7900 Series Modular Industrial Ethernet Switch

N-Tron Networking Series

▶▶▶ Modular Industrial Switch

The N-Tron® 7900 Industrial Ethernet Modular Switch is designed to deliver optimum performance with maximum network versatility. Its flexible modular format allows customization with a variety of fiber and copper port modules.

As the network evolves, port configurations can easily be changed to adapt to new communication requirements. The fully managed series is ideal for manufacturing, utilities, transportation, energy generation, wastewater and other extreme networking environments that demand high reliability, superior noise immunity and support across extended distances.

APPLICATIONS

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

PRODUCT HIGHLIGHTS

> Extended Environmental Specifications
> Onboard Temperature Sensor
> Full IEEE 802.3 Compliance
> ESD and Surge Protection Diodes on all Copper Ports
> Configurable Bi-Color Fault Status LEDs

FEATURES & BENEFITS

> 4 Slot Modular Switch
> Requires 2 SFP gigabit CPU modules (transceivers sold separately)
> Available modules (transceivers sold separately)
- 2 port 100BaseFX fiber module
- 4 port 100BaseFX fiber module
- 6 port 10/100BaseTX copper module

> Wide -20° to 70°C Operating Temperature
> Auto sensing 10/100BaseTX, duplex and MDIX
> Store and Forward Technology
> Rugged DIN-rail enclosure
> Redundant power inputs (10-30 VDC)
> Fully Managed Features
- SNMP v1, v2, v3 and web browser management
- EtherNet/IP™ CIP Messaging
- Configuration backup via operational SD card
- Detailed ring map and fault local on charting
- N-Ring™ Technology with ~30 ms healing
- N-Link™ Redundant N-Ring Coupling
- N-View™ OPC monitoring
- RSTP - 802.1d, 802.1w, 802.1D
- IGMP auto configuration
- 802.1Q tagged VLAN and port VLAN
- 802.1p QoS, port QoS and DSCP
- LLDP (Link Layer Discovery Protocol)
- DHCP Server, Option 82 Relay, Option 61, IP Fallback
- Port mirroring and trunking
- Local Port IP Addressing
- Port Security—MAC Address Based

industrial networking

LISTED 65SN

RoHS compliant

EtherNet/IP

▶▶▶ 7900 Series Modular Industrial Ethernet Switch Specifications

SWITCH PROPERTIES

Number of MAC Addresses: 8,000
Aging Time: Programmable
Latency Typical: 2.6 µs
Backplane Speed: 8.8 Gb/s
Switching Method: Store & Forward
MTBF: >1 million hours

POWER INPUT

Redundant Input Voltage: 10-30 VDC
Input Current (max): 1.53A @ 24 VDC (fully populated)
BTU/hr: 125.3 @ 24 VDC (fully populated)

CONNECTORS

10/100BaseTX: Up to twenty-four (24) RJ-45 copper ports
100BaseFX: Up to sixteen (16) SC or ST fiber ports
1000BaseSX/LX SFP: Two (2) SFP LC duplex gigabit fiber ports

NETWORK MEDIA

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

RECOMMENDED WIRING CLEARANCE

Front: 4" (10.2 cm)
Side: 1" (2.6 cm)

ENVIRONMENTAL

Operating Temperature: -20°C to 70°C
Operating Humidity: 10% to 95% (Non Condensing)
Operating Altitude: 0 to 10,000 ft.
Shock: 50g @ 10ms
Vibration/Seismic: 30g, 10-200 Hz, triaxial

CERTIFICATION & COMPLIANCE

Product Safety:
UL 60950-1; UL 508; ANSI/ISA 12.12.01-2007;CAN/CSA-C22.2 No. 60950; CAN/CSA-C22.2 No. 142;CAN/CSA-C22.2 No. 213
Emissions:
FCC Title 47, Part 15, Radio Frequency Devices, Subpart B; ANSI C63.4-2003; Industry Canada ICES-003; EN 61000-6-4 (radiated and conducted)
Immunity:
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)
Other:
EMC Directive 2004/108/EC; ABS (PDA and Type Approval for Shipboard Applications); GOST-R
Designed to comply with:
IEEE 1613 for Electric Utility Substations
All specifications are subject to change. Visit www.redlion.net for more information.

