S-1000MM Gigabit Fiber to Fiber Media Converters

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Standalone, Unmanaged

- 1000Base-SX to 1000Base-X Fiber to Fiber Media Converters
- Multimode to multimode or multimode to single mode
- Extend multimode fiber to 160km and beyond (through cascading)
- Choice in SC, LC and ST fiber connector models
- Signal regeneration prevents signal degradation
- Advanced Features: Smart Link Pass-Through, Fiber Fault Alert, loopback for each fiber connection

Perle's feature rich **S-1000MM Gigabit Fiber to Fiber Media Converters** enable transparent fiber extension of 1000Base-SX multimode fiber to 1000Base-SX multimode or 1000Base-LX/EX/ZX/BX single mode fiber.

Perle's advanced features make the end to end fiber link completely transparent. This allows for more efficient troubleshooting and less on-site maintenance. In addition, a lifetime warranty and free worldwide technical support make **Perle's S-1000MM Gigabit Fiber to Fiber Media Converters** the smart choice for IT professionals.

Whether you need to extend **multimode to multimode** or **multimode to single mode**, Perle has an extensive range of S-1000MM Gigabit Fiber to Fiber Media Converters to meet your fiber conversion requirement.

S-1000MM Fiber to Fiber Features: 1000Base-SX to 1000Base-X

Auto-Negotiation (802.3ab)	The 1000Base-X fiber interfaces negotiate according to 802.3 clause 37.
Smart Link Pass-Through	When the Link Mode switch is placed into Smart Link Pass-Through mode, the 1000BASE-X link on one port will reflect the state of the other 1000Base-X media converter port. This feature can be used whether fiber auto-negotiation is enabled or disabled.
Fiber Fault Alert	With Fiber Fault Alert the state of the 1000Base-X receiver is passed to the 1000Base-X transmitter. This provides fault notification to the partner device attached to the 1000Base-X interface of the media converter. If the 1000Base-X transmitter is off as a result of this fault it will be turned on periodically to allow the condition to clear should the partner device on the 1000Base-X be using a similar technique. This eliminates the possibility of lockouts that occur with some media converters. Applies only when fiber auto-negotiation is disabled.
Signal Regeneration	Signal regeneration maintains signal integrity and allows for maximum fiber to fiber connections without degradation.
Cascading	Media converters can be cascaded. Two or more media converters can be chained in a link to achieve even greater distances.
Pause (IEEE 802.3x)	Pause signaling is an IEEE feature that temporarily suspends data transmission between two devices in the event that one of the devices becomes overwhelmed. The media converter is transparent to Pause frames.
VLAN	The media converter is transparent to 802.1Q VLAN tagged packets.
Duplex	Full and half duplex operation supported.
Jumbo Packets	Transparent to jumbo packets up to 10KB.
Remote Loopback	The media converter can perform a loopback on each 1000Base-X fiber interface.

Power	
Input Supply Voltage	6 - 30 vDC, unregulated (12 vDC Nominal)
Current	0.21 amps
Power Consumption	2.5 watts
Power Connector	5.5mm x 9.5mm x 2.1mm barrel socket
Power Adapter	
Universal AC/DC Adapter	100-240v AC, regulated DC adapter included
Indicators	
Power / TST	This green LED is turned on when power is applied to the media converter. Otherwise it is off. The LED will blink slowly when in Loopback test mode.
Fiber link 1 / Receive activity (LK1)	This green LED is operational only when power is applied. The LED is on when the 100Base-X link is on and flashes with a 50% duty cycle when data is received.
Fiber link 2 on / Receive activity (LK2)	This green LED is operational only when power is applied. The LED is on when the 100Base-X link is on and flashes with a 50% duty cycle when data is received.
Switches - accessible through a side opening in the chassis	
Auto-Negotiation	*Auto (default up)* - Fiber Negotiation is performed for both fiber ports. Full and half duplex will be advertised. Pause will advertise support for Symmetrical and Asymmetrical Pause. Pause frame will not be acted upon or generated but will be passed through. *Off* - Negotiation on both fiber ports will be disabled. Settings of Link mode and Fiber fault alert will be determined by those switch settings. Pause frames will not be acted upon or generated but will continue to be passed through.
Link Mode	*Smart Link Pass-Through*: - *(default up)* - In this mode, the link state on one connection is directly reflected through the media converter to the other connection. If link is lost on one of the connections, then the other link will be brought down by the media converter. *Standard*: - In this mode the links on both fiber ports can be brought up and down independently of each other. A loss of link on either link can take place without affecting the other connection
Fiber Fault Alert	*Enabled - (default up)* - If the media converter detects a loss of fiber signal on a fiber receiver, it will immediately disable its fiber transmitter signal. This, in effect, notifies the remote fiber link partner that an error condition exists on the fiber connection. The setting of this switch applies to both fiber ports *Disabled*: The media converter will not monitor for fiber fault or generate them.
Remote Loopback #1	The media converter can perform a loopback on the link #1 fiber interface. *Disabled (Default - Up)* *Enabled* - The 1000Base-X receiver is looped to the 1000Base-X transmitter. Link #2's fiber transmitter is taken off the interface
Remote Loopback #2	The media converter can perform a loopback on the link #2 fiber interface. *Disabled (Default - Up)* *Enabled* - The 1000Base-X receiver is looped to the 1000Base-X transmitter. Link #1's fiber transmitter is taken off the interface
Fiber Connectors	
1000Base-X	Available in SC, ST and LC connector models
Packet Transmission Characteristics	

