Optical Modules



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Datasheet
V1.0

Product Overview

Introduction

As an industry-leading ICT infrastructure and industry solution provider, Ruijie offers customers a wide variety of high-density and low-power 1G and 10G optical transceivers. They are applicable to campus networks, enabling cost-effective, efficient, and high-speed interconnection among switches, routers, servers, and network interface controllers (NICs).

All five transceivers are hot-swappable and comply with RoHS standards. The four optical transceivers support digital diagnostic monitoring (DDM/DOM). Since transmit power, receive power, temperature, and supply voltage are reported to both the switch and network management, a marginal link becomes measurable and predictable rather than an intermittent fault.

CO-XG-SFP-SR-MM850

The CO-XG-SFP-SR-MM850 is aligned to IEEE 10GBASE-SR optical specifications and supports a link length of up to 300 m with OM3 optical cables or 400 m with OM4 optical cables over a multimode fiber (MMF) with a Duplex LC connector. It adopts the SFP+ form factor and operates at a wavelength of 850 nm. The transceiver conforms to IEEE 802.3ae, SFF-8472, SFP+ Multisource Agreement (MSA), and RoHS standards.

CO-XG-SFP-LR-SM1310

The CO-XG-SFP-LR-SM1310 is aligned to IEEE 10GBASE-LR optical specifications and supports a link length of up to 10 km over a single-mode fiber (SMF) with a Duplex LC connector. It adopts the SFP+ form factor and operates at a wavelength of 1310 nm. The transceiver conforms to IEEE 802.3ae, SFF-8472, SFP+ MSA, and RoHS standards.

CO-GE-SFP-SX-MM850

The CO-GE-SFP-SX-MM850 is aligned to IEEE 1000BASE-SX optical specifications and supports a link length of up to 550 m over a MMF with a Duplex LC connector. It adopts the SFP form factor and operates at a wavelength of 850 nm. The transceiver conforms to IEEE 802.3z, INF-8074i, SFP MSA, and RoHS standards.

CO-GE-SFP-LX-SM1310

The CO-GE-SFP-LX-SM1310 is aligned to IEEE 1000BASE-LX optical specifications and supports a link length of up to 10 km over a SMF with a Duplex LC connector. It adopts the SFP form factor and operates at a wavelength of 1310 nm. The transceiver conforms to IEEE 802.3z, INF-8074i, SFP MSA, and RoHS standards.

CO-XG-SFP-T

The CO-XG-SFP-T is a 10G copper SFP+ transceiver that supports a link length of up to 30 m with an RJ45 connector. It features an SFP+ form factor and supports 10G traffic over Cat 6A/7 twisted pair cabling, enabling 10G copper links on SFP+ ports without the need for fiber deployment. The transceiver conforms to IEEE 802.3an, SFF-8472, SFP+ MSA, and RoHS standards.

Product Appearance

All transceivers feature the standard SFP/SFP+ form factor, a metal housing, a pull-tab latch, and duplex LC or RJ45 connectors as listed in Product Specifications. The four optical transceivers share the same form factor, with only the copper transceiver differing in length.

Dual-Fiber SFP Transceivers

CO-XG-SFP-SR-MM850



CO-XG-SFP-LR-SM1310



CO-GE-SFP-SX-MM850



CO-GE-SFP-LX-SM1310



Copper SFP+ Transceiver

Unlike optical transceivers, the CO-XG-SFP-T uses an RJ45 port to connect Cat 6A/7 twisted pair cables. With no optical port, there is no need for fiber cleaning and connector inspections at both ends of the link.

CO-XG-SFP-T



Product Features

- **Hot swapping**, allowing for simplified maintenance
- **High availability and low power consumption**, allowing for prolonged service life
- **Compliance with RoHS standards**, meeting global restricted-substance requirements
- **DDM/DOM support** for reporting transmit optical power, receive optical power, temperature, and supply voltage in real time, enabling proactive link monitoring.

