

RGS-R9244GP+ Series

Industrial Layer-3 28-port managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x1G/10GBase-X, SFP+ socket

# Features

- > Supports Layer 3 routing, RIP and static routing function
- Support O-Ring (recovery time < 30ms over 250 units of connection) and MSTP(RSTP/STP compatible) for Ethernet Redundancy
- > O-Chain allow multiple redundant network rings
- > Support standard IEC 62439-2 MRP (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 protocol
- 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
- Supports 10K Bytes Jumbo Frame
- SFP socket support DDM function
- > Multiple notification for warning of unexpected event
- > Support **DBU-01** backup unit device to quickly backup/restore configuration
- > Web-based ,Telnet, Console (CLI), and Windows utility (**Open-Vision**) configuration
- Support LLDP Protocol
- > 19 inches rack mountable design

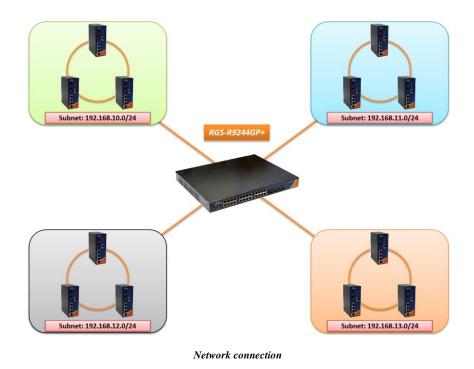


ROHS C E FC C E FC Full Gigabit Or Bing Competence

#### Introduction

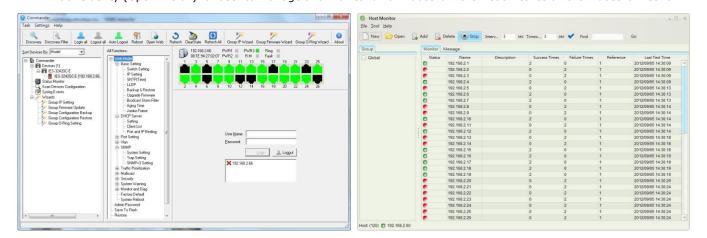
RGS-R9244GP+ series are Layer-3 Gigabit managed redundant ring Ethernet switch with 24x10/100/1000Base-T(X) ports and 4x1G/10GBase-X SFP+ ports. These switches support Layer-3 function like RIP and static routing. Also RGS-R9244GP+ series support Ethernet Redundancy protocol, **O-Ring** (recovery time < 30ms over 250 units of connection) /Open-Ring/O-Chain/MRP/Fast Recovery and MSTP (RSTP/STP compatible) can protect your mission-critical applications from network interruptions or temporary malfunctions with its fast recovery technology. RGS-R9244GP+ series support wide operating temperature from -20 °C to 60 °C. RGS-R9244GP+ 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 : Media Redundancy Protocol (MRP) 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.
- **IP-based Bandwidth Management :** The switch provide advanced IP-based bandwidth management which can limit the maximum bandwidth for each IP device. User can configure IP camera and NVR with more bandwidth and limit other device bandwidth.
- **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.