Bit Error Rate (BER)	$<10^{-12}$
Environmental Specifications	
Operating Temperature	0° C to 50° C (32° F to 122° F)
Storage Temperature	minimum range of -25° C to 70° C (-13° F to 158° F)
Operating Humidity	5% to 90% non-condensing
Storage Humidity	5% to 95% non-condensing
Operating Altitude	Up to 3,048 meters (10,000 feet)
Heat Output (BTU/HR)	8.53
MTBF (Hours)*	Without power adaptor: 432,138 With power adaptor: 274,804
Chassis	Metal with an IP20 ingress protection rating
Mounting	
Din Rail Kit	Optional
Wall / Rack Mount Kit	Optional
Product Weight and Dimensions	
Weight	0.3 kg, 0.66 lbs
Dimensions	120 x 80 x 26 mm, 4.7 x 3.1 x 1.0 inches
Packaging	
Shipping Weight	0.55 kg, 1.2 lbs
Shipping Dimensions	170 x 280 x 70 mm, 6.7 x 10.2 x 2.8 inches
Regulatory Approvals	
Emissions	FCC Part 15 Class A, EN55022 Class A
	CISPR 22 Class A CISPR 32:2015/EN 55032:2015 (Class A) CISPR 24:2010/EN 55024:2010
	EN61000-3-2
Immunity	EN55024
Electrical Safety	UL 60950-1
	IEC 60950-1(ed 2); am1, am2 EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013
	CE
Laser Safety	EN 60825-1:2007
	Fiber optic transmitters on this device meet Class 1 Laser safety requirements per IEC-60825 FDA/CDRH standards and comply with 21CFR1040.10 and 21CFR1040.11.
Environmental	Reach, RoHS and WEEE Compliant

Other	ECCN: 5A991
	HTSUS Number: 8517.62.0050
	Perle Limited Lifetime Warranty

*Calculation model based on MIL-HDBK-217-FN2 @ 30 °C

Extend between two Fiber Switches

Extend the network distance between two Gigabit Fiber Switches
Two Gigabit Multimode to Single Mode Media Converters can extend the distance between Gigabit Multimode Switches across a fiber link up to 160km in length.

Single Mode / Single Fiber

Connect fiber ports over a single fiber strand (also referred to as "Bi-Directional" BiDi)
When Single Strand fiber is used, a pair of Single Fiber Media Converters is needed for the fiber to fiber conversion. Perle Single Fiber Media Converters are also referred to as "Up/Down" models. For example the S-1000MM-S1SC20**U** ("Up") and S-1000MM-S1SC20**D** ("Down"), shown below, must be used in pairs. An "**U**p" must be matched with a "**D**own" peer to deal with transmit and receive frequencies separately.

S-1000MM-S1SC20US-1000MM-S1SC20D

The majority of installations for single mode fiber media converters are of the "dual connector" or "dual fiber" type where one fiber connection is used for transmit, the other for receive. These are physically "crossed" to match up the Transmit/Receive links.

However, to reduce costs, or where there are limits on available fiber, WDM technology may be utilized. WDM uses separate transmit and receive frequencies to communicate on a single fiber strand. WDM technology relies on the fact that optical fibers can carry many wavelengths of light simultaneously without interaction between each wavelength. Thus, a single fiber can carry many separate wavelength signals or channels simultaneously.

So remember, if Single Strand fiber is used, you will need an "**Up**" Media Converter on one side and a "**Down**" Media Converter on the other for fiber to fiber conversion.

