User Manual: UR-EXT-SET
Industrial IP & PoE Extender

Version 05.2025

Introduction

The UR-EXT-SET is a high speed PoE extender. It transmits Ethernet and PoE over coaxial cable or single pair UTP cable up to 500 meters and beyond. The devices are often used where existing analogue video cameras are to be replaced with new IP cameras.
The UR-EXT-SET includes a receiver unit and a transmitter unit.

Installation

Install the receiver unit on the server side and the transmitter unit on the camera or IoT device side. Secure both units using appropriate screws through the mounting flaps (see Figure 7 and Figure 8)

The receiver and transmitter are designed for use with coaxial cable, but UTP cable connections are also supported. When using UTP, install VI-0030 baluns at both ends of the extended link (see Figure 1). They must be ordered separately. The supplied BNC-to-2-screw terminal adapters can also be used, although this will limit the maximum transmission distance to approximately 200 meters.
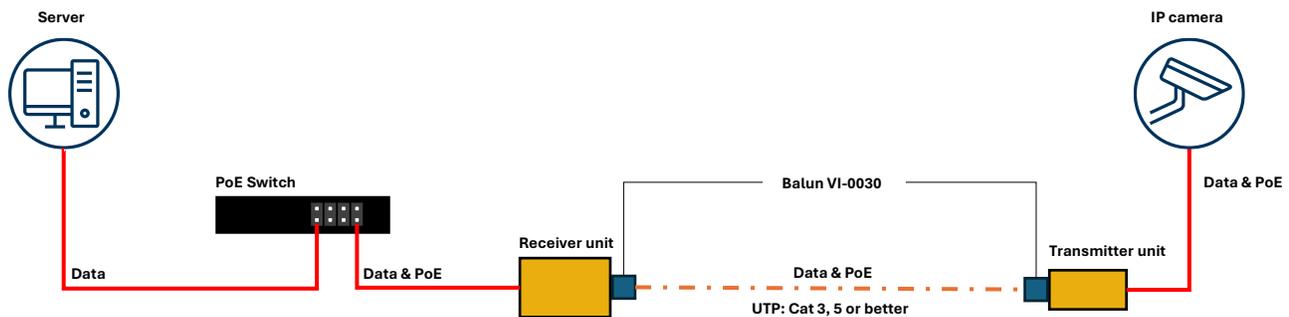

Figure 1: Using the UR-EXT-SET with UTP cable

Power supply

The UR-EXT-SET supports two power supply methods: PoE and external power supply.

WARNING:

- The device should not be powered by PoE and 48~56VDC at the same time.
- The power supply terminal on the transmitter unit remains inactive. Please do not connect it to the power supply.

Method PoE:

The receiver unit is powered directly from a PoE switch. This means that the transmitter unit and any connected IoT devices are also powered directly by PoE. This method does not require an external power supply.
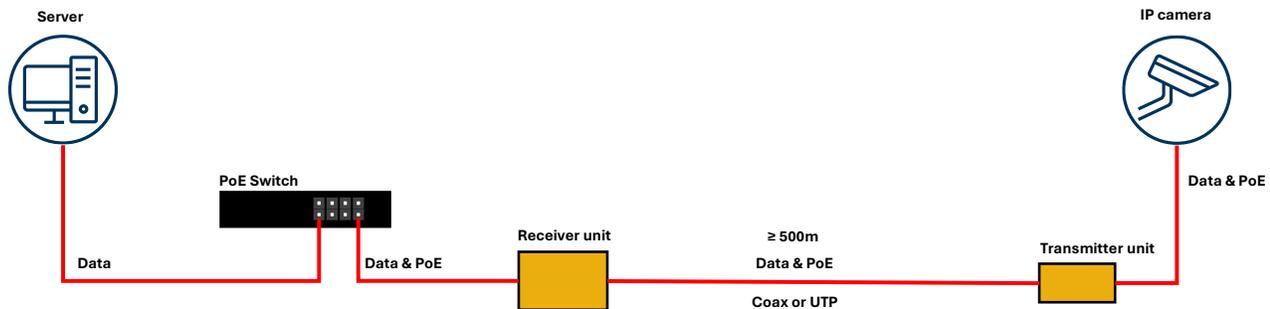

Figure 2: Method PoE

Method external power supply:

