



# eBridge4PCRM

IP and PoE+ over Coax Solution

Operates with eBridge1PCTX Transceiver or eBridge1ST Mini Transceiver

## Installation Guide



**LISTED**

I.T.E. 43KC

Rev. 032113



**More than just power.™**

Installing Company: \_\_\_\_\_ Service Rep. Name: \_\_\_\_\_

Address: \_\_\_\_\_ Phone #: \_\_\_\_\_

## Overview:

Altronix eBridge4PCRM and eBridge1PCTX or eBridge1ST are CAT5 to Coax cable Ethernet adapters/Media converters that deliver data and power over the coax cable in a PoE+ compliant format. The paired set enables fast 10/100Base-T Ethernet digital communication to be transmitted over Coax cable. eBridge4PCRM receiver is powered by a UL Listed limited power source, PoE midspan or endspan product, such as a NetWay8M and NetWay16M, and sends its power over the coax to the eBridge 1PCTX or eBridge1ST transmitter under PoE protocol. This enables eBridge4PCRM to be used in a managed manner, allowing for remote camera reset. eBridge1PCTX or eBridge1ST, in turn, delivers that PoE+ compliant power to a PoE enabled camera or IP device. eBridge4PCRM will not deliver power to non-compliant devices, thus avoiding damage to improperly connected analog cameras. 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. 6*). A maximum range from head end 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 60950-1** Information Technology Equipment.
- **CE** European Conformity.
- **C-Tick** C-Tick compliant.

### Compatible Transceivers:

- **eBridge1PCTX:** PoE/PoE+ compliant transceiver.
- **eBridge1ST:** PoE/PoE+ compliant mini transceiver.

### Input:

- Powered by a UL Listed limited power source, PoE midspan or endspan.

### Ethernet:

- Connectivity: RJ45, auto-crossover.
- Wire type: 4-pair CAT5 or better structured cable.
- Distance: up to 100m.
- Speed: 10/100BaseT, half/full duplex, auto negotiation.  
PoE compliant to IEEE 802.3af (15W) and PoE+ compliant to IEEE 802.3at (30W) delivered to camera by eBridge1PCTX or eBridge1ST.  
Power provided by eBridge4PCRM to eBridge1PCTX or eBridge1ST by PoE protocol.
- Throughput is rated to pass 25Mbps of data at distances up to 500m. With proper headend equipment this supports Megapixel, HD720, HD1080.

### Coax:

- Distance: up to 500m (*see Maximum Length of Coax Type vs. Camera Power/PoE Class, pg. 6*) for power delivery of coax.
- Connectivity: BNC, RG-59/U or similar.

### LED Indicators:

- **eBridge4PCRM:**  
Blue LED - Coax link connection.  
Green - PoE ON.  
Green - Power ON.
- **eBridge4PCRM and eBridge1PCTX:**  
Yellow and Green LED (RJ45) IP Link status, 10/100Base-T/active.
- **eBridge1PCTX and eBridge1ST:**  
Blue LED - Coax link connection.  
Green LED - PoE from eBridge4PCRM.

### Environmental:

- **Operating Temperature:**  
**eBridge4PCRM:**  
– 20°C to 49°C (– 4°F to 120.2°F).  
**eBridge1PCTX:**  
For 15W: – 40°C to 75°C (– 40°F to 167°F).  
For 30W: – 40°C to 49°C (– 40°F to 120.2°F).  
**eBridge1ST:**  
For 15W: – 40°C to 75°C (– 40°F to 167°F).  
For 30W: – 40°C to 65°C (– 40°F to 149°F).
- **Storage Temperature:**  
– 30° to 70°C (– 22° to 158°F).
- 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. 2*).
- Extend Network link distance in an industrial environment over 700m (*see note, pg. 2*).
- Upgrade deployed CCTV Coax to a digital network in Retail, Hospitality, Arenas, Casinos, Airports, Schools, Hospitals, Transportation, etc.

### Mechanical:

- Dimensions (H x W x D approx.):  
**eBridge4PCRM dimensions:**  
1.7" x 5.23" x 8.42"  
(43.2mm x 132.8mm x 213.9mm)  
**eBridge1PCTX dimensions:**  
1" x 2.5" x 4.375"  
(25.4mm x 63.5mm x 111.1mm).  
**eBridge1ST dimensions:**  
2.27" x 2.645" x 1.12"  
(57.7mm x 67.2mm x 28.4mm).

## 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, eBridge1ST, and eBridge4PCRM are not intended to be connected to outside plant leads and should be installed indoors within the protected premises. eBridge1PCTX, eBridge1ST, and eBridge4PCRM are intended for indoor use only.