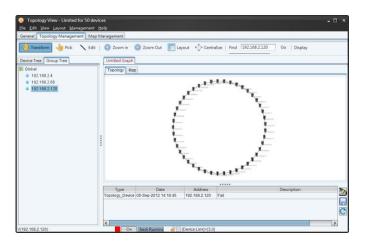
### **Open-Vision**

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

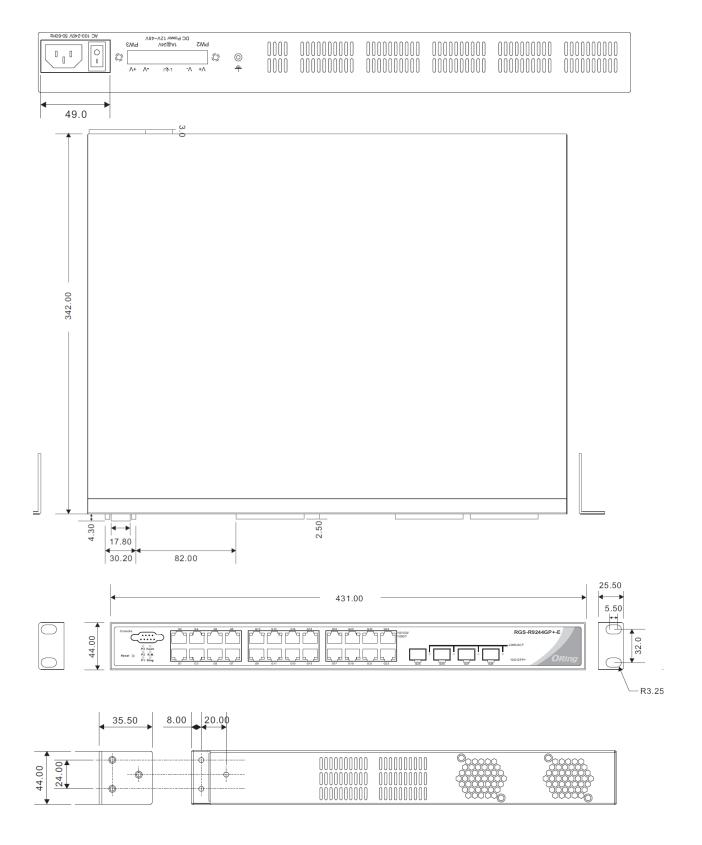
Host Monitor





### Dimension

#### Unit = mm



# Specifications

Physical Ports      24        10/10/10/0028000000000000000000000000000	ORing Switch Model	RGS-R9244GP+	RGS-R9244GP+-E
Auto MD//MDX      4        1G/L0GBase-X with SFP+ port      IEE 802.3 for 108ese-T        IEEE 802.3 for 1008ese-T      IEEE 802.3 for 1008ese-T        IEEE 802.3 for 1008ese-T      IEEE 802.3 for 1008ese-T        IEEE 802.3 for 1008ese-T      IEEE 802.3 for 1008ese-T        IEEE 802.3 for 1008ese-T      IEEE 802.3 for for 1008ese-T        IEEE 802.3 for for 1008ese-T      IEEE 802.3 for for 0008ese-T        IEEE 802.3 for for 1008ese-T      IEEE 802.3 for for 1008ese-T        IEEE 802.3 for for 1008ese-T      IEEE 802.3 for for 0008ese-T        IEEE 802.3 for for 1006gast Enternet      IEEE 802.3 for for 1008ese-T        IEEE 802.3 for for IOR control      IEEE 802.3 for for ICP (Link Aggregation Control Protocol)        IEEE 802.1 for for VAN Taging      IEEE 802.1 for VAN Taging        IEEE 802.1 for VAN Taging      IEEE 802.1 for VAN Taging        IEEE 802.1 for VAN Taging      IEEE 802.1 for VAN Taging        IEEE 802.1 for VAN Taging      IEEE 802.1 for VAN Taging        IEEE 802.1 for VAN Taging      IEEE 802.1 for VAN Taging        IEEE 802.1 for VAN Taging      IEEE 802.1 for VAN Taging        IEEE 802.1 for VAN Taging      IEEE 802.1 for VAN Taging        IEEE 802.1 for VAN Taging      IEEE 802.1 for VAN Taging	Physical Ports		
Anio MC/MDIX      4        13(710GBase-X with SIP+ port      4        Technology      IEEE 002.3 for 1000sae-T        EEEE 002.2 u/ or 1000sae-T      IEEE 002.3 for 1000sae-T        IEEE 002.3 an for 1000sae-T      IEEE 002.3 for 1000sae-T        IEEE 002.3 an for 1000sae-T      IEEE 002.3 for 000sae-T        IEEE 002.1 for Noc outrol      IEEE 002.1 for Noc outrol        IEEE 002.1 for Noc Outrol      IEEE 002.1 for Noc Outrol        IEEE 002.1 for NSP (Auble Spanning Tee Protocol)      IEEE 002.1 for NSP (Auble Spanning Tee Protocol)        IEEE 002.1 for NSP (Auble Spanning Tee Protocol)      IEEE 002.1 for NSP (Auble Spanning Tee Protocol)        IEEE 002.1 for NSP (Auble Spanning Tee Protocol)      IEEE 002.1 for NSP (Auble Spanning Tee Protocol)        IEEE 002.1 for NSP (Auble Spanning Tee Protocol)      IEEE 002.1 for NSP (Auble Spanning Tee Protocol)        IEEE 002.1 for NSP (Auble Spanning Tee Protocol)      IEEE 002.1 for NSP (Auble Stanning Tee Protocol)        IEEE 002.1 for NSP (Auble Stanning Tee Protocol)      IEEE 002.1 for Novel        Protomstag      Switching Istency; 7 us        Switch Properties      Switching Istency; 7 us        Switch Properties      Device Markage VAINS 4005        Aub Dup 10 NS Nyeer (Switch Reture Constre Conoby VAIN      Pot nobio	10/100/1000Base-T(X) with RJ45		
Technology      IEEE 802.3 for 108ese-T        IEEE 802.3 for 1006ase-TX      IEEE 802.3 for 1006ase-TX        IEEE 802.3 for 1006ase-T      IEEE 802.3 for 1006ase-T        IEEE 802.1 for COS (Coss of Service)      IEEE 802.1 for VIAN Tagging        IEEE 802.1 for VIAN Tagging      IEEE 802.3 for MSTP (Multiple Spanning Tree Protocol)        IEEE 802.1 for VIAN Tagging      IEEE 802.3 for MSTP (Multiple Spanning Tree Protocol)        IEEE 802.1 for VIAN Tagging      IEEE 802.3 for MSTP (Multiple Spanning Tree Protocol)        IEEE 802.1 for VIAN Tagging      IEEE 802.1 for add VIAN        Prototy Quaues      8        Prototy Quaues      8        Switch Properties      Switching latercy: 7 us        Switch Properties      Switching latercy: 7 us        Jumb (Multiple Spatial Security Features      Ieee/Features        Security Features      Develee		24	1
IFEE 803.3 for 108ase-T        IEEE 803.3 for 10808ase-T        IEEE 803.2 ht for 10808ase-T        IEEE 802.3 for 10008ase-T        IEEE 802.3 for 10008ase-T        IEEE 802.1 for COS (Dass of Service)        IEEE 802.1 for COS (Dass of Service)        IEEE 802.1 for KSTF (Rapid Spanning Tree Protocol)        IEEE 802.1 for KSTF (Ruitple Spanning Tree Protocol)        IEEE 802.1 for Authentication        IEEE 802.1 for Authentication        IEEE 802.1 for Authentication        Processing        Switching bandwidth: 128Gbps        Max. Number of AvaiBab UANs: 4095        VLAI ID Ramp: VID 1 to 4094        IDMb frame        Up to 10K Syste        Security Features        Security Features        Security Features        VLAI ID Ramp: US 1 to 4094        IDMb frame        Up to 10K Syste        Security Features        Security Features        Security Features	1G/10GBase-X with SFP+ port	4	
IFEE 803.3 for 108ase-T        IEEE 803.3 for 10808ase-T        IEEE 803.2 ht for 10808ase-T        IEEE 802.3 for 10008ase-T        IEEE 802.3 for 10008ase-T        IEEE 802.1 for COS (Dass of Service)        IEEE 802.1 for COS (Dass of Service)        IEEE 802.1 for KSTF (Rapid Spanning Tree Protocol)        IEEE 802.1 for KSTF (Ruitple Spanning Tree Protocol)        IEEE 802.1 for Authentication        IEEE 802.1 for Authentication        IEEE 802.1 for Authentication        Processing        Switching bandwidth: 128Gbps        Max. Number of AvaiBab UANs: 4095        VLAI ID Ramp: VID 1 to 4094        IDMb frame        Up to 10K Syste        Security Features        Security Features        Security Features        VLAI ID Ramp: US 1 to 4094        IDMb frame        Up to 10K Syste        Security Features        Security Features        Security Features	Technology		
IEEE 802-bit for 1008ase-TX        IEEE 802-bit for 1008base-X        IEEE 802-bit for VAT reguing        IEEE 802-bit for VAT r	recimology	IEEE 802.3 for 10Base-T	
IEEE 802.3b for 1008ase-T        IEEE 802.3b for 1008ase-T        IEEE 802.3b for 10008ase-T        IEEE 802.3b for 10008ase-T        IEEE 802.3b for 10008ase-T        IEEE 802.3b for 10008ase-T        IEEE 802.3b for 10007ase-T        IEEE 802.1b for CADC (Lak Agregation Control Protocol )        IEEE 802.1b for LADC (Lak Agregation Control Protocol)        IEEE 802.1b for FATC (Rapid Spanning Tee Protocol)        IEEE 802.1b for AthPentication        IEEE 802.1b for AthPentication        Protory Quates      8        Switching Isterry: 7 us        Switching Isterry: 70 a        ID to 100 KBytes <td></td> <td></td> <td></td>			
