

## Product Overview

The VI-PIR Accessory covers with embedded Passive Infra-Red motion detector have been specifically designed to work with all compatible VT7000 series thermostats. Thermostats compatible with VI-PIR covers use the following part number assignments: VT7xxxX5xxx(X). The 5 identifies the thermostat base thermostat has the necessary onboard polarized PIR connector and functionality added.

When equipped with a VI-PIR accessory cover, a VT7000 series thermostat provides advanced active occupancy logic, which will automatically switches occupancy levels from Occupied to Stand-By and Unoccupied as required as required by local activity being present or not. This advanced occupancy functionality provides advantageous energy savings during occupied hours without sacrificing occupant comfort.



The additional following documentation is available:

- VYKONStat PIR Application Guide - This document will provide the installers and system designers with detailed examples on applications, parameter configuration information, sequence of operation, troubleshooting and diagnostic help required for the proper usage of the Vykon PIR accessory covers
- VYKONStat PIR Ready VT7200 Series Thermostat Installation Guide
- VYKONStat PIR Ready VT3000 Series Thermostat Installation Guide
- VYKONStat PIR Ready VT7600 Series Thermostat Installation Guide
- VYKONStat PIR Ready VT76x7 Series Thermostat Installation Guide

## Models Available

Vykon PIR Cover Part Number	Description	Compatible with the Following Thermostats
COV-PIR-FCU-C-5028	PIR cover with Commercial FCU interface	VT73x0X50xx(X)
COV-PIR-FCU-L-5028	PIR cover with Hotel/Lodging interface	VT73x5X50xx(X)
COV-PIR-HPUMP-5028	PIR cover for heat pump thermostats	VT76xxH50xx(X)x
COV-PIR-RTU-5028	PIR cover for roof-top thermostats	VT76xxX50xx(X)
COV-PIR-ZN-5028	PIR cover for zoning thermostats	VT7200X50xx(X)

## Features and Benefits

Features	Benefits
• Single wall integrated device construction	⇒ Reduced project peripheral components required and total delivery cost.
• Can be applied to all VT7000 series thermostats with 5028 series base	⇒ Allows for energy savings during occupied periods without sacrificing occupant comfort.
• Auto-detecting PIR sensing device to the thermostat	⇒ Reduces commissioning time & simplifies installation.
• Pre-configured default values for standby setpoints and PIR timer settings	⇒ Simple plug & play product application
• Functional with on stand-alone and network thermostat models	⇒ Allows for remote occupancy monitoring and facilitates future upgrade.
• Fully integrated Device with onboard network connection (Lontalk or BACnet)	⇒ Allows PIR functionality to be utilized for other building system functions.

The variation of applications that can be met by the new PIR accessory covers range from:

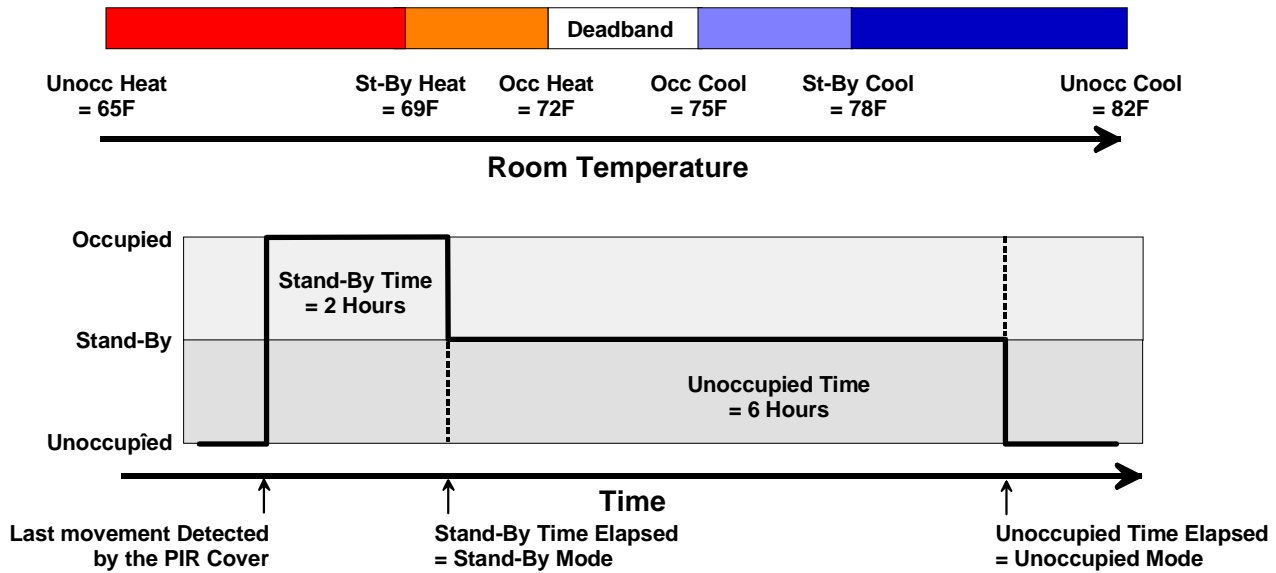
- Stand-alone lodging FCU applications
- Networks lodging FCU applications fully integrated to a reservation system
- Networked or stand-alone conference rooms
- Networked or stand-alone classrooms units
- Any commercial offices that have random occupancy schedules during occupied hours as dictated by the function of the tenant
- Any controlled piece of HVAC equipment that may yield energy savings with the introduction of a new automatic stand-by level of occupancy

The following configuration parameters are providing as standard on all VT7000 series thermostats. They are associated with the advanced occupancy functionality introduced with the addition of a PIR cover. These parameters will allow the installer to set the thermostat occupancy functions exactly as required by the application.

