ORing Industrial Networking Corp.

Version 1.0

EN50155 SWITCH INDUSTRIAL

Quick Installation Guide

TPS-141TX-M12

EN50155 5-port unmanaged PoE Ethernet switch

Introduction

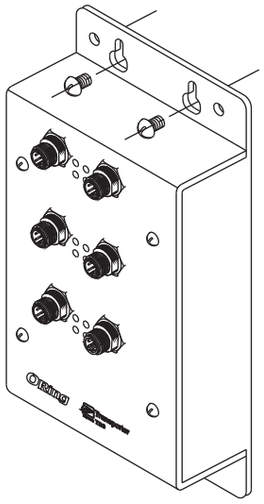
ORing's Transporter™ series Ethernet switches are designed for industrial applications, such as rolling stock, vehicle, and railway applications. **TPS-141TX-M12** is unmanaged PoE Ethernet switch with 4x10/100Base-T(X) P.S.E. ports and 1x10/100Base-T(X) port which is compliant with EN50155 requirement. It is specifically designed for the toughest industrial environments. **TPS-141TX-M12** EN50155 Ethernet switch use M12 connectors to ensure tight, robust connections, and guarantee reliable operation against environmental disturbances, such as vibration and shock. **TPS-141TX-M12** also support Power over Ethernet, a system to transmit electrical power up to 30 watts, along with data, to remote devices over standard twisted-pair cable in an Ethernet network. Each **TPS-141TX-M12** switch has 4x10/100Base-T(X) P.S.E. (Power Sourcing Equipment) port to provide power in a PoE setup. The very wide operating temperature range from -40 ˚C to 70˚C can satisfy most operating enviroment.

Features

- **Supports 4 x 10/100 Base-T(X) with P.S.E. PoE ports**
- **4 port P.S.E. fully compliant with IEEE802.3at standard, provide up to 30 Watts per port**
- **Support auto-negotiation and auto-MDI/MDI-X**
- **Support store and forward transmission**
- **Support flow control**
- **Support broadcast storm protection**
- **Ultra-rugged enclosure M12 connector for toughest industrial usages**
- **Wall mounting enabled**

Installation

Wall-mounted Install Step



Specifications

ORing Switch Model	TPS-141TX-M12
Physical Ports	
10/100 Base-T(X) with P.S.E. Ports in M12 Auto MDI/MDIX	**4 x M12 connector (4-pin M12 D-coding)**
10/100 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
LED Indicators	
Power Indicator	Green: Power LED x 1
10/100Base-T(X) M12 port with P.S.E. indicator	Green for port Link/Act. Blue for PoE indicator
10/100Base-T(X) M12 Port Indicator	Green for port Link/Act. Amber for port Duplex/Collision
Power	
Input Power	50~57 VDC power input in M12 connector (5-pin M12 A-coding)
Power Consumption(Typ.)	3 Watts (P.D. not included)
Overload Current Protection	Present
Reverse Polarity Protection	Not Present
Physical Characteristic	
Enclosure	IP-40
Dimension (W x D x H)	88.9(W) x70(D) x 178.2(H) mm (3.5 x 2.79 x 7.02 inch.)
Weight (g)	363 g
Environmental	
Storage Temperature	-40 to 85˚C (-40 to 185˚F)
Operating Temperature	-40 to 70˚C (-40 to 158˚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
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6
Safety	EN60950-1
Warranty	5 years

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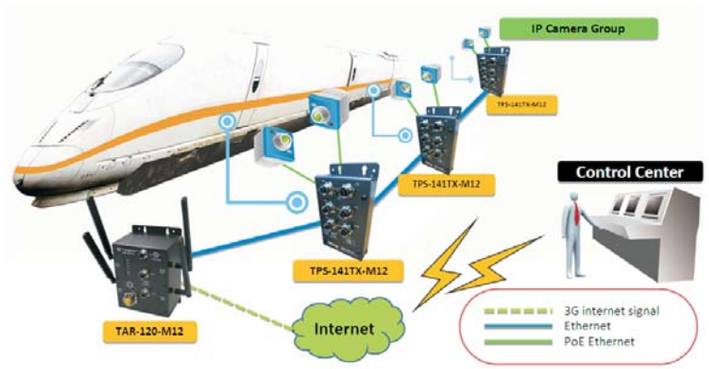
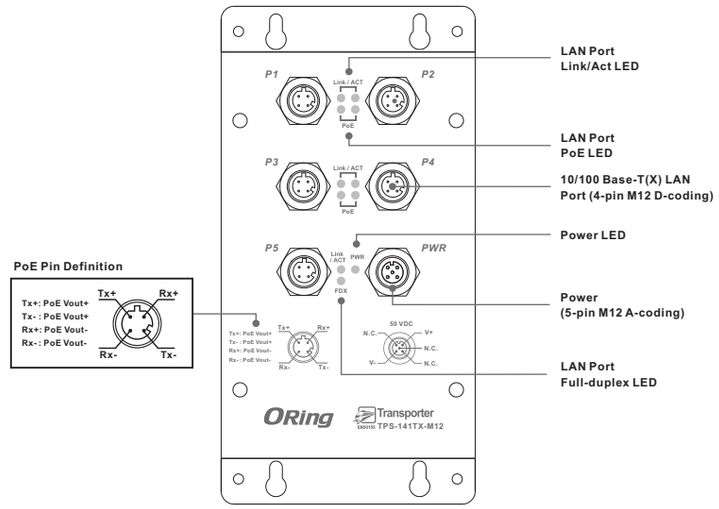
Practical Operation

TPS-141TX-M12 can be used in connecting several Ethernet devices which need to operated under harsh environment requirement. The designs of rugged housing and wide operating temperature range form -40 ~ 70˚C, makes TPS-141TX-M12 reliably in any kinds of transporter applications.

Network connection



Front Panel



Packing list

Model name	Description	Accessory
TPS-141TX-M12	EN50155 5 port unmanaged Ethernet switch with 4x10/100Base-T(X) P.S.E. and 1x10/100Base-T(X), M12 connector	QIG X 1