

NSM-208-M12

EN50155 8-port M12 Unmanaged Ethernet Switch

NSM-208PSE-M12

EN50155 8-port M12 Unmanaged PoE Ethernet Switch



Features ▶▶▶

- Each port supports both 10/100 Mbps speed auto negotiation
- 8 PoE ports with Power Sourcing Equipment (PSE) operation (NSM-208PSE-M12)
- Over-temperature, over-current and over/under-voltage detection (NSM-208PSE-M12)
- 8-port 10/100 Mbps M12 type connector with IP40 protection
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- EN50155/50121-3-2/50121-4, and NEMA TS2 compliant
- Automatic MDI/MDI-X crossover for plug-and-play
- Store-and-forward architecture
- Auto-detection of PD (powered devices) and automatic power management (NSM-208PSE-M12)
- Supports operating temperatures from -40 °C ~ +75 °C

Introduction

The NSM-208PSE-M12/NSM-208-M12 is designed for industrial applications in harsh environments. The M12 connectors ensure tight, robust connections, and guarantees reliable operation, even for applications that are subject to high vibration and shock.

The NSM-208PSE-M12 PoE switch provides 8 fast Ethernet M12 ports with 8 IEEE 802.3af compliant PoE ports. The switch is classified as power source equipment (PSE) and provide up to 15.4 W of power per port.

The Ethernet switch supports IEEE 802.3/802.3u/802.3x with 10/100M, full/half-duplex, MDI/MDI-X auto-sensing, and provides an economical solution for your industrial Ethernet network.

The NSM-208-M12 provides a wide +12 V_{DC} ~ +53 V_{DC} power range to fit all the common power standards found in industrial automation, without external power converters. The wide power input lowers installation and maintenance costs.

Comparison Table of 8-port M12/IP67 Ethernet Switch

| Mode Name | NSM-208PSE-M12 | NSM-208-M12 | NS-208PSE-IP67 | NS-208-IP67 |
|------------------------|---|---|---|---|
| PoE | 802.3af x 8 | — | 802.3af x 8 | — |
| Input Voltage Range | +46 V _{DC} ~ +53 V _{DC} | +12 V _{DC} ~ +53 V _{DC} | +46 V _{DC} ~ +53 V _{DC} | +12 V _{DC} ~ +53 V _{DC} |
| Operating Temperature | -40 °C ~ +75 °C | -40 °C ~ +75 °C | -10 °C ~ +60 °C | -10 °C ~ +60 °C |
| Casing | Metal with IP40 | Metal with IP40 | Plastic (Flammability UL 94V-0) with IP67 | Plastic (Flammability UL 94V-0) with IP67 |
| Installation | Wall Mounting | Wall Mounting | DIN-Rail Mounting or Wall Mounting | DIN-Rail Mounting or Wall Mounting |
| Dimensions (W x L x H) | 190 mm x 100 mm x 56 mm | 190 mm x 100 mm x 56 mm | 190 mm x 155 mm x 104 mm | 190 mm x 155 mm x 104 mm |

Specifications

| Models | NSM-208PSE-M12 | | NSM-208-M12 |
|---------------------------|---|--|---|
| Technology | | | |
| Standards | IEEE 802.3, 802.3u, 802.3x, 10/100 Base-T(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection | | |
| Processing Type | Store & forward | | |
| MAC Addresses | 1024 | | |
| Memory Bandwidth | 3.2 Gbps | | |
| Frame Buffer Memory | 512 Kbit | | |
| Flow Control | IEEE 802.3x flow control, back pressure flow control | | |
| Interface | | | |
| LED Indicators | PWR, Link/Act, Power Device is detected | | PWR, Link/Act |
| Ethernet Isolation | 1500 V _{rms} 1 minute | | |
| Connector | Female 4-Pin shielded M12 D-coding connector x 8 | | |
| Power Input | | | |
| Input Voltage Range | +46 V _{DC} ~ +53 V _{DC} | | +12 V _{DC} ~ +53 V _{DC} |
| Power Consumption | 0.12 A @ 48 V _{DC} without PD loading 3.0 A @ 48 V _{DC} with PD full loading | | 0.12 A @ 48 V _{DC} |
| Protection | Power reverse polarity protection | | |
| Connector | Male 5-Pin shielded M12 A-coding connector x 1 | | |
| PoE Technology | | | |
| PoE Compliance | 100% IEEE 802.3af compliant | | – |
| PoE Classification | PSE (Power Sourcing Equipment) | | – |
| PoE Voltage | +48 V _{DC} depending on power input | | – |
| PoE Power | Up to 15.4 W per port | | – |
| PoE Pin Assignments | V+ (Pin 1, 2), V- (Pin 3, 6) | | – |
| Certifications | | | |
| Rail Traffic | EN 50155/50121-3-2/50121-4, and NEMA TS2 | | |
| Shock | IEC 60068-2-27 | | |
| Freefall | IEC 60068-2-32 | | |
| Vibration | IEC 60068-2-6 | | |
| Mechanical | | | |
| Casing | Metal with IP40 | | |
| Dimensions (W x L x H) | 190 mm x 100 mm x 56 mm | | |
| Installation | Wall Mounting | | |
| Environmental | | | |
| Operating Temperature | -40 °C ~ +75 °C | | |
| Storage Temperature | -40 °C ~ +85 °C | | |
| Ambient Relative Humidity | 10 ~ 95% RH, non-condensing | | |

