EN50155 SWITCH INDUSTRIAL

ORing

Quick Installation Guide

TXPS-141XT-M12 Series

EN50155 5-port unmanaged PoE Ethernet switch

Introduction

Consisting of three models with different power supply options, the **TXPS-141XT-M12 series** are unmanaged Ethernet switches with four 10/100/500Base-T(X) P.S.E. ports and one 10/100/500Base-T(X) port. Designed for industrial applications, especially for rolling stock, vehicle, and railway applications, this series boasts EN50155 compliance and M12 connectors to ensure tight and robust connections, and guarantee reliable operation against environmental disturbances, such as vibration and shock. The P.S.E. ports, which deliver up to 30W per port, are able to provide sufficient power for power-hungry devices. Therefore, you can attach an IEEE 802.3at-compliant device to the switch without additional power cables. The series supports a wide operating temperature ranging from -40°C to 75°C, making it an ideal solution for harsh environments.

Package Contents

The device is shipped with the following items. If any of these items is missing or damaged, please contact your customer service representative for assistance.

Contents	Pictures	Number
TXPS-141XT-M12 or TXPS-141XT-M12-24V or TXPS-141XT-M12-MV		1
QIG		1

Preparation

Before you begin installing the device, make sure you have all of the package contents available and a PC with Microsoft Internet Explorer 6.0 or later, for using web-based system management tools.

Safety & Warnings

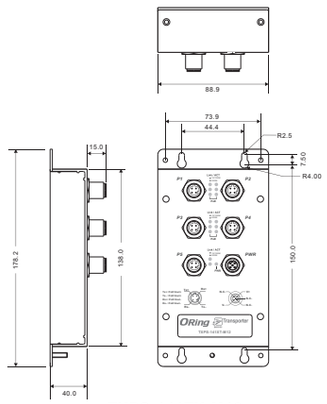
Elevated Operating Ambient: If installed in a closed environment, make sure the operating ambient temperature is compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

Reduced Air Flow: Make sure the amount of air flow required for safe operation of the equipment is not compromised during installation.

Mechanical Loading: Make sure the mounting of the equipment is not in a hazardous condition due to uneven mechanical loading.

Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

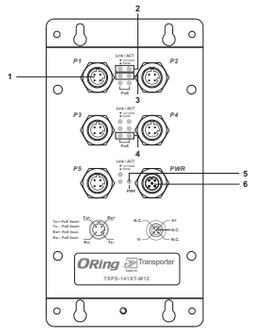
Dimension



TXPS-141TX-M12 TXPS-141TX-M12-24V/ MV

Panel Layouts

Front View

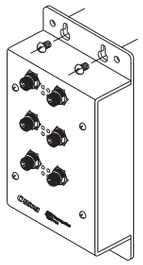


1. Fast Ethernet port (P1 - P4 with PoE support)
2. LNK/ACT and 10/100Mbps speed LED for Ethernet ports
3. LNK/ACT and 500Mbps speed LED for Ethernet ports
4. PoE status LED
5. Power status LED
6. Power port

Installation

Wall-mount

The device can be fixed to the wall. Follow the steps below to install the device on the wall.
Step 1: Hold the device upright against the wall
Step 2: Insert four screws through the large opening of the keyhole-shaped apertures at the top and bottom of the unit and fasten the screw to the wall with a screwdriver.
Step 3: Slide the device downwards and tighten the four screws for added stability.



Instead of screwing the screws in all the way, it is advised to leave a space of about 2mm to allow room for sliding the switch between the wall and the screws.

Wiring

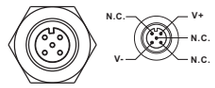
For pin assignments of power, console and relay output ports, please refer to the following tables.

Grounding

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the grounding pin on the power connector to the grounding surface prior to connecting devices.

Power port pinouts

The switch provides one set of power supply on a M12 5-pin A-coding connector. Insert the power cable to the power connector on the device and rotate the outer ring of the cable connector until a snug fit is achieved. Make sure the connection is tight.



