
91-EMCSFPSM Intelligent Media Converter Specification

Product Summarize.

Fiber media converter be used to transmission Ethernet electric signals into optical signals,the features is transmit and receive optical signals in-pharse by pair of fiber optical cable,due to the signal transmission is light pulse form, so relative to the metal wires are incomparable advantages: high security, reliability, transmission speed, long distance, low cost, saving non-renewable resources. These characteristics are very suitable for metropolitan area networks and local area networking applications.

This series of fiber media covnerter adopted powerful ASIC chip, simple design, high reliability, low power consuming and so on. Alarm function can be remind of the link failure occurs and prompts fault location in time.Use high-quality optical transceiver modules, optical properties provide a good electrical characteristics, to ensure reliable data transmission, long working life.

Produce feature.

- △ According to IEEE802.3z/ab,IEEE802.1q,IEEE802.3u,1000Bast-SX/LX,IEEE802.3ah standard.
- △ Support IEEE802.3X flow control function.
- △ Ethernet port support 10/100/1000M,full-duplex and semiduplex auto-negotiation.
- △ Ultra-low time-delay data transmission, completely transparent to the network protocol.
- △ Port support VLAN,port monitoring.IPV6 port monitoring flux is 4K,base on MAC's Trunking.
- △ Effectiveness of automatic link transfer,dual Tagging/QinQ.
- △ Support for spanning tree and loop detection, IGMP,MLD.
- △ Link failure alarm(LFP)function.
- △ Built-in 128KB RAM data buffer,suport 9728Bytes long data packet.
- △ 50/125um or 62.5/125um multimode fiber link transmission distance up to 2KM.
- △ 9/125um singlemode fiber link transmission distance up to 120KM.
- △ Modulization configuration design ,card can be insert to centralized power supply chassis.
- △ Support 1pcs SFP port, can freely choose the SFP transceiver for single mode/multimode with different transmission distance.
- △ Support hot-swappable,plug and play.
- △ 6 LED indicators ,dynamix feedback link connection state and fault detection.
- △ Easily adjust link failure alarm function open and transmission mode.
- △ Built-in lightning protection circuit, significantly reduce the damage caused by thunderbolt induction.
- △ Average working time more than 100,000hours without failures.

Basic features:

Item		Specification/Term
1	Item number	91-EMCSFPSM
2	Standard	IEEE802.3u,10/100/1000Base-T,1000Base-SX/LX,IEEE802.3ah, IEEE802.3z/ab
3	Flow control	IEEE8.2.3x port flow control and backpressure control
4	Transmission speed	10M/100/1000M auto-negotiation
5	Transmission mode	Full-duplex/semiduplex (auto-negotiation)
6	Conversion mode	Storage transmission
7	MAC address	VLAN 4K
8	Buffer space	128KB
9	Packet length	Storage transmission:9728Bytes,straight-through,infinite.
10	Time-delay	9.6us
11	Bit error rate	<1/1000000000
12	MTBF	100,000 hours
13	Power supply	AC100~265V 50/60Hz / DC5V 1A
14	Power dissipation	<2.5W
15	Interface	Electric port:RJ45,Fiber port:SC/FC or SFP
16	Twisted-pair	Cat.5,Cat.6
17	Multimode fiber	50/125,62.5/125um
18	Singlemode fiber	8/125,8.3/125,9/125um
19	Wavelength	850nm/1310nm/1550nm
20	Transmit distance	
	1) Dualfiber multimode	550m
	2) dual fiber singlemode	20/40/60/80/100/120Km
	3) single fiber singlemode	20/40/60/80Km
	4) Cat.5 twisted-pair	100m
21	Operating temperature	0~50℃
22	Storage temperature	-20~70 °C
23	Humidity	5%~90% (no condensation)
24	Size	115 * 77 * 26mm (L*W*H)(card type without metal box) 118 * 87 * 28mm(L*W*H)(with metal box) 158*128*32mm(L*W*H)(Built-in power supply)

Network standard.

