Brief Introduction

Many thanks for purchasing Fast Ethernet optical transceiver! This product supports IEEE802.3UI 1OOBase-Tx/Fx Protocol, as well as full duplex and half duplex mode. This manual is for 1OOM transceivers. The following purchasing guide is for customer's reference.

Media Converter

SM/10/100Mbps/SIMPLEX/FC/40KM

MODEL: MD-SMFCUP-0100-13040/15040

Packing List

Please check the following items in the package before installing the transceiver.

Fast Ethernet Optical Transceiver	1 set
AC/DC Adapter	1 pcs
User Manual	1 copy

Please contact the dealer immediately for any loss or damage to the above items

Installation

1. Interface

- RJ-45 interface

The transmission media adopts CAT5 twisted-pair with typical length of 100 meters. It features the function of automatically identifying the through line and cross wire

- Fiber interface

FC/SC fiber interface is of duplex mode type, including two interfaces, namely TX and RX. When the two sets of optical transceiver are interfaced or connected to switch with fiber interface, the fiber is in cross connection, namely "TX-RX", "RX-TX" (direct butting for single optical fiber).

2. Connection

The network device (work station, hub or switch) with RJ-45 interface is connected to RJ-45 jack of optical transceiver through twisted-pair. And the multi/single mode fiber is connected to FC/SC fiber interface of the optical transceiver. Then switch on. The corresponding LED is on for correct connection. (See the table below for the LED indicator lamp)
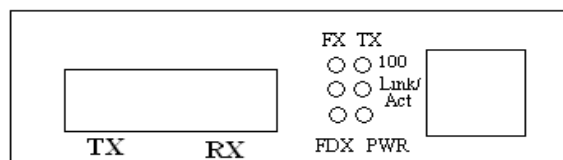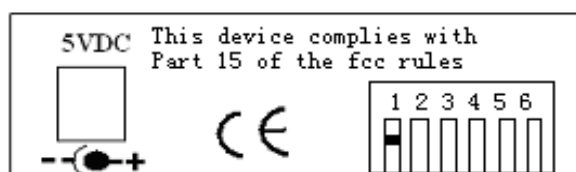
Figure 1 Schematic drawing of connection

LED Indicator Lamp

LED indicator lamps serve as device monitoring and trouble display. The following is the explanation for each LED indicator lamp.

LED indicator lamp	Status	Explanation
FX Link/Act	On	Connection status display for fiber link. "ON" indicates that Fiber link is in correct connection.
	Blink	Active status display of fiber link "Blink" indicates packet goes through Fx end.
TX Link/Act	On	Connection status display for electric link. "ON" indicates that electric link is in correct connection.
	Blink	Active status display of fiber link "Blink" indicates packet goes through Tx end.
FDX	On	Transceiver works in the full duplex mode.
	Off	Transceiver works in the half duplex mode.
PWR	On	Power is on and normal.
FX100	On	Transfer rate of optical interface is 100Mbps.
TX100	On	Transfer rate of electric interface is 100Mbps.
	Off	Rate of electric interface is 10Mbps

Transmission characteristics of single fiber transceiver

Product model (WDM)	Optical wavelength (nm)	Transmitting optical power(dbm)	Receiving sensitivity (dbm)	Transmission distance (km)
MEDIA SM/10/100/ SIMPLEX/ (20KM)	1310/1550 1550/1310	-12-6	-12	20
MEDIA SM/10/100/ SIMPLEX/ (40KM)	1310/1550 1550/1330	-3-5	<-31	40
MEDIA SM/10/100/ SIMPLEX/ (60KM)	1310/1550 1550/1330	-5-9	<-44	60

Fiber transmission features:

Product model (WDM)	Optical wavelength (nm)	Optical power(dbm)	Sensibility (dbm)	Saturability (dbm)
MEDIA /MM/10/100/ DUPLEX/2KM	1310	-19 ~ -14	-31	-12
MEDIA /SM/10/100/ DUPLEX/20KM	1310	-14 ~ -7	-34	-3
MEDIA /SM/10/100/ DUPLEX/40KM	1310	-9 ~ -5	-38	-3
MEDIA /SM/10/100/ DUPLEX/60KM	1310	-5 ~ -0	-38	-3
MEDIA /SM/10/100/ DUPLEX/100KM	1550DFB	-5 ~ -0	-38	-3

Main Features

1. In conformity to IEEE 802.3 10 Base-T standard.

   In conformity to IEEE 802.3u 100 Base-TX/FX standard.

2. Max. 2M buffer memory built in chip.

3. Back pressure flow control for full duplex IEEE802.3 X and half duplex.

4. Automatic identification of MDI/MDI-X cross line.

5. High-performance1.4Gbpsmemory bandwidth.

6. In conformity to safety code of FCC and 15 CLASS A and CE MARK.

Technical Parameters

1. Standard Protocol:

 IEEE802.3 10 Base-T standard

 IEEE 802.3u 100Base-TX/FX standard

2.Connector:oneUTPRJ-45connector,

oneFC/SC connector

3. Operation mode: full duplex mode or half duplex mode

4. Power supply parameter:

   INPUT: AC/220V OR DC/48V

   OUTPUT: 5V DC 1A

5. Environmental temperature: 0℃-60 ℃

6. Relative humidity: 5%-90%

7. TP cable: Cat5 UTP cable

8. Transfer fiber:

multi-mode: 50/125, 62.5/125 or 100/140μm

single mode: 8.3/125, 8.7/125, 9/125 or 10/125μm

9. Dimensions: 94x 71 x 26(mm)L*W*T

Cautions

1. This product is suitable for indoor application.

2. Put on the dust cover of fiber interface when not used.

3. It is forbidden to stare at the TX fiber-transfer end with naked eyes.

4. Single optical fiber transceiver must be used in pair (See the attachment description in delivery).

Trouble Shooting

1. Device is not matched. Please select the corresponding network device according to the transfer rate of the product (10Mbps or 100Mbps) when connected to other network devices (network card, hub, switch).

2. Line loss is excessive during the fiber wiring. Excessive loss in connector plug-in and fiber soldering welding, and excessive intermediate nodes may cause excessive loss rate or abnormal operation.

Dip Switch

*Toggle ON pin 1 to LFP is enable; OFF is disable

*Toggle ON pin 2 to Store and forward switch is enable

OFF pin 2 to Modified cut-through switch mode is enable

*Toggle ON pin 3 to auto-negotiation mode is enable

OFF pin 3 to force the TX port work 10/100Mbps,full/ half duplex

*Toggle ON pin 4 to TX is work 10Mbps, OFF is 100Mbps

*Toggle ON pin 5 to TX is work half duplex, OFF is full duplex

*Pin 6 is NC