The receiver unit is externally powered by an external power supply. The receiver then acts as a PoE injector. The transmitter and all connected IoT devices are then powered by PoE.
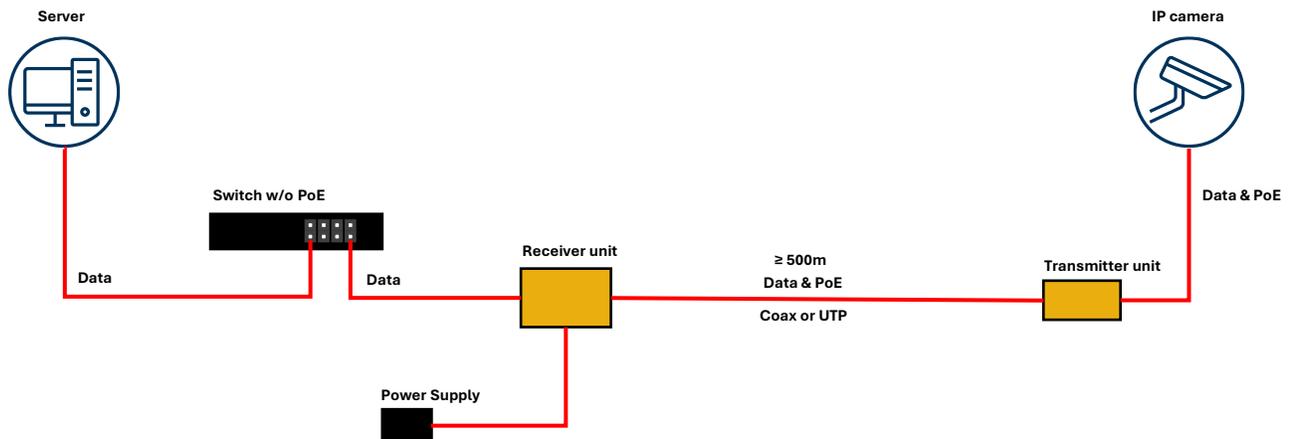

Figure 3: Method external power supply

Suitable power supplies are:

- PS-DIN-AC/48/40 max. power 40W
- PS-DIN-AC/48/60 max. power 60W
- PS-DIN-AC/48/120 max. power 120W

Use a 5.5 mm / 2.1 mm DC plug to connect to the receiver unit.

LED-Indicators for receiver and transmitter unit

LED	Colors	Status	Description
Power	Red	LED off / blinks:	Power is OFF.
		LED on:	Power is ON.
Line (RJ45 socket, right)	Green	LED off:	No connection detected between receiver and transmitter unit.
		LED blinks:	Connection between receiver and transmitter unit is established.
Link-Act (RJ45-socket, left)	Yellow	LED off:	No data is being transmitted.
		LED on / blinks:	Data is being transmitted.

Interface description

Receiver unit:

Power indicator — RJ45   Power adapter terminal — BNC terminal
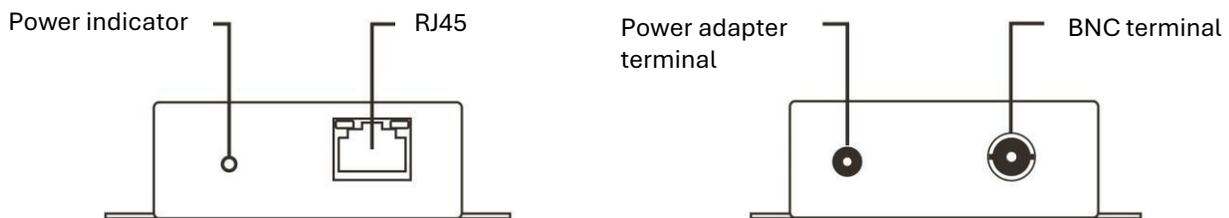
Figure 4: Interface description receiver unit

Transmitter unit:

BNC terminal   Inactive terminal — Power indicator — RJ45
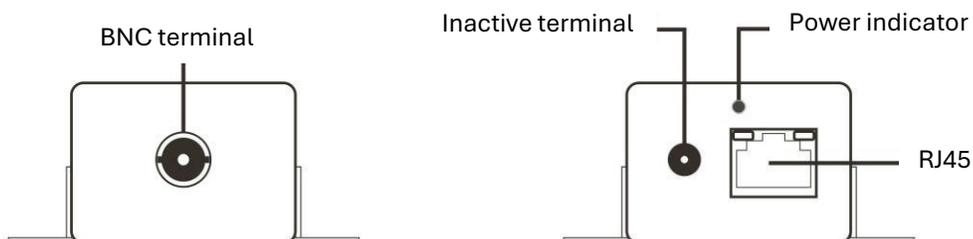
Figure 5: Interface description transmitter unit

Troubleshooting

PoE failure:

- Ensure that the PoE source (switch or mid span) is compatible with the PoE device (IP camera or IoT device).

