

Pace1PTM**IP and PoE+ Over Extended Distance UTP or CAT5e**

Z1409

Overview:

Pace1PTM is a long range Ethernet transceiver designed for use with Pace1PRM, Pace4PRM, Pace8PRM, and Pace16PRM receivers. They transmit data at 100Mbps full duplex and power via CAT5e or higher cable in a PoE(+) compliant format or a single twisted pair (UTP) (when paired with Pace1PRM). Pace1PTM will not deliver power to non-compliant devices, thus avoiding damage to improperly connected non-PoE cameras/devices. The receiver passes the PoE(+) compliant power over the cable to the Pace1PTM 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 single twisted pair (UTP) (when paired with Pace1PRM) or structured cable.

Features:**Agency Listings:**

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

Input:

- PoE (15W) IEEE 802.3af compliant or PoE+ (30W) IEEE 802.3at compliant from Pace1PRM, Pace4PRM, Pace8PRM, or Pace16PRM.

Ethernet:

- Connectivity: RJ45, auto-crossover.
- Wire type: 4-pair CAT5e or a single twisted pair UTP.
- 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 Pace1PTM.
- Throughput is rated to pass 100Mbps of data.

CAT5e or Higher from Pace Receiver:

- Distance: up to 500m @ 100Mbps
(see *Max. Length of Cable Type vs. Camera Power/PoE Class*, pg. 4)

UTP (Single Twisted Pair) from Pace1PRM:

- Distance: up to 152m @ 100Mbps
(see *Max. Length of Cable Type vs. Camera Power/PoE Class*, pg. 4).

LED Indicators:

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

Environmental:

- **Operating Temperature:**
For 15W: - 40°C to 75°C (- 40°F to 167°F).
For 25W: - 40°C to 70°C (- 40°F to 158°F).
For 30W: - 40°C to 60°C (- 40°F to 140°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 or UTP 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.):
3.5" x 3.5" x 1"
(88.9mm x 88.9mm x 25.4mm).

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.

Pace1PTM is not intended to be connected to outside plant leads and should be installed indoors within the protected premises. Pace1PTM is intended for indoor use only.

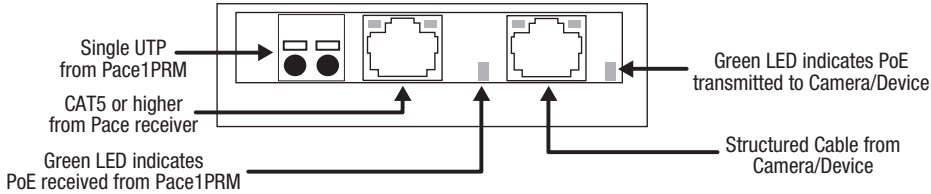
1. Secure unit to desired mounting surface with a proper fastening device utilizing the case's mounting hole (*Fig. 2a, pg. 3*). Unit should be mounted in proximity of camera/device.
2. Connect structured cable from IP camera/device to RJ45 jack marked [PoE Out] (*Fig. 1, pg. 3*).
3. Connect Pace1PTM to the receiver (Pace1PRM, Pace4PRM, Pace8PRM or Pace16PRM):
 - a. **CAT5e or higher:** Connect CAT5e or higher to the connector marked [RJ45 Link] (*Fig. 1, pg. 3*).
 - b. **UTP:** Connect UTP to connector marked [UTP Link] (*Fig. 1, pg. 3*).

Caution: Once PoE connection is established between the receiver and Pace1PTM, disconnection from Pace1PTM will not disable the PoE output voltage on the receiver. Although the Pace1PTM can be reconnected, caution should be taken not to connect the CAT5e or single UTP wiring from the receiver to any non-PoE device.

Technical Specifications:

Parameter	Description
Connections	RJ45 for ethernet link or single pair UTP.
Input power requirements	PoE (15W) IEEE 802.3af compliant or PoE+ (30W) IEEE 802.3at compliant from Pace1PRM, Pace4PRM, Pace8PRM or Pace16PRM.
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): For 15W: – 40°C to 75°C (– 40°F to 167°F). For 25W: – 40°C to 70°C (– 40°F to 158°F). For 30W: – 40°C to 60°C (– 40°F to 140°F). Relative Humidity: 20 to 85%, non-condensing. Storage Temperature: – 40°C to 75°C (– 40°F to 167°F). 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: 0.22 lbs. (0.1 kg) Shipping: 0.4 lbs. (0.18 kg).

Fig. 1

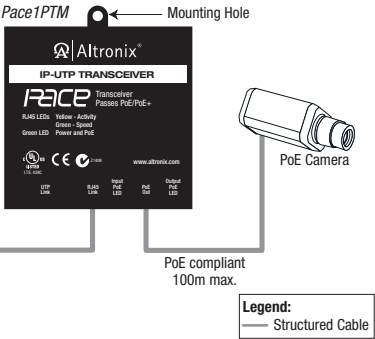


Single PoE Camera Connection:

Fig. 2



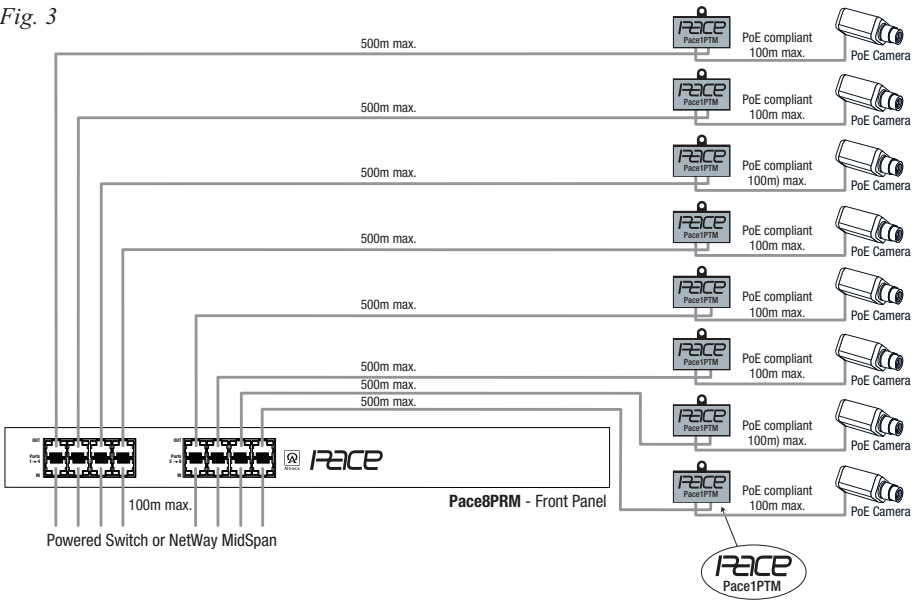
Fig. 2a



Multiple PoE Cameras Connection:

Pace8PRM shown. Pace4PRM and Pace16PRM are similar, with four (4) and sixteen (16) channels respectively.

Fig. 3



Maximum Length of Cable 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
1 Pair UTP	15W	150m	210m
1 Pair UTP	30W	150m	105m

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.