Ethernet Standards      IEEE 602.3s for 100/gabb Ethernet IEEE 602.3s for 100/gabb Ethernet IEEE 602.1s for COS (Laks Aggregation Control Protocol ) IEEE 602.1b for COS (Laks Sorkole) IEEE 602.1b for LUD (Link Layer Discovery Protocol)        MAC Table      3b        Protocosing      Switching Jeanory: 7 us Switching Security IS for each VLAN Port rate limiting: User Define        Jumbo Frame      Up to 10K by test        Jumbo Frame      Up to 10K by test        Jumbo Frame      Up to 10K by test        Security Features      Kan Aumber Scale and secure network traffic Radus centralized password Insocurity Wab and CL1 authentication and authorization MAC address linit        Software Features      IEEE 602.10 for anal-time traffic VLAN (802.12) 10 segregate and secure network traffic Radus centralized password Management Software Features        IEEE 602.10 for service (802.12) for rai-time traffic VLAN (802.12) with 'recovery time less than 30ms over 250 units TOS 0/fifter supported VDO/fifter supported VDO/fifter supported VDO/fifter supported VDO/fifter Supported VDO/fifter supported VDO/fifter Supported VDO			
Itel: B02.3nd for 1.00(gabit Ethornet:        Ethernet Standards      Itel: B02.2nd for LACP (Link Aggregation Control Protocol ) Itel: B02.1 for COS (Class of Service)        Ethernet Standards      Itel: B02.2nd for LACP (Link Aggregation Control Protocol ) Itel: B02.1 for VAAN Tagging Itel: B02.1 for VAAN Tagging        MAC Table      28        Priority Queues      8        Priority Queues      8        Switching Batery: 7 us      Switching Batery: 7 us        Switching Protocol (Link Layer Discovery Protocol)      1000000000000000000000000000000000000			
Ethernet Standards      IEEE 802.3 for FX0 (unit Aggregation Control Protocol ) IEEE 802.1 for COS (Class of Service) IEEE 802.1 for COS (Class of Service) IEEE 802.1 for RSTP (Repl Spanning Tree Protocol) IEEE 802.1 Kor RSTP (Repl Spanning Tree Protocol) IEEE 802.1 Kor RSTP (Repl Spanning Tree Protocol) IEEE 802.1 Kor Authentication IEEE 802.1 Kor Authentication Max. Rumber Avaiable VLABs: 4095 Max. Rumber Avaiable VLABs: 4005 Max. Rumber Avaiable Rumber Avaiable VLABs: 4005 Max. Rumber Avaiable Rumber Av			
International and the second		-	
Idea is a second seco	Ethernet Standards	IEEE 802.3ad for LACP (Link Aggregation Control Protoc	ol)
Better 802.1 w/ or RSTP (Rapid Spanning Tree Protocol)        IEEE 802.1 k/ or MSTP (Multiple Spanning Tree Protocol)        IEEE 802.1 AS for LUDP (Link Layer Discovery Protocol)        MAC Table      32K        Priority Queues      8        Processing      Switching Batency: 7 US        Switching Batency: 7 US      Switching Batency: 7 US        Max. Number of Available VLANS: 4095      UAN ID Range : ID 1 to 4094        IGMP multicast groups: 128 for each VLAN      Port Tae Imiting: US To Police        Jambb frame      UP to 10K Bytes        Max. Switching Security Features      Back/Glabile ports, MAC based part security        Mac Address Imit      VLAN (802.10) to sergengt and secure network traffic        Saduits centralized password management      SMIVA: Security Reatures        Sitter (STF)STE comp			
IEEE 802.1s for MSP1 (Multiple Spanning Tree Protocol)        IEEE 802.1A8 for LLDP (Link Layer Discovery Protocol)        MAC Table      3k        Processing      Store-and-Forward        Switching bandwidth: 128Gbps      Switching bandwidth: 128Gbps        Switch Properties      Switching bandwidth: 128Gbps        Max Number of Available VLARs: 4095      VLAN ID Ange: VID 1 to 4094        Information      Up to 10K Bytes        Jumbo frame      Up to 10K Bytes        Port rate luming: User Define      Enable/Gibable ports, MAC Based port security        Port based network access control (802.1x)      MAC Address lumit        MAC address lumit      Nank Rode authentication and access security        Port based network security      Port based authentication and access security        VAN (802.10) to segregate and secure network traffic      Radius centralized password management        SWINP3 encrypted authentication and authorization      Postore guard        VAN (802.10) to segregate and secure network traffic      Nutree Rode security        Web and CL1 authentication and authorization      Postore guard        Software Features      Hardware routing, RIP and static routing        NTP (Service (802.1p) for real-time traffic      Nutple: Respiration Protoce (MRP)  <		IEEE 802.1Q for VLAN Tagging	
IEEE 802.1x for Authentication        MAC Table      32        Priority Queues      8        Processing      Switching latency: 7 us        Switching bandwith: 128Gpps      Switching latency: 7 us        Switch Properties      Switching latency: 7 us        Processing      Switching latency: 7 us        Switch Properties      Max. Number of Available VLANs: 4095        VLAN ID Range: VD 1 to 4094      Common Co		IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol)	
IEEE 802.1AB for LLDP (Link Layer Discovery Protoco)        MAC Table      32k        Processing      Store-and-Forward        Switching Istency: 7 us      Switching Istency: 7 us        Switching Istency: 7 us      Switching Istency: 7 us        Switching Dandwidth: 128Gbps      Switching Istency: 7 us        Switch Properties      Switching Istency: 7 us        DVA ID Konge: VDI Lot 0494      IStence: 10 to 4094        IGMP multicast groups: 128 for each VLN      Port rate limiting: User Define        Jumbo frame      Up to 10k Bytes        Port rate limiting: User Define      Enable/Joshep onts, MAC Dased port security        Port based network access control (502.1x)      MAC-Dased authentication        MAC-based authentication      MAC dafress limit        SMMAP encrypted authentication and access security      Https / Still ensame network security        Web and CLI authentication and autorization      Postore guard        Nultiple Registration Protocol (MIP)      Mardware routing, RIP and static routing        IEEE 80.1D Bridgs, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MIP)        Multiple Registration Protocol (MIP)        Mardware routing, RIP and static routine least han 30ms over 250 units		IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol)	
MAC Table      32k        Processing      Store-and-forward        Processing      Store-and-forward        Switching latency: 7 vis      Switching latency: 7 vis        Switch Properties      VLA ID Range: VID 1 to 4094        Jumbo frame      Up to 10K Biytes        Device Biytes      Device Biytes        Adc-based authenticate groups: 128 for each VLAN        Port rate limiting: User Define        Device Biytes        MAC-based authentication        MAC-based authentication        MAC-based authentication        MAC-based authentication and authorization        IP source guard        Hardware routing, RIP and static routing        Herdware routing, RIP and static routing        Herdware routing, RIP and static routing        Network Features        Software Features        Software Features        IGMP v2/v3 Snooping        IP source guard        Hardware routing, RIP ond static routing        IEEE 802.1 Deridge, auto		IEEE 802.1x for Authentication	
