Altronix®

Pace1KR
Long Range Single Pair (UTP) Ethernet Media Adapter/Receiver

Altronix Pace1KR is a long-range Ethernet adapter that transmits data and power via twisted pair (2-wire, UTP or shielded) in a PoE(+) compliant format. In addition to new SPE (UTP) Ethernet network installations for Surveillance-cameras/Security/Industrial/BMS/HVAC & Elevator Controllers, applications include upgrading of legacy networks, i.e. LONworks, RS485, 4-20ma Control Loops, etc. by using the existing two wire cabling, thus saving rip-out & reinstallation costs.

Operationally, the Pace1KR is connected to a PoE midspan/endspan switch at the headend and passes network data and power to the Pace transceiver (see List of Compatible Altronix Transceivers, pg. 4) from the switch via UTP up to 1km (1,000m, 3,280 ft.) to a remote 10 PoE device, such as a camera. For non-PoE remote devices, data only is transmitted.
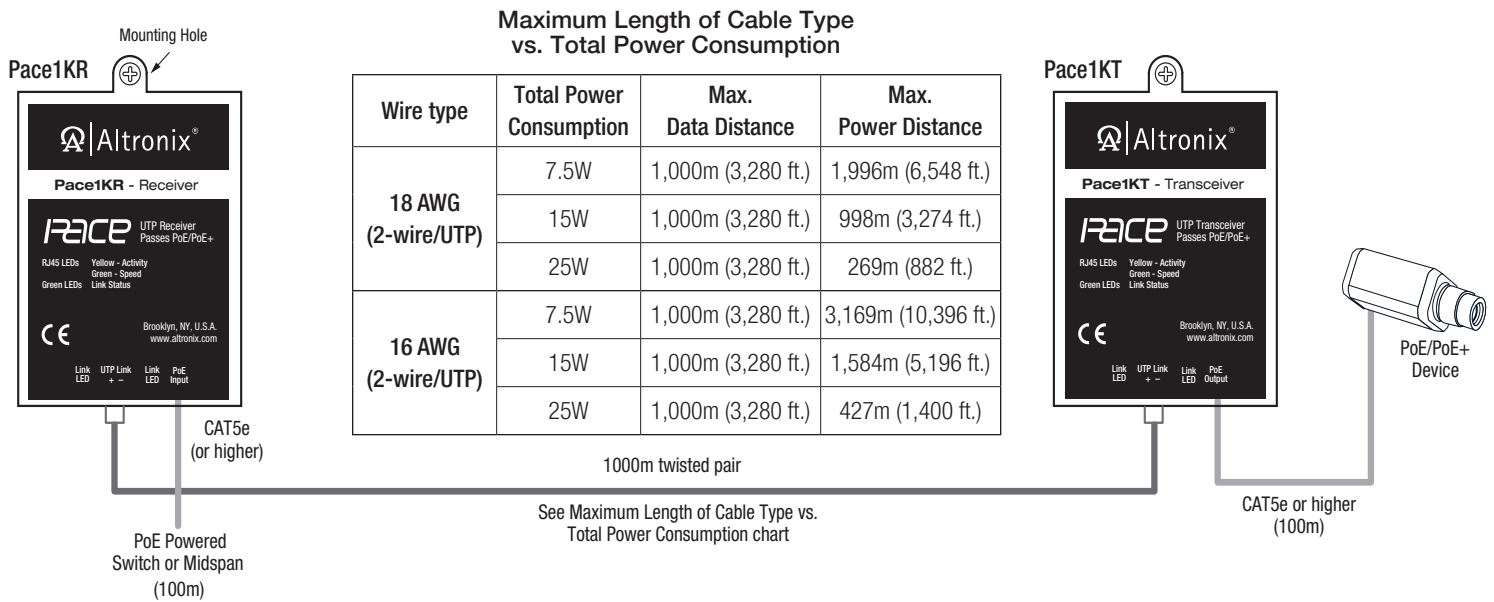
Pace1KR

Key Features

- Provides SPE (single pair Ethernet) over twisted pair (2-wire, UTP or shielded) or 16/2 AWG or higher wire up to 1km (1,000m, 3,280 ft.)
- Utilize twisted pair for new installations or retrofit of IP devices over existing twisted pair cabling
- Cost-effective solution to facilitate IP devices that need to be installed at longer distances such as in elevator shafts, tunnels, bridges, HVAC, and more...
- PoE, IEEE 802.3af (15W) and IEEE 802.3at (25W) compliant
- Auto detection allows it to safely work with non-PoE cameras/devices
- Works with Megapixel, HD720, HD1080 & VGA (SD) cameras

- Extends Network link distance in an industrial environment
- Building Automation, Elevator Systems, HVAC, Lighting, Surveillance & Security
- Utilize twisted pair for new installations or retrofit of IP devices over existing twisted pair cabling
- Compatible with Pace1KT, Pace2KT, Pace1KL12S, Pace1KL24S receivers
- CE European Conformity
- Lifetime Warranty

Typical Application Diagram

Pace1KT is shown. Applications are similar with other Pace Transceivers.

