

# TN-5305 Series

## EN 50155 5-port IP67 unmanaged Ethernet switches



### Features and Benefits

- 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 all EN 50155 mandatory test items<sup>1</sup>
- -40 to 75°C operating temperature range (-T models)

### Certifications



## 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. 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

### Ethernet Interface

|   |   |
|---|---|
| 10/100BaseT(X) Ports (M12 D-coded 4-pin female connector) | 5   |
| Standards   | IEEE 802.3 for 10BaseT<br>IEEE 802.3u for 100BaseT(X)<br>IEEE 802.3x for flow control |

### Power Parameters

|                       |  |
|-----------------------|--|
| Input Current         | 0.1 A @ 24 VDC, 0.08 A @ 36 VDC          |
| Input Voltage         | 18 to 30 VAC (47 to 63 Hz), 24 to 36 VDC |
| Inrush Current (Max.) | 0.28 A @ 24 VDC                          |
| No. of Power Inputs   | 1  |
| Operating Voltage     | 18 to 30 VAC<br>12 to 45 VDC             |
| Power Connector       | M12 A-coded male connector               |

1. This product is suitable for rolling stock railway applications, as defined by the EN 50155 standard. For a more detailed statement, click here: [www.moxa.com/doc/specs/EN\\_50155\\_Compliance.pdf](http://www.moxa.com/doc/specs/EN_50155_Compliance.pdf)

## Physical Characteristics

|              |  |
|--------------|--|
| Housing      | Plastic top cover, metal bottom plate                |
| IP Rating    | IP67   |
| Dimensions   | 60 x 125 x 29.6 mm (2.36 x 4.92 x 1.09 in)           |
| Weight       | Packaged: 270 g (0.56 lb)                            |
| Installation | DIN-rail mounting (with optional kit), Wall mounting |

## Environmental Limits

|  |  |
|--|--|
| Operating Temperature                  | TN-5305: -25 to 60°C (-13 to 140°F)<br>TN-5305-T: -40 to 75°C (-40 to 167°F) |
| Storage Temperature (package included) | -40 to 85°C (-40 to 185°F)   |
| Ambient Relative Humidity              | 5 to 95% (non-condensing)  |
| Altitude                               | 2000 m   |

## Standards and Certifications

|                         |  |
|-------------------------|--|
| Freefall                | IEC 60068-2-32   |
| EMC                     | EN 55032/24  |
| EMI                     | CISPR 32, FCC Part 15B Class A   |
| EMS                     | IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV<br>IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m<br>IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV<br>IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV<br>IEC 61000-4-6 CS: 10 V<br>IEC 61000-4-8 PFMF |
| Environmental Testing   | IEC 60068-2-1, EN 50155<br>IEC 60068-2-14, EN 50155<br>IEC 60068-2-2, EN 50155<br>IEC 60068-2-30, EN 50155   |
| International Approval  | RCM  |
| Railway                 | EN 50121-4, EN 50155   |
| Railway Fire Protection | EN 45545-2   |
| Safety                  | EN 60950-1, UL 508   |
| Salt Spray Test         | IEC 60068-2-11, EN 50155   |
| Shock                   | IEC 60068-2-27, IEC 61373, EN 50155  |
| Vibration               | IEC 60068-2-64, IEC 61373, EN 50155  |

## Declaration

|               |                   |
|---------------|-------------------|
| Green Product | RoHS, CRoHS, WEEE |
|---------------|-------------------|

## MTBF

|           |                 |
|-----------|-----------------|
| Time      | 3,451,678 hrs   |
| Standards | Telcordia SR332 |

