

## 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 temperature range 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.

## 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 $\mu$ s
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
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### Network Media

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

## Contact Information

**N-TRON Corp.**  
820 S. University Blvd., Suite 4E  
Mobile, AL 36609 USA  
TEL: (251) 342-2164  
FAX: (251) 342-6353  
Website: [www.n-tron.com](http://www.n-tron.com)  
Email: [N-TRON\\_info@n-tron.com](mailto:N-TRON_info@n-tron.com)

**N-TRON Asia**  
Unit 1209, Level 12  
Chong Hing Finance Center  
288 Nanjing Road West  
200003 Shanghai  
P.R. China  
TEL: +86-021-6133-7770  
FAX: +86-021-6133-7999

**N-TRON Europe GmbH**  
Alte Steinhäuserstr 19  
6330 Cham / Zg Switzerland  
TEL: +41 41 7406636  
FAX: +41 41 7406637

REV 100209

### SFP Gigabit Fiber Transceiver Characteristics

Fiber Length	550m for 50/125 $\mu$ m	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

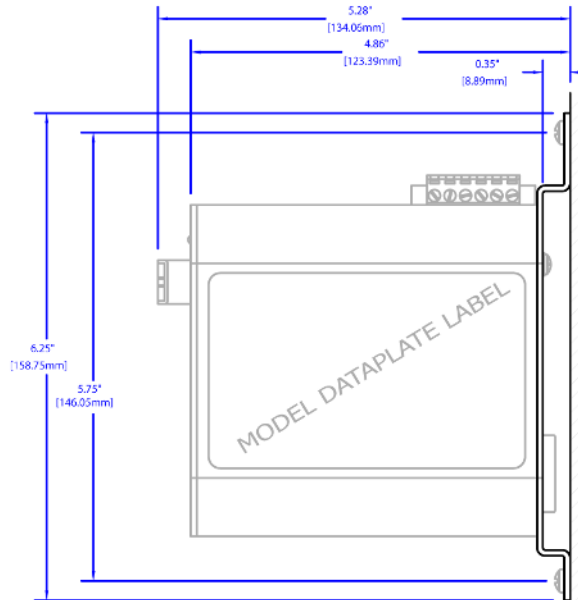
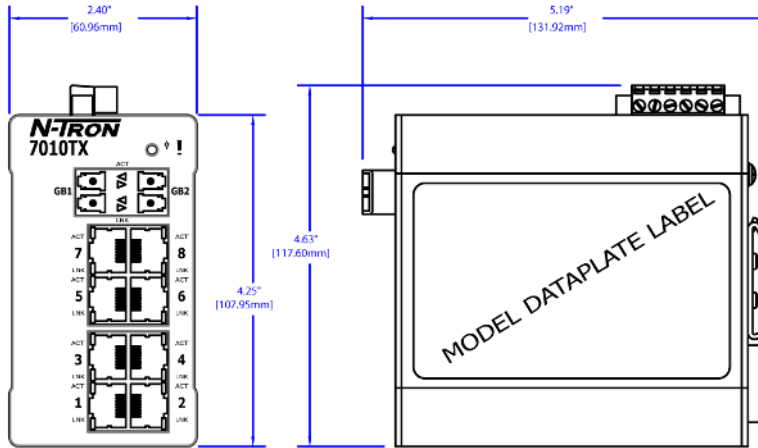
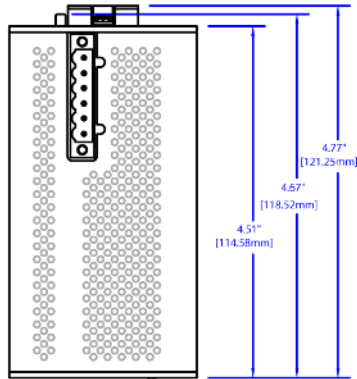
Front:	4"	(10.2 cm)
Side:	1"	(2.6 cm)

### 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



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