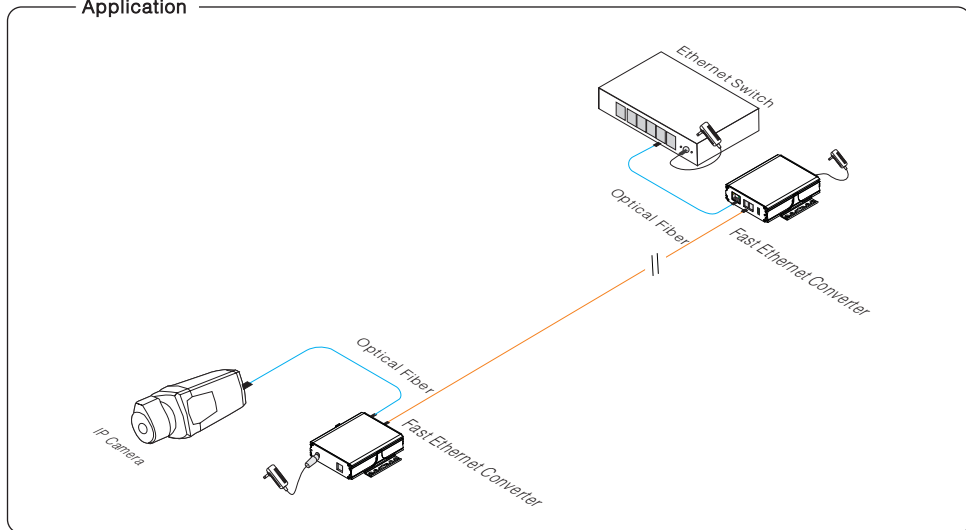# Fast Ethernet Converter User Manual

VerB 1.2

This is the fast Ethernet optical transceiver which can convert two different transmission medium between network cable and optical fiber. It supports 10/100Mbps bandwidth. This product can use in pair or work with other device, it's widely used in surveillance monitor, FTTH and other situation…

Application

■ Feature

- Provide 100Mbps optical port and Ethernet port, network data can switch between Ethernet and optical;
- Adopts X9 optical transceiver, SC connector, use single mode double fibers, transmission distance up to 20km;
- Compatible with IEEE 802.3 10BASE−T, IEEE 802.3u 100BASE−TX/FX Ethernet standard;
- Support 10/100Mbps full/half duplex auto adaptive, support auto MDI/MDIX;
- Power adapter use aviation connector, more stable and resalable;
- Dynamic LED indicator, real−time show the working status, provide simple working status indication and trouble shooting;
- Delicate aluminum structure design, convenient for desktop and wall installation.
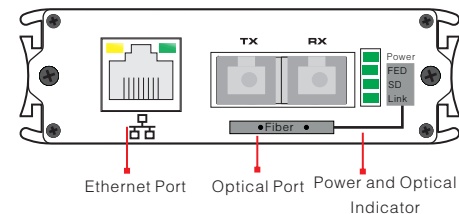
⚠ Note

Please attention two optical fibers need to cross−linking two fast Ethernet converters's optical ports;
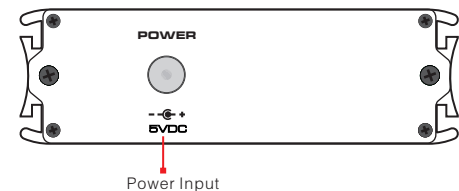
■ Board Diagram

Left

Ethernet Port   Optical Port   Power and Optical Indicator

Right

Power Input

Description

1) Power is power indicator; FED, SD, LINK is optical fiber port indicator, they mean:

Link: indicate optical port connection status, On: connection ok; Off: connection failed; flash: connection OK and data switching.

SD: optical port signal detection, On: Optical fiber connection right; Off: Without optical fiber connection.

FED: remote failure mode receive, On: 80ms Off: 20ms Always off: no receive.

