108M12-HV Industrial Ethernet Switch

N-Tron Networking Series

▶▶▶ IP67 Rated Unmanaged Industrial Ethernet Switch

The N-TRON® 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
  - -40ºC to 70ºC 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 IP67protection, 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 manintains 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.

▶▶▶ 108M12-HV Specifications

108M12-HV 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

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

Recommended Wiring Clearance

Front:	˜4" (10.16 cm)

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

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)

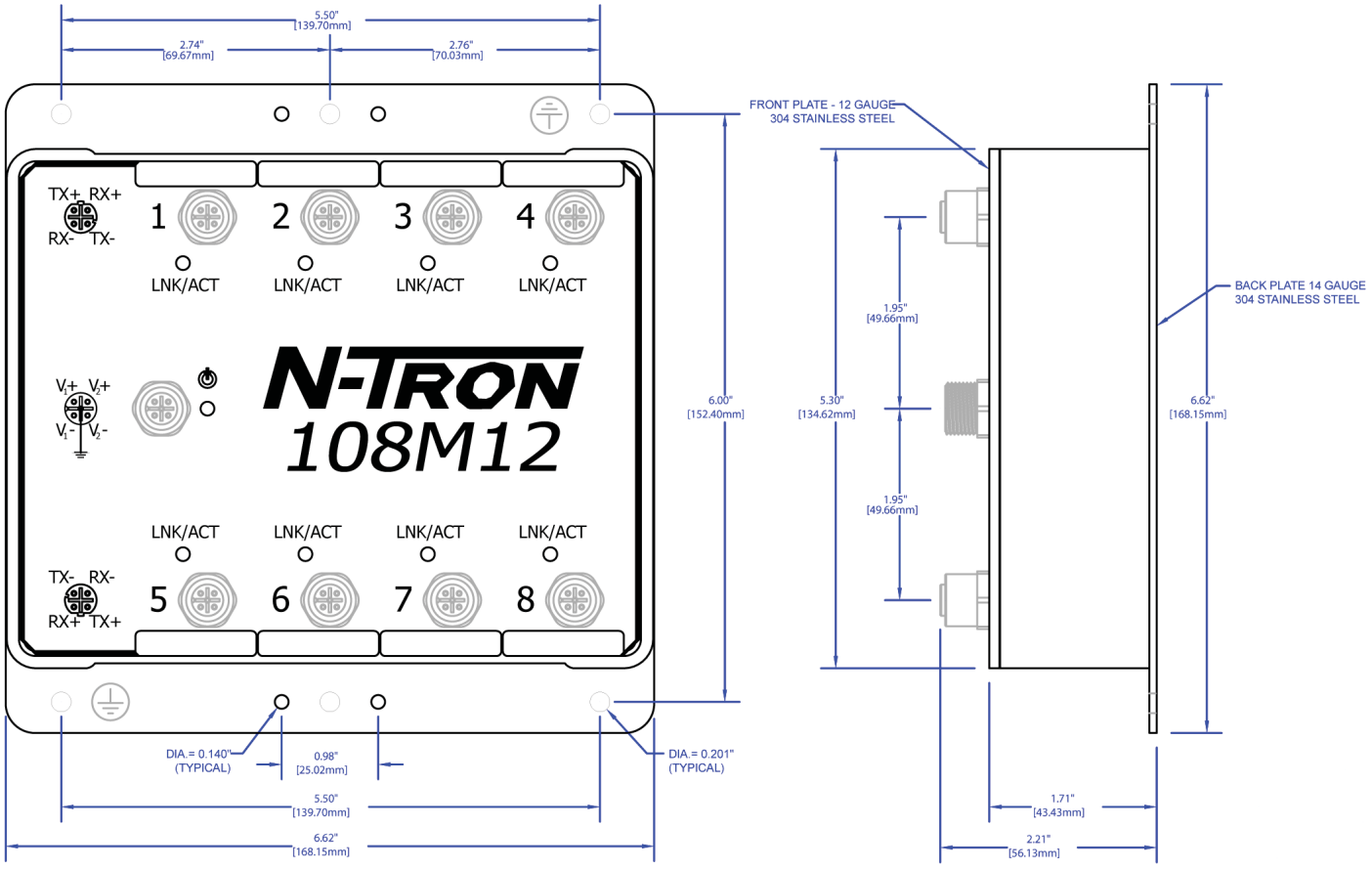
Electrical

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

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 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-24-3	DIN-Rail Power Supply 24V@3 Amp
NTPS-48-2	DIN-Rail Power Supply 48V@2 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.
Ex: CAT5E-RM12-10 (for a 10ft cable)


5.50"
[139.70mm]
2.74"
[69.67mm]
2.76"
[70.03mm]
TX+ RX+
RX- TX-
1
2
3
4
LNK/ACT
LNK/ACT
LNK/ACT
LNK/ACT
N-TRON
108M12
LNK/ACT
LNK/ACT
LNK/ACT
LNK/ACT
TX- RX-
RX+ TX+
5
6
7
8
6.00"
[152.40mm]
DIA.= 0.140"
(TYPICAL)
0.98"
[25.02mm]
DIA.= 0.201"
(TYPICAL)
5.50"
[139.70mm]
6.62"
[168.15mm]
FRONT PLATE - 12 GAUGE
304 STAINLESS STEEL
1.95"
[49.66mm]
5.30"
[134.62mm]
1.95"
[49.66mm]
BACK PLATE 14 GAUGE
304 STAINLESS STEEL
6.62"
[168.15mm]
1.71"
[43.43mm]
2.21"
[56.13mm]