

TGXS-1080-M12 Series

EN50155 8-port unmanaged Gigabit Ethernet switch with 8x10/100/500/1000Base-T(X), M12 connector

Features

- Leading EN50155-compliant Ethernet switch for rolling stock application
- Provide 8x10/100/500/1000Base-T(X) ports
- Support 9216byte jumbo frame
- Support dual power inputs for power redundancy
- Built-in 2 sets of bypass ports (-BP2)
- 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-30 housing design
- Wall mounting enabled



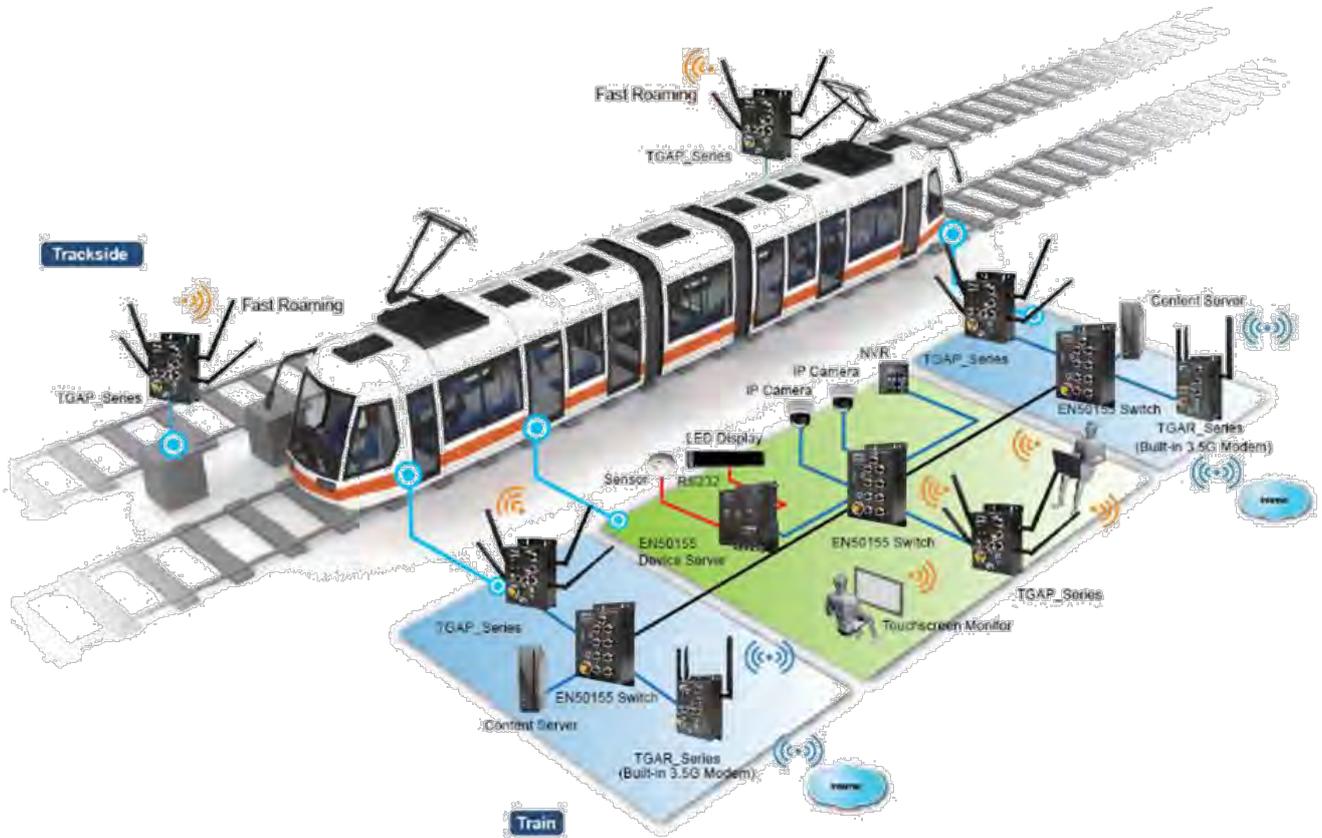
Introduction

ORing's Transporter™ series un-managed Ethernet switches are designed for industrial applications, such as rolling stock, vehicle, and railway applications. The TGXS-1080-M12 is an un-managed Ethernet switch with 8x10/100/500/1000Base-T(X) which is specifically designed for the toughest and fully compliant with EN50155 requirement. TGXS-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°C to 75°C can satisfy most of operating environment. Therefore, the switch is one of the most reliable choices for rolling stock and highly-managed Ethernet application.

