

Introduction

10/100/1000M adaptive Ethernet optical Media Converter is a designed ideal for optical transmission via high-speed Ethernet. It is capable of switching between twisted pair and optical and relaying across 10/100 Base-TX/1000 Base-Fx and 1000Base-FX network segments, meeting long-distance, high-speed and high-broadband fast Ethernet workgroup users' needs, achieving high-speed remote interconnection for up to 100 km's relay-free computer data network. With steady and reliable performance, design in accordance with Ethernet standard and lightning protection, it is particularly applicable to a wide range of fields requiring a variety of broadband data network and high-reliability data transmission or dedicated IP data transfer network, such as telecommunication, cable television, railway, military, finance and securities, customs, civil aviation, shipping, power, water conservancy and oilfield etc, and is an ideal type of facility to build broadband campus network, cable TV and intelligent broadband FTTB/FTTH networks.

Characteristics

- In accordance with IEEE802.3 10Base-T, IEEE802.3u 100Base-T,
- IEEE802.3ab 1000Base-T and IEEE802.3z 1000Base-FX
- Supported Ports: LC for optical fiber; RJ45 for twisted pair
- Auto-adaptation rate and full/half-duplex mode supported at twisted pair port
- Auto MDI/MDIX supported without need of cable selection
- Up to 6 LEDs for status indication of optical power port and UTP port
- External and built-in DC power supplies provided
- Up to 1024 MAC addresses supported
- 512 kb data storage integrated, and 802.1X original MAC address authentication supported
- Conflicting frames detection in half-duplex and flow control in full duplex supported

Specifications

Technical Parameters for 10/100/1000M Adaptive Fast Ethernet Optical Media Converter		
Number of Network Ports	1 channel	
Number of Optical Ports	1 channel	SC ST FC fiber connection optional
NIC Transmission Rate	10/100/1000Mbit/s	
NIC Transmission Mode	10/100/1000M adaptive with support for automatic inversion of MDI/MDIX	
Optical Transmission Rate	1000Mbit/s	
Operating Voltage	AC 220V or DC +5V	
Overall Power	<3W	
Network Ports	RJ45 port	

Optical Specifications	Optical Port: SC, ST FC (Optional) Multi-Mode: 50/125, 62.5/125um Single-Mode: 8.3/125, 8.7/125um, 9/125,10/125um Wavelength: Single-Mode: 1310/1550nm
Data Channel	IEEE802.3x and collision base backpressure supported Working Mode: Full/half duplex supported Transmission Rate: 1000Mbit/s with error rate of zero
Operating Temperature	0°C to +70°C
Storage Temperature	-20°C to +85°C
Humidity	5% to 90%
MTBF	> 100,000 hours
Warranty	Replacement within one year and non-charge repair within three years guaranteed

LED Indicators

Instructions on Front Panel

Identification for front panel of the media converter is shown below:



a. Identification of Media Converter

TX - transmitting terminal; RX - receiving terminal;

b. PWR

Power Indicator Light – “ON” means normal operation of DC 5V power supply adaptor.

c. 1000M Indicator Light

“ON” means the rate of the electric port is 1000 Mbps, while “OFF” means the rate is 100 Mbps.

d. LINK/ACT (FP)

“ON” means connectivity of the optical channel; “FLASH” means data transfer in the channel; “OFF” means non-connectivity of the optical channel.

e. LINK/ACT (TP)

“ON” means connectivity of the electric circuit; “FLASH” means data transfer in the circuit; “OFF” means non-connectivity of the electric circuit.

f. SD Indicator Light

“ON” means input of optical signal; “OFF” means non input.

g. FDX/COL:

“ON” means full duplex electric port; “OFF” means half-duplex electric port.

h. UTP

Non-shielded twisted pair port;

Instructions on Rear Panel

There is only a DC 5V external power port on the rear panel:

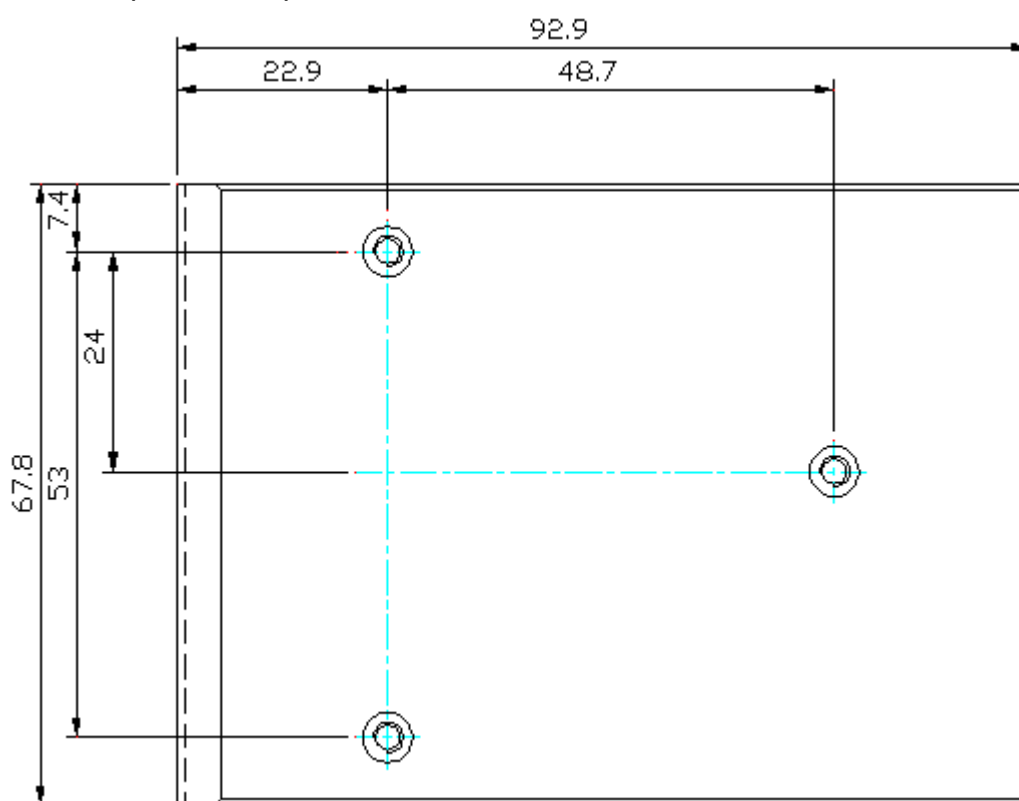


Ethernet port (NODE / HUB)

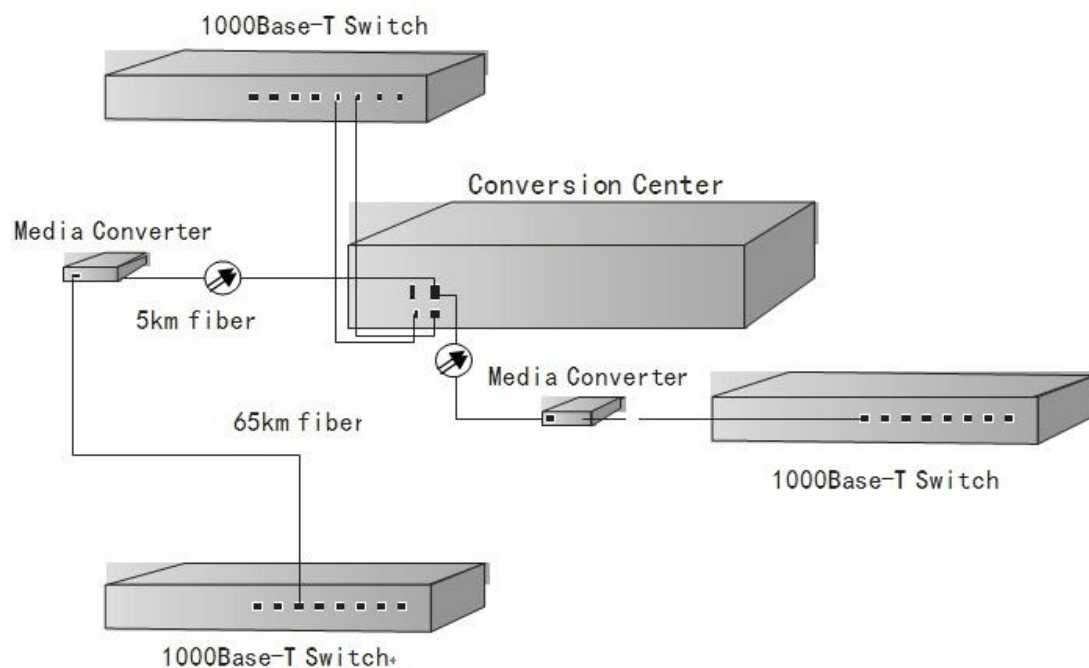
Supports auto MDI/MDIX crossover, the pin definition of RJ-45:

PIN	Signal define	Direction
Pin1	BI_DA+	Output +
Pin2	BI_DA-	Output -
Pin3	BI_DB+	Input +
Pin4	BI_DC+	Output +
Pin5	BI_DC-	Output -
Pin6	BI_DB-	Input -
Pin7	BI_DD+	Input +
Pin8	BI_DD-	Input -

Dimensions (standalone)



Application scenario



Ordering Information

PN	Mode	Connector	Wavelength (nm)	Transmit Power (dBm)	Receive sensibility (dBm)	Light Saturation (dBm)	Distance
HYMC-1000MM-SC	MM	dual fiber SC	850	-10~-3	≤-19	0	0.55km
HYMC-1000MM-ST	MM	dual fiber ST	850	-10~-3	≤-19	0	0.55km
HYMC-1000MM1-SC	MM	dual fiber SC	1310	-12~-3	≤-20	0	2km
HYMC-1000MM1-ST	MM	dual fiber ST	1310	-12~-3	≤-20	0	2km
HYMC-1000SM-SC	SM	dual fiber SC	1310	-8~-3	≤-22	0	20km
HYMC-1000SM-ST	SM	dual fiber ST	1310	-8~-3	≤-22	0	20km
HYMC-1000SM2-SC	SM	dual fiber SC	1310	-5~3	≤-24	0	40km
HYMC-1000SM3-SC	SM	dual fiber SC	1550	-5~3	≤-24	0	60km
HYMC-1000SM4-SC	SM	dual fiber SC	1550	-2~5	≤-24	0	80km
HYMC-1000SM5-SC	SM	dual fiber SC	1550	-2~5	≤-30	-7	100km