



TGPS-1080-M12 Series

# TGPS-1080-M12 Series

➔ **EN50155 8-port unmanaged Gigabit PoE Ethernet switch with 8x10/100/1000Base-T(X) P.S.E., M12 connector**

## Features

- Leading EN50155-compliant Ethernet switch for rolling stock application
- Provide 8x10/100/1000Base-T(X) PoE (P.S.E.) ports
- Supports IEEE 802.3at compliant PoE with maximum 30Watts per port
- Support dual power inputs for power redundancy
- Support auto-negotiation and auto-MDI/MDI-X
- Support store and forward transmission
- Support flow control
- M12 connectors to guarantee reliable operation against environmental disturbances
- Rigid IP-40 housing design
- Wall mounting enabled

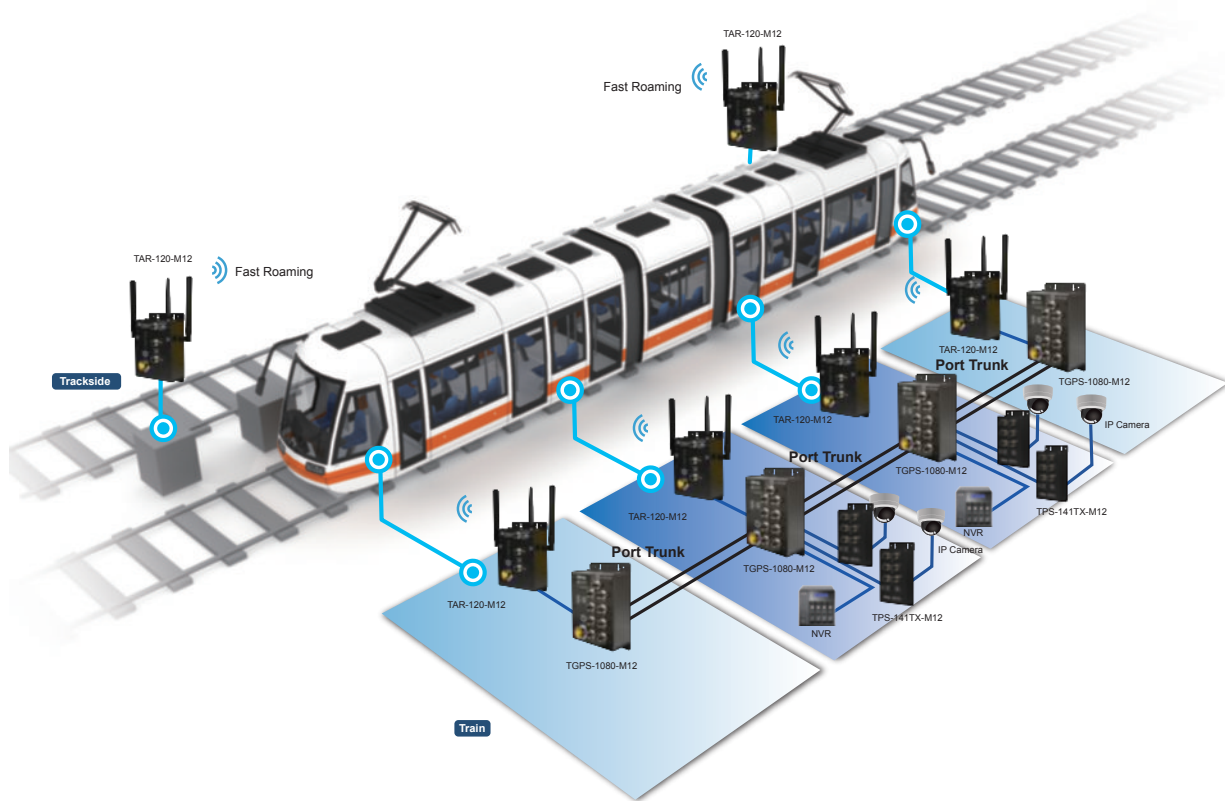


## Introduction

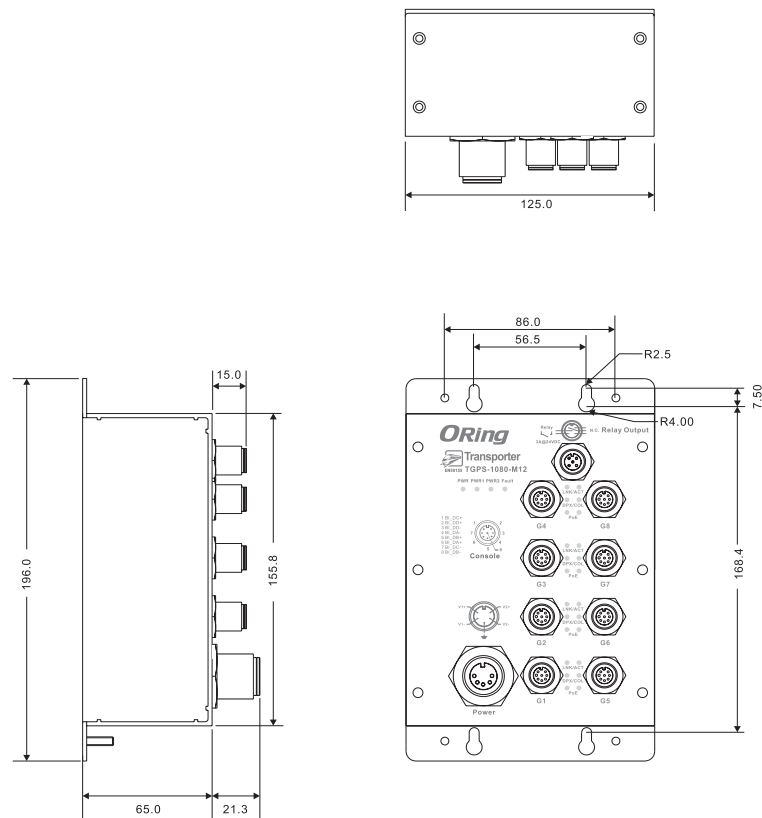
ORing's Transporter™ series un-managed Ethernet switches are designed for industrial applications, such as rolling stock, vehicle, and railway applications. The TGPS-1080-M12 is an un-managed PoE Ethernet switch with 8x10/100/1000Base-T(X) P.S.E. which is specifically designed for the toughest and fully compliant with EN50155 requirement. TGPS-1080-M12 also supports Power over Ethernet, a system to transmit electrical power, along with data, to remote devices over standard twisted-pair cable in an Ethernet network. Each TGPS-1080-M12 switch has 8x10/100/1000Base-T(X) P.S.E. (Power Sourcing Equipment) ports. P.S.E. is a device (switch or hub for instance) that will provide power in a PoE setup. TGPS-1080-M12 EN50155 Ethernet switch use M12 connectors to ensure tight, robust connections, and guarantee reliable operation against environmental disturbances, such as vibration and shock. In addition, the wide operating temperature range from -40 to 70°C can satisfy most of operating environment. Therefore, the switch is one of the most reliable choices for rolling stock and highly-managed PoE Ethernet application.

## Practical Operation

TGPS-1080-M12 can be used in connecting several PoE PD. Ethernet devices like IP-Camera or other Ethernet devices. In addition, there are two different power inputs at terminal block to avoid interruption caused by power down. When the primary DC power input fails, the backup power input will take over immediately to guarantee a non-stop operation.



