



# TSPL-101GT-M12 Series

EN50155 Industrial 1-port Gigabit PoE Splitter, M12 connector

## Features

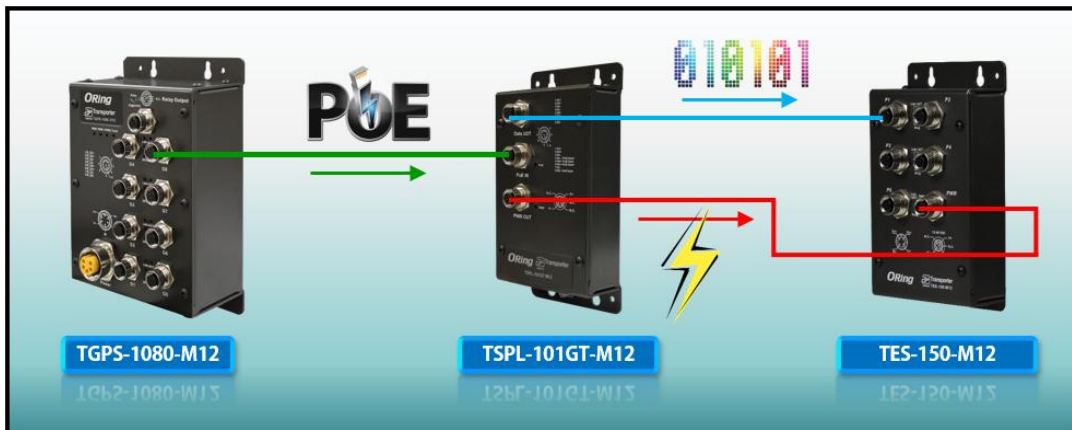
- Leading EN50155-compliant Ethernet switch for rolling stock application
- Fully compliant with IEEE802.3at standard
- Supports 10/100/1000Base-T(X) for PoE In and Data Out
- Power Short Circuit Protection for Power Output
- Auto protection for Over Voltage Power Input
- Supports Power Outputs up to 25Watts Max.
- Ultra-rugged enclosure M12 connector for toughest industrial usages
- Wall Mounting enabled



## Introduction

ORing's Transporter™ series PoE Splitters are designed for industrial applications, such as rolling stock, vehicle, and railway applications. TSPL-101GT-M12 series is high power PoE Splitter for use in Power over Ethernet systems which is compliant with EN50155 requirement. It is specifically designed for the toughest industrial environments. TSPL-101GT-M12 series EN50155 PoE Splitter use M12 connectors to ensure tight, robust connections, and guarantee reliable operation against environmental disturbances, such as vibration and shock. With Ethernet Input (data + power) port and Output (data only) port, TSPL-101GT-M12 series may split power from existing PoE connection and convert up to 24VDC/1.125A or 12VDC/1.6A for power hungry applications such as Wireless APs, Security cameras and IP Phones. The internal current limit, short-circuit and overload protection are implemented for use as a DC power supply.

