*e*Bridge™
PLUS

eBridge100RMT Kit
IP and PoE+ over
Coax or Extended Ethernet Cable
eBridge100RM Receiver and eBridge100TM Transceiver Kit

Installation Guide

c (UL) us CE ✔ Z1409
LISTED
I.T.E. 43KC

Rev. 111413

🅐 Altronix®

More than just power.™

Installing Company: _____ Service Rep. Name: _____

Address: _____ Phone #: _____

Overview:

Altronix eBridge100RMT is a versatile dual solution Ethernet adapter/media converter kit which transmits data at 100Mbps full duplex and power over Coax cable or extended CAT5e 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 eBridge100TM 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 also provide a simple way to replace legacy analog products with new IP devices over existing coax or structured cable.

Features:

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

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 500m.
- 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 eBridge100TM. Power provided byveBridge100RM to eBridge100TM by PoE protocol.*
- Throughput is rated to pass 100Mbps of data at distances up to 500m.

Coax Link:
- Distance: Coax 300m *(Maximum Length of Coax Type vs. Camera Power/PoE Class, pg. 4)* for power delivery.
- Connectivity: BNC, RG-59/U or similar.

Coax or CAT5e Link:
- Distance: CAT5e up to 500m, Coax 300m *(Maximum Length of Coax or CAT5 Type vs.Camera Power/PoE Class, pg. 4)* for power delivery.

LED Indicators:
- eBridge100RM and eBridge100TM: Green - PoE ON (by respective RJ45 jack).
- eBridge100RM and eBridge100TM: Yellow and Green LED (RJ45) IP Link status, 10/100Base-T/active.

Environmental:
- **Operating Temperature:**
  eBridge100RM:
  – 20ºC to 49ºC (– 4ºF to 120.2ºF).
  eBridge100TM:
  – 20ºC to 49ºC (– 4ºF to 120.2ºF).
- **Storage Temperature:**
  – 30ºC to 70ºC (– 22ºF to 158ºF).
- 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, Casinos, Airports, Schools, Hospitals, etc.

Mechanical:
- Dimensions (W x L x H approx.): eBridge100RM/eBridge100TM: 3.5" x 4.375" x 1" (88.9mm x 111.1mm x 25.4mm).

*See note on the bottom of Page 3.

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. eBridge100TM and eBridge100RM are not intended to be connected to outside plant leads and should be installed indoors within the protected premises. eBridge100TM and eBridge100RM are intended for indoor use only.

Note: The eBridge100RM and eBridge100TM are a paired set and must be used together.

1. **eBridge100RM installation:**
   a. Secure unit to desired mounting surface with a proper fastening device utilizing the unit's mounting hole *(Fig. 2a, pg. 4)*. Unit should be mounted in 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. 4)*.
   c. **When connecting to the eBridge100TM use either Coax or CAT5 or higher wiring:**
      Coax: Connect Coax cable to BNC connector marked [Coax] *(Fig. 2, pg. 3)*.
      CAT5 or higher: Connect CAT5 or higher to connector marked [RJ45 OUT] *(Fig. 2, pg. 4)*.
2. **eBridge100TM installation:**
   a. 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.
   b. Connect structured cable from IP camera/device to RJ45 jack marked [PoE Out] *(Fig. 2, pg. 4)*.
   c. **Coax:** Connect Coax cable to BNC connector marked [Coax] *(Fig. 2, pg. 4)*.
      CAT5 or higher: Connect CAT5 or higher to connector marked [RJ45 IN] *(Fig. 2, pg. 4)*.

Note: The eBridge100RMT 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 pixilation and latency. It is advisable to pretest system if unsure. Alternatively, frame rate and resolution may be reduced to accommodate system equipment.
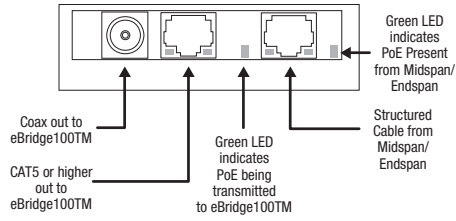
Technical Specifications:

