NT24k®-16M12 Industrial Ethernet Switch

N-Tron® Networking Series

▶▶▶ Industrial Managed Gigabit Ethernet IP67 Switch

Red Lion's N-Tron® series NT24k®-16M12 IP67 managed Gigabit Ethernet switch provides a rugged, dust proof and water resistant enclosure with sixteen 10/100/1000Base-T(X) M12 X-coded ports to create a reliable and secure communication network for equipment in harsh environments.

The versatile NT24k-16M12 managed switch features 16 (sixteen) Gigabit copper ports and is housed in a dust proof and water resistant IP67-rated enclosure with redundant 10-49 VDC power inputs. Designed to handle the most demanding environments, the NT24k-16M12 offers wire-speed throughput, expanded shock and vibration ratings and a 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. The NT24k-16M12 is designed to provide reliable operation in railway and other industrial applications subject to shock, vibration and other extreme conditions. Models with bypass relay ports enable data to continue to flow even in the event of a power outage, making this an ideal choice for rail applications.

APPLICATIONS

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

PRODUCT HIGHLIGHTS

- Secure M12 Copper Ports
- Smart Plug-and-Play Operation
- 10 to 49 VDC Redundant Power Inputs
- -40° to 85°C Wide Operating Temperature
- Bypass Relay Port Options
- Robust Remote Monitoring
- N-Ring & N-Link™ Network Ring Technology

FEATURES & BENEFITS

- 16 M12 Copper Ports
  - Sixteen 10/100/1000Base-T(X) copper M12 X-Code ports
- Redundant 10 to 49 VDC Power Inputs
- Bypass relay model
  - Bypass relay port pairs (2 pairs) allow network traffic to continue to flow through the switch bypass ports in the event of a power outage
- N-View™ monitoring technology provides remote monitoring and firmware management
- 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
  - Auto sensing speed and flow control
  - Simple network ring configuration
  - Backup and restore via recovery card or XML configuration file

industrial networking

EN50155 · LISTED 65SN · RoHS compliant · EtherNet/IP

FEATURES & BENEFITS (CONT.)

> 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
- Configurable event log
- Syslog
- SNTP (Simple Network Time Protocol)
- Multi-Member N-Ring technology with ~30ms healing
- N-Link redundant ring technology
- N-View monitoring and firmware management technology
- EtherNet/IP™ CIP™ messaging

SPECIFICATIONS

SWITCH PROPERTIES

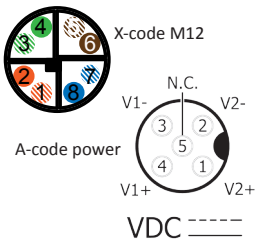
Operation: Managed
IP67-rated hardened metal enclosure
  Dustproof
  Protection against low/high pressure water jets
  Safe for temporary immersion in water
Number of MAC Addresses: 16,000
IEEE Compliance: 802.3, 802.3u, 802.3ab, 802.3x, 802.1d/D/w, 802.1p, 802.1Q, 802.1x
Latency (Typical): 1.6 µs
Switching Method: Store-and-Forward
LED Status Indicators
Onboard Temperature Sensor
Supports Full/Half Duplex Operation
Maximum Throughput: Up to 32 Gb/s
MDIX Auto Sensing Cable
Auto Sensing Speed and Flow Control
Communications: Full Wire Speed
MTBF: >2 million hours
Bypass relay connection (model specific)
Optional recovery device

POWER INPUT

Input Voltage: 10-49 VDC
Standard Model Steady Input Current: 0.70A @ 24 VDC
  Inrush: 37A/0.022 ms @ 24VDC
  BTU 58
Bypass Relay Model Steady Input Current: 0.85A @ 24VDC
  Inrush: 37A/0.022ms @ 24VDC
  BTU 70

CONNECTORS

10/100/1000BASE-T: Sixteen (16) M12 X-Code connectors (wiring shown at right)
ESD and surge protection diodes on all copper ports
Configuration Port: One (1) USB Type B



NETWORK MEDIA

10Base-T: ≥ CAT3 cable
100Base-TX: ≥ CAT5 cable
1000Base-T: ≥ CAT5e cable

RECOMMENDED WIRING CLEARANCE

Front: 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 @ 5-200 Hz, Triaxial (bulkhead mounted)

CERTIFICATION & COMPLIANCE

Product Safety:
  ANSI/ISA-12.12.01-2015 - Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations, Groups A, B, C and D Hazardous Locations
  UL 61010-1 Edition 3 - Revision Date 2016/04/29
CAN/CSA C22.2 No. 213-16 - Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations, Groups A, B, C and D Hazardous Locations
CSA C22.2 NO. 61010-1-12
Emissions:
  FCC 47 CFR Part 15, Radio Frequency Devices, Subpart B, ANSI C63.4-2014; ISED Canada ICES-003 Issue 6, EN 55011, EN 61000-3-2, EN61000-3-3, EN 55032
Immunity:
  EN 55024, 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 61000-4-11 (VDI)
Rail:
  EN 50155, EN 50121, EN 61373 and EN 45545-2
Designed to Comply with:
  IEEE 1613 (Electric Utility Substations), NEMA TS1/TS2 (Traffic Control)
Other:
  EMC Directive 2014/30/EU; LV Directive 2014/35/EU, GOST-R, RoHS Compliant

