4*1000M Fiber Media Converter

User's Manual

: Introduction

Dear users:

Thank you for using the product of my company. In order to make your work smoothly, we give you some advice. Before you connect and operate the product, you should make sure to read this manual carefully and pay more attention to the notices.

: Safety Information

To avoid personal injury or the product and other products connected with being damaged, you should be careful of the safety information. Make sure use the product according to the rules to prevent the occurrence of some potential harm.

Attention:

Power Voltage. The device can be only used in the area where the power is AC 220V± 20%/50Hz. Please don't use in other areas.

Use proper power line and power. You must use the power line equipped with the products randomly. Also you can use other qualified power line with case which can protect earth terminal. The earth terminal of the outlet that is matched with power cord should be well ground connection.

Attention ground connection. The product is grounded by the conductor in the power line or terminal on the panel. To avoid electric shock, the ground conductor of the power line must be grounded in a good

connection with the earth. Before you connect all the optical ports of the product, you should be sure that the product is well grounded.

Take care of typical value of the ports. To avoid fire or electric shock, please pay attention to all typical values and symbols labeled in the equipment and this manual.

Don't venture operation. When you doubt this product cannot work properly, please consult our professionals instead of venturing operation.
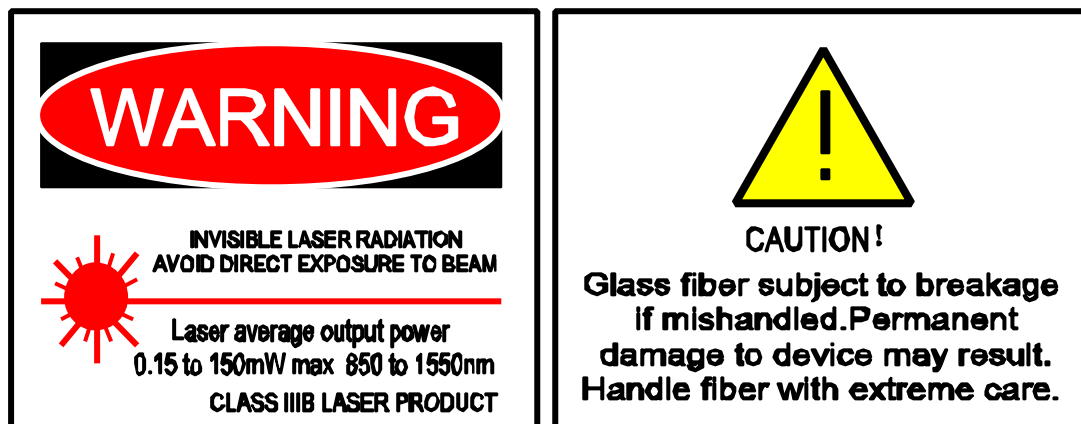
Vibrations and Crash. This machine contains elaborate optical component, you should avoid strenuous vibrations and crash.

Don't open the cover of the machine and repair arbitrarily. There aren't components for users to repair in the main case of this product. If you need repair the product, please contact our company professionals. As soon as you open the cover, you will have no warranty.

Cautions

The product is Class IIIB laser device product. There is the laser radiation that your eyes cannot see in the machine. It is possible that the machine will cause some physical damage of your eyes and skin if you operate it improperly. After the machine powers up, you can't look steadily at the fiber optical input and output port or the fiber connector interface connected with the ports.

Keep the fiber optical connector clean, or it will cause attenuation and affect transmitting distance. When you install the product, you should dip tidy cotton with absolute ethyl alcohol to clean it.

WARNING

INVISIBLE LASER RADIATION
AVOID DIRECT EXPOSURE TO BEAM

Laser average output power
0.15 to 150mW max 850 to 1550nm

CLASS IIIB LASER PRODUCT

CAUTION!

Glass fiber subject to breakage
if mishandled.Permanent
damage to device may result.
Handle fiber with extreme care.

3. The product is sensitive to static electricity. Before you contact with electric interface, you should release static electricity.

4. To prevent fire or electric shock, please don't let the product wet or damp. Don't operate in damp conditions.

5. Don't open the lid of the product to operate it.

6. Keep the surface clean and dry. You should ensure good ventilation and heat-emission.

: Overview

The device is Ethernet IEEE802.3 media transceiver to achieve media conversion or extending network transmission distance between two kinds of media, which are 10/100/1000Base-T UTP and 1000Base-S/LX. It mainly used for fiber network far distance (20/40/60/80/100km) transmission, supports 10/100/1000M or 10M, 100M or 1000M transmission rate. Fiber port and UTP can work through 100M or 1000M rate.