Product Specifications

Model	CO-XG-SFP-T	CO-XG-SFP-SR-MM850	CO-XG-SFP-LR-SM1310	CO-GE-SFP-SX-MM850	CO-GE-SFP-LX-SM1310
Basic Parameters					
Data rate	10.3125 Gbps	10.3125 Gbps	10.3125 Gbps	1.25 Gbps	1.25 Gbps
Form factor	SFP+	SFP+	SFP+	SFP	SFP
Connector type	RJ45	Duplex LC	Duplex LC	Duplex LC	Duplex LC
Fiber type	Cat 6A/7	MMF	SMF	MMF	SMF
Fiber end face finish type	N/A	UPC	UPC	UPC	UPC
Core/Cladding diameter	N/A	50/125 μm	9/125 μm	50/125 μm	9/125 μm
Modal bandwidth	N/A	OM3 MMF: 2000 MHz·km OM4 MMF: 4700 MHz·km	N/A	N/A	N/A
Transmitter type	N/A	VCSEL	DFB	VCSEL	DFB
Receiver type	N/A	PIN	PIN	PIN	PIN
Maximum reach	30 m (98.43 ft)	OM3: 300 m (984.25 ft) OM4: 400 m (1312.34 ft)	10 km (32808.40 ft)	OM2: 550 m (1804.46 ft)	10 km (32808.40 ft)
Pre-FEC BER	N/A	1.00E-12	1.00E-12	1.00E-12	1.00E-12
Data diagnostics (DDM/DOM)	No	Yes	Yes	Yes	Yes
EMC	N/A	Yes	Yes	Yes	Yes
Power consumption	≤1.8 W	≤1.5 W	≤1.5 W	≤1.5 W	≤1.5 W
Protocol	IEEE 802.3an, SFF8472	IEEE 802.3ae, SFF8472	IEEE 802.3ae, SFF8472	IEEE802.3z, INF-8074i	IEEE802.3z, INF-8074i
Transmitter Optical Parameters					
Operating wavelength	N/A	850 nm	1310 nm	850 nm	1310 nm
Maximum transmit power (AVG)	N/A	–1 dBm	0.5 dBm	0 dBm	–3dBm
Minimum transmit power (AVG)	N/A	–7.3 dBm	–8.2 dBm	–9.5dBm	–11dBm
Minimum extinction ratio	N/A	≥3.0 dB	≥3.5 dB	≥9dB	≥9 dB

N/A indicates the parameter does not apply to the transceiver.

Product Specifications

Model	CO-XG-SFP-T	CO-XG-SFP-SR-MM850	CO-XG-SFP-LR-SM1310	CO-GE-SFP-SX-MM850	CO-GE-SFP-LX-SM1310
Receiver Optical Parameters					
Receive sensitivity (OMA)	N/A	<–11.1 dBm	<–12.6 dBm	<–17 dBm	<–19 dBm
Overload optical power (AVG)	N/A	–1 dBm	0.5 dBm	0 dBm	–3 dBm
Environment and Reliability					
Operating temperature	0° C to 70° C (32° F to 158° F)	0° C to 70° C (32° F to 158° F)	0° C to 70° C (32° F to 158° F)	0° C to 70° C (32° F to 158° F)	0° C to 70° C (32° F to 158° F)
Operating humidity	10% to 90% RH (non-condensing)	10% to 90% RH (non-condensing)	10% to 90% RH (non-condensing)	10% to 90% RH (non-condensing)	10% to 90% RH (non-condensing)
Storage temperature	–40° C to 85° C (–40° F to 185° F)	–40° C to 85° C (–40° F to 185° F)	–40° C to 85° C (–40° F to 185° F)	–40° C to 85° C (–40° F to 185° F)	–40° C to 85° C (–40° F to 185° F)
Storage humidity	10% to 90% (non-condensing)	10% to 90% (non-condensing)	10% to 90% (non-condensing)	10% to 90% (non-condensing)	10% to 90% (non-condensing)
Dimensions and Weight					
Dimensions (W x D x H)	68 mm x 14 mm x 8.5 mm (2.68 in. x 0.55 in. x 0.33 in.)	56.5 mm x 13.5 mm x 8.5 mm (2.22 in. x 0.53 in. x 0.33 in.)	56.5 mm x 13.5 mm x 8.5 mm (2.22 in. x 0.53 in. x 0.33 in.)	56.5 mm x 13.5 mm x 8.5 mm (2.22 in. x 0.53 in. x 0.33 in.)	56.5 mm x 13.5 mm x 8.5 mm (2.22 in. x 0.53 in. x 0.33 in.)
Weight	37 g (0.08 lbs)	31 g (0.07 lbs)	31 g (0.07 lbs)	31 g (0.07 lbs)	31 g (0.07 lbs)
Compliance and Certification					
Compliance and certification	CE CB	CE CB	CE CB	CE CB	CE CB

N/A indicates the parameter does not apply to the transceiver.

Ordering Information

Model	Description
CO-XG-SFP-SR-MM850	10G SR transceiver, SFP+ form factor, Duplex LC, 300 m over OM3 MMF and 400 m over OM4 MMF
CO-XG-SFP-LR-SM1310	10G LR transceiver, SFP+ form factor, Duplex LC, 10 km over SMF
CO-GE-SFP-SX-MM850	1G SX transceiver, SFP form factor, Duplex LC, 550 m over OM2 MMF
CO-GE-SFP-LX-SM1310	1G LX transceiver, SFP form factor, Duplex LC, 10 km over SMF
CO-XG-SFP-T	10G copper transceiver, SFP+ form factor, RJ45, 30 m over Cat 6A/7 cabling

Warranty

For more information about warranty terms and period, contact your local sales agency:

- Warranty terms: https://www.ruijie.com/support/servicepolicy
- Warranty period: https://www.ruijie.com/support/servicepolicy/Service-Support-Summary/

Note: The warranty terms are subject to the terms of different countries and distributors.

More Information

For more information about Ruijie Networks, visit the official Ruijie website or contact your local sales agency:

Ruijie Networks official website: https://www.ruijie.com/

Online support: https://www.ruijie.com/support

Hotline support: https://www.ruijie.com/support/hotline

Email support: service_rj@ruijie.com


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