Processing      8        Processing      Store-and-Forward        Switching bandwidth: 128Gbps      Max: Number of Available VLANs: 4095        VLAN ID Range : VD 1 to 4094      IGMP multicast groups: 128 for each VLAN        Jumbo frame      Up to 10K Bytes        Jumbo frame      Up to 10K Bytes        Security Features      Enable/Globable ports, MAC based port security        Port based network access control (802.1x)      MAC-based outhentication        MAC-based authentication      MAC-based authentication and access security        Https://SENUMPS.access.a		IEEE 802.1AB for LLDP (Link Layer Discovery Protocol)	
Processing      Store-and-Forward        Switching latency: 7 us      Switching latency: 7 us        Switch Properties      Switching bandwith: 128Gbps        Max. Number of Available VLANs: 4095      VLAN ID Range: VID 1 to 4094        IGMP multicast groups: 128 for each VLAN      Port rate limiting: User Define        Jumbo frame      Up to 10K Bytes        Device Binding security feature      Enable/disable ports, MAC based port security        Port based network access control (802.1x)      MAC-based authentication        MAC address limit      VLAN (802.1Q) to segregate and secure network traffic        Raduus centralized password management      SNMPv3 encrypted authentication and access security        Web and CL1 authentication and authorization      IP source guard        IP source guard      Hardware routing, RIP and static routing        IEEE 802.10 Bridge, auto MAC address learning/aging and MAC address (static)      Multiple Registration Protocol (MRP)        MSTP (RSTP/STP compatible)      Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units        TOS/Differs vapported      Quality of Service (802.10) for real-time traffic        VLAN (802.10) with VLAN tagging      IGMP v2/v3 Snooping        IP-based bandwidth management      Application-based QoS management        Appl	MAC Table	32k	
Switching latency: 7 us        Switching bandwidth: 128Gbps        Max. Number of Available VLANs: 4095        VLAN ID Range: VID 1 to 4094        IGMP multicast groups: 128 for each VLAN        Port rate limiting: User Define        Jumbo frame        Up to 10K Bytes        Bewice Binding security feature        Enable/disable ports, MAC based port security        Port based authentication        MAC address limit        Security Features        VLAN (802.1Q) to segregate and secure network traffic        Radius centralized password management        SNMPV3 encrypted authentication        MAC address limit        Web and CLI authentication and access security        Web and CLI authentication and secure network security        Web and CLI authentication and secure network secures        Hardware routing, RIP and static routing        IEEE 802.10 Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)        MSFP (KSTP/STP compatible)        Redundant King (Q-Ring) with recovery time less than 30ms over 250 un	Priority Queues	8	
Switch Properties      Switch pandwidth: 128Gbps        Max. Number of Available VLANs: 4095        Hand Do Range: 100 to 4094        IOMP multicast groups: 128 for each VLAN        Port rate limiting: User Define        Jumbo frame      Up to DK Bytes        Bevice Binding security feature        Enable/disable ports, MAC based port security        Port based network access control (802.1x)        Mac-based authentication        Mace address limit        Security Features        VLAN (802.1Q) to segregate and secure network traffic        Radius centralized password management        Address limit        Switch SPI Security Feature        Hardware routing, RIP and static routing        IEEE 802.1D Bridge auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (RIP)        Multiple Registration Protocol (RIP)        Reduity GSP-ruce (802.1p) for real-time traffic        VLAN (802.1Q) with recovery time less than 30ms over 250 units        TGS/DFiser supported        Quality of Service (802.1p) for real-time traffic        VLAN (802.1Q) with VLAN tagging        Prot based bandwidth management        Application-based QoS management        QOS/DDOS auto prevent	Processing	Store-and-Forward	
Switch Properties      Max. Number of Available VLANs: 4095 VLAN ID Range : VID 1 to 4094 IOP multicast groups: 128 for each VLAN Port rate limiting: User Define        Jumbo frame      Up to 10K Bytes        Security Features      Enable/disable ports, MAC based port security Port based network access control (802.1x) MAC-based authentication MAC address limit        Security Features      VLAN (80.10) to segregate and secure network traffic Radius centralized password management SMRV3 encrypted authentication and access security Https / SSH enhance network security Web and CL1 authentication and authorization IP source guard        Network Features      Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units TOS/Diffeer supported Quality of Service (802.1p) for real-time traffic Quality of Service (802.1p) for real-time traffic Pro Configuration, status, statistists	-	Switching latency: 7 us	
Switch Properties      VLAN ID Range : VID 1 to 4094        IGMP multicast groups: 128 for each VLAN        Port rate limiting: User Define        Jumbo frame      Up to 10K Bytes        Device Binding security feature        Enable/disable ports, MAC based port security        Port based network access control (802.1x)        MAC-based authentication        MAC-based authentication        MAC-based authentication        MAC-based authentication and access security        Https / SSH enhance network security        Web and CLI authentication and access security        Https / SSH enhance network security        Web and CLI authentication and authorization        IP source guard        Hardware routing, RIP and static routing        Headware routing, RIP and static routing        Kee B0.1.D Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)        MSTP (RSTP/STP compatible)        Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units        TOS/DIffserv supported        Quality of Service (802.1p) for real-time traffic        VLAN (802.10) with VLAN tagging        IP -based bandwith management        Application-based QoS management		Switching bandwidth: 128Gbps	
