TGS-1080-M12-BP2

EN50155 8-port unmanaged Gigabit Ethernet switch with 8x10/100/1000Base-T(X), M12 connector and 2xbypass included

Features

- Leading EN50155-compliant Ethernet switch for rolling stock application
- Provide 8x10/100/1000Base-T(X) ports
- Support dual power inputs for power redundancy
- Built-in 2 sets of bypass ports
- 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
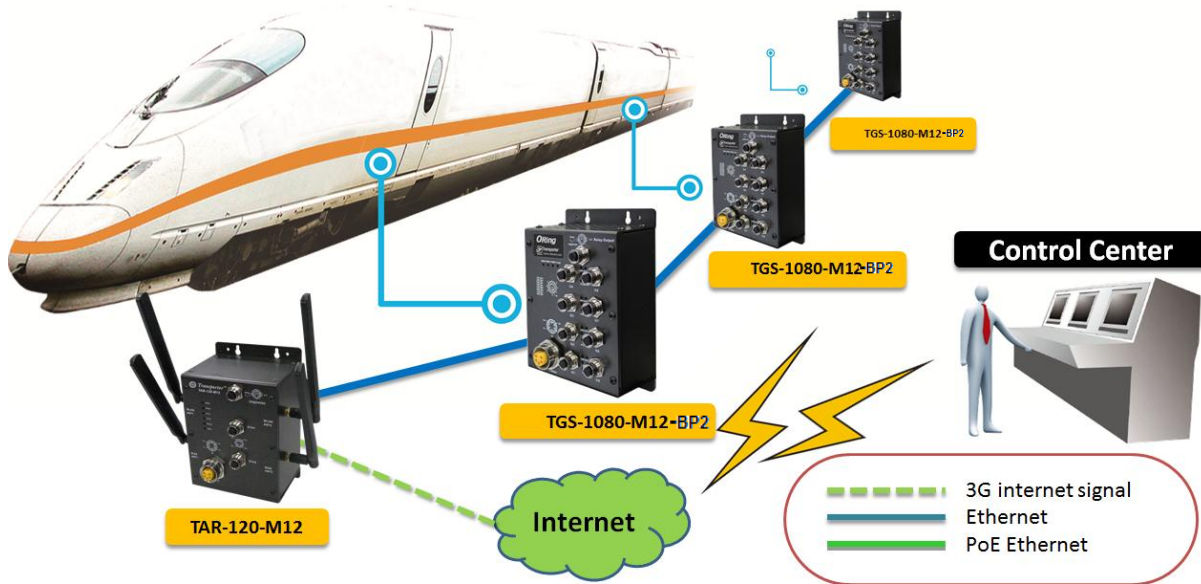- Rigid IP-40 housing design
- Wall mounting enabled

Introduction

ORing's Transporter™ series un-managed Ethernet switches are designed for industrial applications, such as rolling stock, vehicle, and railway applications. The TGS-1080-M12-BP2 is an un-managed Ethernet switch with 8x10/100/1000Base-T(X) which is specifically designed for the toughest and fully compliant with EN50155 requirement. Each TGS-1080-M12-BP2 switch has 8X10/100/1000Base-T(X) ports. TGS-1080-M12-BP2 EN50155 Ethernet switch uses M12 connectors to ensure tight, robust connections, and guarantee reliable operation against environmental disturbances, such as vibration and shock. TGS-1080-M12-BP2 includes 2 sets of bypass ports that protect the network from failures and Network maintenance by ensuring network integrity during power loss. In addition, the wide operating temperature range from -40 °C to 70°C can satisfy most of operating environment. Therefore, the switch is one of the most reliable choices for rolling stock application.
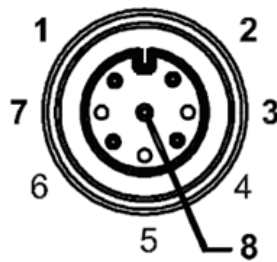
Practical Operation

