Brief introduction

Thanks for purchasing ATOP's Fast Ethernet optical transceiver. This product supports IEEE802.3U 100Base-Tx/Fx protocol, as well as half and full duplex mode. This manual refers to adaptive 10M/100M transceivers.

Ordering Information

Model	Specifications
AF100-2	10/100M multi-mode 2KM,SC/ST 1310 nm
AF100-25	10/100M single-mode 25KM,SC 1310 nm
AF100-40	10/100M single-mode 40KM,SC 1310 nm
AF100-60	10/100M single-mode 60KM,SC 1310 nm
AF100-100	10/100M single-mode 100KM,SC 1550 nm
AFS100-25	10/100Msingle-mode single fiber 25km
AFS100-40	10/100Msingle-mode single fiber 40km
AFS100-60	10/100Msingle-mode single fiber 60km

*WDM Models should be ordered in pairs

Packing list

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

Fast Ethernet optical transceiver	1set
AC/DC adapter (For External PS)	1pc
Power line　(For Internal PS)	1pc
User manual	1copy

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

Installation

1. RJ-45 interface

The transmission media adopts CAT5 twisted-pair with typical length of 100 meter. It features the function of Auto MDI-MDI-X for automatically identifying strait or cross cable.

2. Fiber interface

SC fiber interface is of duplex mode type, including two interfaces, tagged as TX and RX. When the two sets of optical transceivers are interfaced or connected to a switch with fiber interface, the fiber should be in cross connection mode, "TX-RX", "RX-TX".

3. Connection

Connect the network device (work station, hub or switch) to the optical transceiver using RJ-45 twisted-pair. Connect the multi/single mode fiber to the SC/ST fiber interface of the optical transceiver. Turn on the power. The corresponding LED will turn on to indicate connection. (Please refer to the table below).
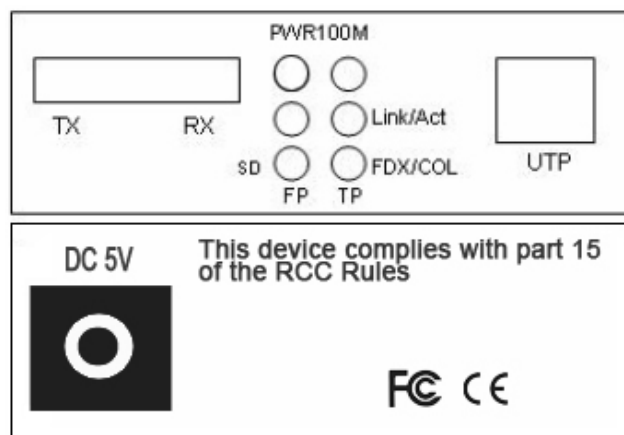

Figure 1: Schematic drawing of front and rear panel

LED indicators

LED indicators help to monitor the functionality of the device. Please refer to the following table for additional information:

LED	Status	Explanation
FX Link/Act	On	Connection status display for fiber link. "On" - Fiber link connected properly.
	Blink	Activity status display of fiber link. "Blink" – Data is transferred through Fx.
TX Link/Act	On	Connection status display for electric link. "ON" - Electrical link connected properly
	Blink	Activity status display of fiber link "Blink" Data is transferred through Tx.
FDX/COL	On	Transceiver works in the full duplex mode.
	Off	Transceiver works in the half duplex mode.
PWR	On	Power is on and normal.
SD	On	Fiber signal is detected.
100M	On	Electrical interface transfer rate is 100Mbps
	Off	Electrical interface transfer rate 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
(25km)	1310/1550 1550/1310	-12 ~ -6	-12	30	Single mode
(40km)	1310/1550 1550/1330	-3 ~ -5	<-31	40	Single mode
(60km)	1310/1550 1550/1330	-5 ~ -9	<-44	60	Single mode

Fiber transmission features:

Product Model	Optical Wavelength	Optical power	Sensibility	Saturability

AF100-2	1310 nm	-19-14 dbm	-31 dbm	-12 dbm
AF100-25	1310 nm	-14-7 dbm	-34 dbm	-3 dbm
AF100-40	1310 nm	-9-5 dbm	-38 dbm	-3 dbm
AF100-60	1310 nm	-5-0 dbm	-38 dbm	-3 dbm
AF100-100	1550DFB	-5-0 dbm	-38 dbm	-3 dbm

Main features

1. Complies with IEEE 802.3 10 Base-T standard.

   Complies with IEEE 802.3u 100 Base-TX/FX standards.

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

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

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

5. High-performance 1.4Gbps memory bandwidth.

6. Complies with FCC, 15 CLASS A and CE MARK.

Technical parameters:

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Standard Protocol	IEEE802.3 10 Base-T standard
	IEEE 802.3u 100Base-TX/FX standard
Connectors	UTP RJ-45, SC/ST Fiber connector
Operation mode	Full /Half duplex mode
Power supply	**External** 5V DC 1A
	Internal 110-265VAC 48VDC
Temperature	0℃ - 60℃
Humidity	5% - 90%
TP cable	Cat5 UTP cable
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
Dimensions	**External power supply**: 26x71x94 (mm)
	Internal power supply: 40x110x140 (mm)

Cautions:

1. This product is suitable for indoor application.

2. Please make sure to cover the fiber interface when not in use.

3. It is forbidden to stare at the TX fiber transceiver.

IF Media Converter with DIPswitch :
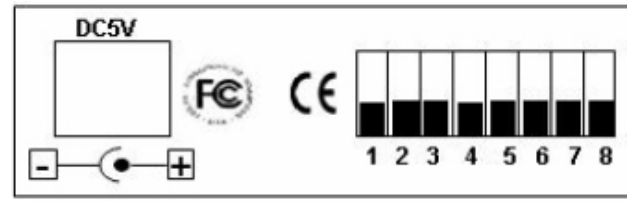
Pin No.	ON	OFF
1	LLF Enabled	LLF Disabled
4	TX - Force Mode	TX - Auto negotiation
5	IEEE802.3X - Disabled	IEEE802.3X - Enabled
6	TX - 10M	TX - 100M
7	TX - Half Duplex	TX - Full Duplex
8	FX - Half Duplex	FX – Full Duplex

Pin No.2	Pin No.3	Status
OFF	OFF	Store & Forward
OFF	ON	Cut-through
ON	OFF	Pure Converter mode
ON	ON	Converter with auto-change-forward function

AF100
Fast Ethernet Media Converter

User manual

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