: Features

- ➢ Automatically adapt to 10/100/1000Mbps environment, upgrade network easily;
- ➢ Device provides 4 Ethernet UTP, 1 Ethernet optical port
- ➢ Support full-duplex and half duplex network communication, with auto-negotiation capability;
- ➢ The Ethernet interface supports jumbo frames, which can match with the switch product complied with IEEE802.10 protocol
- ➢ Support UTP cross connection switch optional, convenient for system debugging and setup
- ➢ Division of VLAN base PORT, this method does not affect the remote device
- ➢ 802.1Q VLAN Division, at this time, the local and the remote interface can be divided into the same VALN
- ➢ Device provides Console port, supports Terminal control device
- ➢ Ethernet port priority setting

: Parameters

◆ Fiber

Multi-mode Fiber

50/125um, 62.5/125um,

Maximum transmission distance: 2KM@62.5/125um single mode fiber,

attenuation (3dbm/km)

Wave Length: 820nm

Transmitting power: -12dBm (Min) ~-9dBm (Max)

Receiver sensitivity: -28dBm (Min)

Link budget: 16dBm

Single-mode Fiber

8/125um, 9/125um

Maximum transmission distance: 40Km

Transmission distance: 40KM@9/125um single mode fiber, attenuation

(0.35dbm/km)

Wave Length: 1310nm

Transmitting power: -9dBm (Min) ~-8dBm (Max)

Receiver sensitivity: -27dBm (Min)

Link budget: 18dBm

◆ Ethernet UTP Interface

Interface rate: 10/100/1000M, half/full duplex auto-negotiation

Interface Standard: Compatible with IEEE 802.3, IEEE 802.1Q (VLAN)

MAC Address Capability: 4096

Connector: RJ45, support AUTO-MDIX

◆ **Ethernet Optical Interface**

Wave Length: 1310nm, 1550nm

Interface rate: 1000 M, full duplex

Interface Standard: Compatible with IEEE 802.3, 1000BASE-S/LX

MAC Address Capability: 4096

Connector: FC/SC

Fiber Transmission Distance is limited by optical circuit loss and additional loss as a result of connectors, fittings and patch panel. Transmission distance may also be limited by fiber optic bandwidth.

◆ **Electric Mechanic Features**

Power Supply: AC180V ~ 240V；DC –48V；DC +24V

Power Consumption: ≤5W

Dimension: 216(length) X 140(width) X31(height) mm

◆ **Working environment**

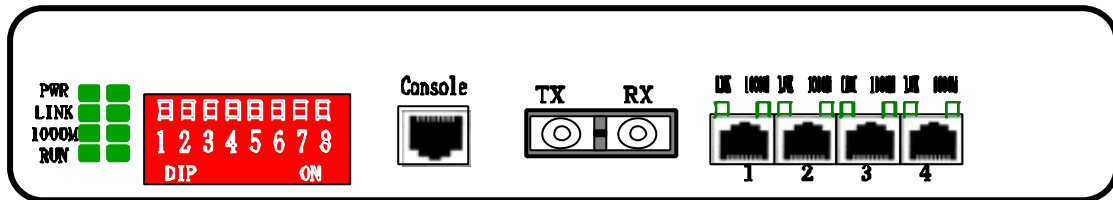Working temperature: -30℃—+75℃

Storage temperature: -40℃—+85℃

Working Humidity:　　0%~95 % (no condensation)

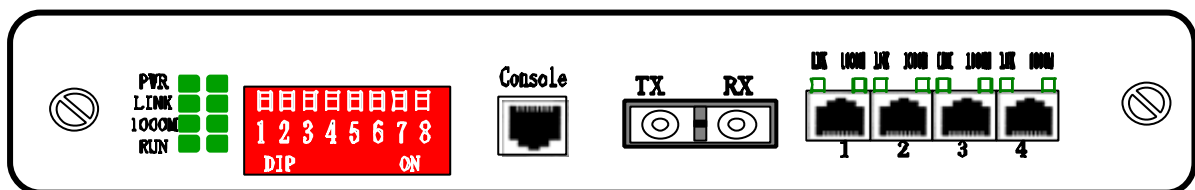MTBF:　> 100,000Hours

MTBF:　> 100,000Hours

Panel

This desktop device has two types: Built-in power type and External

power type. The rack device can be optional.

