# TES-150-M12



### **→** EN50155 5-port unmanaged Ethernet switch with 5x10/100Base-T(X), M12 connector

#### **Features**

- Leading EN50155-compliant Ethernet switch for rolling stock applications
- Supports 5 ports 10/100 Base-T(X)
- Supports auto-negotiation and auto-MDI/MDI-X
- Supports store-and-forward transmission
- Supports flow control
- Ultra-rugged enclosure with M12 connectors for toughest industrial usages
- Wall mounting enabled









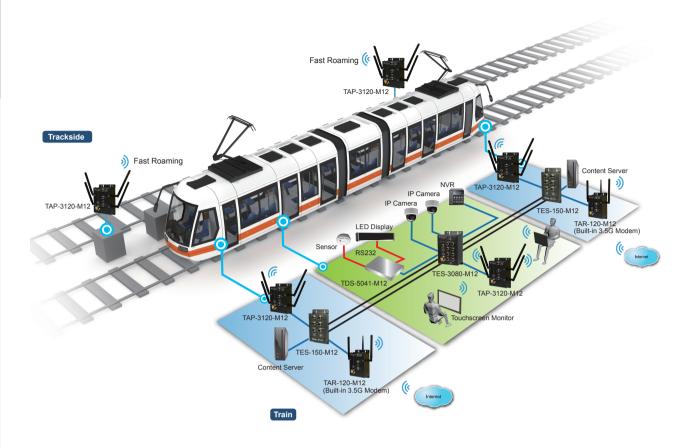


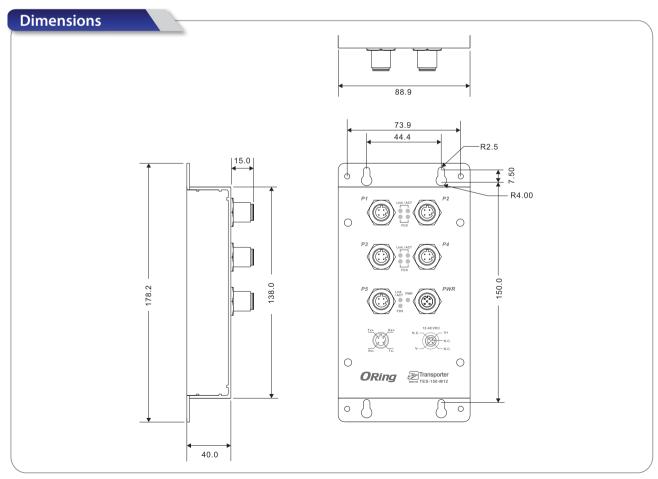
#### Introduction

ORing's Transporter series Ethernet switches are designed for industrial applications, such as rolling stock, vehicle, and railway applications. TES-150-M12 is an unmanaged Ethernet switch with 5x10/100Base-T(X) ports which is compliant with EN50155 standard. It is specifically designed for the toughest industrial environments. TES-150-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  $-40 \sim 70^{\circ}$ C can satisfy most of operating environments. The TES-150-M12 can be easily adopted in almost all kinds of applications and can provides the most rugged solutions for your network. Therefore, the switch is one of the most reliable choices for rolling stock Ethernet applications.

#### **Practical Operation**

TES-150-M12 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 from  $-40 \sim 70^{\circ}$ C makes TES-150-M12 reliably in any kinds of transporter applications.





## Specifications

| ORing Switch Model                          | TES-150-M12  |
|---|--|
| Physical Ports                              |  |
| 10/100 Base-T(X) Ports in M12 Auto MDI/MDIX | 5 x M12 connector (D-coding)   |
| Technology                                  |  |
| Ethernet Standards                          | IEEE 802.3 for 10Base-T<br>IEEE 802.3u for 100Base-TX<br>IEEE 802.3x for Flow control                                    |
| Processing                                  | Store-and-Forward  |
| LED Indicators                              |  |
| Power Indicator                             | Green: Power LED x 1   |
| 10/100Base-T(X) RJ45 Port Indicator         | Green for port Link/Act.<br>Amber for duplex indicator   |
| Power                                       |  |
| Input Power                                 | 12 ~ 48 VDC voltage power input in M12 connector (A-coding)  |
| Power Consumption (Typ.)                    | 3 Watts  |
| Overload Current Protection                 | Present  |
| Reverse Polarity Protection                 | Present  |
| Physical Characteristics                    |  |
| Enclosure                                   | IP-40  |
| Dimensions (W x D x H)                      | 88.9 (W) x 40 (D) x 178.2 (H)mm(3.5 x 1.57 x 7 inch)   |
| Weight (g)                                  | 360 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  |
| Safety                                      | EN60950-1  |
| Warranty                                    | 5 years  |

## **Ordering Information**



| Code Definition | 10/100Base-T(X) Port Number | Additional Port Number |
|-----------------|-----------------------------|------------------------|
| Option          | - <b>5:</b> 5 ports         | - <b>0:</b> 0 port     |

|   | Model Name  | Description  |
|---|-------------|--|
| Available<br>Model                                | TES-150-M12 | EN50155 5-port unmanaged Ethernet switch with 5x10/100Base-T(X), M12 connector   |
| Packing List TES-150-M12 Quick Installation Guide |             | Optional Accessories (Can be purchased separately)  • DR-45 series: 45 Watts DIN-Rail power supply  • DR-75 series: 75 Watts DIN-Rail power supply  • DR-120 series: 120 Watts DIN-Rail power supply  • SDR-240-48, 240W DIN-Rail power supply  • SDR-480-48, 480W DIN-Rail power supply  • M12C series cables with M12 connectors |