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# NT24k<sup>®</sup>-10FX2 Industrial Ethernet Switch

N-Tron<sup>®</sup> Networking Series



## ▶▶▶ Industrial Managed Gigabit Ethernet Switch

Red Lion's N-Tron<sup>®</sup> series NT24k<sup>®</sup>-10FX2 compact managed Gigabit Ethernet switch features eight 10/100/1000Base-T(X) ports and two 100Base-FX fiber ports with SC or ST connectors, providing a reliable and secure communication network to equipment in harsh environments.

The versatile NT24k-10FX2 managed switch features 10 ports (eight Gigabit copper ports and two 100Base-FX fiber ports) and is housed in a compact, hardened metal DIN-rail enclosure with redundant 10-49 VDC power inputs. Designed to handle the most demanding environments, the NT24k-10FX2 offers wire-speed throughput, expanded shock and vibration ratings and wide -40° to 85°C operating temperature rating. IGMP auto-configuration, IEEE 802.1x with RADIUS remote server authentication and N-Ring™ fast healing ring technology ensure quick deployment and robust secure network communications in alternative energy, factory automation applications, transportation and water/wastewater.



### APPLICATIONS

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

### PRODUCT HIGHLIGHTS

- > Copper & Fiber Ports
- > Smart Plug-and-Play Operation
- > 10 to 49 VDC Redundant Power Inputs
- > -40° to 85°C Wide Operating Temperature
- > Robust Remote Monitoring
- > N-Ring & N-Link™ Network Ring Technology

### FEATURES & BENEFITS

- > 10 Copper and Fiber Ports
  - Eight 10/100/1000Base-T(X) copper ports
  - Two 100Base-FX ports with SC/ST connectors
- > Redundant 10 to 49 VDC Power Inputs
  - Keeps network running in the event of a power supply failure
- > Extended Environmental Specifications
  - -40° to 85°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™ monitoring technology
  - EtherNet/IP™ CIP™ messaging

industrial  
networking



EtherNet/IP<sup>®</sup>



# ▶▶▶ NT24k-10FX2 Specifications

## SWITCH PROPERTIES

Operation: Managed  
Number of MAC Addresses: 16,000  
IEEE Compliance: 802.3, 802.3u, 802.3ab, 802.3x,  
802.1d/D/w, 802.1p, 802.1Q, 802.1x  
Latency (Typical): 1.6  $\mu$ s  
Switching Method: Store-and-Forward  
LED Status Indicators  
Configurable Alarm Contact  
Onboard Temperature Sensor  
Supports Full/Half Duplex Operation  
Maximum Throughput: Up to 16.4 Gb/s  
MDIX Auto Sensing Cable  
Auto Sensing Speed and Flow Control  
Communications: Full Wire Speed  
MTBF: >2 million hours

## POWER INPUT

Input Voltage: 10-49 VDC  
Steady Input Current: 750 mA @ 24 VDC  
Inrush: 21 A / .3 ms @ 24 VDC  
BTU/HR: 61.44

## CONNECTORS

10/100/1000BaseT: Eight (8) RJ-45 ports  
ESD and surge protection diodes on all copper ports  
100BaseFX: Two (2) 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 85°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 @ 5-20 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 (RFCM); 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: 3.10" (7.87 cm)  
Depth: 5.54" (14.07 cm)  
Weight: 1.95 lbs (0.89 kg)  
Mount: DIN Rail 35 mm

## WARRANTY

3 Years on Design and Manufacturing Defects

# ▶▶▶ NT24k-10FX2 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 |

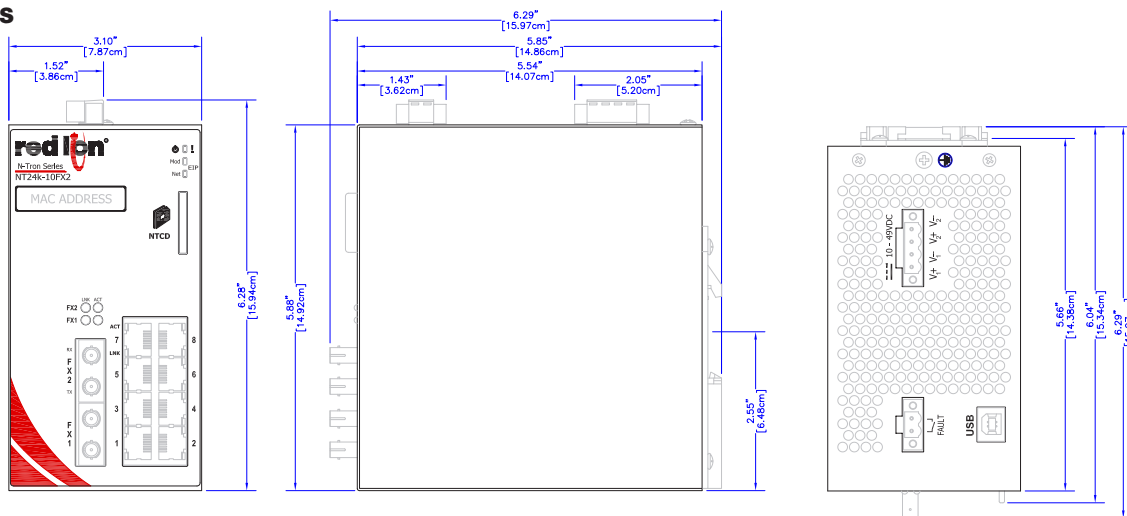
\* Fiber Length distances represent typical performance.  
Link budgets should be evaluated based on specific application conditions.

## ORDERING GUIDE

| PART NUMBER        | DESCRIPTION   |
|--------------------|---|
| NT24K-10FX2-XX     | 10-Port Gigabit Managed Industrial Ethernet Switch (8 10/100/1000BaseT, 2 100BaseFX, multimode 2km ports) |
| NT24K-10FXE2-XX-YY | 10-Port Gigabit Managed Industrial Ethernet Switch (8 10/100/1000BaseT, 2 100BaseFX, singlemode ports)    |
| NTCD-CFG           | NT24k Configuration Recovery Device   |
| NTPS-24-1.3        | DIN-Rail Power Supply 1.3 Amp @ 24 VDC  |
| 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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