MECHANICAL

Case Dimensions:
  Height: 5.90" (14.99 cm)
  Width: 12.84" (32.61 cm)
  Depth: 3.19" (8.10 cm)
  Depth with handles: 3.60" (9.14 cm)
Weight: 5 lbs (2.27kg)
Mount: Bulkhead

WARRANTY

3 Years on Design and Manufacturing Defects

ORDERING GUIDE

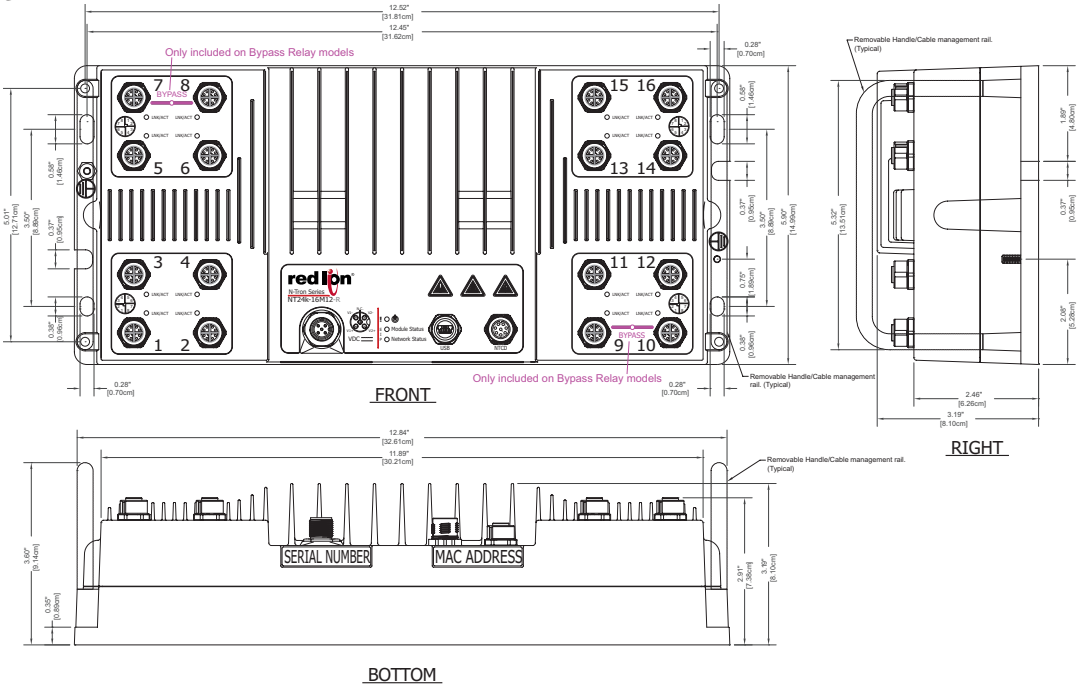
PART NUMBER	DESCRIPTION
NT24K-16M12	IP67 rated 16-Port Gigabit Managed Industrial Ethernet Switch with M12 8-pin X-coded female connectors
NT24K-16M12-R	IP67 rated 16-Port Gigabit Managed Industrial Ethernet Switch with M12 8-pin X-coded female connectors, with bypass relay
NTCD-CFG-M12	NT24k Configuration Recovery Device, M12
NTPS-24-1.3	DIN-Rail Power Supply 1.3 Amp @ 24 VDC

CABLE ACCESSORIES ORDERING GUIDE

PART NUMBER	DESCRIPTION
Ethernet Cables; XXX=Cable Length*	
CAT5E-XM12-RJ45-XXX	Gigabit Shielded CAT5e Cable with X-Code Straight M12 to RJ45, XXXft
CAT5E-XM12-XM12-XXX	Gigabit Shielded CAT5e Cable with X-Code Straight M12 to X-Code Straight M12, XXXft
CAT5E-XM12-XAM12-XXX	Gigabit Shielded CAT5e Cable with X-Code Straight M12 to X-Code 115deg Angle M12, XXXft
CAT5E-XAM12-RJ45-XXX	Gigabit Shielded CAT5e Cable with X-Code 115deg Angle M12 to RJ45, XXXft
CAT5E-XAM12-XAM12-XXX	Gigabit Shielded CAT5e Cable with X-Code 115deg Angle M12 to X-Code 115deg Angle M12, XXXft
Ethernet Connectors	
CONN-M12-XCODE-STR-1	X-Code M12 Straight Data Connector, 8-pin, Pack of 1
CONN-M12-XCODE-STR-4	X-Code M12 Straight Data Connector, 8-pin, Pack of 4
CONN-M12-XCODE-STR-8	X-Code M12 Straight Data Connector, 8-pin, Pack of 8
CONN-M12-XCODE-ANG-1	X-Code M12 115deg Angled Data Connector, 8-pin, Pack of 1
CONN-M12-XCODE-ANG-4	X-Code M12 115deg Angled Data Connector, 8-pin, Pack of 4
CONN-M12-XCODE-ANG-8	X-Code M12 115deg Angled Data Connector, 8-pin, Pack of 8
Power Cables; x= Length of cable in feet (1-100)	
PWR-M12-A-X	Power Cable, M12 A-Coded Straight Female to bare end, Shielded
PWR-RM12-A-X	Power Cable, M12 A-Coded 90deg Female to bare end, Shielded
USB Cables	
USBA-M12	6.5' USB Type A to M12 Mini-USB Type B CABLE

*Available category cable lengths in feet: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 50, 75, 100, 150, 200, 250, 300, 328

DIMENSIONS



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

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Connect. Monitor. Control.