

TN-5308 Series

EN 50155 8-port unmanaged Ethernet switches



- > M12 connectors and IP40 metal housing
- > Supports IEEE 802.3/802.3u/802.3x
- > Essential compliance with EN 50155*
- > -40 to 75°C operating temperature range (T models)

*Moxa defines "essential compliance" to include those EN 50155 requirements that make products more suitable for rolling stock railway applications.



Introduction

The ToughNet TN-5308 series M12 unmanaged Ethernet switches are designed for industrial applications in harsh environments. The TN series switches use M12 connectors to ensure tight, robust connections, and guarantee reliable operation against environmental disturbances, such as vibration and shock. The TN-5308 series Ethernet switches provide 8 Fast Ethernet M12 ports, support IEEE 802.3/802.3u/802/3x with 10/100M, full/half-duplex, MDI/MDI-X

auto-sensing, and provide an economical solution for your industrial Ethernet network. Models with an extended operating temperature range of -40 to 75°C are also available. The TN-5308 series Ethernet switches comply with those EN 50155 requirements that make products more suitable for rolling stock applications, including operating temperature, power input voltage, surge, ESD, and vibration, making the switches suitable for a variety of industrial applications.

Specifications

Technology

Standards:

- IEEE 802.3 for 10BaseT
- IEEE 802.3u for 100BaseT(X)
- IEEE 802.3x for Flow Control

Processing Type: Store and Forward

Interface

M12 Ports: 10/100BaseT(X) auto negotiation speed, F/H duplex mode and auto MDI/MDI-X connection

Power Requirements

Input Voltage:

- TN-5308-LV: 12/24/36/48 VDC
- TN-5308-MV: 72/96/110 VDC

Note: Compliant with EN 50155 on 24/48/72/96/110 VDC

Operating Voltage:

- TN-5308-LV: 8.4 to 60 VDC
- TN-5308-MV: 50.4 to 137.5 VDC

Input Current:

- TN-5308-LV: 0.19 A @ 12 VDC,
0.10 A @ 24 VDC, 0.054 A @ 48 VDC
- TN-5308-MV: 0.033 A @ 72 VDC,
0.024 A @ 96 VDC, 0.021 A @ 110 VDC

Connection:

- TN-5308-LV: M12 connector
- TN-5308-MV: M23 connector

Reverse Polarity Protection: Present

Physical Characteristics

Housing: Metal

IP Rating: IP40 protection

Dimensions:

- TN-5308-LV: 60 x 216.6 x 36.1 mm (2.36 x 8.53 x 1.42 in)
- TN-5308-MV: 60 x 216.6 x 53.8 mm (2.36 x 8.53 x 2.12 in)

Weight:

- TN-5308-LV: 485 g (1.07 lb)
- TN-5308-MV: 685 g (1.51 lb)

Installation: Panel mounting, DIN-rail mounting (with optional kit: DK-TN-5308)

Environmental Limits

Operating Temperature:

- Standard Models: -25 to 60°C (-13 to 140°F)
- Wide Temp. Models: -40 to 75°C (-40 to 167°F)

Storage Temperature: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

Standards and Certifications

Safety: UL/cUL 508, EN 60950-1 (LVD)

EMI: FCC Part 15 Subpart B Class A, EN 55022 Class A

EMS:

- IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV
- IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m
- IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV
- IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV
- IEC 61000-4-6 CS: 10 V
- IEC 61000-4-8

Rail Traffic: (for panel mounting installations)

EN 50155 (essential compliance*), EN 50121-4, EN 45545-2

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Shock: EN 50155, IEC 61373

Freefall: IEC 60068-2-32

Vibration: EN 50155, IEC 61373

Note: Please check Moxa's website for the most up-to-date certification status.

MTBF (mean time between failures)

Time:

TN-5308-LV Series: 2,099,286 hrs

TN-5308-MV Series: 2,590,858 hrs

Standard: Telcordia SR332

Warranty

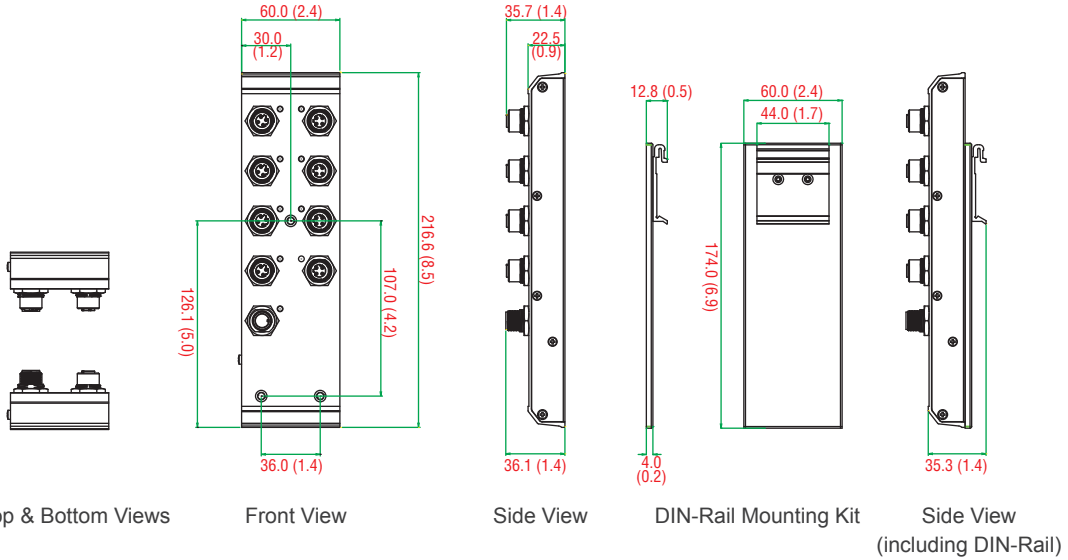
Warranty Period: 5 years

Details: See www.moxa.com/warranty

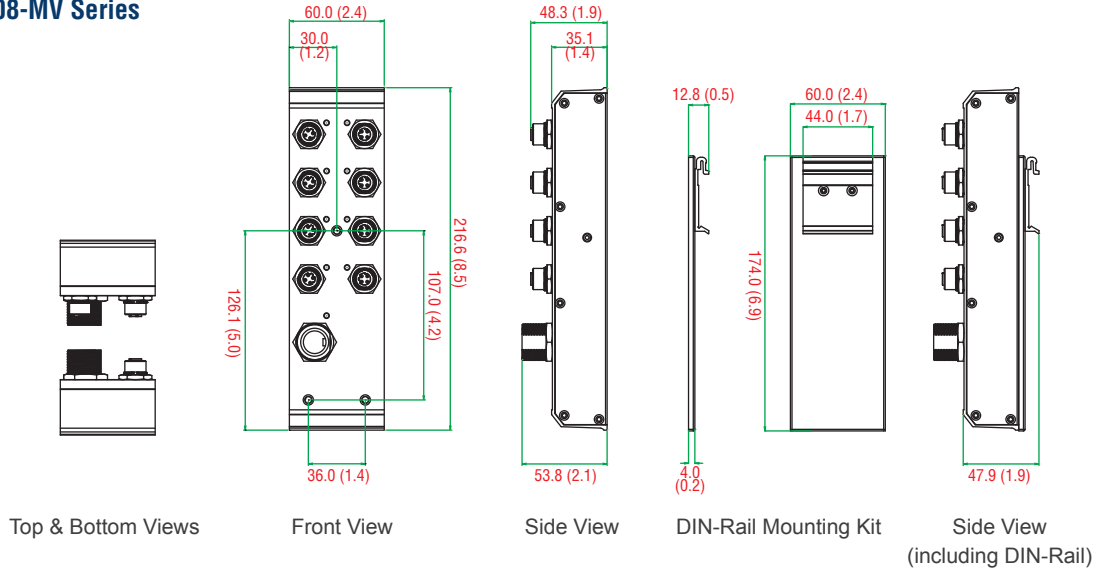
Dimensions

TN-5308-LV Series

Unit: mm (inch)



TN-5308-MV Series



Ordering Information

Available Models		Power Interface	Power Supply	
Standard Temperature (-25 to 60°C)	Wide Temperature (-40 to 75°C)	10/100BaseT(X), M12 connector	LV 12/24/36/48 VDC (8.4 to 60 V)	MV 72/96/110 VDC (50.4 to 137.5 V)
TN-5308-LV	TN-5308-LV-T	8	1	-
TN-5308-MV	TN-5308-MV-T	8	-	1

Package Checklist

- TN-5308 switch
- Panel-mounting kit
- Hardware installation guide
- Warranty card

Note: Conformal coating is available on request.

Optional Accessories (can be purchased separately)

Power Cords, M12 Connectors, Protective Caps: See the EN 50155 Switch Accessories datasheet for details

DK-TN-5308: DIN-rail mounting kit

EN 50155 Switch Accessories

: M12/M23 Cords

CBL-M12D(MM4P)/RJ45-100 IP67

1-meter M12-to-RJ45 Cat-5C UTP Ethernet cable with IP67-rated 4-pin male D-coded M12 connector



CBL-M12(FF5P)/OPEN-100 IP67

1-meter M12-to-5-pin power cable with IP67-rated 5-pin female A-coded M12 connector



CBL-M23(FF6P)/Open-BK-100 IP67

1-meter M23-to-6-pin power cable with IP67-rated 6-pin female M23 connector



CBL-M12XMM8PRJ45-Y-200-IP67

2-meter M12-to-RJ45 Cat-5 UTP Ethernet cable with IP67-rated 8-pin male X-coded crimp type M12 connector



CBL-M12XMM8P-Y-300-IP67

3-meter M12-to-M12 Cat-5 UTP Ethernet cable with IP67-rated 8-pin male X-coded crimp type M12 connector



CBL-M12XMM8P-Y-100-IP67

1-meter M12-to-M12 Cat-5 UTP Ethernet cable with IP67-rated 8-pin male X-coded crimp type M12 connector



: M12 Connectors

M12D-4P-IP68

Field-installable M12 D-coded screw-in sensor connector, 4-pin male, IP68-rated



M12A-5P-IP68

Field-installable M12 A-coded screw-in sensor connector, 5-pin female, IP68-rated



M12X-8PMM-IP67-HTG

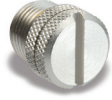
Field-installable M12 X-coded crimp type, slim design connector, 8-pin male, IP67-rated



: M12 IP67 Protective Caps

A-CAP-M12F-M

Metal cap for M12 female connector



A-CAP-M12M-M

Metal cap for M12 male connector



: M23 Connectors

A-PLG-WPM23-01

M23 cable connector, 6-pin female, crimp type

