

PIR Cover

Install Guide for PIR for VT7000 Room Controller



NOTICE

IMPORTANT NOTICE RELATED TO PRODUCT PART NUMBERS

For the latest model and part numbers, please refer to "VT8000 and VT7000 Series Room Controllers Catalog, version 10" (028-6100-08), which can be found on <http://www.viconics.com/>.

This document contains information on active and retired products. The latter are no longer sold by Viconics Technologies or its partners.

For additional information on 7000 Series Room Controllers and a list of replacement part numbers, please visit <http://www.viconics.com/>.

Failure to follow these instructions can result in confusion or order delays.



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SAFETY INFORMATION

Important Information

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it. The following special messages may appear throughout this bulletin or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury. The safety alert symbol shall not be used with this signal word.

Please Note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

BEFORE YOU BEGIN

Loss of Control

⚠ WARNING

LOSS OF CONTROL

- The designer of any control scheme must consider the potential failure modes of control paths and, for certain critical control functions, provide a means to achieve a safe state during and after a path failure. Examples of critical control functions are emergency stop and over travel stop.
- Separate or redundant control paths must be provided for critical control functions.
- System control paths may include communication links. Consideration must be given to the implications of anticipated transmission delays or failures of the link.¹
- Each implementation of equipment utilizing communication links must be individually and thoroughly tested for proper operation before being placed into service.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

California Proposition 65

⚠ WARNING

CALIFORNIA PROPOSITION 65

This product can expose you to chemicals including Lead and Bisphenol A (BPA), which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

Failure to follow these instructions can result in birth defects or other reproductive harm.

Electrostatic Discharge

NOTICE

STATIC SENSITIVE COMPONENTS

Circuit boards and option cards can be damaged by static electricity. Observe the electrostatic precautions below when handling controller circuit boards or testing components.

Failure to follow these instructions can result in equipment damage.

Observe the following precautions for handling static-sensitive components:

- Keep static-producing material such as plastic, upholstery, and carpeting out of the immediate work area.
- Store static-sensitive components in protective packaging when they are not installed in the drive.
- When handling a static-sensitive component, wear a conductive wrist strap connected to the component or drive through a minimum of 1 megohm resistance.
- Avoid touching exposed conductors and components leads with skin or clothing.

Installation

NOTICE

INSTALLATION

- The system must be installed correctly by a qualified technician.
- If replacing an existing Room Controller, label wires before removal of Controller.
- Electronic controls are static sensitive devices. Discharge yourself correctly before manipulating and installing Room Controller.
- A short circuit or wrong wiring may permanently damage Room Controller or equipment.
- All Room Controllers are designed for use as operating controls only and are not safety devices. These instruments have undergone rigorous tests and verification prior to shipping to ensure proper and reliable operation in the field. Whenever a control failure could lead to personal injury and/or loss of property, it becomes the responsibility of the user/installer/electrical system designer to incorporate safety devices (such as relays, flow switch, thermal protections, etc.) and/or an alarm system to protect the entire system against such catastrophic failures. Tampering with the devices or unintended application of the devices will result in a void of warranty.
- This device must be installed to provide a separation distance of at least 8in (20cm) from all persons and must not be located or operating in conjunction with any other antenna or transmitter.
- Refer to the Room Controller User Interface Guide for information on how to configure the Room Controller.

Failure to follow these instructions can result in equipment damage.

¹ For additional information about anticipated transmission delays or failures of the link, refer to NEMA ICS 1.1 (latest edition), *Safety Guidelines for the Application, Installation, and Maintenance of Solid State Control* or its equivalent

Location

NOTICE

LOCATION

- Do not install on an exterior wall.
- Do not install behind a door.
- Do not install in areas with direct heat source.
- Do not install near any air discharge grill.
- Do not install in areas exposed to direct sunlight.
- Ensure Room Controller has sufficient natural air circulation.
- Ensure wall surface is flat and clean.
- Ensure external thermal sensor wirings are away from noisy electrical sources.
- Install 1.3 to 1.5 meter (52 to 60 inches) above the floor.
- Perform preventive maintenance on the damper and Variable Air Volume (VAV) box, according to the supplier documentation.

