

ProLabs Auto Sensing 10/100/1000 to 100/1000 (SFP Required) copper to fibre Media converter



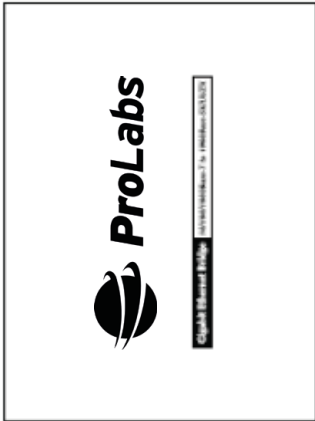
Key Features:

- Enables network extension over fibre with SFP pluggable Optic
- Flexible solution accepting a wide range of SFPs: FE, GbE, BiDi, WDM
- Multi-rate device supporting 10/100/1000 on the copper side and 100/1000 (dependant on SFP) on the fibre side
- Robust product with comprehensive 3 year warranty
- Bundled options available
- Comply with IEEE 802.3 10Base-T, IEEE 802.3u - 100Base-TX, 100Base-FX, IEEE 802.3ab - 1000Base-T, IEEE 802.3z - 1000Base-SX/LX/ZX Ethernet standard (Max distance 120Kms)
- Bridge mode Media Converter with TP port supports 10/100/1000Base-T and auto-MDI / MDIX
- Auto-Negotiation for 10/100/1000Base-T; Half-duplex or Full-duplex for 10Mbps and 100Mbps, full-duplex for 1000Mbps
- LED indicators for simple diagnostics and management
- Provides DIP switch for LFP function (Disable / Enable) setting
- Compact in size, easy installation
- OAM (TS-1000 and IEEE 802.3ah) supported
- 9K Jumbo frames supported

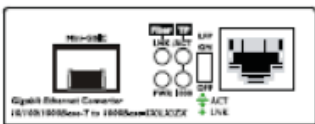
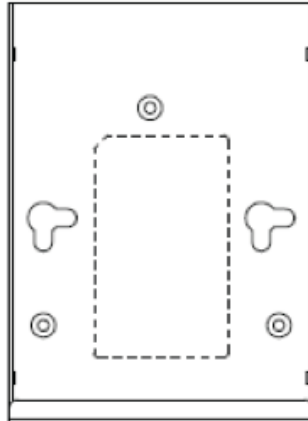
Real Panel



TOP Panel



Bottom



Front Panel

Box Contents:

Media Converter
AC-DC Power adaptor (Output 5VDC, 2A max)
User manual.

Duplex Mode Support

The MC-PRO-1000AS-SFP is one-channel media conversion between 10/100/1000Base-T and 100Base-FX or 1000Base-SX/LX/ZX. 10/100/1000Base-T port can work under Auto-negotiation mode. SFP slot can accept 100Base-FX SFP module or 1000Base-SX/LX/ZX SFP module and run at 100Mbps full duplex mode or 1000Mbps full duplex mode.

Link Fault Pass Through (LFP)

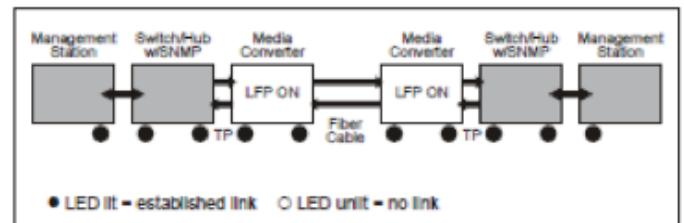
The LFP function includes the Link Fault Pass Through function (LLCF/LLR) and the DIP Switch design. LLCF/LLR can immediately alarm administrators the problem of the link media and provide efficient solution to monitor the net. The DIP Switch provides disable or enable the LFP function.

LLCF (Link Loss Carry Forward) means when a device connected to the convertor and the TP line loss the link, the convertor's fibre will disconnect the link of transmit. LLR (Link Loss Return) means when a device connected to the convertor and the fibre line loss the link, the convertor's fibre will disconnect the link of transmit. Both can immediately alarm administrators the problem of the link media and provide efficient solution to monitor the net.

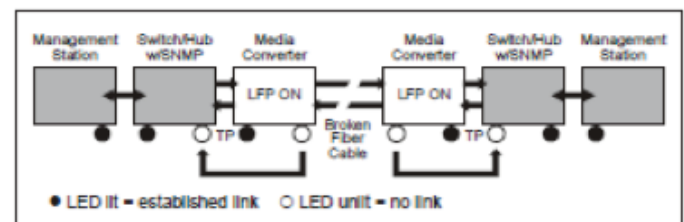
Link Loss Carry Forward (LLCF)

MC-PRO-1000AS-SFP incorporates an LLCF function for troubleshooting a remote connection. When LFP function is enabled, the FL/TP ports do not transmit a link signal until they receive a link signal from the opposite port.

The diagram below shows a typical network configuration with a good link status using MC-PRO-1000AS-SFP for remote connectivity.



If the connection breaks, MC-PRO-1000AS-SFP that link loss forward to the switch/hub that generates a trap to the management station. The administrator can then determine the source of the issue.



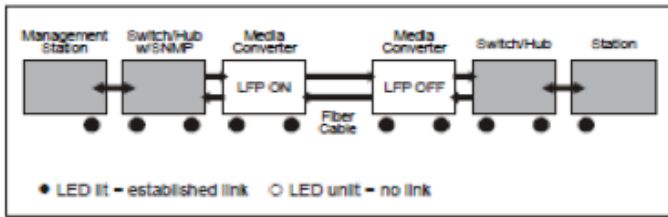
*Units are shipped with the LFP function enabled (ON).