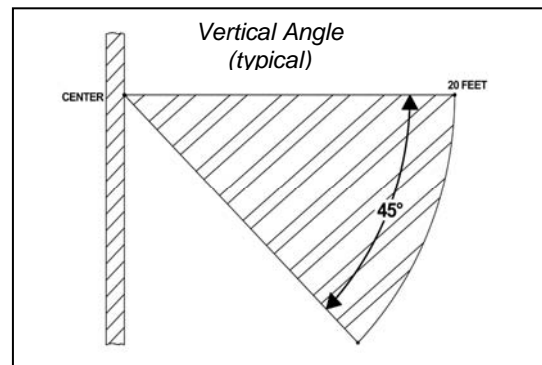
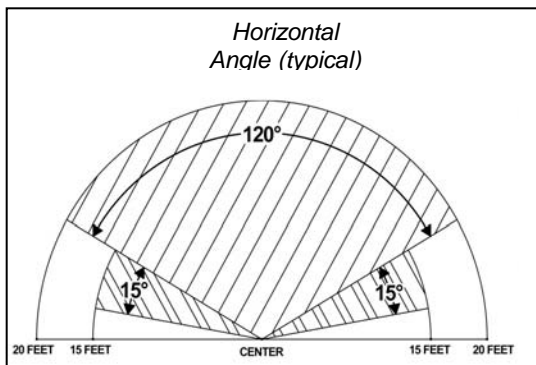
Their functionality only becomes active if a PIR accessory cover is connected or one of the binary/digital input is configured to use a remote PIR sensing device.

Configuration Parameter	Description of Configuration parameter
<p><b>BI or DI input door setting</b></p> <p>Default: None for no function used</p>	<p>It is possible to configure some of the digital or binary inputs to effectively use the advanced functions allowed by the installation of a door switch contact. This function is mostly used with fan coil units in lodging applications</p> <p>When a door contact is used and configured, the Stand-By timer is no longer active. The occupancy toggle between occupied and stand-by is now dictated by both the door contact and the PIR cover.</p> <ul style="list-style-type: none"> <li>• Movement detected by the PIR cover = Always occupied</li> <li>• Door opens / closes detected by the door switch = Stand-by mode</li> </ul>
<p><b>Stand-by Heating Set point:</b></p> <p>Default: 69 °F ( 20.5 °C )</p>	<p>This parameter sets the stand-by heating setpoint value.</p> <p>The set value of this parameter should reside between the occupied and unoccupied heating setpoints and make sure that the difference between the stand-by and occupied value can be recovered in a timely fashion when movement is detected in the zone.</p> <p>Adjustable from 40 to 90 °F ( 4.5 to 32 °C ) in 0.5 degree increments.</p>
<p><b>Stand-by Cooling Set point:</b></p> <p>Default: 78 °F ( 25.5 °C )</p>	<p>This parameter sets the stand-by cooling setpoint value.</p> <p>The set value of this parameter should reside between the occupied and unoccupied cooling setpoints and make sure that the difference between the stand-by and occupied value can be recovered in a timely fashion when movement is detected in the zone.</p> <p>Adjustable from 54 to 100 °F ( 12.2 to 37.8 °C ) in 0.5 degree increments.</p>
<p><b>Stand-by Time:</b></p> <p>Default 0.5 hours</p>	<p>This parameter sets the time delay between the moment where the PIR cover detected the last movement in the area and the time which the thermostat stand-by mode and setpoints become active.</p> <p>Adjustable from 0.5 to 24 hours in .5hr increments</p>
<p><b>Unoccupied Time:</b></p> <p>Default 0.0 hours</p>	<p>If no movement are detected in the area and the current mode is stand-by. This parameter will then set the time delay between the moment where the thermostat toggles to stand-by mode and the time which the thermostat unoccupied mode and setpoints become active.</p> <p>The factory value or <b>0.0 hours</b>: Setting this parameter to its default value of 0.0 hours disables the unoccupied timer. This prevents the thermostat to drift from stand-by mode to unoccupied mode when PIR functions are used</p> <p>Adjustable from 0.0 to 24 hours in .5hr increments</p>

This PIR occupancy functionality represents a typical non-scheduling stand-alone application without any network support. The system can be left in unoccupied periods for extended periods of time and will only become active to occupied levels only when there is such a need.



