

Managed Gigabit Industrial Ethernet Switch

The N-Tron® series NT2024-DR24 is a modular managed switch designed for factory automation, utilities, security surveillance, SCADA and other industrial applications.

The Red Lion® N-Tron series NT2024-DR24 managed industrial Ethernet switch features connectivity for up to 24 Gigabit ports and offers a wide range of connectivity options—including 100Base-T, Gigabit Ethernet and copper options—in a rugged DIN-rail mountable enclosure. Designed to handle the most demanding environments, the NT2024-DR24 delivers wire-speed throughput and includes expanded shock and vibration tolerances, extreme operating temperature range and three slots to accommodate mix-and-match port modules. N-Ring™ technology restores network communication within ~30ms of fault detection. Robust remote monitoring capabilities make management easy.



APPLICATIONS

- > Factory Automation
- > Utilities
- > SCADA
- > Security Surveillance
- > Transportation
- > Alternative Energy

PRODUCT HIGHLIGHTS

- > All Gigabit Modular Design
- > Up to 24 Port Connections
- > High Environmental Specifications
- > N-Ring Advanced Ring Technology
- > Robust Remote Monitoring
- > Smart Plug-and-Play Operation

FEATURES & BENEFITS

- > Supports up to 16 of the following port modules:
 - 8-port 10/100/1000BaseT(X) module
 - 8-port 100Base Ethernet module
 - 8-port 1000Base Ethernet module
 - 8-port Gigabit SFP module
 - 8-port dual mode SFP module (100Base or 1000Base SFP transceivers)
- > -40°C to 75°C operating temperature
- > Power input selections:
 - Low Voltage: 18-49 VDC
 - High Voltage: 90-264VAC or 90-300 VDC
- > Onboard temperature sensor
- > ESD and surge protection diodes on all copper ports
- > Auto-sensing 10/100/1000BaseT(X), duplex and MDIX
- > USB configuration port
- > Configurable alarm contact
- > Optional backup restore configuration device
- > 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
 - 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



Managed Gigabit Industrial Ethernet Switch Specifications

SWITCH PROPERTIES

Number of MAC Addresses: 16K
 Aging Time: Programmable
 Latency (typical): 0.6 μs
 Switching Method: Store & Forward
 MTBF: >1 million hours

POWER INPUT OPTIONS

Select one:
 Low Voltage: 18-49 VDC
 High Voltage: 90-264 VAC or 90-300 VDC
 Input Current (max): 2.14A @ 24VDC
 Input Current (max): 780mA @ 120 VAC / 430mA @ 124VDC
 BTU/hr: 175 @ 24VDC
 BTU/hr: 360 @ 120 VAC / 182 @ 124VDC

CONNECTORS

10/100/1000BaseT(X): Up to 24 RJ45 copper ports
 100BaseFX: Up to 24 SC or ST fiber ports
 1000BaseGX: Up to 24 SC fiber ports
 100BaseSX/LX SFP: Up to 24 LC fiber ports
 1000BaseGX SFP: Up to 24 LC fiber ports

NETWORK MEDIA

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

RECOMMENDED WIRING CLEARANCE

Front and Top: 4" (10.2cm)

CERTIFICATION & COMPLIANCE

Product Safety:
 Class I, Division 2, Groups A, B, C and D hazardous locations
 UL508
 ANSI/ISA 12.12.01-2012
 CAN/CSA-C22.2 No. 14
 CAN/CSA-C22.2 No. 213-M1987
 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 (radiated and conducted)
 Immunity: EN 61000-3-2; EN 61000-3-3; EN 61000-6-2; IEC 61000-4-2 (ESD); IEC 61000-4-3 (RFEM); IEC 61000-4-4 (EFT); IEC 61000-4-5 (SURGE); IEC 61000-4-6 (RF CM); IEC 61000-4-8 (PFMF); IEC 61000-4-11 (VDI)
 Other: ABS Type Approval for Shipboard Applications; EMC Directive 2004/108/EC; GOS T-R

