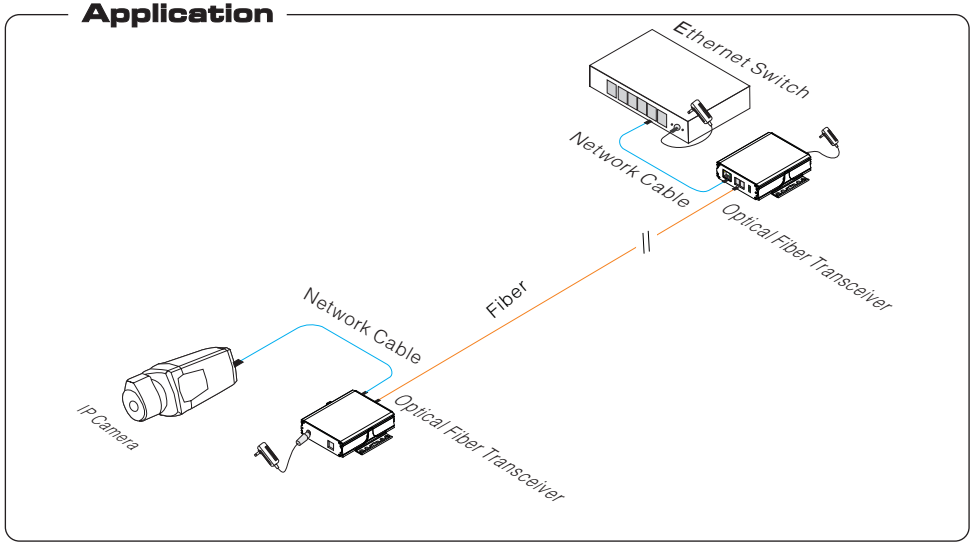
Optical Fiber Transceiver User Manual

VerB 1.1

Optical Fiber Transceiver is a fast Ethernet optical fiber transmission equipment, which can achieve different transmission mediums transformation over network cable and fiber and support 10/100Mbps network bandwidth. The product can be used in pairs, including transmitter and receiver. It is widely used in security surveillance system and Ethernet fiber–to–the–home occasion, etc.

Application



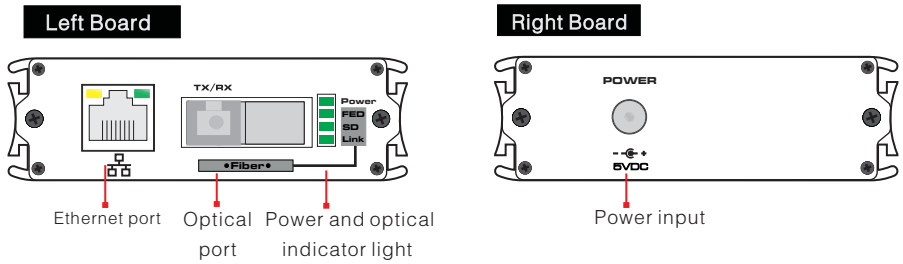
Feature

- Provide 100Mbps 1 optical fiber port and1 Ethernet port, which can achieve the data transformation between optical fiber and Ethernet;
- Support 1X9 optical module and SC port, use single mode single fiber that the transmission distance can up to 20km;
- Compatible with IEEE 802.3 10BASE–T, IEEE 802.3u 100BASE–TX/FX Ethernet standards;
- Support 10/100Mbps full/half Duplex automatic adaptation, support automatic MDI/MDIX;
- Power adaptor uses aerial socket, effectively improves the performance and stability;
- Dynamic LED indicator light achieve real–time display of the equipment current working condition, provides simple working condition indicator and troubleshooting;
- Compact aluminum shell design, easy for desktop and wall–mounted installation.

Notice

Please note that 2 optical fibers should cross connect with two optical fiber ports of the transceiver.

Board Diagram



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 has data switch.
   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 ok
Flash	Flash	On	Off	Connection ok and has data switch
Off	Off	On	Off	Remote Ethernet port can not connect
Off	Off	Off	Off	Fiber RX off line, fiber TX/RX offline TX/RXdropped
Off	Off	On	Flash	Fiber TX off line

Installation steps

Check the following items before installation(in pair), if any missing, please contact the dealer .

- Optical Fiber Transmitter 1 pcs
- Optical Fiber Receiver 1 pcs
- Power Adaptor 2 pcs
- Hangers 4 pcs
- User Manual 1 pcs

Please follow below the installation steps

1)Please turn off the signal power and the device's power before installation, installation with power on will damage the device;
2) Please check if the network cable and other transmission cables are occupied by other device;
3) Use a network cable to connect with optical fiber transceiver's LAN port and NVR or computer, etc.;
4) Use one single mode single optical fiber to connect with two optical ports of the optical fiber transceiver. One end of the fiber should connect with optical transceiver's TX port, the other end should connect with the RX port;
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
	Power Consumption	< 5W
Ethernet Port	Ethernet Port	LAN Port:10/100Mbps
	TransmissionDistance	LAN Port: 0 ~ 100m
Optical Port	Optical Port	Single Fiber SC Port
	Wave Length	Transmitter:1310nm/1550nm Receiver:1550nm/1310nm
	Bandwidth	155Mbps
	Ttransmission Distance	Single Mode Fiber:20km; Mutil-mode Fiber:2km
Network Switch	Ethernet Standard	IEEE802.3 10BASE-T, IEEE802.3u 100BASE-TX/FX
Status Indicator	Power Light	1 (Green)
	Ethernet Indicator Light	RJ 45 Port 1(Green)
	Optical Indicator Light	FED, SD, LINK 3 (Green)
Protection	ESD	1a Contact Discharge 3 level 6KV 1b Air Discharge 3 level 8KV Per:IEC61000-4-2
Working Environment	Working Temperature	0℃~55℃
	Storage Temperature	-40℃~75℃
	Humidity(Non-condensing)	0~95%
Mechanical	Dimension(L*W*H)	83mm × 90mm × 25mm
	Material	Aluminium
	Color	Black
	Weight	100g

Specification change will not be noticed

Trouble Shooting

Please follow the steps if the equipment has trouble.

- Make sure the equipment is installed according to the manufactures installation guide;
- Please confirm if the RJ45 cable order is in accordance with EIA/TIA568A or 568B standards;
- The maximum transmission distance depends on the quality of signal source and transmission cable, Please do not exceed the device's maximum transmission distance;
- Replace the equipment that can not work with a proper functioning optical fiber transceiver to check if the equipment is damaged;
- Please contact your vendor if trouble still exists.

RJ45 Making Method

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

1) Please remove 2cm long the insulating layer and bare the 4 pairs UTP cable;
2) Separate the 4 pairs UTP cable and straighten them;
3) Line up the 8 pieces of cables per EIA/TIA 568A or 568B;
4) Cut off the cables to leave 1.5cm bare wire;
5) Plug 8 cables into RJ45 plug, make sure each cable is in each pin;
6) Use the wire crimper to crimp it;
7) Repeat above 5 steps to make the another end;
8) Use network tester to test the cable whether it works.

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 RJ45 make sure if one end is EIA/TIA568A,the other end should also be EIA/TIA568A.
When choose RJ45 make sure if one end is EIA/TIA568B,the other end should also be EIA/TIA568B.