



TINJ-101GT-M12 Series

# TINJ-101GT-M12 Series

## ➔ EN50155 Industrial 1-port Gigabit High Power PoE Injector ,M12 connector

### Features

- PoE+ Injector for 1x10/100/1000 Base-T(X)
- Fully compliant with IEEE802.3at/802.3af standard
- Auto protection for Over Voltage Power Input and over current output
- Supports Power Output up to 30Watts
- Supports wide Power Input range from 12~57Vdc
- Ultra-rugged enclosure M12 connector for toughest industrial usages
- Wall mounting enabled



### Introduction

O-Ring's Transporter™ series PoE Injectors are designed for industrial applications, such as rolling stock, vehicle, and railway applications. The TINJ-101GT-M12 PoE Injector is an advanced IEEE802.3at compliant device with Intelligent Detection that provided **1-port 10/100/1000 Base-T(X)** PoE output which is compliant with EN50155 requirement. It is specifically designed for the toughest industrial environments. TINJ-101GT-M12 EN50155 PoE Injector use M12 connectors to ensure tight, robust connections, and guarantee reliable operation against environmental disturbances, such as vibration and shock. The device does not turn on power until it detects a valid PoE signature from the PoE devices attached downstream on the Ethernet cable. This protection against damage to non-PoE compliant equipment which may be connected to the Ethernet cable. Because of this intelligent detection, only an IEEE 802.3at/802.3af compliant device can be powered with the TINJ-101GT-M12 PoE Injector. Typically in Ethernet networks the maximum allowable CAT5 cable length is about 100 meters, due to the limitation of the Ethernet standards. The TINJ-101GT-M12 PoE Injector can function with any PoE P.D. equipment which is fully compliant with the IEEE 802.3at/802.3af PoE standards.

**Note: The equipment being powered must be fully IEEE 802.3at/802.3af compliant in order for the power supply to be able to sense the PoE devices signature and apply power. Power is supplied on Ethernet pins 4/6 (V+) and 5/8 (V-).**

### Practical Operation

Non-PoE Ethernet Switch

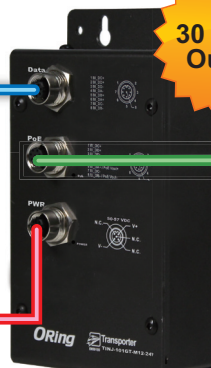


Data



Power Supply

Power



TINJ-101GT-M12-24V

**30 Watts Output**

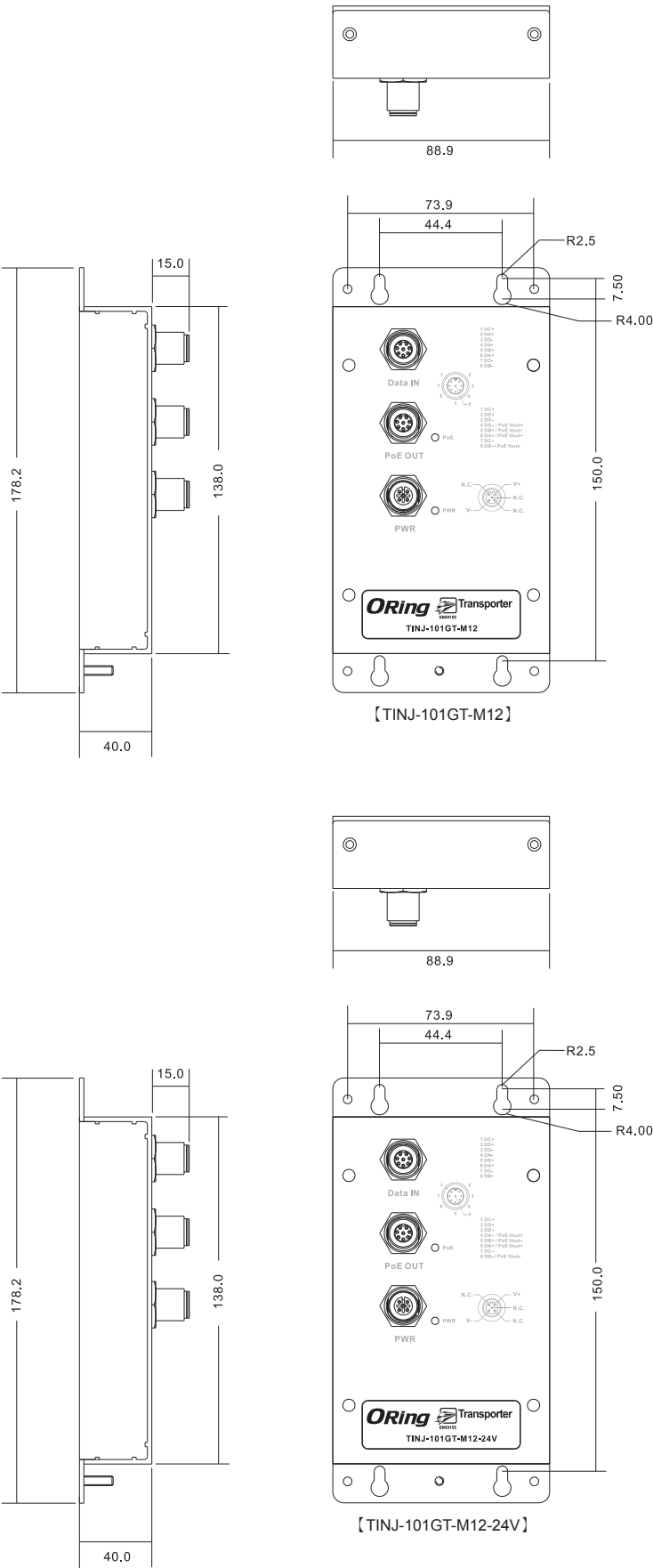
**PoE**

Data + Power



PoE P.D. device

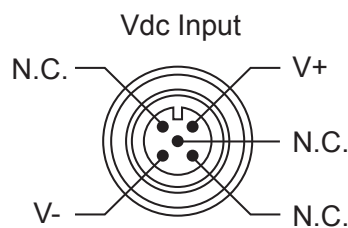
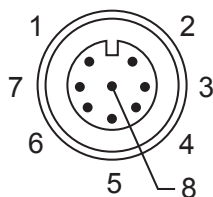
Dimensions



