POE Specifications

## FIBER TRANSCEIVER CHARACTERISTICS

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

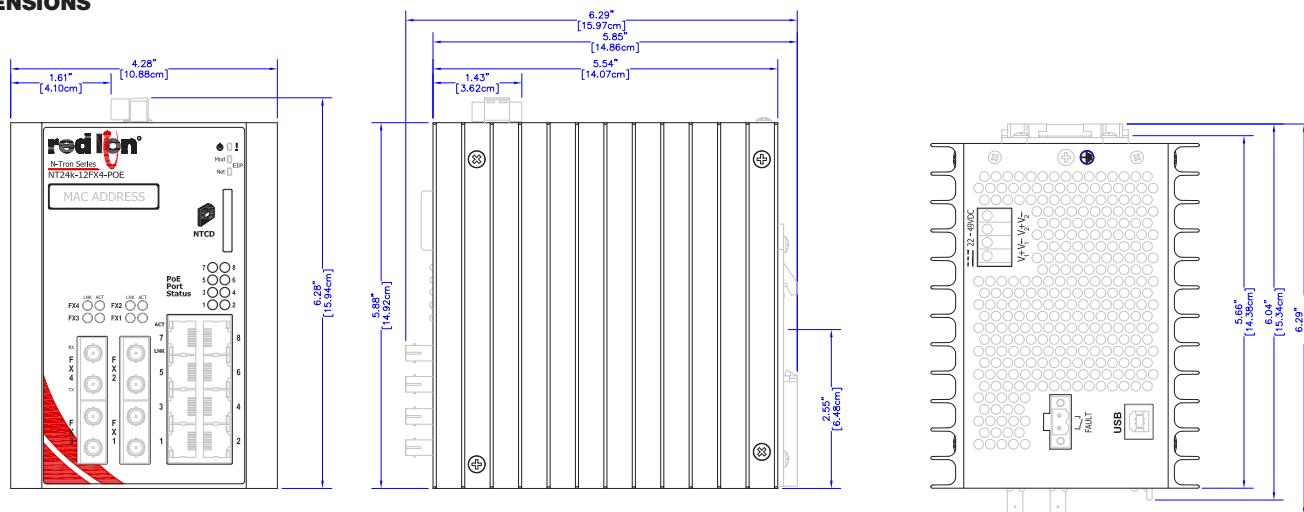
\* Fiber Length distances represent typical performance.  
Link budgets should be evaluated based on specific application conditions.

## ORDERING GUIDE

PART NUMBER	DESCRIPTION
NT24K-12FX4-XX-POE	12-Port Gigabit Managed POE+ Industrial Ethernet Switch (8 10/100/1000BaseT, 4 100BaseFX, multimode 2km ports)
NT24K-12FXE4-XX-YY-POE	12-Port Gigabit Managed POE+ Industrial Ethernet Switch (8 10/100/1000BaseT, 4 100BaseFX, singlemode ports)
NTCD-CFG	NT24k Configuration Recovery Device
NTPS-24-20	DIN-Rail Power Supply, 20 Amp @ 24VDC
NTPS-48-10	DIN-Rail Power Supply, 10 Amp @ 48VDC
NT24K-NM-PMK	NT24k Non-Modular Panel Mount Kit

Where XX=ST or SC connector  
Where YY=15, 40, or 80

## DIMENSIONS



All specifications are subject to change. Consult the company website for more information.



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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](http://www.redlion.net).

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