User Guide

IEEE802.3bt 1 Optical 1 Electrical Gigabit High PoE

Fiber Media Converter

This manual applies to the model 60W/90W 1 Optical 1 Electrical Gigabit High PoE Media Converter, if there is no special instructions in the text, product illustrations to 60W/90W 1 Optical 1 Electrical Gigabit High PoE Media Converter for example.

Packing List

When using the switch for the first time, carefully open the packing box. The packing box should contain the following items:

- Switch *1
- User Guide *1
- Power Adapter *1

⚠ **Note:** The equipment has built-in precision devices, so please take care to handle it gently and avoid violent vibration to avoid affecting the performance of the equipment. If you find that the equipment is damaged or missing any parts during the transportation process, please inform our company and we will give you a proper solution as soon as possible.

Chapter 1 Product Introduction

1.1 Product Overview

60W/90W 1 Optical 1 Electrical Gigabit High PoE Fiber Media Converter is our self-developed Ethernet Fiber Optic Transmission equipment. It provides 1*10/100/1000Mbps adaptive RJ45 port with PoE power supply function and supports IEEE802.3bt standard, which can be used as Power over Ethernet device and can automatically detect and identify the powered devices that meet the standard and supply power to them through the network cable. and 1*1000Mbps fiber module slot for 10/100/1000BASE-TX and 1000BASE-X conversion.

The product can be widely used in security monitoring, wireless networking, fiber optic access and other application scenarios.

Chapter 2 Product Appearance Description

2.1 Front panel

The front panel of the enclosure consists of one 10/100/1000Mbps adaptive RJ45 port and one 1000Mbps fiber optic module slot and related indicators, as shown in the figure below:

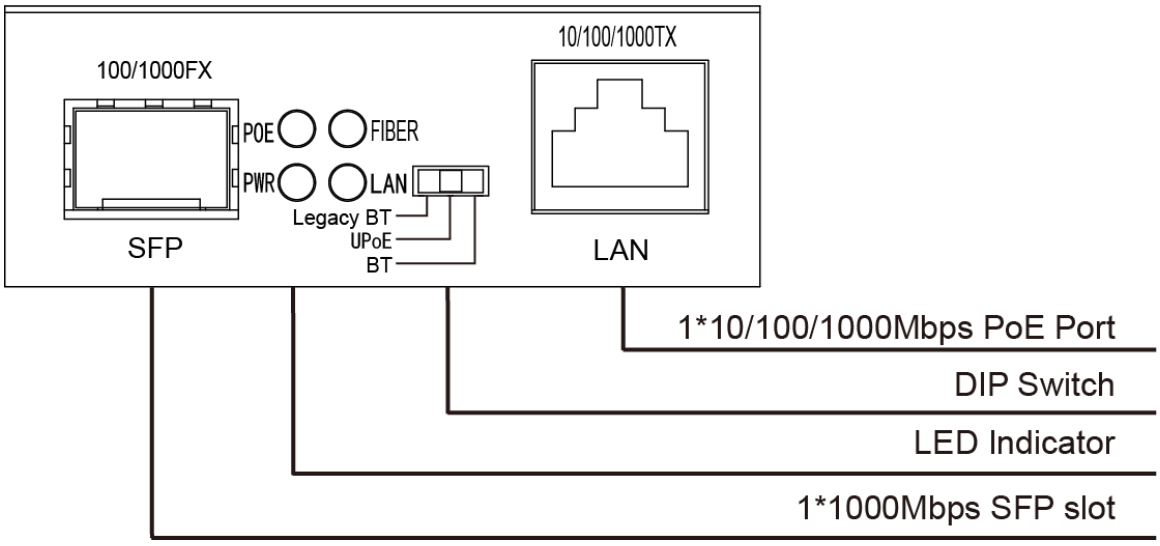

Figure 2-1 Front panel diagram

Port Description:

➢**10/100/1000Mbps RJ45 Port**

Support 10Mbps, 100Mbps or 1000Mbps rate adaptive function, support Auto-MDI/MDIX function, and PoE power supply function, support IEEE802.3bt standard, can be used as Power over Ethernet device.

➢**1000Mbps SFP Slot**

Separate fiber optic module slots for connecting various fiber optic modules for optical signal transmission.

➢ **DIP Switch**

Legacy BT: Supports PD with capacitive or resistive tags, and the range of supported resistor resistance values will be wide. Other parameters are the same as BT;

UPoE: Regardless of the class of PD, PSE provides maximum power to PD.

BT: Fully support IEEE 802.3bt/at/af standard PD device;

2.2 LED Indicator

LED	Color	Function
PWR	Green	Off: The machine is not powered up. Light: Machine is powered on.
PoE	Green	Off: Access to PD devices. Light: Indicates the machine has PoE supply.
LAN	Green	Off: Port is not connected to a network device. Light: Connected 10/100/1000Mbps network devices.
Fiber	Green	Off: Port is not connected to a network device. Light: Connected 10/100/1000Mbps network devices.

2.3 Rear panel

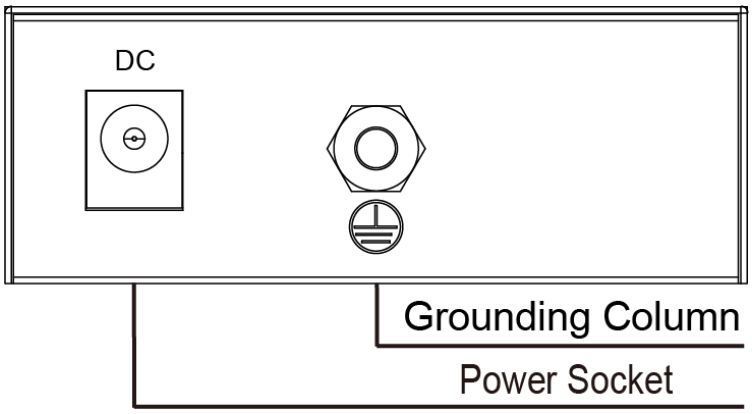

Figure 2-2 Rear panel schematic

DC Power Port

60W 1 Optical 1 Electrical Gigabit High PoE Fiber Media Converter DC Input: 54.5V/1.32A;

90W 1 Optical 1 Electrical Gigabit High PoE Fiber Media Converter DC Input: 55V/2.3A

Grounding Column

It is located to the left of the power interface. Please use wire grounding to prevent lightning strike.

⚠ **Precautions: The product has provision for a permanently connected protective grounding conductor, this conductor need to install to building earth by a skilled person.**

Chapter 3 Installation Guide

This chapter helps users correctly install and safely use switches.

3.1 Installation Precautions

⚠ **Precautions:** To avoid equipment damage and personal injury, observe the following precautions:

- Before cleaning the Transceiver, unplug the power plug of the Transceiver first. Do not clean the machine with wet cloth or liquid.
- Do not place the machine near water or any damp area. Prevent water or moisture from entering the machine chassis.
- In order to ensure the normal operation of the equipment and protect the safety of people and equipment, the equipment must be well grounded.
- Make sure that the operating voltage is the same one labeled on the machine.
- Transceiver and other equipment should be maintained between the corresponding distance, more prohibit and other equipment stacked.
- The connection cable between the machine and the wiring frame should be standardized and reasonable, the wiring frame (box) jump wiring should be concise and clear to prevent parallel lines, string lines and other phenomena;
- To avoid the risk of electric shock, please do not open the case without permission; in case of failure, please contact a professional for maintenance.

⚠ **Safety Tips:**

- Use a three-hole socket with safe grounding, and ensure that the PGND cable of the power socket is reliably grounded.
- Ensure sufficient space for heat dissipation and ventilation of the machine. Do not place heavy objects on the Transceiver.

3.2 Installation environment

Before installation, make sure that the proper working environment is available, including power requirements, adequate space, proximity to other equipment to be connected, and other equipment in place. Please confirm the following installation requirements:

- Ensure the stability of the workbench and good grounding;
- Check whether cables and connectors required for installation are in place (less than 100m).
- Power supply: Environment: operating temperature: 0°C to 50 °C relative humidity: 5% to 90%.

3.3 Connection Method

- Connect the UTP patch cable from the switch device to the RJ45 interface of the single fiber transceiver, the transceiver electrical port can adapt to straight-through or crossover wires.
- Connect to the fiber module slot of the switch with the fiber module. (Note: fiber modules should be correctly matched: single-mode with single-mode, multimode with multimode, not mixed; both ends of the fiber need to use the same package and compatible rate).
- Connect the DC plug of the power adapter to the DC socket of the fiber optic transceiver, then plug the AC plug of the power adapter into the AC socket and turn on the power.