- Verify that the PoE device (e.g. IP camera or IoT device) does not exceed 30W and complies with IEEE 802.3at.

- Check whether the length of the cable between the receiver and the transmitter unit is causing excessive power loss. If this is the case, there are two possible solutions: Supply the receiver unit with the maximum voltage of 56 VDC or use a cable with a larger wire gauge.

No line connection is established:

- Make sure that both units have power (see Figure 2 and Figure 3).

- Check that the extender cable is in good condition. Ensure that the pairing codes on both units are in the same group.

Specifications

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Power Input, receiver side **(See Figure 2 and Figure 3)**	Method PoE, IEEE 802.3 af/at/bt, RJ45 Method Power Supply, 48-56VDC, DC-connector jack type 5.5 / 2.1 mm
Power Consumption	≤1.5W / unit (total 3W/link)
Power Output, transmitter side	IEEE 802.3 af/at, RJ45
Network Connector, LAN	RJ-45 10/100/1000 Base-T (X)
Network Cable	Cat 5 or better
Extender Connector	BNC
Extender Cable	Coaxial cable, RG59 UTP, single-pair, must be used with BNC to screw clamp adapter or balun VI-0030 (must be ordered separately)
Operating temperature	-20°C to 60°C
Operating humidity	< 95 % (non-condensing)
Housing	Metal case (Aluminum Alloy)
Dimensions (L x W x H)	Receiver: 98 x 86.5 x 25 mm Transmitter:78 x 42 x 31.5 mm
Mounting	Wall mounting

Distance chart
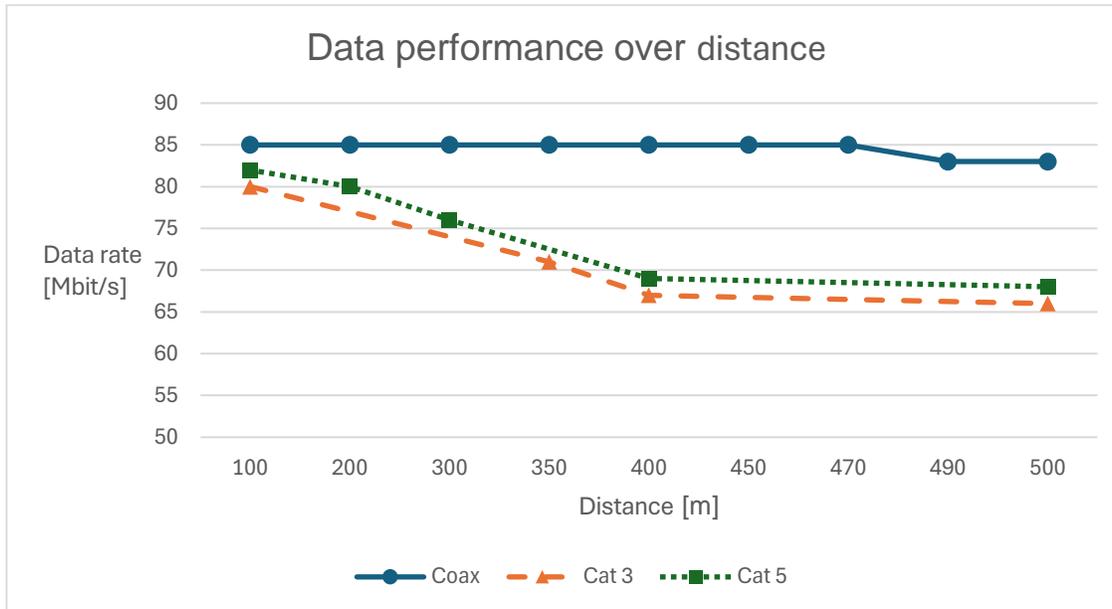
Figure 6: Distance chart (values for Cat 3 / Cat 5 cables measured with Balun VI-0030)

