☞Brief introduction

Many thanks for purchasing Fast Ethernet optical transceiver! This product supports IEEE802.3UI100Base-Tx/Fx protocol, as well as full duplex and half duplex mode. This manual is for adaptive 10M/100M transceivers. The following purchasing guide is for customer's reference.

Purchasing guide for optical transceivers

Model	Specifications
UTP-MM 2	10/100M adaptive, multi-mode 2km, SC
UTP-SM 2	10/100M adaptive, single mode 2km, ST
UTP-SM 20	10/100M adaptive, single mode 20km, SC
UTP-SM 40	10/100M adaptive, single mode 40km, SC
UTP-SM 60	10/100M adaptive, single mode 60km, SC
UTP-SM 100	10/100M adaptive, single mode 100km, SC

☞Packing list

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

Fast Ethernet optical transceiver   1set
AC/DC power adapter   1pcs
User manual   1copy

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 meter. It features the function of automatically identifying the through line and cross wire (10/100M).

Fiber interface

SC/ST 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 SC/ST 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)
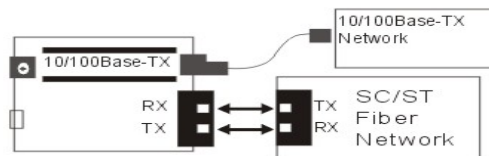

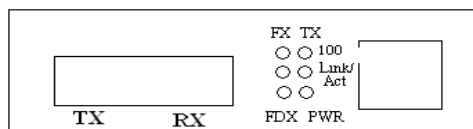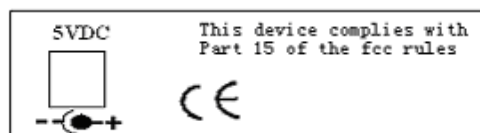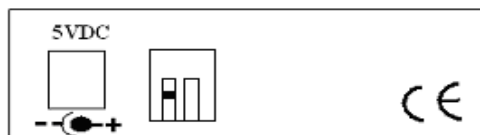
Figure 1 Schematic drawing of connection

Figure 2 Front Pannel

Type A

Type B
Figure 3 Back Pannel

☞Explanation for 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	Optical wavelength (m)	Transmitting optical power (dbm)	Receiving sensitivity (dbm)	Transmission distance (km)	Fiber type
UTP-SM (20km)	1310/1550 1550/1310	$>-15dBm$	<-34dBm	20	Single mode
UTP-SM (40km)	1310/1550 1550/1330	$>-8dBm$	<-38dBm	40	Single mode
UTP-SM (60km)	1310/1550 1550/1330	$>-5dBm$	<-38dBm	60	Single mode

☞Fiber transmission features:

Product model	Optical wavelength (nm)	Optical power (dbm)	Sensibility (dbm)	Saturability (dbm)
UTP-SM	850/1310nm	>-18dBm	<-31dBm	2km
UTP-SM 20	1310nm	>-15dBm	<-34dBm	20KM
UTP-SM 40	1310nm	>-8dBm	<-38dBm	40KM
UTP-SM 60	1310nm	>-5dBm	<-38dBm	60KM
UTP-SM 100	1550nm DFB	>0dBm	<-38dBm	100KM

☞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-performance1.4Gbps memory 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: one UTP RJ-45 connector, one SC/ST connector
3. Operation mode: full duplex mode or half duplex mode
4. Power supply parameter: 5V DC/1A
5. Environmental temperature:-20℃~70 ℃
6. Relative humidity: 5%-90% non-condensing
8. TP cable: Cat5 UTP cable

9. Transfer fiber:
   multi-mode: 50/125, 62.5/125 or 100/140 μ m
   single mode:: 8.3/125, 8.7/125, 9/125 or 10/125 μ m
10 Dimensions:
   External power supply: 26mmx 71mm x 94mm

☞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(A,B)
A: TX1310RX1550nm   B:TX1550/RX1310nm.

☞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 (Type B only)

*Toggle ON pin 1 to enable LFP; OFF to disable
*Toggle ON pin 2 to enable Flow Control; OFF to disable

Gigabit Optical Converter

10/100Base-Tx to 100Base-Fx

User manual

(Please read before using the Media Converter)