VLAN ID Range : VID 1 to 4094        IGNP multicast groups: 128 for each VLAN        Port rate limiting: User Define        Jumbo frame      Up to 10K Bytes        Device Binding security feature        Enable/disable ports, MAC based port security        Port based network access control (802.1x)        MAC-based authentication        MAC address limit        VLAN (802.10) to segregate and secure network traffic        Radius centralized password management        SNMPv3 encrypted authentication and access security        Https / SSH enhance network security        Web and CL1 authentication and access security        Https / SSH enhance network security        Web and CL1 authentication and authorization        IP source guard        Hardware routing, RIP and static routing        IEEE 802.1D Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)        MSTP (GSTP/STP compatible)        Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units        TGS/Differer supported        Quality of Service (802.1p) for real-time traffic        VLAN (802.10) with VLAN tagging        IGNP v2/v3 Snooping        IP-based bandwith management        App		Max. Number of Available VLANs: 4095	
Port rate limiting: User Define        Jumbo frame      Up to 10K Sytes        Device Binding security feature        Enable/disable ports, MAC based port security.        Port based network access control (802.1x)        MAC-based authentication        MAC-address limit        Security Features        VLAN (802.10, 10 segregate and secure network traffic        Radius centralized password management        SNPM3-3 encrypted authentication and access security        Https / SSH enhance network security        We and CLI authentication and authorization        Posrce guard        Hardware routing, RIP and static routing        IEEE 802.1D Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)        MSTP (RSTP/STP compatible)        Redundant Ring (0-Ring) with recovery time less than 30ms over 250 units        TOS/DIffserv supported        Quality of Service (802.1p) for real-time traffic        VLAN (802.10) with VLAN tagging        IGMP v2/v3 Snooping        IP-based bandwidth management        Application-based QoS management        Application-based QoS management        Application, status, statistics, monitoring, security        DPC Server/Client/Rel	Switch Properties	VLAN ID Range : VID 1 to 4094	
Jumbo frame      Up to 10K Bytes        Device Binding security feature      Enable/disable ports, MAC based port security        Port based network access control (802.1x)      MAC-based authentication        MAC-based authentication      MAC-based authentication        MAC-based authentication      MAC-based authentication        MAC-based authentication      MAC-based authentication        Security Features      VLAN (802.1Q) to segregate and secure network traffic        Radius centralized password management      SNMPv3 encrypted authentication and access security        Https / SSH enhance network security      Web and CLI authentication and authorization        IP source guard      IEEE 802.1D Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)      MSTP (RSTP/STP compatible)        Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units      TOS/Diffserv supported        Quality of Servic (802.1p) for real-time traffic      VLAN (802.1Q) with VLAN tagging        IGM 2/J3 Snooping      IGM 2/J3 Snooping        IP-based bandwidth management      Application-based QoS management        Application-based QoS management      DOS/DDOS auto prevention        DVC onfiguration, status, statistics, monitoring, security      DHCP Server/Client/Relay		IGMP multicast groups: 128 for each VLAN	
Device Binding security feature        Enable/disable ports, MAC based port security        Port based network access control (802.1x)        MAC-based authentication        MAC address limit        VLAN (802.1Q) to segregate and secure network traffic        Radius centralized password management        SIMPV3 encrypted authentication and access security        Https / SSH enhance network security        We and CLI authentication and authorization        IP source guard        Hardware routing, RIP and static routing        IEEE 802.1D Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)        MSTP (RSTP/STP compatible)        Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units        TOS/Diffserv supported        Quality of Service (802.1p) for real-time traffic        VLAN (802.1Q) with VLAN tagging        IP-based bandwidth management        Application-based QoS management        DOS/DDOS auto prevention        Port configuration, status, statistics, monitoring, security        DHCP Server/Clent/Relay        Mobus TCP        SMTP Clent        NTP server        O-Ring        O-Ring		Port rate limiting: User Define	
Enable/disable ports, MAC based port security        Port based network access control (802.1x)        MAC-based authentication        MAC address limit        VLAN (802.1Q) to segregate and secure network traffic        Radius centralized password management        SMMV3 encrypted authentication and access security        Https / SSH enhance network security        Web and CLI authentication and authorization        IP source guard        Hardware routing, RIP and static routing        IEEE 802.1D Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)        MSTP (RSTP/STP compatible)        Redundant Ring (0-Ring) with recovery time less than 30ms over 250 units        TOS/Differv supported        Quality of Service (802.1p) for real-time traffic        VLAN (802.1Q) with VLAN tagging        IGMP v2/v3 Snooping        IP-based bandwidth management        Application-based QoS management        OS/DDOS auto prevention        Pols configuration, status, statistics, monitoring, security        Dir/D Server/Client/Relay        Modus tCP        SMTP Client        Application-based QoS management        OS/DOS auto prevention        Port confi	Jumbo frame	Up to 10K Bytes	
Port based network access control (802.1x)        MAC-based authentication        MAC-based authentication        VLAN (802.1Q) to segregate and secure network traffic        Radius centralized password management        SNMPv3 encrypted authentication and access security        Hittps / SSH enhance network security        Web and CLI authentication and authorization        IP source guard        Hardware routing, RIP and static routing        IEEE 802.1D Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)        MSTP (RSTP/STP compatible)        Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units        TOS/Diffserv supported        Quality of Service (802.1p) for real-time traffic        VLAN (802.1Q) with VLAN tagging        IGMP V2/v3 Snooping        IP-based bandwidth management        Application-based QOS management        OS/DDOS auto prevention        Port configuration, status, statistics, monitoring, security        DHCP Server/Client/Relay        Modus CP        SMTP Client        NTP Server        Merverk Redundant (MRP		Device Binding security feature	
