

# 7010TX

#### PRODUCT FEATURES

- Eight 10/100BaseTX RJ-45 Ports
- Two SFP Gigabit ports
- -40C 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<sup>™</sup> Technology with ~30ms Healing
- N-View<sup>™</sup> OPC Monitoring
- N-Lin<sup>™</sup> Redundant N-Ring Coupling
- IGMP Auto configuration
- 802.1Q tag VLAN and Port VLAN
- 802.1p QoS, Port QoS, and DSCP
- EtherNet/IP<sup>TM</sup> 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<sup>TM</sup> 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.



## 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 Cable100BaseTX:>Cat5 Cable1000BaseTX:>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

#### Contact Information

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