

## DT8050A DUAL TEC® Motion Sensor with Anti-Mask - Installation Instructions

### QUICK LINKS

[Mounting Location Guidelines](#)

[Open the Sensor](#)

[Mount the Sensor](#)

[Sensor Components and Settings](#)

[Wire the Sensor](#)

[Wiring Examples](#)

[Walk Test the Sensor](#)

[Detection Patterns](#)

[Remote LED Enable](#)

[Relay Operation](#)

[Mask Condition](#)

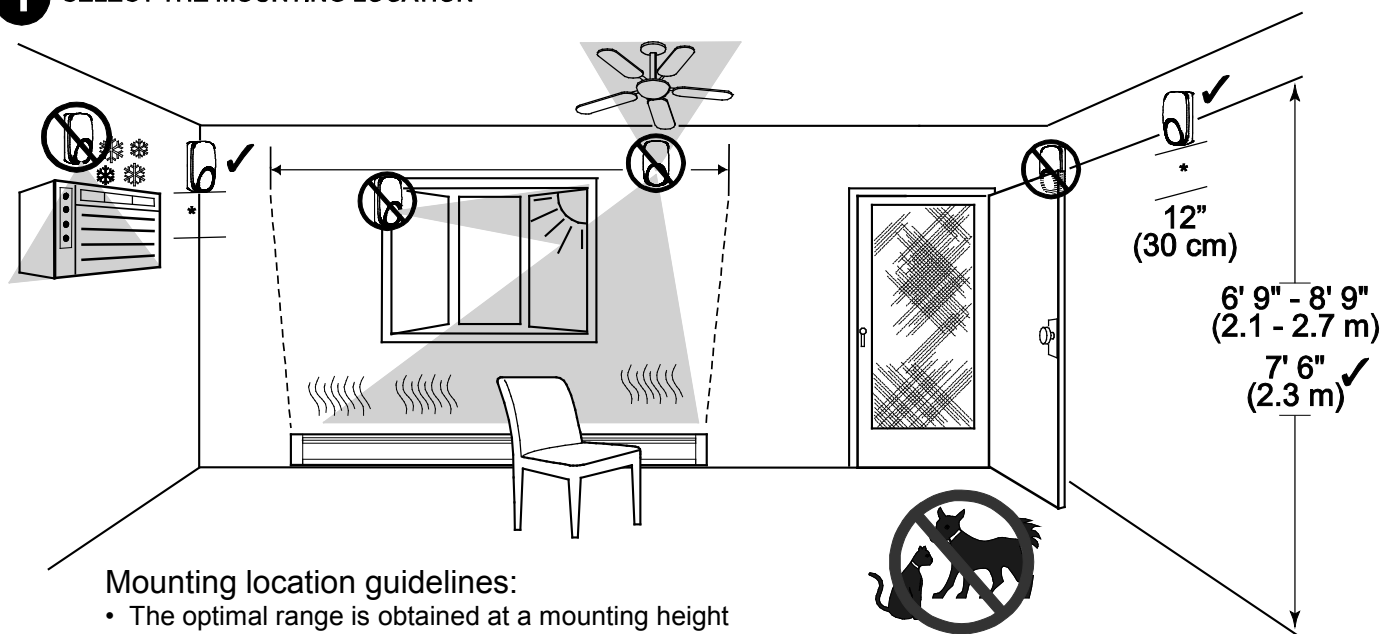
[Troubleshooting](#)

[Sensor Specifications](#)

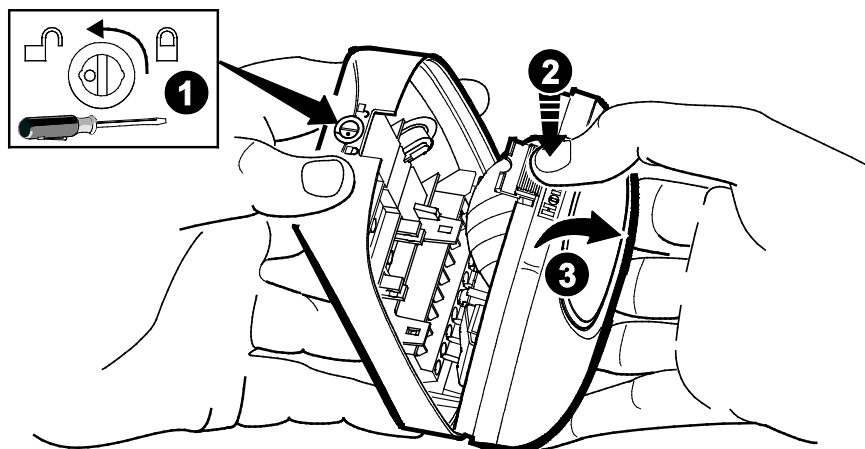
[Accessories](#)

[Approval Listings](#)

### 1 SELECT THE MOUNTING LOCATION

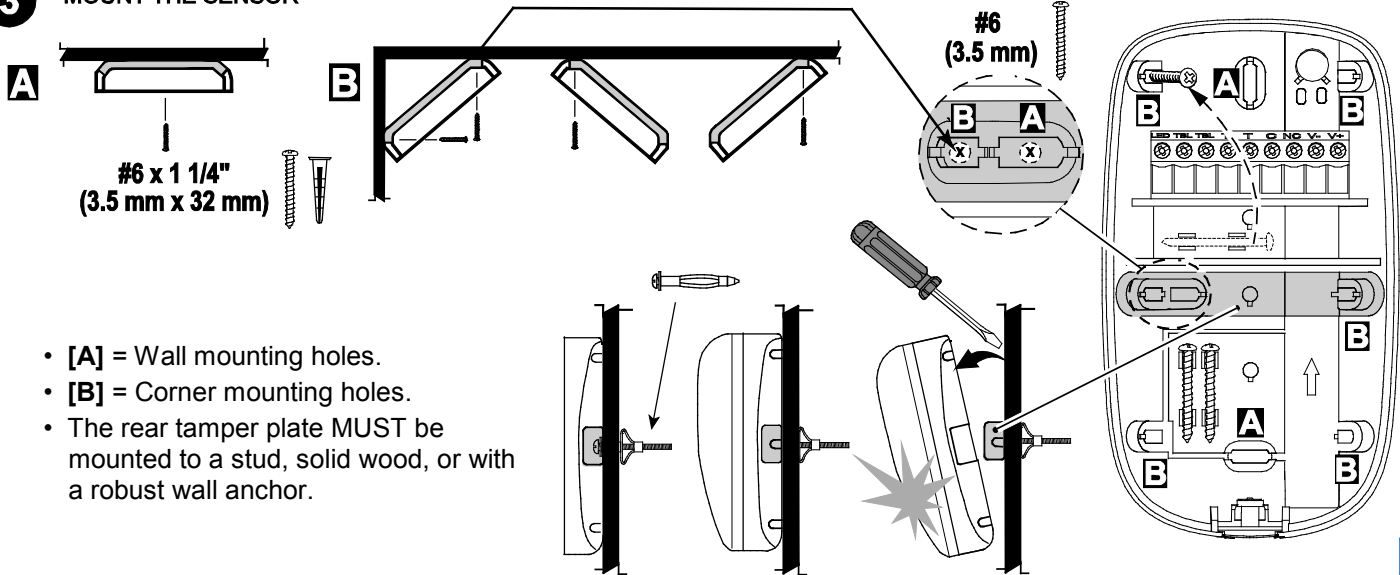


### 2 OPEN THE SENSOR



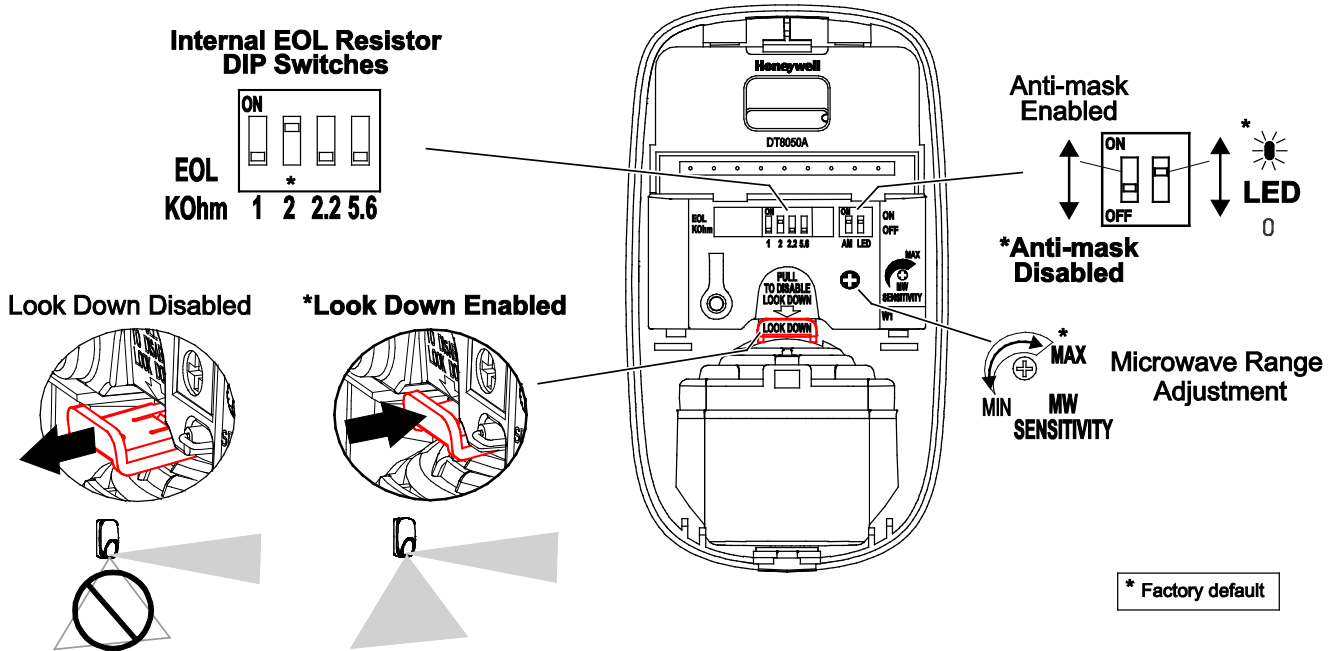
1. Turn the arrow to point to the Unlock symbol.
2. Press firmly on housing latch.
3. Gently separate the front and rear housing.

### 3 MOUNT THE SENSOR



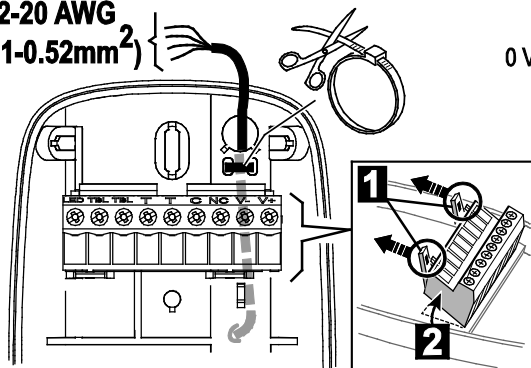
- [A] = Wall mounting holes.
- [B] = Corner mounting holes.
- The rear tamper plate **MUST** be mounted to a stud, solid wood, or with a robust wall anchor.

### 4 SENSOR COMPONENTS AND SETTINGS

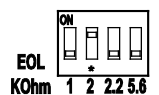
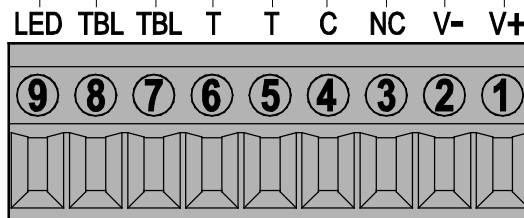


### 5 WIRE THE SENSOR

22-20 AWG  
(0.31-0.52mm<sup>2</sup>)



<b>LED</b>	<b>Trouble</b>	<b>Tamper</b>	<b>Alarm</b>	<b>Power</b>
0 VDC - V <sub>supply</sub> 1.8 mA max	30 mA 25 VDC	30 mA 25 VDC	30 mA 25 VDC	18 mA 9-15 VDC (UL:9.5-15 VDC)



See wiring details and examples on [page 3](#).

## WIRING DETAILS FOR INTERNAL EOL RESISTORS

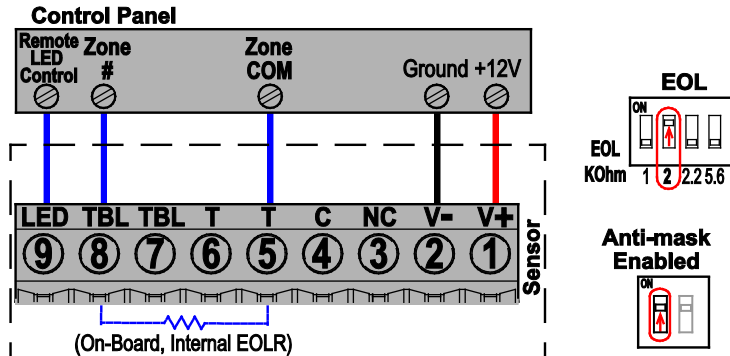
- Observe proper polarity.
- Connect the sensor to the panel (see wiring diagrams below).
- For Vista panels, set the Internal 2K EOL switch ON (factory default).

### Notes:

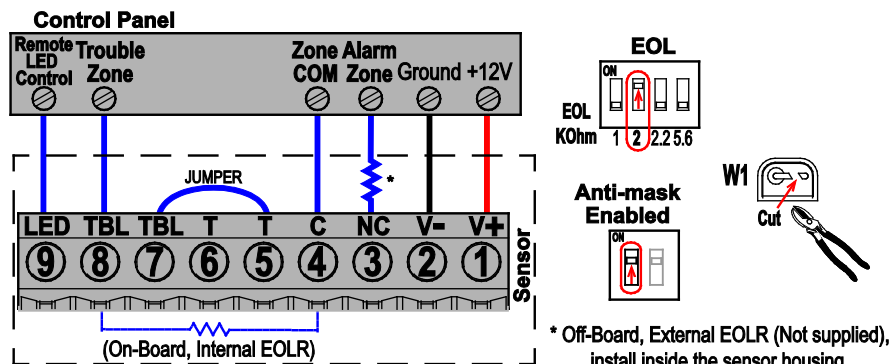
- Consult the Control Panel manual to determine proper EOL selection.
- The EOL setting must only have one switch ON.
- If not using the internal EOL resistors, set all switches to OFF.

## Wiring Examples

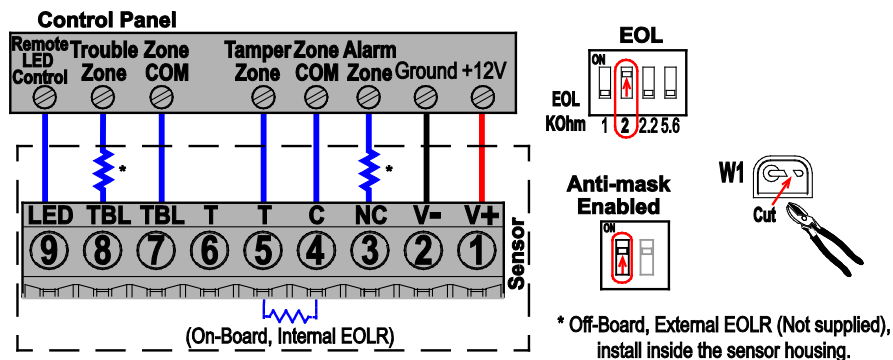
**To connect all three outputs (sensor alarm, tamper and trouble/anti-mask) to one zone input:** All alarm, tamper and trouble/anti-mask events are "alarms" when the system is armed or "fault" when disarmed.



**To connect the sensor alarm output to one zone input and the tamper and trouble/anti-mask outputs to a second zone input:** The alarm relay is wired to one zone; the tamper and trouble/anti-mask are wired to another zone; the control panel differentiates alarm conditions from tamper and trouble/anti-mask conditions.



**To connect the sensor alarm, tamper and trouble/anti-mask outputs to three separate zone inputs:** The alarm, tamper and trouble/anti-mask are each wired to a separate zone; the control panel differentiates alarm, tamper and trouble/anti-mask conditions.



## 6 WALK TEST THE SENSOR AND ADJUST AS NEEDED

LED	Power Up	Walk Test	Normal	Trouble	Anti-Mask
Red	Slow Blink	ON Alarm	ON Alarm	Fast Blink	OFF
Yellow	OFF	ON Microwave	ON Microwave	OFF	Fast Blink
Green	OFF	ON PIR	ON PIR	OFF	OFF

1. Apply power to the sensor. Initialization is complete when the LED stops flashing slowly (about 30 seconds).
2. Turn the microwave sensitivity counterclockwise to reduce the microwave range (minimum = 16.4' / 5m) and close the sensor.
3. Walk through the detection area and observe the LED.
4. Adjust the microwave range as necessary to meet installation requirements.

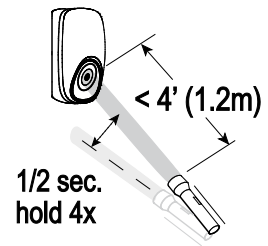
Walk test mode is active for 10 minutes, then automatically exits test mode, disables the LED and enters normal operation mode. For an additional 10 minute walk test, enable walk test mode again with the flashlight feature:

**Note:** During power up and walk test modes the LED is active regardless of the LED Enable/Disable DIP switch setting.

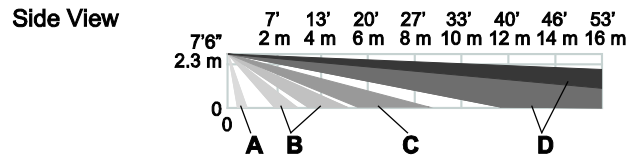
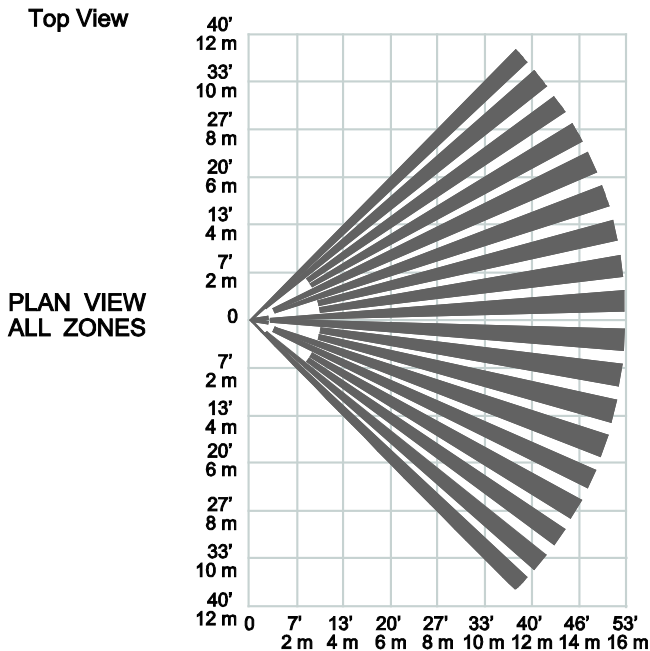
### Flashlight Feature:

1. Use a flashlight with a bright light beam, and stand within 4' (1.2 m) of the sensor.
2. Swing the light beam past the sensor IR window 3-5 times, holding the beam on the window for 0.5 second each pass.

The flashlight feature is only available for the first 24 hours after the first power up.



## 7 DETECTION PATTERNS

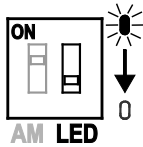


### Zones

A	2	Look-down
B	12	Lower
C	10	Intermediate
D	36	Long

## REMOTE LED ENABLE (LED INPUT)\*

The LED input terminal allows the LED to be remotely enabled. To use this feature, the LED DIP switch (switch 2) must be OFF, allowing the LED to operate based on the voltage level connected to the LED Input (see [Wiring Details](#)).



Switch 2	LED Input	LED Operation
OFF	High (+12 V)	Enabled
OFF	Low (0 V)	Disabled
ON	Low (0 V) or High (+12 V)	Enabled

## RELAY OPERATION

	SENSOR STATUS			
	Normal	Intrusion	Trouble <sup>1</sup>	Mask <sup>2</sup>
Alarm Relay	Closed	Open	Closed	Open
Trouble Relay <sup>3</sup>	Closed	Closed	Open	Open

<sup>1</sup> For information on Trouble conditions, see the [Troubleshooting](#) section.

<sup>2</sup> In a Mask condition, the Alarm and Trouble relays will activate simultaneously, and remain open until the condition has been cleared.

<sup>3</sup> In a Trouble condition, the Trouble relay will latch open until the Trouble condition has been cleared.