MAC-based authentication        MAC address limit        Security Features        MAC address limit        Radius centralized password management        SNMPv3 encrypted authentication and access security        Https / SSH enhance network security        Web and CLI authentication and authorization        IP source guard        IEEE 802.1D Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)        MSTP (RSTP/STP compatible)        Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units        TOS/DIffserv supported        Quality of service (802.1p) for real-time traffic        VLAN (802.1q) with VLAN tagging        IP-based bandwith management        Application-based QoS management        OS/DDOS auto prevention        Pot configuration, status, statistics, monitoring, security        DHCP Server/Clent/Relay        Modbus TCP        SMTP Client        NTP Server        O-Ring        O-Ring        O-Ring        MRP		Enable/disable ports, MAC based port security	
MAC address limit        Security Features      MAC address limit        VLAN (802.1Q) to segregate and secure network traffic        Radius centralized password management        SMMPv3 encrypted authentication and access security        Https / SSH enhance network security        Web and CLI authentication and authorization        IP source guard        Hardware routing, RIP and static routing        IEEE 802.1D Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)        MSTP (RSTP/STP compatible)        Redundant Ring (0-Ring) with recovery time less than 30ms over 250 units        ToS/DIffsery supported        Quality of Service (802.1p) for real-time traffic        VLAN (802.1Q) with VLAN tagging        IGMP v2/v3 Snooping        IP-based bandwidth management        Application-based QoS management        DoS/DDOS auto prevention        Port configuration, status, statistics, monitoring, security        DHCP Server/Client/Relay        Modbus TCP        SMTP Client        MTP Client        MRP		Port based network access control (802.1x)	
Security Features      VLAN (802.1Q ) to segregate and secure network traffic        Radius centralized password management        SNMPv3 encrypted authentication and access security        Https / SSH enhance network security        Web and CLI authentication and authorization        IP source guard        Hardware routing, RIP and static routing        IEEE 802.1D Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)        MSTP (RSTP/STP compatible)        Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units        TOS/Diffserv supported        Quality of Service (802.1p) for real-time traffic        VLAN (802.1Q) with VLAN tagging        IGMP V2/V3 Snooping        IP-based bandwidth management        Application-based QS management        DOS/DDOS auto prevention        Port configuration, status, statistics, monitoring, security        DHCP Server/Client/Relay        Modbus TOP        SMTP Client        NTP server        O-Ring        O-Ring        O-Ring        O-Chain        MRP		MAC-based authentication	
Radius centralized password management        SNMPv3 encrypted authentication and access security        Https / SSH enhance network security        Web and CLI authentication and authorization        IP source guard        Hardware routing, RIP and static routing        IEEE 802.10 Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)        MSTP (RSTP/STP compatible)        Redundant Ring (0-Ring) with recovery time less than 30ms over 250 units        TOS/Diffserv supported        Quality of Service (802.1p) for real-time traffic        VLAN (802.1Q) with VLAN tagging        IP-based bandwidth management        Application-based QoS management        DS/DDOS auto prevention        Port configuration, status, statistics, monitoring, security        DHC Server/Client/Relay        Modbus TCP        SMTP Client        NTP server        O-Chain        MRP		MAC address limit	
SNMPv3 encrypted authentication and access security        Https / SSH enhance network security        Web and CLI authentication and authorization        IP source guard        Hardware routing, RIP and static routing        IEEE 802.10 Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)        MSTP (RSTP/STP compatible)        Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units        TOS/Diffserv supported        Quality of Service (802.1p) for real-time traffic        Quality of Service (802.1p) for real-time traffic        Quality of Service (802.1p) for real-time traffic        P-based bandwidth management        Application-based QoS management        ADJC>DOS/DDOS auto prevention        Port configuration, status, statistics, monitoring, security        DHCP Server/Client/Relay        Modbus TCP        MTP Server        MTP Server        O-Ring        O-Chain        MRP	Security Features		
Https / SSH enhance network security        Web and CLI authentication and authorization        IP source guard        Hardware routing, RIP and static routing        IEEE 802.1D Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)        MSTP (RSTP/STP compatible)        Redundant Ring (0-Ring) with recovery time less than 30ms over 250 units        TOS/Diffserv supported        Quality of Service (802.1p) for real-time traffic        VLAN (802.1Q) with VLAN tagging        IGMP v2/v3 Snooping        IP-based bandwidth management        Application-based QOS management        Modbus TCP        Modbus TCP        Modbus TCP        Mittip Server/Client/Relay        Modbus TCP        MTP Server        O-Ring        O-Chain        MRP			
Web and CLI authentication and authorization        IP source guard        Hardware routing, RIP and static routing        IEEE 802.1D Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)        MSTP (RSTP/STP compatible)        Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units        TOS/Diffserv supported        Quality of Service (802.1p) for real-time traffic        VLAN (802.1Q) with VLAN tagging        IP-based bandwidth management        Application-based QoS management        DOS/DDOS auto prevention        Port configuration, status, statistics, monitoring, security        DHCP Server/Client/Relay        Modbus TCP        SMTP Client        NTP server        MRP			