Perle offers a wide variety of Single Fiber ("**U**p/**D**own") Media Converters to connect 10BaseT, Fast Ethernet and Gigabit to single fiber. Whether you need Managed or Unmanaged, Standalone or Modular Chassis Based, 20km or 120km, Perle has the right model to meet your fiber conversion requirement.

Select a Model to obtain a Part Number - Unmanaged Stand-alone Media Converters - Gigabit Fiber to Fiber

Model	Port	Connector	Type	Transmit (dBm)		Receive (dBm)		Power Budget (dBm)	Wavelength (nm)	Fiber Type	Core Size (um)	Modal Bandwidth (MHz* Km)	Operating Distance
				Min	Max	Min	Max						
S-1000MM-M2ST05	Port 1	Dual ST	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual ST	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)

											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
S-1000MM-M2SC05	Port 1	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
S-1000MM-M2LC05	Port 1	Dual LC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual LC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
S-1000MM-M2ST2	Port 1	Dual ST	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)

										50	400	500 m (1,640 ft)
										50	500	550 m (1,804 ft)
										50	2000	1000 m (3281 ft)
	Port 2	Dual ST	1000BASE-LX	-6.0	0.0	-0.0	-17.0	6.0	1310	MMF	62.5	160	2 km (1.2 mi)
											50	500	1000 m (3281 ft)
S-1000MM-M2SC2	Port 1	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual SC	1000BASE-LX	-6.0	0.0	-0.0	-17.0	6.0	1310	MMF	62.5	160	2 km (1.2 mi)
											50	500	1000 m (3281 ft)
S-1000MM-M2LC2	Port 1	Dual LC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual LC	1000BASE-LX	-6.0	0.0	-0.0	-17.0	6.0	1310	MMF	62.5	160	2 km (1.2 mi)
											50	500	1000 m (3281 ft)
S-1000MM-S2ST10	Port 1	Dual ST	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual ST	1000BASE-LX/LH	-9.5	-3.0	-20.0	-3.0	10.5	1310	MMF*	62.5	500	550 m (1,804 ft)

											50	400	550 m (1,804 ft)
											50	500	550 m (1,804 ft)
										SMF**	**	-	10 km (6.2 mi)
S-1000MM-S2SC10	Port 1	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual SC	1000BASE-LX/LH	-9.5	-3.0	-20.0	-3.0	10.5	1310	MMF*	62.5	500	550 m (1,804 ft)
											50	400	550 m (1,804 ft)
											50	500	550 m (1,804 ft)
										SMF**	**	-	10 km (6.2 mi)
S-1000MM-S2LC10	Port 1	Dual LC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual LC	1000BASE-LX/LH	-9.5	-3.0	-20.0	-3.0	10.5	1310	MMF*	62.5	500	550 m (1,804 ft)
											50	400	550 m (1,804 ft)
											50	500	550 m (1,804 ft)
										SMF**	**	-	10 km (6.2 mi)
S-1000MM-S2ST40	Port 1	Dual ST	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)

											50	2000	1000 m (3281 ft)
	Port 2	Dual ST	1000BASE-EX	-2	2.0	-23.0	-3.0	21	1310	SMF**	**	-	40,000 m (131,234 ft)
S-1000MM-S2SC40	Port 1	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual SC	1000BASE-EX	-2	2.0	-23.0	-3.0	21	1310	SMF**	**	-	40,000 m (131,234 ft)
S-1000MM-S2LC40	Port 1	Dual LC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual LC	1000BASE-EX	-3	2.0	-23.0	-3.0	20	1310	SMF**	**	-	40,000 m (131,234 ft)
S-1000MM-S2ST70	Port 1	Dual ST	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual ST	1000BASE-ZX	-2	5.0	-23.0	-3.0	21	1550	SMF**	**	-	70 km (43,5 mi)
S-1000MM-S2SC70	Port 1	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)

											50	2000	1000 m (3281 ft)
	Port 2	Dual SC	1000BASE-ZX	-2	5.0	-23.0	-3.0	21	1550	SMF**	**	-	70 km (43,5 mi)
S-1000MM-S2LC70	Port 1	Dual LC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual LC	1000BASE-ZX	0	5.0	-23.0	-3.0	23	1550	SMF**	**	-	70 km (43,5 mi)
S-1000MM-S2ST120	Port 1	Dual ST	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual ST	1000BASE-ZX	0	5.0	-32.0	-9.0	32.0	1550	SMF**	**	-	120 km (75 mi)
S-1000MM-S2SC120	Port 1	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual SC	1000BASE-ZX	0	5.0	-32.0	-9.0	32.0	1550	SMF**	**	-	120 km (75 mi)
S-1000MM-S2LC120	Port 1	Dual LC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)