Failure to follow these instructions can result in equipment damage.

Cleaning the Room Controller

NOTICE

CLEANING THE ROOM CONTROLLER

- Use a soft, pre-moistened lint-free cloth for cleaning.
- Avoid getting moisture in openings.
- Do not spray anything directly on the Room Controller or use compressed air.
- Do not use caustic/corrosive products, ammonia, solvents or any cleaning product containing alcohol or grit.
- Never use tools directly on the touchscreen.
- Never use paint on the Room Controller.
- Do not drop or crush the Room Controller, or allow it to come into contact with liquids.
- Do not use a damaged device (such as one with a cracked screen).

Failure to comply with these recommendations will result in damage to the unit and void the manufacturer's warranty.

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 VT7xxxX5xxx(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.

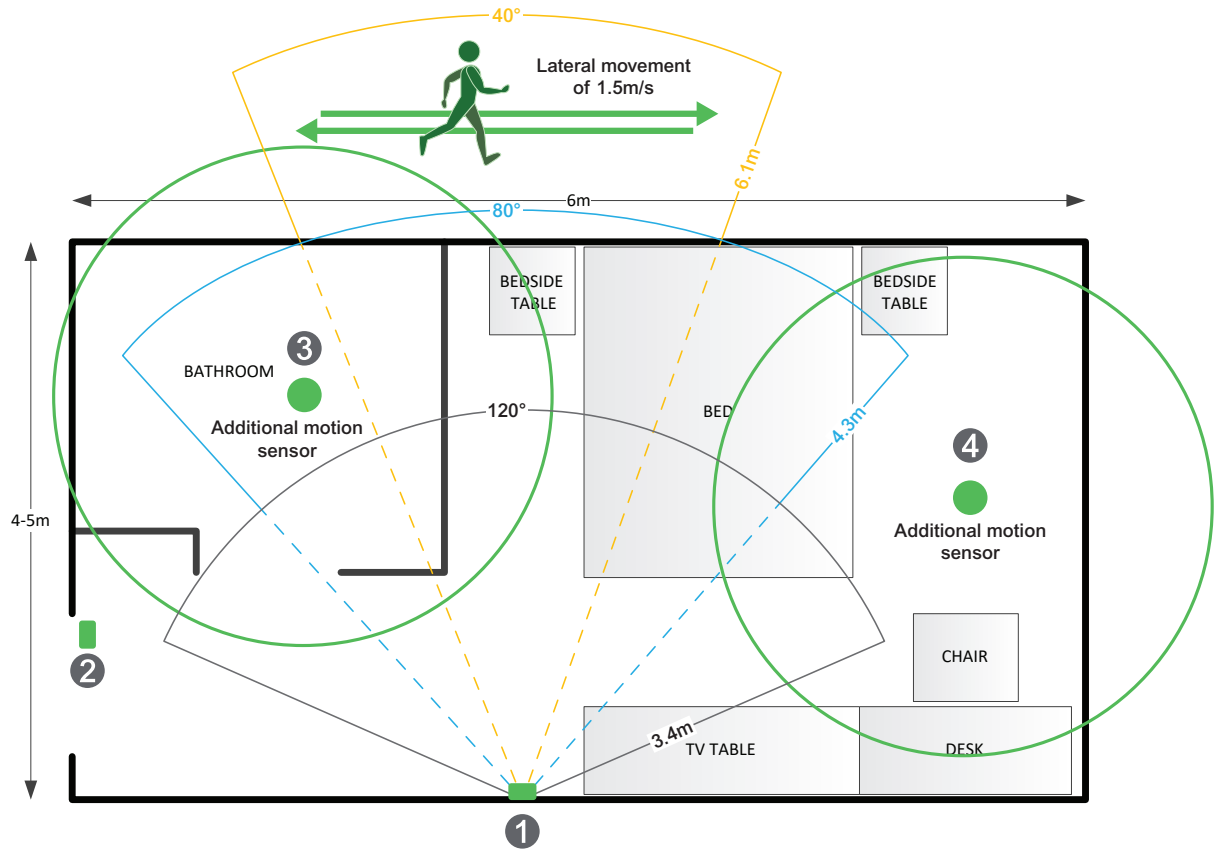
PIR COVER PART NUMBER	DESCRIPTION	COMPATIBLE MODEL
COV-PIR-FCU-C-5000	PIR cover with Commercial FCU interface	VT73x0X5x00(X)
COV-PIR-FCU-L-5000	PIR cover with Hotel/Lodging interface	VT73x5X5x00(X)
COV-PIR-RTU-5000	PIR cover for roof-top thermostats	VT76xxX5x00(X)
COV-PIR-ZN-5000	PIR cover for zoning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