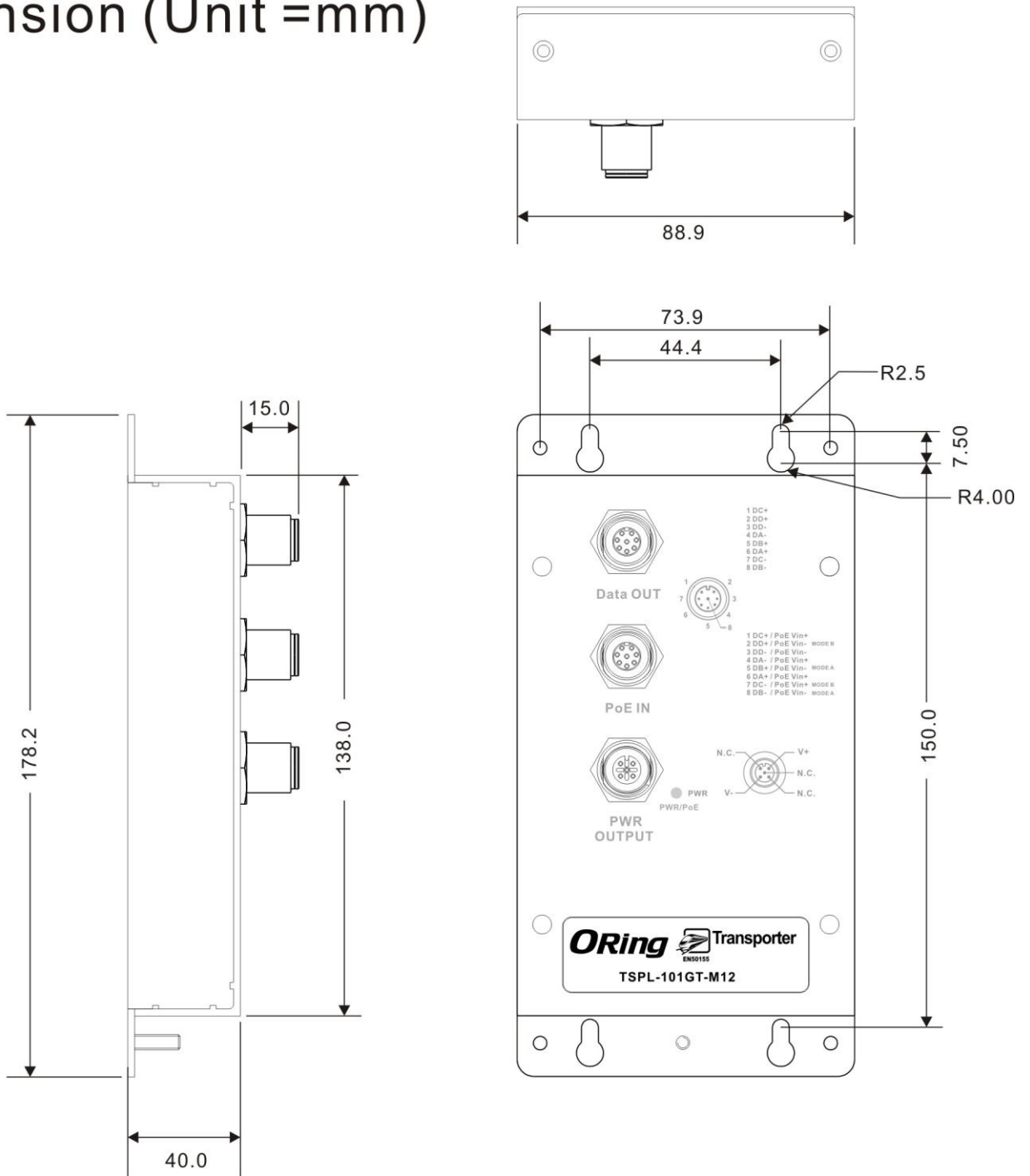
## Connection



Connections of Splitter

**Dimension**

Dimension (Unit =mm)



## Connector and Pin Definition

### 【PoE Mode A】

#### 1000 Base-T

| Pin | RJ-45 Input (Data and Power) |                                     | RJ-45 Output (Data Only) |             |
|-----|------------------------------|-------------------------------------|--------------------------|-------------|
|     | Symbol                       | Description                         | Symbol                   | Description |
| 1   | BI_DA+<br>(Vdc+)             | Data BI_DA+ and Feeding<br>Power(+) | BI_DA+                   | Data BI_DA+ |
| 2   | BI_DA-<br>(Vdc+)             | Data BI_DA- and Feeding<br>Power(+) | BI_DA-                   | Data BI_DA- |
| 3   | BI_DB+<br>(Vdc-)             | Data BI_DB+ and Feeding<br>Power(-) | BI_DB+                   | Data BI_DB+ |
| 4   | BI_DC+                       | Data BI_DC+                         | BI_DC+                   | Data BI_DC+ |
| 5   | BI_DC-                       | Data BI_DC-                         | BI_DC-                   | Data BI_DC- |
| 6   | BI_DB-<br>(Vdc-)             | Data BI_DB- and Feeding<br>Power(-) | BI_DB-                   | Data BI_DB- |
| 7   | BI_DD+                       | Data BI_DD+                         | BI_DD+                   | Data BI_DD+ |
| 8   | BI_DD-                       | Data BI_DD-                         | BI_DD-                   | Data BI_DD- |

