

The *N-TRON*<sup>®</sup> *108M12-HV* 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 eight 10/100BaseTX ports with M12 D-coded connectors and is designed for use in mission critical Railway, 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
- EN50155 for Railway applications
- Eight 10/100BaseTX Ports
- M12 D-Coded Female 4 Pin Connectors
- Extended Environmental Specifications
  - -40°C to 70°C Operating Temperature
  - >2M Hours MTBF
- Store-and-forward Technology
- Supports Full/Half Duplex Operation
- Up to 1.6 Gb/s Maximum Throughput
- MDIX Auto Sensing Cable
- Auto Sensing Speed and Flow Control
- Full Wire Speed Communications
- Redundant Power Inputs (10-60 VDC)
- ESD Protection Diodes on all Ports
- Surge Protection Diodes on Power Inputs
- LED Link/Activity Status Indication

## PRODUCT OVERVIEW

The *108M12-HV* industrial IP67 rated Ethernet switch is designed to meet the most demanding industrial communications requirements while providing high throughput and minimum downtime.

The *108M12-HV* provides eight 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 *108M12-HV* auto-negotiates the speed and flow control capabilities of the eight TX port connections, and configures itself automatically.

Since the *108M12-HV* 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 *108M12-HV* supports up to 2,000 MAC addresses, enabling these products to support extremely sophisticated and complex network architectures.

For applications requiring IP67 protection, the *108M12-HV* is an ideal candidate for upgrading existing hubs and repeaters to increase bandwidth and determinism by virtually eliminating network collisions. The *108M12-HV* is an affordable network solution and maintains the plug & play simplicity of the unmanaged hub.

The *108M12-HV* can simplify plant wiring by eliminating the need to bring data acquisition and control network connections back to a climate controlled environment. The *108M12-HV* has extended operating environmental specifications to meet the harsh needs of industrial environments. For cost savings and convenience this network switch can be bulkhead or DIN-Rail mounted alongside other waterproof industrial equipment.

To increase reliability the *108M12-HV* provides dual redundant power inputs of 10-30 VDC or 10-60 VDC with high voltage option. LEDs are provided to display the link status and activity of each port.

## 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

## 108M12-HV SPECIFICATIONS

### Case Dimensions

Height:	6.7"	(16.9 cm)
Width:	6.7"	(16.9 cm)
Depth:	1.8"	(4.6 cm)
Weight:	3.3lbs.	(1.5 kg)

### Electrical

Input Voltage:	10-60VDC
Steady Input Current:	250mA @ 24V
Inrush:	8.1Amp/0.7ms@24V

### Environmental

Operating Temperature:	-40°C to 70°C
Storage Temperature:	-40°C to 85°C
Operating Humidity:	5% to 100% (Non Condensing)
Operating Altitude:	0 to 10,000 ft.

### Reliability

MTBF:	>2 Million Hours
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### Recommended Wiring Clearance

Front:	~4" (10.16 cm)
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### Ordering Information

108M12-HV	Eight 10/100BaseTX Ports with M12 D-Coded Style Connectors, 10-60 VDC
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 90° M12 to Straight M12 Connector, Shielded
CAT5E-RM12-RM12-X	Cat5E STP Cable with 90° M12 to 90° M12 Connector, Shielded
CAT5E-RM12-RJ45-X	Cat5E STP Cable with 90° M12 to RJ-45 Connector, Shielded
CAT5E-RM12-X	Cat5E STP Cable with 90° M12 to bare end, Shielded
NTPS-48-2	DIN-Rail Power Supply 48V @ 2 Amp
PWR-M12-A-X	Power Cable, M12 A-Coded 90° 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.  
Ex: CAT5E-RM12-10 (for a 10ft cable)

### Network Media

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

### Connectors

10/100BaseTX:	Eight (8) M12 D-Coded 4 Pin Female Ports
Power:	One (1) M12 A-Coded 5 Pin Male Port

### Regulatory Approvals

FCC/CE CFR 47 Part 15, Subpart B, Class A  
EN55022, ICES-003  
EN 61000-4-3/4/5/6  
EN50155 for Railway Applications  
GS/CE: EN60950-1

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# N-TRON

THE INDUSTRIAL NETWORK COMPANY

QUALITY MANAGEMENT SYSTEM

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ISO 9001:2000