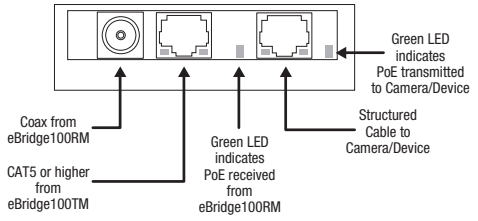| Parameter	Description
Connections	BNC for Coax link. RJ45 for extended Ethernet link.
Input Power Requirements	Midspan or endspan port connected. PoE compliant to IEEE 802.3af (15W) and PoE+ compliant to IEEE 802.3at (30W).
Indicators	**Yellow (RJ45 connector):** On - Link, Off - No Link, Blinking - Activity. **Green (RJ45 connector):** On - 100Base-TX, Off - 10Base-T. **Green:** PoE Active.
Environmental Conditions	Operating Ambient Temperature (UL60950-1): **eBridge100RM:** − 20ºC to 49ºC (− 4ºF to 120.2ºF). **eBridge100TM:** − 20ºC to 49ºC (− 4ºF to 120.2ºF). Storage Temperature: − 30ºC to 70ºC (− 22ºF to 158ºF). 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: 0.45 lb. (0.2 kg) | Shipping: 0.8 lb. (0.36 kg)

*Note: *Caution: once PoE connection is established between eBridge100RM and eBridge100TM, disconnection from eBridge100TM will not disable the PoE output voltage on the eBridge100RM, although the eBridge100TM can be reconnected, caution should be taken not to connect the CAT5 or single UTP wiring from eBridge100RM to any non-PoE device.*
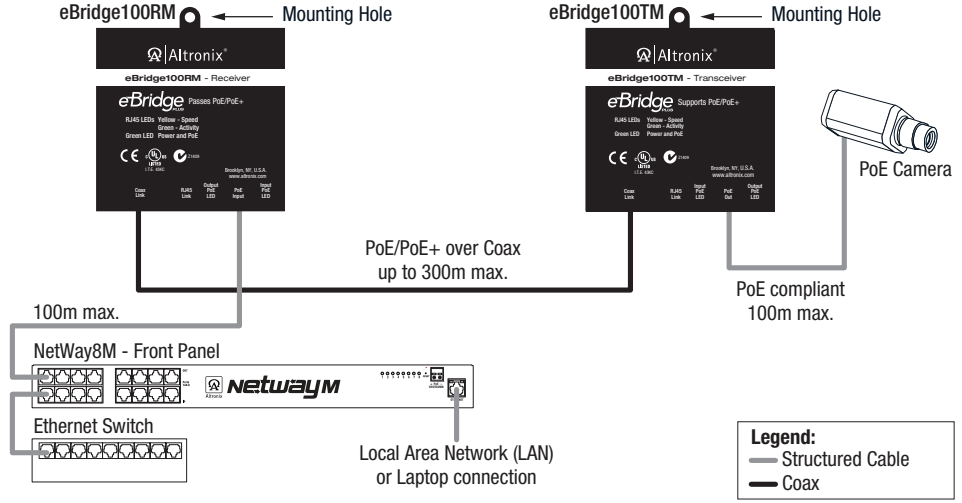
Fig. 1

Fig. 1   eBridge100RM   eBridge100TM

Green LED indicates PoE Present from Midspan/Endspan

Coax out to eBridge100TM

CAT5 or higher out to eBridge100TM

Green LED indicates PoE being transmitted to eBridge100TM

Structured Cable from Midspan/Endspan

Green LED indicates PoE transmitted to Camera/Device

Coax from eBridge100RM

CAT5 or higher from eBridge100TM

Green LED indicates PoE received from eBridge100RM

Structured Cable to Camera/Device

Single PoE Camera Connection:

Fig. 2   *Fig. 2a*

eBridge100RM ← Mounting Hole

eBridge100TM ← Mounting Hole

Altronix®
eBridge100RM - Receiver
eBridge Passes PoE/PoE+
RJ45 LEDs Yellow - Speed
Green - Activity
Green LED Power and PoE

Coax Link   RJ45 Link   PoE Input LED   Output PoE Input

Altronix®
eBridge100TM - Transceiver
eBridge Supports PoE/PoE+
RJ45 LEDs Yellow - Speed
Green - Activity
Green LED Power and PoE

Coax Link   RJ45 Link   PoE Out LED   Output PoE LED

PoE Camera

PoE/PoE+ over Coax up to 300m max.

PoE compliant 100m max.

100m max.

NetWay8M - Front Panel

NETWAY M Altronix

Ethernet Switch

Local Area Network (LAN) or Laptop connection

Legend:
— Structured Cable
— Coax

Maximum Length of Coax/CAT5 Type vs. Camera Power/PoE Class:

Cable Type	Total Power Consumption	Max Data Distance	Max Power Distance
RG59u/23awg	13W	300m	264m
RG59u/23awg	25W	300m	132m
RG59U/22awg	13W	300m	334m
RG59U/22awg	25W	300m	167m
RG59U/20awg	13W	300m	532m
RG59U/20awg	25W	300m	266m
RG59U/18awg	13W	300m	846m
RG59U/18awg	25W	300m	423m
CAT5e	13W	500m	846m
CAT5e	25W	500m	423m

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