TGS-1080-M12-BP2 can be used for train backbone Ethernet connection. TGS-1080-M12-BP2 has 8-port Gigabit Ethernet ports which provides high transmission rate for any Ethernet devices connected to this Ethernet Switch. The designs of rugged housing and wide operating temperature range from -40 ~ 70°C, makes TGS-1080-M12-BP2 reliable in any kinds of transporter applications
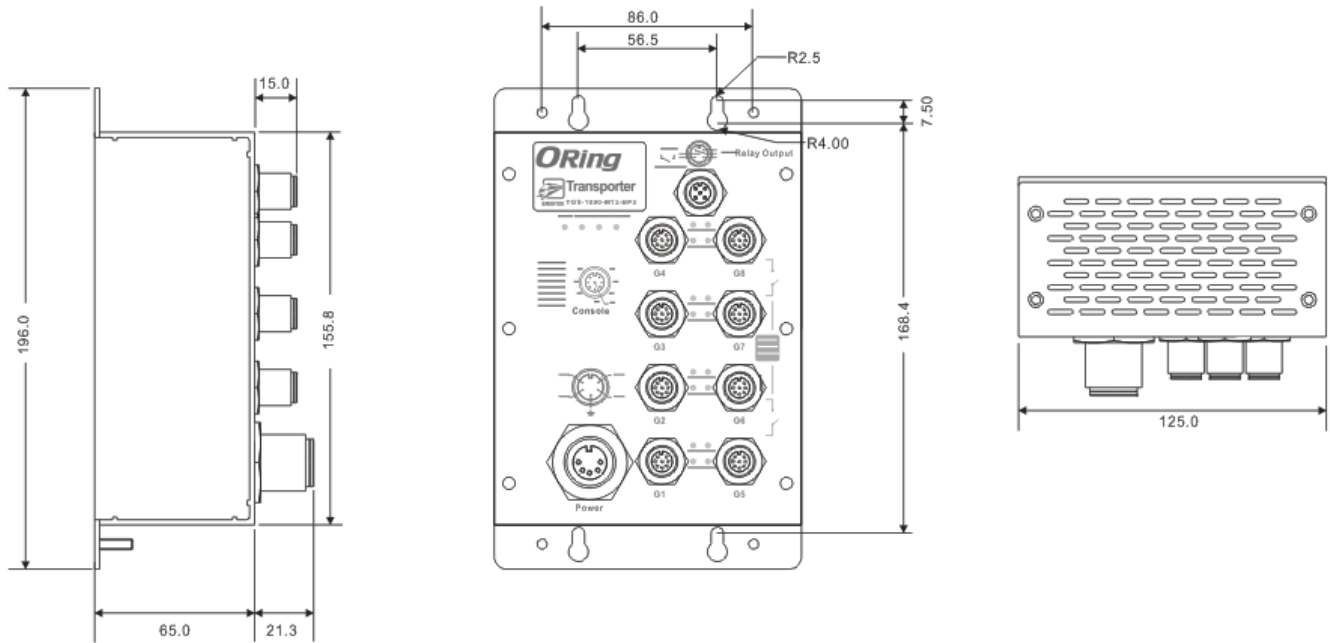
Connections of Ethernet devices

Pin Definition

- 10/100/1000Base-T(X) M12 port

M12 Pin Definition	
Pin No.	Description
#1	BI_DC+
#2	BI_DD+
#3	BI_DD-
#4	BI_DA-

#5	BI_DB+
#6	BI_DA+
#7	BI_DC-
#8	BI_DB-

Dimension

Dimension (Unit =mm)

Specifications

ORing Switch Model	TGS-1080-M12-BP2
Physical Ports	
10/100/1000Base-T(X) Ports in M12	**8 x M12 connector (8-pin A-coding, bypass function included by last 4 ports)**
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
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	Top for port Link/Act indicator. Green for 1Gbps link, Amber for 10/100 Mbps link Bottom Amber for Duplex / Collision 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. 12~48VDC on 5-pin M23 connector
Power consumption (Typ.)	6.24 Watts
Overload current protection	Present
Reverse polarity protection	NOT Present
Physical Characteristic	
Enclosure	IP-40
Dimension (W x D x H)	125 (W) x 65 (D) x196 (H) mm
Weight (g)	1007
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
Warranty	5 years

Ordering Information

TGS-1AAB-M12-BP2

Code Definition	10/100/1000Base-T(X) Port Number	Additional Port Number
Option	**- 08:** 8 ports	**- 0:** 0 port

	Model Name	Description
Available Model	**TGS-1080-M12-BP2**	EN50155 8-port unmanaged Gigabit Ethernet switch with 8x10/100/1000Base-T(X), M12 connector and 2xbypass included

Packing List

- **TGS-1080-M12-BP2 x 1**
- **Quick Installation Guide x 1**

Optional Accessories

- **M12C : M12 cable accessories**