GIGABIT PoE SWITCH MANAGED Rack-Mount

ORing

Quick Installation Guide

RGPS-92222GCP-NP Series Managed Gigabit PoE Ethernet Switch

Introduction

The **RGS-92222GCP-NP series**, which consist of the **RGPS-92222GCP-NP, RGPS-92222GCP-NP-LP** and **RGPS-92222GCP-NP-P** models, are managed rack-mount Ethernet switches with 22 10/100/1000Base-T(X) IEEE802.3at P.S.E. ports, two Gigabit combo ports, and two 100/1000Base-X SFP ports. The P.S.E-enabled ports are able to provide sufficient power for power-hungry devices with up to 30w per port. **RGPS-92222GCP-NP-LP** and **RGPS-92222GCP-NP-P** are with dual power inputs for redundancy, the switches have an operating temperature from -40°C to 60°C.

Package Contents

Contents	Pictures	Number
RGPS-92222GCP-NP or RGPS-92222GCP-NP-P or RGPS-92222GCP-NP-LP		X 1
Console Cable		X 1
CD		X 1
QIG		X 1
Screw (M4 X6)		X 6
Rack-mounted kit (L&R)		X 1
Power cord		X 1 (RGPS-92222GCP -NP-P/-LP only)

Preparation

Before you begin installing the switch, make sure you have all of the package contents available and a PC with Microsoft Internet Explorer 6.0 or later, for using web-based system management tools.

Safety & Warnings

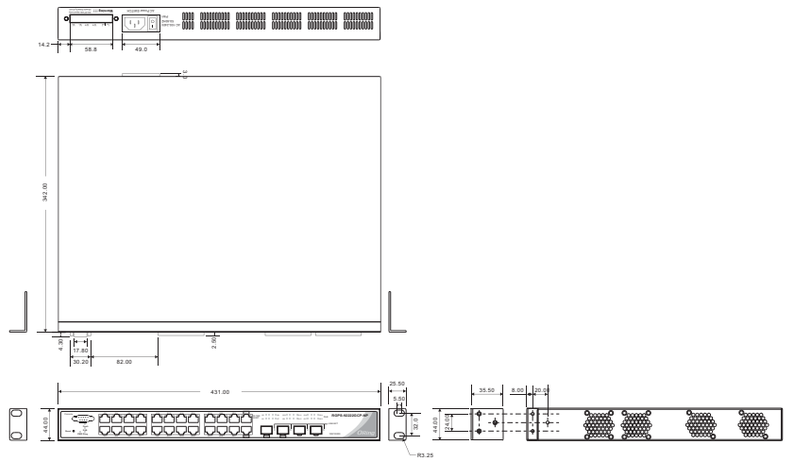
Elevated Operating Ambient: If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

Reduced Air Flow: Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

Mechanical Loading: Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

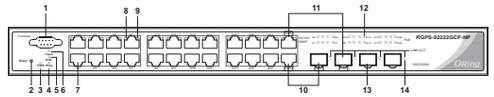
Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Dimension



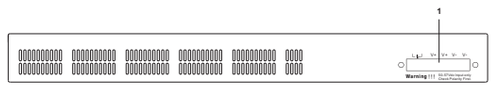
Panel Layouts

Front View



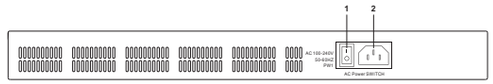
1. Console port
2. Reset button
3. Power indicator
4. Ring status LED
5. RM status LED
6. Fault indicator
7. LAN ports
8. LED for even Ethernet ports link/act status
9. LED for odd Ethernet ports link/act status
10. First Gigabit combo port
11. Second Gigabit combo port
12. PoE status LED for LAN ports
13. SFP ports
14. LNK/ACT LED for SFP ports

Rear View



RGPS-92222GCP-NP

1. 50~57VdC power input



RGPS-92222GCP-NP-P/-LP

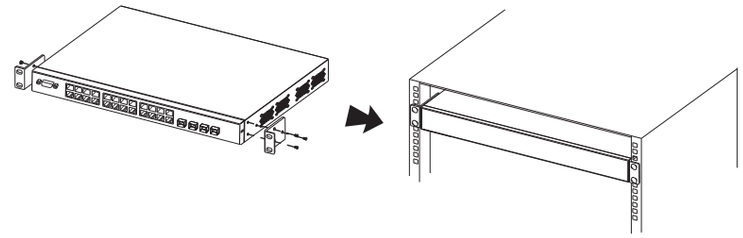
1. Power switch
2. AC power input (100V~240V / 50~60Hz)

Installation

Rack-mounting

Step 1: Install left and right front mounting brackets to the switch using three screws on each side.

