

10/100M Series Ethernet Media Converter

User's Manual

English Version 2.2

10/100M Series Ethernet Media Converter

PN:

Media converter type:

Single-fiber media converter Dual-fiber media converter

Transmission distance:

2km 5km 20km 40km 60km 80km

Mode:

Multi-mode Single-mode

Connector type:

FC SC ST

Wavelength:

850nm 1310nm 1550nm Tx1310nm/Rx1550nm Tx1550nm/Rx1310nm

Power adapter:

AC:100-240V

CHECK LIST

Before installing the Converter, verify if the package contains the following:

- The Ethernet Media Converter
- Power Adapter
- User's Manual
- Test Report

Please notify your sales representative immediately if any of the packaging items list above was missed or damaged.

NOTICE:

- (1) This equipment is for indoor use only, and the ambient temperature is 0-50°C.
- (2) This is class I product, invisible laser radiation when open, do not stare into beam.
- (3) The changes or modifications not expressively approved by the party responsible for compliance could void the user's authority to operate the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.
- (4) Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.
- (5) Disposal: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.
- (6) This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
 - ① this device may not cause harmful interference.
 - ② this device must accept any interference received, including interference that may cause undesired operation.
- (7) NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
 - Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.

1 OVERVIEW

The Converter complies with IEEE802.3, IEEE802.3u, standards. It is designed to convert a 10/100BASE-TX signal to a 100BASE-FX signal. It is used to extend the connection distance between two Fast Ethernet Twisted-pair devices via fiber cable transparently with no performance degradation. The converter series provide different types of fiber connectors such as FC, SC and ST for multi-mode or single-mode fiber cables. The data signal converted by such high performance media converter can be transmitted up to 80Km by fiber-optical cable.

The Converter is equipped with one or two fiber optic connectors (for transmitting-Tx and for receiving-Rx) and one RJ-45 Jacks and one external power supply receptacle. Six LED indicators are built-in for easy diagnosing and monitoring the status of power, Unshielded Twisted Paired (TP) Link, TP Speed, TP Full/Half Duplex, Fiber Link, Fiber Full/Half Duplex.

2 FEATURES

- ◊ Comply with IEEE802.3, IEEE802.3u
- ◊ Available in full-duplex and half-duplex functions.
- ◊ With auto-negotiation, MDI/MDI-X ability.
- ◊ Store and forward mode, broadcast storm protection
- ◊ With 850nm,1310nm,1550nm,Tx1310nm/Rx1550nm,Tx1550nm/Rx1310nm options.
- ◊ With LED status indicators, easy to install and maintain

3 APPLICATION

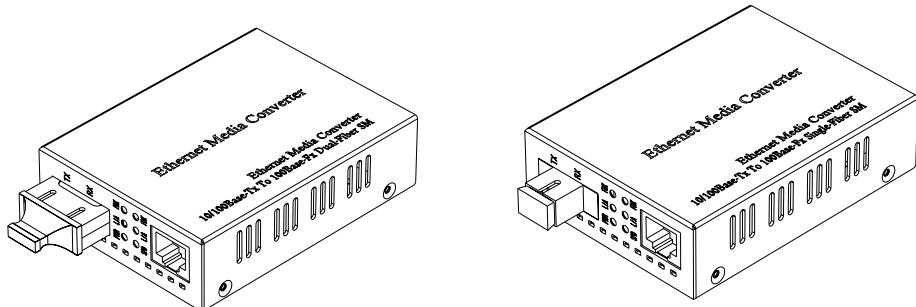
- Broad Band fiber network for ISP
- Broad Band network for government organization, oil industry, finance system, railway transport, electric power system, public security, education etc.
- Media transmission like picture, sound and data transfers
- Stakeout and control on the spot
- Make network in abominable environment
- FTTX (TFFH, FTTC, FTTF, FTTB)
- Telecommunications

4 PARAMETER

Table1: Performance Introduce

Item	Content
Standard	Comply with IEEE802.3, IEEE802.3u,
Transmission Mode	Support auto-negotiation, full-duplex, and half-duplex devices.
Twisted-pair Cable	STP Category 5
Transmission distance	2km(multi mode)
	20km (single mode)
	40km (single mode)
	60km (single mode)
	80km (single mode)
Wavelength	850nm,1310nm,Tx1310nm/Rx1550nm, Tx1550nm/Rx1310nm
Connector type	FC,SC, ST
Fiber type	single mode, multi mode
LEDS	PWR, L/A(TX), FDX(FX) , L/A(FX), FDX-(TX) , SPD
Operating temperature	0~+50°C
Storage temperature	-40~+85°C
Humidity	10% to 90% non condensing
Dimensions	115.6mm x 70.5mm x 26mm
Power adapter	Input: AC 100-240V 40~60Hz Output: DC+5V/1.6A

5 APPEARANCE



(Dual-Fiber Media Converter)

(Single-Fiber Media Converter)

Fig 1 Side view

6 INSTALLATION

RJ-45 Connectors (TP Port)

