

# 105TX-POE Industrial Ethernet Switch

N-Tron Networking Series



## ►►► Unmanaged Industrial Ethernet Switch

The N-Tron® 105TX-POE Unmanaged Industrial Ethernet Switch is designed to transmit power, along with data, over an Ethernet network and is ideal for PoE capable devices where running an AC power feed is either not possible or cost effective. This feature allows an end user to power a PoE camera, wireless access point, or any other PoE capable device without the need for running separate wires for power. This also allows the ability for a centralized battery backup for all these devices.

### PRODUCT FEATURES

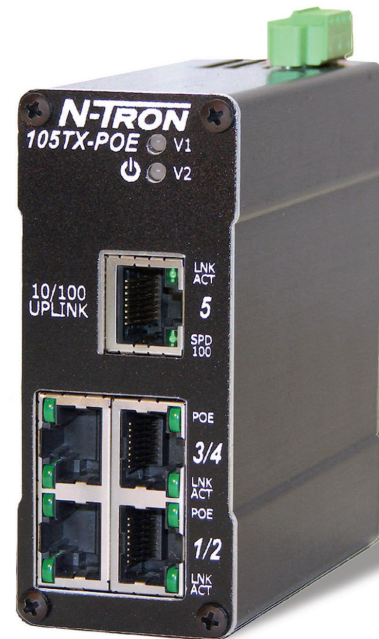
- Compact, Space Saving Package
- Full IEEE 802.3 and 802.3af Compliance
- American Bureau of Shipping (ABS) Type Approval
- Certified for Rail Applications
- Five 10/100BaseTX RJ-45 Ports (4 Mode A PoE Ports)
- Unmanaged Operation
- Extended Environmental Specifications
  - -40°C to 85° Operating Temperature
- Automatic Detection of Connected PoE Devices
- Support for Full/Half Duplex Operation
- Auto-sensing Duplex, Speed, and MDIX
- Up to 1.0 Gb/s Maximum Throughput
- Full Wire Speed Communications
- Supports 15.4 Watts per port (13 Watts at the PD)
- Redundant Power Inputs (46-49 VDC)
- Power Fault Status LED's
- LED Link/Activity Status Indication
- LED PoE Status Indication
- Hardened Metal DIN-Rail Enclosure

### PRODUCT OVERVIEW

The 105TX-POE Industrial Network Switch is designed to meet the most demanding industrial communications requirements by providing high throughput and minimum downtime while also providing power to PoE capable devices over the Ethernet network.

The 105TX-POE provides five RJ-45 auto sensing 10/100BaseTX ports. All ports are full/half duplex capable, using "state of the art" Ethernet switching technology. Four of the five RJ-45 ports also act as PoE ports allowing power to pass through four of the eight strands of CAT5 cable. Each PoE port supports up to 15.4 watts of power.

The 105TX-POE auto-negotiates the speed and flow control capabilities of the five TX port connections, and configures itself automatically.



The N-Tron 105TX-POE also supports up to 2,000 MAC addresses, enabling these products to support extremely sophisticated and complex network architectures.

The 105TX-POE automatically detects any PoE device that is connected and powers it accordingly. If a PoE fault is detected on a specific port the Auto-disconnect feature disables PoE power on that port, allowing only data communications to pass. This reduces the risk of damaging costly equipment.

The 105TX-POE is an ideal candidate for providing data and power to wireless LAN access points, network cameras, VoIP, and other PoE capable devices. The product also helps reduce costs by eliminating the need for electrical wiring and electrician expenses.

The 105TX-POE has extended operating environmental specifications to meet the harsh needs of the industrial environment. For cost savings and convenience it can be DIN-Rail mounted alongside Ethernet I/O or other Industrial Equipment.

To increase reliability the 105TX-POE provides dual redundant power inputs. Two power LED's are also provided on this unit indicating a valid power source on both the redundant power inputs and also indicating when a power fault bus occurs.

## **105TX-POE SPECIFICATIONS**

### **Case Dimensions**

Height:	3.5"	(9.7cm)
Width:	1.5"	(3.8 cm)
Depth:	3.6"	(9.0 cm)
Weight:	0.7 lbs.	(0.3 kg)
DIN-Rail:	35mm	

### **Electrical**

Input Voltage:	46-49 VDC
Steady Input Current Under Full Load:	1.6 A@48V
Steady Input Current with No PoE, Switch Full Load:	65mA@48V
Inrush:	26Amp/1.3ms@48V

### **Environmental**

Operating Temperature:	-40°C to 85°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
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### **Network Media**

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

### **Connectors**

10/100BaseTX+PoE:	Four (4) RJ-45 TX/PoE Copper Ports
10/100BaseTX:	One (1) RJ-45 TX Copper Port

### **Recommended Wiring Clearance**

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

## **BENEFITS**

### **PoE Industrial Network Switch**

- Compact Size / Small Footprint
- Ability to Power Devices via LAN
- Eliminates need for Costly Electrical Wiring
- 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 Sensing Full/Half Duplex
- MDIX Auto Cable Sensing
- Unmanaged Operation
- Auto Detection of Connected PoE Devices
- Redundant Power Status LED's

