RAISECOM

RC202-GE (Rev. B)
1000M Copper-to-Fiber
Media Converter

User Manual

Raisecom Technology Co., Ltd.

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CONTENT

1. Safety Notice

Please read the following notice carefully before installing and using the device, Raisecom shall not be responsible for any loss that caused by violating safety notice.

RC202-GE (Rev. B) has high sensitivity optical interface, so the power of optical transceiver output interface must be checked before connecting. To avoid damaging, it is not allowed that the optical power of transceiver's output interface is higher than that of RC202-GE.

RC202-GE (Rev. B) is an integrated device which has precise elements, please avoid violent shake and impact, and do not disassemble or maintain the device yourself. If it is required, please do it under the guide of our technical staff following anti static steps. Please contact us if there is any need.

There must be grounding protection for the sake of safety; do not disassemble the device yourself, we regard this as you waiver your rights of repair guarantee.

2. Overview

2.1. Model Description

Part Number	Description
RC202-GE-M	SNMP manageable, 1000Mbps, multimode, 0-0.55km, RJ45/DSC
RC202-GE-S1	SNMP manageable, 1000Mbps, single mode, 0-25km, RJ45/DSC
RC202-GE-S2	SNMP manageable, 1000Mbps, single mode, 10-60km, RJ45/DSC
RC202-GE-S3	SNMP manageable, 1000Mbps, single mode, 25-100km, RJ45/DSC

3. Technical Specification

3.1.   Optical Parameters

Part Number	Interface	Wavelength (nm)	Launch Power (dBmW)	Receiving Sensitivity (dBmW)	Typical Range (Km)	Attenuation (dB/Km)
RC202-GE-M	DSC-RJ45	850	-10 ~ -3	< -15	0 ~ 0.55	3
RC202-GE-S1	DSC-RJ45	1310	-10 ~ -3	< -23	0 ~ 25	0.5
RC202-GE-S2	DSC-RJ45	1550	-3 ~ +2 (DFB)	< -20	10 ~ 60	0.25
RC202-GE-S3	DSC-RJ45	1550	-3 ~ +2 (DFB)	< -30 (APD)	25 ~ 100	0.25

4. Construction & Indicator

4.1.   Front view and indicators

1. Front view of RC202-GE:

Optical Link   RJ45 Link   RJ45 Transmit

LNK   LNK   TX

PWR   FDX   RX

Power   RJ45 Duplex   RJ45 Receive
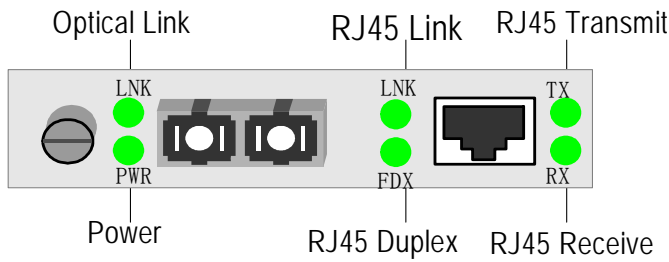
Explanation of RC202-GE indicators:

Interface	Indicator Name	Indicator	The Status Explanation
Optical Interface	Optical Link	LNK	ON: Optical receive link works in good condition; OFF: Optical receive link down.
RJ45 Interface	RJ45 Link	LINK	ON: RJ45 links works in good condition; OFF: RJ45 link down
	RJ45 Transmit	TX	Flashing: Transmitting data in RJ45 interface
	RJ45 Receive	RX	Flashing: Receiving data in RJ45 interface.
	Full Duplex	FDX	ON: RJ45 interface works in full duplex mode; OFF: RJ45 interface works in half duplex mode;
Power Supply	Power	PWR	ON: Power supply works in good condition; OFF: Power supply disconnected.

2. Front view of 16-slot chassis

PWR   PS1   PS2
       5V 12V   5V 12V

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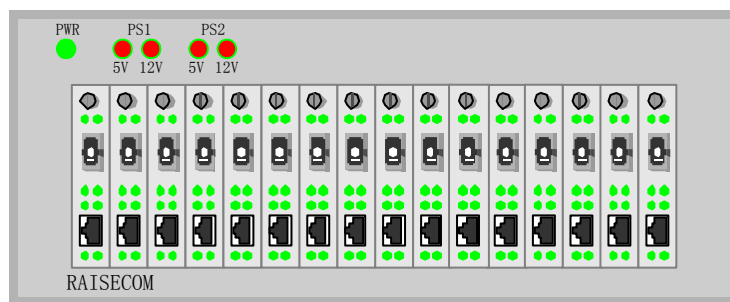
Explanation of the indicators on 16-slot chassis is as follows:

PWR indicator: ON, chassis power supply works normal.

PS1-5V indicator: OFF, power supply PS1 for modules works normal, otherwise abnormal.

PS1-12V indicator: OFF, power supply PS1 for fans works normal, otherwise abnormal.

PS2-5V indicator: OFF, power supply PS2 for modules works normal, otherwise abnormal.

PS2-12V indicator: OFF, power supply PS2 for fans works normal, otherwise abnormal.