MECHANICAL

Case Dimensions
Height: 5.2" (13.0 cm)
Width: 9.0" (22.8 cm)
Depth: 5.6" (14.2 cm)
Weight (max): ~5 lbs (2.3 kg)
Din-Rail: 35 mm

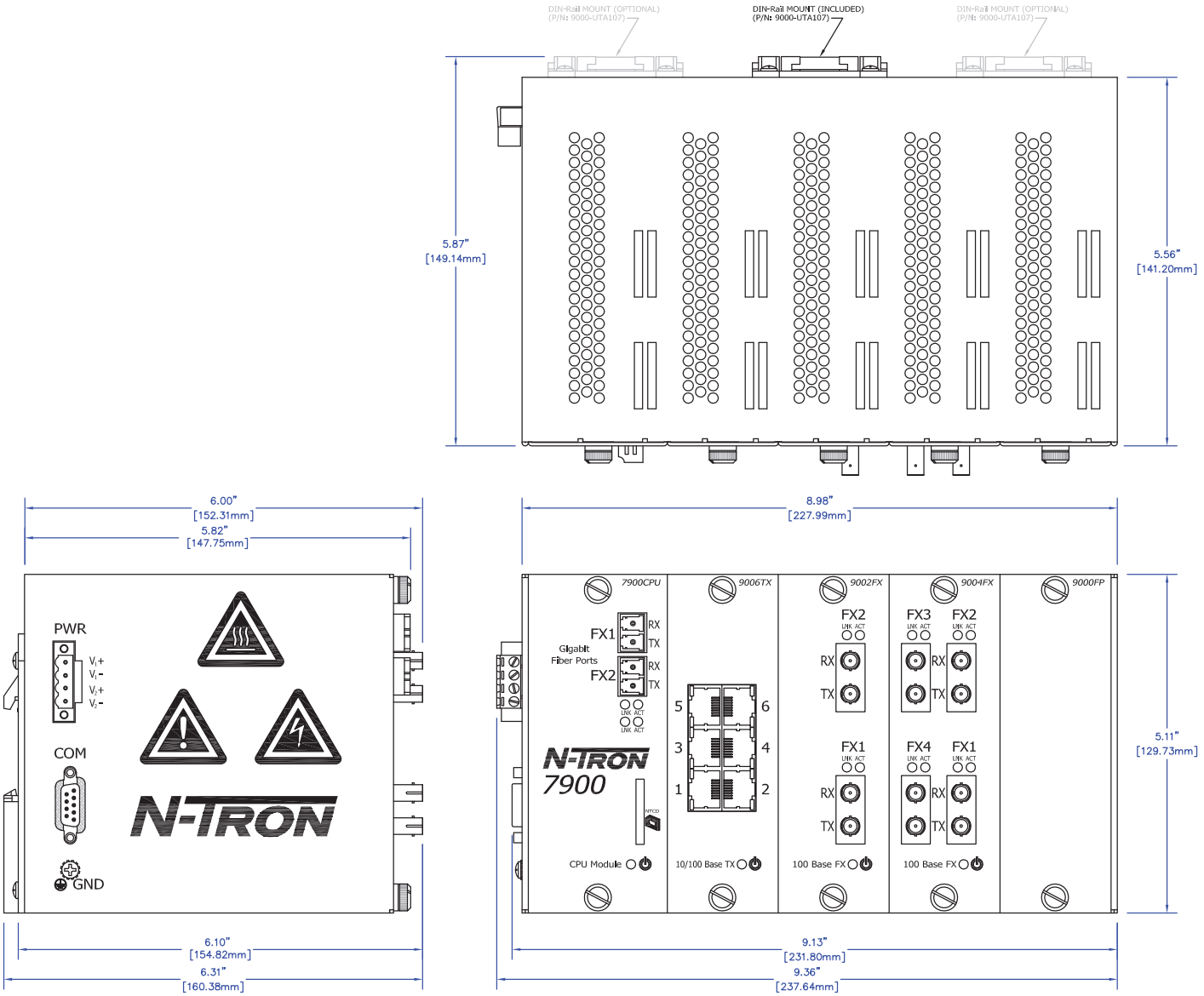
Fiber Transceiver Characteristics

Fiber Length	2km*	15km**	40km**	80km**
TX Power Min	-19dBm	-15dBm	-5dBm	-5dBm
RX Sensitivity Max	-31dBm	-31dBm	-34dBm	-34dBm
Wavelength	1310nm	1310nm	1310nm	1550nm

SFP Gigabit Fiber Transceiver Characteristics

Fiber Length	550m for 50/125µm 275m @62.5/125µm*	10km**	40km**	80km**
TX Power Min	-9.5dBm	-9.5dBm	-2dBm	0dBm
RX Sensitivity Max	-17dBm	-20dBm	-22dBm	-24dBm
Wavelength	850nm	1310nm	1310nm	1550nm
Assumed Fiber Loss	3.5 to 3.75 dB/km	.45dB/km	.35dB/km	.25dB/km

DIMENSIONS


DIN-Rail MOUNT (OPTIONAL)
(P/N: 9000-UTA107)
DIN-Rail MOUNT (INCLUDED)
(P/N: 9000-UTA107)
DIN-Rail MOUNT (OPTIONAL)
(P/N: 9000-UTA107)
5.87"
[149.14mm]
5.56"
[141.20mm]
6.00"
[152.31mm]
5.82"
[147.75mm]
8.98"
[227.99mm]
PWR
COM
GND
N-TRON
7900CPU
9006TX
9002FX
9004FX
9000FP
FX1
FX2
Gigabit
Fiber Ports
RX
TX
LNK ACT
N-TRON
7900
CPU Module
10/100 Base TX
100 Base FX
100 Base FX
FX3
FX4
5.11"
[129.73mm]
6.10"
[154.82mm]
6.31"
[160.38mm]
9.13"
[231.80mm]
9.36"
[237.64mm]

ORDERING GUIDE

PART NUMBER	DESCRIPTION
7900CPU	CPU Module with Two (2) Gigabit SFP Ports - transceivers sold separately
