

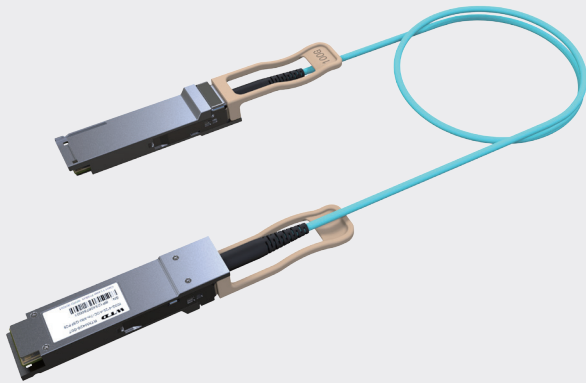
# RG 100GBASE Series Optical Modules



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## Product Pictures



Appearance of 100G-AOC-xx



Appearance of 100G Module

## Product Overview

As an industry-leading ICT infrastructure and industry solution provider, Ruijie offers customers a wide variety of high-density and low-power 100G optical modules. They are applicable to data centers, high-performance computing (HPC) networks, and enterprise core and aggregation layers, enabling cost-effective and efficient high-speed interconnection between data center servers and switches.

### Ruijie 100G-QSFP-SR-MM850 Module

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The 100G-QSFP-SR-MM850 is aligned to IEEE 100GBASE-SR optical specifications and supports a link length of up to 100 meters over a multimode fiber (MMF) with an MPO connector. It adopts the QSFP28 form factor and operates at a wavelength of 850 nm. The transceiver conforms to IEEE 802.3bm, QSFP28 Multisource Agreement (MSA), and RoHS standards.

### Ruijie 100G-QSFP-LR4-SM1310 Module

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The 100G-QSFP-LR4-SM1310 is aligned to IEEE 100GBASE-LR4 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 QSFP28 form factor and operates at a wavelength of 1310 nm. The transceiver conforms to IEEE 802.3ba, QSFP28 MSA, and RoHS standards.

### Ruijie 100G-QSFP-iLR4-SM1310 Module

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The 100G-QSFP-iLR4-SM1310 is aligned to IEEE 100GBASE-iLR4 optical specifications and supports a link length of up to 2 kilometers over an SMF with an LC connector. It adopts the QSFP28 form factor and operates at a wavelength of 1310 nm. The transceiver conforms to 100GE CWDM4 MSA, QSFP28 MSA, IEEE 802.3bm and RoHS standards.

## Ruijie 100G-QSFP-ER4-SM1310 Module

The 100G-QSFP-ER4-SM1310 is aligned to IEEE 100GBASE-ER4 optical specifications and supports a link length of up to 40 kilometers over an SMF with an LC connector. It adopts the QSFP28 form factor and operates at a wavelength of 1310 nm. The transceiver conforms to 100G 4WDM-40 MSA and RoHS standards.

## Ruijie 100G-QSFP-SR-MM-BIDI Module

The 100G-QSFP-SR-MM-BIDI is aligned to IEEE 100GBASE-BIDI optical specifications and supports a link length of up to 100 meters over an MMF with a Duplex LC connector. It adopts the QSFP28 form factor and operates at a wavelength of 850 nm/908 nm. The transceiver conforms to IEEE 802.3bm, QSFP28 MSA, and RoHS standards.

## Ruijie 100G-AOC-xx Cable

QSFP28 100G to QSFP28 100G 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 100G-AOC-xx series cable comes into two models: 100G-AOC-5M and 100G-AOC-10M in lengths of 5 meters and 10 meters, respectively.

# Product Features

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

# Product Specifications

## Optical Module Specifications

Model	100G-QSFP-SR-MM850	100G-QSFP-LR4-SM1310	100G-QSFP-iLR4-SM1310	100G-QSFP-ER4-SM1310	100G-QSFP-SR-MM-BIDI
Data rate	103.125 Gbps (4 x 25.78 Gbps)				
Form factor	QSFP28				
Connector type	MPO 1×12	Duplex LC	Duplex LC	Duplex LC	Duplex LC
Cable type	MMF	SMF	SMF	SMF	MMF

