

1. Introduction

10/100M adaptive fast Ethernet optical media converter is a new product used for optical transmission via high-speed Ethernet. It is capable of switching between twisted pair and optical and relaying across 10/100 Base-TX and 100 Base-Fx network segments, meeting long-distance, high-speed and high-broadband fast Ethernet workgroup users' needs, achieving high-speed remote interconnection for up to 120 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.



2. Overview

2.1 Features

- In accordance with Ethernet standards IEEE802.3 10Base-T, IEEE802.3u 100Base-T and 100Base-FX
- Supported Ports: SC 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

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- 128 K's data buffer RAM
- Support for low-delay time pure data transmission and full/half-duplex flow control.
- Built-in watch-dog timer to monitor any error in internal data exchange

2.2 Technical Parameters

Technical Parameters for 10/100M Adaptive Fast Ethernet Optical Media Converter						
Number of Network Ports	1 channel					
Number of Optical Ports	1 channel					
NIC Transmission Rate	10/100 Mbit/s					
NIC Transmission Mode	10/100M adaptive with support for automatic inversion of MDI/MDIX					
Optical Port Transmission Rate	100Mbit/s					
Operating Voltage	AC 220V or DC +5V					
Overall Power	<1W					
Network Ports	RJ45 port					
Optical Specifications	Optical Port: SC Multi-Mode: 50/125, 62.5/125um Single-Mode: 8.3/125, 8.7/125um, 8/125,10/125um					
Data Channel	IEEE802.3x and collision base backpressure supported Working Mode: Full/half duplex supported Transmission Rate: 100Mbit/s with error rate of zero					
Some Product Modes and port Technical Parameters of Optical Port						
Desk Type Dual-Optical Single-Mode/Multi-Mode Media Converter						
P/N	Wavelength (nm)	Optical Port	Electric Port	Optical Power (dBm)	Receiving Sensitivity (dBm)	Transmission Range (km)
8110MA-05V-8S	850	SC	RJ-45	<u>-19~-3</u>	<u><=28</u>	0.55
8110MA-2F-3S	1,310	SC	RJ-45	<u>-15~-3</u>	<u><=23</u>	2
8110SA-10F-5S	1,550	SC	RJ-45	<u>-15~-6</u>	<u><=32</u>	10
8110SA-20F-3S	1,310	SC	RJ-45	<u>-15~-6</u>	<u><=32</u>	20



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8110SA-40F-3S	1,310	SC	RJ-45	<u>-10~-1</u>	<u><-34</u>	40
8110SA-60F-3S	1,310	SC	RJ-45	<u>-10~-1</u>	<u><-34</u>	60
8110SA-80D-5S	1,550	SC	RJ-45	<u>-6~-1</u>	<u><-34</u>	80
8110SA-100D-5S	1,550	SC	RJ-45	<u>-3~-5</u>	<u><-34</u>	100
8110SA-120D-5S	1,550	SC	RJ-45	<u>-3~-5</u>	<u><-34</u>	120
Desk Type Single-Optical Two-Way Media Converter						
P/N	Wavelength (nm)	Optical Port	Electric Port	Optical Power (dBm)	Receiving Sensitivity (dBm)	Transmission Range (km)
8110MB-2F-3S	1,310	SC	RJ-45	<u>-15~-3</u>	<u><-23</u>	2
8110MB-2F-5S	1550	SC	RJ-45	<u>-15~-3</u>	<u><-23</u>	2
8110SB-10F-3S	1,310	SC	RJ-45	<u>-15~-6</u>	<u><-32</u>	10
8110SB-10F-5S	1,550	SC	RJ-45	<u>-15~-6</u>	<u><-32</u>	10
8110SB-20F-3S	1,310	SC	RJ-45	<u>-15~-6</u>	<u><-32</u>	20
8110SB-20F-5S	1,550	SC	RJ-45	<u>-15~-6</u>	<u><-32</u>	20
8110SB-40F-3S	1,310	SC	RJ-45	<u>-10~-1</u>	<u><-34</u>	40
8110SB-40F-5S	1,550	SC	RJ-45	<u>-10~-1</u>	<u><-34</u>	40
8110SB-60F-3S	1,310	SC	RJ-45	<u>-10~-1</u>	<u><-34</u>	60
8110SB-60D-5S	1,550	SC	RJ-45	<u>-10~-1</u>	<u><-34</u>	60
8110SB-80D-3S	1,310	SC	RJ-45	<u>-6~-1</u>	<u><-34</u>	80
8110SB-80D-5S	1,550	SC	RJ-45	<u>-6~-1</u>	<u><-34</u>	80
8110SB-100D-5S	1,550	SC	RJ-45	<u>-3~-5</u>	<u><-36</u>	100
8110SB-100D-4S	1,490	SC	RJ-45	<u>-3~-5</u>	<u><-36</u>	100
8110SB-120D-5S	1,550	SC	RJ-45	<u>-3~-5</u>	<u><-36</u>	120
8110SB-120D-4S	1,490	SC	RJ-45	<u>-3~-5</u>	<u><-36</u>	120

