Altronix® eBridge PLUS Installation Guide

Rev. 111014

eBridge100STR

EoC and PoE/PoE+ Adapter Kit

eBridge100RM - EoC and PoE/PoE+ Receiver

eBridge100ST - EoC and PoE/PoE+ Hardened Transceiver

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Overview:

eBridge100STR is a versatile solution Ethernet adapter/media converter kit which transmits data at 100Mbps full duplex and power over Coax cable in a PoE+ compliant format. The eBridge100RM is powered via a PoE midspan, such as the Altronix Netway series, or by an endspan. The receiver passes the PoE(+) compliant power over cable to the eBridge100ST transceiver which in turn passes this power to an enabled IP Camera/device. These plug and play units facilitate cost effective solutions for IP devices that need to be installed at distances greater than 100m. They provide a simple way to replace legacy analog products with new IP devices over existing coax.

Features:

Agency Listings:

- UL/cUL Listed for Information Technology Equipment (UL 60950-1).
- CE approved.

Input eBridge100RM:

- Powered by midspan or endspan. PoE compliant to IEEE 802.3af (15W) and PoE+ compliant to IEEE 802.3at (30W).

Ethernet:

- Connectivity: RJ45, auto-crossover.
- Wire type: 4-pair CAT5.
- 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 eBridge100ST. Power provided by eBridge100RM to eBridge100ST by PoE protocol.*

Coax Link:

- Distance: Coax 300m *(Maximum Length of Coax Type vs. Camera Power/PoE Class, pg. 3)* for power delivery.
- Throughput is rated to pass 100Mbps of data at distances up to 500m.
- Connectivity: BNC, RG-59/U or similar.

LED Indicators:

- Yellow - PoE ON (by respective RJ45 jack).
- Yellow and Green LED (RJ45) IP Link status, 10/100Base-T/active.

Environmental:

- **Operating Temperature:**
  eBridge100RM:
  -20ºC to 49ºC (-4ºF to 120ºF).
  eBridge100ST:
  For 15W: -40ºC to 75ºC (-40ºF to 167ºF).
  For 30W: -40ºC to 60ºC (-40ºF to 140ºF).
- **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. 2)*.
- Extend Network link distance in an industrial environment over 610m *(see note, pg. 2)*.
- Upgrade deployed CCTV Coax to a digital network in Retail, Casinos, Airports, Schools, Hospitals, etc.

Mechanical:

- Dimensions (W x L x H approx.):
  eBridge100RM:
  3.5" x 4.375" x 1"
  (88.9mm x 111.1mm x 25.4mm).
  eBridge100ST:
  2.27" x 2.645" x 1.12"
  (57.7mm x 67.2mm x 28.4mm).

*See note on the bottom of Page 2.

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.

eBridge100ST and eBridge100RM are not intended to be connected to outside plant leads and should be installed indoors within protected premises. eBridge100ST and eBridge100RM are intended for indoor use only.

Note: The eBridge100RM and eBridge100ST are a paired set and must be used together.

1. eBridge100RM installation:

a. Secure unit to the desired mounting surface with a proper fastening device utilizing the unit's mounting hole *(Fig. 2a, pg. 3)*. Unit should be mounted in the proximity to ethernet switch/network, NVR or video server.
Note: When installing more than one (1) eBridge100RM, please allow at least 1" (25mm) distance between the receivers.

b. Connect structured cable from Ethernet midspan or endspan device to RJ45 jack marked [PoE Input] *(Fig. 2, pg. 3)*.

c. Connect Coax cable to the BNC connector marked [Coax] *(Fig. 2, pg. 3)*.

2. eBridge100ST installation:

a. Secure unit to the desired mounting surface with a proper fastening device utilizing the case's mounting hole *(Fig. 2a, pg. 3)*. Unit should be mounted in the proximity of camera/device.

b. Connect structured cable from IP camera/device to RJ45 jack marked [PoE Out] *(Fig. 2, pg. 3)*.

c. Connect Coax cable to the BNC tether cable marked [Coax] *(Fig. 2, pg. 3)*.