TYPICAL PIR LENS DETECTION PATTERN

Typical detection pattern for the PIR cover is illustrated below.



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.

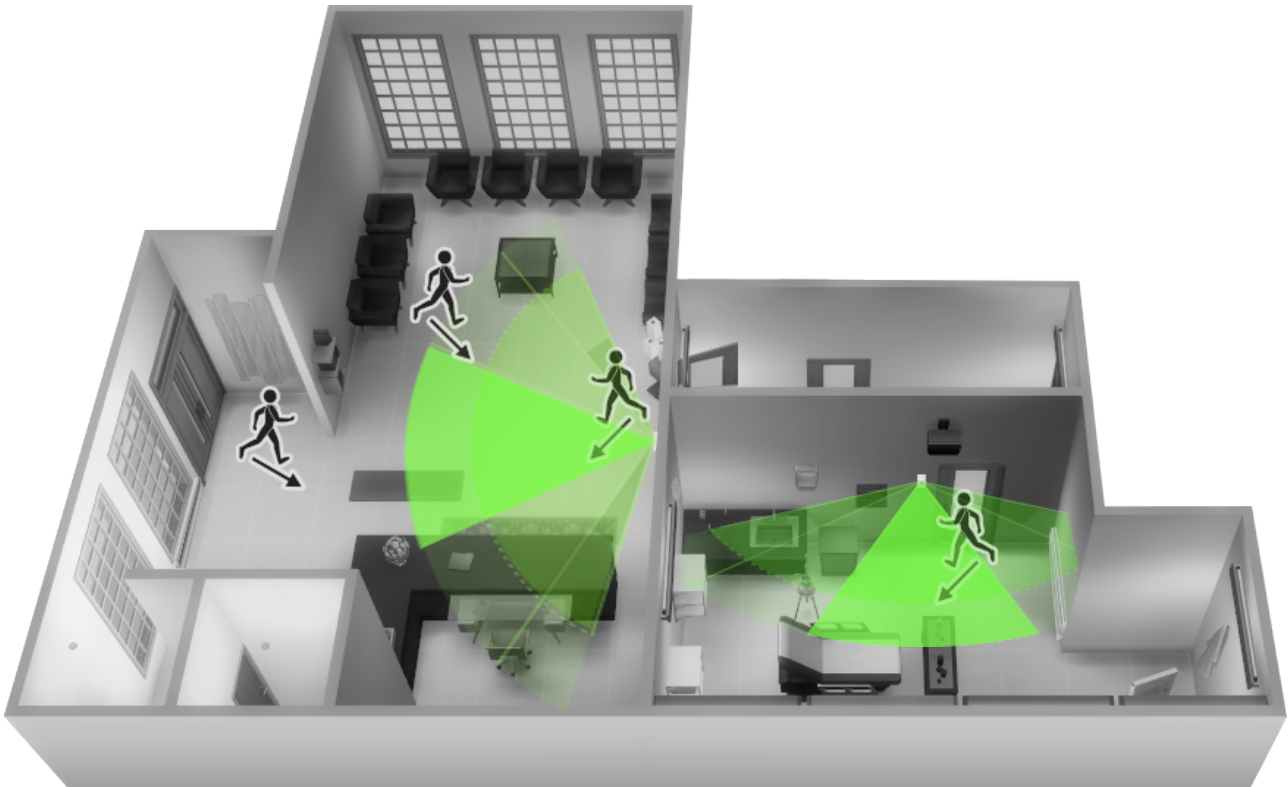
Ideally the Room Controller should be installed 5 feet (1.5 meters) above the floor surface to ensure maximum detection range is achieved. As well, Room Controller placement should ensure the occupant crosses the lens beam in a perpendicular path within the prescribed detection zone.