Model	100G-QSFP-SR-MM850	100G-QSFP-LR4-SM1310	100G-QSFP-iLR4-SM1310	100G-QSFP-ER4-SM1310	100G-QSFP-SR-MM-BIDI
Fiber end face finish type	Ultra Physical Contact (UPC)				UPC
Transmitter type	VCSEL	EML	DFB	EML	VCSEL
Receiver type	PIN				
Reach	OM3: 70 m (229.66 ft.) OM4: 100 m (328.08ft.)	10km (32,808.40 ft.)	2 km (6,561.68 ft.)	40 km (131,233.59 ft.)	OM3: 70 m (229.66 ft.) OM4: 100 m (328.08 ft.)
Bit error ratio (BER)	5.00E-05	1.00E-12	5.00E-05	5.00E-05	1.00E-12
Data diagnosis-capable (DDM/ DOM)	Yes				
Power consumption	≤ 3.5 W	≤ 4.5 W	≤ 3.5 W	≤ 4.5 W	≤ 4 W

### Transmitter Optical Parameters

Model	100G-QSFP-SR-MM850	100G-QSFP-LR4-SM1310	100G-QSFP-iLR4-SM1310	100G-QSFP-ER4-SM1310	100G-QSFP-SR-MM-BIDI
Wavelength (nm)	(840, 860)	(1294.53, 1296.59) (1299.02, 1301.09) (1303.54, 1305.63) (1308.09, 1310.19)	(1264.5, 1277.5) (1284.5, 1297.5) (1304.5, 1317.5) (1324.5, 1337.5)	(1294.53, 1296.59) (1299.02, 1301.09) (1303.54, 1305.63) (1308.09, 1310.19)	(844, 863) (900, 918)
Max. transmit power (AVG)	2.4 dBm	4.5 dBm	2.5 dBm	6.5 dBm	4 dBm
Min. transmit power (AVG)	-8.4 dBm	-4.3 dBm	-6.5 dBm	-2.5 dBm	-4.4 dBm
Min. extinction ratio	2 dB	4 dB	3.5 dB	4.5 dB	3 dB

### Receiver Optical Parameters

Model	100G-QSFP-SR-MM850	100G-QSFP-LR4-SM1310	100G-QSFP-iLR4-SM1310	100G-QSFP-ER4-SM1310	100G-QSFP-SR-MM-BIDI
Receive sensitivity (OMA)	< -5.2 dBm	< -8.6 dBm	< -10 dBm	< -18.5 dBm	< -6.6 dBm
Overload optical power (AVG)	2.4 dBm	4.5 dBm	2.5 dBm	-3.5 dBm	3 dBm

## Environment and Reliability

Model	100G-QSFP-SR-MM850	100G-QSFP-LR4-SM1310	100G-QSFP-iLR4-SM1310	100G-QSFP-ER4-SM1310	100G-QSFP-SR-MM-BIDI
Operating temperature	0°C to 70°C (32°F to 158°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				

## Dimensions and Weight

Model	100G-QSFP-SR-MM850	100G-QSFP-LR4-SM1310	100G-QSFP-iLR4-SM1310	100G-QSFP-ER4-SM1310	100G-QSFP-SR-MM-BIDI
Dimensions (W x D x H)	122 mm x 18 mm x 8.5 mm (4.80 in. x 0.71 in. x 0.33 in.)				
Weight	50 g (0.11 lbs.)				

## Cable Specifications

Model	100G-AOC-5M	100G-AOC-10M
Data rate	103.125 Gbps (4 x 25.78 Gbps)	
Form factor	QSFP28	
Connector type	QSFP28 to QSFP28	
Data diagnosis-capable (DDM/DOM)	Yes	
Length	5 m (16.40 ft.)	10 m (32.81 ft.)
Module type	Active	

# Order Information

Model	Description
100G-QSFP-SR-MM850	100G SR module, QSFP28 form factor, MPO, 850 nm, 100 m (328.08 ft.) over MMF
100G-QSFP-LR4-SM1310	100G LR4 module, QSFP28 form factor, Duplex LC, 1310 nm, 10 km (32,808.40 ft.) over SMF
100G-QSFP-iLR4-SM1310	100G iLR4 module, QSFP28 form factor, Duplex LC, 1310 nm, 2 km (6,561.68 ft.) over SMF
100G-QSFP-ER4-SM1310	100G ER4 module, QSFP28 form factor, Duplex LC, 1310 nm, 40 km (131,233.59 ft.) over SMF
100G-QSFP-SR-MM-BIDI	100G BIDI module, QSFP28 form factor, Duplex LC, 850 nm/908 nm, 100 m (328.08 ft.) over MMF
100G-AOC-3M	100G QSFP28 AOC cable, 3 m (9.84 ft.)
100G-AOC-5M	100G QSFP28 AOC cable, 5 m (16.40 ft.)
100G-AOC-10M	100G QSFP28 AOC cable, 10 m (32.81 ft.)



**Ruijie Networks Co., Ltd.**

For more information, visit [www.ruijienetworks.com](http://www.ruijienetworks.com) or call 86-400-620-8818.