

MC-100-MM/MC-120-SM Enhanced 10/100Base-TX to 100Base-FX Media Converter

Introduction:

The MC-100-MM/ MC-120-SM Media Converter is a cost-effective, feature-packed solution for expanding or extending an existing Ethernet/ Fast Ethernet network. The converter boasts enhanced with such features as remote and local loop back testing, auto-negotiation, and link fault signaling for total reliability. It also features seven DIP switches for manual activation of the enhanced features. This gives the MC-100-MM/ MC-120-SM the ability to be quickly integrated into a network configuration.

The MC-100-MM/ MC-120-SM can support a variety of fiber optic cables and connectors that can extend distances (up to 60km) as well as offering flexibility in the migration to 100Base-FX networks!



Product Summary & Benefits:

The MC-100-MM/ MC-120-SM is a compact, reliable media conversion solution that provides network administrators with a cost-effective solution for migrating or upgrading copper-based networks to fiber optic-based networks. Whether data is transmitted over multi-mode, single mode or long-haul single mode fiber optics, or operating in full or half-duplex, the MC-100-MM/ MC-120-SM is capable of handling the various cable configurations.

Link Fault Signaling - The LFS feature supports the creation of a redundant or secondary connection. This can be an ideal solution for those mission-critical or constant service applications such as fiber To The Building (FTTB) or Fiber To The Curb (FTTC). The LFS LED provides immediately indication of when a cable has been severed or when some other cause of disruption in service has occurred. Simultaneously, data transmission will be switched to the redundant link resulting in 'non-stop' network connectivity.

Loopback Test - Once enabled via a DIP-switch, the Remote or Local Loopback test feature allows the administrator to instantly determine the status of the cable connection. This offers a simpler approach to troubleshooting; no more manual inspection of cables and wiring closets.

Support NWay - The MC-100-MM/ MC-120-SM takes advantage of intelligent connection technology to support auto-negotiation, thereby eliminating the hassle of manually configuring or monitoring the settings. This ensures a 'plug-n-play' operability.

Cable Flexibility & Scalability - The MC-100-MM/ MC-120-SM allows you to install fiber cabling anywhere within the network diagram without having to replace existing copper-based. It's compact, modular design facilitates easy deployment in a narrow desktop location, wall-mount or as a multi-unit configuration based on the MC-1600C-12 12-slot standard 19" rack-mount chassis or MC-1600C-4 4-slot rack-mount chassis. Plus, connecting the MC-100-MM/ MC-120-SM media converter to fiber segments extends distances between networking nodes of up to 60,000 meters.

Main Features:

- ◆ Device DIP switches allow multiple configuration options
- ◆ Automatic MDI/MDI-X selection on RJ-45 port
- ◆ Auto-negotiation, NWay support on RJ-45
- ◆ Link Fault Signaling (LFS)
- ◆ Remote and local loop back test
- ◆ LEDs for at-a-glance device status
- ◆ Extends distances ranging from 2km (multi-mode fiber) to 60km (single mode fiber)
- ◆ Store-and-forward at full wire speed
- ◆ Internal and external power supply options
- ◆ FCC Class A & CE approved RoHS compliant

Quick Reference

Connector #	Con.1	Con.2	
Type	RJ-45	ST or SC	
Protocol	10Base-T	100Base-FX	
	100Base-TX		
Cable Type	STP	Fiber	
Distance			
Multi-mode	FD	100 m	2,000 m
Multi-mode	HD	100 m	412 m
Single Mode	FD	100 m	60,000 m
Single Mode	HD	100 m	Not Re' d
Bandwidth			
Full Duplex (FD)	20 Mbps	200 Mbps	
	200 Mbps		
Half Duplex (HD)	10 Mbps	100 Mbps	
	100 Mbps		

Based on 1300nm Fiber, 850nm and 1550 nm are also available upon special request



MC-100-MM/MC-120-SM

Enhanced 10/100Base-TX to 100Base-FX Media Converter

Specifications:

Standard: IEEE 802.3 (10BASE-T Ethernet);
IEEE 802.3u (100BASE-TX/FX Fast Ethernet)

Ports: 1 x copper; 1 x fiber optic

Interfaces: UTP 100/120ohm; RJ-45 type
Fiber optic connector: SC, ST, LC, MT-RJ or
WDM types (only SC type for single mode)