### **Increased Performance**

- Full Wire Speed Capable
- Full Duplex Capable
- Eliminates Network Collisions
- Increases Network Determinism
- Auto-Disconnect of PoE Port if Fault is Detected

### **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) UL508 and ANSI/ISA-12.12.01-2007,  
Class I, Div 2, Groups A,B,C,D,T4*

*UL Listed (Canada) C22.2 No. 14-M05, C22.2 No. 213-  
M1987 Class I, Div 2, Haz Loc.*

*ABS Type Approval for Shipboard Applications*

*DNV Type Approval Certification*

*EN50155, EN50121 and EN61373 for Railway Applications  
GOST-R Certified; RoHS Compliant*

Designed to comply with:

*IEEE 1613 for Electric Utility Substations*

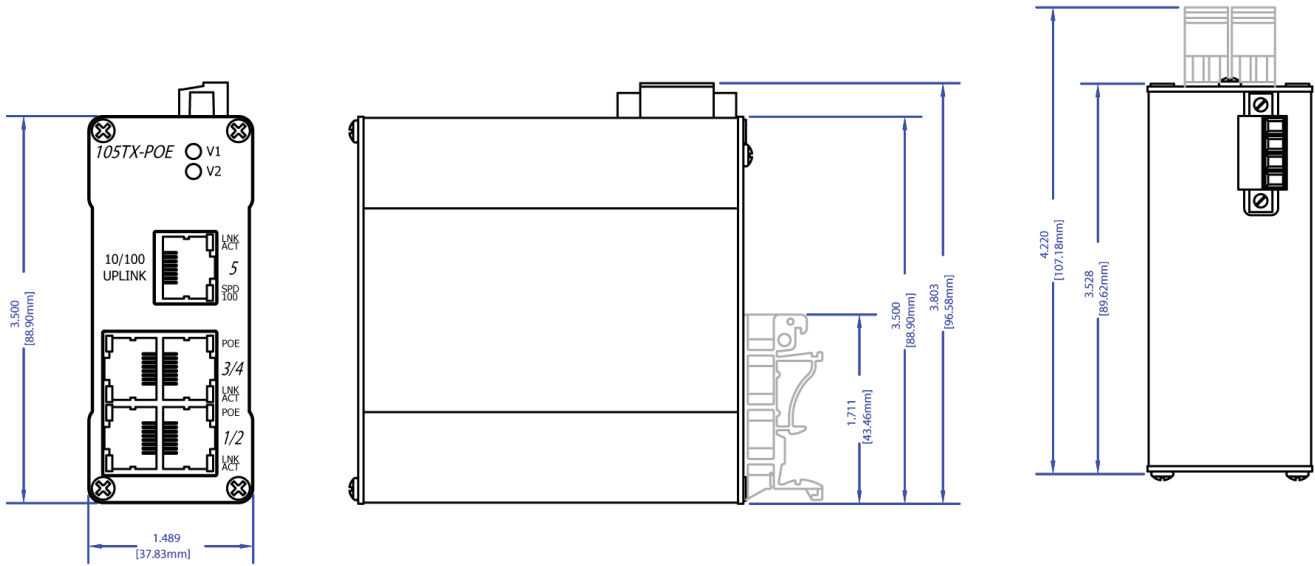
*and NEMA TS1/TS2 for Traffic Control Equipment*

### **Ordering Information**

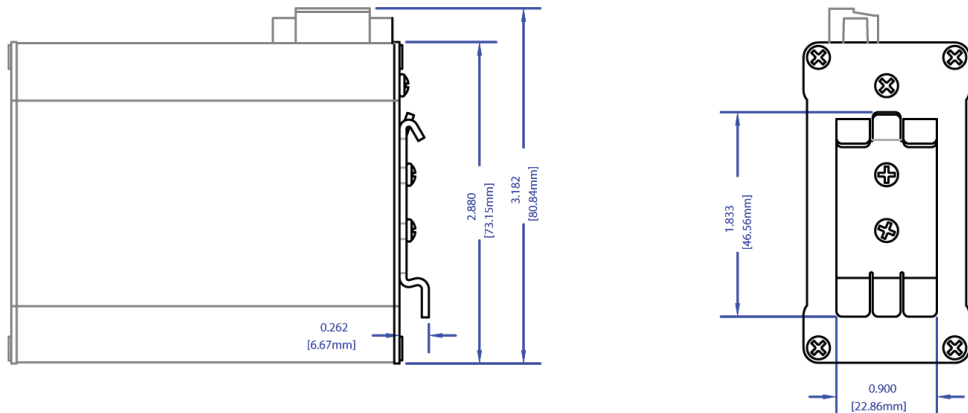
105TX-POE	Four 10/100BaseTX Ports w/PoE One 10/100BaseTX uplink port
105TX-POE-MDR*	Four 10/100Base TX ports w/PoE and One 10/100Base TX uplink port; with Metal Din Rail Option
NTPS-48-2	DIN-Rail Power Supply, 48V@ 2 Amp

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

## 105TX-POE with Standard DIN rail Mount



## Optional 100-MDR-2 Metal DIN Rail Mount



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Connect. Monitor. Control.

**Americas**  
sales@redlion.net

**Asia-Pacific**  
asia@redlion.net

**Europe  
Middle East  
Africa**  
europe@redlion.net

+1 (717) 767-6511

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