Step 2: With front brackets orientated in front of the rack, fasten the brackets to the rack using two more screws.



Network Connection

The switch provides standard Ethernet ports. According to the link type, the switch uses CAT 3,4,5,5e UTP cables to connect to any other network devices (PCs, servers, switches, routers, or hubs). Please refer to the following table for cable specifications.

Cable Types and Specifications:

Cable	Type	Max. Length	Connector
10BASE-T	Cat. 3, 4, 5 100-ohm	UTP 100 m (328 ft)	RJ-45
100BASE-TX	Cat. 5 100-ohm UTP	UTP 100 m (328 ft)	RJ-45
1000BASE-T	Cat. 5 / Cat. 5e 100-ohm UTP	UTP 100 m (328 ft)	RJ-45

With 10/100BASE-T(X) cables, pins 1 and 2 are used for transmitting data, and pins 3 and 6 are used for receiving data. The device also supports auto MDI/MDI-X operation. You can use a cable to connect the switch to a PC

For pin assignments for different types of cables, please refer to the following tables.

10/100Base-T(X) P.S.E. RJ-45 port	
Pin Number	**Assignment**
#1	TD+ with PoE Power input +
#2	TD- with PoE Power input +
#3	RD+ with PoE Power input -
#6	RD- with PoE Power input -

1000Base-T P.S.E. RJ-45 port	
Pin Number	**Assignment**
#1	BI_DA+ with PoE Power input +
#2	BI_DA- with PoE Power input +
#3	BI_DB+ with PoE Power input -
#4	BI_DC+
#5	BI_DC-
#6	BI_DB- with PoE Power input -
#7	BI_DD+
#8	BI_DD-

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10/100 Base-T(X) MDI/MDI-X		
Pin Number	MDI port	MDI-X port
1	TD+(transmit)	RD+(receive)
2	TD-(transmit)	RD-(receive)
3	RD+(receive)	TD+(transmit)
4	Not used	Not used
5	Not used	Not used
6	RD-(receive)	TD-(transmit)
7	Not used	Not used
8	Not used	Not used

1000Base-T MDI/MDI-X		
Pin Number	MDI port	MDI-X port
1	BI_DA+	BI_DB+
2	BI_DA-	BI_DB-
3	BI_DB+	BI_DA+
4	BI_DC+	BI_DD+
5	BI_DC-	BI_DD-
6	BI_DB-	BI_DA-
7	BI_DD+	BI_DC+
8	BI_DD-	BI_DC-

Console cable
Use the provided DB-9 cable (RS-232 cable) to connect the switch to a PC with the DB-9 connector attached to the switch console port and the DB-9 female connector to the PC.

PC pin out (male) assignment	RS-232 with DB9 female connector
Pin #2 RD	Pin #2 TD
Pin #3 TD	Pin #3 RD
Pin #5 GND	Pin #5 GND

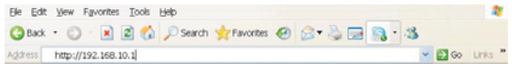
Configurations

After installing the switch and connecting cables, start the switch by turning on power. The green power LED should turn on.

