

PIR Cover

Install Guide for PIR for VT7000 Room Controller



Overview

The accessory covers with embedded Passive Infra-Red (PIR) motion detector have been specifically designed to work with all compatible VT7000 Series Room Controllers. Any Room Controller compatible with VI-PIR covers use the VT7xxxxX5xxx(X) assignment. The 5 identifies the Room Controller base has the necessary onboard polarized PIR connector and functionality added.

When equipped with a PIR cover, a VT7000 series Room Controller provides advanced active occupancy logic, which automatically switches occupancy levels from Occupied to Stand-By, as well as Unoccupied as required by local activity being present or not.

Models Available

The below table shows which PIR covers are compatible for which model.

PIR COVER PART NUMBER	DESCRIPTION	COMPATIBLE MODEL
COV-PIR-FCU-C-5000	PIR cover with Commercial FCU interface	VT73x0X5x00(X)
COV-PIR-FCU-L-5000	PIR cover with Hotel/Lodging interface	VT73x5X5x00(X)
COV-PIR-RTU-5000	PIR cover for roof-top thermostats	VT76xxX5x00(X)
COV-PIR-ZN-5000	PIR cover for zoning thermostats	VT7200X5x00(X)

Installation Tips

TIP	DESCRIPTION	EXPLANATION
General Installation	PIR Connector	Polarized connector is located at bottom left hand corner of Room Controller
General Installation	Security Screw	A security screw is provided in the shipping box. This screw should be carefully installed in the intended mounting position located at bottom center of cover.
Initial Power Up & Commissioning	PIR warm-up period	PIR Sensor may take up to 60 seconds after initial warm-up period to detect movement consistent with typical detection pattern.
Initial Power Up & Commissioning	Visual indication (status of PIR)	Visual indication of PIR activity for commissioning shows via blinking LEDs located on the cover under the PIR lens. LEDs stay active while occupant is in field of detection pattern for a period of 30 minutes after initial power up.

