

Product Description

The KBC **eCopper™** line of products offer a cost-effective way to connect the latest IP cameras using existing coax or copper (UTP) wiring to a remote monitoring station. In addition to saving costs and time from cabling infrastructure upgrades to CAT5/5e/6, **eCopper™** powers both its transmitter and remote cameras, eliminating the need for any additional power source at the camera site. **eCopper™** also extends the IP camera cable run distance from 100 to 300 meters, making it ideal for upgrading analog to IP cameras and other systems in large corporate buildings, retail, casinos, banks, prisons, stadiums and other applications.



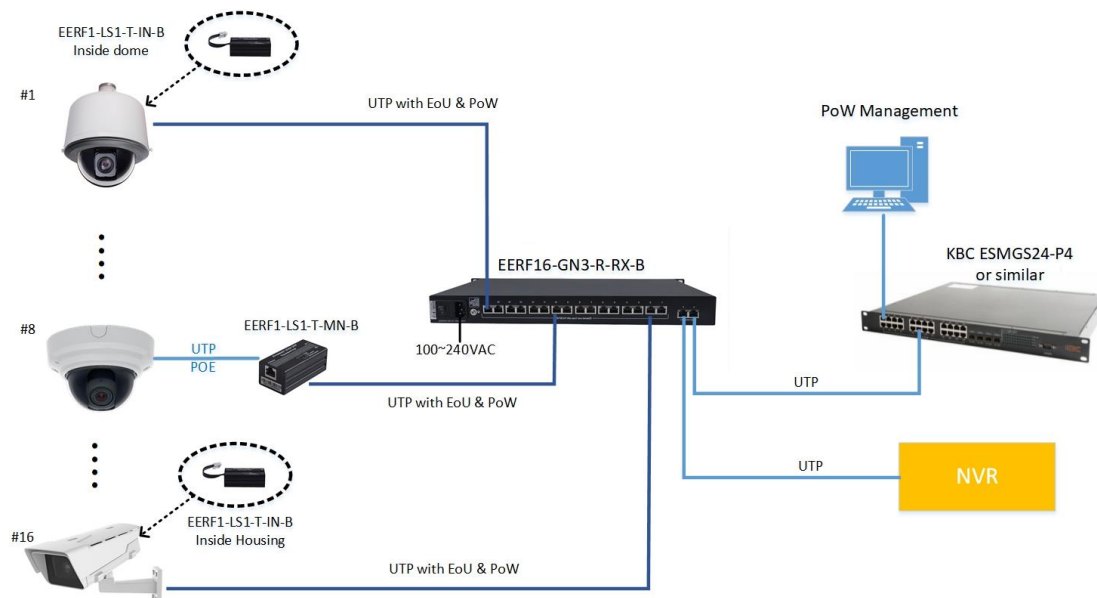
The KBC EERF1-LS1-T-IN-B is a fully ruggedized Ethernet over UTP transmitter. This transmitter provides connectivity for one 10/100Mbps IEEE standard electrical copper port over UTP cable. Power is supplied from one of the headend Receivers, EERF16-G3-R-RX-B, EERF8-G3-R-RX-B, EERF4-DN1-R-WN-B or EERF1-LS1-R-MN-B Ethernet over UTP units through the UTP cable by Power over Wire (PoW) technology. The transmitter provides direct PoE+ support. Varying data rates are supported depending on cable distance and quality. The plug-and-play design ensures ease of installation with no electrical adjustment needed. LED indicators are provided to show the operational status of the unit.

The Ethernet port of the transmitter includes a flying cable. Its size is suited for fitting inside camera housings and where space is minimal.

Product Features

- 802.3af/802.3at compliant
- PoE+ (30W) and Power over Wire
- The Ethernet port includes a flying cable
- UTP data rate >40Mbps (300m)
- Based on cable quality, cable pairs used (1, 2, or 4 pairs) and voltage applied to cable (48~57VDC) from headend. PoE and PoE+ are supported by PoW up to 400m.
- Powered by PoW from EERF16-G3-R-RX-B, EERF8-G3-R-RX-B, EERF4-DN1-R-WN-B or EERF1-LS1-R-MN-B headend
- Complete protection design including surge and lightning protection
- Unique PoW transmission protection design together with 1, 4, 8 or 16 channels receiver at headend

Typical System Configuration



Specifications

Standards

IEEE Standard	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3x Full-duplex
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LAN Port

Data Rate	10/100Base-T
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PoE

Standard	802.3af/at
PSE Type	End-span
PoE Power Output	30 watts max.

UTP Port

Cable	CAT5, CAT5e, CAT6
Data Rate (2/4 Pairs)	>40Mbps (300m)
Load Power (2 Pairs) @54Vdc ⁽¹⁾	PoE+: 200m; PoE: 400m
Load Power (4 pairs) @54Vdc ⁽¹⁾	PoE+: 400m; PoE: 800m

Power

Power Input	>40Vdc PoW
Power Consumption	≤1W (Without PoW)

Environmental

Operating Temperature	-20° ~ +70° C
Storage Temperature	-40° ~ +85° C
Operating Humidity	0 to 95% non-condensing
Mean Time Between Failure (MTBF)	> 100,000 Hours

Mechanical

Dimensions (L x W x H)	76mm x 37mm x 29mm
Mount	Velcro strip

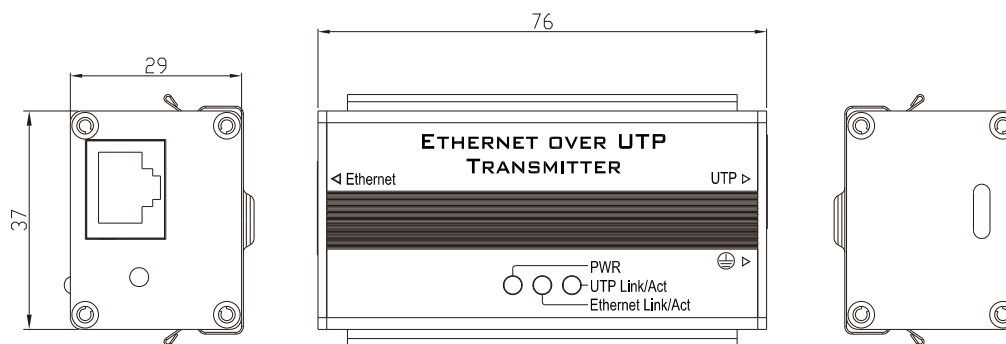
Connectors

Ethernet	RJ45 with flying cable (17cm)
UTP	RJ45

Protection

Surge	UTP: 6kV; Ethernet: 2kV
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Dimension



Part Number

EERF1-LS1-T-IN-B

- (1) It is assumed that the transmitter is installed together with PD devices, which means the distance between the transmitter and PD device is very short (less than 5m). Per the IEEE802.3 af/at standard, the maximum power of PD for 802.3af and IEEE802.3at are 12.95w and 25.5w respectively.

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