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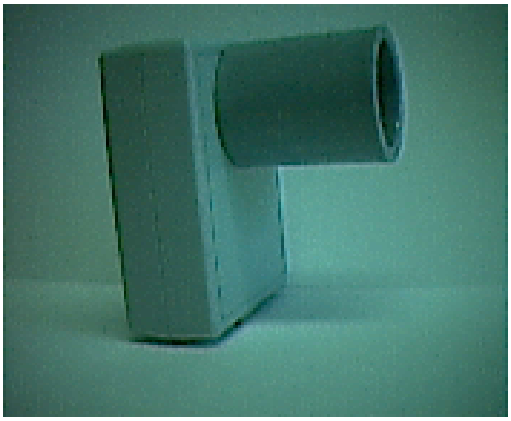
INSTRUCTION MANUAL

Miniature PIR Sensor



Model: PIR-S1

Introduction

Thank you for buying our miniature PIR Sensor.

The goal of Pencom Design is to provide top quality equipment at low cost. All of our products are designed and tested in-house to meet our high quality standards.

Features

The Pencom miniature Passive Infrared Sensor is designed with a limited field of view to detect motion in a restricted area only. Designed to work with our Single/Dual Channel Programmable Event Control Timers and Eight Channel Interfaces, but may be used with other customer designed devices. Very small size and weight and can be hidden easily. High immunity to RFI. Low Voltage and power requirements.

Applications

- Animation
  1. Haunted house props or special effects
  2. Animated Christmas decorations
  3. Museum exhibit activation
- Surveillance, camera/VCR activation or intruder alarms
- Automatic door bell
- Lighting applications
- Model railroading, crossing signal application, train location, or to operate trains or animations when visitors are viewing layout, etc.
- Courtesy lights
- Automated product demonstration
- Voice recorder applications

Specifications

Dimensions:

1.85” Wide X 2.40” High X 2.36” Deep

Connection:

6 Pin RJ-12 Modular Phone Jack
Uses either 4 pin RJ-11 or 6 pin RJ-12 modular cable. The 6-pin cable extends the distance from the sensor to the connected device Programmable Event Control Timer (PECT).
If using with the Programmable Event Control Timer use normal telephone cable wiring only (Reverse/cross wired configuration), see instructions below.
Modular cables not included, but may be purchased with unit.

Power Requirements:

5-12 Volts DC @ 300uA operating current (Typical).

Pulse output

Pulse width 0.5 Sec
Output High voltage (same as input).

Color:

Gray - may be painted to match any application compatible with ABS & PVC plastics.

Weight:

1.35 oz

Operating Temperature & Humidity:

-4 to 158º Fahrenheit, 95% Relative humidity.

Warm-up Time:

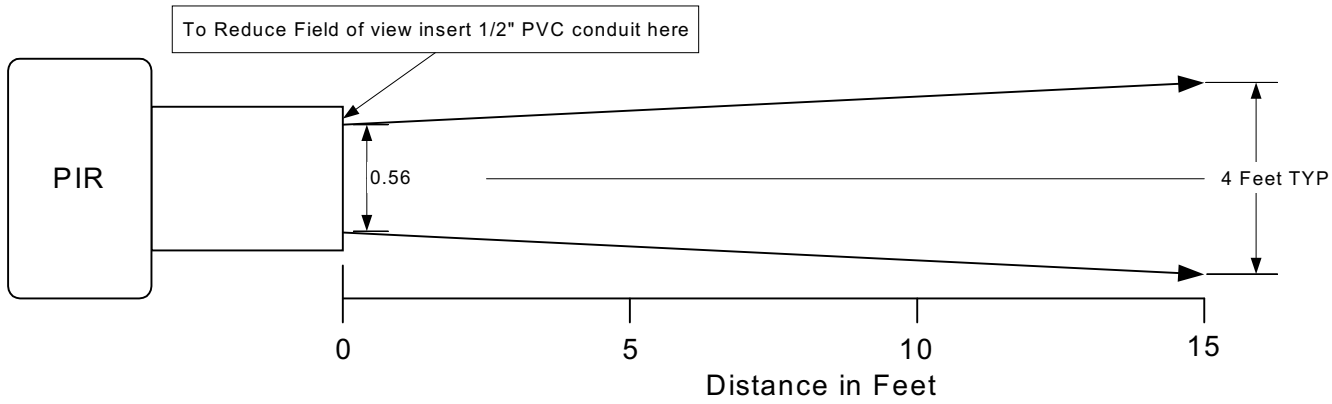
On initial power up the PIR requires a one-minute minimum warm-up time to adjust to the surrounding temperature.

