

# Quick Installation Guide

## RDS-3086G/3166G

## Rack-Mount Device Server

### Introduction

The **RDS-3086/3166G** is a RS-232/422/485-to-LAN device server with 8 or 16 serial ports and 6 Ethernet ports. Besides standard features such TCP/IP interface and versatile operation mode support (Virtual Com, Serial Tunnel, TCP Server, TCP Client, and UDP), the device can be managed using the Windows utility, DS-Tool, which allows you to configure multiple devices and set up the mappings of Virtual Com. In addition, the device can simultaneously transfer data to up to five redundant host PCs to avoid Ethernet connection breakdown or any host PC failure. The device provides 4x10/100/1000Base-T(X) Ethernet ports and 2x100/1000Base-X SFP ports to meet demand for high bandwidth and long distance transmission. With a wide operating temperature from -40 °C to 70°C, the device is ideal for harsh industrial environments.

### Package Contents

The device is shipped with the following items. If any of these items is missing or damaged, please contact your customer service representative for assistance.

Contents	Pictures	Number
RDS-3166G or RDS-3086G		X 1
QIG		X 1
Screw (M3 X4)		X 8
Rack-mounted kit (L&R)		X 1
Power cord		X 1

### Preparation

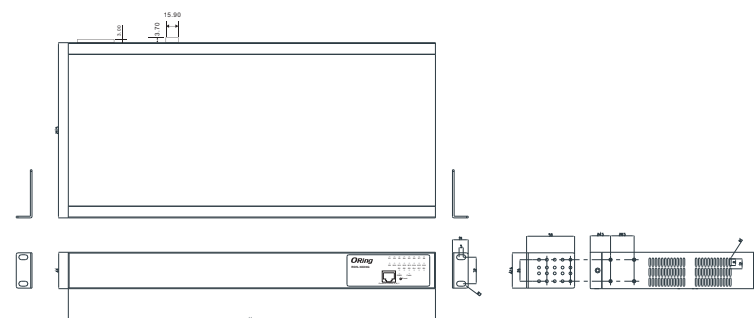
Before you begin installing the switch, make sure you have all of the package contents available.

#### Safety & Warnings

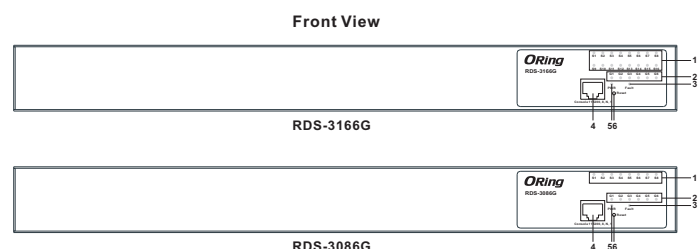
- Elevated Operating Ambient:** If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T<sub>ma</sub>) 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..

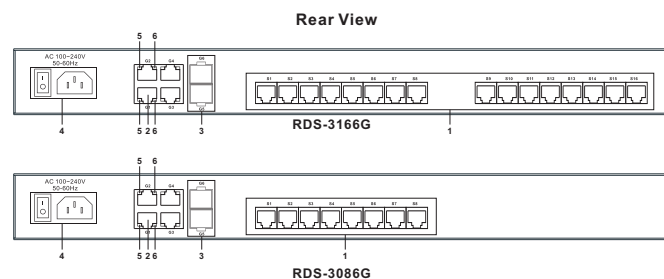
#### Dimension



#### Panel Layouts



1. Link /Act LED for serial ports
2. Link /Act LED for Gigabit Ethernet ports
3. Faulty relay LED
4. Console port
5. Power indicator
6. Reset button

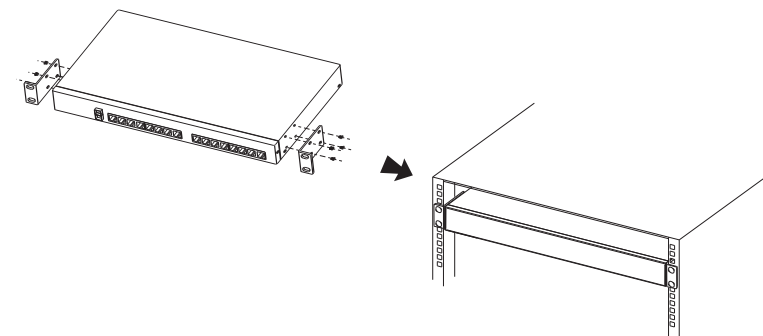


1. Serial ports
2. RJ-45 Ethernet LAN ports
3. SFP ports
4. Power socket
5. LNK/ACT LED for Ethernet LAN ports
6. Speed LED for Ethernet LAN ports

### Installation

#### Rack-mounting

- Step 1:** Install left and right front mounting brackets to the device using four M3 screws on each side.
- Step 2:** With front brackets orientated in front of the rack, nest front and rear brackets together. Fasten together using remaining M4 screws into counter sunk holes.
- Step 3:** Fasten the front mounting bracket to the front of the rack.