IEEE 802.3 Ethernet (802.3 Ethernet standard)
IEEE 802.3u FastEthernet (Fast Ethernet standard)
IEEE 802.1d Spanning tree (Ethernet spanning tree protocol)
IEEE 802.1p Qos (Ethernet Qos standard)
IEEE 802.3z/ab (Gigabit Ethernet)
IEEE 802.3ah (OAM function)

Installation and initialization

Follow these steps to install media converter:

1. Put the patch cord or pigtail from the fiber terminal box to far-end fiber media converter port.

Ps: Dual fiber media converter, please remember TX connect to RX, far-end media converter RX connect to TX.

2. Put the twisted-pair from network equipment to single fiber media converter's LAN port, this media converter RJ-45 port Auto-negotiation with direct line and cross line. Open the media converter switch(slot chassis type).

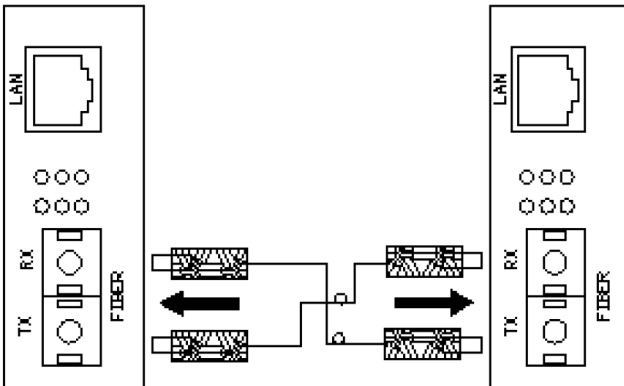
3. External power supply media converter connect with DC power adapter, built-in power supply media converter connect with power cable and please remember open the power switch.

4. After connecting power source, fiber media converter indicator start self-checking, when self-checking finished, PWR LED will be bright, Other LEDs will be detected under the media converter to the docking with the status of network devices to determine the working status of the media converter.

5. Enable the alarm and connection status indicator shows the following table:

Connection State			Turn on link-alarm						Turn off link-alarm					
Power	Fiber	Twisted-pair	TX1000	FXLINK /ACT	FDX	TX100	TXLINK /ACT	PWR	TX1000	FXLINK /ACT	FDX	TX100	TXLINK /ACT	PWR
ON	OFF	OFF	★	○	★	★	★	●	○	○	○	○	○	○
ON	OFF	ON(1000M)	★	○	★	★	★	●	●	○	●	○	●	●
		ON(100M)	★	○	★	★	★	●	○	○	●	●	●	●
ON	ON	OFF(local side)	○	●	○	○	○	●	○	●	○	○	○	●
		OFF(remote side)	★	●	★	★	★	●	○	●	○	○	○	●
ON	ON	ON(1000M)	●	●	●	○	●	●	●	●	●	○	●	●
		ON(100M)	○	●	●	●	●	●	○	●	●	●	●	●

PS: ○: Shows light off, ●: Shows light on, ★: Shows light flash, Twinkling frequency is 100ms.

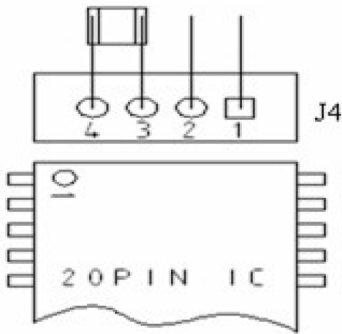


Link alarm function description.

