

The N-TRON® 104TX is a low cost unmanaged four port Industrial Ethernet Switch. It is housed in a hardened, metal, DIN-Rail enclosure, and is designed for use in mission critical data acquisition, control, and Ethernet I/O applications.

## PRODUCT FEATURES

- Compact, Space Saving Package
- Full IEEE 802.3 Compliance
- American Bureau of Shipping (ABS) Type Approval
- EN50155 for Railway applications
- Four 10/100BaseTX RJ-45 Ports
- Unmanaged Operation
- Extended Environmental Specifications
  - -40°C to 80° Operating Temperature
  - >2M Hours MTBF
- Supports Full/Half Duplex Operation
- Up to 800 Mb/s Maximum Throughput
- MDIX Auto Sensing Cable
- Auto Sensing Speed and Flow Control
- Full Wire Speed Communications
- Store-and-forward Technology
- Redundant Power Inputs (10-30 VDC)
- LED Link/Activity Status Indication
- Hardened Metal DIN-Rail Enclosure

## PRODUCT OVERVIEW

The 104TX Industrial Network Switch is designed to solve the most demanding industrial communication requirements while providing high throughput and minimum downtime.

The 104TX provides four RJ-45 auto sensing 10/100BaseTX ports. All ports are full/half duplex capable, using "state of the art" Ethernet switching technology. The 104TX auto-negotiates the speed and flow control capabilities of the four TX port connections, and configures itself automatically. Since the 104TX is auto sensing, there will be no need to make extensive wiring changes if upgrades are made to the host computers, plant systems, or Ethernet I/O modules. The switching fabric simply scales up or down automatically to match specific network environments.



The 104TX supports up to 2,000 MAC addresses, enabling these products to support extremely sophisticated and complex network architectures.

The 104TX is an ideal candidate for upgrading existing hubs and repeaters to increase bandwidth and determinism by virtually eliminating network collisions. The N-TRON 104TX combines affordability and the plug & play simplicity of the unmanaged hub.

The 104TX can simplify plant wiring by eliminating the need to bring data acquisition and control network connections back to a climate controlled environment. The 104TX has extended operating environmental specifications to meet the harsh needs of the industrial environment. For cost savings and convenience the network switch can be DIN-Rail mounted alongside Ethernet I/O or other Industrial Equipment.

To increase reliability the 104TX provides dual redundant power inputs. LED's are provided to display the link status and activity of each port.



THE INDUSTRIAL NETWORK COMPANY

QUALITY MANAGEMENT SYSTEM

CERTIFIED BY DNV

ISO 9001:2008

## 104TX SPECIFICATIONS

### Case Dimensions

Height:	2.9"	(7.3cm)
Width:	1.5"	(3.8 cm)
Depth:	3.6"	(9 cm)
Weight:	0.6 lbs.	(0.28 kg)
DIN-Rail:	35mm	

### Electrical

Input Voltage:	10-30 VDC
Steady Input Current:	215mA @24V
Inrush:	7.8Amp/0.7ms@24V

### Environmental

Operating Temperature:	-40°C to 80°C
Storage Temperature:	-40°C to 85°C
Operating Humidity:	10% to 95% (Non Condensing)
Operating Altitude:	0 to 10,000 ft.

### Reliability

MTBF:	>2 Million Hours
-------	------------------

### Network Media

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

### Connectors

10/100BaseTX:	Four (4) RJ-45 TX Copper Ports
---------------	-----------------------------------

### Recommended Wiring Clearance

Front:	2" (5.08 cm)
Top:	1" (2.54 cm)

### Ordering Information

104TX	Four 10/100BaseTX Ports
NTPS-24-1.3	DIN-Rail Power Supply 24V@1.3 Amp
100-MDR-1	Metal Din Rail Option*

\* MDR option must be specified with switch order - not field upgradable

## BENEFITS

### Industrial Network Switch

- Compact Size / Small Footprint
- Extended Environmental Specifications
- Hardened Metal DIN-Rail Enclosure
- High Performance
- High MTBF >2M Hours
- ESD Protection Diodes on RJ-45 Ports
- Surge Protection Diodes on Power Inputs

### Ease of Use

- Plug & Play Operation
- Auto Sensing 10/100BaseTX
- Auto Negotiation Full/Half Duplex
- MDIX Auto Cable Sensing
- Unmanaged Operation

### Increased Performance

- Full Wire Speed Capable
- Full Duplex Capable
- Eliminates Network Collisions
- Increases Network Determinism

