*V1.4a Dec, 2020*

# *RGS-9244GP Series*

***Industrial 28-port rack mount managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x100/1000Base-X, SFP socket***

## Features

- Support **O-Ring** (recovery time < 30ms) and MSTP(RSTP/STP compatible) for Ethernet Redundancy
- **O-Chain** allow multiple redundant network rings
- Support standard IEC 62439-2 **MRP**[*NOTE] (Media Redundancy Protocol) function
- Support IPV6 new internet protocol version
- Support Modbus TCP protocol
- Support IEEE 802.3az **Energy-Efficient Ethernet** technology
- Provided HTTPS/SSH protocol to enhance network security
- Support SMTP client and NTP server
- Support IP-based bandwidth management
- Support application-based QoS management
- Support Device Binding security function
- Support DOS/DDOS auto prevention
- IGMP v2/v3 (IGMP snooping support) for filtering multicast traffic
- Support SNMP v1/v2c/v3 & RMON & 802.1Q VLAN Network Management
- Support ACL and 802.1x User Authentication for security
- Support 10K Bytes Jumbo Frame
- SFP socket support DDM function
- Multiple notification for warning of unexpected event
- Web-based ,Telnet, Console (CLI), and Windows utility (**Open-Vision**) configuration
- Support LLDP Protocol
- Support **DBU-01** backup unit device to quickly backup/restore configuration
- 19 inches rack mountable design
- Support IEEE 1588v2 PTP clock synchronization

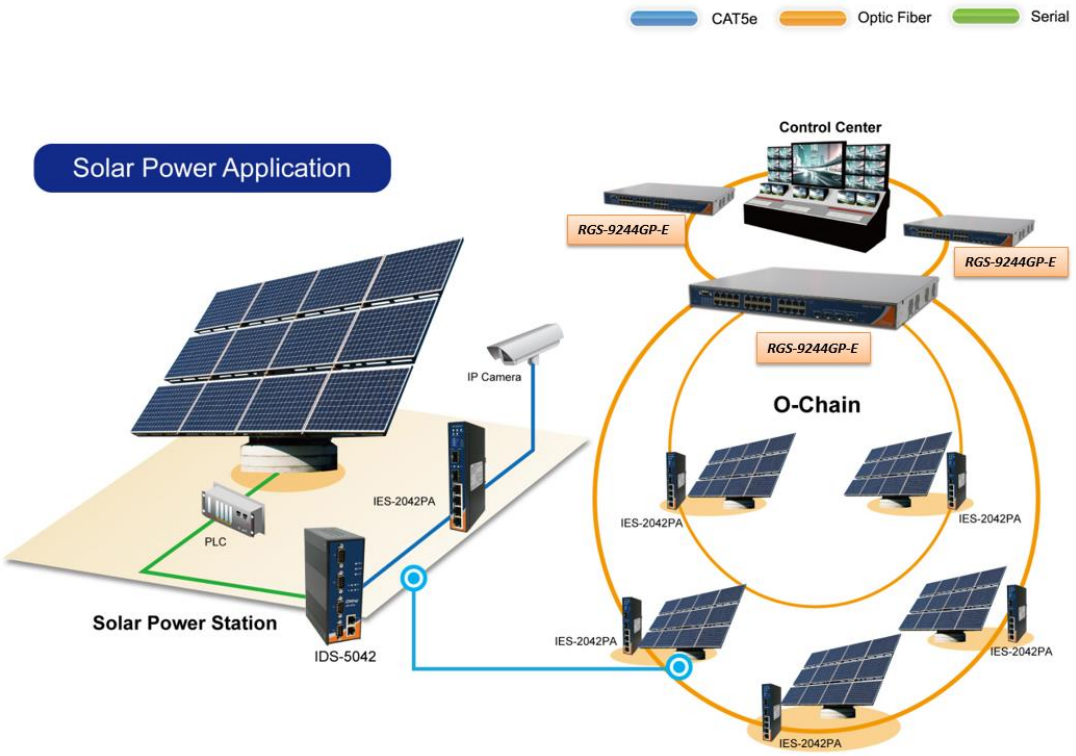
***NOTE: This function is available by request only**