LED indication table

LED	Color	Status	Description
PWR	Green	On	System power on
	Green	Blinking	Upgrading firmware
R.M	Green	On	Ring Master
Ring	Green	On	Ring enabled
		Blinking	Ring structure is broken
Fault	Amber	On	Errors (For port malfunctioning)
10/100/1000Base-T(X) RJ45 port			
Link/Act	Green	On	Port connected at 1Gbps
		Blinking	Transmitting data
	Amber	On	Port connected at 10/100Mbps
		Blinking	Transmitting data
PoE	Green	On	PoE-enabled
100/1000Base-X SFP port			
Link/Act	Green	On	Port connected
		Blinking	Transmitting data

1. Launch the Internet Explorer and type in IP address of the switch. The default static IP address is **192.168.10.1**



2. Log in with default user name and password (both are **admin**). After logging in, you should see the following screen. For more information on configurations, please refer to the user manual. For information on operating the switch using ORing's Open-Vision management utility, please go to ORing website.

Resetting

To reboot the switch, press the **Reset** button for 5 seconds.

To restore the switch configurations back to the factory defaults, press the **Reset** button for 10 seconds.

Specifications

ORing Switch Model	RGPS-92222GCP-NP-LP	RGPS-92222GCP-NP-P	RGPS-92222GCP-NP
Physical Ports			
10/100/1000Base-T(X) with P.S.E. Ports in RJ45 Auto MDI/MDIX	22		
Gigabit Combo port with 10/100/1000Base-T(X) P.S.E. and 100/1000Base-X SFP ports	2		
100/1000Base-X with SFP port	2		
Technology			
Ethernet Standards	IEEE 802.3 for 10Base-T, IEEE 802.3u for 100Base-TX and 100Base-FX, IEEE 802.3z for 1000Base-X, IEEE 802.3ab for 1000Base-T, IEEE 802.3ae for 10Gigabit Ethernet IEEE 802.3x for Flow control, IEEE 802.3ad for LACP (Link Aggregation Control Protocol) IEEE 802.1p for COS (Class of Service) IEEE 802.1Q for VLAN Tagging IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol) IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol) IEEE 802.1x for Authentication IEEE 802.1AB for LLDP (Link Layer Discovery Protocol) IEEE 802.3at PoE specification (up to 30 Watts per port for P.S.E.) **RGPS-92222GCP-NP-LP : Total power budget is 320Watts** **RGPS-92222GCP-NP-P : Total power budget is 720Watts** **RGPS-92222GCP-NP : Total power budget is 720Watts and based-on external power supply spec**		
MAC Table	8K		
Priority Queues	8		
Processing	Store-and-Forward		
Switch Properties	Switch latency: 7 us Switch bandwidth: 52Gbps Max. Number of Available VLANs: 4095 IGMP multicast groups: 128 for each VLAN Port rate limiting: User Define		
Jumbo frame	Up to 9.6K Bytes		
Security Features	Device Binding security feature Enable/disable ports, MAC based port security Port based network access control (802.1x) Single 802.1x and Multiple 802.1x MAC-based authentication QoS assignment Guest VLAN MAC address limit TACACS+ VLAN (802.1Q) to segregate an secure network traffic Radius centralized password management SNMPv3 encrypted authentication and access security Https / SSH enhance network security Web and CLI authentication and authorization Authorization (15 levels) IP source guard		

Software Features	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 DHCP Relay Modbus TCP DNS client proxy		
Network Redundancy	O-Ring, Open-Ring, O-Chain, MRP, MSTP (RST/PSTP compatible)		
RS-232 Serial Console Port	RS-232 in DB-9 connector with console cable. 115200bps, 8, N, 1		
Power			
Overload current protection	100~240VAC with power socket		50~57VDC
Power supply	450 Watts power supply included (320W power budget)	1000 Watts power supply included (720W power budget)	Not included
Power consumption(Typ.)	37 Watts (P.D. not included)		37 Watts
Overload current protection	Present		
Physical Characteristic			
Enclosure	19 inches rack mountable		
Weight (g)	5000g	5730g	3920g
Dimension (W x D x H)	431 (W) x 342 (D) x 44 (H) mm (16.97 x 13.47 x 1.73 inches)		
Environmental			
Storage Temperature	-40 to 85°C (-40 to 185°F)		
Operating Temperature	-40 to 60°C (-40 to 140°F)		-40 to 60°C (-40 to 158°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		
Safety	EN60950-1		
Warranty	5 years		

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