Sensor to PECT cable length:

Typically 200' from sensor to PECT, varies with surrounding noise and cable type. When used in other applications distance also varies with voltage input, the higher the voltage the greater the distance. Sensor was tested in ideal conditions using a 6 conductor modular cable at 10-12 VDC, the unit operated properly at 1000’.

Activation Range:

Approx. 15 feet, varies with temperature and atmospheric conditions. To reduce the detection width (FOV) insert ½” PVC conduit available at local hardware stores, glue is not needed. Begin with a 6” piece and shorten to the desired detection width. When inserting conduit hold on to the PIR tubing not the enclosure as breakage may result.



Printed in U.S.A.

Mounting Options

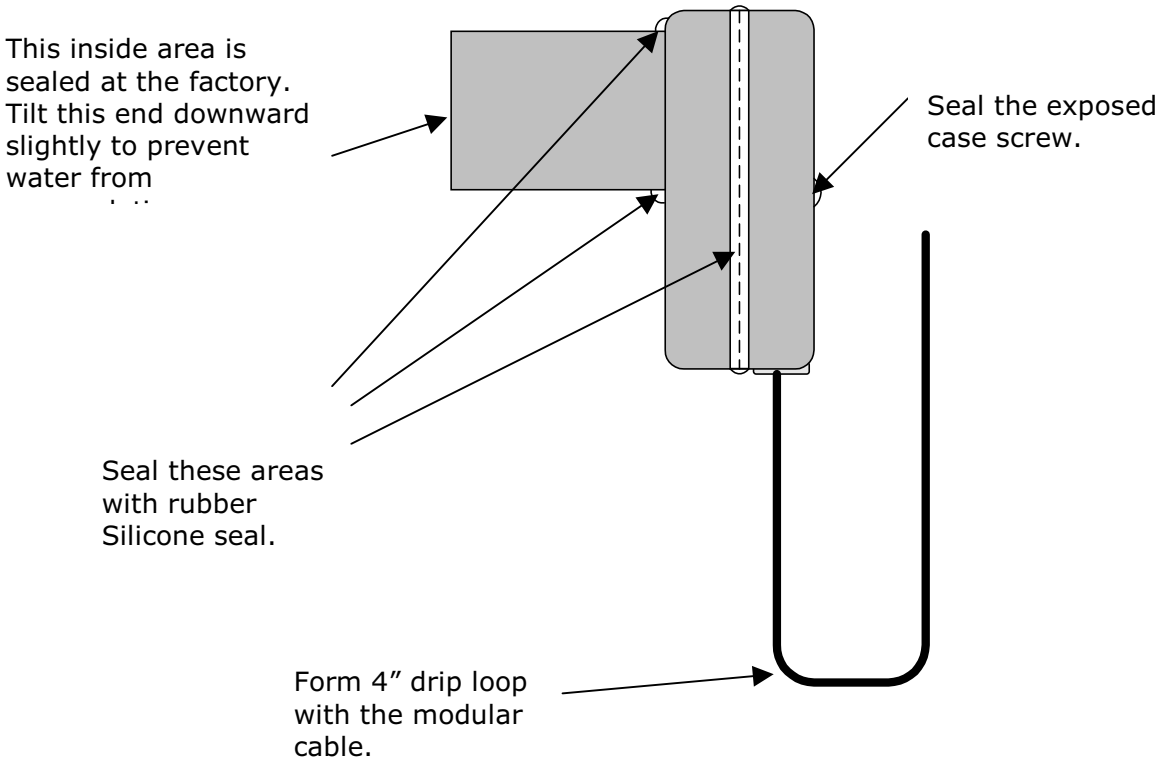
Since this PIR Sensor may be used in many different applications, the mounting of this sensor is left to the customer's discretion. The PIR weighs in at 1.3 oz without the modular cable attached which allows many different mounting schemes.

Suggestions

1. The most popular way of mounting the Sensor is adhesive Velcro; this may be purchased at local hardware stores. The sensor can easily be removed for storage or used on many different applications.
2. Double sided carpet tape.
3. Nylon wire tie around the FOV reducer or enclosure.
4. RTV (Rubber silicone sealer)
5. Plastic mounting ear made from ABS or PVC glued to the enclosure with universal plastic plumbing solvent.

