



Quick Installation Guide

TES-250-M12

EN50155 5-port lite-managed Ethernet switch

Introduction

ORing's Transporter™ series Ethernet switches are designed for industrial applications, such as rolling stock, vehicle, and railway applications. **TES-250-M12** is a lite-managed redundant ring Ethernet switch with 5x10/100Base-T(X) ports which is compliant with EN50155 request. With completely support of Ethernet redundancy protocol O-Ring (recovery time < 10ms over 250 units of connection), Open-Ring and STP/RSTP (IEEE802.1w/D) can protect your mission-critical applications from network interruptions or temporary malfunctions with its fast recovery technologies. It is specifically designed for the toughest industrial environments. **TES-250-M12** EN50155 Ethernet switch use M12 connectors to ensure tight, robust connections, and guarantee reliable operation against environmental disturbances, such as vibration and shock. **TES-250-M12** can be managed centralized by a powerful windows utility : Open-Vision. In addition, the wide operating temperature range from -40°C to 70°C can satisfy most of operating environment. The **TES-250-M12** can be easily adopted in almost all kinds of applications and provides the most rugged solutions for managing your network. Therefore, the switch is one of the most reliable choices for rolling stock and highly-managed Ethernet application.



Features

- > Leading EN50155-compliant Ethernet switch rolling stock application
- > World's fastest Redundant Ethernet Ring: (O-Ring recovery time < 10ms over 250 units of connection)
- > Open-Ring support the other vendor's ring technology in open architecture
- > Provide Fast recovery technology for Ethernet multi-redundancy
- > Support STP/RSTP standard redundant protocol
- > SNMP v1/v2c/v3 support for secured network management
- > Support LLDP protocol
- > Configurable by Web-based and Windows utility (Open-Vision)
- > Event notification through Syslog, Email, and SNMP trap
- > Ultra-rugged enclosure with M12 connector for toughest industrial usages
- > Wall mounting enabled

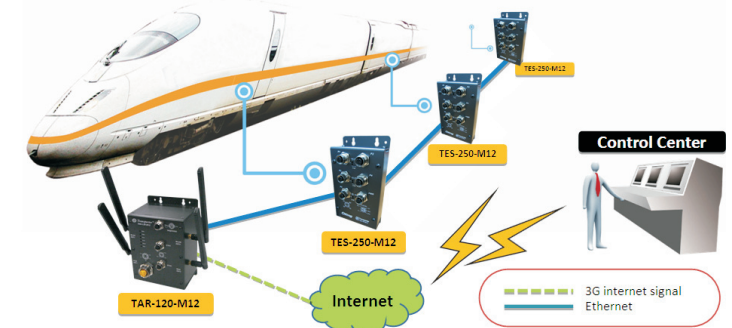
Specifications

ORing Switch Model	TES-250-M12
Physical Ports	
10/100 Base-T(X) Ports in M12 Auto MDI/MDIX	5 x M12 connector (4-pin M12 D-coding)
Technology	
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX IEEE 802.3x for Flow control IEEE 802.1D for STP (Spanning Tree Protocol) IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol) IEEE 802.1AB for LLDP (Link Layer Discovery Protocol)
MAC Table	2048 MAC addresses
Priority Queues	4
Processing	Store-and-Forward
Switch Properties	Switching bandwidth: 1.0Gbps VLAN: Port Based
Security Features	Enable/disable ports VLAN (802.1Q) to segregate and secure network traffic SNMPv3 encrypted authentication and access security
Software Features	STP/RSTP (IEEE 802.1D/w) Redundant Ring with recovery time less than 10ms over 250 units Port configuration, status, statistics, monitoring, security
Network Redundancy	O-Ring Open-Ring Fast recovery STP RSTP
LED Indicators	
Power Indicator	Green: Power LED x 1
Ring Master Indicator	Green: Indicate system operated in O-Ring Master mode
O-Ring Indicator	Amber: Indicator port operated in O-Ring mode (per port)
10/100Base-T(X) M12 Port Indicator	Green for port Link/Act. (per port)
Power	
Redundant Input Power	12~48 VDC power input in M12 connector (5-pin M12 D-coding)
Power Consumption(Typ.)	3 Watts
Overload Current Protection	Present
Reverse Polarity Protection	Present
Physical Characteristic	
Enclosure	IP-40
Dimension (W x D x H)	88.9(W) x 70(D) x 178.2(H) mm (3.5 x 2.79 x 7.02 inch.)
Weight (g)	454 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
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6
Safety	EN60950-1
Warranty	5 years

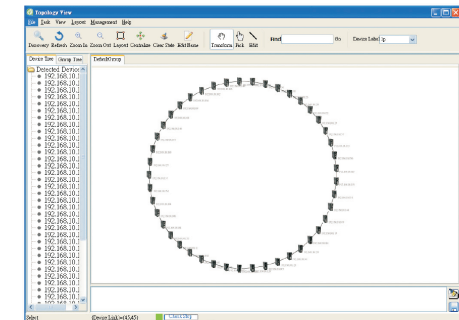
Open-Vision

ORing's switches are intelligent switches. Being different from other traditional redundant switches, ORing provide a set of Windows utility (Open-Vision) for user to manage and monitor all of industrial Ethernet switches on the industrial network.

