



Altronix Pace1STR IP and PoE+ Over Extended Distance CAT5e Installation Guide

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Pace1STR IP and PoE+ Over Extended Distance CAT5e Installation Guide



Pace1STR
IP and PoE+ Over Extended Distance CAT5e I.T.E.
43KC Kit includes Pace1PRM Receiver and Pace1ST Mini Transceiver



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Overview:

Pace1STR is a long-range Ethernet adapter kit that transmits data at 100Mbps full duplex and power via CAT5e or higher cable in a PoE(+) compliant format. Pace1PRM receiver is powered via a PoE midspan, such as the Altronix Netway series, or by an endspan. The receiver passes the PoE(+) compliant power over the cable to the Pace1ST mini 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.

Features:

Agency Listings:

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

Input (Pace1PRM):

- 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 CAT5e or higher
- 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 the camera by Pace1ST. Power provided by Pace1PRM to Pace1ST by PoE protocol.*
- Throughput is rated to pass 100Mbps of data at distances up to 500m. With proper headend equipment, this

supports Megapixel, HD720, and HD1080.

CAT5e or Higher:

- Distance: up to 500m @ 100Mbps (see Maximum Length of CAT5e Type vs. Camera Power/PoE Class, pg. 3).

LED Indicators:

- **Pace1PRM and Pace1ST:**

Green – PoE ON (by respective RJ45 jack).

- **Pace1PRM and Pace1ST (RJ45 jack):**

Yellow and Green LED IP Link status, 10/100Base-T/active.

Environmental:

Operating Temperature:

Pace1PRM:

20°C to 49°C (4°F to 120.2°F).

Pace1ST:

For 15W: 40°C to 75°C (40°F to 167°F).

For 30W: 40°C to 49°C (40°F to 120°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:

- Retrofit digital IP cameras in an analog CCTV

CAT5e installations.

- Extend Network link distance in an industrial environment over 610m.
- Works with Megapixel, HD720, HD1080, and VGA (SD) cameras with proper headend equipment.

Mechanical:

- Dimensions (W x L x H approx.):

Pace1PRM:

3.5" x 3.5" x 1" (88.9mm x 88.9mm x 25.4mm).

Pace1ST:

2.27" x 2.645" x 1.12" (57.7mm x 67.2mm x 28.4mm).

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. Pace1ST and Pace1PRM are not intended to be connected to outside plant leads and should be installed indoors within the protected premises. Pace1PRM and Pace1ST are intended for indoor use only.

1. Pace1PRM installation:

- a. Secure the 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 proximity to an ethernet switch/network, NVR or video server.
- b. Connect the structured cable from ethernet midspan or endspan device to RJ45 jack marked [PoE Input] (Fig. 2, pg. 3).
- c. CAT5e or higher: Connect CAT5e or higher to the connector marked [RJ45 OUT] (Fig. 2, pg. 3).

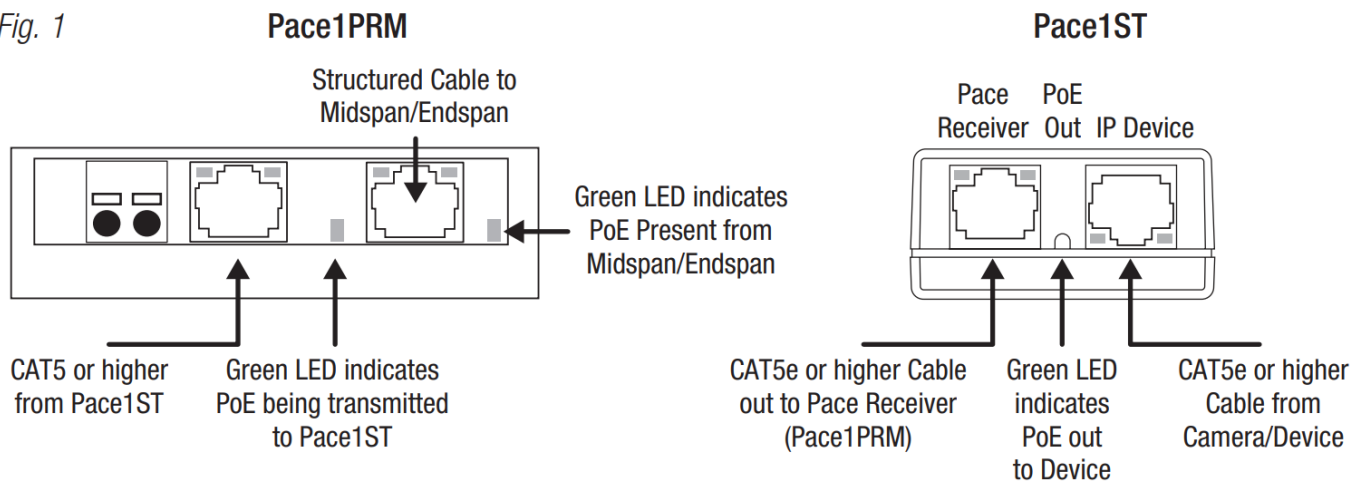
2. Pace1ST installation:

- a. Secure the unit to the desired mounting surface with a proper fastening device utilizing the case's mounting hole. The unit should be mounted in the proximity of the camera/device.
- b. Connect the structured cable from the IP camera/device to the RJ45 jack marked [PoE Out] (Fig. 2, pg. 3).
- c. Connect CAT5e or higher to the connector marked [RJ45 IN] from the receiver (Pace1PRM) (Fig. 2, pg. 3).

