TN-5305 Series

EN 50155 5-port IP67 unmanaged Ethernet switches

- 10/100BaseT(X), 4-pin M12 (D-coded), F/H duplex mode, and auto MDI/MDI-X connection
- IP67 rated housing protection
- Power input: 12 to 45 VDC, 18 to 30 VAC
- Complies with a portion of EN 50155 specifications
- -40 to 75°C operating temperature range (T models)

Introduction

The TN-5305 series Ethernet switches are IP67-rated for tough industrial applications. By using M12 connectors, you can rest assured that Ethernet cables will connect tightly to the switch, and will be robust enough to protect your applications from external disturbances, such as the vibration and shock encountered in the transportation industry. The space-saving TN-5305 switches can be mounted virtually anywhere, and wide operating temperature (-40 to 75°C) models are also available for use in the most extreme weather conditions. The TN-5305 Series Ethernet switches comply with a portion of EN 50155 specifications, covering 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

Software Features

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:
• 24/36 VDC
• 18 to 30 VAC (47 to 63 Hz)
Note: Compliant with EN 50155 on 24 VDC
Operating Voltage:
• 12 to 45 V
• 18 to 30 VAC (47 to 63 Hz)
Input Current:
• 0.28 A @ 24 VAC
• 0.07 A @ 24 VDC
• 0.05 A @ 36 VDC
Overload Current Protection: Present
Connection: 1 M12 socket (A-coded), single power input
Reverse Polarity Protection: Present

Physical Characteristics

Housing: Plastic
IP Rating: IP67 protection
Dimensions: 60 x 125 x 29.6 mm (2.36 x 4.92 x 1.09 in)
Weight: 270 g (0.56 lb)
Installation: Field-style mounting, DIN-rail mounting (with optional kit)

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
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 50121-3-2, EN 45545
*Moxa defines “essential compliance” to include those EN 50155 requirements that make products more suitable for rolling stock railway applications.
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)

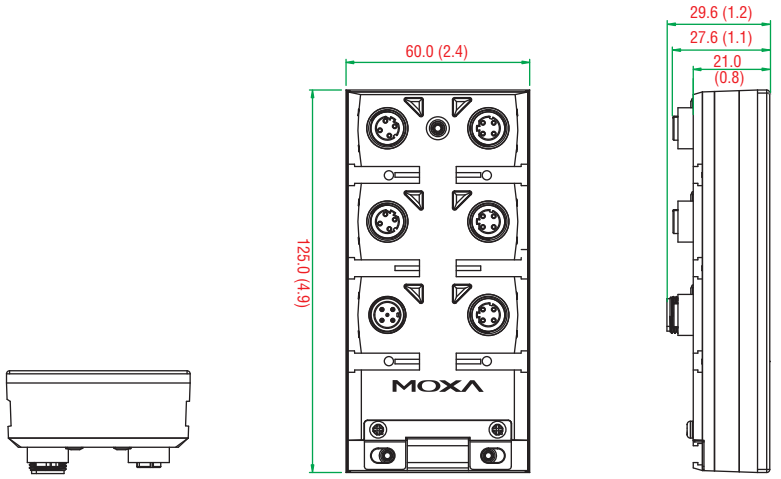
Time: 3,451,678 hrs
Standard: Telcordia SR332

Warranty

Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Top View | Front View | Side View

Ordering Information

Available Models		Port Interface
Standard Temperature (-25 to 60°C)	Wide Temperature (-40 to 75°C)	10/100BaseT(X), M12 connector
TN-5305	TN-5305-T	5

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

Package Checklist

- TN-5305 switch
- Panel-mounting kit
- 3 protective caps for unused ports and 8 port labels
- Hardware installation guide
- Warranty card

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