While installing in the train, TGXS-1080-M12 is mainly used for in-train monitoring and Entertainment service due to its high speed Gigabit Ethernet connection. Devices connected will be IP camera or CCTV for the use of train surveillance. As an unmanaged Ethernet Switch, TGXS-1080-M12 is not able and will not be used for any control related application. Its main function is simply forwarding the Ethernet packet from one Ethernet based device to another Ethernet device which are all connected to the Switch.

Practical Operation

TGXS-1080-M12 can be used in connecting several Ethernet devices like IP-Camera or other Ethernet devices. In addition, there are two different power inputs 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.



Connections of Ethernet devices

Specifications

| ORing Switch Model | TGXS-1080-M12 | TGXS-1080-M12-BP2 |
|---|---|---|
| Physical Ports | | |
| 10/100/500/1000Base-T(X) Ports in M12 | 8 x M12 connector (8-pin A-coding) | 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 | 4K MAC addresses | |
| Processing | Store-and-Forward | |
| LED indicators | | |
| Power indicator | Green : Power LED x 3 | |
| Fault indicator | Amber : Indicate PWR1 or PWR2 failure | |
| 10/100/500/1000Base-T(X) M12 port indicator | Top for 10/100/1000Mbps port Link/Act indicator. Green for 1Gbps link, Amber for 10/100 Mbps link Bottom Amber for 500Mbps port Link/Act 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.) | 7 Watts | |
| Overload current protection | Present | |
| Reverse polarity protection | Present | |
| Physical Characteristic | | |
| Enclosure | IP-30 | |
| Dimension (W x D x H) | 125 (W) x 65 (D) x196 (H) mm | |
| Weight (g) | 812 g | 834 g |
| Environmental | | |
| Storage Temperature | -40 to 85°C (-40 to 185°F) | |
| Operating Temperature | -40 to 75°C (-40 to 167°F) | |
| Operating Humidity | 5% to 95% Non-condensing | |
| Regulatory approvals | | |
| EMC | CE EMC (EN 55024, EN 55032), FCC Part 15B, EN 50155(EN 50121-1, EN 50121-3-2) | |
| EMI | EN 55032, CISPR32, EN 61000-3-2, EN 61000-3-3, FCC Part 15B class A | |
| EMS | EN 55024 (IEC/EN 61000-4-2 (ESD), IEC/EN 61000-4-3 (RS),IEC/EN 61000-4-4 (EFT), IEC/EN 61000-4-5 (Surge), IEC/EN 61000-4-6 (CS), IEC/EN 61000-4-8(PFMF), IEC/EN 61000-4-11 (DIP)) | |
| Shock | IEC60068-2-27 | |
| Free Fall | IEC60068-2-31 | |
| Vibration | IEC60068-2-6 | |
| Safety | EN 60950-1 | |
| Other | EN 50155 (IEC 61373) | |
| MTBF | 409156 hrs | 256215 hrs |
| Warranty | 5 years | |

Ordering Information

TGXS-1 **AAB** -M12-BP2

| Code Definition | 10/100/500/1000Base-T(X) Port Number | Additional Port Number |
|-----------------|--------------------------------------|------------------------|
| Option | - 08: 8 ports | - 0: 0 port |

| Available Model | Model Name | Description |
|-----------------|-------------------|---|
| | TGXS-1080-M12 | EN50155 8-port unmanaged Gigabit Ethernet switch with 8x10/100/500/1000Base-T(X), M12 connector |
| | TGXS-1080-M12-BP2 | EN50155 8-port unmanaged Gigabit Ethernet switch with 8x10/100/500/1000Base-T(X), M12 connector and 2xbypass included |

Packing List

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

Optional Accessories

- M12C : M12 cable accessories