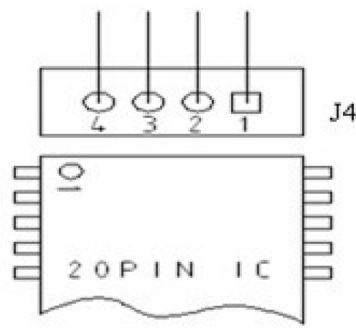
1. When the media converter link alarm function is enabled, RJ-45 port's link state will notice to the opposite joint device's fiber port. If local side media converter RJ-45 port connection interrupted, local side fiber port will send a busy code to the remote side media converter's fiber port. After remote side media converter received the busy code, it will enforcement the RJ-45 port disconnection. This feature will allow the interconnection between the media converters of each RJ-45 port connection interrupted, opposite joint media converter RJ-45 port will be interrupted at the same time, through the media converter indicator LED (FEF) feedback.

2. Interconnect media converter must be have (link warning) function to achieve link alarm functions.

3. Link alarm function can be set by short patch cord through the Board. The patch cord should be located in the side of Board's 20PIN IC.



Turn-on link alarm function.



Turn-off link alarm function.

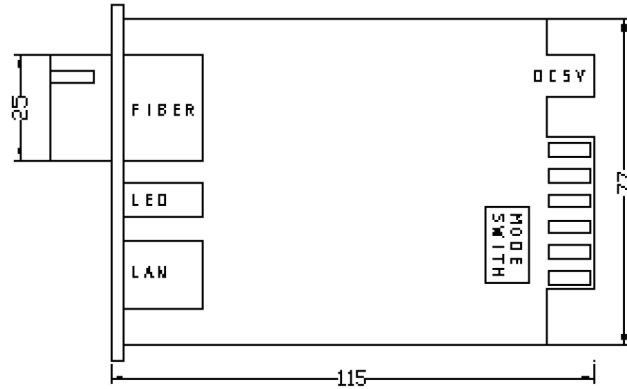
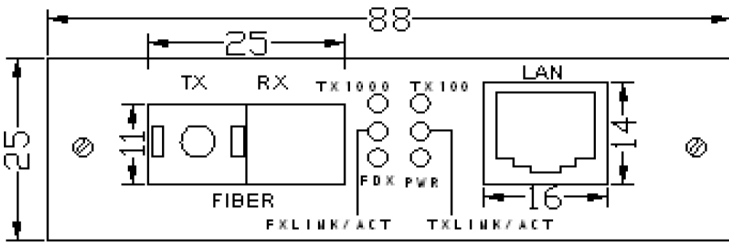
LED indicator definition.

LED indicator	Color	Signification
TX1000	Green	light: fiber interface working speed is 1000M bps off: fiber interface working speed is <1000M bps
FX-Link/Act	Green	light: Fiber link connected correctly. flash: fiber link have data transmission. off: fiber link connected faulty.
FDX	Green	Light: Twisted-pair work in full-duplex. Off: Twisted-pair work in semiduplex..
TX100	Green	Light: twisted-pair working speed is 100M.. Off: twisted-pair working speed is 10M..
TX-Link/Act	Green	Light: twisted-pair connected correctly. Flash: twisted-pair have data transmission. Off: twisted-pair link connected faulty.
PWR	Green	Light: Power connected. Off: power unconnected or power adapter damaged.

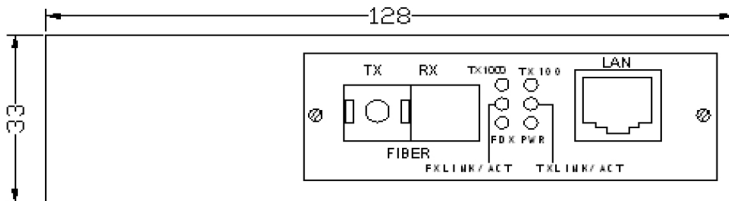
Product figuration and size:

Item	Shell Type	Size (L*W*H mm)	Power supply	Weight	Remark
APT-1124FL	SFP card	115 * 77 * 26mm	centralized	0.26kg	Install in 19"16-slots chassi
APT-1124FL	SFP independent	118 * 87 * 28mm	External	0.48kg	

1.Card media converter figuration size item view:



2. Slot chassis media converter figuraton size item view:



3.SFP card media converter figurature size item view:

