

# Passive Infrared (PIR) Accessory Covers

## Installation Instructions

TEC-3-PIR, TEC-6-PIR, TEC-6H-PIR, and TEC-7-PIR

Part No. 24-9890-870, Rev. D

Issued March 4, 2013

Supersedes May 13, 2011

Refer to the [QuickLIT Web site](#) for the most up-to-date version of this document.

### Applications

The Passive Infrared (PIR) Accessory Covers with embedded PIR motion detectors are specifically designed to work with compatible Johnson Controls® TEC and T60x Series Equipment Controllers. These accessory covers are designed to retrofit previously installed controllers, or to serve as replacement covers.

When equipped with a PIR Accessory Cover, the controller provides advanced active occupancy logic, which automatically switches occupancy levels from Occupied to Unoccupied or Standby as required by the presence of local activity. This added occupancy sensing capability provides energy savings during occupied hours without sacrificing occupant comfort.

A PIR Accessory Cover is suited for the following applications:

- Lodging Fan Coil Unit (FCU) applications
- TEC Zoning Control System zones
- conference rooms
- classroom units
- any commercial offices that have random occupancy schedules during occupied hours, as dictated by the function of the tenant
- any controlled piece of Heating, Ventilating, and Air Conditioning (HVAC) equipment that may yield energy savings with the introduction of a new automatic standby level of occupancy

### North American Emissions Compliance

#### United States

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when this equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference, in which case the users will be required to correct the interference at their own expense.

#### Canada

This Class (A) digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe (A) respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

## Installation

**CAUTION: Risk of Electric Shock.**

Disconnect the power supply before making electrical connections to avoid electric shock.

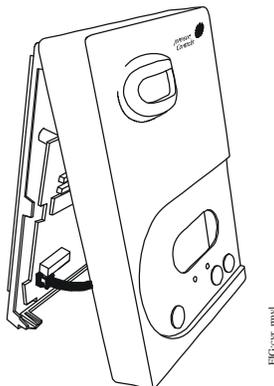
**CAUTION: Risk of Property Damage.**

Do not apply power to the system before checking all wiring connections. Short circuited or improperly connected wires may result in permanent damage to the equipment.

**IMPORTANT:** Make all wiring connections in accordance with the National Electrical Code and local regulations. Use proper Electrostatic Discharge (ESD) precautions during installation and servicing to avoid damaging the electronic circuits.

To install a PIR accessory cover:

1. Remove the security screw on the bottom of the existing controller cover.
2. Open the existing cover by pulling upward on the bottom edge of the controller cover, and remove the cover.
3. Insert the polarized connector on the bottom left corner of the PIR accessory cover into the PIR connector located on the controller base (Figure 1).



**Figure 1: Wiring to the PIR Connector on the Controller Base, and Attaching the PIR Accessory Cover**

4. Hinge the PIR accessory cover into position (Figure 1).
5. Snap the PIR accessory cover into place and reinstall the security screw.
6. Use the configuration menu to make the appropriate parameter settings related to the specific application, as identified in the controller installation instructions. See the [Configuration Parameters](#) section for more details.

The PIR motion detector may take up to 60 seconds after the initial warm-up period to detect movement consistent with the detection pattern. Blinking Light-Emitting Diodes (LEDs) located on PIR accessory cover beneath the motion detector aid in commissioning. The LEDs blink while an occupant is in the field of detection pattern for a period of 30 minutes after powerup.

### **Configuration Parameters**

When installing a PIR accessory cover on a controller, set the following configuration parameters to appropriate values: PIR Func, B11, St-By HT, and St-By CL. Each PIR accessory cover requires additional parameters to configure according to the compatible controller model (Table 1).

For further information on configuration parameter settings, refer to the appropriate installation instructions for the specific controller model.

For application information details on the PIR sequence of operation, refer to the documentation listed in Table 2.

### **Mounting**

#### **Location Considerations**

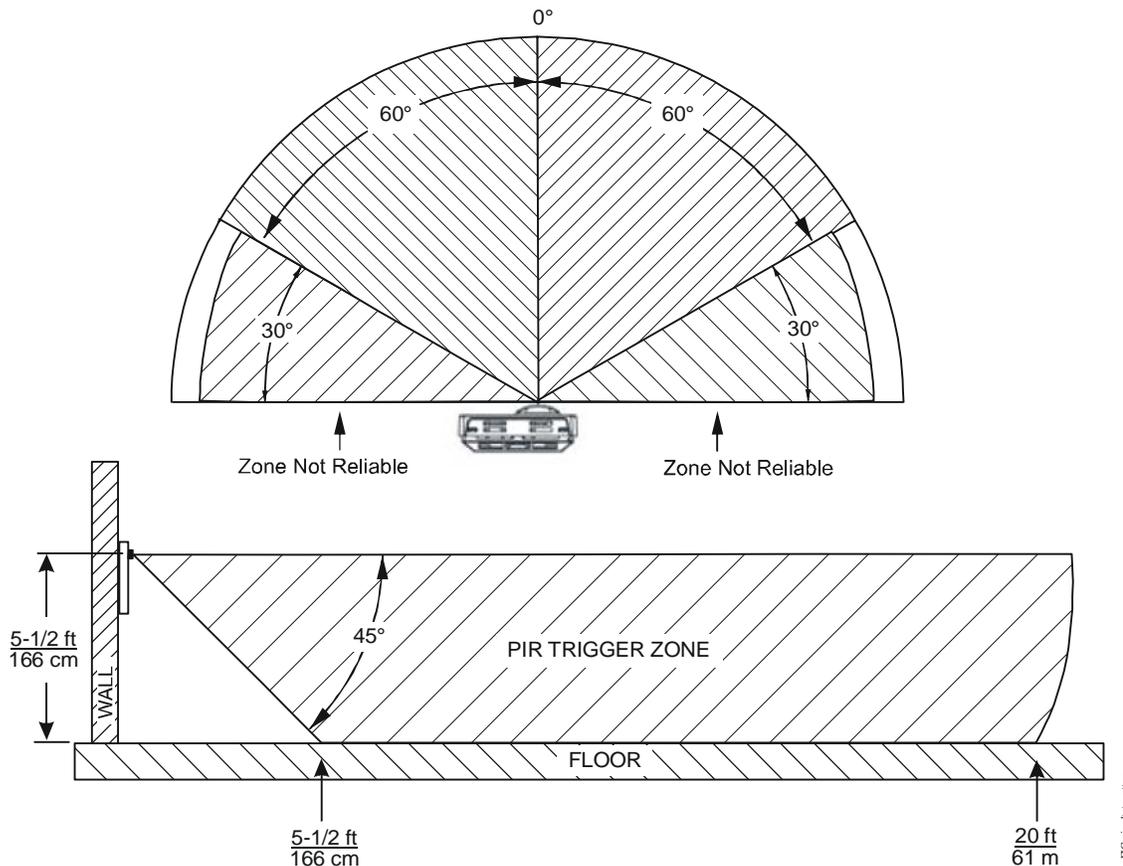
The typical detection pattern for the PIR sensor is shown in Figure 2. Consider this pattern when positioning the controller.