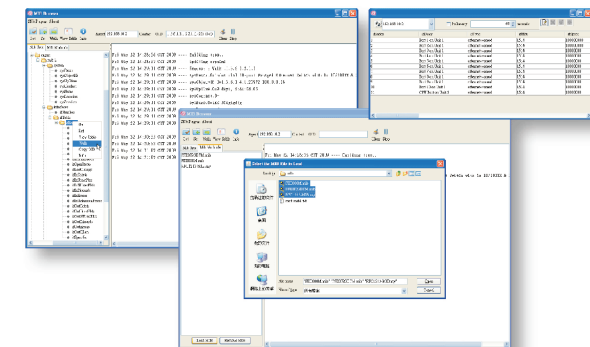
Network connection



Topology View



Monitoring and Configuration interface



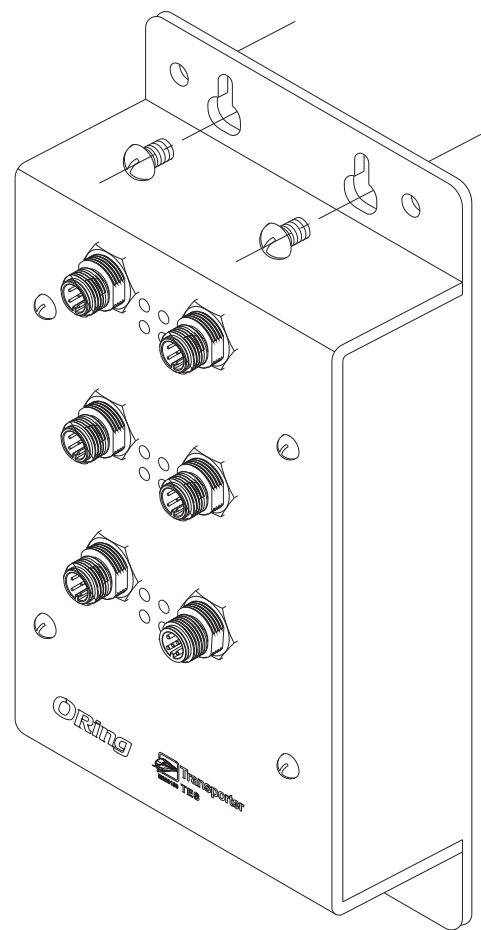
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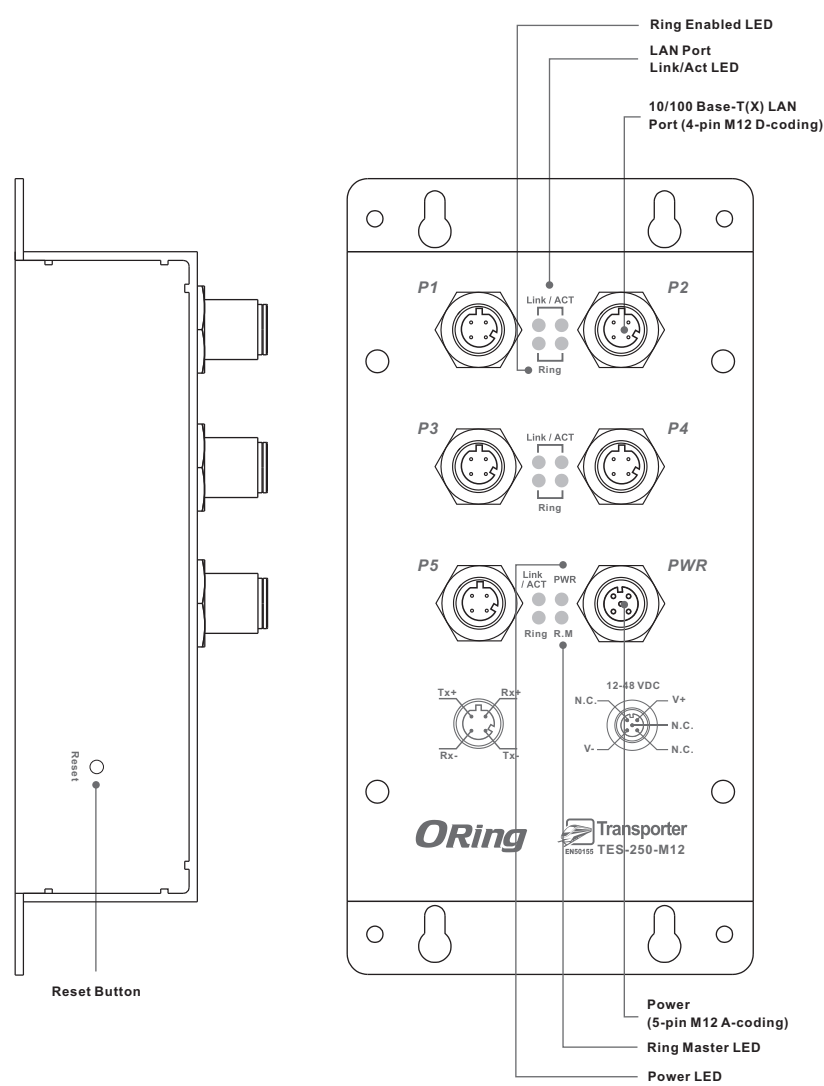
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Installation

- Wall-mounted Install Step



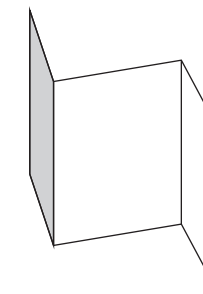
Front Panel



Accessory

① QIG

② CD



Packing list

Model name	Description	Accessory
TES-250-M12	EN50155 5 port lite-managed Ethernet switch with 5x10/100Base-T(X), M12 connector	① X 1, ② X 1



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ROHS FC CE

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