



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
- 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

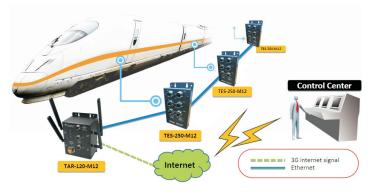
Specifications

10/100 Base-T(x) Ports in 112 Auto MDI/MDIX Technology IEEE 802.3 for 10Base-T IEEE 802.3 for 10Base-T IEEE 802.3 for 10Base-TX IEEE 802.1 For 87 (Spanning Tree Protocol) IEEE 802.1	ORing Switch Model	TES-250-M12		
Technology IEEE 802.3 for 108ase-T IEEE 802.1 for 10	Physical Ports			
Ethernet Standards IEEE 802.3 x for 1008ase-TX IEEE 802.3 x for 1008ase-TX IEEE 802.3 x for 1008ase-TX IEEE 802.1 x for RSTY (Rapid Spanning Tree Protocol) IEEE 802.1 x for RSTY (Rapid Spanning Tree Protocol) IEEE 802.1 x for RSTY (Rapid Spanning Tree Protocol) IEEE 802.1 x for RSTY (Rapid Spanning Tree Protocol) IEEE 802.1 x for RSTY (Rapid Spanning Tree Protocol) IEEE 802.1 x for RSTY (Rapid Spanning Tree Protocol) IEEE 802.1 x for RSTY (Rapid Spanning Tree Protocol) IEEE 802.1 x for RSTY (Rapid Spanning Tree Protocol) MAC Table Priority Queues 4 Processing Store-and-Forward Switching bandwidth: 1.0Gbps VLAN: Port Based Enable/(Islable ports VLAN (802.1 Q1) to segregate and secure network traffic SMMY3 encrypted suthentication and access security Software Features Redundant Ring with recovery time less than 10ms over 250 units Prot configuration, status, statistics, monitoring, security O-Ring Open-Ring Fast recovery STP RSTP RED Indicators Foreir Indicator Green: Indicate system operated in O-Ring Master mode O-Ring Indicator Green: Indicate system operated in O-Ring Master mode O-Ring 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.) Overload Current Protection Present Reverse Polarity Protection Present Present Present Present Present Present Present Present Prot Ab VDC (-40 to 185°F) Operating Temperature -40 to 85°C (-40 to 185°F) Operating Temperature -40 to 87°C (-40 to 185°F) Operating Temperature -40 to 85°C (-40 to 185°F) Operating Temperature -40 to 87°C (-40 to 185°F) Operating Temperature -40 to 87°C (-40 to 185°F) Operating Temperature -40 to 85°C (-40 to 185°F) Operating Temperature -40 to 8		5 x M12 connector (4-pin M12 D-coding)		
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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	Operating Humidity	5% to 95% Non-condensing		
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Free Fall IEC60068-2-32 Vibration IEC60068-2-6				
Vibration 1EC60068-2-6	EMS	EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11		
Coffee.	Shock	IEC60068-2-27		
Safety EN60950-1	Shock Free Fall	IEC60068-2-27 IEC60068-2-32		

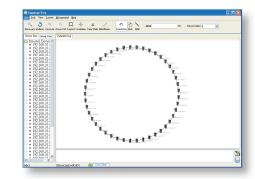
- Open-Vision

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.

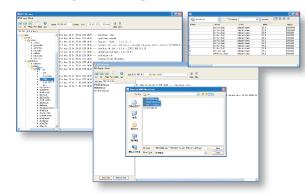
Network connection



Topology View



Monitoring and Configuration interface





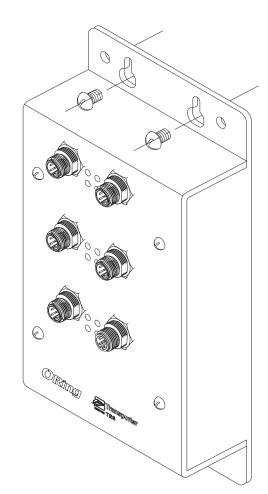
Quick Installation Guide

TES-250-M12

EN50155 5-port lite-managed Ethernet switch

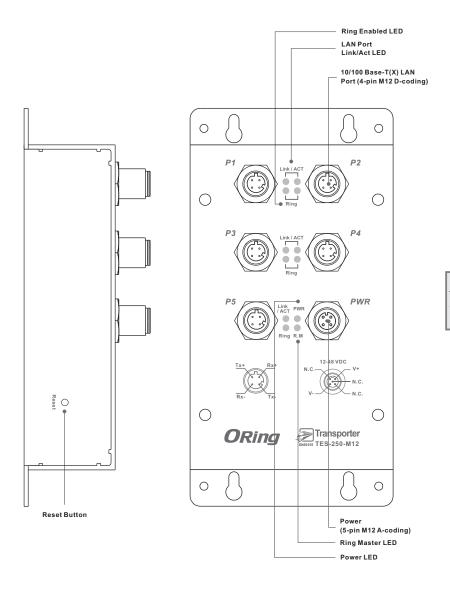
→ Installation

Wall-mounted Install Step

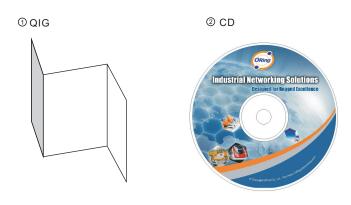




₽ Front Panel



Accessory



▶ Packing list

Model name	Description	Accessory
TES-250-M12	EN50155 5 port lite-managed Ethernet switch with 5x10/100Base-T(X), M12 connector	①X1, ②X1