3. Operating Environment

3.1 Operating Voltage

AC 220V/ DC +5V

3.2 Operating Humidity

Operating Temperature: 0°C to +70°C

Storage Temperature: -20°C to +70°C

Humidity: 5% to 90%

4. Quality Assurance

MTBF > 100,000 hours;

Replacement within one year and non-charge repair within three years guaranteed

5. Application

5.1 Application Fields

- For intranet prepared for expansion from 10M to 100M
- For integrated data network for multimedia such as image, voice and etc.
- For point-to-point computer data transmission
- For computer data transmission network in a wide range of business application
- For broadband campus network, cable TV and intelligent FTTB/FTTH data tape
- In combination with switchboard or other computer network facilitates for: chain-type, star-type and ring-type network and other computer networks

5.2 Application Industries

Intelligent transport monitoring system, safety and security monitoring system, campus network, industrial monitoring (electric power, chemical industry, steel, oil, railway and water conservancy etc.); military monitoring (warehouse, guard and confidentiality etc.) TV program transfer system;

6. Remarks and Notes

6.1 Instructions on Media Converter Panel

Instructions on Front Panel

Identification for front panel of the transceiver is shown below:



a. PWR

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

b. 100M Indicator Light (TX100)

“ON” means the rate of the electric port is 100 Mbps, while “OFF” means the rate is 10 Mbps.

c. LINK/ACT (FX-LINK)

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

d. LINK/ACT (TX-LINK)

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

e. SD Indicator Light

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

f. FDX/COL:

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

g. UTP

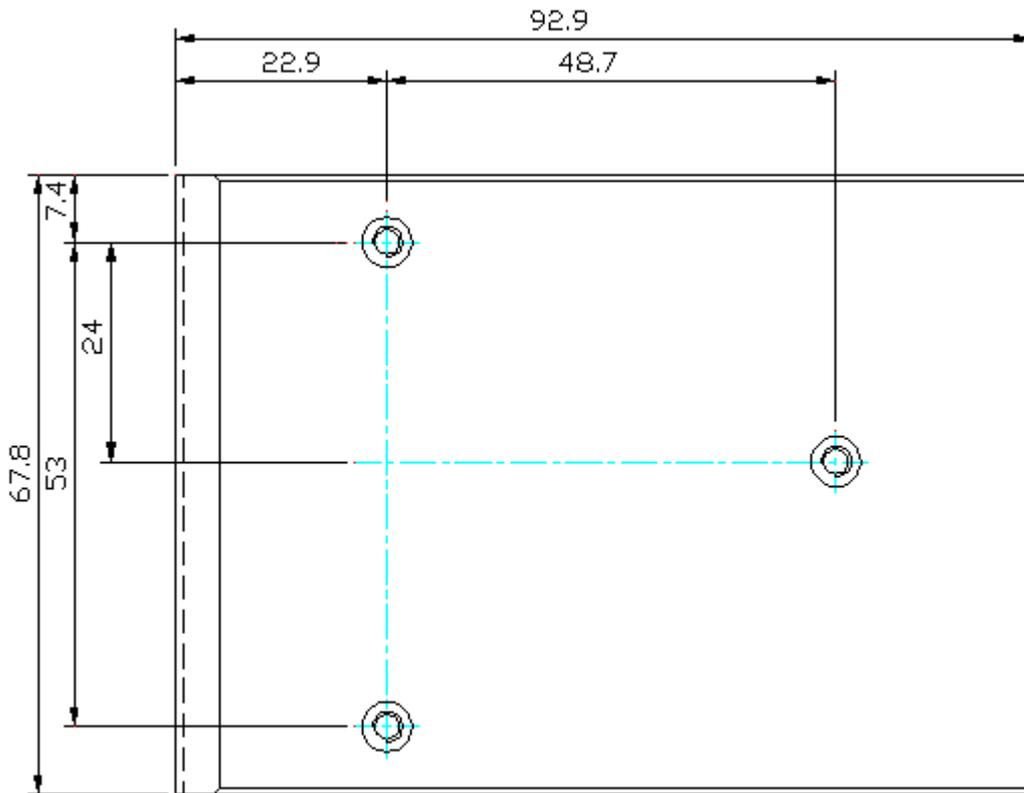
Non-shielded twisted pair port;

Instructions on Rear Panel

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



6.2. Mounting Dimensions Sketch



6.3. Connection Sketch