The values shown were measured under factory conditions. Actual data rates may vary significantly depending on the quality and wire cross-section of the extender cable. Poor cable quality can reduce performance, while larger cross-sections may improve it.
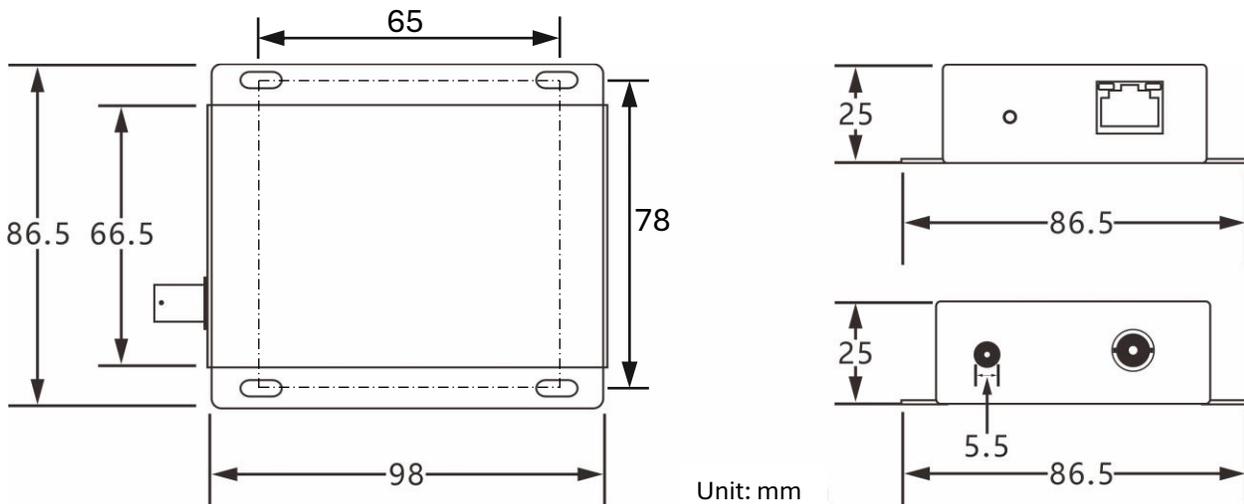
Dimensions [mm]
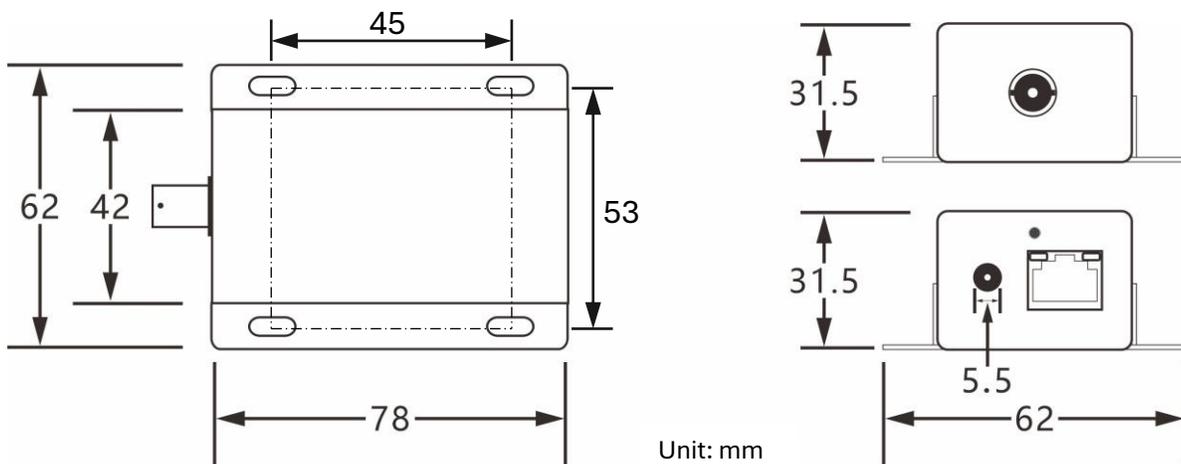
Receiver unit:

Figure 7: Dimensions receiver unit

Transmitter unit:

Figure 8: Dimensions transmitter unit