2) LED failure indication function, please refer to the below table:

Ethernet LED	Optical Port Link	Optical Port SD	Optical Port FED	Status
On	On	On	Off	Connection good
Flash	Flash	On	Off	Connection Good and has data switch
Off	Off	On	Off	Remote Ethernet port can't connect
Off	Off	Off	Off	Fiber RX off line, fiber TX/RX off line
Off	Off	On	Flash	Fiber TX off line

■ Installation Step

Please check the following items before installation, if any missing, please contact your dealer.

- Fast Ethernet Converter   1pcs
- Power Adapter   1pcs
- Hangers   2pcs
- User Manul   1pcs

Please follow the following installation steps

1) Please turn off the signal source and the device's power, installation with power on may damage the device;

2) Please check if the network cable and other transmission line are occupied by other device;

3) Use a network cable to connect with fast ethernet converter's LAN port and NVR or computer;

4) Use two single mode double optical fibers to connect with two fast Ethernet convert's optical port, attention the fiber connect with RX and TX need to be cross connection. That means to use one fiber to connect with optical transceiver's TX, and the other side to connect with the RX;

5) Check if the installation is correct and device is good, make sure all the connection is reliable and power for the system;

6) Make sure the network is normal.

■ Specification

Item		Description
Power	Power Supply	Power Adapter
	Voltage Range	DC5V
	Consumption	< 5W
Ethernet Port	Ethernet Port	LAN Port:10/100Mbps
	Transmission Distance	LAN Port: 0 ~ 100m
Optical Port	Optical Port	Double Fiber SC Port
	Wavelength	1310nm
	Bandwidth	155Mbps
	Transmission Distance	Single Mode: 20km; Multi−mode: 2km
Network Switch	Network Standard	IEEE802.3 10BASE−T, IEEE802.3u 100BASE−TX/FX
Status Indicator	Power LED	1 (Green)
	Network LED	1 (Green) on the RJ45 socket
	Optical LED	FED, SD, LINK 3 (Green)
Protection	ESD	Contact Discharge 6KV; Air Discharge 8KV
Environmental	Working Temperature	0℃~55℃
	Storage Temperature	−40℃~85℃
	Humidity (Non−condensing)	0~95%
Mechanical	Size (L × W × H)	83mm × 90mm × 25mm
	Material	Aluminum Alloy
	Color	Black
	Weight	100g

Specification change will not be noticed

■ Trouble Shooting

Please find the following solution when the device doesn't work

● Please confirm if the installation is correct;

● Please confirm if the RJ45 cable order in accordance with the EIA/TIA568A or 568B industry standards;

● The maximum transmission distance depend on the signal source and cable's quality, please don't exceed device's maximum transmission distance;

● Please replace a normal device with a failure one to check if the device is broken;

● If the problem still exist, please contact the factory.

■ RJ 45 Making Method

Instruments to be used: wire crimper, network tester. Wire sequence of RJ45 plug should conform with EIA/TIA568A or 568B.

1) Shuck off about 2cm long the insulating layer, and bar the 4 pairs UTP cable;

2) Depart the 4 pairs UTP cable and straighten them;

3) Line up the 8 pieces of cables per EIA/TIA 568A or 568B;

4) Cut out 1.5 cm cable wrap and leave the bare wire;

5) Plug 8 cables into RJ45 plug, make sure each cable is in each pin;

6) Then use wire crimper to crimp it;

7) Follow the 5 steps above to make the another end, following the same sequence of the first plug;

8) Using network tester to test the cable whether is working.

pin	color
1	white/green
2	green
3	white/orange
4	blue
5	white/blue
6	orange
7	white/brown
8	brown

EIA/TIA 568A

pin	color
1	white/orange
2	orange
3	white/green
4	blue
5	white/blue
6	green
7	white/brown
8	brown

EIA/TIA 568B

⚠ Notice

● When choose RJ−45 make sure if one end is EIA/TIA568A,the other end should also be EIA/TIA568A.

● When choose RJ−45 make sure if one end is EIA/TIA568B,the other end should also be EIA/TIA568B.