*e*Bridge™
PLUS

eBridge1PCTX
IP and PoE/PoE+ over Coax
Hardened Transceiver

Installation Guide

c ⓊL us C € Z1409
LISTED
I.T.E. 43KC

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More than just power.™

Overview:

Altronix eBridge1PCTX is a CAT5 to Coax cable Ethernet adapter that delivers data and power over the coax cable in a PoE compliant format. The transceiver enables fast 10/100Base-T Ethernet digital communication to be transmitted over Coax cable. eBridge receiver sends power over the coax to the eBridge1PCTX transmitter under PoE protocol. The eBridge1PCTX, in turn, delivers that PoE compliant power to a PoE enabled camera or IP device. These plug and play units facilitate system upgrades from analog to IP cameras/devices utilizing existing legacy Coax and eliminating the costs and labor associated with installing new network cabling. In addition, data transmission and power over the Coax is possible up to 500m in comparison to 100m Ethernet maximum distance *(see Maximum Length of Coax Type vs. Camera Power/PoE Class, pg. 3)*. A maximum range from headend to the PoE camera/device is 700m, taking into consideration that up to 100m of structured cable may be deployed at each end.

Features:

Agency Listings:
- UL/cUL Listed for Information Technology Equipment (UL 60950-1).
- CE European Conformity.
- C-Tick compliant.

Input:
- PoE compliant to IEEE 802.3af (15W) and PoE+ compliant to IEEE 802.3at (30W) from eBridge receivers.

Compatible Receivers:
- eBridge1PCRM, eBridge4PCRM, eBridge8PCRM, eBridge16PCRM,
- eBridge1PCRX, eBridge4PCRX, eBridge8PCRX, eBridge16PCRX.
- eBridge8E
- Visit www.altronix.com for the latest compatibility list.

Ethernet:
- Connectivity: RJ45, auto-crossover.
- Wire type: 4-pair CAT5e or better structured cable.
- Distance: up to 100m.
- Speed: 10/100BaseT, half/full duplex, auto negotiation. PoE compliant to IEEE 802.3af (15W) delivered to camera by eBridge1PCTX. Power provided by eBridge Plus receiver to eBridge1PCTX by PoE protocol.

Coax:
- Distance: up to 500m *(see Maximum Length of Coax Type vs. Camera Power/PoE Class, pg. 4)* for power delivery of coax.
- Throughput is rated to pass 25Mbps of data at distances up to 500m. With proper headend equipment this supports Megapixel, HD720, HD1080.
- Connectivity: BNC, RG-59/U or similar.

LED Indicators:
- Blue LED - Coax link connection. Green LED - PoE from eBridge1PCRX.

Environmental:
- **Operating Temperature:**
  For 15W: – 40ºC to 75ºC (– 40ºF to 167ºF).
  For 30W: – 40ºC to 49ºC (– 40ºF to 120.2ºF).
- **Storage Temperature:**
  – 40ºC to 75ºC (– 40ºF to 167ºF).
- Humidity: 20 to 85%, non-condensing

Functions:
- Auto detection and protection of legacy non-PoE cameras/devices.

Applications:
- Retrofit digital IP cameras in an analog CCTV installation.
- Works with Megapixel, HD720, HD1080 and VGA (SD) cameras *(see note, pg. 3)*.
- Extend Network link distance in an industrial environment over 700m *(see note, pg. 3)*.
- Upgrade deployed CCTV Coax to a digital network in Retail, Hospitality, Arenas, Casinos, Airports, Schools, Hospitals, Transportation, etc.

Mechanical:
- Dimensions (W x L x H approx.):
  2.5" x 4.375" x 1"
  (63.5mm x 111.1mm x 25.4mm)

Installation Instructions:

Wiring methods shall be in accordance with the National Electrical Code/NFPA 70/ANSI, and with all local codes and authorities having jurisdiction. Wiring should be UL Listed and/or Recognized wire suitable for the application. eBridge1PCTX is not intended to be connected to outside plant leads and should be installed indoors within the protected premises. eBridge1PCTX is intended for indoor use only.

1. Secure unit to desired mounting surface with a proper fastening device utilizing the case's mounting hole *(Fig. 2a, pg. 4)*. Unit should be mounted in proximity of camera/device.
2. Connect structured cable from IP camera/device to RJ45 jack marked [10/100BaseT] *(Fig. 2, pg. 4)*.
3. Connect Coax from eBridge receiver to BNC connector marked [Coax] *(Fig. 2 & 3, pg. 4)*.
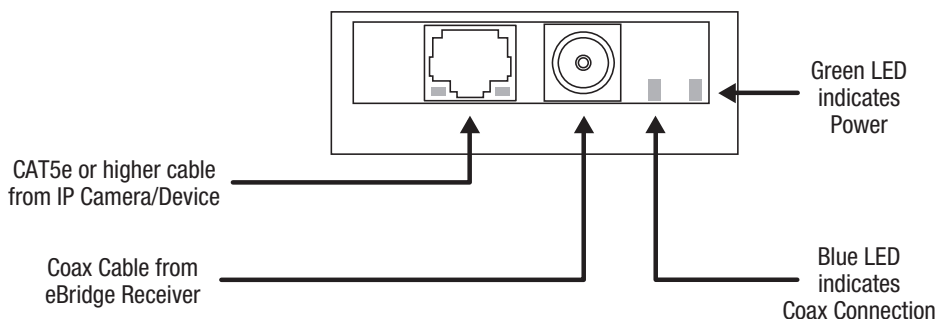
Note: eBridge1PCTX is designed to accommodate Megapixel, HD720, HD1080 and VGA (SD) cameras. It is important to note that some high resolution and high frame rate cameras may demand faster headend processing ability, such as a PC graphics card to present a quality image. If the headend processing equipment is insufficient in speed, the image may show pixelation and latency. It is advisable to pre-test system if unsure. Alternatively, frame rate and resolution may be reduced to accommodate system equipment.

