

The **N-TRON® 108M12** 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 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
- American Bureau of Shipping(ABS) Type Approval
- 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 (10-30 VDC or 10-60 VDC)
- ESD Protection Diodes on all Ports
- Surge Protection Diodes on Power Inputs
- LED Link/Activity Status Indication

## PRODUCT OVERVIEW

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

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

Since the **108M12** 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** 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** is an ideal candidate for upgrading existing hubs and repeaters to increase bandwidth and determinism by virtually eliminating network collisions. The **108M12** is an affordable network solution and maintains the plug & play simplicity of the unmanaged hub.

The **108M12** can simplify plant wiring by eliminating the need to bring data acquisition and control network connections back to a climate controlled environment. The **108M12** 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** 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.

Secure online  
ordering  
24/7/365 from

**B&B electronics**  
MANUFACTURING COMPANY

International Headquarters: 707 Dayton Road - PO Box 1040 - Ottawa, IL 61350 USA  
815-433-5100 Fax 815-433-5104 [www.bb-elec.com](http://www.bb-elec.com) [orders@bb-elec.com](mailto:orders@bb-elec.com) [support@bb-elec.com](mailto:support@bb-elec.com)

European Headquarters: Westlink Commercial Park - Oranmore Co. Galway - Ireland  
+353 91 792444 Fax +353 91 792445 [www.bb-europe.com](http://www.bb-europe.com) [orders@bb-europe.com](mailto:orders@bb-europe.com) [support@bb-europe.com](mailto:support@bb-europe.com)

## 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 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:	10-30 VDC 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
-------	------------------

### 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

### Recommended Wiring Clearance

Front:	~4" (10.16 cm)
--------	----------------

### Ordering Information

108M12	Eight 10/100BaseTX Ports with M12 D-Coded Style Connectors, 10-30 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)

### Regulatory Approvals: 108M12

FCC Title 47 Part 15 Class A

ICES-003- Class A

CE: EN61000-6-2:2001; ,EN61000-6-4:2001

EN61000-4-2,3,4,5,6

EN55011:1998+A1: 1999+A2: 2002 - Class A

UL Listed (US and Canada) 1604, ANSI/ISA-12.12.01-2000  
Class I, Div 2, Groups A,B,C,D,T4A;

ABS Type Approval for Shipboard Applications

DNV Type Approval Certification

EN50155 for Railway Applications

GOST-R Certified; RoHS Compliant

Designed to comply with:

IEEE 1613 for Electric Utility Substations

NEMA TS1/TS2 for Traffic Control Equipment

### Contact Information

Secure online  
ordering  
24/7/365 from

**B & B electronics**  
MANUFACTURING COMPANY

International Headquarters: 707 Dayton Road - PO Box 1040 - Ottawa, IL 61350 USA  
815-433-5100 Fax 815-433-5104 [www.bb-elec.com](http://www.bb-elec.com) [orders@bb-elec.com](mailto:orders@bb-elec.com) [support@bb-elec.com](mailto:support@bb-elec.com)

European Headquarters: Westlink Commercial Park - Oranmore Co. Galway - Ireland  
+353 91 792444 Fax +353 91 792445 [www.bb-europe.com](http://www.bb-europe.com) [orders@bb-europe.com](mailto:orders@bb-europe.com) [support@bb-europe.com](mailto:support@bb-europe.com)

