# mail

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Tel: +86-755-8981 8866 Fax: +86-755-8427 6832 Email & Skype: info@chipsmall.com Web: www.chipsmall.com Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



## NT24k<sup>®</sup>-11FX3 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>-11FX3 compact managed Gigabit Ethernet switch features eight 10/100/1000Base-T(X) ports and three 100Base-FX fiber ports with SC or ST connectors, providing a reliable and secure communication network to equipment in harsh environments.

The versatile NT24k-11FX3 managed switch features 11 ports (eight Gigabit copper ports and three 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-11FX3 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<sup>™</sup> 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<sup>™</sup> Network Ring Technology

#### **FEATURES & BENEFITS**

- > 11 Copper and Fiber Ports
  - Eight 10/100/1000Base-T(X) copper ports
  - Three 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:

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- IGMP auto-configuration
- MDIX auto-sensing cable
- Simple network ring configuration
- Backup and restore via recovery card or XML

networking

- > 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









#### **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 µs Switching Method: Store-and-Forward LED Status Indicators Configurable Alarm Contact Onboard Temperature Sensor Supports Full/Half Duplex Operation Maximum Throughput: Up to 16.6 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: Three (3) ST or SC duplex fiber ports Configuration Port: One (1) USB Type B

#### **NETWORK MEDIA**

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

#### 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

#### **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.

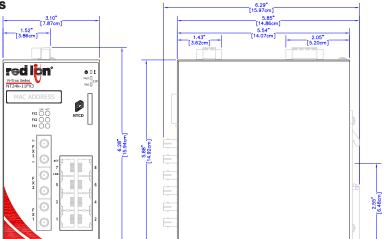
Link budgets should be evaluated based on specific application conditions.

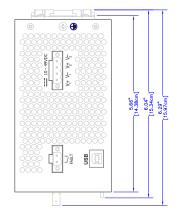
#### **ORDERING GUIDE**

PART NUMBER	DESCRIPTION
NT24K-11FX3-XX	11-Port Gigabit Managed Industrial Ethernet Switch (8 10/100/1000BaseT, 3 100BaseFX, multimode 2km ports)
NT24K-11FXE3-XX-YY	11-Port Gigabit Managed Industrial Ethernet Switch (8 10/100/1000BaseT, 3 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.



www.redlion.net

Connect. Monitor. Control.

Americas sales@redlion.net

Asia-Pacific asia@redlion.net

Europe Middle East Africa

europe@redlion.net +1 (717) 767-6511 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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