N-TRON
THE INDUSTRIAL NETWORK COMPANY

7010TX

PRODUCT FEATURES

- Eight 10/100BaseTX RJ-45 Ports
- Two SFP Gigabit ports
- -40°C to 70°C Operating temperature
- Onboard Temperature Sensor
- ESD and Surge Protection Diodes on all Ports
- Auto Sensing 10/100BaseTX, Duplex, and MDIX
- Store-and-forward Technology
- Rugged DIN-Rail Enclosure
- Redundant Power Inputs (10-49VDC)
- Configurable Bi-Color Fault Status LED

FULLY MANAGED FEATURES:

- SNMP v1, v2, v3 and Web Browser Management
- Configuration backup via Optional SD card (NTCD)
- Detailed Ring Map and Fault Location Charting
- N-Ring™ Technology with ~30ms Healing
- N-View™ OPC Monitoring
- N-Link™ Redundant N-Ring Coupling
- IGMP Auto configuration
- 802.1Q tag VLAN and Port VLAN
- 802.1p QoS, Port QoS, and DSCP
- EtherNet/IP™ CIP Messaging
- LLDP (Link Layer Discovery Protocol)
- Port Trunking
- Port Mirroring
- 802.1d, 802.1w, 802.1D RSTP
- DHCP Server, Option 82 relay, Option 61
- Local Port IP Addressing

The N-TRON® 7010TX compact, fully managed industrial Ethernet switch is housed in a rugged industrial metal enclosure and offers a powerful combination of eight 10/100BaseTX copper ports and two SFP gigabit ports. It is ideally suited for use in industrial and utility applications such as factory floor control networks, electric power substations, wind turbines, wastewater treatment facilities, intelligent traffic control and transportation applications, and any other application where high reliability, superior noise immunity, extreme ruggedness, and extended distance are required.

Remote Monitoring Options - Web browser and N-View OPC (OLE for process control) server software provides configuration and monitoring capability. N-View software easily combines with HMI software to monitor network traffic, alarms, and trends. SNMP is also available for switch link and status monitoring. Status LEDs are configurable to indicate power failure and N-RING status.

N-Ring Technology - N-Ring technology provides expanded ring capacity, detailed fault diagnostics, and fast 30ms healing time. The ring manager validates the integrity of the ring using health check packets and quickly converts the ring to a linear topology within ~30ms when an error is detected. The health status of a ring comprised of all N-Tron fully managed switches may be monitored. A detailed ring map and fault location chart may be accessed by the ring manager's web browser or the OPC server. N-Link™ allows the linking of two N-Rings. Up to 250 fully managed N-TRON switches are supported in an N-Ring topology.

Industrial Specifications - High MTBF, extended shock and vibration specifications, wide operating temperaturerange and redundant power inputs are standard features.

Ease of Use - The 10/100BaseTX ports are auto sensing and auto configuring. Each copper port is automatically negotiated for maximum speed and performance by default, but can also be hard coded through the user interface. A high speed processor allows wire speed capability on all 10/100BaseTX ports simultaneously.

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QUALITY MANAGEMENT SYSTEM
CERTIFIED BY DNV
ISO 9001:2000

7010TX Industrial Ethernet Switch Ordering Information

7010TX	Eight 10/100BaseTX Ports, Two Optional Gigabit SFP Ports
NTSFP-TX	Optional SFP (Mini-GBIC) Transceiver with One 1000BaseT GB Copper Port
NTSFP-SX	Optional SFP (Mini-GBIC) Transceiver with One 1000BaseSX Multimode GB Fiber Optic Port
NTSFP-LX-ZZ	Optional SFP (Mini-GBIC) Transceiver with One 1000BaseLX Singlemode GB Fiber Optic Port
NTCD128	Optional configuration card for backup / restore
NTPS-24-1.3	*N-TRON* Power Supply - (1.3 Amp @ 24VDC)
CPMA-1	Compact Panel Mount (factory installed option)
URMK	Universal Rack Mount Kit

Where: ZZ = 10, 40, or 70 for GB Singlemode
If SFP Transceiver is not specified at the time of purchase, slots will remain blank with covers

7010TX Specifications

Switch Properties

Number of MAC Addresses: 8000
Aging Time: Programmable
Latency Typical: 2.6 µs
Switching Method: Store-and-Forward

Case Dimensions

Height: 4.3" (11 cm)
Width: 2.4" (6.1 cm)
Depth: 4.6" (11.5 cm)
Weight (max): TBD
DIN-Rail Mount: 35mm

Electrical

Redundant Input Voltage: 10-49 VDC (Regulated)
Input Current (max): 400mA max.@24VDC
N-TRON Power Supply: NTPS-24-1.3 (1.3A@24V)

Environmental

Operating Temperature: -40°C to 70°C
Storage Temperature: -40°C to 85°C
Operating Humidity: 5% to 95% (Non Condensing)
Operating Altitude: 0 to 10,000 ft.