Max. Distance: UTP: 100 meters (Category 3/4/5 or better)
Fiber: 2,000 meters
(62.5/125 micron fiber cabling)
20,000 meters
(9/125 micron fiber cabling)
40,000 meters
(9/125 micron fiber cabling)
60,000 meters
(9/125 micron fiber cabling)

Unit LED: 100: Green, illuminated when data packets
are being transmitted at
100Mbps
LFS: Red, illuminated when a break or
disruption exists in copper or
fiber links
LNK: Green, illuminated indicates receiving
link pulses from compliant
device
ACT: Green, flashing to indicate data packets
being sent / received
FDX: Amber, flashing to indicate unit is in
full-duplex mode
COL: Amber, flashing to indicate collision
PWR: Green, illuminated to indicate unit is
operating under normal power

Power: AC power adapter; 12V DC @ 0.8A
Frequency: 47Hz to 63Hz
Environment: Operating:
Temperature: 0°C to 50°C
Relative Humidity: 10% to 80%,
Non-condensing
Non-Operating/Storage:
Temperature: -25°C to 70°C
Relative Humidity: 5% to 90%,
Non-condensing
Emissions: FCC Part 15 of Class A & CE approved
Dimensions: 86 x 133.5 x 29mm (Width x Depth x Height)
Weight: 158g

Switches: DIP 1 - Enables / disables auto-negotiation
DIP 2 - Copper port (RJ45) duplex mode; full-duplex
or half-duplex
DIP 3 - Copper port (RJ45) data bit rate; 10Mbps or
100Mbps
DIP 4 - Fiber port duplex mode; full-duplex or
half-duplex
DIP 5 - Enables / disables link fault signaling (LFS)
DIP 6 - Enables / disables local loop back (LLBK)
DIP 7 - Enables / disables remote loop back (RLBK)



Fiber Optic Data:

Product#	Cable Type(µm)	Connector Type	Wave length	Min. TX PWR	Max. TX PWR	RX Sens.	Min. PWR Budget	Max. PWR Budget	Typical Distance
MC-100ST-MM	62.5/125	ST	1300nm	-20 dBm	-14 dBm	-31 dBm	11 dB	17 dB	2km
MC-100SC-MM	62.5/125	SC	1300nm	-20 dBm	-14 dBm	-31 dBm	11 dB	17 dB	2km
MC-120SC-SM20/30/60(km)	9/125	SC	1310nm	-15 dBm	-8 dBm	-31 dBm	16 dB	23 dB	20km
MC-120SC-SM20/30/60(km)	9/125	SC	1310nm	-15 dBm	-8 dBm	-34 dBm	19 dB	26 dB	30km
MC-120SC-SM20/30/60(km)	9/125	SC	1310nm	-5 dBm	0 dBm	-35 dBm	30 dB	35 dB	60km
MC-120WDM-SM20/40(km)	9/125	WDM	1310/1550nm	-14 dBm	-8 dBm	-31 dBm	17 dB	23 dB	20km
MC-120WDM-SMRS-20/40(km)	9/125	WDM	1310/1550nm	-8 dBm	0 dBm	-31 dBm	23 dB	31 dB	40km

Note: Fiber optic data specifications are accurate at time of printing and are subject to change without prior notice.

Applications:

The following illustrates typical applications for the MC-100-MM/ MC-120-SM series. The actual distances will depend on several factors including the quality of cables used and the terminal equipment employed.

MC-100-MM/MC-120-SM

Enhanced 10/100Base-TX to 100Base-FX Media Converter

Ordering Information:

MC-100ST-MM:

Enhanced 10/100Base-TX to 100Base-FX Multi-mode Media Converter (ST Connector)

MC-100SC-MM:

Enhanced 10/100Base-TX to 100Base-FX Multi-mode Media Converter (SC Connector)

MC-120SC-SM30/40/60 (km):

Enhanced 10/100Base-TX to 100Base-FX Single Mode Media Converter (SC Connector)

MC-120WDM-SMTS-20/40 (km):

Enhanced 10/100Base-TX to 100Base-FX Single Fiber Media Converter, Transmitter (WDM Connector)

MC-120WDM-SMRS-20/40 (km):

Enhanced 10/100Base-TX to 100Base-FX Single Fiber Media Converter, Receiver (WDM Connector)

NOTE: Above models available with internal AC/DC power supply options (used with the MC-1600C-4 or MC-1600-12 Mini Converter Chassis)

