

MMC Series

Copper to Fiber Mini Media and Rate¹ Converters



Mini media converters offer a smaller size and smaller carbon footprint to help the environment and save space in the office.

Overview

The Allied Telesis MMC Series of mini media converters leverages its smaller size to not only help the environment with a small carbon footprint, but also to save space in its working environment. Despite its compact size, the MMC Series delivers all the power and functionality of standard size media converters.

Extend Networks

The MMC Series are available in 100Mbps or 1000Mbps models. Depending on the model chosen, the fiber-optic port has options for fixed SC, ST, LC or SFP connectors capable of multi-mode or single-mode fiber connectivity. The twisted-pair copper port has an RJ-45 connector supporting either 100Mbps or 1000Mbps, with a maximum operating distance of 100 meters (328 feet).

VLAN Support

Many new backbone switch products now support the industry-standard IEEE 802.1Q specification for Virtual LANs (VLANs) that send extra-long data packets on the network. The MMC Series are fully compatible with these long packets, enabling them to be used in modern networks.

Media converters not supporting this feature discard these extra long packets, making them unsuitable for modern networks.

Small and Flexible

The smaller size and external power supply of the MMC Series allows them to be used almost anywhere.

Smart MissingLink (SML)

The Smart MissingLink™ (SML) feature monitors network connections and provides notification when network segments fail, allowing network managers to quickly identify the source and location of failed segments and minimize downtime.

Smart Link Restoration

Smart Link restoration allows the devices, in cases of power failure, link loss or other interrupted service, to automatically restore the link without the need to restart/reset them.

Power Saving

The MMC Series continues the Allied Telesis commitment to the environment with over 50% power savings.² With just 1.7W of power usage, the MMC Series media converters are some of the most efficient in the market today.

Link Test

The link test is a fast and easy way for you to test the connections between the media converter ports and the connected end nodes. If a network problem occurs, you can perform a link test to determine which port is experiencing a problem, and focus your troubleshooting efforts on the right cable or end node.

Key Features

- Industrial Temp available on AT-MMC2000/I-SP version
- Convert speed as well as media type
- 2K MAC address tables
- Store-and-forward switching mode
- Transparent to IEEE 802.1Q packets
- Auto Negotiation and Auto MDI/MDIX on copper port
- EEE support on copper port
- Far End Fault on Fiber
- 10K byte Jumbo packets
- Link/Activity LED per port
- Smart MissingLink
- Fixed SC/ST/LC or SFP (100MB or 1000MB) optics
- 12VDC power supply
- Wall-mountable using MMCWLMT
- Locking power supply jack to prevent accidental power disconnects
- Available in Trade Agreement Act (TAA) models

¹ MMC1000/SP will only accept 1000T on the copper side

² Over previous models

	Fiber Type	Fiber Optic Diameter	Optical Wavelength	Launch Power		Effective Power			Max Distance
				Min	Max	Min	Typical	Saturation	
MMC2000/T	RJ45								100 m
MMC200/xx	FDDI/OM1/OM2/OM3	62.5/125	1310 nm	-20 dBm	-14 dBm	-32 dBm	-34 dBm	-3 dBm	2 km
MMC200LX/xx	OS2	9/125	1310 nm	-15 dBm	-5 dBm	-32 dBm	-34 dBm	-3 dBm	20 km
	OS1	9/125	1310 nm	-15 dBm	-5 dBm	-32 dBm	-34 dBm	-3 dBm	10 km
MMC2000/xx	OM2/OM3	50/125	850 nm	-9.5 dBm	-4 dBm	-17 dBm	-20 dBm	-3 dBm	550 m
	FDDI/OM1	62.5/125	850 nm	-9 dBm	-4 dBm	-17 dBm	-20 dBm	-3 dBm	220 m
MMC2000LX/xx	OS2	9/125	1310 nm	-10 dBm	-1 dBm	-22 dBm	-24 dBm	-1 dBm	20 km
	OS1	9/125	1310 nm	-10 dBm	-1 dBm	-22 dBm	-24 dBm	-1 dBm	10 km
MMC2000/SP	Depends on SFP								
MMC2000I/SP	Depends on SFP								

SPECIFICATIONS

Status LEDs

- Power
 - ON Power
 - OFF No power
- SYS
 - ON System operating normally
 - OFF System not operating normally
 - Blinking Fault condition
- LAN fiber port (Left)
 - OFF No link is established
 - ON Link is established
 - Blinking Activity is detected
- LAN copper port (Right)
 - OFF No link is established
 - ON Link is established
 - Blinking Activity is detected