## Dimensions

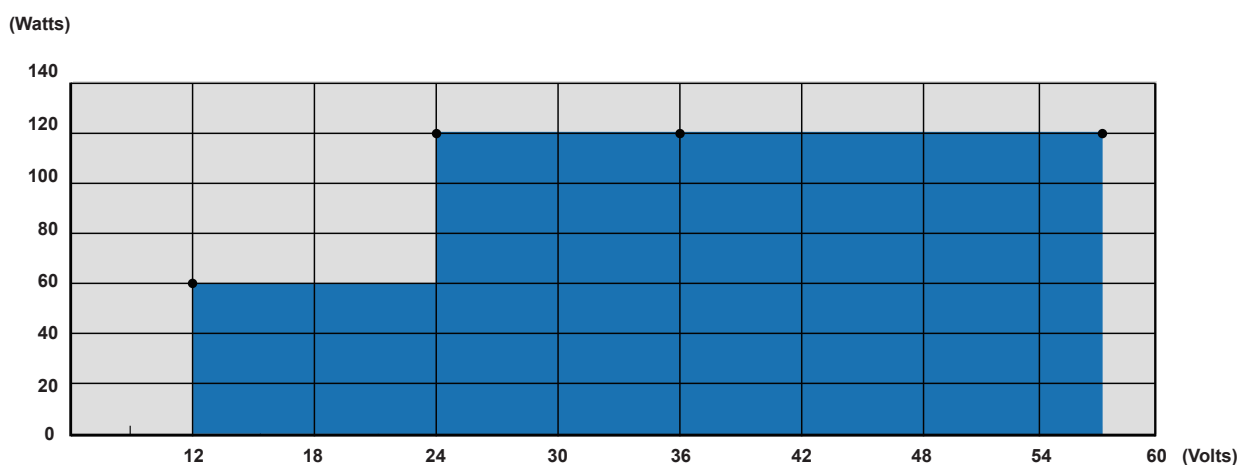


TGPS-1080-M12

## PoE Pin Definition

1000Base-T P.S.E. RJ-45 Port	
M12 Pin Definition	
Pin No.	Description
#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-

## PoE Power Distribution



## Specifications

ORing Switch Model	TGPS-1080-M12-24V	TGPS-1080-M12
Physical Ports		
10/100/1000Base-T(X) Ports in M12 With P.S.E.	8 x M12 connector (8-pin A-coding)	
Technology		
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX IEEE 802.3ab for 1000Base-T IEEE 802.3x for Flow control IEEE 802.3at compliant PoE specification (total power budget is 120Watts with maximum 30Watts per port)	
MAC Table	8K MAC addresses	
Processing	Store-and-Forward	
LED Indicators		

Power Indicator	Green : Power LED x 3	
Fault indicator	Amber : Indicate PWR1 or PWR2 failure	
10/100/1000Base-T(X) M12 port indicator and PoE indicator	Top Green for port Link/Act indicator Middle Amber for Duplex / Collision indicator Bottom Blue for PoE power injected indicator	
Fault contact		
Relay	Relay output to carry capacity of 3A at 24VDC on M12 connector (5-pin A-coding)	
Power		
Redundant Input power	Dual DC inputs. 24 (12~57VDC) VDC on 5-pin M23 connector	Dual DC inputs. 50~57 VDC on 5-pin M23 connector
Power Consumption (Typ.)	11 Watts (power consumption of P.S.E. is not included)	6 Watts
PoE Output Power	60 Watts (12~24VDC) / 120 Watts (24~57VDC)	240 Watts
Overload Current Protection	Present	
Reverse Polarity Protection	Present	
Physical Characteristics		
Enclosure	IP-40	
Dimensions (W x D x H)	125(W) x 65 (D) x 196(H) mm	125(W) x 65 (D) x 196(H) mm
Weight (g)	988 g	930 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, EN61373	
Free Fall	IEC60068-2-32	
Vibration	IEC60068-2-6	
Warranty	5 years	

## Ordering Information

TGPS-1 **AA** **B** -M12

Code Definition	10/100/1000Base-T(X) P.S.E. Port Number	Additional Port Number with 10/100Base-T(X)
<b>Option</b>	- <b>08</b> : 8 ports	- <b>0</b> : 0 port
<b>Available Model</b>	<b>Model Name</b>	<b>Description</b>
	TGPS-1080-M12-24V	EN50155 8-port unmanaged Gigabit PoE Ethernet switch with 8x10/100/1000Base-T(X) P.S.E., M12 connector, 24VDC power inputs
	TGPS-1080-M12	EN50155 8-port unmanaged Gigabit PoE Ethernet switch with 8x10/100/1000Base-T(X) P.S.E. M12 connector
<b>Packing List</b>		<b>Optional Accessories</b>
<ul style="list-style-type: none"> <li>TGPS-1080-M12</li> <li>Quick Installation Guide</li> <li>Wall-Mount Kit</li> </ul>		<ul style="list-style-type: none"> <li>M12C : M12 cable accessories</li> </ul>