Model AP-2W-ETH-POE / AP-2W-ETH-DC

PoE Ethernet Extender

Product User Manual

PoE Ethernet Extender is a high-speed Ethernet transmission device. It transmits Ethernet and PoE signal up to 500m over 2-wire cable such as Cat5, coaxial cable, telephone line and power line. The max physical bandwidth can reach 200Mbps. This device supports both PoC and PoE function.

This device contains one Receiver unit and one Transmitter unit, supports PoE power input for the remote device and supports point to point and point to multi-point network transmission. It can greatly simplify the project cabling, apply to expand network system and transmit Ethernet and PoE signal for long distance.

Features

◆ Max PoE distance up to 500 meters

◆ Physical bandwidth up to 200Mbps

◆ Support power over cable technology (48～56VDC/POE)

◆ Plug and play, transparent transmission, no adjustment and no need to change the upper software

◆ Low dissipation, communication dynamic adjustment and high-performance error correction coding technology

Technical Parameter

Category		Description
Power Input (Receiver)	RJ45/PoE Input	Standard48～56VDC; IEEE802.3af/at
	DC Port Input	48～56VDC
	Power Consumption	≤4W
Power output (Transmitter)	RJ45/POE Output	Standard48VDC; IEEE802.3af/at
	Power Consumption	≤3W
Ethernet	IEEE 802.3, IEEE802. 3u	Physical Speed 200Mbps
Physical Characteristic	Dimension (L × W × H)	120×104×28mm
	Material	Aluminum Alloy
	Net Weight	240g/105g
Operating Environment	Working Temperature	-20℃～60℃
	Working Humidity	＜95% (Non-condensation)

Installation Instructions

Definition of Receiver & Transmitter; Terminal device & Remote device:

Receiver & Transmitter: Ethernet Extender Unit connected to the computer is Receiver by default. Ethernet Extender Unit connected to the camera is Transmitter by default.

Terminal device / Remote device: Terminal device generally refers to the direction of computer / machine room, and remote device generally refers to the direction of camera.

Step	Installation Instruction	Step	Installation Instruction
1	Connect PoE power supply equipment to RJ45 terminal of Receiver unit (1)	8	Connect network equipment to RJ45 port of Transmitter unit (8)
2	Positive and negative connection terminal of 2-wire cable (2)	9	Positive and negative terminals of the low voltage power (9)
3	Spare terminal for external power adaptor (3)	10	Power indicator is always on (10)
4	Power indicator is always on (4)	11	Positive and negative connection terminal of 2-wire cable (11)
5	Line indicator is always on (5)	12	Network data indicator quickly blinks when data is normal (12)
6	Network data indicator (6)	13	Line indicator quickly blinks (or is always on) (13)
7	PoE detection indicator (It is always on when there is PoE output）(7)		

Dimension

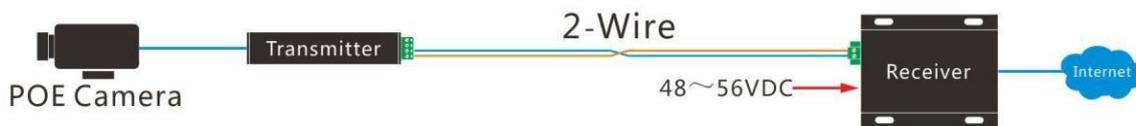**Transmitter Unit**
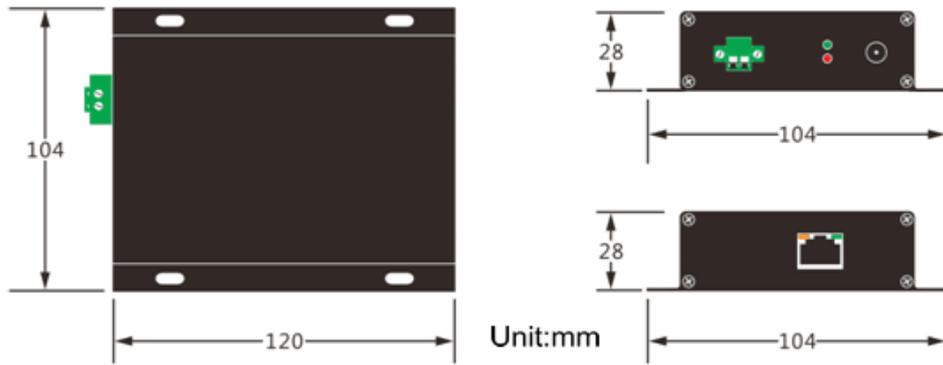
Receiver Unit

Note: Dimension error value ±1 mm

Installation Diagram

Power Supply Tips

1. When the Receiver unit is powered by 48～56VDC, the Transmitter unit and POE devices can be powered without external power supply. Non-PoE devices need the external power supply.