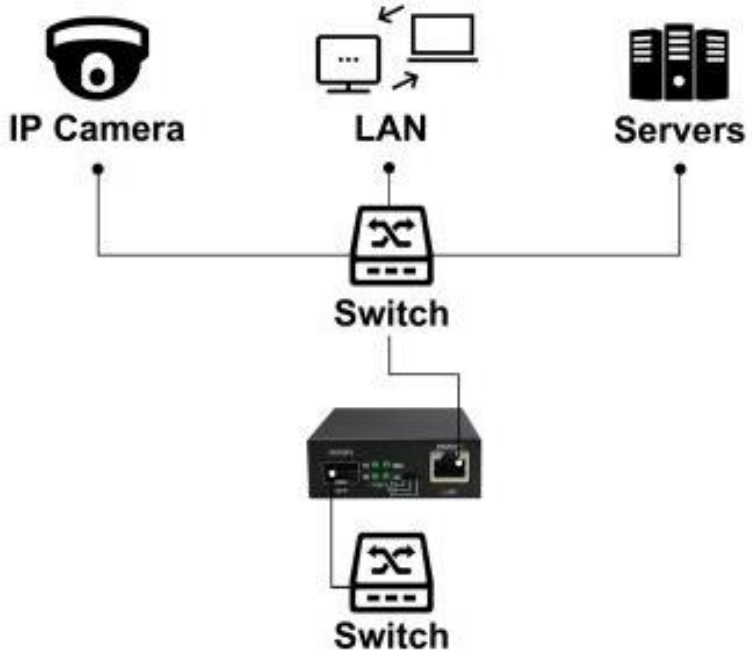

Figure 3-1 Connection schematic 1

- If the switch fiber module slot is not enough or does not support single-mode fiber, you need to connect two fiber transceivers for conversion, and then use the network cable to connect to the switch equipment.

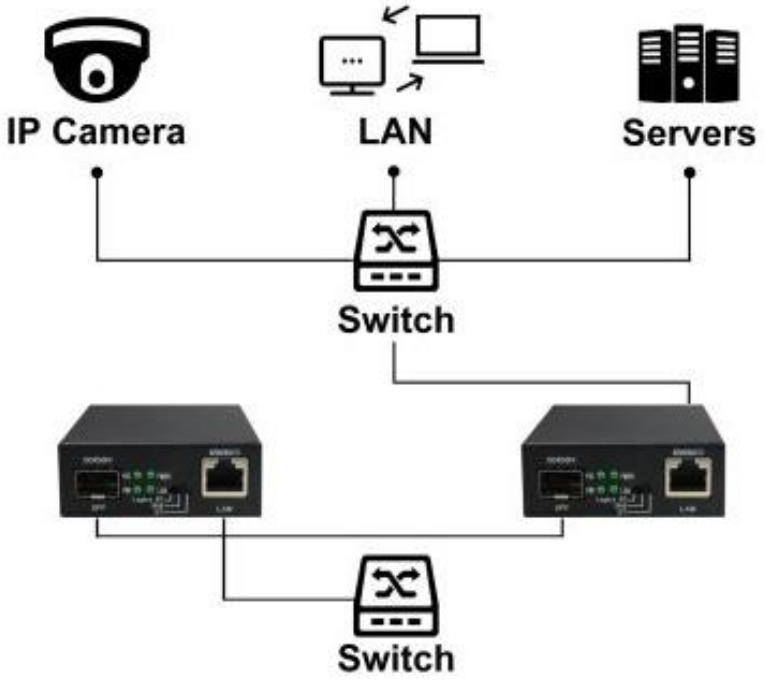

Figure 3-2 Connection schematic 2

Appendix: Technical specifications

Model	60W 1 Optical 1 Electrical Gigabit High PoE Fiber Media Converter	90W 1 Optical 1 Electrical Gigabit High PoE Fiber Media Converter
Protocol Standards	IEEE802.3u;100Base-TX/FX; IEEE802.3ab 1000Base-T; IEEE802.3z 1000Base-X; IEEE802.3x; IEEE802.3af, IEEE802.3at, IEEE802.3bt	
Network Media(Cable)	1000BASE-T: UTP category 5e, 5 cable（≤100m） 1000BASE-X: MMF, SMF	
Indicator Light	PWR (Green), LAN (Green), PoE(Green), Fiber(Green)	
Function Keys	Bt/Legacy bt/UPoE	
Forwarding Type	Store-and-forward	
MAC Address Table	2K, Auto-learning, Auto-update	
Jumbo Frame	9K Bytes	
Packet Buffer	2M bit	
PoE output	60W Max	90W Max
Total PoE power	65W	95W
Total power supply	72W DC 54.5V1.32A	126W DC 55V2.3A
Appearance Size (L*W*H)	93.5*70*26mm	
Operating Temperature	0℃~50℃	
Storage Temperature	-40℃~80℃	
Operating Humidity	10% ~ 90%　non-condensing	
Storage Humidity	5% ~ 90%　non-condensing	