#### 10/100 Base-T(X)

| Pin | RJ-45 Input (Data and Power) |                                       | RJ-45 Output (Data Only) |               |
|-----|------------------------------|---------------------------------------|--------------------------|---------------|
|     | Symbol                       | Description                           | Symbol                   | Description   |
| 1   | Rx+ (Vdc+)                   | Data Receive and Feeding<br>power(+)  | Rx+                      | Data Receive  |
| 2   | Rx- (Vdc+)                   | Data Receive and Feeding<br>power(+)  | Rx-                      | Data Receive  |
| 3   | Tx+ (Vdc-)                   | Data Transmit and Feeding<br>power(-) | Tx+                      | Data Transmit |
| 4   | NC                           | Not Connected                         | NC                       | Not Connected |
| 5   | NC                           | Not Connected                         | NC                       | Not Connected |
| 6   | Tx- (Vdc-)                   | Data Transmit and Feeding<br>power(-) | Tx-                      | Data Transmit |
| 7   | NC                           | Not Connected                         | NC                       | Not Connected |
| 8   | NC                           | Not Connected                         | NC                       | Not Connected |

**Note:** pins 3 and 6 (Vdc-) should not be shorted to ground

**[PoE Mode B]**

**1000 Base-T**

| Pin | RJ-45 Input (Data and Power) |                                     | RJ-45 Output (Data Only) |             |
|-----|------------------------------|-------------------------------------|--------------------------|-------------|
|     | Symbol                       | Description                         | Symbol                   | Description |
| 1   | BI_DA+                       | Data BI_DA+                         | BI_DA+                   | Data BI_DA+ |
| 2   | BI_DA-                       | Data BI_DA-                         | BI_DA-                   | Data BI_DA- |
| 3   | BI_DB+                       | Data BI_DB+                         | BI_DB+                   | Data BI_DB+ |
| 4   | BI_DC+<br>(Vdc+)             | Data BI_DC+ and Feeding<br>Power(+) | BI_DC+                   | Data BI_DC+ |
| 5   | BI_DC-<br>(Vdc+)             | Data BI_DC- and Feeding<br>Power(+) | BI_DC-                   | Data BI_DC- |
| 6   | BI_DB-                       | Data BI_DB-                         | BI_DB-                   | Data BI_DB- |
| 7   | BI_DD+<br>(Vdc-)             | Data BI_DD+ and Feeding<br>Power(-) | BI_DD+                   | Data BI_DD+ |
| 8   | BI_DD-<br>(Vdc-)             | Data BI_DD- and Feeding<br>Power(-) | BI_DD-                   | Data BI_DD- |

**10/100 Base-T(X)**

| Pin | RJ-45 Input (Data and Power) |                  | RJ-45 Output (Data Only) |                 |
|-----|------------------------------|------------------|--------------------------|-----------------|
|     | Symbol                       | Description      | Symbol                   | Description     |
| 1   | Rx+                          | Data Receive     | Rx+                      | Data Receive +  |
| 2   | Rx-                          | Data Receive     | Rx-                      | Data Receive -  |
| 3   | Tx+                          | Data Transmit    | Tx+                      | Data Transmit + |
| 4   | Vdc+                         | Feeding power(+) | NC                       | Not Connected   |
| 5   | Vdc+                         | Feeding power(+) | NC                       | Not Connected   |
| 6   | Tx-                          | Data Transmit    | Tx-                      | Data Transmit - |
| 7   | Vdc-                         | Feeding power(-) | NC                       | Not Connected   |
| 8   | Vdc-                         | Feeding power(-) | NC                       | Not Connected   |