Link Loss Return (LLR)

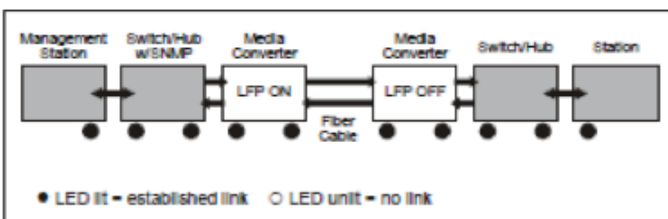
The fibre ports of MC-PRO-1000AS-SFP have been designed with the LLR function for troubleshooting a remote connection. LLR works in conjunction with LLCF.

When LFP function is enabled *(by default), the port's transmitter shuts down when its receiver fails to detect a valid receive link. LLR should only be enabled on one end of the link and is typically enabled on either the unmanaged or remote device.

The diagram below shows a typical network configuration with a good link status using MC-PRO-1000AS-SFP for remote connectivity. Note that LLR and LLCF are enabled as indicated in the diagram.



If one of the optical conductors is bad (as shown in diagram box below), the converter with LLR function will return a no-link condition to its link partner. With LLCF function also enabled, the no-link condition is carried forward to the switch/hub where a trap is generated to the management station, and the administrator can then determine the source of the loss.



NOTE: LFP function is turn-on in default. This feature can also be turned off via the DIP-switch. If you are familiar with the network installation and for diagnostic purpose (i.e. check which end is broken), you can turn it off. Otherwise, please maintain it in the default position.

Product Specifications

Model	MC-PRO-1000AS-SFP
Connector - Fibre	SFP, LC Type
Mode	Vary on SFP module
Fibre Maximum Distance	Vary on SFP module
Connector - Copper	10/100/1000Mbps RJ-45
Modes	Full Duplex, auto-negotiation
Packet Forwarding Rate (64bytes)	14880pps@10Mbps 148810pps@100Mbps 1488000pps@1000Mbps
LED indicators	PWR, 1000, Fibre/LNK/ACT, TP/LNK/ACT
DIP switch	LFP function (Disable/Enable) setting
Protocols and Standards	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX, 100Base-FX IEEE 802.3ab 1000Base-T IEEE 802.3z m1000Base-SX/LX/ZX
Cable	10/100/1000Base-T: 1000Base-T-2-pair UTP Cat. 5/5e/6, up to 100m 100Base-FX: 50/125µm or 62.5/125µm multimode fibre optic cable, distance support varies on SFP module. 9125µm single-mode fibre optic cable, distance support varies on SFP module. 1000Base-SX: 50/125µm or 62.5/125µm multi-mode fibre optic cable, distance support varies on SFP module. 1000Base-LX: 9/125µm single-mode fibre optic cable, distance support varies on SFP module. 1000Base-ZX: 9/125µm single-mode fibre optic cable, distance support varies on SFP module.

	1000Base-ZX: 9/125µm single-mode fibre optic cable, distance support varies on SFP module.
OAM	TS-1000, IEEE 802.3ah terminal
Jumbo Packet Size	9K
Dimensions	26 x 70 x 97mm (H x W x D)
Power	External power adaptor 5V 2A max.
EMI Compatibility	FCC Class A, CE Certification Class A
Temperature	Storage: -10 to 70 degrees centigrade Operating: 0 to 50 degrees centigrade
Humidity	5% to 90% non-condensing

Cable Connection Parameter

Fast Ethernet:

Duplex	Connection	Limitation (max.)
Twisted Pair		
Half / Full	Node to Node Node to Switch/Hub	100 metres
Multi-Mode Converters		
MM Half	Node to Node Node to Switch	412 metres
MM Full	Node to Node Node to Switch	2 kilometres
Single-Mode Converters		
SM Full	Node to Node Node to Switch	Depends on model

Gigabit Ethernet:

Standard	Fibre Type	Cable Specification
1000Base-SX (850nm)	Multi-mode	50/125µm or 62.5/125µm
1000Base-LX (1310nm)	Multi-mode	50/125µm or 62.5/125µm
	Single-mode	9/125µm
1000Base-ZX (1550nm)	Single-mode	9/125µm

Wiring distances:

Standard	Fibre	Diameter (micron)	Model Bandwidth (Mhz * km)	Max. Distance (metres)
1000Base-SX	MM	62.5	100	220
		62.5	200	275
		50	400	500
		50	500	550
1000Base-LX	MM	62.5	5	550
		50	4	
		50	5	
1000Base-LX	SM	9	N/A	50km
1000Base-ZX	SM	9	N/A	80km
1000Base-EZX	SM	9	N/A	120km

Ordering information:

Part Number	Description
MC-PRO-1000AS-SFP	PROLABS 10/100/1000 Auto Sensing Media Converter SFP Required

Bundling information:

Part Code	Description
MC-PRO-1000-SX	PROLABS 1000BASE Converter with SFP, RJ45 to LC MM 550m
MC-PRO-1000-SX2	PROLABS 1000BASE Converter with SFP, RJ45 to LC MM 2km
MC-PRO-1000-LX	PROLABS 1000BASE Converter with SFP, RJ45 to LC SM 10km
MC-PRO-1000-LX40	PROLABS 1000BASE Converter with SFP, RJ45 to LC SM 40km
MC-PRO-100-FX	PROLABS 100BASE Converter with SFP, RJ45 to LC MM 2km
MC-PRO-100-LX	PROLABS 100BASE Converter with SFP, RJ45 to LC SM 15km

Further options available from ProLabs.