IP source guard        Hardware routing, RIP and static routing        IEEE 802.1D Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)        MSTP (RSTP/STP compatible)        Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units        TOS/Diffserv supported        Quality of Service (802.1p) for real-time traffic        VLAN (802.1Q) with VLAN tagging        IGMP V2/V3 Snooping        IP-based bandwidth management        Application-based QoS management        DOS/DDOS auto prevention        Port configuration, status, statistics, monitoring, security        DHCP Server/Client/Relay        Modbus TCP        SMTP Client        Network Redundancy        O-Chain        MRP			
Network Redundancy      Hardware routing, RIP and static routing        IEEE 802.1D Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)        MSTP (RSTP/STP compatible)        Redundant Ring (0-Ring) with recovery time less than 30ms over 250 units        TOS/Diffserv supported        Quality of Service (802.1p) for real-time traffic        VLAN (802.1Q) with VLAN tagging        IGMP v2/v3 Snooping        IP-based bandwidth management        Application-based QoS management        DOS/DDOS auto prevention        Port configuration, status, statistics, monitoring, security        DHCP Server/Client/Relay        Modus TCP        SMTP Client        NTP server        O-Ring        O-Chain        MRP			
Network Redundancy      IEEE 802.1D Bridge, auto MAC address learning/aging and MAC address (static)        Multiple Registration Protocol (MRP)        MSTP (RSTP/STP compatible)        Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units        TOS/Diffserv supported        Quality of Service (802.1p) for real-time traffic        VLAN (802.1Q) with VLAN tagging        IGMP v2/v3 Snooping        IP-based bandwidth management        Application-based QoS management        DOS/DDOS auto prevention        Port configuration, status, statistics, monitoring, security        DHCP Server/Client/Relay        Modus TCP        SMTP Client        Network Redundancy        O-Ring        O-Chain        MRP		5	
Network Redundancy      Multiple Registration Protocol (MRP)        MSTP (RSTP/STP compatible)        Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units        TOS/Diffserv supported        Quality of Service (802.1p) for real-time traffic        VLAN (802.1Q) with VLAN tagging        IGMP v2/v3 Snoping        IP-based bandwidth management        Application-based QoS management        DOS/DDOS auto prevention        Port configuration, status, statistics, monitoring, security        DHCP Server/Client/Relay        Modbus TCP        SMTP Client        NTP server        O-Ring        O-Chain        MRP			
MSTP (RSTP/STP compatible)        Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units        TOS/Diffserv supported        Quality of Service (802.1p) for real-time traffic        VLAN (802.1Q) with VLAN tagging        IGMP v2/v3 Snooping        IP-based bandwidth management        Application-based QoS management        DOS/DDOS auto prevention        Port configuration, status, statistics, monitoring, security        DHCP Server/Client/Relay        Modbus TCP        SMTP Client        NTP server        O-Ring        O-Chain        MRP			ind MAC address (static)
Network Redundancy    Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units      TOS/Diffserv supported    Quality of Service (802.1p) for real-time traffic      VLAN (802.1Q) with VLAN tagging    VLAN (802.1Q) with VLAN tagging      IGMP v2/v3 Snooping    IP-based bandwidth management      Application-based QoS management    DOS/DDOS auto prevention      Port configuration, status, statistics, monitoring, security    DHCP Server/Client/Relay      Modbus TCP    SMTP Client      NTP server    O-Ring      O-Chain    MRP		,	
Software Features      TOS/Diffserv supported        Quality of Service (802.1p) for real-time traffic      VLAN (802.1Q) with VLAN tagging        IGMP v2/v3 Snooping      IP-based bandwidth management        Application-based QoS management      DOS/DDOS auto prevention        Port configuration, status, statistics, monitoring, security      DHCP Server/Client/Relay        Modbus TCP      SMTP Client        SMTP Client      NTP server        O-Ring      O-Ring        O-Chain      MRP			20mc over 250 unite
Software Features      Quality of Service (802.1p) for real-time traffic        VLAN (802.1Q) with VLAN tagging      VLAN (802.1Q) with VLAN tagging        IGMP v2/v3 Snooping      IP-based bandwidth management        Application-based QoS management      DOS/DDOS auto prevention        Port configuration, status, statistics, monitoring, security      DHCP Server/Client/Relay        Modbus TCP      SMTP Client        SMTP Client      NTP server        O-Ring      O-Ring        O-Chain      MRP			Soms over 250 units
Software Features    VLAN (802.1Q) with VLAN tagging      IGMP v2/v3 Snooping    IP-based bandwidth management      Application-based QoS management    ODS/DDOS auto prevention      Port configuration, status, statistics, monitoring, security    DHCP Server/Client/Relay      Modbus TCP    SMTP Client      SMTP Client    O-Ring      O-Ring    O-Chain      MRP    MRP			
Software Features    IGMP v2/v3 Snooping      IP-based bandwidth management      Application-based QoS management      DOS/DDOS auto prevention      Port configuration, status, statistics, monitoring, security      DHCP Server/Client/Relay      Modbus TCP      SMTP Client      NTP server      O-Ring      O-Chain      MRP			
IP-based bandwidth management      Application-based QoS management      DOS/DDOS auto prevention      Port configuration, status, statistics, monitoring, security      DHCP Server/Client/Relay      Modbus TCP      SMTP Client      NTP server      O-Ring      O-Chain      MRP	Software Features		
Application-based QoS management      DOS/DDOS auto prevention      Port configuration, status, statistics, monitoring, security      DHCP Server/Client/Relay      Modbus TCP      SMTP Client      NTP server      O-Ring      O-Chain      MRP	Soluare reduies		
DOS/DDOS auto prevention      Port configuration, status, statistics, monitoring, security      DHCP Server/Client/Relay      Modbus TCP      SMTP Client      NTP server      O-Ring      O-Chain      MRP		-	
Port configuration, status, statistics, monitoring, security      DHCP Server/Client/Relay      Modbus TCP      SMTP Client      NTP server      O-Ring      O-Chain      MRP			
DHCP Server/Client/Relay    Modbus TCP    SMTP Client    NTP server    O-Ring    O-Chain    MRP			У
Modbus TCP    SMTP Client    NTP server    O-Ring    O-Chain    MRP			
SMTP Client    NTP server    O-Ring    O-Chain    MRP			
NTP server        O-Ring        O-Chain        MRP			
Network Redundancy O-Ring O-Chain MRP			
Network Redundancy O-Chain MRP			
Network Redundancy MRP			
	Network Redundancy		
MSTP (RSTP/STP compatible)			