	Port 2	Dual LC	1000BASE-ZX	0	5.0	-32.0	-9.0	32.0	1550	SMF**	**	-	120 km (75 mi)
S-1000MM-S2SC160	Port 1	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual SC	1000BASE-ZX	2	5.0	-32.0	-9.0	34.0	1550	SMF**	**	-	160 km (100 mi)
S-1000MM-S2LC160	Port 1	Dual LC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual LC	1000BASE-ZX	2	5.0	-32.0	-9.0	34.0	1550	SMF**	**	-	160 km (100 mi)
S-1000MM-S2ST160	Port 1	Dual ST	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual ST	1000BASE-ZX	2	5.0	-32.0	-9.0	34.0	1550	SMF**	**	-	160 km (100 mi)

Single Fiber Models Recommended use in pairs

Model	Port	Connector	Type	Transmit (dBm)		Receive (dBm)		Power Budget (dBm)	Wavelength (nm)	Fiber Type	Core Size (um)	Modal Bandwidth (MHz* Km)	Operating Distance
				Min	Max	Min	Max						
S-1000MM-S1SC10U	Port 1	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)

											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Single SC	1000BASE-BX10-U	-9	-3.0	-20.0	-3.0	11	1310/1490	SMF**	**	-	10 km (6.2 mi)
S-1000MM-S1SC10D	Port 1	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Single SC	1000BASE-BX10-D	-9	-3.0	-20.0	-3.0	11	1490/1310	SMF**	**	-	10 km (6.2 mi)
S-1000MM-S1SC20U	Port 1	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Single SC	1000BASE-BX-U	-8	-3.0	-22.0	-3.0	14.0	1310/1490	SMF**	**	-	20 km (12.4 mi)
S-1000MM-S1SC20D	Port 1	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Single SC	1000BASE-BX-D	-8	-3.0	-22.0	-3.0	14.0	1490/1310	SMF**	**	-	20 km (12.4 mi)
S-1000MM-S1SC40U	Port 1	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)

											50	2000	1000 m (3281 ft)
	Port 2	Single SC	1000BASE-BX-U	-3	2.0	-23.0	-3.0	20.0	1310/1490	SMF**	**	-	40 km (25 mi)
S-1000MM-S1SC40D	Port 1	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Dual SC	1000BASE-BX-D	-3	2.0	-23.0	-3.0	20.0	1490/1310	SMF**	**	-	40 km (25 mi)
S-1000MM-S1SC80U	Port 1	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Single SC	1000BASE-BX-U	-2	3.0	-26.0	-3.0	24.0	1510/1590	SMF**	**	-	80 km (50 mi)
S-1000MM-S1SC80D	Port 1	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Single SC	1000BASE-BX-D	-2	3.0	-26.0	-3.0	24.0	1590/1510	SMF**	**	-	80 km (50 mi)
S-1000MM-S1SC120U	Port 1	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)

	Port 2	Single SC	1000BASE-BX-U	-3.0	2.0	-34.0	-9.0	31.0	1510/1590	SMF**	**	-	120 km (75 mi)
S-1000MM-S1SC120D	Port 1	Dual SC	1000BASE-SX	-9.5	-4.0	-17.0	-3.0	7.5	850	MMF	62.5	160	220 m (722 ft)
											62.5	200	275 m (902 ft)
											50	400	500 m (1,640 ft)
											50	500	550 m (1,804 ft)
											50	2000	1000 m (3281 ft)
	Port 2	Single SC	1000BASE-BX-D	-3.0	2.0	-34.0	-9.0	31.0	1590/1510	SMF**	**	-	120 km (75 mi)

The minimum fiber cable distance for all converters listed is 2 meters.

*A mode-conditioning adapter as specified by the IEEE standard, is required regardless of the span length. Note how the mode conditioning adapter for 62.5-um fibers has a different specification from the mode-conditioning adapter for 50-um fibers.

**ITU-T G.652 SMF as specified by the IEEE 802.3z standard

Media Converter Accessories

4 DIN Rail Mount Bkt	DIN Rail Mounting Kit
MCSM	Standalone media converter wall mount bracket