

# 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
- 0.10 A @ 24 VDC
- 0.08 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

*\*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

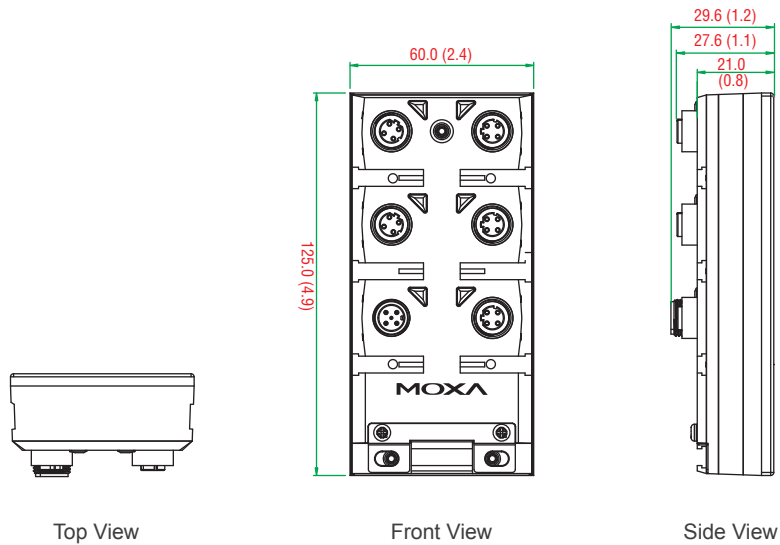
#### Warranty

**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

## Dimensions

Unit: mm (inch)



## 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**

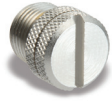
Field-installable M12 X-coded crimp type, slim design connector, 8-pin male, IP67-rated



## : M12 IP67 Protective Caps

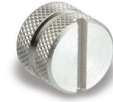
### **A-CAP-M12F-M**

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

