

### RCGE1-SFP Series 10/100/1000Base-T to Gigabit SFP Media Converter

The Rancent RCGE1-SFP series are one-channel Gigabit Ethernet electrical to optical media converters. These devices accept a 10/100/1000 Mbps electrical input and convert this to a 1000 Mbps optical output. These units use SFP modules for fiber and connector type, and distance. The RCGE1-SFP supports MDI/MDIX auto detection, eliminating the need for crossover cables. LED indicators confirm operational status. All these Gigabit models are environmentally hardened with no electrical or optical adjustments (Plug and Play).



### Typical Applications

- Any network utilizing a mix of copper and fiber
- Industrial IP connectivity and communication
- Gigabit backbone networks
- Networks using Ethernet devices such as network cameras, access control, intercoms, etc

#### **Product Features**

- 1-Port 10/100/1000Base-T Fast Ethernet RJ-45 Port
- 1-Port 1000Base-SX/LX/EX/BX SFP Optical Port
- Complies with the IEEE 802.3 standard
- RJ45 Port Supports 10/100/1000Mbps-Full/Half-duplex, Auto-negotiation, Auto-MDI/MDIX
- Prevents Packet Loss w/Back Pressure (Half-Duplex) and IEEE 802.3x PAUSE Frame Flow Control (Full-Duplex)
- Uses interchangeable SFP for fiber type, distance and connector (Ordered separately).
- Distances up to 80 km with optional SFPs
- Available for operation over singlemode or multimode fiber over a variety of link budget
- Available for operation over 1 or 2 fibers.
- No in-field optical adjustment required