**Note:** pins 7 and 8 (Vdc-) should not be shorted to ground

## Specifications

| ORing Splitter Model  | TSPL-101GT-M12-24V  | TSPL-101GT-M12-12V |
|---|---|--------------------|
| <b>Physical Ports</b>   |   |                    |
| 10/100/1000Base-T(X) Port with PoE Input in M12 Auto MDI/MDIX | <b>1 x M12 connector (8-pin M12 A-coding)</b>   |                    |
| 10/100/1000Base-T(X) Output Port in M12 Auto MDI/MDIX         | <b>1 x M12 connector (8-pin M12 A-coding)</b>   |                    |
| Power Output Connector  | <b>1 x M12 connector (5-pin M12 A-coding)</b>   |                    |
| <b>Operating Voltage</b>                                      |   |                    |
| Input Voltage   | 36 ~ 57 VDC   |                    |
| Output Voltage  | 24V @ 1.04A max.  | 12V @ 2.08A max.   |
| <b>LED Indicator</b>  |   |                    |
| Power Indicator   | PWR / Ready: 1 x LED  |                    |
|   | Green On: Power is on and functioning Normally.   |                    |
| <b>Protection</b>   |   |                    |
| Short Circuit Protection                                      | Present   |                    |
| Over Load Protection  | Present   |                    |
| <b>Physical Characteristic</b>                                |   |                    |
| Enclosure   | IP-40   |                    |
| Dimension (W x D x H)   | 88.9 (W) x 40 (D) x 178.2 (H)mm (3.5 x 1.57 x 7.0 inch)   |                    |
| Weight (g)  | 385 g   |                    |
| <b>Environmental</b>  |   |                    |
| Storage Temperature   | -40 to 80°C (-40 to 176°F)  |                    |
| Operating Temperature   | -25 to 75°C (-13 to 167°F)  |                    |
| Operating Humidity  | 5% to 90% Non-condensing  |                    |
| <b>Regulatory approvals</b>                                   |   |                    |
| EMC   | EN 55022, EN 55024(CE EMC),EN 50121-4,EN 60945, FCC, EN 50121-3-2(EN50155), EN 61000-6-2, EN 61000-6-4,IEC 61000-3-2 ,IEC 61000-3-3   |                    |
| EMI   | CISPR 22, EN 55011, FCC Part 15B Class A  |                    |
| EMS   | EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8 (PFMF), EN61000-4-11 (DIP) |                    |
| Shock   | IEC 60068-2-27, IEC 61373(EN50155)  |                    |
| Free Fall   | IEC 60068-2-31 (IEC 60068-2-32)   |                    |
| Vibration   | IEC 60068-2-6, IEC 61373(EN50155)   |                    |
| Safety  | EN60950-1   |                    |
| <b>Warranty</b>   | 5 years   |                    |

## Ordering Information

**TSPL-101GT-M12-AA**

| Code Definition |   | Output voltage                         |
|-----------------|---|--|
| Option          | - | 24V: 24VDC output<br>12V: 12VDC output |

|                 | Model Name         | Description  |
|-----------------|--------------------|--|
| Available Model | TSPL-101GT-M12-24V | EN50155 Industrial 1-port Gigabit High Power PoE Splitter, IEEE802.3at standard compliant, 24VDC output, M12 connector |
|                 | TSPL-101GT-M12-12V | EN50155 Industrial 1-port Gigabit High Power PoE Splitter, IEEE802.3at standard compliant, 12VDC output, M12 connector |

## Packing List

- TSPL-101GT-M12 x 1
- QIG x 1

## Optional Accessories

- M12 cable series