Technical Specifications:

Parameter	Description
Connections	BNC for Coax link. RJ45 for ethernet link.
Input power requirements	24VDC/1,000mA, 24VAC/900mA
Indicators	**Blue:** Coax Link. **Yellow (RJ45 connector):** On - Link, Off - No Link, Blinking - Activity. **Green (RJ45 connector):** On - 100Base-TX, Off - 10Base-T. **Green:** Power.

Environmental Conditions	Operating Ambient Temperature (UL60950-1):
	    For 15W: – 40ºC to 75ºC (– 40ºF to 167ºF).
	    For 30W: – 40ºC to 49ºC (– 40ºF to 120.2ºF).
	 Storage Temperature: – 40ºC to 75ºC (– 40ºF to 167ºF).
	 Relative humidity: 85% +/– 5%
	 Operating Altitude: -304.8 to 2,000m.

Regulatory Compliance	UL/cUL Listed for Information Technology Equipment (UL 60950-1). CE European Conformity. C-Tick compliant.
Weights (approx.)	Product: 0.25 lb. (0.11 kg) | Shipping: 0.6 lb. (0.27 kg).

Fig. 1
eBridge1PCTX

Green LED indicates Power

CAT5e or higher cable from IP Camera/Device

Coax Cable from eBridge Receiver

Blue LED indicates Coax Connection
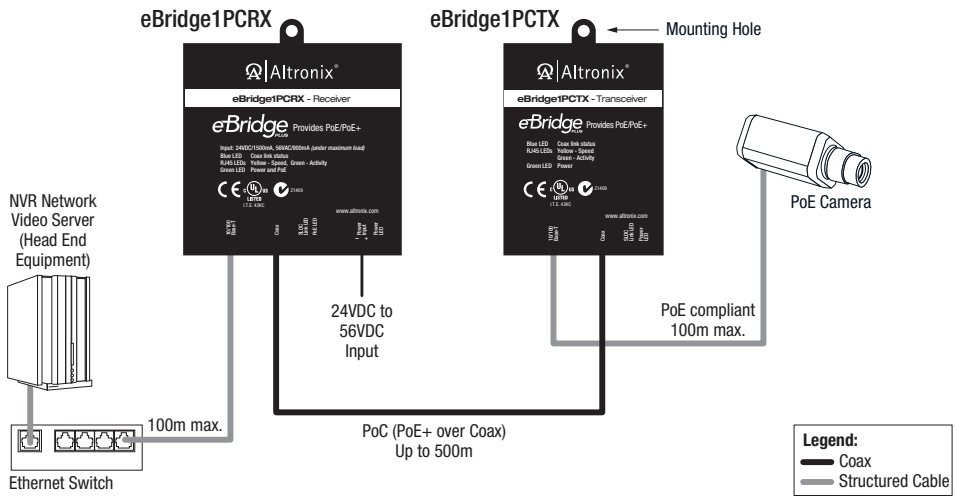
Single PoE Camera Connection:
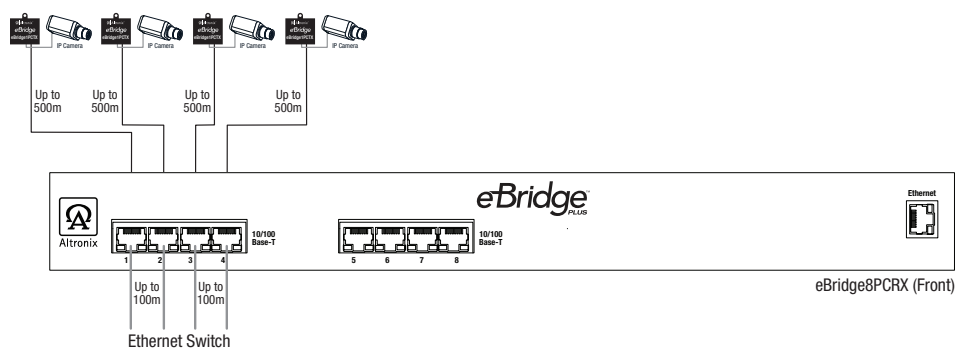
Fig. 2   *Fig. 2a*

Multiple PoE Camera Connection:

Fig. 3

Maximum Length of Coax Type vs. Camera Power/PoE Class:

Cable Type	Total Power Consumption	Max Data Distance	Max Power Distance
RG59u/23awg	13W	500m	264m
RG59u/23awg	25W	500m	132m
RG59U/22awg	13W	500m	334m
RG59U/22awg	25W	500m	167m
RG59U/20awg	13W	500m	532m
RG59U/20awg	25W	500m	266m
RG59U/18awg	13W	500m	846m
RG59U/18awg	25W	500m	423m

Altronix is not responsible for any typographical errors.

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