### 1. eBridge4PCRM installation:

- Affix rubber pads to eBridge4PCRM for shelf installation (Fig. 5, pg. 8). Unit should be mounted in proximity to ethernet switch/network, NVR or video server.
- Connect structured cable from ethernet midspan or endspan device to RJ45 jack marked [10/100BaseT] (Fig. 2, pg. 4).
- Connect Coax cable to BNC connector marked [Coax] (Fig. 1, pg. 3).

### 2. eBridge1PCTX installation:

- Secure unit to desired mounting surface with a proper fastening device utilizing the case's mounting hole. Unit should be mounted in proximity of camera/device.
- Connect structured cable from IP camera/device to RJ45 jack marked [10/100BaseT] (Fig. 2, pg. 4).
- Connect Coax cable to BNC connector marked [Coax] (Fig. 2, pg. 4).

### 3. eBridge1ST installation:

- Secure unit to the desired mounting surface with a proper fastening device utilizing the case's mounting hole (Fig. 3, pg. 4). Unit should be mounted in proximity of camera/device.
- Connect structured cable from IP camera/device to RJ45 jack marked [PoE Out] (Fig. 3, pg. 4).
- Connect Coax cable from eBridge4PCRM to BNC tether cable marked [Coax] (Fig. 3, pg. 4).

**Note:** eBridge4PCRM 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.

Fig. 1

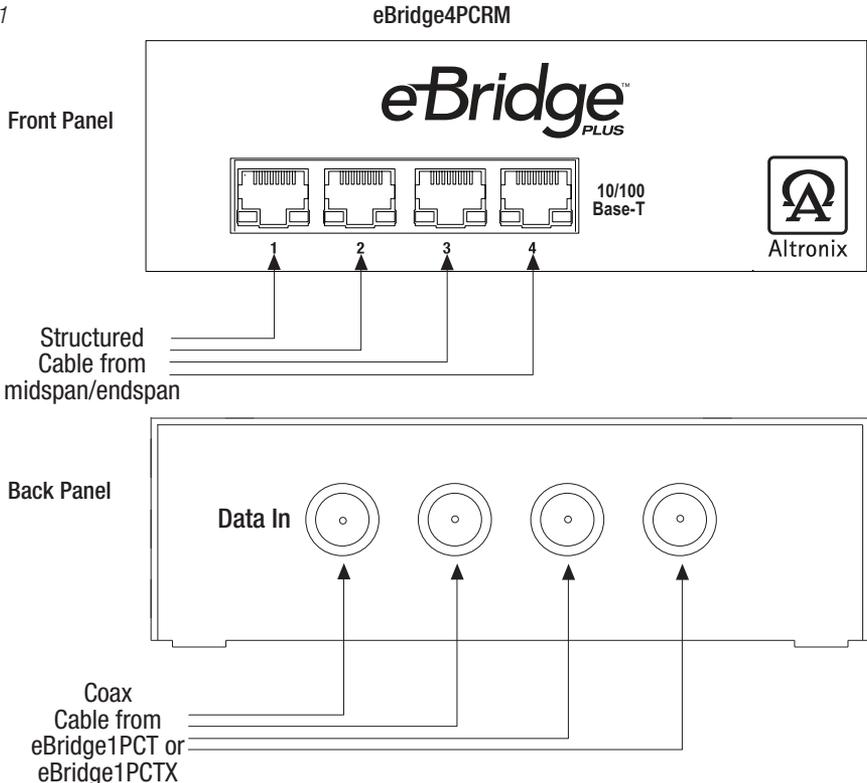


Fig. 2

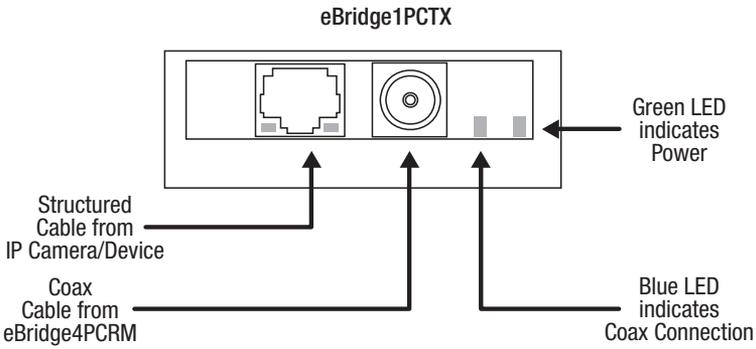
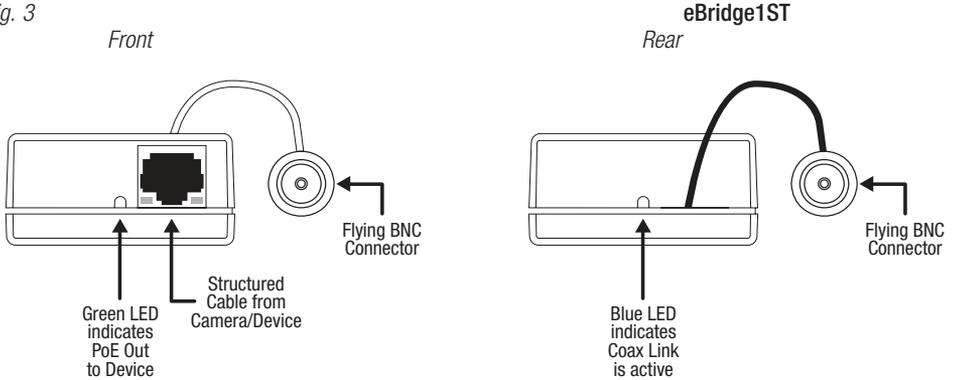


