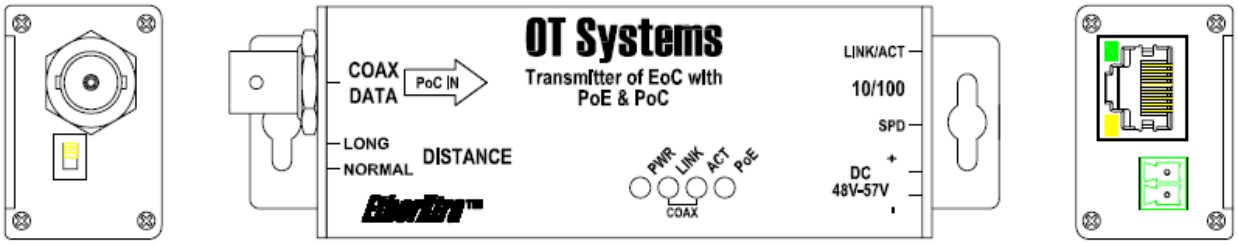
ET1100CP Series

Industrial 10/100Base-TX Ethernet over Coaxial Converter with PoE & PoC

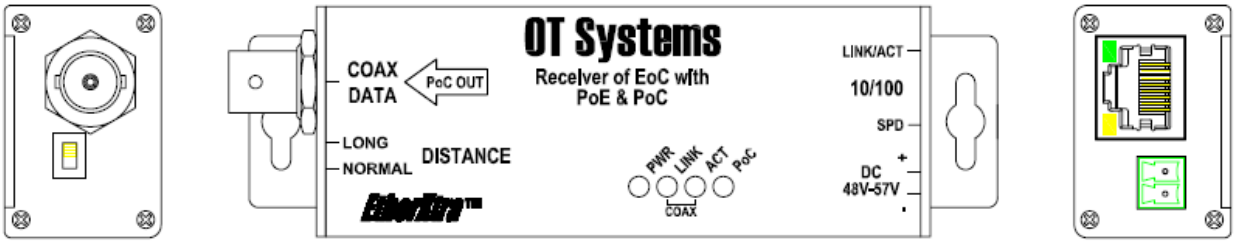
This quick start guide describes how to install and use the ET1100CP Series Ethernet-over-coax (EoC) converter with Power over Coax (PoC) and Power over Ethernet (PoE). The EoC converter introduced here consists of a transmitter (TX) and receiver (RX) and provides one channel for Ethernet over a coaxial cable with PoC/PoE.

Product Overview

Transmitter



Receiver



Product Features

- Complies with EN55022 Class A EMC Generic standard immunity.
- Operates transparent to higher layer protocols.
- One Ethernet port (RJ-45 connector): 10/100Mbps-Full/Half-duplex, Auto-negotiation, Auto-MDI/MDIX.
- Complies with IEEE802.3 10Base-T and IEEE802.3u 100Base-TX standards.
- Supports IEEE 8023af Power over Ethernet (PoE) Power Sourcing Equipment (PSE)
- One Ethernet Extender port (BNC connector): Downlink: 36Mbps (max.); Uplink: 11Mbps (max.).
- Maximum distance: 500m over Coax.
- Provides BNC connector (female).
- External AC to DC power adapter.
- Operating voltage and max. current consumption: 0.8A @ 48VDC. Power consumption: 38.4W Max.
- -10°C to 60°C (14°F to 140°F) operating temperature range.
- Supports Wall Mounting installation.
- Used as a stand-alone device.

Connecting to Power

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

Receiver (RX)

1. External Power Adapter - Connect the supplied AC to DC power adaptor to the receptacle on the rear panel 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 PoE to the RJ45 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 the supplied AC to DC power adaptor to the receptacle on the rear panel 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) - 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. In this case, power adapter is not needed.

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Connecting to Coax

Connect the coaxial cable to the BNC socket of the transmitter and receiver. If the transmitter and receiver are properly connected and communicated with each other, the Link LED of the transmitter and receiver will be lit (ON). The PoC LED of the receiver will be lit too.

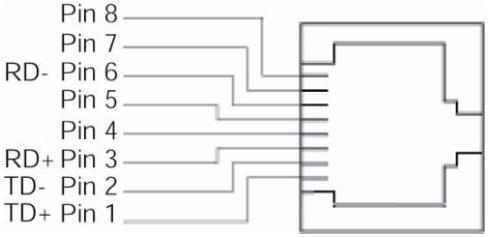
Connecting to Ethernet

Connect the Ethernet cable from the IP camera to the RJ45 port of the transmitter. If the cable is properly connected, the 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 and the PoE LED will be lit. Connect the Ethernet cable from the NVR or an Ethernet switch or similar equipment to the RJ45 port of the receiver. If the cable is properly connected, the Act LED of the Ethernet port of the receiver will be lit.

The 10/100Base-TX Connector

The 10/100Base-TX Connections

The following lists the pinouts of 10/100Base-TX ports.

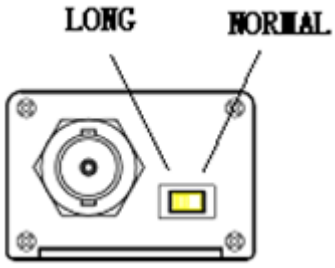


Pin	Regular Ports	PoE
1	Output Transmit Data +	Unused
2	Output Transmit Data -	Unused
3	Input Receive Data +	Unused
4	Unused	Positive (VCC+)
5	Unused	Positive (VCC+)
6	Input Receive Data -	Unused
7	Unused	Negative (VCC-)
8	Unused	Negative (VCC-)

The transmitter, as a Power Sourcing Equipment (PSE), use the data wires (alternative A) to supply power to the IP camera (Power Device (PD)).

Coaxial Link Data Rate

There is a switch beside the Video connector. It can be used to control the distance of the coaxial link. If longer distance is selected (switch position in L), the transmission distance can be reached up to 500m.



Position	Distance	Data Rate	
		Downlink (TX to RX)	Uplink (RX to TX)
NORMAL	300 m	36 Mbps	11 Mbps
LONG	500 m	21 Mbps	3 Mbps

LEDs

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

LEDs		Colour	State	Indication
PWR		Green	Steady	Power on, PWR stands for POWER
			Off	Power off
Coax	**Link**	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. The brightness depends on the data rate. The lower the data rate, the dimmer is the LED.
			Off	No data transfer within the coaxial cable
PoC (RX)		Green	Flashing	Un-connected: Flash once, OFF five times TX powed by 48V adaptor: flash twice, OFF four times Over current : flash thrice , OFF thrice Checking : flashing
			ON	Power over Coax
			Off	RX is power under 48V
PoE (TX)		Green	Steady	Power is applied to the Power Device (PD)
			Off	A non-PoE device is connected or no Ethernet connection.
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

Manual Earth Green manual is available on our website www.ot-systems.com