

# SFP-1G Series

## 1-port Gigabit Ethernet SFP modules



- > Digital Diagnostic Monitor Function
- > -40 to 85°C operating temperature range (T models)
- > IEEE 802.3z compliant
- > Differential LVPECL inputs and outputs
- > TTL signal detect indicator
- > Hot pluggable LC duplex connector
- > Class 1 laser product, complies with EN 60825-1



### Specifications

#### Interface

Ethernet Ports: 1

Connectors: Duplex LC Connector or Simplex LC Connector (WDM-type only)

#### Optical Fiber

		Gigabit Ethernet SFP									
		SFP-SX		SFP-LSX		SFP-LX	SFP-LH	SFP-LHX	SFP-ZX	SFP-EZX	SFP-EZX-120
Transceiver Type		Multi-Mode		Multi-Mode		Single-Mode	Single-Mode	Single-Mode	Single-Mode	Single-Mode	Single-Mode
Fiber Cable Type		OM1	OM2	OM2	OM1	G.652	G.652	G.652	G.652	G.652	G.652
Typical Distance		300 m	550 m	1 km	2 km	10 km	30 km	40 km	80 km	110 km	120 km
Wave-length	Typical (nm)	850		1310		1310	1310	1310	1550	1550	1550
	TX Range (nm)	830 to 860		1270 to 1355		1280 to 1355	1280 to 1355	1280 to 1340	1530 to 1570	1530 to 1570	1530 to 1570
	RX Range (nm)	770 to 860		1260 to 1610		1260 to 1610	1260 to 1610	1260 to 1610	1260 to 1610	1260 to 1610	1100 to 1600
Optical Power	TX Range (dBm)	-4 to -9.5		-1 to -9		-3 to -9	-3 to -8	+3 to -4	+5 to 0	+5 to 0	+3 to -2
	RX Range (dBm)	0 to -18		-1 to -19		-3 to -21	-3 to -23	-1 to -24	-1 to -24	-9 to -30	-8 to -33
	Link Budget (dB)	8.5		10		12	15	20	24	30	31
	Dispersion Penalty (dB)	4.3	3.6	5	5	1	1	1	1	1	2

Note: When connecting the SFP-LHX, ZX, EZX, or EZX-120, we recommended using an attenuator to prevent the transceiver from being damaged by excessive optical power.

		WDM Gigabit Ethernet SFP									
		SFP-10A		SFP-10B	SFP-20A		SFP-20B	SFP-40A		SFP-40B	
Transceiver Type		Single-Mode			Single-Mode			Single-Mode			
Fiber Cable Type		G.652			G.652			G.652			
Typical Distance		10 km			20 km			40 km			
Wave-length	Typical (nm)	TX 1310, RX 1550		TX 1550, RX 1310		TX 1310, RX 1550		TX 1550, RX 1310		TX 1310, RX 1550	
	TX Range (nm)	1270 to 1355		1530 to 1570		1270 to 1355		1530 to 1570		1290 to 1330	
	RX Range (nm)	1480 to 1580		1260 to 1360		1480 to 1580		1260 to 1360		1480 to 1580	
Optical Power	TX Range (dBm)	-3 to -9			-2 to -8			+2 to -3			
	RX Range (dBm)	-3 to -21			-2 to -23			-1 to -23			
	Link Budget (dB)	12			15			20			
	Dispersion Penalty (dB)	2			3			1			

Note: WDM-type SFP modules must be used in pairs (e.g., SFP-1G10ALC and SFP-1G10BLC)

Note: When connecting the SFP-40A and 40B, we recommend using an attenuator to prevent damage caused by excessive optical power.

**Typical Distance:** To reach the typical distance of specified fiber transceiver, please refer to formula: Link budget(dB) > dispersion penalty(dB) + total link loss(dB).

### Power Requirements

Power Consumption: Max. 1 W

### Environmental Limits

#### Operating Temperature:

Standard Models: 0 to 60°C (32 to 140°F)

Wide Temp. Models: -40 to 85°C (-40 to 185°F)

Storage Temperature: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

### Standards and Certifications

Safety: CE, FCC, TÜV (EN 60825), UL 60950-1

Marine: DNV, GL

### Warranty

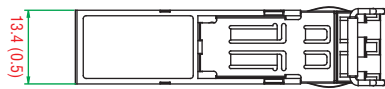
Warranty Period: 5 years

Details: See [www.moxa.com/warranty](http://www.moxa.com/warranty)

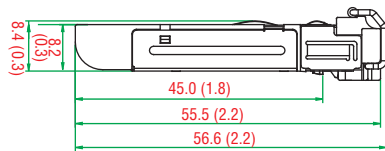
### Dimensions

Unit: mm (inch)

