

Brief introduction

Many thanks for purchasing 10/100/1000M Ethernet optical transceiver! This product supports IEEE802.3U IEEE802.3z 1000Base-Tx/Fx protocol, as well as full duplex and half duplex mode. The following purchasing guide is for customer's reference.

Purchasing guide for optical transceivers just below:

Model	Specifications
Dual/SC/MM 550m	10/100/1000M adaptive, 1310nm, multi mode 550m, SC
Dual/SC/SM 25km	10/100/1000M adaptive, 1310nm, single mode 25km, SC
Dual/SC/SM 40km	10/100/1000M adaptive, single mode 40km, SC
Dual/SC/SM 60km	10/100/1000M adaptive, single mode 60km, SC
Dual/SC/SM 100km	10/100/1000M adaptive, single mode 100km, SC

Packing list

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

- 10/100/1000M Ethernet optical transceiver 1pc
- Power line (Internal only) 1pc
- Adapter (External only) 1pc
- User manual 1pc

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 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 optical converter on. The corresponding LED is on for correct connection. (See the table below for the LED indicator lamp)

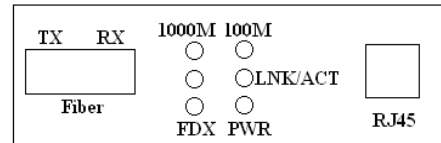


Figure 1 Schematic drawing of connection



Figure 2. Back view (Only for power external)

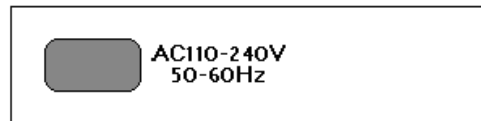


Figure 3. Back view (Only for power inside)

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
Link/Act	On	Connection status display for link. "ON" indicates that link is in correct connection.
	Blink	Active status display of fiber port or RJ45 port "Blink" indicates packet goes through media converter
FDX	On	Transceiver works in the full duplex mode.
	Off	Transceiver works in the half duplex mode.
PWR	On	Power is on and normal.
1000	On	Transfer rate of electric interface is 1000Mbps.
100	On	Transfer rate of electric interface is 100Mbps.

Transmission characteristics of single fiber transceiver

Product model	Optical wavelength (nm)	Transmitting optical power (dBm)	Receiving sensitivity (dBm)	Standard loss (dBm)
Single/SC/SM 20km	1310/1550	≥ -9	-24	1310nm
Single/SC/SM 40km	1310/1550	> -4	-24	0.4dBm/KM 1550nm
Single/SC/SM 60km	1310/1550	> -1	-24	0.25dBm/KM 1490nm
Single/SC/SM 80km	1490/1550	≥ 0	-24	0.25dBm/KM

Transmission characteristics of dual fiber transceiver

Product model	Optical wavelength (nm)	Transmitting optical power (dBm)	Sensibility (dBm)	Loss enable (dBm)

Dual/SC/MM 550m	1310	-10 ~ -5	-23	7
Dual/SC/SM 20km	1310	-9 ~ -3	-24	11
Dual/SC/SM 40km	1310	-2 ~ 3	-24	20
Dual/SC/SM 60km	1550	-3 ~ 2	-24	19
Dual/SC/SM 80km	1550	-3 ~ 2	-24	24
Dual/SC/SM 100km	1550	0 ~ 3	-27	27

Main features

1. In conformity to IEEE 802.3 10 Base-T standard. In conformity to IEEE 802.3u 100 Base-TX, IEEE802.3z, IEEE802.3abstandard.
2. Built in high efficiency SRAM for packet buffer, with 1K-entry lookup table and 4-way associative hash algorithm.
3. Half duplex: back pressure flow control
Full duplex: IEEE802.3x flow control
4. Automatic identification of MDI/MDI-X cross line.
5. 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 and IEEE802.3z standard
2. Connector: one UTPRJ-45 connector, one SC/ST connector
3. 1K MAC address table, 256K data buffer
4. Operation mode: full duplex mode or half duplex mode
5. Power supply parameter:

Adapter(External): 110-265V AC input, 5V1A DC output

Power(Internal): 110-265V AC input, 5V1A DC output

6. Environmental temperature: 0°C - 50 °C

7. Relative humidity: 5%-90%

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:

Power external: 94mm(L)x 71mm(W) x 26mm(H)

Power internal: 150mm(L) x 110mm(W)x 28mm(H)



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, 1000Mbps) 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.

10/100/1000M Ethernet

Optical Transceiver

user manual

V2.1

(Do not use until you read this manual carefully)