N-TRON
THE INDUSTRIAL NETWORK COMPANY

105M12

The *105M12* is an IP67 rated unmanaged Industrial Ethernet Switch. It is housed in a hardened, metal, bulkhead mountable enclosure rated for protection against dust, low/high pressure water jets, and temporary immersion in water. This switch offers five 10/100BaseTX ports with M12 D-coded connectors and is designed for use in mission critical data acquisition, control, and Ethernet I/O applications.

PRODUCT FEATURES

- Unmanaged Operation
- IP67 Rated Hardened Metal Enclosure
  - Bulkhead Mountable (Optional DIN-Rail mounting)
  - Dustproof
  - Protection against low/high pressure water jets
  - Temporary immersion in water
- Five 10/100BaseTX Ports
  - M12 D-Coded Female 4 Pin Connectors
- Extended Environmental Specifications
  - -40ºC to 80ºC Operating Temperature
  - >2M Hours MTBF
- Store-and-forward Technology
- Supports Full/Half Duplex Operation
- Up to 1.0 Gb/s Maximum Throughput
- MDIX Auto Sensing Cable
- Auto Sensing Speed and Flow Control
- Full Wire Speed Communications
- Redundant Power Inputs (10-30 VDC)
- ESD Protection Diodes on all Ports
- Surge Protection Diodes on Power Inputs
- LED Link/Activity Status Indication

PRODUCT OVERVIEW

The *N-TRON® 105M12* Industrial IP67 Rated Ethernet Switch is designed to solve the most demanding industrial communications requirements while providing high throughput and minimum downtime.

The *105M12* provides five auto sensing 10/100BaseTX ports with M12, D-coded, 4 pin, female, style connectors. All ports are full/half duplex capable, using "state of the art" Ethernet switching technology. The *105M12* auto-negotiates the speed and flow control capabilities of the five TX port connections, and configures itself automatically.

Since the *105M12* 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 your specific network environment.

The *105M12* supports up to 2,000 MAC addresses, thus enabling these products to support extremely sophisticated and complex network architectures.

For applications requiring IP67 protection, the *N-TRON 105M12* is an ideal candidate for upgrading existing hubs and repeaters to increase bandwidth and determinism by virtually eliminating network collisions. The product also keeps the network affordable, while maintaining the plug & play simplicity of the unmanaged hub.

The *105M12* can simplify plant wiring by eliminating the need to bring data acquisition and control network connections back to a climate controlled environment. The *105M12* has extended operating environmental specifications to meet the harsh needs of the industrial environment. For cost savings and convenience this network switch can be bulkhead or DIN-Rail mounted alongside other waterproof Industrial Equipment.

To increase reliability the *105M12* provides 10-30 VDC dual redundant power inputs. LEDs are provided to display the link status and activity of each port.

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BENEFITS

Industrial Network Switch

- IP65, IP66, and IP67 Protection
- Hardened Metal Bulkhead Mountable Enclosure (Optional DIN-Rail mount available)
- Extended Environmental Specifications
- High Performance
- High MTBF >2M Hours
- ESD Protection Diodes on all 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

Ordering Information

105M12	Five 10/100BaseTX Ports with M12 D-Coded Style Connectors
CAT5E-M12-M12-X	Cat5E STP Cable with Straight M12 to Straight M12 Connector, Shielded
CAT5E-M12-RJ45-X	Cat5E STP Cable with Straight M12 to RJ-45 Connector, Shielded
CAT5E-M12-X	Cat5E STP Cable with Straight M12 Connector to bare end, Shielded
CAT5E-RM12-M12-X	Cat5E STP Cable with 90º M12 to Straight M12 Connector, Shielded
CAT5E-RM12-RM12-X	Cat5E STP Cable with 90º M12 to 90º M12 Connector, Shielded
CAT5E-RM12-RJ45-X	Cat5E STP Cable with 90º M12 to RJ-45 Connector, Shielded
CAT5E-RM12-X	Cat5E STP Cable with 90º M12 to bare end, Shielded
NTPS-24-1.3	DIN-Rail Power Supply 24V@1.3 Amp
PWR-M12-A-X	Power Cable, M12 A-Coded 90º Female Connector to bare end, Shielded
PWR-RM12-A-X	Power Cable, M12 A-Coded Straight Female Connector to bare end, Shielded

Where:

X = length of cable, fill in desired amount in feet.
Example: CAT5E-RM12-10 (for a 10ft cable)

SPECIFICATIONS

Physical

Height:	5.00" (12.7 cm)
Width:	4.32" (10.97 cm)
Depth:	2.09" (5.31 cm)
Weight:	1.8lbs. (0.816 kg)

Electrical

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

Environmental

Operating Temperature:	-40ºC to 80ºC
Storage Temperature:	-40ºC to 85ºC
Operating Humidity:	5% to 100% (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:	Five (5) M12 D-Coded 4 Pin Female Ports
Power:	One (1) M12 A-Coded 5 Pin Male Port

Recommended Wiring Clearance

Front:	˜4" (10.16 cm)

Regulatory Approvals

FCC Title 47 Part 15 Subpart B Class A, ICES-003 Class A, CE: EN61000-6-2,4, EN55011, EN61000-4-2,3,4,5,6, UL Listed (US and Canada) ANSI/ISA-12.12.01-2000, CLASS I, DIV 2 Groups A,B,C,D,T4A, GOST-R Certification, RoHS Compliant
Designed to comply with: IEEE 1613 for Electric Utility Substations, ABS Standards for Shipboard Applications, and NEMA TS1/TS2 for Traffic Control Equipment

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