#### Network Connection

##### Ethernet Port Pin Assignment

The device provides four Ethernet LAN ports. With 10Base-T/100Base-TX cable, pins 1 and 2 are used for transmitting data, and pins 3 and 6 are used for receiving data.

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

10/100Base-T(X) RJ-45 port	
Pin Number	Assignment
# 1	TD+
# 2	TD-
# 3	RD+
# 6	RD-

1000Base-T RJ-45 port	
Pin Number	Assignment
# 1	BI_DA+
# 2	BI_DA-
# 3	BI_DB+
# 4	BI_DC+
# 5	BI_DC-
# 6	BI_DB-
# 7	BI_DD+
# 8	BI_DD-

10/100Base-T(X) MDI/MDI-X Pin Assignments:		
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-

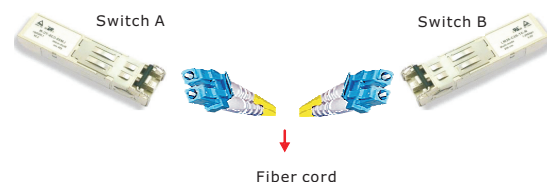
#### SFP Connection

The device supports fiber connection via SFP transceivers which are hot-swappable and can be plugged into the SFP ports to connect the switch with the fiber-optic network. Please remember that the TX port of Switch A should be connected to the RX port of Switch B.

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### Serial Port Pin Assignment

The device provides serial ports in RJ48 connector type. Please refer to the following table for pin assignment.



Pin #	RS-232	RS-422	RS-485 (4 wire)	RS-485 (2 wire)
1	NC	NC	NC	NC
2	DCD	TXD -	TXD -	DATA-
3	RXD	TXD +	TXD +	DATA+
4	TXD	RXD +	RXD +	
5	DTR	RXD -	RXD -	
6	GND	GND	GND	
7	DSR			
8	RTS			
9	CTS			
10	RI			

RS-232 mod act as DTE

### Console Port Pin Assignment

The device can be managed via a RJ45 console port. You can connect the port to a PC via the RS-232 cable with a DB-9 female connector. The DB-9 female connector of the RS-232 cable should be connected to the PC while the other end of the cable (RJ-45 connector)

PC pin out (male) assignment	RS-232 with DB9 female connector	DB9 to RJ 45
Pin #2 RD	Pin #2 TD	Pin #2
Pin #3 TD	Pin #3 RD	Pin #3
Pin #5 GND	Pin #5 GND	Pin #5

### Wiring

#### Power inputs

The device is powered by AC electricity. Simply insert the AC power cable to the power connector at the back of the switch and turn on the power switch. The input voltage is AC 100V~240V / 50~60Hz.

### Configurations

After installing the switch and connecting cables, the green power LED should turn on. Please refer to the following table for LED definition.

#### LED indication table

LED	Color	Status	Description
PWR	Green	On	Power module is on
ETH LNK/ACT	Green	On	Port is connected
		Blinking	Transmitting data
Speed	Green	On	Port running at 1000Mbps
		Amber	Port running at 100Mbps
		Green/Amber	Port running at 10Mbps
Serial TX / RX	Amber	On	Receiving data
		Green	On

1. Launch the Internet Explorer and type in IP address of the device. The default static IP address is 192.168.10.2.



2. Log in with the default user name "admin". By default, no password is required; however, you can set up a password later in the management page. 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 device using ORing's DS-Tool management utility, please go to ORing website.



### Resetting

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

### Specifications

ORing Device Server Model	RDS-3166G	RDS-3086G
<b>Physical Ports</b>		
10/100/100Base-T(X) Ports in RJ45 Auto MDI/MDIX	4	
100/1000Base-X with SFP Port	2	
RS-232 Serial Console Port	RS-232 in RJ45 connector with console cable. 115200bps, 8, N, 1	
<b>Serial Ports</b>		
Connector (10-pin RJ48)	RJ48 x16	RJ48 x8
Serial Standard	RS-232/422/485	
Serial Baud Rate	50 bps to 921.6 Kbps	
Data Bits	7, 8	
Parity	odd, even, none, mark, space	
Stop Bits	1, 1.5, 2	
RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND	
Flow Control	XON/XOFF, RTS/CTS, DTR/DSR	
<b>Network Protocol</b>		
Protocol	ICMP, IP, TCP, UDP, DHCP, BOOTP, SSH, DNS, SNMP V1/V2c, HTTPS	
<b>Power</b>		
Power input	100~240VAC with power socket	
Power consumption(Typ.)	14.4 Watts	13.4 Watts
Overload current protection	Present	
<b>Physical Characteristic</b>		
Dimension (W x D x H)	443.7 (W) x 211.5 (D) x 44 (H) mm (17.47 x 8.33 x 1.73 inches)	
Weight (g)	2891g	2792g

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
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
Warranty	5 years

**ORing**

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