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ECT-1-PoE+ & ECR-1-PoE+ Series Instruction Manual

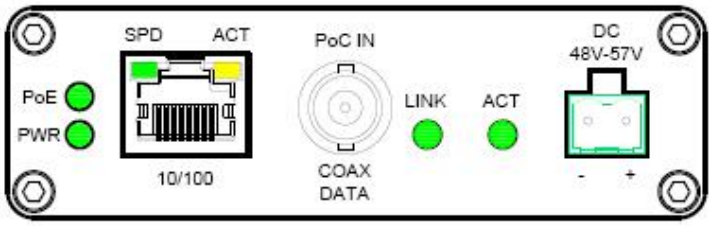
Overview

The ECT-1-PoE+ and ECR-1-PoE+ provide transmission of a 10/100Base-TX Ethernet signal over coaxial cable with PoE+ & PoC.

This quick start guide describes how to install and use the 10/100Base-TX Ethernet Extender over Coax with High Power over Ethernet (PoE+) & Power over Coax (PoC). The EoC converters introduced here consists of a transmitter (TX) and receiver (RX) and provides one channel of Ethernet over a coaxial cable with PoC & PoE. The ECT Series product provides Ethernet Extension of a 10/100Base-TX over Coaxial cable up to distances of 1 km. The products provide high power PoE+ (30W max Power Sourcing Equipment (PSE)) to the network camera. The products also support PoC, hence, no power point is required for the transmitter and the network camera at the transmitter side. The product is good for retrofitting of analogue systems to IP or adding an IP camera to an existing coaxial cable infrastructure.

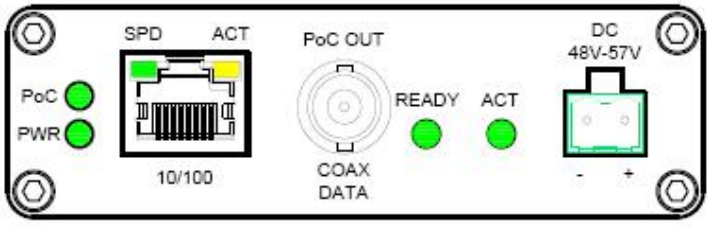
Hardware Description

Transmitter



ECT-1-PoE+

Receiver



ECR-1-PoE+

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Connecting to Power

The EoC converter is a plug-and-play device. The TX and RX support two type of power input.

Receiver (RX)

1. External Power Adapter - Connect an AC to DC power adaptor (48VDC output) to the power connector (2 pin terminal block) of the receiver and then attach the plug into a standard AC outlet. The PWR LED will then be lit.
2. Power over Ethernet (PoE) - Connect the Ethernet cable from an Ethernet switch with high power PoE (PoE+) to the RJ45 (10/100) of the receiver, the PWR LED will then be lit. In this case, power adapter is not needed.

Transmitter (TX)

1. External Power Adapter - Connect an AC to DC power adaptor (48VDC output) to the power connector (2 pin terminal block) of the transmitter, and then attach the plug into a standard AC outlet. The PWR LED will then be lit.
2. Power over Coax (PoC) - If the transmitter has not used a power adapter, when the coaxial cable is properly connected between the transmitter and receiver, the transmitter can get the power from the remote receiver through the coaxial cable. The PWR LED will then be lit.

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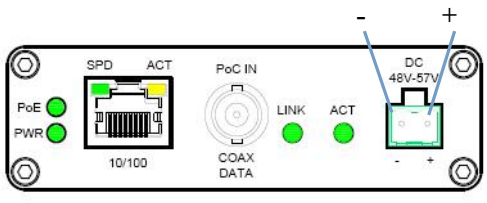
Connecting to Coax

Connect the coaxial cable to the female BNC connector (COAX DATA) of the transmitter and receiver. If the transmitter and receiver are properly connected and communicating with each other, the Link LED (LINK) near the COAX DATA port of the transmitter will be lit (ON). The PoC LED of the receiver will be lit too when the PoC is in use.

Connecting to Ethernet

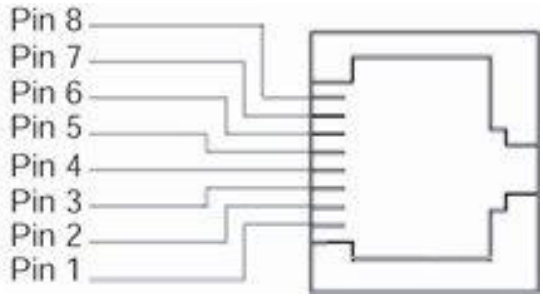
Connect the Ethernet cable from the IP camera to the Ethernet port (10/100) of the transmitter. If the cable is properly connected, the LINK/ACT LED of the Ethernet port of the transmitter will start flashing. When the connected camera is a PoE IP camera, the transmitter will supply power to the camera through the Ethernet port via the Ethernet cable and the PoE LED will be lit. Connect the Ethernet cable from the NVR or an Ethernet switch or similar equipment to the Ethernet port (10/100) of the receiver. If the cable is properly connected, the LINK/ACT LED of the Ethernet port of the receiver will be lit.

