# NT24k®-12SFP-DM4-POE Industrial PoE+ Switch
## N-Tron® Networking Series

**RL RED LION™**
a spectris company

## ▶▶▶ Industrial Managed Gigabit PoE+ Ethernet Switch

Red Lion's N-Tron® series NT24k®-12SFP-DM4-POE compact managed Gigabit Ethernet switch features eight 10/100/1000Base-T ports with PoE+ and four dual-mode 100/1000Base SFP slots with LC fiber or copper connectors, providing a robust solution for transmitting power and data to equipment in harsh environments.

The NT24k-12SFP-DM4-POE managed switch features 12 ports (eight Gigabit IEEE 802.3af/at Power over Ethernet Plus (PoE+) 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 22-49 VDC power inputs. Designed to handle the most demanding environments, the NT24k-12SFP-DM4-POE provides up to 30 Watts of power per port, high shock and vibration ratings and a wide -40° to 80°C operating temperature range.

### APPLICATIONS

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

### PRODUCT HIGHLIGHTS

> Copper & Fiber Ports
> Smart Plug-and-Play Operation
> 22 to 49 VDC Redundant Power Inputs
> -40° to 80°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, supporting PoE+ on each port
  • Four dual-mode SFP expansion slots; supports 100Base or 1000Base SFP transceivers
> Redundant 22 to 49 VDC Power Inputs
  • Boosts power to meet PoE+ output requirements
> IEEE 802.3af/at PoE Output
  • Supports PoE+ on all built-in copper ports simultaneously
> Extended Environmental Specifications
  • -40° to 80°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
  • 802.1AB-2005 LLDP (Link Layer Discovery Protocol)

**industrial networking**

FC  c(UL)us LISTED 65SN  CE  ABS TYPE APPROVED PRODUCT  PGT  RoHS compliant  EtherNet/IP™

**SWITCH PROPERTIES**
  Operation: Managed
  Number of MAC Addresses: 16,000
  IEEE Compliant: 802.3, 802.3u, 802.3ab, 802.3x, 802.3af/at,
    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
  Supports 30 Watts per Port (25.5 Watts at the PD)
  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: 22-49 VDC
  Steady Input Current: 11.6 A @ 24 VDC
  Inrush: 60.8 A / .2 ms @ 24 VDC
  BTU/HR: 122

**POWER OVER ETHERNET**
  PoE Standard: IEEE 802.3af/at Gigabit PSE
  PoE Output Power: 57 VDC / 30 Watts Output (25.5 W at PD)
  Power Pin Assignment: Pins 1/2 (-), Pins 3/6 (+)
  PSE Type: Type 2

**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 80°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: 4.28" (10.88 cm)
    Depth: 5.54" (14.07 cm)
  Weight: 3.19 lbs (1.45 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
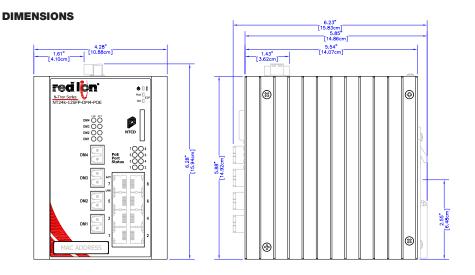
| PART NUMBER | DESCRIPTION |
|---|---|
| NT24K-12SFP-DM4-POE | 12-Port Gigabit Managed POE+ Industrial Ethernet Switch (8 10/100/1000BaseT, 4 Dual Mode (100/1000Base) SFP Expansion slots); SFP Transceivers sold separately |
| NT24K-12SFP-DM4-POE-PT | 12-Port Gigabit Managed POE+ Industrial Ethernet Switch (8 10/100/1000BaseT, 4 Dual Mode (100/1000Base) SFP Expansion slots); SFP Transceivers sold separately, PTP Enabled |
| NTCD-CFG | NT24k Configuration Recovery Device |
| 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) |
| NTPS-24-20 | DIN-Rail Power Supply, 20 Amp @ 24VDC |
| NTPS-48-10 | DIN-Rail Power Supply, 10 Amp @ 48VDC |
| 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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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 award-winning 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. For more information, please visit www.redlion.net. Red Lion is a Spectris company.