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.



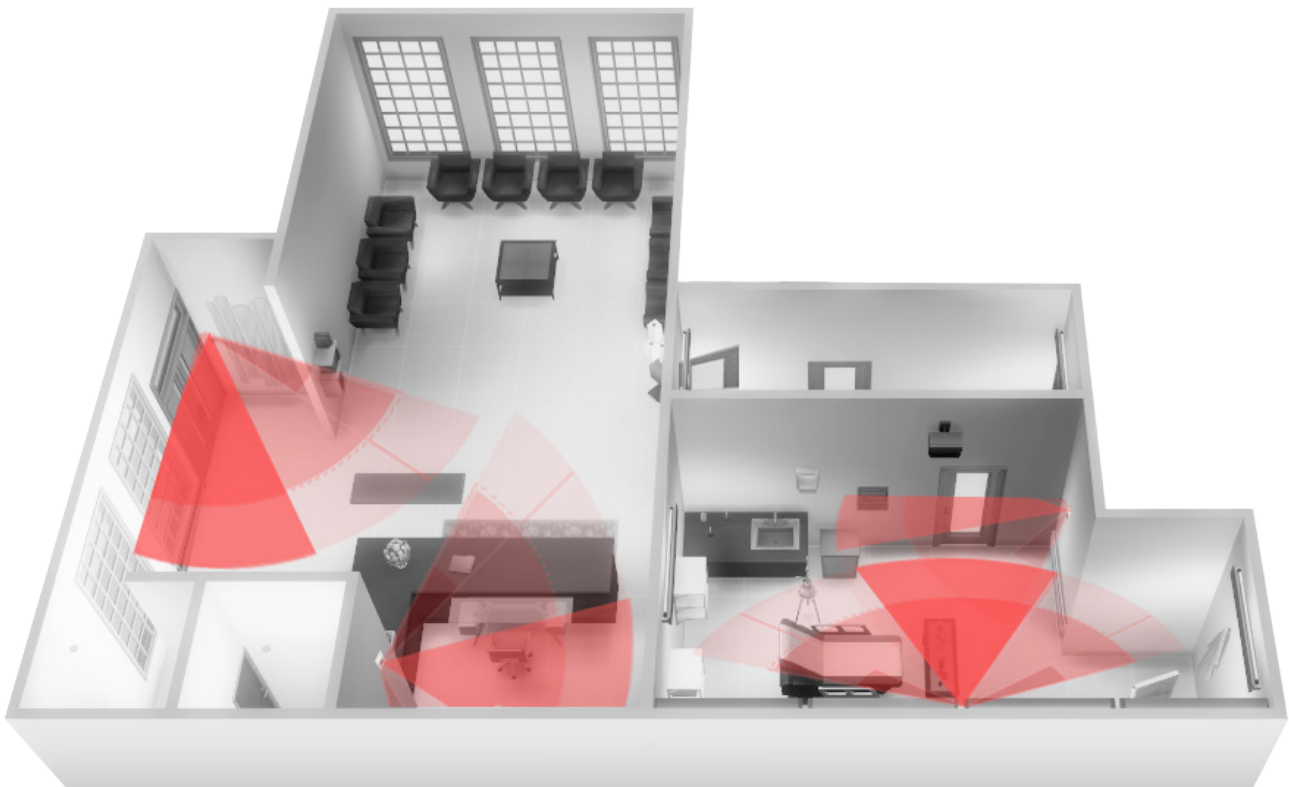
Recommended Installation

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