Shock and Vibration (bulkhead mounted)

Shock: 200g @ 10ms
Vibration/Seismic: 50g, 5-200Hz, Triaxial

Reliability

MTBF: >2 Million Hours

Network Media

10BaseT: >Cat3 Cable
100BaseTX: >Cat5 Cable
1000BaseTX: >Cat5e Cable

SFP Gigabit Fiber Transceiver Characteristics

Fiber Length	*550m for 50/125µm*	*10km***	*40km***	*70km***
TX Power Min	*-9.5dBm/-4dBm*	*-9.5dBm/-3.5dBm*	*-2dBm/3dBm*	*0dBm/5dBm*
RX Sensitivity Max	*-17dBm*	*-20dBm*	*-22dBm*	*-23dBm*
Wavelength	*850nm*	*1310nm*	*1310nm*	*1550nm*
Assumed Fiber Loss		*.45dB/km*	*.35dB/km*	*.25dB/km*
Laser Type	*VCSEL*	*FP*	*DFB*	*DFB*

* SX Fiber Optic Cable
** LX Fiber Optic Cable

Connectors

10/100BaseTX: Eight (8) RJ-45 Copper Ports
1000BaseSX: Up to Two (2) LC Duplex Gigabit Fiber Ports (optional)

Recommended Wiring Clearance

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

Regulatory Approvals

FCC Title 47, Part 15, Subpart B - Class A; ICES-003 - Class A
GOST-R Certified, RoHS Compliant

Designed to comply with:
IEEE 1613 for Electric Utility Substations
NEMA TS1/ TS2 for Traffic control
IEC-61850

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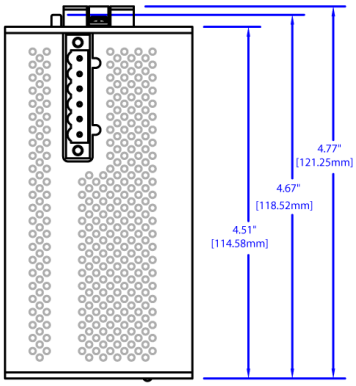

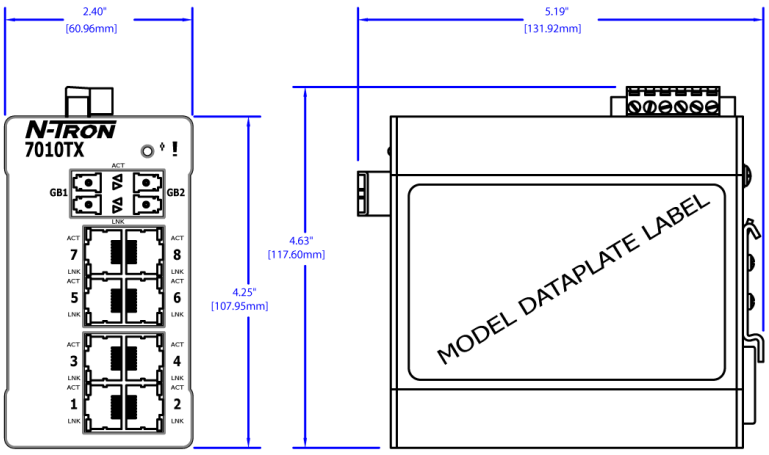

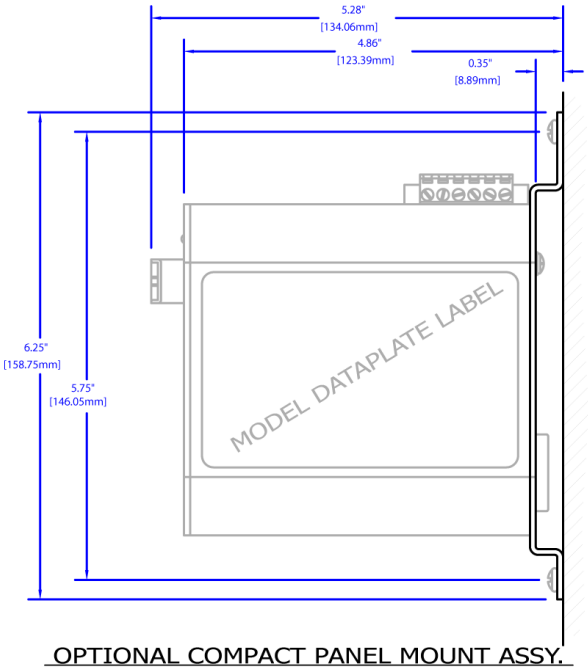

OPTIONAL COMPACT PANEL MOUNT ASSY.
(P/N: CPMA-1)

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