



# RG 10GBASE Series Optical Modules



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## Product Pictures



## Product Overview

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

### XG-SFP-SR-MM850 Module

The XG-SFP-SR-MM850 is aligned to IEEE 10GBASE-SR optical specifications and supports a link length of up to 300 meters over a multimode fiber (MMF) with an LC connector. It adopts the SFP+ form factor and operates at a wavelength of 850 nm. The transceiver conforms to IEEE 802.3ae, SFF-8431, SFP+ Multisource Agreement (MSA), and RoHS standards.

### XG-SFP-LR-SM1310 Module

The XG-SFP-LR-SM1310 is aligned to IEEE 10GBASE-LR optical specifications and supports a link length of up to 10 kilometers over a single-mode fiber (SMF) with an LC connector. It adopts the SFP+ form factor and operates at a wavelength of 1310 nm. The transceiver conforms to IEEE 802.3ae, SFF-8431, SFP+ MSA, and RoHS standards.

### XG-SFP-ER-SM1550 Module

The XG-SFP-ER-SM1550 is aligned to IEEE 10GBASE-ER optical specifications and supports a link length of up to 40 kilometers over an SMF with an LC connector. It adopts the SFP+ form factor and operates at a wavelength of 1550 nm. The transceiver conforms to IEEE 802.3ae, SFF-8431, SFP+ MSA, and RoHS standards.

## XG-SFP-ZR-SM1550 Module

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The XG-SFP-ZR-SM1550 is aligned to IEEE 10GBASE-ZR optical specifications and supports a link length of up to 80 kilometers over an SMF with an LC connector. It adopts the SFP+ form factor and operates at a wavelength of 1550 nm. The transceiver conforms to IEEE 802.3ae, SFF-8431, SFP+ MSA, and RoHS standards.

## XG-SFP-LR10-SM1270-BIDI-I Module

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The XG-SFP-LR10-SM1270-BIDI-I is aligned to IEEE 10GBASE-LR optical specifications and supports a link length of up to 10 kilometers over an SMF with a BIDI LC connector. It adopts the SFP+ form factor and operates at a wavelength of 1270 nm. The transceiver conforms to the IEEE 802.3ae, SFF-8431, SFP+ MSA, and RoHS standards.

## XG-SFP-LR10-SM1330-BIDI-I Module

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The XG-SFP-LR10-SM1330-BIDI-I is aligned to IEEE 10GBASE-LR optical specifications and supports a link length of up to 10 kilometers over an SMF with a BIDI LC connector. It adopts the SFP+ form factor and operates at a wavelength of 1330 nm. The transceiver conforms to the IEEE 802.3ae, SFF-8431, SFP+ MSA, and RoHS standards.

## XG-SFP-AOC-xx Cable

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The active optical cables (AOCs) are suitable for short-distance transmission and offer a flexible way to connect within and across racks. AOCs are much thinner and lighter than copper cables, which makes cable management easier. AOCs enable efficient system airflow, which is crucial in high-density racks. The XG-SFP-AOC-xx series cable comes into three models: XG-SFP-AOC1M, XG-SFP-AOC3M, and XG-SFP-AOC5M in lengths of 1 meter, 3 meters, and 5 meters respectively.



Appearance of XG-SFP-AOC-xx

# Product Features

- Hot swapping, allowing for simplified maintenance
- High reliability and low power consumption, allowing for prolonged service life
- Compliance with RoHS standards