Technical Specifications:

| Parameter | Description |
|--------------------------|--|
| Connections | RJ45 for ethernet link. |
| Input power requirements | Midspan or endspan port connected. PoE compliant with 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 Pace1 PRM: – 20°C to 49°C (— 4°F to 120.2°F). Pace1 ST: For 15W: — 40°C to 75°C (— 40°F to 167°F). For 30W: — 40°C to 49°C (— 40°F to 120°F). Storage Temperature: – 40°C to 75°C (— 40°F to 167°F). Relative Humidity: 20 to 85%, non-condensing. Operating Altitude: – 304.8 to 2,000m. |
| Regulatory Compliance | UL Listed for Information Technology Equipment (UL 60950-1). CE European Conformity. |
| Weights (approx.) | Product: 0.4 lb. (0.18 kg) Shipping: 1 lb. (0.45 kg). |

Fig. 1

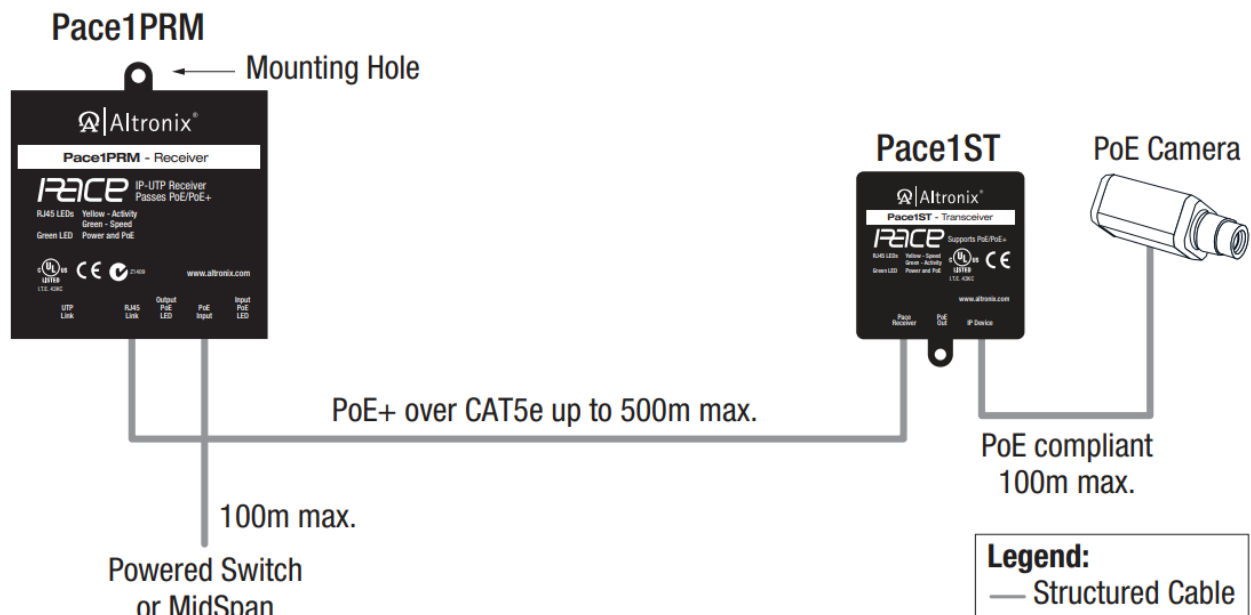


***Note:** Caution! Once a PoE connection is established between Pace1PRM and Pace1ST, disconnection from Pace1ST will not disable the PoE output voltage on the Pace1PRM. Although the Pace1ST can be reconnected, caution should be taken not to connect the CAT5e from Pace1PRM to any non-PoE device.

Single PoE Camera Connection:

Fig. 2

Fig. 2a



Maximum Length of CAT5e Type vs. Camera Power/PoE Class:

| Cable Type | Total Power Consumption | Max. Data Distance | Max. Power Distance |
|------------|-------------------------|--------------------|---------------------|
| CAT5e | 15W | 500m | 500m |
| CAT5e | 30W | 500m | 423m |

Note: Calculations are based on 56VDC starting voltage from the power source and account for a 10VDC voltage drop. IEEE standards voltage range requirements 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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|  | <p>Altronix Pace1STR IP and PoE+ Over Extended Distance CAT5e [pdf] Installation Guide Pace1STR IP and PoE Over Extended Distance CAT5e, Pace1STR, IP and PoE Over Extended Distance CAT5e</p> |
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References

-  [Altronix Home](#)