## Warranty

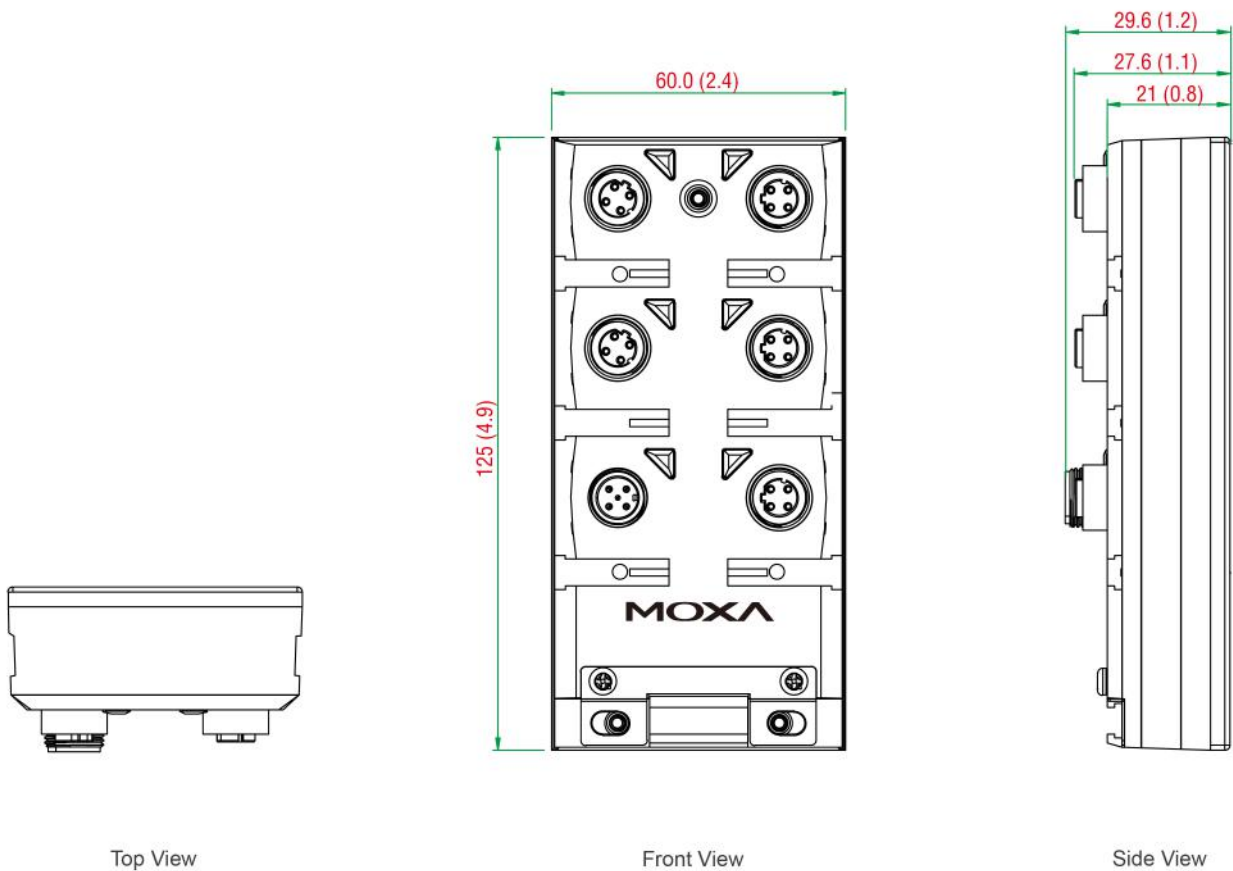
|                 |  |
|-----------------|--|
| Warranty Period | 5 years  |
| Details         | See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> |

## Package Contents

|                  |   |
|------------------|---|
| Device           | 1 x TN-5305 Series switch                         |
| Installation Kit | 1 x panel-mounting kit                            |
| Documentation    | 1 x quick installation guide<br>1 x warranty card |

## Dimensions

Unit: mm (inch)



## Ordering Information

| Model Name | PoE, 10/100BaseT(X) Ports, M12 D-Coded Female Connector | 10/100BaseT(X) Ports, M12 D-Coded Female Connector | Power Input  | Input Voltage           | Operating Temp. |
|------------|---|--|--------------|-------------------------|-----------------|
| TN-5305    | -   | 5  | Single input | 24/36 VDC, 18 to 30 VAC | -25 to 60°C     |
| TN-5305-T  | -   | 5  | Single input | 24/36 VDC, 18 to 30 VAC | -40 to 75°C     |

## Accessories (sold separately)

### Cables

|                             |  |
|-----------------------------|--|
| CBL-M12(FF5P)/Open-100 IP67 | A-coded M12-to-5-pin power cable, IP67-rated 5-pin female M12 connector, 1 m |
|-----------------------------|--|

|                              |                                    |
|------------------------------|------------------------------------|
| CBL-M12D(MM4P)/RJ45-100 IP67 | M12-to-RJ45 cable, IP67-rated, 1 m |
|------------------------------|------------------------------------|

### M12 Connector Caps

|              |                                    |
|--------------|------------------------------------|
| A-CAP-M12F-M | Metal cap for M12 female connector |
| A-CAP-M12M-M | Metal cap for M12 male connector   |

### Connectors

|                |   |
|----------------|---|
| M12D-4PMM-IP67 | M12 D-coded connector, QUICKON type, 4-pin male, IP67 |
| M12D-4P-IP68   | M12 D-coded screw-in sensor connector, male, IP68     |

### DIN-Rail Mounting Kits

|            |                                       |
|------------|---------------------------------------|
| DK-M12-305 | DIN-rail mounting kit for EDS-305-M12 |
|------------|---------------------------------------|

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