Fig. 3

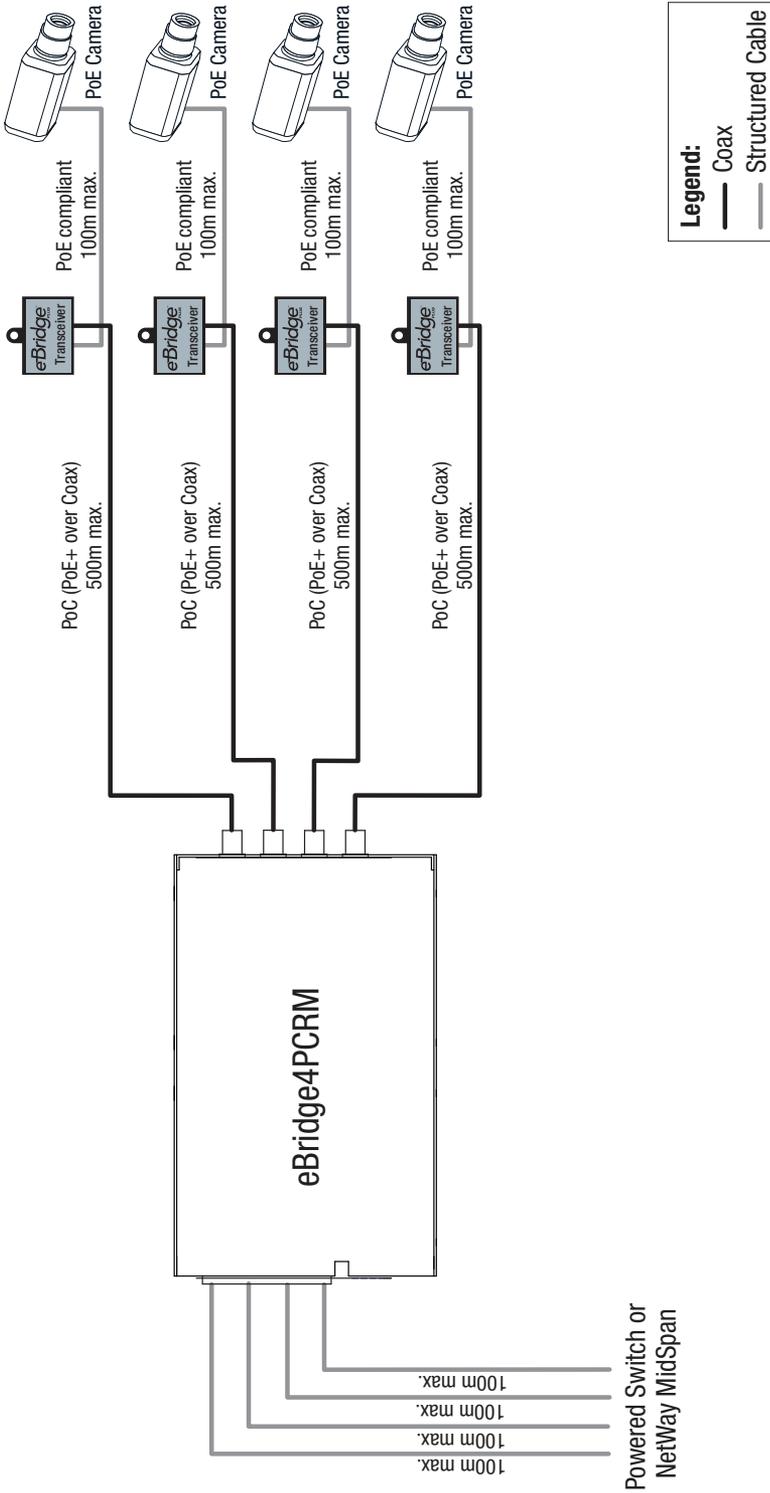


### Technical Specifications:

Parameter	Description
<b>Connections</b>	BNC for Coax link. RJ45 for ethernet link.
<b>Input power requirements</b>	Midspan or endspan port connected.
<b>Indicators</b>	<p><b>Blue:</b> Coax Link.</p> <p><b>Yellow (RJ45 connector):</b> On - Link, Off - No Link, Blinking - Activity.</p> <p><b>Green (RJ45 connector):</b> On - 100Base-TX, Off - 10Base-T.</p> <p><b>Green:</b> Power.</p>
<b>Environmental Conditions</b>	<p><b>Operating Ambient Temperature: UL60950-1</b></p> <p><b>eBridge4PCRM:</b> – 20°C to 49°C (-4°F to 120.2°F).</p> <p><b>eBridge1PCTX:</b>     <b>For 15W:</b> – 40°C to 75°C (- 40°F to 167°F).</p> <p>                                  <b>For 30W:</b> – 40°C to 49°C (- 40°F to 120.2°F).</p> <p><b>eBridge1ST:</b>         <b>For 15W:</b> – 40°C to 75°C (- 40°F to 167°F).</p> <p>                                  <b>For 30W:</b> – 40°C to 65°C (- 40°F to 149°F).</p> <p>                                  – 30°C to 70°C (- 22°F to 158°F).</p> <p><b>Storage Temperature:</b> – 30°C to 70°C (- 22°F to 158°F).</p> <p><b>Relative Humidity:</b> 20 to 85%, non-condensing.</p> <p><b>Operating Altitude:</b> – 304.8 to 2,000m.</p>
<b>Regulatory Compliance</b>	UL/cUL Listed for Information Technology Equipment (UL 60950-1). CE European Conformity. C-Tick compliant.