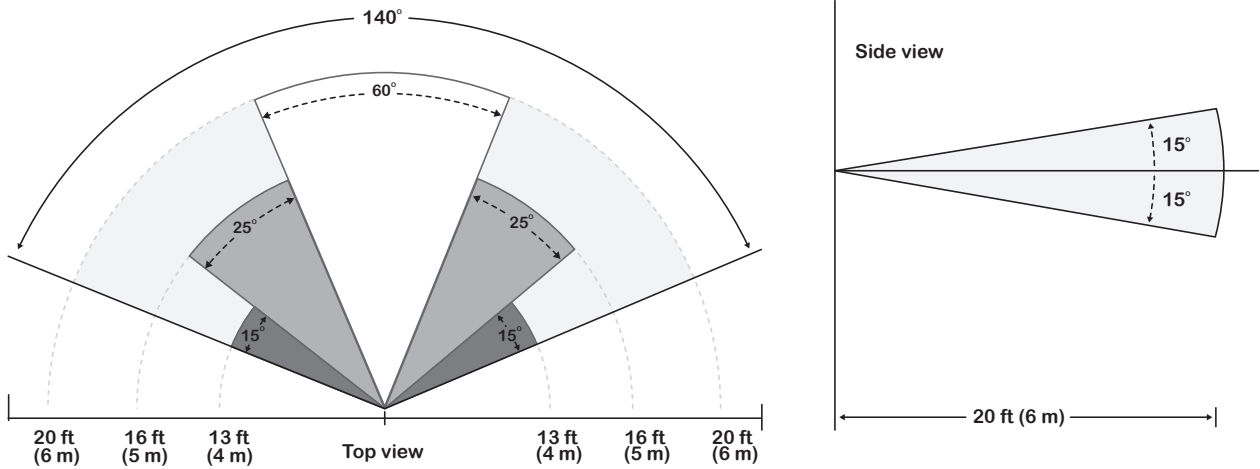
Safety



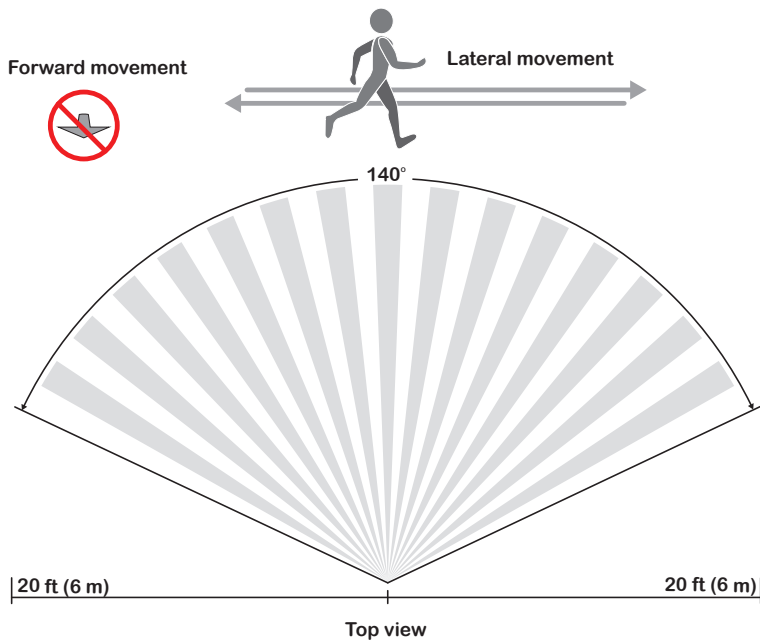
Electronic controls are static sensitive devices. Discharge yourself properly before manipulation and installing the Room Controller and its accessories. Short circuit or incorrect wiring may permanently damage the device or the equipment. All VT7000 series Room Controllers are to be used only as operating controls. Whenever a control failure could lead to personal injury and/or loss of property, it becomes the responsibility of the user to add safety devices and/or alarm systems to protect against such catastrophic failures.

Typical PIR Lens Detection Pattern

Typical detection pattern for the PIR cover is illustrated below.



Fresnel lens beam and detection field



Deployment

It is recommended to install the Room Controller as close to a door as possible (but not so as to be blocked by the door), or in an area with high occupant movement.

Ideally the Room Controller should be installed 5 feet (1.5 meters) above the floor surface to ensure maximum detection range is achieved. As well, Room Controller placement should ensure the occupant crosses the lens beam in a perpendicular path within the prescribed detection zone.