Maximum Length of Cable Type vs. Total Power Consumption

Wire type	Total Power Consumption	Max. Data Distance	Max. Power Distance
18 AWG (2-wire/UTP)	7.5W	1,000m (3,280 ft.)	1,996m (6,548 ft.)
	15W	1,000m (3,280 ft.)	998m (3,274 ft.)
	25W	1,000m (3,280 ft.)	269m (882 ft.)
16 AWG (2-wire/UTP)	7.5W	1,000m (3,280 ft.)	3,169m (10,396 ft.)
	15W	1,000m (3,280 ft.)	1,584m (5,196 ft.)
	25W	1,000m (3,280 ft.)	427m (1,400 ft.)

Pace1KR

Mounting Hole

Pace1KR - Receiver

UTP Receiver Passes PoE/PoE+

RJ45 LEDs — Yellow - Activity
Green - Speed
Green LEDs — Link Status

Brooklyn, NY, U.S.A.
www.altronix.com

Link LED   UTP Link + −   Link LED   PoE Input

CAT5e (or higher)

PoE Powered Switch or Midspan (100m)

1000m twisted pair

See Maximum Length of Cable Type vs. Total Power Consumption chart

Pace1KT

Pace1KT - Transceiver

UTP Transceiver Passes PoE/PoE+

RJ45 LEDs — Yellow - Activity
Green - Speed
Green LEDs — Link Status

Brooklyn, NY, U.S.A.
www.altronix.com

Link LED   UTP Link + −   PoE Output

PoE/PoE+ Device

CAT5e or higher (100m)

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PACE

Specifications

Input
Powered by midspan or endspan
PoE compliant to IEEE 802.3af (15W) and
PoE+ compliant to IEEE 802.3at (25W)

UTP Connection
Wire type: Twisted pair (2-wire, UTP or shielded)
Distance: 1km (1,000m, 3,280 ft.),
16/2 AWG or higher @ 10Mbps
(see Maximum Length of Cable Type vs. Total Power
Consumption chart on *pg. 1*)

Ethernet Connection
Connectivity: RJ45, auto-crossover
Wire type: 4-pair, CAT5e or higher
Distance: up to 100m from midspan to Pace1KR receiver
(headend), 100m from Pace transceiver to device
Speed: 10BaseT, half/full duplex, auto negotiation.
PoE: IEEE 802.3af (15W) and PoE+ compliant to IEEE 802.3at
(25W) delivered to device by Pace1KR Power provided by
Pace1KR to Pace transceiver by PoE protocol

Indicators (LED)
Green LED (left):   PoE (link)
Green LED (right):   Data transmission (link)
Yellow and Green LED (by RJ45 jack):
IP Link status, 10Base-T/active

Agency Listings
CE   European Conformity

Physical and Environmental
Dimensions (W x L x H)
Enclosure: 2.5" x 3.8" x 1" (63.5mm x 96.5mm x 25.4mm)
Shipping: 8" x 6" x 5" (203.2mm x 152.4mm x 127mm)
Weight (approx.)
Product: 0.22 lb. (0.1 kg)
Shipping: 0.4 lb. (0.18 kg)
Temperature
Operating: − 40ºC to 75ºC (− 40º to 167ºF)
Storage: − 40ºC to 75ºC (− 40º to 167ºF)
Relative Humidity   85% +/− 5%
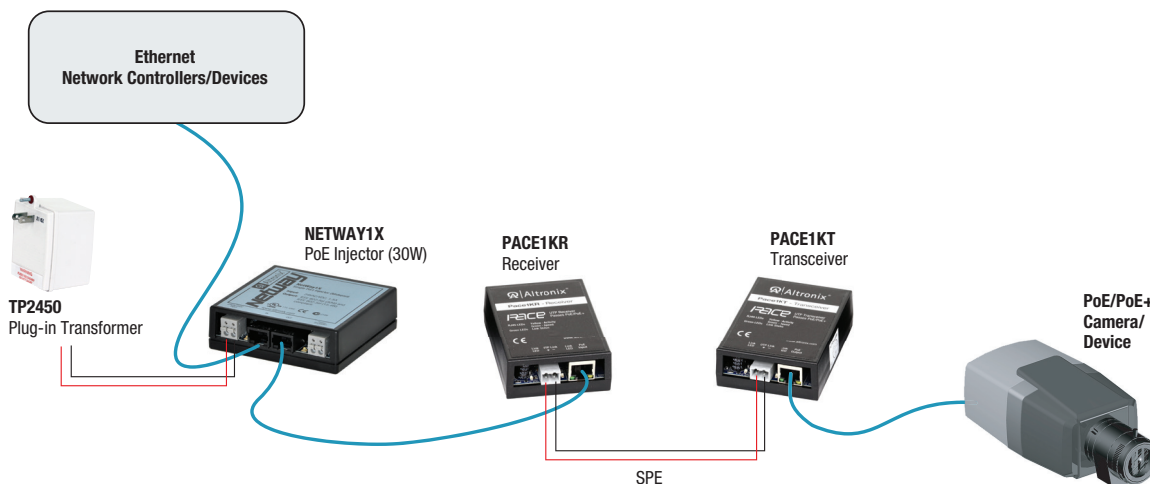Operating Altitude   − 304.8 to 2,000m

Typical Operation Diagram

Multi-point SPE Application utilizing Altronix PoE Injector and PoE Splitter(s)

Ethernet Network Controllers/Devices

TP2450 Plug-in Transformer

NETWAY1X PoE Injector (30W)

PACE1KR Receiver

SPE

PACE1KT Transceiver

PoE/PoE+ Camera/ Device

For dual port connectivity please see kit model: Pace2KRT