



INTEROPTIC.COM

SALES@INTEROPTIC.COM

P. 866 913 5252

F. 630 548 9873

◆ MERAKI-COMPATIBLE DATA SHEET:

10G SFP+ PRODUCT FAMILY

DESCRIPTION

The 10GBASE SFP+ modules allow a wide variety of 10 Gigabit Ethernet connectivity options for data center, enterprise, and service provider applications. Advantage Optics 10G SFP+ modules are supported on a comprehensive suite of switches and routers.

FEATURES & BENEFITS

- ◆ Hot-swappable 10G SFP+ modules allow for quick additions/changes into an available 10G SFP+ port
- ◆ “Pay as you Populate” model lowers initial costs
- ◆ Digital Optical Monitoring (DOM) capability for strong diagnostic capabilities as supported by the OEM
- ◆ Optical interoperability allows for IEEE compliant 10GBASE optical interfaces on the same link

ORDERING INFORMATION

MA-SFP-10GB-SR-NV	Meraki compatible 10GBASE-SR SFP+ Transceiver for MMF
MA-SFP-10GB-LR-NV	Meraki compatible 10GBASE-LR SFP+ Transceiver for SMF
MA-SFP-10GB-LRM-NV	Meraki compatible 10GBASE-LRM SFP+ Transceiver for MMF
MA-SFP-10GB-ER-NV	Meraki compatible 10GBASE-ER SFP+ Transceiver for SMF
MA-SFP-10GB-ZR-NV	Meraki compatible 10GBASE-ZR SFP+ Transceiver for SMF



MA-SFP-10GB-SR-NV

The 10GBASE-SR SFP+ module supports a link length of up to 26m on standard duplex Fiber Distributed Data Interface (FDDI) grade multimode fiber (MMF). A link length of up to 300m is possible using 2000MHz*km MMF (OM3). Using 4700MHz*km MMF (OM4/OM5), up to 400m link lengths are possible.

MA-SFP-10GB-LR-NV

The 10GBASE-LR SFP+ module supports a link length of up to 10 km on standard duplex single-mode fiber (SMF, G.652).

MA-SFP-10GB-LRM-NV

The 10GBASE-LRM SFP+ module supports a link length of up to 220m on standard duplex Fiber Distributed Data Interface (FDDI) or OM1 grade multimode fiber (MMF). The transmitter should be coupled through a mode conditioning patch cord to make sure that specifications are met over FDDI-grade, OM1 and OM2 fibers. However, for applications over OM3 or OM4 fibers, mode conditioning patch cords are not required.

MA-SFP-10GB-ER-NV

The 10GBASE-ER SFP+ module supports a link length of up to 40 km on standard duplex single-mode fiber (SMF, G.652).

MA-SFP-10GB-ZR-NV

The 10GBASE-ZR SFP+ module supports a link length of up to 80 km on standard duplex single-mode fiber (SMF, G.652).

PART NUMBER	CONNECTOR TYPE	WAVELENGTH (nm)	CABLE TYPE	CORE SIZE (um)	MODAL BANDWIDTH (MHz*km)	MAX OPERATING DISTANCE
MA-SFP-10GB-SR-NV	LC- Duplex	850	MMF	62.5	160 (FDDI)	26m
				62.5	200 (OM1)	33m
				50	400	66m
				50	500 (OM2)	82m
				50	2000 (OM3)	300m
				50	4700 (OM4/OM5)	400m
MA-SFP-10GB-LR-NV	LC- Duplex	1310	SMF	G.652	N/A	10km
MA-SFP-10GB-LRM-NV	LC- Duplex	1310	MMF	62.5	160 (FDDI)	220m
				62.5	200 (OM1)	220m
				50	400	100m
				50	500 (OM2)	220m
MA-SFP-10GB-ER-NV	LC- Duplex	1550	SMF	G.652	N/A	40km
MA-SFP-10GB-ZR-NV	LC- Duplex	1550	SMF	G.652	N/A	80km

PART NUMBER	PHY TYPE	TX POWER (dBm) Max - Min	RX POWER (dBm) Max - Min	TEMPERATURE RANGE	OPERATING TEMPERATURE
MA-SFP-10GB-SR-NV	10GBASE-SR	-1.2 to -7.3	-1.0 to -9.9	COM	0 to 70 °C
MA-SFP-10GB-LR-NV	10GBASE-LR	0.5 to -8.2	0.5 to -14.4	COM	0 to 70 °C
MA-SFP-10GB-LRM-NV	10GBASE-LRM	0.5 to -6.5	0.5 to -6.4 (OMA)	COM	0 to 70 °C
MA-SFP-10GB-ER-NV	10GBASE-ER	4.0 to -4.7*	-1.0 to -15.8	COM	0 to 70 °C
MA-SFP-10GB-ZR-NV	10GBASE-ZR	4.0 to 0.0*	-7.0 to -24.0	COM	0 to 70 °C

* Optical attenuation is required for short fiber links to protect the receiver from damage.

PHYSICAL DIMENSIONS (HxWxD)

SFP+ Module: 8.5 x 13.4 x 56.5mm

POWER REQUIREMENTS (MAXIMUM)

1.0W (10GBASE-SR, 10GBASE-LR, 10GBASE-LRM)
1.5W (10GBASE-ER and 10GBASE-ZR)

WARRANTY

Standard: 3 Year

SAFETY AND POWER

Laser Class 1: 21CFR-1040 LN#50
Laser Class 1: IEC60825-1

STANDARDS COMPLIANCE

IEEE 802.3: IEEE Standard for Ethernet
IEEE 802.3ae: 10 Gigabit Ethernet
GR-20-CORE: Generic Requirements for Optical Fiber and Optical Fiber Cable
GR-326-CORE: Generic Requirements for Single-mode Optical Connectors and Jumper Assemblies
GR-468-CORE: Generic Requirements Optoelectronic Devices Used in Telecommunications Equipment
GR-1435-CORE: Generic Requirements for Multi-Fiber Optical Connectors
SFP+ Module: MSA SFF-8431, MSA SFF-8472 (for DDM/DOM capable transceivers)