Power Connector

Pin / Description	-	+	
Power Input	GND	48V~57V (DC)	

The 10/100Base-TX Connector

RJ45 pin assignment：



Pin	MDI	MDI-X
1	**TD+**	**RD +**
2	**TD-**	**RD-**
3	**RD +**	**TD+**
4	Positive (VCC+)	Positive (VCC+)
5	Positive (VCC+)	Positive (VCC+)
6	**RD-**	**TD-**
7	Negative (VCC-)	Negative (VCC-)
8	Negative (VCC-)	Negative (VCC-)

The transmitter, as a Power Sourcing Equipment (PSE), uses the spare wires (alternative B) to supply power to the IP camera (Power Device (PD)).

Cable Connection

Interface Type	Support Description	Cable Type
RJ45	10Base-TX 100Base-TX	Category 3 or above cable Category 5 or above cable
BNC (Female)	Ethernet over Coax Data	RG-59/U or similar
2-pin Terminal Block	Power input (48~57VDC)	2-wire

Dimensions Drawing of the Product (Unit: mm)

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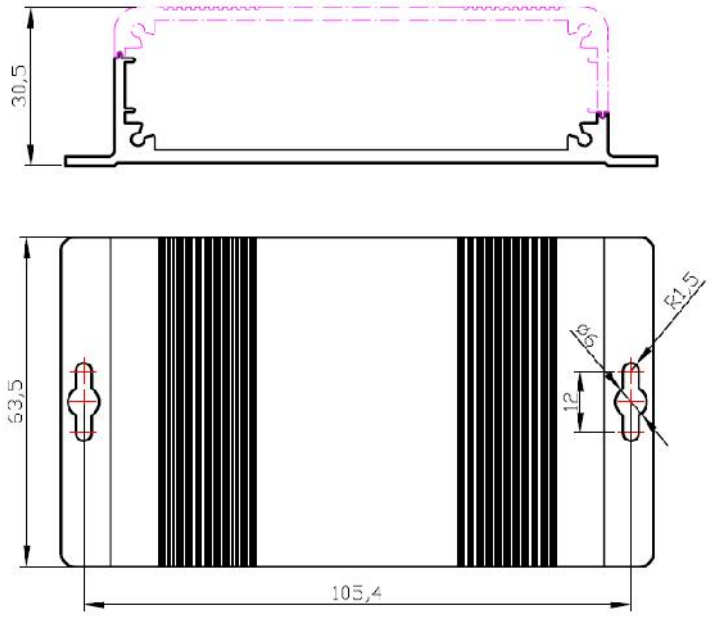

LEDs

The LED indicators give you instant feedback on status of the EoC Transmitter & Receiver:

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LEDs		Colour	State	Indication
PWR		Green	Steady	Power on, PWR stands for POWER
			Off	Power off
COAX DATA	Link(TX)	Green	Steady	The transmitter and receiver communicate and lock with each others.
			Off	The transmitter and receiver do not communicate or the coaxial cable is disconnected.
	ACT	Green	Flashing	Data transfer within the coaxial cable
			Off	No data transfer within the coaxial cable
	READY (RX)	Green	Steady	The converter is ready for data transfer
			Off	The converter is not ready
PoC (RX)		Green	Flashing	Detection stage
			ON: 1 sec, OFF: 5 sec (Repeat)	Un-connected or broken coaxial cable
			ON: 2 sec OFF: 4 sec (Repeat)	TX is connected with power adaptor (PoC not required)
			ON: 3 sec OFF: 3 sec (Repeat)	Overload
			ON	Power over Coax in use
PoE (TX)		Green	Steady	Power is applied to the Power Device (PD)
			Off	A non-PoE device is connected or Ethernet connection is not established
Ethernet				
LINK/ACT		Green	Steady	A valid Ethernet connection established
			Flashing	Transmitting or receiving Ethernet data, Act stands for ACTIVITY
			Off	Neither valid Ethernet connection established nor transmitting/receiving Ethernet data
SPD		Yellow	Steady	Ethernet Connection transferring at 100Mbps
			Off	Ethernet Connection transferring at 10Mbps