Weather proofing

This sensor is not designed for exposure to rain, but may be used in these applications by sealing the enclosure or temporarily covering it with a plastic bag. RTV (rubber silicone seal) may be used to seal the areas shown below. Note: If you intend to paint the enclosure RTV can't be painted so use a matching color or paint enclosure first. Be sure to keep paint out of the tube where the sensor is located, over-spray will limit or prevent sensor operation.



Modular Cable Wiring

The Miniature PIR sensors are designed to be used with our Programmable Event Control Timers (PECT) or our 8 Channel Interface, but they may be used in other applications.

If this Sensor is used with either of these units, the standard telephone modular cable must be used to connect any of these devices together. **Note: if the wrong cable is used, the PIR and timers will be damaged.** To prevent this damage it's best to purchase the cables from us since we only sell the standard telephone cables which are reverse wired as shown in figure 3 below.

You may use either 4 (RJ-11) or 6 (RJ-12) conductor cables both are 6 position, but the RJ-11 only uses 4 conductors. By using the 6 conductor cable it extends the distance the PIR will operate since your increasing the current capability and reducing the voltage drop (wire resistance).

We don't recommend using modular cable couplers to connect shorter cables together to extend to longer distances. The couplers are also available in the 2 different wiring configurations which may reverse the wiring between the sensor to PECT and damage the devices. Adding additional connections may add resistance to the circuit (poor contacts) and cause the units to operate incorrectly.

Below is a diagram of the different wiring of the cables:

Reverse connections normal telephone lines.

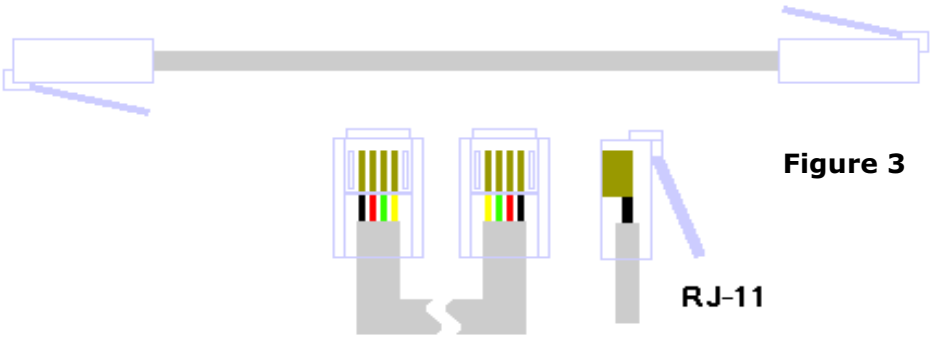
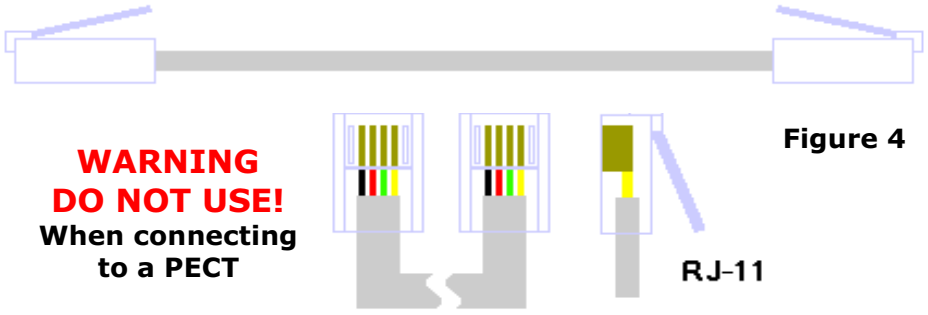


Figure 3

Straight connections for printer sharing and network use only.

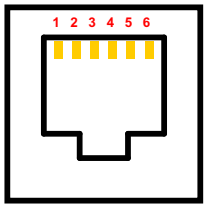


WARNING
DO NOT USE!
When connecting to a PECT

Figure 4

Wiring diagram for use with customers equipment (when not using with a PECT).

RJ-12



PIR Sensor Modular Jack
Wiring Schematic
Pins 1&2 – Ground
Pins 3&4 – Pulse Output
Pins 5&6 – 5-12VDC

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