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# NT24k<sup>®</sup>-11GX3 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>-11GX3 compact managed Gigabit Ethernet switch features eight 10/100/1000Base-T(X) ports and three 1000Base-FX fiber ports with SC connectors, providing a reliable and secure communication network to equipment in harsh environments.

The versatile NT24k-11GX3 managed switch features 11 ports (eight Gigabit copper ports and three 1000Base-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-11GX3 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

- > 11 Copper and Fiber Ports
  - Eight 10/100/1000Base-T(X) copper ports
  - Three 1000Base-FX ports with SC 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-11GX3 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 22.0 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: 780 mA @ 24 VDC  
Inrush: 22.6 A / .3 ms @ 24 VDC  
BTU/HR: 63.89

## CONNECTORS

10/100/1000BaseT: Eight (8) RJ-45 ports  
ESD and surge protection diodes on all copper ports  
1000BaseFX: Three (3) 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  
1000BaseSX Multimode: 50-62.5/125  $\mu$ m  
1000BaseLX 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: 1.96 lbs (0.89 kg)  
Mount: DIN Rail 35 mm

## WARRANTY

3 Years on Design and Manufacturing Defects

# ▶▶▶ NT24k-11GX3 Specifications

## FIBER TRANSCEIVER CHARACTERISTICS

Fiber Mode	MM	SM	SM	SM
Fiber Length*	550m @ 50/125µm 300m @ 62.5/125µm	10 km	40 km	80 km
TX Power Min	-9.5 dBm	-9.5 dBm	-5 dBm	0 dBm
RX Sensitivity Max	-17 dBm	-20 dBm	-23 dBm	-24 dBm
Wavelength	850 nm	1310 nm	1310 nm	1550 nm
Laser Type	VCSEL	FP	DFB	DFB

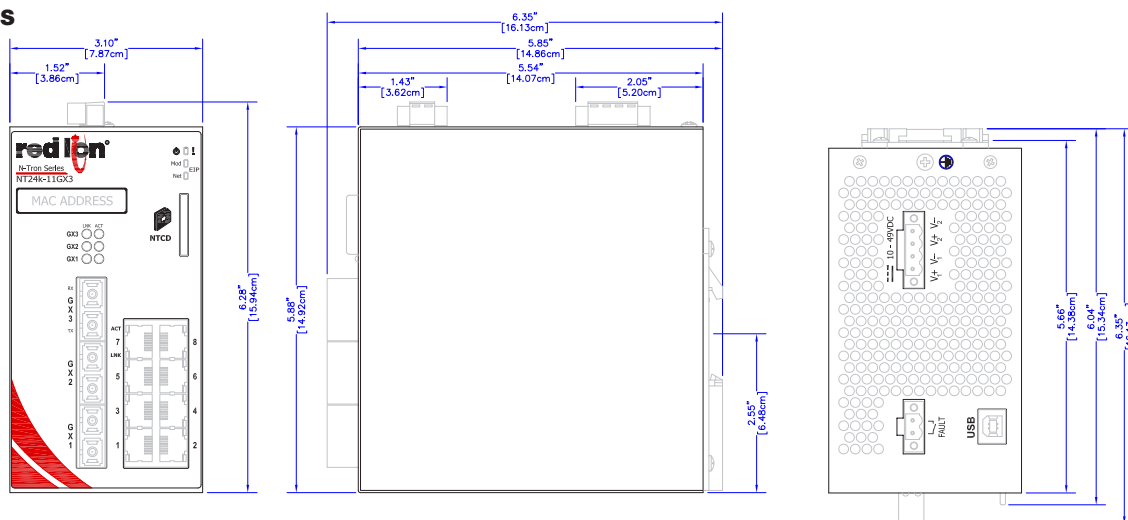
\* Fiber Length distances represent typical performance.  
Link budgets should be evaluated based on specific application conditions.

## ORDERING GUIDE

PART NUMBER	DESCRIPTION
NT24K-11GX3-SC	11-Port Gigabit Managed Industrial Ethernet Switch (8 10/100/1000BaseT, 3 1000BaseSX, multimode 550m ports)
NT24K-11GX3-SC-ZZ	11-Port Gigabit Managed Industrial Ethernet Switch (8 10/100/1000BaseT, 3 1000BaseLX, 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 ZZ=10, 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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