Figure One.   Built-in power type device front panel

Figure Two.   Desktop device back panel

Figure Three.   4U device front panel

∶ Indicator LED

Name	Color	Condition	Description
		Device with 8 indicator lights, as follows	
PWR	Green	ON	Power is on
		OFF	Power is off
LINK	Green	ON	Ethernet Optical Interface is on
		OFF	Ethernet Optical Interface is off
		Flash	Ethernet Optical Interface data be sent and received
1000M	Green	ON	Ethernet Optical Interface 1000M
		OFF	Ethernet Optical Interface 10M or 100M
LINK(R45)	Green	ON/Flash	1-4Channel Ethernet Optical Interface is on/data be sent and received
		OFF	1-4Channel Ethernet Optical Interface is off
1000M(R45)	Green	ON	1-4Channel Ethernet Optical Interface 1000M
		OFF	1-4Channel Ethernet Optical Interface 10/100M
RUN	Green	Flash	Device works normally

∶ Ethernet Interface

1Channel Ethernet and 4Channel Ethernet can be optional. Support

10/100/1000M, half/full duplex auto- negotiation and AUTO-MDIX

(crossed line and straightly connected line self-adaptable)

LINK	Green	ON	Ethernet is connected
		OFF	Ethernet is not connected
1000M	Green	ON	Ethernet rate is 1000M
		OFF	Ethernet rate is 10/100M

RJ45 Connector and Crystal head PIN order as follows:

100/1000M Ethernet Interface　　　　Crystal head PIN order

※   **Straightly connected line order**

A end Crystal head PIN		B end crystal head PIN	
Twisted Pair Color	PIN order	PIN order	Twisted Pair Color
White and Orange	1	1	White and Orange
Orange	2	2	Orange
White and Green	3	3	White and Green
Blue	4	4	Blue
White and Blue	5	5	White and Blue
Green	6	6	Green
White and Brown	7	7	White and Brown
Brown	8	8	Brown

※   **Crossed line order**

A end Crystal head PIN		B end crystal head PIN	
Twisted Pair Color	PIN order	PIN order	Twisted Pair Color
White and Orange	1	1	White and Green

Orange	2	2	Green
White and Green	3	3	White and Orange
Blue	4	4	Blue
White and Blue	5	5	White and Blue
Green	6	6	Orange
White and Brown	7	7	White and Brown
Brown	8	8	Brown

Description:　Crossed line A end "1"　connects with "3"; A end "2" connects with "6".When the connected Ethernet line is very long, you should be sure that "1"and "2" "3"and"6"are a pair line of Twisted Pair.

: Fiber Interface

Physical Interface: FC/SC (Optional), single-fiber and

dual-fiber (Optional).

Dual-Fiber:　TX-Transmit　RX-Receive

Single-Fiber:　Transmit and Receive (Note: 1310nm and 1550nm device used in pair)

: Console Set

The back panel of this device has Console interface, provide Console control port. PIN defined as follows:

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Console          2 Console TXD
[RJ45 icon]      3 Console RXD
                 5 GND
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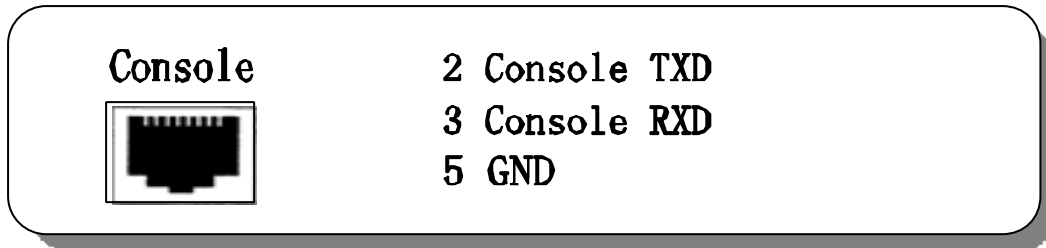
Figure Two.   Optical Transmission Switch Console Interface PIN

HyperTerminal Set as follows, 9600 8 N 1 no flow control.

⋮ Power

Device supports AC220V, DC -48V and DC24V (Optional)

If you use AC220V power, you should connect device power input port

with power socket by using random power line to provide AC220V

power device.

If you use DC to supply power, DC-48V as an example, please connect as

follows:

General Connection

"FG"   polarity   Connect ground

"DC-48V"   polarity   Connect power negative polarity

"GND"   polarity   Connect power positive polarity

**Note: Device has polarity protection measures. If positive and
negative polarity is connected reversely, device will not damage,
function well and ease of installation and maintenance. (The power
contains DC48V, DC -48V, DC24V, DC -24V, and so on).**

After-sales Service

The series of our Fiber Media Converter products, our company promises one-year warranty. During product warranty time, our company provides free repair service, but if the following cases, we will charge the cost of materials.

1. Damage due to not complying with the manual.

2. Tear down the device without authorization, which leads to bad situations.

3. Lightning, fire and inevitable natural disasters.

4. Our products don't match with other company products because of bad design to cause damage.

Company Statement

1. As we are adopting new technology, if our product technical parameters are changed, we won't notice you.

2. The final interpretation right of this manual belongs to my company.