# Specifications

Copper Ports (RJ45) 1 x 10/100/1000Base-T Optical Ports 1 x 1000Base-SX/LX/EX/BX SFP Port Configuration Auto MDI/MDI-X Port Speed Auto-negotiate  Ethernet	Physical Ports		LED Indicators & Switch	
Port Configuration Auto MDI/MDI-X Port Speed Auto-negotiate  Ethernet Ethernet Switch Architecture Store-and-forward Power Consumption Control Back pressure(Half-Duplex); IEEE 802.3x Pause Frame (Full-Duplex) MTBF Storage Temperature O°C~+55°C Wavelength 1310/1550nm Storage Temperature O°C~+55°C Storage Temperature O°C~+55°C Storage Temperature O°C~+55°C Wavelength Singlemode 20/40/60/80KM Standards Compliance Optical Emitter Laser Diode Regulatory Standards CE; FCC Part 15 Class A Number of Fibers 1/2 Connector LC (SFP)  Dybical Electrical and Mechanical Power Supply 5V 1A Power Consumption C2.5W P	Copper Ports (RJ45)	1 x 10/100/1000Base-T	Power	On/Green
Port Speed Auto-negotiate  Ethernet Store-and-forward Power Supply 5V 1A  Switch Architecture Store-and-forward Power Consumption <2.5W  Forward Filter Rate 148,8000pps (1000Mbps) Dimensions 93 x 70 x 25mm  Flow Control Back pressure(Half-Duplex); IEEE 802.3x Pause Frame (Full-Duplex) MTBF >100,000 hours  Optical Operating Temperature O°C~+55°C  Wavelength 1310/1550nm Storage Temperature40°C~+70°C 1550/1310nm Relative Humidity O%~95% (non-condensing)  Multimode 2KM Standards Compliance  Optical Emitter Laser Diode Regulatory Standards CE; FCC Part 15 Class A Number of Fibers 1/2 IEEE 802.3u 100Base-TX  Connector LC (SFP)	Optical Ports	1 x 1000Base-SX/LX/EX/BX SFP	Ethernet	Link/Activity - Green
Ethernet Switch Architecture Forward Filter Rate IEEE 802.3x Pause Frame (Full-Duplex)  Mavelength I310/1550nm I550/1310nm Multimode Singlemode Optical Emitter Optical Emitter  Laser Diode Number of Fibers I/2 Connector  Ethernet Store-and-forward Power Supply Power Consumption Pow	Port Configuration	Auto MDI/MDI-X	Optical	On/Blink - Green
Ethernet Switch Architecture Store-and-forward Forward Filter Rate 148,8000pps (1000Mbps) Flow Control Back pressure(Half-Duplex); IEEE 802.3x Pause Frame (Full-Duplex) MTBF Operating Temperature Wavelength 1310/1550nm 1550/1310nm Multimode 2KM Singlemode Optical Emitter Coptical Emitter Coptical Emitter Connector Connector  Power Supply Power Consumption  2.5W Power Consumption  2.5W Power Consumption  2.5W Power Consumption  2.5W Power Supply Power Supply Power Consumption  2.5W Power Supply	Port Speed	Auto-negotiate		
Switch Architecture Store-and-forward Power Consumption <2.5W  Forward Filter Rate 148,8000pps (1000Mbps) Flow Control Back pressure(Half-Duplex); IEEE 802.3x Pause Frame (Full-Duplex)  Optical Mayelength 1310/1550nm Storage Temperature - 40°C~+70°C 1550/1310nm Relative Humidity 0%~95% (non-condensing)  Multimode 2KM Standards Compliance  Optical Emitter Laser Diode Regulatory Standards  Number of Fibers 1/2  Connector LC (SFP)  Power Consumption <2.5W Power Consumption Packer Supplied Served Serve			Electrical and Mechanical	
Forward Filter Rate 148,8000pps (1000Mbps) Dimensions 93 x 70 x 25mm  Flow Control Back pressure(Half-Duplex); IEEE 802.3x Pause Frame (Full-Duplex) MTBF >100,000 hours  Optical Operating Temperature O°C~+55°C  Wavelength 1310/1550nm Storage Temperature40°C~+70°C 1550/1310nm Relative Humidity 0%~95%  Multimode 2KM Standards Compliance  Optical Emitter Laser Diode Regulatory Standards CE; FCC Part 15 Class A  Number of Fibers 1/2 IEEE 802.3u 100Base-TX	Ethernet		Power Supply	5V 1A
Flow Control  Back pressure(Half-Duplex);  IEEE 802.3x Pause Frame (Full-Duplex)  MTBF  Operating Temperature  O°C~+55°C  Wavelength  1310/1550nm Storage Temperature40°C~+70°C  1550/1310nm Relative Humidity  O%~95% (non-condensing)  Singlemode  Optical Emitter  Optical Emitter  Laser Diode  Number of Fibers  LC (SFP)  Environmental  MTBF  >100,000 hours  O°C~+55°C  Vavelength Storage Temperature40°C~+70°C  Relative Humidity  O%~95% (non-condensing)  CE; FCC Part 15 Class A  IEEE 802.3i 10Base-T  IEEE 802.3u 100Base-TX	Switch Architecture	Store-and-forward	Power Consumption	<2.5W
IEEE 802.3x Pause Frame (Full-Duplex)   MTBF   >100,000 hours	Forward Filter Rate	148,8000pps (1000Mbps)	Dimensions	93 x 70 x 25mm
(Full-Duplex)MTBF>100,000 hoursOpticalOperating Temperature0°C~+55°CWavelength1310/1550nmStorage Temperature40°C~+70°C1550/1310nmRelative Humidity0%~95%Multimode2KM(non-condensing)Singlemode20/40/60/80KMStandards ComplianceOptical EmitterLaser DiodeRegulatory StandardsCE; FCC Part 15 Class ANumber of Fibers1/2IEEE 802.3i 10Base-TConnectorLC (SFP)IEEE 802.3u 100Base-TX	Flow Control	Back pressure(Half-Duplex);		
OpticalOperating Temperature0°C~+55°CWavelength1310/1550nmStorage Temperature - -40°C~+70°C1550/1310nmRelative Humidity0%~95%Multimode2KM(non-condensing)Singlemode20/40/60/80KMStandards ComplianceOptical EmitterLaser DiodeRegulatory StandardsCE; FCC Part 15 Class A IEEE 802.3i 10Base-TNumber of Fibers1/2IEEE 802.3u 100Base-TX		IEEE 802.3x Pause Frame	Environmental	
Wavelength 1310/1550nm Storage Temperature40°C~+70°C Relative Humidity 0%~95%  Multimode 2KM (non-condensing)  Singlemode 20/40/60/80KM Standards Compliance  Optical Emitter Laser Diode Regulatory Standards CE; FCC Part 15 Class A Number of Fibers 1/2 IEEE 802.3i 10Base-T IEEE 802.3u 100Base-TX		(Full-Duplex)	MTBF	>100,000 hours
1550/1310nm Relative Humidity 0%~95% Multimode 2KM (non-condensing) Singlemode 20/40/60/80KM Standards Compliance Optical Emitter Laser Diode Regulatory Standards CE; FCC Part 15 Class A Number of Fibers 1/2 IEEE 802.3i 10Base-T Connector LC (SFP)	Optical		Operating Temperature	0°C~+55°C
Multimode 2KM (non-condensing)  Singlemode 20/40/60/80KM Standards Compliance  Optical Emitter Laser Diode Regulatory Standards CE; FCC Part 15 Class A  Number of Fibers 1/2 IEEE 802.3i 10Base-T  Connector LC (SFP) IEEE 802.3u 100Base-TX	Wavelength	1310/1550nm	Storage Temperature -	-40°C~+70°C
Singlemode 20/40/60/80KM Standards Compliance  Optical Emitter Laser Diode Regulatory Standards CE; FCC Part 15 Class A  Number of Fibers 1/2 IEEE 802.3i 10Base-T  Connector LC (SFP) IEEE 802.3u 100Base-TX		1550/1310nm	Relative Humidity	0%~95%
Optical Emitter Laser Diode Regulatory Standards CE; FCC Part 15 Class A  Number of Fibers 1/2 IEEE 802.3i 10Base-T  Connector LC (SFP) IEEE 802.3u 100Base-TX	Multimode	2KM		(non-condensing)
Number of Fibers 1/2 IEEE 802.3i 10Base-T Connector LC (SFP) IEEE 802.3u 100Base-TX	Singlemode	20/40/60/80KM	Standards Compliance	
Connector LC (SFP) IEEE 802.3u 100Base-TX	Optical Emitter	Laser Diode	Regulatory Standards	CE; FCC Part 15 Class A
	Number of Fibers	1/2		IEEE 802.3i 10Base-T
	Connector	LC (SFP)		IEEE 802.3u 100Base-TX
IEEE 802.3ab 1000Base-TX				IEEE 802.3ab 1000Base-TX

# Ordering Information

Part Number	Description	Connector	Cable	Fiber	Maximum Distance
RCGE1-SFPM1A	10/100/1000 Mbps 1310/1550nm	LC (SFP)	MM	1	2KM
RCGE1-SFPM1B	10/100/1000 Mbps 1550/1310nm	LC (SFP)	MM	1	2KM
RCGE1-SFPS1A	10/100/1000 Mbps 1310/1550nm	LC (SFP)	SM	1	20KM
RCGE1-SFPS1B	10/100/1000 Mbps 1550/1310nm	LC (SFP)	SM	1	20KM
RCGE1-SFP	10/100/1000 Mbps 1310/1550nm	LC (SFP)	/	/	/

<sup>\*</sup>Optical transmission distance is limited to optical loss of the fiber and any additional lossintroduced by connectors, splices and patch panels.