Operational Characteristics

- SW1 (left):
 - LOW = Link test
 - HIGH = Smart MissingLink disabled
- SW2 (right):
 - LOW = Auto-negotiation (normal operation)
 - HIGH = Disable auto-negotiation on copper port - force 100Mbps Full Duplex
- MAC address table 2k addresses
- Forwarding/filtering rate
 - 1,488,000 for 1000Mbps
 - 148,880pps for 100Mbps
 - 14,880pps for 10Mbps
- Latency 14.3μsec (64 byte packet,100Mbps full-duplex)

Physical Specifications

- Dimensions 5.6 cm × 10.16 cm × 2.18 cm
- (W × D × H) 2.16 in × 4 in × 0.86 in
- Weight 6 oz

Power Characteristics

- Power consumption 140mA@12V typical

Environmental Specifications

- Operating temperature
 - 0°C to 50°C (32°F to 122°F) Except AT-MMC2000I/SP
 - 25°C to 70°C (-13°F to 158°F) AT-MMC2000I/SP
- Operating humidity 5% to 95% relative humidity (non-condensing)
- Storage temperature -40°C to 70°C (-40°F to 158°F)
- Storage humidity 5% to 95% relative humidity (non-condensing)
- Altitude Up to 3048 m (10000 ft)

Electrical and Mechanical Approvals

- Safety
 - UL60950-1
 - EN60950-1
- Emissions (EMI)
 - FCC Class A
 - EN55022 Class A
 - CISPR 22 Class A
 - C-TICK
 - VCCI

ORDERING INFORMATION

AT-MMC200/SC-xx	10/100TX to 100FX/SC Multi Mode Mini Media and Rate Converter
AT-MMC200/ST-xx	10/100TX to 100FX/ST Multi Mode Mini Media and Rate Converter
AT-MMC200/LC-xx	10/100TX to 100FX/LC Multi Mode Mini Media and Rate Converter
AT-MMC200LX/SC-xx	10/100TX to 100X/SC Single Mode Mini Media and Rate Converter
AT-MMC200LX/ST-xx	10/100TX to 100X/ST Single Mode Mini Media and Rate Converter
AT-MMC2000/SC-xx	10/100/1000T to 1000SX/SC Multi Mode Mini Media and Rate Converter
AT-MMC2000/ST-xx	10/100/1000T to 1000SX/ST Multi Mode Mini Media and Rate Converter
AT-MMC2000/LC-xx	10/100/1000T to 1000SX/LC Multi Mode Mini Media and Rate Converter

Where xx = 960 for AC PSU, Multi Region (US, UK, AU, EU), TAA

AT-MMC2000LX/SC-xx	10/100/1000T to 1000LX/SC Single Mode Mini Media and Rate Converter
AT-MMC2000LX/LC-xx	10/100/1000T to 1000LX/LC Single Mode Mini Media and Rate Converter
AT-MMC2000/SP-xx	10/100/1000T to 100/1000X SFP Media and Rate Converter
AT-MMC2000I/SP-xx	10/100/1000T to 100/1000 SFP, I-Temp
AT-MMC2000/T-xx	10/100/1000T to 10/100/1000T Media and Rate Converter
AT-MMC1000/SP-60	10/100/1000T to 1000SX/SC Multi Mode Mini Media and Rate Converter

Where xx = 960 for AC PSU, Multi Region (US, UK, AU, EU), TAA

Associated Components

AT-MMCR18	18-slot chassis for MMC Series media converters
AT-MMCWLMT-005	Wall mount for MMC Series media converters (5 pack)
AT-MMCTRAY6	1RU rack-mount tray for up to 6 MMC Series media converters
SFP Modules SFP modules are only compatible with the SFP ports on the AT-MMC2000/SP	
AT-SPFX/2-90	2 km, 100FX (LC), 1310 nm, TAA Compliant
AT-SPFX30/I	100FX single-mode 1310 nm fiber up to 30 km
AT-SPSX	1000SX GbE multi-mode 850 nm fiber up to 550 m
AT-SPSX-90	1000SX GbE multi-mode 850 nm fiber up to 550 m
AT-SPLX10a	1000LX GbE single-mode 1310 nm fiber up to 10 km

AT-SPLX40	1000LX GbE single-mode 1310 nm fiber up to 40 km
AT-SPZX120	1000ZX GbE single-mode 1310 nm fiber up to 120 km
AT-SPBD10-13	10 km, 1G, SMF, BiDi, LC (1310Tx/1490Rx)
AT-SPBD10-14	10 km, 1G, SMF, BiDi, LC (1490Tx/1310Rx)
AT-SPBD20LC/I-13	20 km, 1G, SMF, BiDi, LC, TAA (1310Tx/1490Rx)
AT-SPBD20LC/I-14	20 km, 1G, SMF, BiDi, LC, TAA (1490Tx/1310Rx)
AT-SPTXc	1000T 100 m copper
AT-SPTX-90	1000T 100M Copper, TAA
AT-SPEX	1000X GbE multi-mode 1310 nm fiber up to 2 km