# Product Specifications

## Optical Module Specifications

Model	XG-SFP-SR-MM850	XG-SFP-LR-SM1310	XG-SFP-ER-SM1550	XG-SFP-ZR-SM1550	XG-SFP-LR10-SM1270-BIDI-I	XG-SFP-LR10-SM1330-BIDI-I
Data rate	10.3125 Gbps					
Form factor	SFP+					
Connector type	Duplex LC	Duplex LC	Duplex LC	Duplex LC	BIDI LC	BIDI LC
Cable type	MMF	SMF	SMF	SMF	SMF	SMF
Fiber end face finish type	Ultra Physical Contact (UPC)					
Transmitter type	VCSEL	DFB	DFB	DFB	DFB	DFB
Receiver type	PIN					
Reach	300 m (984.25 ft.)	10 km (32,808.40 ft.)	40 km (131,233.60 ft.)	80 km (262,467.19 ft.)	10km (32,808.40.13 ft.)	10km (32,808.40.13 ft.)
Bit error ratio (BER)	1.00E-12					
Data diagnosis-capable (DDM/DOM)	Yes					
Power consumption	≤ 1.5 W					
Transmitter Optical Parameters						
Wavelength	850 nm	1310 nm	1550 nm	1550 nm	1270 nm TX 1330 nm RX	1330 nm TX 1270 nm RX
Max. transmit power (AVG)	-1 dBm	0.5 dBm	4 dBm	4 dBm	0.5 dBm	0.5 dBm

Model	XG-SFP-SR-MM850	XG-SFP-LR-SM1310	XG-SFP-ER-SM1550	XG-SFP-ZR-SM1550	XG-SFP-LR10-SM1270-BIDI-I	XG-SFP-LR10-SM1330-BIDI-I
Min. transmit power (AVG)	-7.3 dBm	-8.2 dBm	-4.7 dBm	0 dBm	-8.2 dBm	-8.2 dBm
Min. extinction ratio	≥ 3.0 dB	≥ 3.5 dB	≥ 3 dB	≥ 8.5 dB	≥ 3.5 dB	≥ 3.5 dB
<b>Receiver Optical Parameters</b>						
Receive sensitivity (OMA)	< -11.1 dBm	< -12.6 dBm	< -14.1 dBm	< -24 dBm	< -14.4 dBm	< -14.4 dBm
Overload optical power (AVG)	-1 dBm	0.5 dBm	-1 dBm	-7 dBm	0.5 dBm	0.5 dBm
<b>Environment and Reliability</b>						
Operating temperature	0°C to 70°C (32°F to 158°F)				-40°C to +85°C (-40°F to +185°F)	
Operating humidity	10% RH to 90% RH					
Storage temperature	-40°C to +85°C (-40°F to +185°F)					
Storage humidity	10% RH to 90% RH					
<b>Dimensions and Weight</b>						
Dimensions (W x D x H)	56.5 mm x 13.5 mm x 8.5 mm (2.22 in. x 0.53 in. x 0.33 in.)					
Weight	35 g (0.08 lbs.)					

## Cable Specifications

Model	XG-SFP-AOC1M	XG-SFP-AOC3M	XG-SFP-AOC5M
Data rate	10.3125 Gbps		
Form factor	SFP+		
Connector type	SFP+ to SFP+		
Data diagnosis-capable (DDM/DOM)	Yes		
Length	1 m (3.28 ft.)	3 m (9.84 ft.)	5 m (16.40 ft.)
Module type	Active		

# Ordering Information

Model	Description
XG-SFP-SR-MM850	10G SR module, SFP+ form factor, LC, 300 m (984.25 ft.) over MMF
XG-SFP-LR-SM1310	10G LR module, SFP+ form factor, LC, 10 km ((32,808.40 ft.) over SMF
XG-SFP-ER-SM1550	10G ER module, SFP+ form factor, LC, 40 km (131,233.60 ft.) over SMF
XG-SFP-ZR-SM1550	10G ZR module, SFP+ form factor, LC, 80 km (262,467.19 ft.) over SMF
XG-SFP-LR10-SM1270-BIDI-I	10G LR module, SFP+ form factor, BIDI LC, 10 km (32,808.40.13 ft.) over SMF
XG-SFP-LR10-SM1330-BIDI-I	10G LR module, SFP+ form factor, BIDI LC, 10 km (32,808.40.13 ft.) over SMF
XG-SFP-AOC1M	10G SFP+ AOC cable, 1 m (3.28 ft.)
XG-SFP-AOC3M	10G SFP+ AOC cable, 3 m (9.84 ft.)
XG-SFP-AOC5M	10G SFP+ AOC cable, 5 m (16.40 ft.)



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