# Introduction

RGS-9244GP series are Gigabit managed redundant ring Ethernet switch with 24x10/100/1000Base-T(X) ports and 4x100/1000Base-X SFP ports. These switches support Ethernet Redundancy protocol, **O-Ring** (recovery time < 30ms) and MSTP (RSTP/STP compatible) can protect your mission-critical applications from network interruptions or temporary malfunctions with its fast recovery technology. And RGS-9244GP series support wide operating temperature from -40℃ to 75℃. RGS-9244GP series can also be managed centralized and convenient by Open-Vision, as well as the Web-based interface, Telnet and console (CLI) configuration. Therefore, the switch is one of the most reliable choice for highly-managed and Fiber Ethernet application.

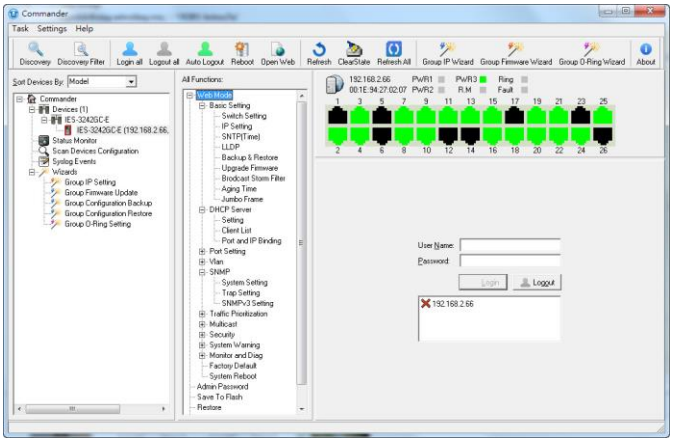
- **O-Ring :** O-Ring is ORing's proprietary redundant ring technology, with recovery time of less 30 milliseconds and up to 250 nodes. The O-Ring redundant ring technology can protect mission-critical application from network interruptions or temporary malfunction with its fast recover technology.
- **O-Chain :** O-Chain is the revolutionary network redundancy technology that provides the add-on network redundancy topology for any backbone network, O-Chain allows multiple redundant network rings of different redundancy protocols to join and function together as a larger and more robust compound network topology. O-Chain providing ease-of-use while maximizing fault-recovery swiftness, flexibility, compatibility, and cost-effectiveness in one set of network redundancy topology.
- **MRP*NOTE : Media Redundancy Protocol** (**MRP*NOTE**) is a data network protocol standardized by the IEC 62439-2. It allows rings of Ethernet switches to overcome any single failure with recovery time much faster than achievable with Spanning Tree Protocol.
- **Application-Based QoS :** The switch also support application-based QoS. Application-based QoS can set highest priority for data stream according to TCP/UDP port number.
- **Device Binding Function :** ORing special Device Binding function can only permit allowed IP address with MAC address to access the network. Hacker cannot access the IP surveillance network without permission. It can avoid hacker from stealing video privacy data and attacking IP camera, NVR and controllers.
- **Advanced DOS/DDOS Auto Prevention :** The switch also provided advanced DOS/DDOS auto prevention. If there is any IP flow become big in short time, the switch will lock the source IP address for certain time to prevent the attack. It's hardware based prevention so it can prevent DOS/DDOS attack immediately and completely.
- **Modbus TCP :** This is a Modbus variant used for communications over TCP/IP networks.
- **IEEE 802.3az Energy-Efficient Ethernet :** This is a set of enhancements to the twisted-pair and backplane Ethernet family of networking standards that will allow for less power consumption during periods of low data activity. The intention was to reduce power consumption by 50% or more.