Applications



EN50155 8-port M12 Unmanaged Ethernet Switch

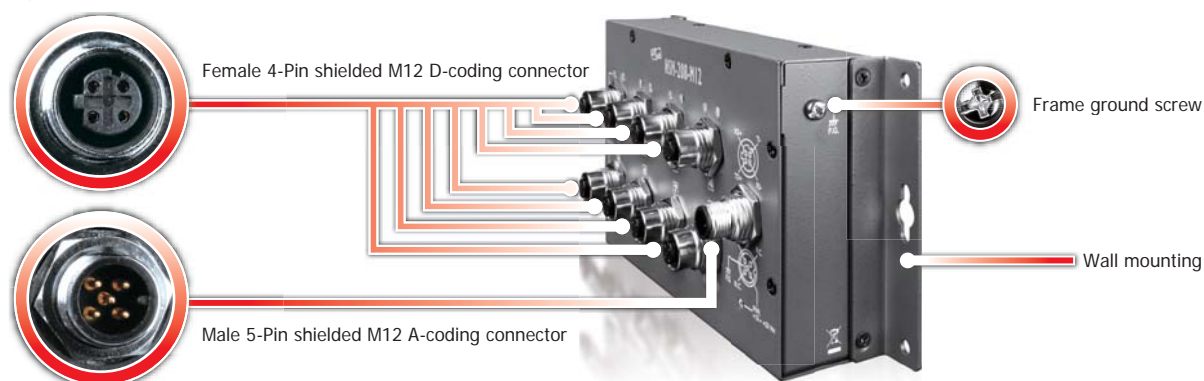
- NSM-208-M12
- NSM-208PSE-M12



Wide Range Temperature: $-40^{\circ}\text{C} \sim +75^{\circ}\text{C}$
EN50155-certified for harsh railway standard



Appearance



Pin Functions for Power Input

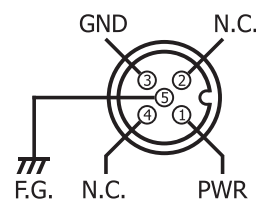
External power supply is connected using the M12 A-coding:

PWR: Power input and should be connected to the power supply (+)

GND: Ground and should be connected to the power supply (-)

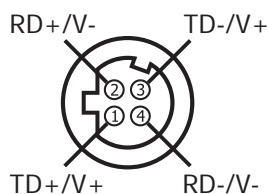
F.G.: F.G. stands for Frame Ground (protective ground). It is optional.

If you use this pin, it can reduce EMI radiation; improve EMI performance and EMS protection.

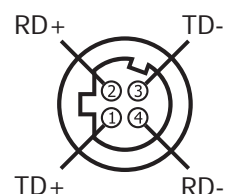


Pin Functions for Ethernet Port

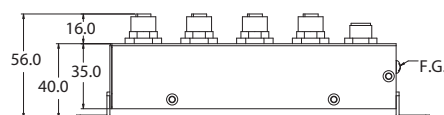
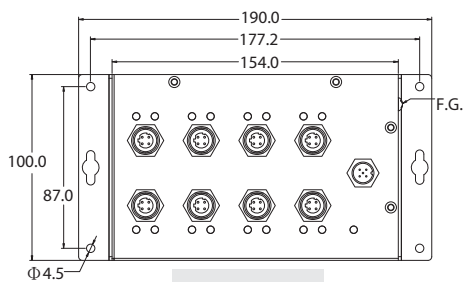
For NSM-208PSE-M12



For NSM-208-M12



Dimensions (Units: mm)



Ordering Information

| | |
|-------------------|---|
| NSM-208-M12 CR | EN50155 8-port M12 Unmanaged Ethernet Switch (RoHS) Includes M12D-4P-IP68 x 8, A-CAP-M12M x 8, M12A-5P-IP68 x 1, A-CAP-M12F x 1 and 4SIX1K0000003 Wall mount |
| NSM-208PSE-M12 CR | EN50155 8-port M12 Unmanaged PoE Ethernet Switch (RoHS) Includes M12D-4P-IP68 x 8, A-CAP-M12M x 8, M12A-5P-IP68 x 1, A-CAP-M12F x 1 and 4SIX1K0000003 Wall mount |

Accessories

| | | | |
|---------------|---------------|---------------|---------------|
| M12D-4P-IP68 | A-CAP-M12M | M12A-5P-IP68 | A-CAP-M12F |
| | | | |
| 4PIO1K0000001 | 4PIO1K0000002 | 4PIO1K0000003 | 4PIO1K0000004 |

You need to choose high quality M12 cable, please refer to <https://www.balluff.com/>