



Pace2KRT

Long Range Single Pair (UTP) Ethernet Adapter Kit



Kit includes Pace1KR Receiver and Pace2KT Transceiver

Installation Guide

Overview:

Altronix Pace2KRT is a long-range Ethernet adapter kit solution 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 Pace2KT from the switch via UTP up to 1km (1,000m, 3,280 ft.) to two (2) remote 10/100 POE devices, such as a camera/s or controllers. Data is only supplied to the remote device for non-enabled devices. Cable distances and multi-node device drop-offs are facilitated by using one of the two Pace2KT ports for the continued network link in a daisy chain manner.

Features:

Input (Pace1KR Receiver):

- 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).
- Speed: 10Mbps
- Distance: 1km (1,000m, 3,280 ft.),
16/2 AWG or higher @ 10Mbps
*(see Maximum Length of Cable Type vs.
Total Power Consumption, pg.4)*

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 Pace2KT transceiver to device
- Speed: 10/100BaseT, half/full duplex, auto
negotiation. PoE compliant to IEEE 802.3af (15W)
and PoE+ compliant to IEEE 802.3at (25W)
delivered to device by Pace1KR.
Power provided by Pace1KR to Pace2KT
by PoE protocol *(See note on Page 4)*.

LED Indicators:

- **Pace1KR and Pace2KT:**
Link LED: Green, PoE Active (left of UTP link)
Link LED: Green, Active Indicate
Data transmission (Next to Ethernet link)
- **Pace1KR and Pace2KT: (RJ45 jack(s)):**
Yellow and Green LED IP Link status,
10/100Base-T/active.

Environmental:

- **Operating Temperature:**
– 40°C to 75°C (– 40°F to 167°F).
- **Storage Temperature:**
– 40°C to 75°C (– 40°F to 167°F).
- Relative humidity:
20 to 85%, non-condensing.

Functions:

- Auto detection and protection of legacy
non-PoE cameras/devices.

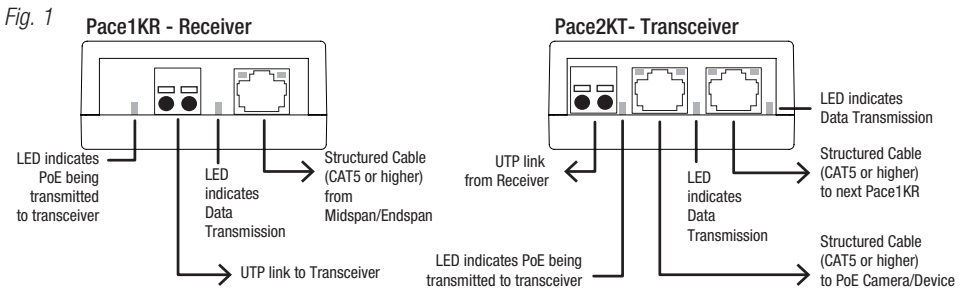
Applications:

- Upgrade LONworks, RS485, 4-20mA control
loops to Ethernet over existing wire pair.
- Building Automation, Elevator Systems,
HVAC, Lighting, Surveillance & Security.
- Utilize twisted pair for new installations or retrofit of
IP devices over existing twisted pair cabling
- Extend Network link distance in an
industrial environment over 1km (1,000m, 3,280 ft.).
- Works with Megapixel, HD720, HD1080
and VGA (SD) cameras with proper
headend equipment.

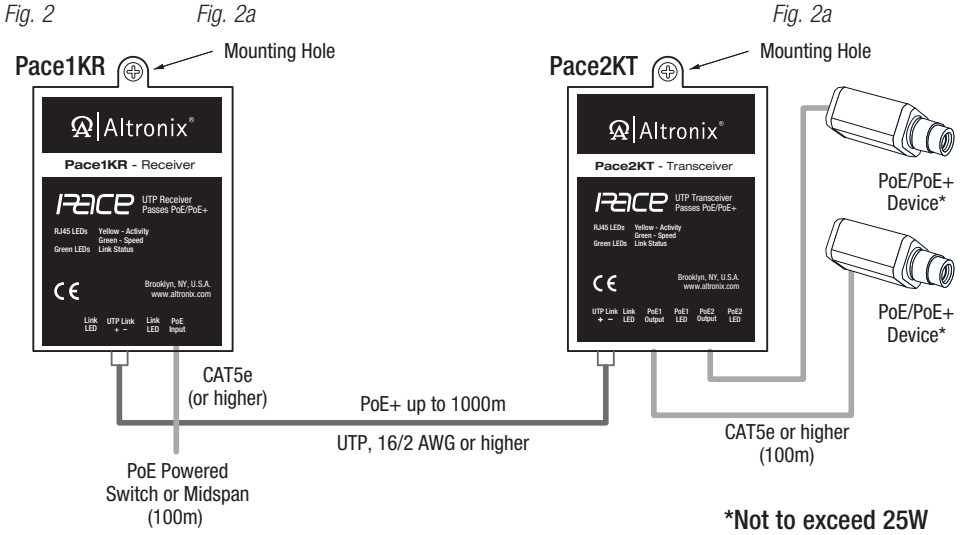
Mechanical:

- Dimensions (W x L x H approx.):
Pace1KR and Pace2KT:
3.8" x 2.5" x 1" (96.5mm x 63.5mm x 25.4mm).

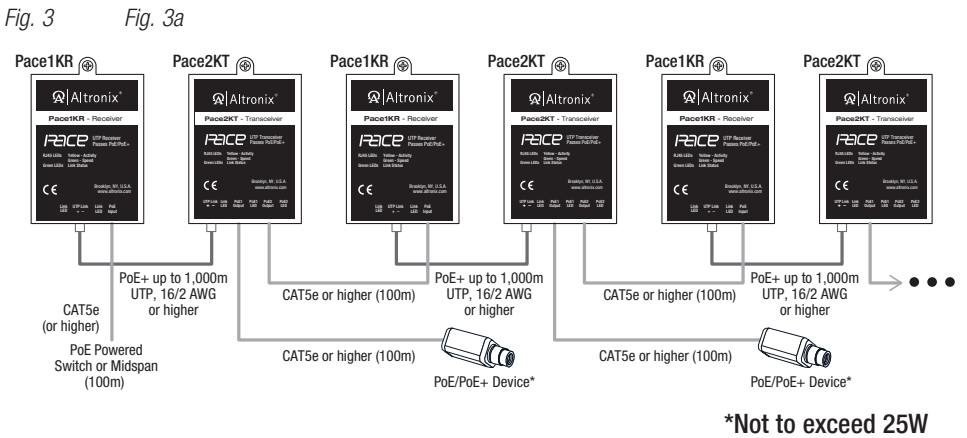
*For single port connectivity please refer to kit
model: Pace1KRT*



Single Pace2KRT PoE Camera Connection:



PoE Camera and Next Pace2KRT Connection:



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 (3280 ft)	1,996m (6,548ft.)
	15W	1,000m (3280 ft)	998m (3274 Ft.)
	30W	1,000m (3280 ft)	269m (882 ft)
16 AWG (2-wire, UTP)	7.5W	1,000m (3280 ft)	3,169m (10,396 ft.)
	15W	1,000m (3280 ft)	1,584m (5,196 ft.)
	30W	1,000m (3280 ft)	427m (1,400 ft.)

Note: Calculations based on 56VDC starting voltage from power source and accounts for a 10VDC voltage drop. IEEE standards voltage range requirement for powered devices are: PoE (15W) - 37VDC to 57VDC, PoE+ (30W) - 44VDC to 57VDC).

Altronix is not responsible for any typographical errors.

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