5. Function & Application

5.1.   Interconnecting Media Converters

When connecting with other media converters, it is required to comply with the specific connecting requirements according to the following table. Otherwise, link faults or abnormal data transmission will occur.

Host Site	Remote Site
RC202-GE-M	RC202-GE-M
RC202-GE-S1	RC202-GE-S1
RC202-GE-S2	RC202-GE-S2
RC202-GE-S3	RC202-GE-S3

5.2.   Connecting MC with Other Devices (at RJ45 Port)

RC202-GE-XX series media converters support MDI/MDIX auto-negotiation function.

Media Converter	Other Equipment	Connection Mode of RJ45
Media Converter	Switch	Straight-through or Crossover
Media Converter	HUB	Straight-through or Crossover
Media Converter	Router	Straight-through or Crossover
Media Converter	Network Interface Card	Straight-through or Crossover

5.3. Full Duplex Configuration (RJ45 Port)

RC202-GE-XX series media converters support RJ45 full/half duplex auto-sensing.

When connecting with RC202-GE equipment, the RJ45 port of other network equipment must be configured to Full Duplex Mode to ensure normal data transmission.

5.4. Connection with Other Equipment (at Optical Port)

Several mandatory conditions are required:
1. The same wavelength
2. The same bit rate (1000Mbps)
3. Matched optical power

6. Installation & Inspection

6.1. Matching Fiber-Optic Cable with Media Converter

RC202-GE-M series shall adopt multimode fiber, and the connector shall be DSC.

RC202-GE-S1/2/3 series shall adopt single-mode fiber, and the connector shall be DSC.

6.2. Types of Fiber-Optic Cable

Fiber-optic cable for multi-mode fiber port: 62.5/125um multi-mode fiber or 50/125um multi-mode fiber.
Fiber-optic cable for single mode fiber port: 9/125um single mode fiber.

6.3. RJ45 Interface

Cat.5 of twisted-pair shall be used. Please note that twisted-pair cables shall not be longer than 100 meters. For connection configuration, please see Chapter 2, Connection with Other Equipment (at RJ45 Port).

6.4. Installation of Chassis

The chassis can be fixed onto 19" rack. The fixing accessories of chassis are in the accessory box. If fixing the chassis with the rear hole, there'll be 3cm space between the front edge of chassis and the front edge of the rack; if fixing with the front hole, the front edges will be in the same vertical level.
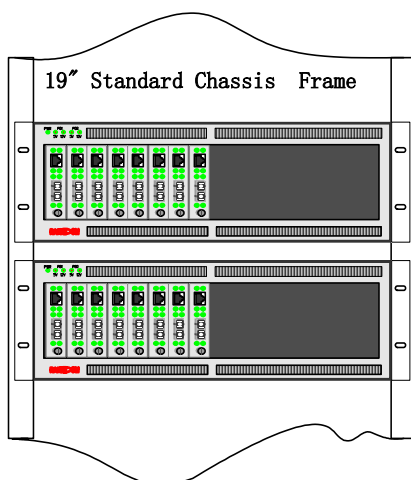
6.5. Installation of DC Power Supply

DC power supply provides three connectors: –48V, ground and 0V. These three connectors are connected respectively with –48V power cable, ground protection and 0V power cable.
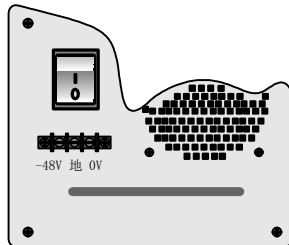
6.6. Ambience

Working temperature: -20-60℃
Humidity: 5%~90% non-condensing

6.7. Power Supply

◆   Single Slot Chassis: 115/230V AC or –48V DC
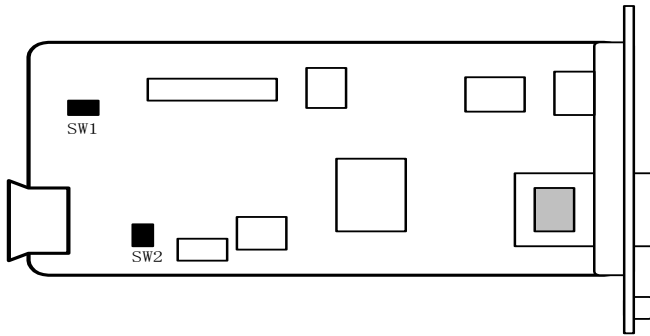◆   16-Slots Chassis: 115/230V AC or –48V DC
Power consumption: 5W

6.8. Dimensions

◆   Modular: 91(width)*25(height)*155(depth) mm

7. DIP-switch Configuration

7.1. RC202-GE Module Configuration

RC202-GE module sketch:

Description of the two dip-switches:

SW1 is for optical module type selection (work in with network management software). It has already been configured in the factory, **so please do not alter the setup of this dip-switch.**

SW2-1 is to monitor Fault-Pass-Through of optical link.
SW2-1 OFF: the equipment is working in good condition.
SW2-1 ON: the equipment is at Fault-Pass-Through mode.

Fault-Pass-Through function: When the optical link fails or is not connected with a fiber, the RJ45 interface will stop to work; when the optical link is working in good condition, the RJ45 interface will restart to work. The factory default setup is in normal working mode.

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