

MC-120SC-SM

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

Introduction:

The MC-120SC-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-120SC-SM the ability to be quickly integrated into a network configuration.

The MC-120SC-SM can support a variety of fiber optic cables and connectors that can extend distances (up to 80km) as well as offering flexibility in the migration to 100Base-FX networks!



Product Summary & Benefits:

The MC-120SC-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 single mode or long-haul single mode fiber optics, or operating in full or half-duplex, the 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 immediate 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-120SC-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-120SC-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-120-SM media converter to fiber segments extends distances between networking nodes of up to 80,000 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 80km (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



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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, for single mode)

Max. Distance: UTP: 100 meters (Category 3/4/5 or better)
Fiber: 30km/40km/60km/80km
(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(um)	Connector Type	Wavelength	Min.TX PWR	Max TX PWR	RX Sens.	Min. PWR Budget	Max. PWR Budget	Typical Distance
MC-100ST-MM	62.5/125 50/125	ST	1300nm	-.20dBm	-.14dBm	-.31dBm	11dB	17dB	2km
MC-100SC-MM	62.5/125 50/125	ST	1300nm	-.20dBm	-.14dBm	-.31dBm	11dB	17dB	2km
MC-120SC-SM-30K	9/125	SC	1310nm	-.15dBm	-.8dBm	-.34dBm	19dB	26dB	30km
MC-120SC-SM-40K	9/125	SC	1310nm	-.15dBm	-.8dBm	-.35dBm	23dB	29dB	40km
MC-120SC-SM-60K	9/125	SC	1310nm	-.15dBm	-.8dBm	-.36dBm	30dB	36dB	60km

Applications:

The following illustrates typical applications for the MC-120SC-SM series. The actual distances will depend on several factors including the quality of cables used and the terminal equipment employed. **Ordering Information:**

MC-120SC-SM/30/40/60/80 (km):

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

Rack mount chassis available

MC-1600C-4 4 Bay

MC-1600C-12 12 Bay

