EN50155
Switch
INDUSTRIAL

Quick Installation Guide

TPS-141TX-M12/-24V

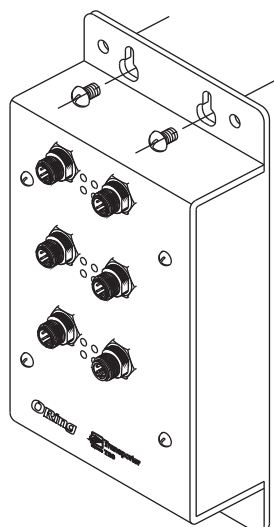## EN50155 5-port unmanaged PoE Ethernet switch

Introduction

ORing's Transporter™ series Ethernet switches are designed for industrial applications, such as rolling stock, vehicle, and railway applications. TPS-141TX-M12/-24V 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/-24V 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/-24V 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/-24V 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 with M12 connector for toughest industrial usages
- Wall mounting enabled

Installation
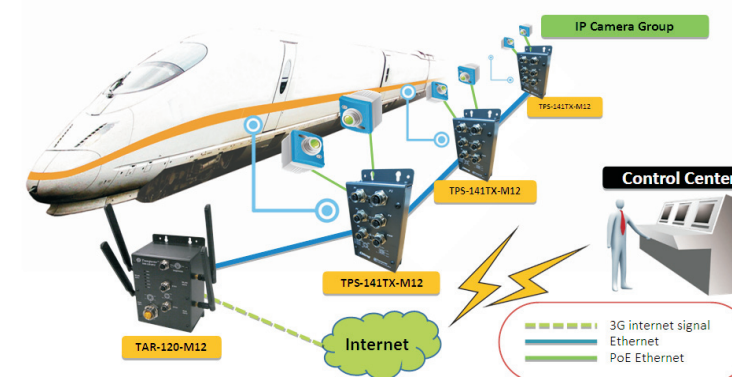
● Wall-mounted Install Step

EN50155   P.S.E IEEE802.3at   -40~70°C Temperature

Specifications

ORing Switch Model	TPS-141TX-M12	TPS-141TX-M12-24V
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)	24~36 VDC power input in M12 connector (5-pin M12 A-coding)
Power Consumption(Typ.)	3 Watts (P.D. not included)	3.8 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) x40(D) x 178.2(H) mm (3.5 x 1.57 x 7.02 inch.)	88.9(W) x53(D) x 178.2(H) mm (3.5 x 2.09 x 7.02 inch.)
Weight (g)	363 g	450g
Environmental		
Storage Temperature	-40 to 85℃ (-40 to 185°F)	
Operating Temperature	-40 to 70℃ (-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	

ORing Industrial Networking Corp.

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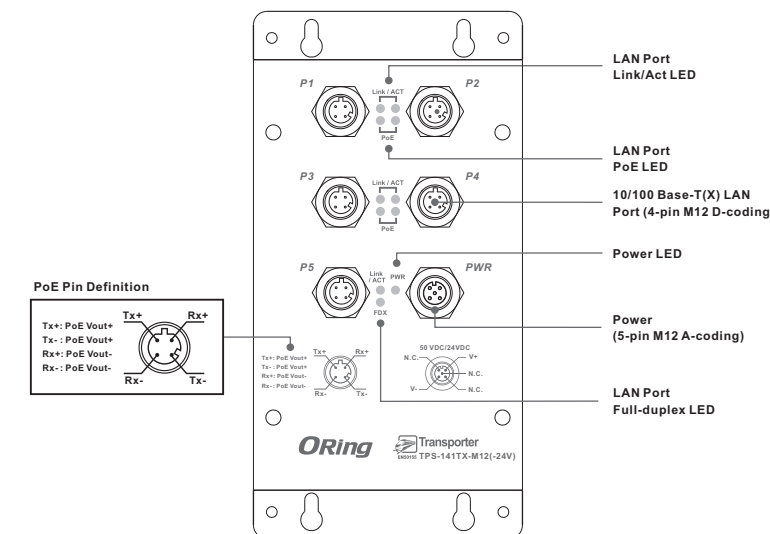FAX: +886-2-2218-1014   E-mail: support@oring-networking.com

Practical Operation

TPS-141TX-M12/-24V 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/-24V reliably in any kinds of transporter

● Network connection

3G internet signal
Ethernet
PoE Ethernet

Front Panel

LAN Port Link/Act LED

LAN Port PoE LED

10/100 Base-T(X) LAN Port (4-pin M12 D-coding)

Power LED

Power (5-pin M12 A-coding)

LAN Port Full-duplex LED

PoE Pin Definition

Tx+: PoE Vout+
Tx- : PoE Vout+
Rx+: PoE Vout-
Rx- : PoE Vout-

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
TPS-141TX-M12	En50155 5 port unmanaged Ethernet switch with 4x10/100Base-T(X) P.S.E. and 1x10/100Base-T(X),M12 connector , 24VDC power input	QIG X 1