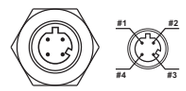
Network Connection

The switch has five 10/100Base-T(X) Ethernet ports in the form of M12 connector. These ports are PoE-enabled, and thus can deliver power over the same Ethernet cable. Depending on the link type, the switch uses CAT 3, 4, 5,5e UTP cables to connect to network devices (PCs, servers, switches, routers, or hubs). Please refer to the following table for cable specifications.

Cable	Type	Max. Length	Connector
10BASE-T	Cat. 3, 4, 5 100-ohm	UTP 100 m (328 ft)	M12 D-coding connector
100BASE-TX	Cat. 5 100-ohm UTP	UTP 100 m (328 ft)	M12 D-coding connector
500Base-TX	Cat. 5 100-ohm UTP	UTP 100 m (328 ft)	M12 D-coding connector

Pin Definition

M12 D-coding Pin Definition	
Pin No.	Description
#1	TX+ with PoE Vout+
#2	RX+ with PoE Vout-
#3	TX- with PoE Vout+
#4	RX- with PoE Vout-



Configurations

After installing the switch and connecting cables, start the device by turning on power. The green power LED should turn on. Please refer to the following tablet for LED indication.

LED	Color	Status	Description
Power	Green	On	Power is on
10/100/500Base-T(X)			
10/100Mbps LNK/ACT	Green	On	Port is connected
500Mbps LNK/ACT	Green	On	Transmission speed at 10/100Mbps (top LED) or 500Mbps (middle LED)
PoE	Blue	On	PoE power enabled

EN50155 SWITCH INDUSTRIAL

ORing

Quick Installation Guide

TXPS-141XT-M12 Series

EN50155 5-port unmanaged PoE Ethernet switch

Specifications

ORing Switch Model	TXPS-141XT-M12	TXPS-141XT-M12-24V	TXPS-141XT-M12-MV
Physical Ports			
10/100/500 Base-T(X) with P.S.E. Ports in M12 Auto MDI/MDIX	**4 x M12 connector (4-pin M12 D-coding)**		
10/100/500 Base-T(X) Ports in M12 Auto MDI/MDIX	**1 x M12 connector (4-pin M12 D-coding)**		
Technology			
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX IEEE 802.3x for Flow control IEEE 802.3at PoE specification (up to 30 Watts per port for P.S.E.)		
Processing	Store-and-Forward		
Power			
Input Power (5-pin M12 A-coding)	50~57 VDC power input in M12 connector	12~57 VDC power input in M12 connector	72~110 VDC power input in M12 connector
PoE Output Power	120 Watts	60 Watts (12~24VDC) / 120 Watts (24~57VDC)	60 Watts
Power Consumption(Typ.)	1 Watts (P.D. not included)	2 Watts (P.D. not included)	5 Watts (P.D. not included)
Overload Current Protection	Present		
Reverse Polarity Protection	Present		
Physical Characteristic			
Enclosure	IP-40		
Dimension (W x D x H)	88.9(W) x40(D) x 178.2(H) mm (3.5 x 1.57 x 7.02 inch.)	88.9(W) x55(D) x 178.2(H) mm (3.5 x 2.17 x 7.02 inch.)	
Weight (g)	511 g	643g	771g
Environmental			
Storage Temperature	-40 to 85°C (-40 to 185°F)		
Operating Temperature	-40 to 75°C (-40 to 167°F)		
Operating Humidity	5% to 95% 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, EN61373		
Free Fall	IEC60068-2-32		
Vibration	IEC60068-2-6, EN61373		
Safety	EN60950-1		
Warranty	5 years		

ORing

ORing Industrial Networking Corp.
TEL: +886-2-2218-1066 Website: www.oringnet.com
FAX: +886-2-2218-1014 E-mail: support@oringnet.com