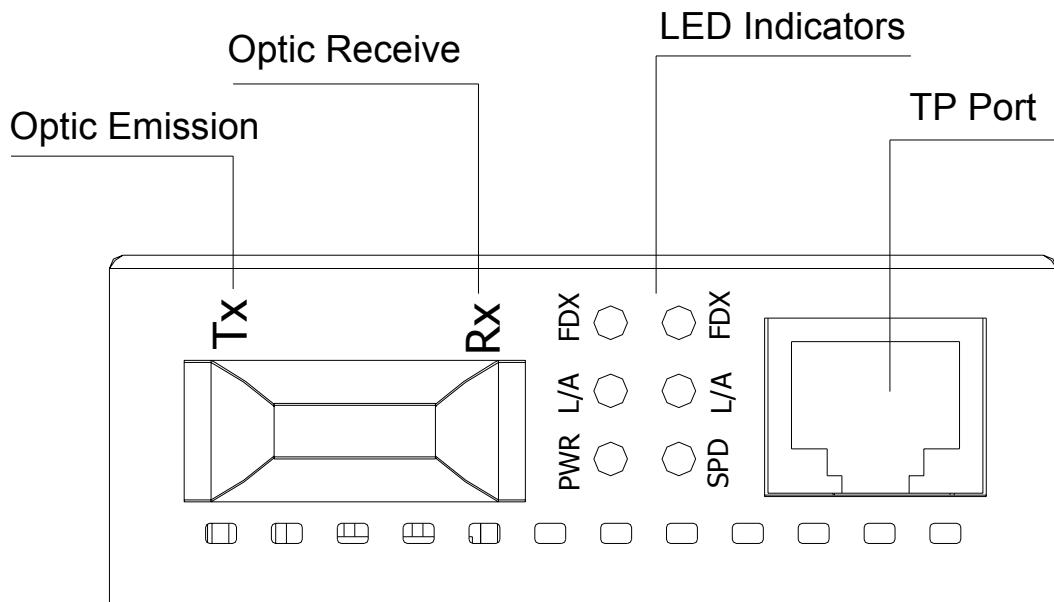


Fig 2. Panel

The TP port is equipped with auto-negotiation capability, it also have the ability of MDI/MDI-X .It is easy connect to switch, hub and PC from cross TP cable or straight-through TP cable.

Fiber Optic Connector (Fiber Port)

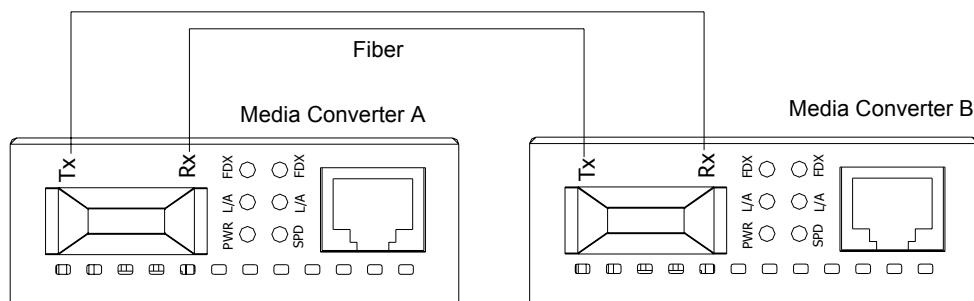


Fig 3.Fiber connection between two converters

The fiber connection was show in fig 3.

Power Installation

Install AC/DC power adapter

- Install the media converter with the AC power adapter provided. (+5VDC, 1.6A)

- Connect the power adapter cable to the media converter before connecting the adapter to the AC outlet.

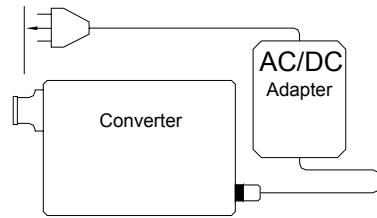


Fig 4.Connect adapter to AC

Making Network Connections

The converters serve as a conversion path between two Fast Ethernet devices. To both devices, the conversion is transparent. The connection could be one of the following configurations:

- Connect Between Switch

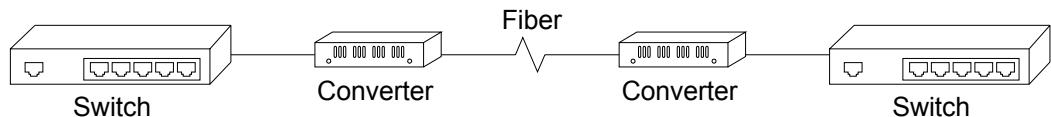


Fig 5.Connect between Switch

- Connect Between Switch and PC

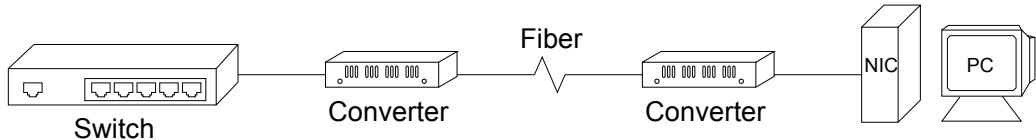


Fig 6.Connect between Switch and PC

- Connect Between PC

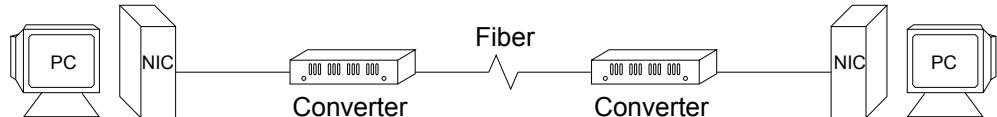


Fig 7.Connect between PC

- Transmission relay : When the node distance is too long, we can use two converters connect by Back to Back, which is an efficiency method