2. When the Receiver unit is powered by PoE switch, the Transmitter unit and PoE devices can be powered without external power supply. Non-PoE devices need the external power supply.

Troubleshooting Method

1. When direct connection by network cable is normal, the lag time is large after connecting Ethernet Extender.

(1) Check 2-wire connection is correct or wrong. In the case of the wrong connection, the signal can be transmitted but the lag is very large.

(2) When multiple Ethernet Extenders are used together, they need to be grouped and paired to avoid the delay caused by signal crosstalk.

2. After a period of using Ethernet Extender, the Ethernet signal has packet loss or disconnection.

(1) Check the power adaptor status, if find they are aged or damaged, please replace it.

(2) Check all the cable connections, if find any loose cable or short circuit, please solve it.

3. The screen is frozen, and the Ping packet is normal.

(1) Ethernet Extender is transparent transmission. Check whether the version and setting of IP Camera are correct or not.

(2) Check whether the throughput of network switch is enough or not. Please directly connect the computer to check the status.

(3) Confirm if all the IP surveillance devices belong to the same brand or not, whether they support onvif, and then check their compatibility, do the test of reducing video stream.

(4) If working environment temperature of Ethernet Extender is too high, firstly cut off the power supply. If confirm the devices are overheated, please adopt temperature decrease measures.

4. After Ethernet Extender fails, the replaced one can't transmit the signal.

(1) If Ethernet Extenders have been paired in advance, the replaced devices shall be also paired, and other devices of the same group shall be also powered off and restarted.

(2) When Ethernet Extenders are paired, there is only one Receiver in one group, if have multiple Receivers, the signal can't transmit. Confirm the replaced Ethernet Extender is the same model, they can't be mixed with other brand products to be used.

Use Tips

When you use the converter, please follow the below tips as a reference, in order to reduce thefault in the process of using and the inspection work.

Cables:

1. Signal transmission cable must be the copper cable. Other material cables will cause the decrease of signal transmission quality and distance.

2. This device suggests using 2-wire or coaxial cable to transmit data, if need to transmit PoE, please use higher specifications cable, suggest using RVS 2×0.75mm²or above.

3. Different kinds of cables mix connection may reduce the quality of signal.

4. Keep the network cable distance between the remote devices as short as possible to ensure network transmission stable.

Power:

1. The device supports PoE & DC power input and the remote device PoE power output. Make sure that the electrode of transmission cable is consistent, otherwise, it is easy to cause the power failure.

2. Please cut off power supply before using the device. Supply power after checking all connection is right. To plug or play devices are strictly prohibited when devices are working.

3. The Transmitter unit doesn't need external power supply, the Receiver unit needs to supply power, the total power consumption of Receiver and Transmitter unit is 7W.

4. If using external power adapter to supply power, suggest using power adapter 48～56VDC/1A for Receiver unit.

5. Suggest using power adapter is less than 60W to supply power for the device. Do not suggest to connect PoE Input and DC power adapter simultaneously in case of damaging devices.

6. The power consumption of power adapter should exceed more than 30% of all equipments, to ensure the normal power supply output under the cable loss.

7. If you use PoE switch or PoE module power supply, please choose the power output exceeds more than 30% of all front-end equipment power consumption.

8. The power output of Transmitter unit should be adjusted according to PoE equipments power output capacity.

Connection:

1. Receiver and Transmitter unit can't be installed oppositely. Receiver unit should be installed at control room side for easy power supply.

2. When using management PoE switch and the line connection is correct, but the devices don't work, please firstly unplug the PoE switch and the 2-wire cable at Receiver unit side, then re-plug PoE switch to the Receiver unit and supply power, when Receiver unit is working normally, then connect 2-wire cable.

3. Long distance cable connections must be standard connection method, such as welding or using connectors.

4. If device fails, do not disassemble or repair it by yourself. Please contact us timely.