***NOTE: This function is available by request only**

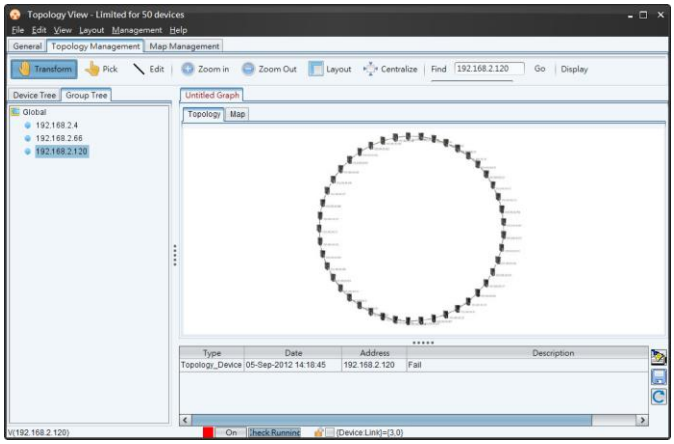



## Open-Vision

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



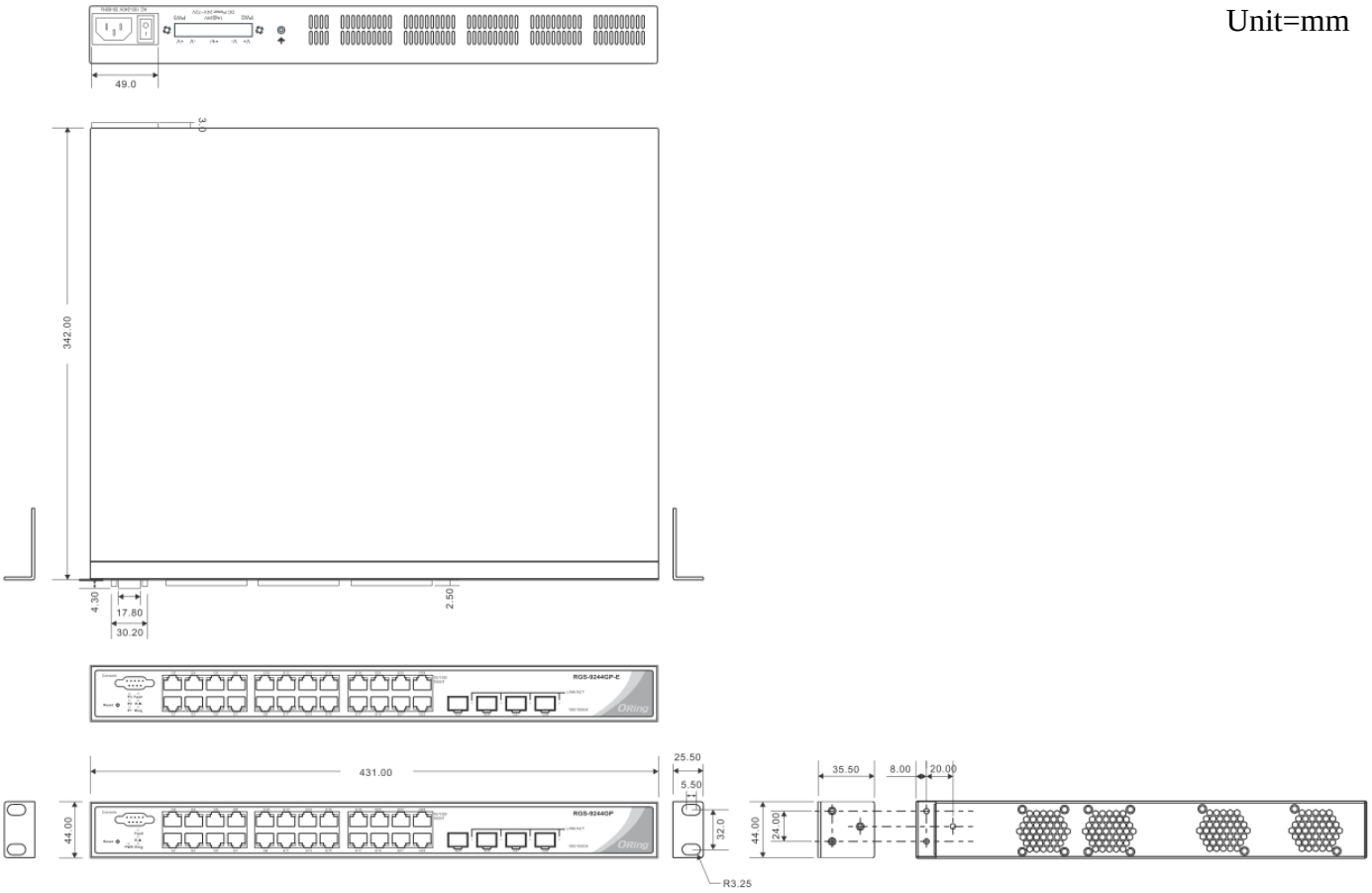
***Commander***



***Topology View***

## Dimension

Unit=mm



# Specifications

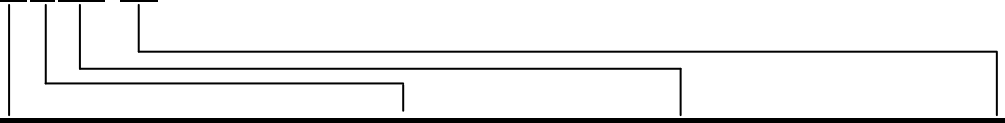
| ORing Switch Model | RGS-9244GP | RGS-9244GP-E |
|---|---|---|
| **Physical Ports** | | |
| 10/100/1000Base-T(X) with RJ45 Auto MDI/MDIX | **24** | |
| 100/1000Base-X with SFP port | **4** | |
| **Technology** | | |
| Ethernet Standards | IEEE 802.3 for 10Base-T<br>IEEE 802.3u for 100Base-TX<br>IEEE 802.3ab for 1000Base-T<br>IEEE 802.3z for 1000Base-X<br>IEEE 802.3x for Flow control<br>IEEE 802.3ad for LACP (Link Aggregation Control Protocol )<br>IEEE 802.1p for COS (Class of Service)<br>IEEE 802.1Q for VLAN Tagging<br>IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol)<br>IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol)<br>IEEE 802.1x for Authentication<br>IEEE 802.1AB for LLDP (Link Layer Discovery Protocol) | |
| MAC Table | 8k | |
| Priority Queues | 8 | |
| Processing | Store-and-Forward | |
| Switch Properties | Switching latency: 7 us<br>Switching bandwidth: 56Gbps<br>Max. Number of Available VLANs: 4095<br>VLAN ID Range : VID 1 to 4095<br>IGMP multicast groups: 256 for each VLAN<br>Port rate limiting: User Define | |