<b>Weights (approx.)</b>	Product: 1.35 lb. (0.61 kg)   Shipping: 1.7 lb. (0.77 kg)

# Multiple PoE Camera Connection:

Fig. 4



Powered Switch or  
NetWay MidSpan

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

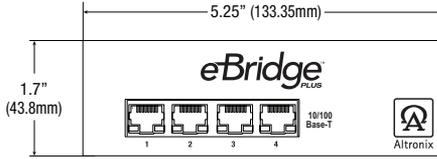
Camera Power/ PoE Class	Coax Type				
	RG59/U - 23AWG	RG59/U - 22AWG	RG59/U - 20AWG	RG59/U - 18AWG	RG6/U - 18AWG
	Max. Length (meters)				
13W/0	261	336	500	500	500
4W/1	500	500	500	500	500
6.5W/2	500	500	500	500	500
13W/3	261	336	500	500	500
19W	153	199	316	500	500
25W	119	152	240	366	366

## Notes:

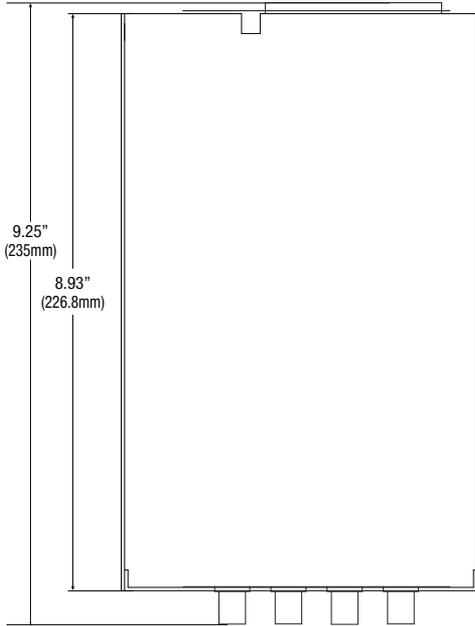
# eBridge4PCRM Chassis Mechanical Drawing & Dimensions

(H x W x D approx.):

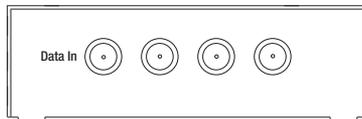
1.7" x 5.23" x 8.42" (43.2mm x 132.8mm x 213.9mm)



Front



Top

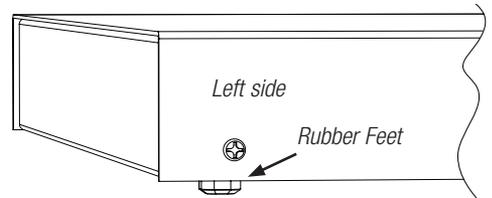


Back

## Shelf Installation

- 1- Position and affix rubber pads (included) at each corner on the bottom of the unit (*Fig. 5*).
- 2- Place unit in desired location.

Fig. 5



## Mounting Hardware (Included):

Four (4) rubber pads



Altronix is not responsible for any typographical errors.

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IleBridge4PCRM G15U



MEMBER

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