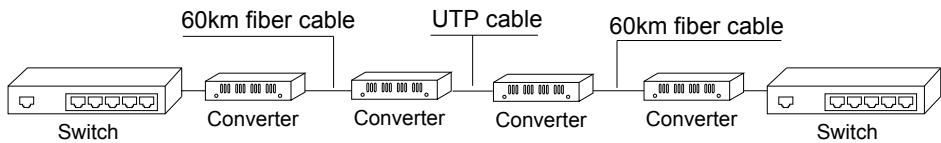


Fig 8. Connect by Back to Back

■ Application in the WDM system

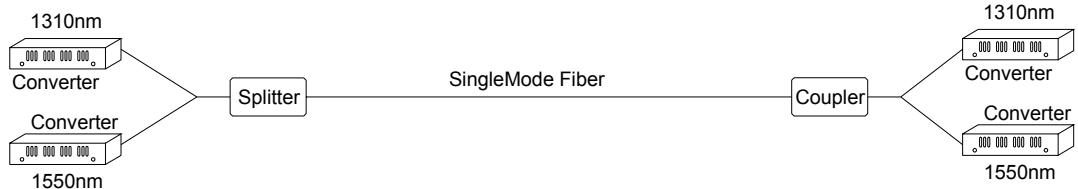


Fig 9. Application in WDM

Set Up the DIP Switch

The converter was set to 10/100M, full/half auto-negotiation when it out of factory, but sometimes, we want to setup the converter at 10M/Full or 100M/Half, this kind of media converter will be easy to setup to 10M/Full or 100M/Half, see the table 2 and table 3 in particular.

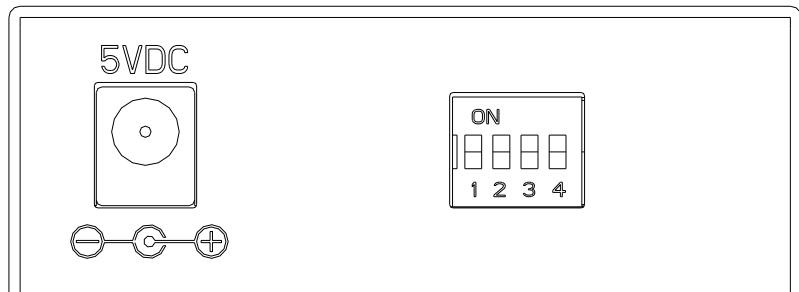


Fig 10. DIP Switch

Table2

NO.	Status	Description
1	ON	Enable LFP function
	OFF	Disable LFP function

Table3

NO.	2	3	4	Description
Status	OFF	OFF	OFF	10/100M, FULL/HALF auto-negotiation
	OFF	ON	OFF	10M, FULL/HALF auto-negotiation
	OFF	OFF	ON	10/100M auto-negotiation, HALF
	OFF	ON	ON	10M, HALF
	ON	OFF	OFF	100M, FULL
	ON	ON	OFF	10M, FULL

	ON	OFF	ON	100M, HALF
	ON	ON	ON	10M, HALF

Note: After set up the DIP switch, please reset the media converter

Interpreting LED Indicators

See in Fig2

Table4 Interpreting LED Indicators

No.	Label	Status	Description
1	PWR	On	On: when power supply is normal
		Off	Off: when power supply fail
2	L/A	On	On: fiber port Link ok and no activity
		Off	Off: fiber port Link fail
		Flash	Flash: data transmission
3	FDX	On	On: the fiber port works at Full duplex
		Off	Off: the fiber port works at half duplex
4	L/A	On	On: TP Port Link ok and no activity
		Off	Off: TP Port Link fail
		Flash	Flash: data transmission
5	SPD	On	On: when TP Port speed is 100M
		Off	Off: when TP Port speed is 10M
6	FDX	On	On: the TP Port works at half duplex
		Off	Off: the TP Port works at Full duplex

7 TROUBLE SHOOTING

- The LED Indicators of L/A-TP is off or The LED Indicators of L/A-FX is off.
 1. Check the cable of RJ45
 2. Check the cable of fiber, the correct connection is TX-RX, RX-TX
 3. The transmission distance is out of the converter's maximal transmission distance, please use another type of converter
- All the LED indicators are on or the LED indicators are in correct but can't transfer data. Please reset the power

S/N: _____ CHECK: _____