**Table 1: PIR Accessory Cover Code Numbers and Configuration Parameter Settings**

Code Number	Compatible Controller Series	Configuration Parameter Settings
TEC-3-PIR	T600xxx-4, T600xxx-4+PIR, T606MSx-4, T606MSx-4+PIR, TEC2x0x-4, TEC2x0x-4+PIR, TEC2613-4, and TEC2613-4+PIR	The PIR accessory cover is auto-detected. Set the Occupied Setpoints, Unoccupied Setpoints, and Unoccupied Timer (Unocc TM) to the desired comfort levels.
TEC-6-PIR	TEC20x6-2, TEC2xx6-4, and TEC2x45-4	The PIR accessory cover is auto-detected. Set the Occupied Setpoints, Standby Setpoints, Unoccupied Setpoints, Unoccupied Timer (Unocc TM), and Standby Timer (St-By TM) to the desired comfort levels.
TEC-6H-PIR	T60xDFH-4, T60xDFH-4+PIR, TEC20x6H-2, TEC2xx6H-4, and TEC2xx6H-4+PIR	
TEC-7-PIR	TEC20x7-2, TEC2xx7-4, and TEC26x7-4+PIR	
	TEC2647Z-2, TEC2647Z-2+PIR, TEC2647Z-3, and TEC2647Z-3+PIR	Set the PIR Function (PIR Func) parameter to enable PIR. Set the Unoccupied Setpoints and Standby Setpoints to the desired comfort levels.

**Table 2: PIR Application Documents**

Code Number	Document Title	Document Number
T60xDFH-4 and T60xDFH-4+PIR	<i>T60xDFH-4 and T60xDFH-4+PIR Series Thermostat Controllers with Dehumidification and Occupancy Sensing Capability Application Note</i>	LIT-12011569
TEC2x45-4, TEC2xx6-4, TEC2xx6H-4, TEC2xx6H-4+PIR, TEC2xx7-4, TEC26x7-4+PIR	<i>TEC2x45-4, TEC2xx6(H)-4, TEC2xx6H-4+PIR, TEC2xx7-4, and TEC26x7-4+PIR Series Thermostat Controllers Application Note</i>	LIT-12011594



**Figure 2: Typical Detection Pattern**

## Repair Information

If the PIR accessory cover fails to operate within its specifications, replace the unit. For a replacement cover, contact the nearest Johnson Controls representative.

## Technical Specifications

### PIR Accessory Covers

<b>Power Requirements</b>		5 VDC Maximum; Current Draw of 7 mA Supplied by the Johnson Controls TEC or T60x Series Equipment Controller
<b>Ambient Operating Limits</b>	<b>Temperature</b>	32 to 122°F (0 to 50°C)
	<b>Humidity</b>	0 to 95% RH, Noncondensing; 85°F (29°C) Maximum Dew Point
<b>Ambient Storage Limits</b>	<b>Temperature</b>	-22 to 122°F (-30 to 50°C)
	<b>Humidity</b>	0 to 95% RH, Noncondensing
<b>Motion Detector</b>		Local Passive Infrared Sensor
<b>Dimensions (Including Controller)</b>		4-15/16 in. H x 3-3/8 in. W x 1-13/32 in. D (125 mm H x 86 mm W x 36 mm D)
<b>Compliance</b>  	<b>United States</b>	UL Listed, File E27734, CCN XAPX Under UL 873, Temperature Indicating and Regulating Equipment FCC Compliant to CFR 47, Part 15, Subpart B, Class A
	<b>Canada</b>	UL Listed, File E27734, CCN XAPX7 Under CAN/CSA C22.2 No. 24, Temperature Indicating and Regulating Equipment Industry Canada, ICES-003
	<b>Europe</b>	CE Mark – Johnson Controls, Inc., declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC and the RTTE Directive 1999/5/EC.
	<b>Australia and New Zealand</b>	C-Tick Mark, AS/NZS CISPR 22 Compliant Supplier Code Number N10696
<b>Shipping Weight</b>		0.1 lb (0.05 kg)

*The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.*



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