| Jumbo frame | Up to 10K Bytes | |
| Security Features | Device Binding security feature<br>Enable/disable ports, MAC based port security<br>Port based network access control (802.1x)<br>MAC-based authentication (802.1x)<br>Guest VLAN<br>VLAN (802.1Q ) to segregate and secure network traffic<br>Radius centralized password management<br>SNMPv3 encrypted authentication and access security<br>Https / SSH enhance network security<br>Web and CLI authentication and authorization<br>IP source guard | |
| Software Features | IEEE 802.1D Bridge, auto MAC address learning/aging and MAC address (static)<br>Multiple Registration Protocol (MRP)<br>MSTP (RSTP/STP compatible)<br>TOS/Diffserv supported<br>Quality of Service (802.1p) for real-time traffic<br>VLAN (802.1Q) with VLAN tagging<br>IGMP v2/v3 Snooping<br>Application-based QoS management<br>DOS/DDOS auto prevention<br>Port configuration, status, statistics, monitoring, security<br>DHCP Server/Client/Relay<br>Modbus TCP<br>SMTP Client<br>NTP server | |
| Network Redundancy | O-Ring<br>O-Chain<br>MRP*Note<br>MSTP (RSTP/STP compatible)<br>Fast Recovery | |
| RS-232 Serial Console Port | RS-232 in DB-9 connector with console cable. 115200bps, 8, N, 1 | |
| **LED indicators** | | |
| Power Indicator (PWR) | Green : Power indicator | Green LED x 3 : Power-1/2/3 indicator |