### Regulatory Approvals

FCC Title 47 Part 15 Class A; ICES-003-Class A  
CE: EN61000-6-2,4; EN61000-4-2,3,4,5,6; EN55011  
UL Listed (US and Canada) per ANSI/ISA-12.12.01-2007,  
Class I, Div 2, Groups A,B,C,D,T4A  
ABS Type Approval for Shipboard Applications  
DNV Type Approval Certification  
EN50155 for Railway Applications  
RoHS Compliant; GOST-R Certified

Designed to comply with:

IEEE 1613 for Electric Utility Substations;  
and NEMA TS1/TS2 for Traffic Control Equipment

## Contact Information

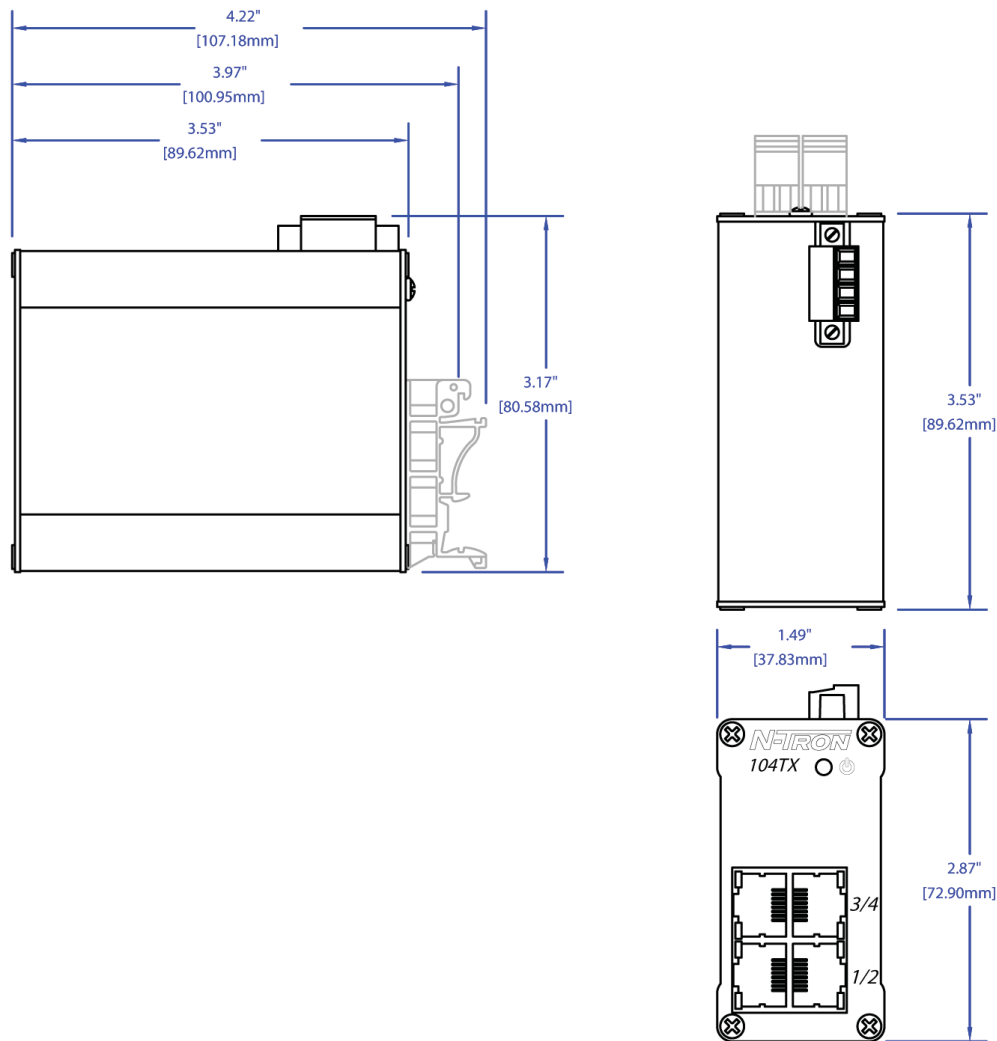
**N-TRON Corp.**  
820 S. University Blvd., Suite 4E  
Mobile, AL 36609 USA  
TEL: (251) 342-2164  
FAX: (251) 342-6353  
Website: [www.n-tron.com](http://www.n-tron.com)  
Email: [n-tron\\_info@n-tron.com](mailto:n-tron_info@n-tron.com)

**N-TRON Asia**  
Suite #: 2267, 22/F, One Lujiazui  
68 Yin Cheng Road Center,  
Pudong New Area  
200120 Shanghai, P.R. China  
Phone: +86 (0) 21 6194 6777  
Fax: +86 (0) 21 6194 6699

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

REV 100415

## 104TX with Standard DIN rail Mount



## Optional 100-MDR-1 Metal DIN Rail Mount