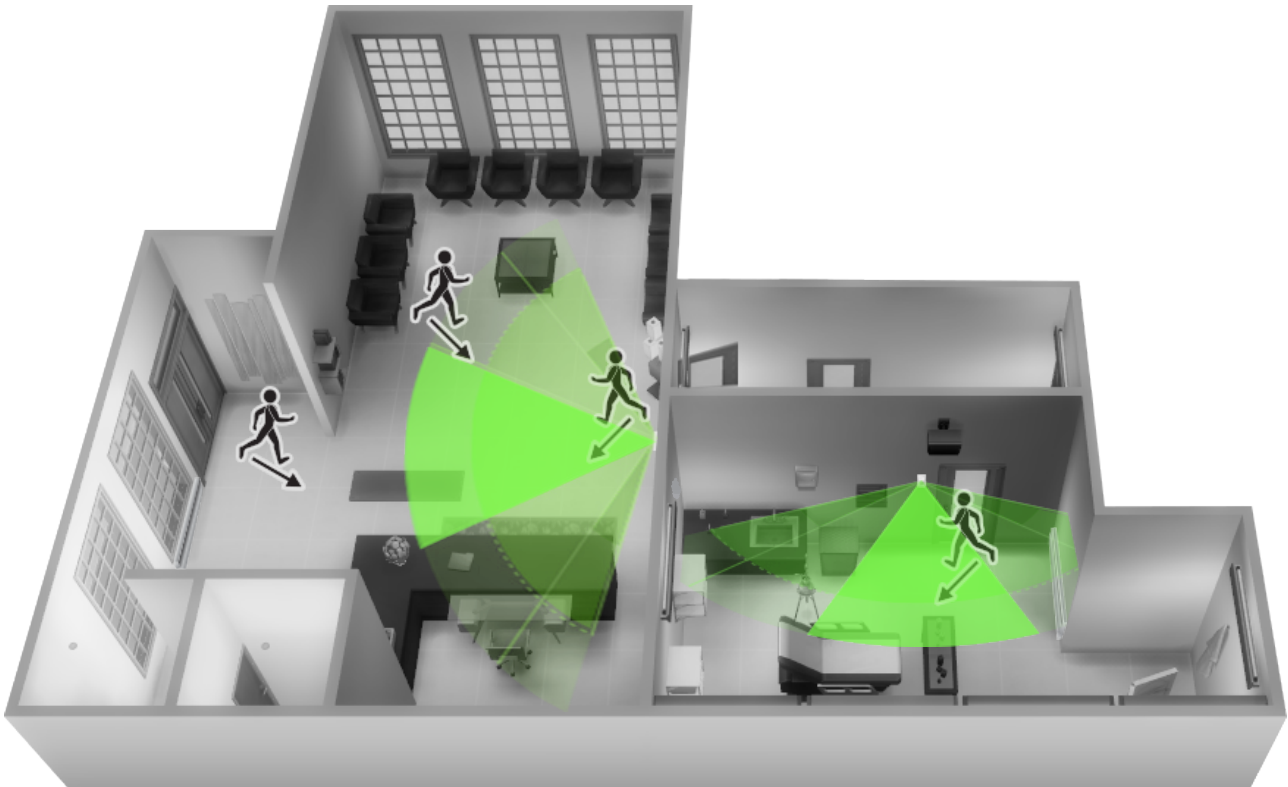
Example of Recommended Deployment

The below shows Room Controllers installed in ideal locations for two rooms.

The examination room shows one Room Controller installed adjacent to the door. In this area of the room, occupant traffic is high and ensures the occupant will almost always cross the PIR detection path laterally and within the detection range.

The waiting room shows one Room Controller installed beside a door in the middle of the room. As shown in the diagram below, occupant traffic is high in several areas of the room including the entrance, waiting room, access to the door and activity around the

reception desk. Moreover, for each case aforementioned, occupant movement almost always moves lateral to the PIR, which ensures detection by the PIR, as well as respecting the PIR detection range of 20 feet (6 meters) at 140°, and 16 feet (5 meters) between 15° to 30° laterally.



Recommended Installation

Example of Non-Recommended Deployment

The below shows four Room Controllers (two for each room) installed in non-ideal locations for the two rooms.

The examination room shows one Room Controller installed in a low traffic area near the door, and a second Room Controller installed on the wall directly opposite the door. For the Room Controller installed in the corner wall near the door, the PIR could be blocked by the opened door, thereby restricting PIR detection. For the second Room Controller installed opposite the door, the PIR detection could fall outside the specified detection zone, while at the same time most occupant movement may not respect lateral crossing patterns for PIR detection.

The waiting room shows one Room Controller installed near the entrance, and a second Room Controller installed beside the reception area. For the Room Controller installed at the entrance, the opening/closing of the door creates high probability the PIR would get blocked, and therefore, occupancy going undetected. For the Room Controller installed beside the reception area, occupant traffic could fall outside the detection zone, while the receptionist would often be below the 5 foot recommended installation height for the Room Controller.



Non-Recommended Installation

Installation

This procedure shows how to install the PIR cover.

PIR COVER

1. Remove security screw on bottom of current Room Controller cover.
2. Open by pulling on bottom side (Fig. 1).



Fig. 1

3. Locate male polarized PIR connector at bottom left corner (Fig. 2).

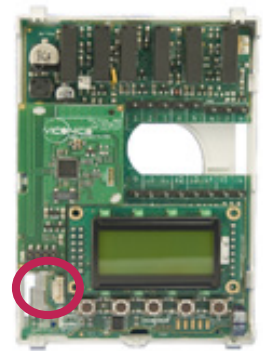


Fig. 2

4. Hinge new PIR thermostat cover into position (Fig. 3).



Fig. 3

5. Insert polarized connector into PIR female connector located on thermostat base (Fig. 4).
6. Snap PIR thermostat cover into place and re-install the security screw.
7. Set appropriate parameter settings. Refer to Install Guide.



Fig. 4

PIR LED STATUS

The PIR covers have two green status LEDs behind the PIR lens used for diagnostic purposes during commissioning or servicing. The LEDs are used to indicate local movement detected by the PIR cover according to the following:

- The status LEDs will only start functioning to indicate movement 1 minute after the initial power up of the Room Controller (24 Vac).
- The status LEDs will stop functioning to indicate movement 30 minutes after the initial power up of the Room Controller (24 Vac).

LEDs location on PIR cover under the main sensor lens