9000BP	Five (5) Slot Backplane (Requires 7900CPU Module - sold separately)
9006TX	Six (6) 10/100BaseTX Copper Port Slide-in Modules
9002FX-XX	Two (2) 100BaseFX Multimode Fiber Port Slide-in Modules
9002FXE-XX-YY	Two (2) 100BaseFX Singlemode Fiber Port Slide-in Modules
9004FX-XX	Four (4) 100BaseFX Multimode Fiber Port Slide-in Modules
9004FXE-XX-YY	Four (4) 100BaseFX Singlemode Fiber Port Slide-in Modules
NTSFP-TX	1000BaseT Copper SFP Pluggable Mini-GBIC Transceiver (RJ-45 connector)
NTSFP-SX	1000BaseSX Multimode Fiber SFP Pluggable Mini-GBIC Transceiver (LC style connector)
NTSFP-LX-ZZ	1000BaseLX Singlemode Fiber SFP Pluggable Mini-GBIC Transceiver (LC style connector)
9000B-FP	Filler Panel (Required to fill vacant slots)
NTPS-24-5	N-Tron DIN-Rail Power Supply (5A @ 24 VDC)
NTCD-128	Optional Configuration Card for backup/restore
9000-PM	Panel Mount Kit
9000-UTA107	Metal DIN-Rail Clip (note: one included, can accommodate two (2) additional clips—3 total—for increased stability)

Where: E = Singlemode
XX = ST or SC connector
YY = 15, 40, or 80 for Singlemode, blank for Multimode
ZZ = 10, 40, or 80 for GB Singlemode (if SFP transceiver is not specified at the time of purchase, slots will remain blank with covers)

RED LION®