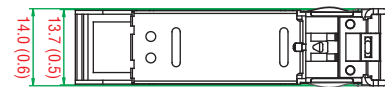
#### SFP-1G Series



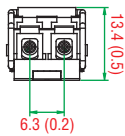
Top View



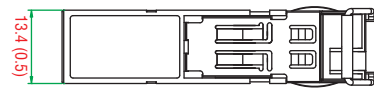
Side View



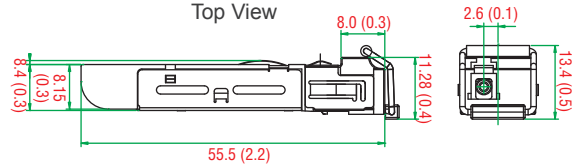
Rear View



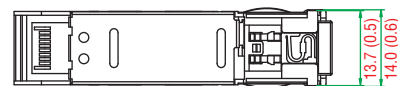
#### SFP-1G Series (WDM Type)



Top View



Side View



Rear View

## Ordering Information

Gigabit Ethernet SFP Models				WDM Gigabit Ethernet SFP Models			
Standard Temperature Models (0 to 60°C)	Wide Temperature Models (-40 to 85°C)	Transceiver Type	Typical Distance	Standard Temperature (0 to 60°C)	Wide Temperature (-40 to 85°C)	Transceiver Type	Typical Distance
SFP-1GSXLC	SFP-1GSXLC-T*	Multi-Mode	300/550 m	SFP-1G10ALC	SFP-1G10ALC-T	Single-Mode	10 km
SFP-1GLSXLC	SFP-1GLSXLC-T	Multi-Mode	1/2 km	SFP-1G10BLC	SFP-1G10BLC-T	Single-Mode	10 km
SFP-1GLXLC	SFP-1GLXLC-T	Single-Mode	10 km	SFP-1G20ALC	SFP-1G20ALC-T	Single-Mode	20 km
SFP-1GLHLC	SFP-1GLHLC-T	Single-Mode	30 km	SFP-1G20BLC	SFP-1G20BLC-T	Single-Mode	20 km
SFP-1GLHXL	SFP-1GLHXL-T	Single-Mode	40 km	SFP-1G40ALC	SFP-1G40ALC-T	Single-Mode	40 km
SFP-1GZXLC	SFP-1GZXLC-T	Single-Mode	80 km	SFP-1G40BLC	SFP-1G40BLC-T	Single-Mode	40 km
SFP-1GEZXLC	-	Single-Mode	110 km	-	-	-	-
SFP-1GEZXLC-120	-	Single-Mode	120 km	-	-	-	-

\*SFP-1GSXLC-T: -20 to 75°C operating temperature

Note: Please refer to the Moxa Ethernet SFP Transceiver Product Compatibility Matrix for products that can be used with these modules.

#### Package Checklist

- SFP-1G module
- Warranty card

# Moxa Ethernet SFP Transceiver Product Compatibility Matrix

Refer to the product compatibility matrix below to determine which SFP modules are compatible with which product models. For more specification information about an SFP module, please refer to the module's datasheet.

Model	SFP-1FE Series	SFP-1G Series	SFP-1G Copper Series	SFP-10G Series
<b>Industrial 10Gb Core Switches</b>				
ICS-G7850A/G7852A Series	–	✓	✓	✓
ICS-G7750A/G7752A Series	–	✓	✓	✓
ICS-G7826A/G7828A Series	✓	✓	✓	✓
ICS-G7526A/G7528A Series	✓	✓	✓	✓
IM-G7000A-4GSFP	✓	✓	✓	–
<b>Rackmount Ethernet Switches</b>				
IKS-G6524A/G6824A Series	✓	✓	✓	–
IKS-6726A/6728A Series	✓	✓	–	–
IKS-6728A-8PoE Series	✓	✓	–	–
IM-6700A-8SFP	✓	–	–	–
<b>DIN-Rail Ethernet Switches</b>				
EDS-611/619 Series	✓	✓	–	–
EDS-G516E Series	✓	✓	✓	–
EDS-G512E Series	✓	✓	✓	–
EDS-G509 Series	✓	✓	–	–
EDS-518E Series	✓	✓	–	–
EDS-510E Series	✓	✓	–	–
EDS-518A Series	–	✓	–	–
EDS-510A Series	–	✓	–	–
EDS-G308-2SFP Series	✓	✓	✓	–
EDS-G205-1GTXSFP Series	✓	✓	–	–
EDS-210A Series	–	✓	✓	–
IM-2GSFP	–	✓	–	–
<b>Industrial Secure Router</b>				
EDR-G903/G902 Series	✓	✓	–	–
EDR-810 Series	–	✓	✓	–
<b>Industrial PoE Switches</b>				
EDS-G512E-8PoE Series	✓	✓	✓	–
EDS-P510A-8PoE Series	✓	✓	–	–
EDS-P510 Series	✓	✓	–	–
EDS-G205A-4PoE Series	✓	✓	–	–
<b>IEC61850-3 Ethernet Switches</b>				
PT-G7509 Series	✓	✓	–	–
PT-7528 FX Series	–	✓	✓	–
PM-7500-2G/4GTXSFP	✓	✓	–	–
PM-7200-2G/4GTXSFP	–	✓	–	–
PM-7200-8SFP Series	✓	–	–	–
<b>Industrial Media Converter</b>				
IMC-21GA	–	✓	–	–
IMC-101G Series	–	✓	–	–

Note: For 10Gb core switches, the 10G SFP port slot can only support a 10G SFP transceiver.