(Unit=mm)

## Pin Definition

- 1 BI\_DC+
- 2 BI\_DD+
- 3 BI\_DD-
- 4 BI\_DA- / PoE Vout+
- 5 BI\_DB+ / PoE Vout-
- 6 BI\_DA+ / PoE Vout+
- 7 BI\_DC-
- 8 BI\_DB- / PoE Vout-



## Connector and Pin Definition

1000 Base-T				
M12 Input (Data Only)			M12 Output (Data and Power)	
Pin	Symbol	Description	Symbol	Description
1	BI_DC+	Data BI_DC+	BI_DC+	Data BI_DC+
2	BI_DD+	Data BI_DD+	BI_DD+	Data BI_DD+
3	BI_DD-	Data BI_DD-	BI_DD-	Data BI_DD-
4	BI_DA-	Data BI_DA-	BI_DA-(Vdc+)	Data BI_DA- and Feeding Power(+)
5	BI_DB+	Data BI_DB+	BI_DB+(Vdc-)	Data BI_DB+ and Feeding Power(-)
6	BI_DA+	Data BI_DA+	BI_DA+(Vdc+)	Data BI_DA+ and Feeding Power(+)
7	BI_DC-	Data BI_DC-	BI_DC-	Data BI_DC-
8	BI_DB-	Data BI_DB-	BI_DB-(Vdc-)	Data BI_DB- and Feeding Power(-)

10/100 Base-T(X)				
M12 Input (Data Only)			M12 Output (Data and Power)	
Pin	Symbol	Description	Symbol	Description
1	NC	Not Connected	NC	Not Connected
2	NC	Not Connected	NC	Not Connected
3	NC	Not Connected	NC	Not Connected
4	Rx-	Data Receive	Rx- (Vdc+)	Data Receive and Feeding power(+)
5	Tx+	Data Transmit	Tx+ (Vdc-)	Data Transmit and Feeding power(-)
6	Rx+	Data Receive	Rx+ (Vdc+)	Data Receive and Feeding power(+)
7	NC	Not Connected	NC	Not Connected
8	Tx-	Data Transmit	Tx- (Vdc-)	Data Transmit and Feeding power(-)

Note: pins 5 and 8 (-Vdc) should not be shorted to ground

## Specifications

ORing Injector Model	TINJ-101GT-M12	TINJ-101GT-M12-24V
Physical Ports		
10/100/1000 Base-T(X) with P.S.E. Ports in M12 Auto MDI/MDIX	1 x M12 connector (8-pin M12 A-coding)	
10/100/1000 Base-T(X) Port in M12 Auto MDI/MDIX	1 x M12 connector (8-pin M12 A-coding)	
Operating Voltage		
Input Voltage	50 ~ 57 VDC on 4-pin M12 A-coding	12 ~ 57 VDC on 4-pin M12 A-coding
Output Power	50V / 600mA, 30 Watts max.	

LED Indicators		
Power Indicator	PWR / Ready: 1 x LED	
Green On: Power is on and functioning Normally.	1 x LED Blue On: PoE Device Link Blue Blinking: Detecting PoE Device Blue Off : None PoE Device Detected	
Protection		
Short Circuit Protection	Present	
Over Load Protection	Present	
Physical Characteristic		
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)	385g	446g
Environmental		
Storage Temperature	-40 to 80°C (-40 to 176°F)	
Operating Temperature	-25 to 70°C (-13 to 158°F)	
Operating Humidity	5% to 90% Non-condensing	
Regulatory approvals		
EMI	FCC Part 15, CISPR (EN55022) class A, EN50155 (EN50121-3-2, EN55011, EN50121-4)	
EMS	EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11	
Shock	IEC60068-2-27	
Free Fall	IEC60068-2-31	
Vibration	IEC60068-2-6	
Safety	EN60950-1	
Warranty	5 years	

## Ordering Information

TINJ-10 **1** GT-M12- **24V**

Code Definition	10/100/1000Base-T(X) P.S.E. Port Number	VDC Input
<b>Option</b>	<b>-1</b> : 1 port	<b>None</b> : 50 ~ 57 VDC <b>-24</b> : 12 ~ 57 VDC

Available Model	Model Name	Description
	TINJ-101GT-M12	EN50155 Industrial 1-port Gigabit High Power PoE Injector,M12 connector
	TINJ-101GT-M12-24V	EN50155 Industrial 1-port Gigabit High Power PoE Injector, 12V~57V Input Support, M12 connector
<b>Packing List</b>		<b>Optional Accessories</b>
<ul style="list-style-type: none"> <li>TINJ-101GT-M12 x 1</li> <li>QIG x 1</li> </ul>		<ul style="list-style-type: none"> <li>M12 cable series</li> </ul>

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