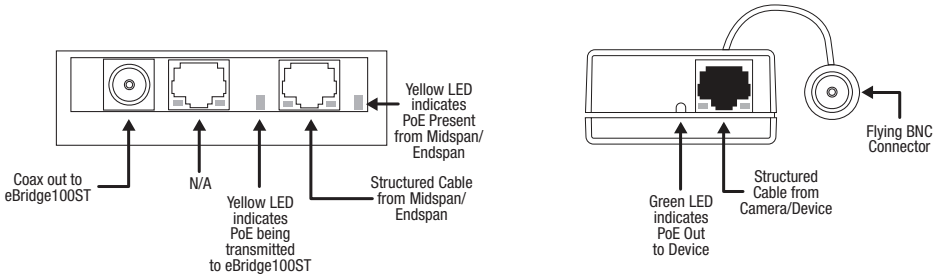
Note: This kit is designed to accommodate Megapixel, HD720, HD1080, and VGA (SD) cameras. It is important to note that some high resolution and high frame rate cameras may demand faster headend processing ability, such as a PC graphics card, to present a quality image. If the headend processing equipment's speed is insufficient, the image may show pixelation and latency. It is advisable to pretest system if unsure. Alternatively, frame rate and resolution may be reduced to accommodate system equipment.

Technical Specifications:

Parameter	**Description**
Connections	BNC for Coax link.
Input power requirements	Midspan or endspan port connected. PoE compliant to IEEE 802.3af (15W) and PoE+ compliant to IEEE 802.3at (30W).
Indicators	**Yellow *(RJ45 connector)*:** On - Link, Off - No Link, Blinking - Activity. **Green *(RJ45 connector)*:** On - 100Base-TX, Off - 10Base-T. **Yellow:** PoE Active.
Environmental Conditions	Operating Ambient Temperature (UL60950-1): **eBridge100RM:** - 20ºC to 49ºC (- 4ºF to 120.2ºF). **eBridge100ST:** For 15W: - 40ºC to 75ºC (- 40ºF to 167ºF). For 30W: - 40ºC to 60ºC (- 40ºF to 140ºF). Relative Humidity: 85%, +/- 5% Storage Temperature: - 20ºC to 70ºC (- 4ºF to 158ºF). Operating Altitude: - 304.8 to 2,000m.
Regulatory Compliance	UL/cUL Listed for Information Technology Equipment (UL 60950-1). CE approved.
Weights (approx.)	Product: 0.4 lbs. (0.18 kg) | Shipping: 1 lbs. (0.45 kg).

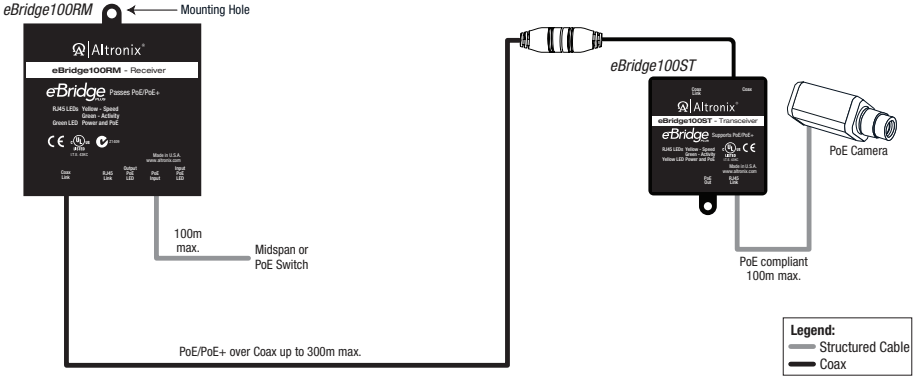
***Note:** Caution: once PoE connection is established between eBridge100RM and eBridge100ST, disconnection from eBridge100ST will not disable the PoE output voltage on the eBridge100RM. Although the eBridge100ST can be reconnected, caution should be taken not to connect coax wiring from eBridge100RM to any non-PoE device.*

Fig. 1 *eBridge100RM* *eBridge100ST*



Single PoE Camera Connection:

Fig. 2 *Fig. 2a*



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

Camera Power/PoE Class	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	198	316	500	500
25W	119	151	240	366	366

Notes: