TGS-1080-M12 Series

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

Features

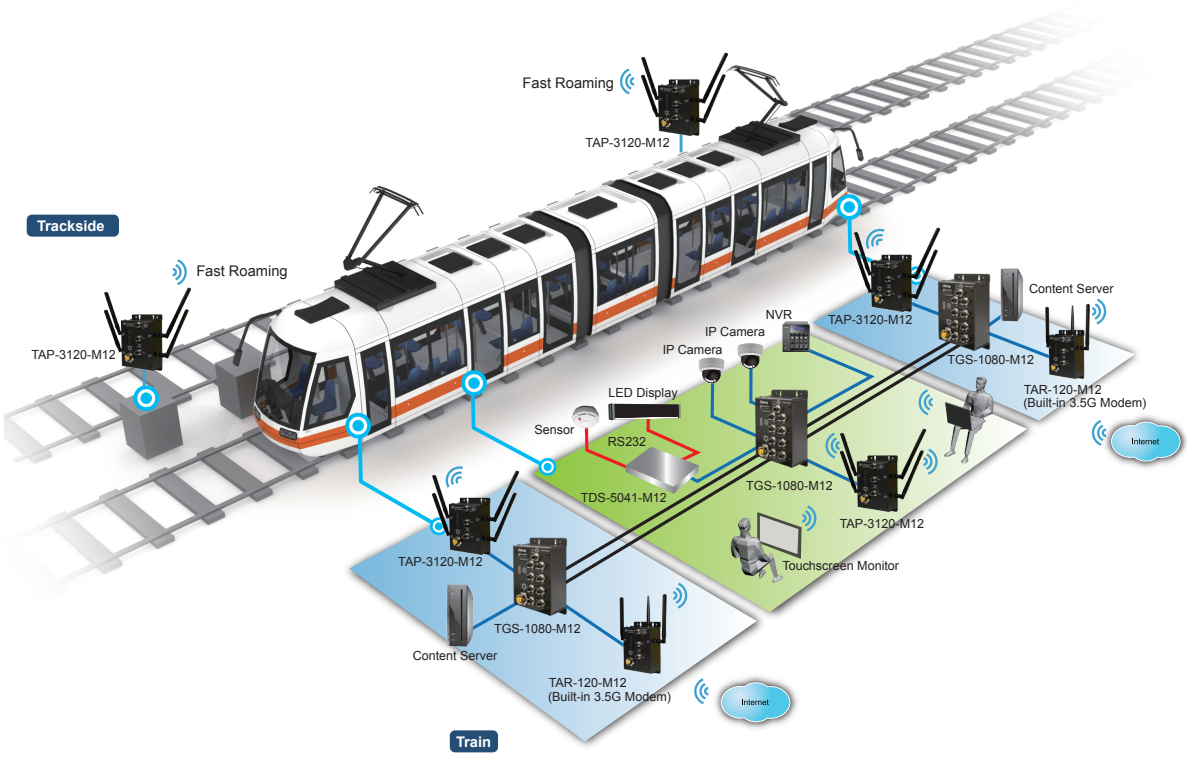
- Leading EN50155-compliant Ethernet switch for rolling stock application
- Provide 8x10/100/1000Base-T(X) ports
- Support dual power inputs for power redundancy
- Support auto-negotiation and auto-MDI/MDI-X
- Support store and forward transmission
- Support flow control
- M12 connectors to guarantee reliable operation against environmental disturbances
- Rigid IP-40 housing design
- Wall mounting enabled

Introduction

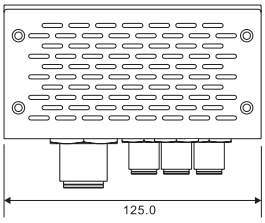
ORing's Transporter™ series un-managed Ethernet switches are designed for industrial applications, such as rolling stock, vehicle, and railway applications. The TGS-1080-M12 is an un-managed Ethernet switch with 8x10/100/1000Base-T(X) which is specifically designed for the toughest and fully compliant with EN50155 requirement. Each TGS-1080-M12 switch has 8X10/100/1000Base-T(X) ports. TGS-1080-M12 EN50155 Ethernet switch uses 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°C to 70°C can satisfy most of operating environment. Therefore, the switch is one of the most reliable choices for rolling stock application.

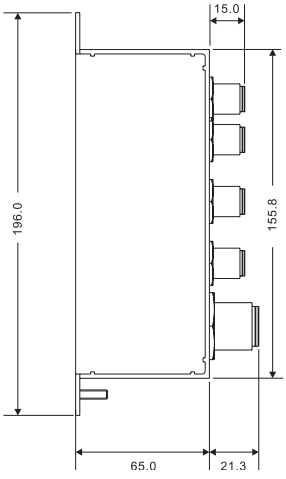
Practical Operation

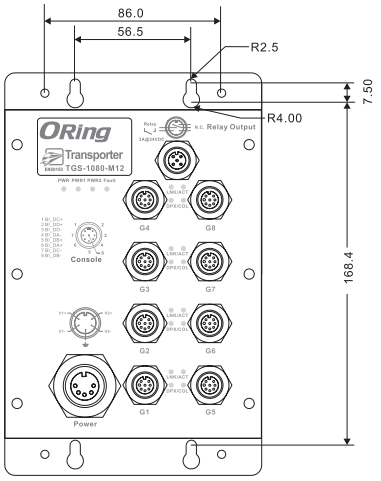
TGS-1080-M12 can be used for train backbone Ethernet connection. TGS-1080-M12 has 8-port Gigabit Ethernet ports which provides high transmission rate for any Ethernet devices connected to this Ethernet Switch. The designs of rugged housing and wide operating temperature range from -40 ~ 70°C, makes TGS-1080-M12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



Dimensions

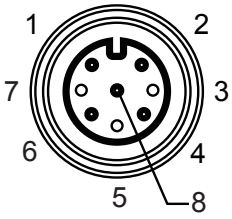






(Unit=mm)

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-

Specifications

ORing Switch Model	TGS-1080-M12	TGS-1080-M12-MV
Physical Ports		
10/100/1000Base-T(X) Ports in M12	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	
MAC Table	8K MAC addresses	
Processing	Store-and-Forward	
LED Indicators		
Power indicator	Green : Power LED x 3	Green : Power LED x 1
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	72~110VDC power input on 5-pin M23 connector
Power consumption (Typ.)	2.88 Watts	7.88 Watts
Overload current protection	Present	
Reverse polarity protection	Present	
Physical Characteristic		
Enclosure	IP-40	
Dimension (W x D x H)	125 (W) x 65 (D) x196 (H) mm	
Weight (g)	967 g	1195 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, EN61373
Warranty	5 years

Ordering Information

TGS-1 AA B -M12

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	EN50155 8-port unmanaged Gigabit Ethernet switch with 8x10/100/1000Base-T(X), M12 connector
	TGS-1080-M12-MV	EN50155 8-port unmanaged Gigabit Ethernet switch with 8x10/100/1000Base-T(X), M12 connector, middle-voltage power input

Packing List

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

Optional Accessories (Can be purchased separately)

- M12C : M12 cable accessories