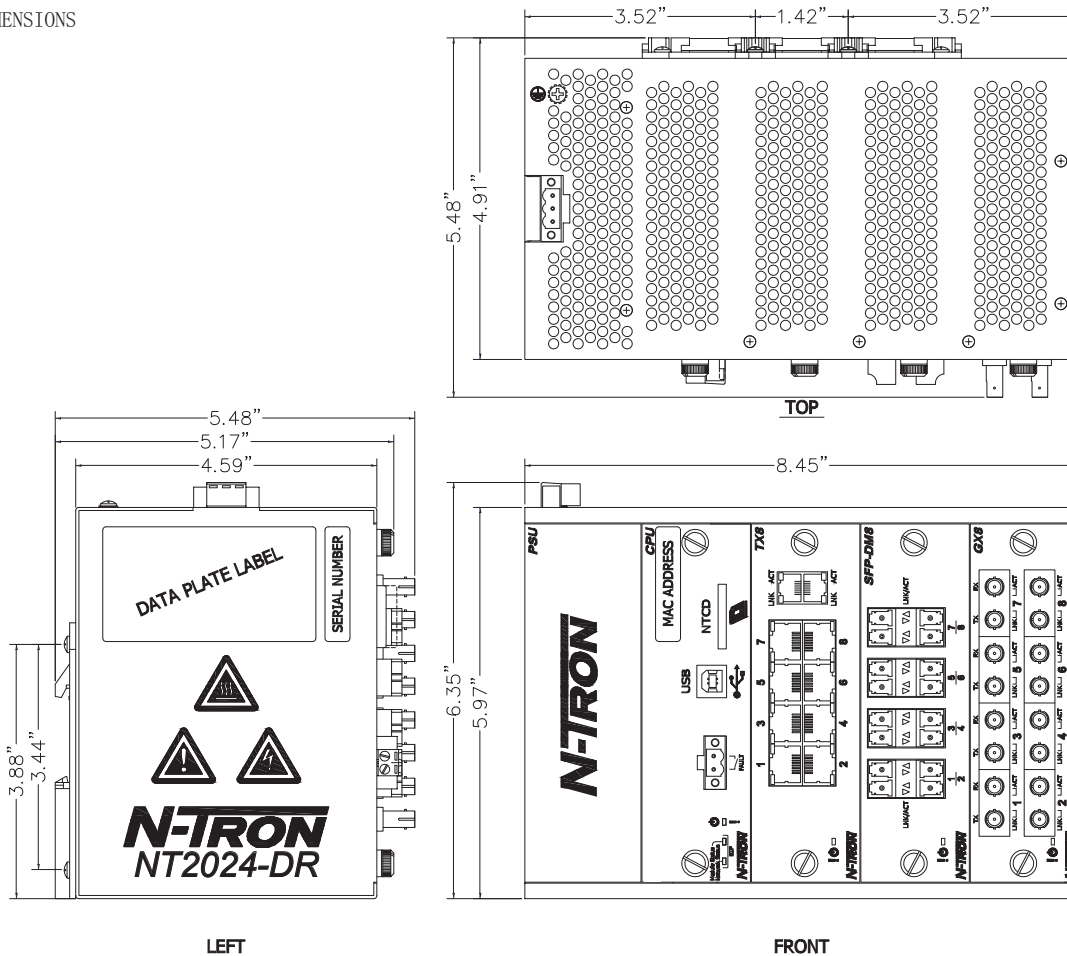
ENVIRONMENTAL

Operating Temperature: -40°F to 75°F
 Operating Humidity: 5% to 95% (Non Condensing)
 Operating Altitude: up to 10,000 ft.
 Shock: 50g @ 10ms
 Vibration/Seismic: 30g, 10-200 Hz, triaxial

MECHANICAL

Case Dimensions
 Height: 5.97" (15.20cm)
 Width: 8.45" (21.46cm)
 Depth: 4.59" (11.65cm)
 Weight (maximum): 7.8 lbs (3.54kg)
 Mount: DIN rail

DIMENSIONS



NT2024-FX8 MODULE - 100 MB FIBER TRANSCEIVER CHARACTERISTICS

Fiber Mode	MM	SM	SM	SM
Fiber Length	2km	15km	40km	80km
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

NT2024-GX8 MODULE - GIGABIT FIBER TRANSCEIVER CHARACTERISTICS

Fiber Mode	MM	SM	SM	SM
Fiber Length	550m @ 50/125 μm 300m @ 62.5/125 μm	10km	40km	80km
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
Assumed Fiber Loss	3.5 to 3.75 dB/km	0.40 dB/km	0.40 dB/km	0.25 dB/km
Laser Type	VCSEL	FP	DFB	DFB

NT2024-SFP-D M8 M O D U L E - SFP 100BASE FIBER TRANSCEIVER CHARACTERISTICS

Fiber Mode	MM	SM	SM	SM
Fiber Length	2km	15km	40km	80km
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
Assumed Fiber Loss	3.5 to 3.75 dB/km	0.40 dB/km	0.40 dB/km	0.25 dB/km
Laser Type	FP	FP	FP	DFB

NT2024-SFP-D M8 OR NT24K-SFP8 M O D U L E S - SFP GIGABIT FIBER TRANSCEIVER CHARACTERISTICS

Fiber Mode	MM	SM	SM	SM
Fiber Length	550m @ 50/125 μm 275m @ 62.5/125 μm	10km	40km	80km
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
Assumed Fiber Loss	3.5 to 3.75 dB/km	0.45 dB/km	0.35 dB/km	0.25 dB/km
Laser Type	VCSEL	FP	DFB	DFB

ORDERING GUIDE

PART NUMBER	DESCRIPTION
NT2024-DR24-DC	Managed Industrial Ethernet Switch; modular DIN rail design with 3 expansion slots; redundant 18-49VDC power input
NT2024-DR24-AC	Managed Industrial Ethernet Switch; modular DIN rail design with 3 expansion slots; 90-264VAC / 90-300VDC power inputs
NT2024-FP	Filler panel (required to fill vacant module slots)
NTCD-CFG	Configuration recovery device
NTPC-AC-US	AC power cord
NTPS-24-3	DIN rail power supply 3.0Amp@24 VDC
NT2024-DR-PMK	NT2024 DR panel mount kit

PORT MODULES & TRANSCEIVERS	
NT2024-TX8	8-port 10/100/1000BaseT module
NT2024-FX8-XX	Slide-in module with 8 100BaseFX multimode fiber ports, 2km (SC or ST)
NT2024-FXE8-XX-YY	Slide-in module with 8 100BaseFX singlemode fiber ports (SC or ST)
NT2024-GX8-SC	Slide-in module with 8 1000BaseFX multimode fiber ports, 550m (SC)
NT2024-GXE8-SC-ZZ	Slide-in module with 8 1000BaseFX singlemode fiber ports (SC)
NT2024-SFP8	Slide-in module with 8 SFP expansion slots; supports 1000Base SFP transceivers*
NT2024-SFP-DM8	Slide-in module with 8 dual mode SFP expansion slots; supports 100Base or 1000Base SFP transceivers*
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
NTSFP-LX-ZZ	1000BaseLX singlemode fiber SFP pluggable mini-GBIC transceiver

Where: XX = ST or SC connector (ST not available on some GX modules); YY = 15, 40, or 80 for FX singlemode, blank for multimode; ZZ = 10, 40, or 80 for GX singlemode; *SFP transceivers sold separately; **For use with SFP DM8 module only