| | | |
|---|---|---|
| Ring Master Indicator (R.M.) | Green : Indicates that the system is operating in O-Ring Master mode | |
| O-Ring Indicator (Ring) | Green : Indicates that the system operating in O-Ring mode<br>Green Blinking: Indicates that the Ring is broken. | |
| Fault Indicator (Fault) | Amber : Indicate unexpected event occurred | |
| 10/100/1000Base-T(X) RJ45 Port Indicator | Green for Link/Act indicator.<br>Dual color LED for speed indicator ~ Green for 1000Mbps / Amber for 100Mbps / Off-light for 10Mbps | |
| 100/1000Base-X SFP Port Indicator | Green for port Link/Act. | |
| **Fault contact** | | |
| Relay | None | Relay output to carry capacity of 3A at 24VDC |
| **Power** | | |
| Power Input | 100 ~ 240VAC with power socket | 100 ~ 240VAC with power socket and dual 48VDC (36 ~ 72VDC) at 6-pin terminal block |
| Power consumption (Typ.) | 30 watts max. | 30 watts max. for DC power input<br>30.6 watts max. for AC power input |
| Overload current protection | NOT Present | Present with terminal block |
| **Physical Characteristic** | | |
| Enclosure | 19 inches rack mountable, IP-20 | |
| Dimension (W x D x H) | 431 (W) x 342 (D) x 44 (H)mm (16.97 x 13.46 x 1.73 inch) | |
| Weight (g) | 4210 g | 4652 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 15 B | |
| 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), EN 61000-4-3 (RS), EN 61000-4-4 (EFT), EN 61000-4-5 (Surge), EN 61000-4-6 (CS), EN 61000-4-8 (PFMF), EN 61000-4-11 (DIP)) | |
| Shock | IEC 60068-2-27 | |
| Free Fall | IEC 60068-2-31 | |
| Vibration | IEC 60068-2-6 | |
| Safety | EN60950-1 | |
| MTBF | 395,736 hrs | 344,230 hrs |
| **Warranty** | 5 years | |

***NOTE: This function is available by request only**

## Ordering Information

**RGS-9AABCC-D**



| Code Definition | 10/100/1000Base-T(X) Port Number | Additional Port Number | Additional Port Type | Model Type |
|---|---|---|---|---|
| **Option** | **- 24:** 24 ports | **- 4: 4** ports | **-GP:** 100 / 1000Base-X, SFP socket | **-E:** enhanced model with dual DC inputs and Relay output |

| | Model Name | Description |
|---|---|---|
| **Available Model** | **RGS-9244GP_US** | Industrial 28-port rack mount managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x1000Base-X, SFP socket, US power cord |
| | **RGS-9244GP_UK** | Industrial 28-port rack mount managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x1000Base-X, SFP socket, UK power cord |
| | **RGS-9244GP_EU** | Industrial 28-port rack mount managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x1000Base-X, SFP socket, EU power cord |
| | **RGS-9244GP_JP** | Industrial 28-port rack mount managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x1000Base-X, SFP socket, JP power cord |
| | **RGS-9244GP-E_US** | Industrial 28-port rack mount managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x1000Base-X, SFP socket, enhanced version, US power cord |
| | **RGS-9244GP-E_UK** | Industrial 28-port rack mount managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x1000Base-X, SFP socket, enhanced version, UK power cord |
| | **RGS-9244GP-E_EU** | Industrial 28-port rack mount managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x1000Base-X, SFP socket, enhanced version, EU power cord |
| | **RGS-9244GP-E_JP** | Industrial 28-port rack mount managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x1000Base-X, SFP socket, enhanced version, JP power cord |

## Packing List

- **RGS-9244GP / -E x 1**
- **ORing Tool CD x 1**
- **Quick Installation Guide x 1**
- **Rack-mount Kit x 1**
- **Power Cable x 1**
- **Console Cable x 1**

## Optional Accessories

- **Open-Vision M500 : Powerful Network Management Windows Utility Suit, 500 IP devices**
- **SDR/DRP Series DIN-Rail power supply (Only for –E)**
- **SFP100 series : 100Mbps SFP optical transceiver**
- **SFP1G series : 1GMbps SFP optical transceiver**
- **DBU-01 : Data backup unit device**

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

ORing:

RGS-9244GP_EU RGS-9244GP_US RGS-9244GP-E_EU RGS-9244GP-E_US