	Fast Recovery			
RS-232 Serial Console Port	RS-232 in DB-9 connector with console cable. 11520	00bps, 8, N, 1		
LED indicators				
Power Indicator (PWR)	Green : Power 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			
	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. Dual color LED for speed indicator ~ Green for 1000Mbps / Amber for 100Mbps / Off-light for 10Mbps			
1G/10GBase-X SFP+ Port Indicator	Green for port Link/Act.			
Fault contact				
Relay	None	Present		
Power				
Power Input	100 ~ 240VAC with power cord	100 ~ 240VAC with power cord, dual 36 ~ 72VDC power input		
Power consumption (Typ.)	37.4W	37.4W		
Overload current protection	Present			
Physical Characteristic				
Enclosure	19 inches rack mountable			
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)	4,597g	4,754g		
MTBF(mean time between failures)				
Time	462,867hrs	371,822hrs		
Environmental				
Storage Temperature	-40 to 85°C (-40 to 185°F)			
Operating Temperature	-20 to 60°C (-4 to 140°F )			
Operating Humidity	5% to 95% Non-condensing			
Regulatory approvals				
EMI	FCC Part 15, CISPR (EN55022) class A			
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			
Warranty	5 years			

# **Ordering Information**

RGS-R	RGS-R9 <mark>AABCCC</mark> -DD						
Code Definition	10/100/1000Base-T(X) Port Number	Additional Port Number	Additional Port Type	Mode Type			
Option	- 24: 24 ports	- 4: 4 ports	-GP+: 1G / 10GBase-X, SFP+ socket	-E : enhanced model with dual DC inputs and one AC input			
	Model Name	Description					
	RGS-R9244GP+_US		Industrial Layer-3 28-port managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x1G/10GBase-X, SFP+ socket, US power cord				
	RGS-R9244GP+_EU		Industrial Layer-3 28-port managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x1G/10GBase-X, SFP+ socket, EU power cord				
Available	RGS-R9244GP+_UK		Industrial Layer-3 28-port managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x1G/10GBase-X, SFP+ socket, UK power cord				
Model	RGS-R9244GP+_JP		Industrial Layer-3 28-port managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x1G/10GBase-X, SFP+ socket, JP power cord				
	RGS-R9244GP+-E_US		Industrial Layer-3 28-port managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x1G/10GBase-X, SFP+ socket, US power cord				
	RGS-R9244GP+-E_EU		Industrial Layer-3 28-port managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x1G/10GBase-X, SFP+ socket, EU power cord				
	RGS-R9244GP+-E_UK		Industrial Layer-3 28-port managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x1G/10GBase-X, SFP+ socket, UK power cord				
	RGS-R9244GP+-E_JP		Industrial Layer-3 28-port managed Gigabit Ethernet switch with 24x10/100/1000Base-T(X) and 4x1G/10GBase-X, SFP+ socket, JP power cord				

## Packing List

•

- RGS-R9244GP+/-E x 1
- ORing Tool CD x 1

•

- Power Cable x 1
- Quick Installation Guide x 1
- Console Cable x 1

**Optional Accessories** 

Rack-mount Kit x 1

- Open-Vision M500 : Powerful Network
  Management Windows Utility Suit, 500 IP devices
- DBU-01 : backup unit device

- SFP10G series : 1GMbps SFP optical transceiver
- SFP10G series : 10GMbps SFP optical transceiver