NT24k®-12SFP-DM4 Industrial Ethernet Switch

N-Tron® Networking Series

red lion®

▶▶▶ Industrial Managed Gigabit Ethernet Switch

Red Lion's N-Tron® series NT24k®-12SFP-DM4 compact managed Gigabit Ethernet switch features eight 10/100/1000Base-T(X) ports and four dual-mode 100/1000Base SFP slots with LC fiber or copper connectors, providing a reliable and secure communication network to equipment in harsh environments.

The versatile NT24k-12SFP-DM4 managed switch features 12 ports (eight Gigabit copper ports and four dual-mode SFP expansion slots, which support 100Base or 1000Base SFP transceivers) 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-12SFP-DM4 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

IEEE 1588v2 PTP OPTIONS

• Boundary Clock
• Transparent Clock

IEEE 1588v2 applications include
• Coordinated motion control
• Time-stamped data logging
• Time-stamped fault detection

PTP Models & Upgrade Kit Available

FEATURES & BENEFITS

> 12 Copper and Fiber Ports
  • Eight 10/100/1000Base-T(X) copper ports
  • Four dual-mode SFP expansion slots; supports 100Base or 1000Base SFP transceivers
> 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:
  • SSH/SSL/HTTPS
  • 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
  • DHCP Server, Option 82 relay, Option 61, IP fallback
  • Port Security – MAC address based
  • 802.1p QoS, port QoS and DSCP
  • Event Log/Syslog
  • SNTP (Simple Network Time Protocol)
  • IEEE 1588v2 (PTP) models available
  • Multi-Member N-Ring technology with ~30ms healing
  • N-Link redundant ring technology
  • N-View™ monitoring technology
  • EtherNet/IP™ CIP™ messaging

industrial
networking

FC | UL LISTED 65SN | CE | ABS TYPE APPROVED PRODUCT | PC | RoHS compliant | EtherNet/IP

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
IEEE 1588v2 Software-Based Option
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 24.0 Gb/s
MDIX Auto Sensing Cable
Auto Sensing Speed and Flow Control
Communications: Full Wire Speed
MTBF: >2 million hours
Jumbo Frame Support

POWER INPUT

Input Voltage: 10-49 VDC
Steady Input Current: 760 mA @ 24 VDC
Inrush: 20.4 A / .3 ms @ 24 VDC
BTU/HR: 62.26

CONNECTORS

10/100/1000BaseT: Eight (8) RJ-45 ports
    ESD and surge protection diodes on all copper ports
1000BaseT SFP: Up to four (4) RJ-45 copper ports
100BaseFX SFP: Up to four (4) LC fiber ports
1000BaseSX/LX SFP: Up to four (4) LC fiber ports
Configuration Port: One (1) USB Type B

NETWORK MEDIA

10BaseT: ≥ Cat3 cable
100BaseTX: ≥ Cat5 cable
1000BaseT: ≥ Cat5e cable
100BaseFX, 1000BaseSX Multimode: 50-62.5/125µm
100BaseFX, 1000BaseLX Singlemode: 7-10/125µm

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: 1.91 lbs (0.87 kg)
Mount: DIN Rail 35 mm

WARRANTY

3 Years on Design and Manufacturing Defects

SFP 100BASE 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	-34 dBm	-34 dBm	-34 dBm
Wavelength	1310 nm	1310 nm	1310 nm	1550 nm
Laser Type	FP	FP	FP	DFB

SFP GIGABIT FIBER TRANSCEIVER CHARACTERISTICS

Fiber Mode	MM	SM	SM	SM
Fiber Length*	550m @ 50/125μm 275m @ 62.5/125μm	10 km	40 km	80 km
TX Power Min	-9.5 dBm	-9.5 dBm	-2 dBm	0 dBm
RX Sensitivity Max	-17 dBm	-20 dBm	-22 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-12SFP-DM4	12-Port Gigabit Managed Industrial Ethernet Switch (8 10/100/1000BaseT, 4 Dual Mode (100/1000Base) SFP Expansion slots); SFP Transceivers sold separately
NT24K-12SFP-DM4-PT	12-Port Gigabit Managed Industrial Ethernet Switch (8 10/100/1000BaseT, 4 Dual Mode (100/1000Base) SFP Expansion slots); SFP Transceivers sold separately, PTP Enabled
NTSFP-FX	100BaseFX multimode fiber SFP pluggable mini-GBIC transceiver (LC style connector, 2km)
NTSFP-FXE-YY	100BaseFX singlemode fiber SFP pluggable mini-GBIC transceiver (LC style connector)
NTSFP-TX	1000BaseT copper SFP pluggable mini-GBIC transceiver
NTSFP-SX	1000BaseSX multimode fiber SFP pluggable mini-GBIC transceiver (LC style connector, 550m)
NTSFP-LX-ZZ	1000BaseLX singlemode fiber SFP pluggable mini-GBIC transceiverv (LC style connector)
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
NT24K-KIT-PTP	NT24k Upgrade License to Enable IEEE 1588/PTP on Non-PT NT24k Switches

Where YY=15, 40, or 80
Where ZZ=10, 40, or 80

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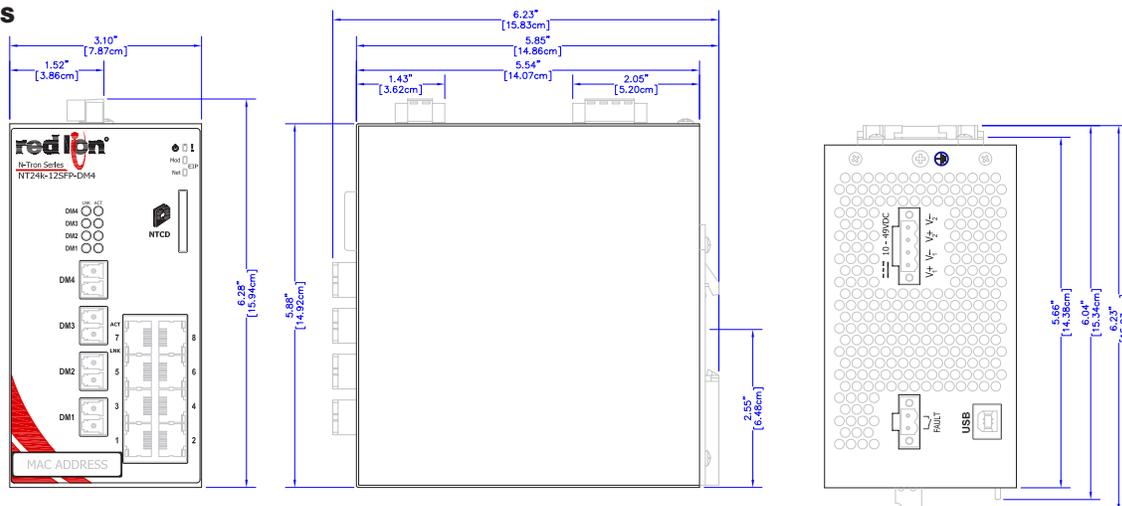
All specifications are subject to change. Consult the company website for more information.

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Connect. Monitor. Control.

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.