Typical Detection Pattern for VI-PIR Lens



Installation Tips

Tip Type	Area Of Interest	Explanation
General Installation	PIR Connector	Polarized connector is located at bottom left hand corner of VT7000 series thermostat
	Security Screw	A security screw has been provided in the thermostat box. This screw should be carefully installed in the intended mounting position located bottom center of thermostat cover.
Tip Type	Area Of Interest	Explanation
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.
	Visual indication (Status of PIR)	Visual indication of PIR activity for commissioning has been provided via a blinking LEDs located on the thermostat cover under the PIR lens. LEDs will be active while occupant is in field of detection pattern for a period of 30 minutes after initial power up.

**VI-PIR Cover Installation**

- Remove security screw on the bottom of the current thermostat cover.
- Open up by pulling on the bottom side of thermostat. (Fig. 3)

**A) Identify current thermostat model type:**

- Use appropriate cover accessory part number as identified on the first page by referring to the thermostat model number
- The male polarized PIR connector is located at bottom left corner of thermostat (Fig. 4)

**B) Installation:**

- Hinge new PIR thermostat cover into position (fig. 3).
- Insert polarized connector into PIR female connector located on thermostat base (Fig 4)
- Snap PIR thermostat cover into place and re-install the security screw
- Make appropriate parameter settings related to your application within the configuration menu as identified in the thermostat installation



- Electronic controls are static sensitive devices. Discharge yourself properly before manipulation and installing the thermostat and its accessories.
- Short circuit or wrong wiring may permanently damage the thermostat or the equipment.
- All VT7000 series thermostats 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 system to protect against such catastrophic failures.

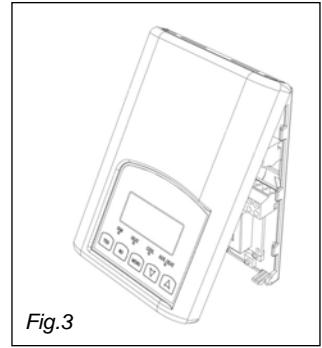


Fig.3

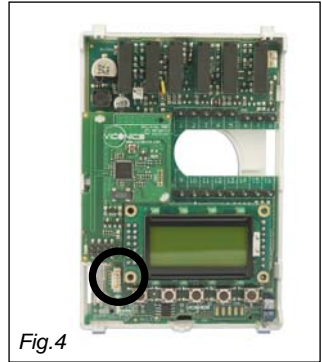


Fig.4

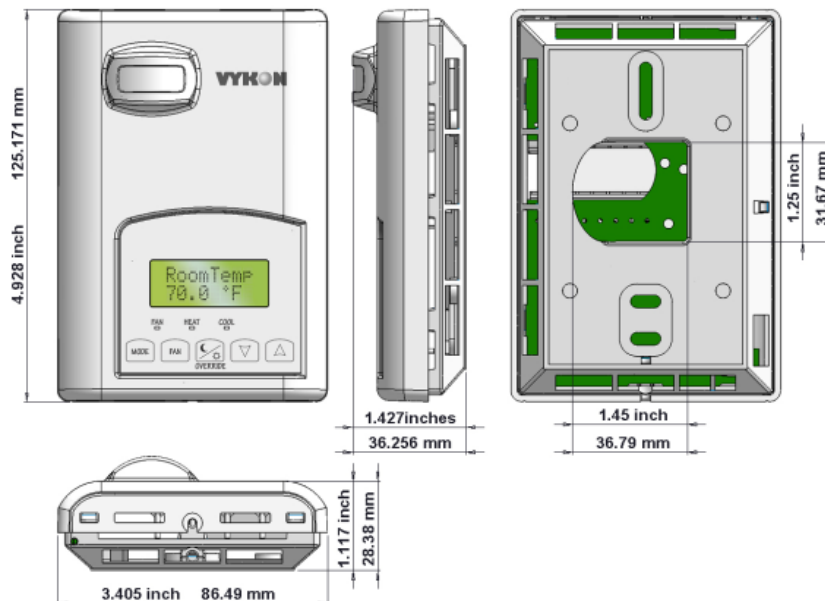


Fig.5

**Specifications**

PIR cover power requirements:	5 Vdc Max current draw of 7mA
Operating conditions:	0 °C to 50 °C ( 32 °F to 122 °F ) 0% to 95% R.H. non-condensing
Storage conditions:	-30 °C to 50 °C ( -22 °F to 122 °F ) 0% to 95% R.H. non-condensing
Sensor:	Local Passive Infra Red Sensor
Dimensions with Thermostat:	4.94" x 3.38" x 1.13"
Approximate shipping weight with Thermostat:	0.75 lb ( 0.34 kg )
Agency Approvals:	
UL	UL 873 (US) and CSA C22.2 No. 24 (Canada), File E27734 with CCN XAPX (US) and XAPX7 (Canada)
FCC	Compliant to CFR 47, Part 15, Subpart B, Class A (US)
Industry Canada	ICES-003 (Canada)
CE	EMC Directive 89/336/EEC (Europe Union)
C-Tick	AS/NZS CISPR 22 Compliant (Australia / New Zealand) Supplier Code Number N10696

**Drawing & Dimensions**



Thermostat Dimensions