## MASK CONDITION

### Normal Anti-Mask Condition

The sensor uses Active Infrared (AIR) technology to detect masking. The sensor signals a mask condition when a variety of materials and reflective objects are placed within 2 inches (50mm) in front of the sensor. To avoid false mask alarms, follow the mounting guidelines shown in [Step 1](#).

### Clearing an Anti-Mask Condition

When most masking materials or objects are removed, the anti-mask condition will be cleared after several seconds. When the cause of the anti-mask condition is any type of spray or paint coating applied to the window, the window must be replaced before the anti-mask condition can be cleared. After replacing the window, perform a [walk test](#) on the sensor.

## TROUBLESHOOTING

	NORMAL	TROUBLE*		
		Mask <sup>1</sup>	Low Voltage <sup>2</sup>	Self-Test Failure <sup>3</sup>
Alarm Relay	Closed	Open	Closed	Closed
Trouble Relay	Closed	Open	Open	Open
Red LED	Off	Off	Off	Flashing
Yellow LED	Off	Flashing	Off	Off

### \*TROUBLE CONDITIONS:

<sup>1</sup> Mask condition: Sensor IR window is blocked or masked.

<sup>2</sup> Low Voltage: The sensor is disabled. [Note: If voltage drops below 7.9V, the Trouble relay will open.]

<sup>3</sup> Self-Test Failure conditions:

- Microwave supervision failure: The sensor is operating in PIR mode only.
- PIR self-test failure: The sensor is disabled.
- Temperature compensation failure: The temperature compensation is disabled.

Depending on the Trouble condition, take the following corrective actions:

- Verify the sensor is not blocked or masked.
- Verify the power supply is sufficient (at least 9V at the sensor).
- Cycle power to the sensor.
- [Walk test](#) the sensor.

If the Trouble condition does not clear, replace the sensor.

## SPECIFICATIONS

**Range:** 53' x 72' / 16 m x 22 m

**Wall Mounting Height:** 6'9" - 8'9" (2.1 m - 2.7 m); Optimal 7'6" (2.3 m)

**Power:** 9.0-15 VDC (UL: 9.5-15 VDC); 15 mA typical, 18 mA maximum; AC Ripple: 3 V peak-to-peak at nominal 12 VDC

**Alarm Relay:** Energized Form A; 30 mA, 25 VDC, 22 Ohms resistance maximum. Alarm Relay Duration: 3 seconds

**Trouble Relay:** Energized Form B; (NC) 30 mA, 25 VDC; 22 Ohms resistance maximum

**Tampers:** Cover & Wall; (NC with cover installed) Form A; 30 mA, 25 VDC

**Microwave Frequencies:** 10.525 GHz

**RFI Immunity:** 20V/m 10-1000MHz, 15V/m 1000-2700MHz

**PIR White Light Immunity:** 6,500 Lux typical

**Fluorescent light filter:** 50 Hz / 60 Hz.

**Operating Temperature:** 14° to 131° F / -10° to 55° C

**Relative Humidity:** 5 to 93% (UL tested at 93%); non-condensing

**Temperature Compensation:** Advanced Dual Slope

**Dimensions:** 4.57" H x 2.76" W x 1.69" D /

11.6 cm H x 7.0 cm W x 4.3 cm D

**Weight:** 5 oz / 142 g (net weight)

## ACCESSORIES

<b>SMB-10*</b> (P/N 0-000-110-01)	Swivel Mount Bracket
<b>SMB-10C*</b> (P/N 0-000-111-01)	Swivel Mount Ceiling Bracket
<b>SMB-10T*</b> (P/N 0-000-155-01)	Swivel Mount Bracket w/Tamper
<b>DT8-G3 IR Window Kit</b> (P/N DT8G3IRW5PK)	Replacement IR Window Kit – 5 Pack
<b>Cable*</b> (P/N 1103)	General purpose, Solid 22 AWG, 4 conductor
<b>Cable*</b> (P/N 1104)	General purpose, Stranded 22 AWG, 4 conductor
<b>Cable*</b> (P/N 1106)	General purpose, Solid 22 AWG, 6 conductor
<b>Cable*</b> (P/N 1107)	General purpose, Stranded 22 AWG, 6 conductor

\* Not evaluated by UL.

## APPROVAL LISTINGS

- FCC part 15, Class B verified
- IC ICES-003, Class B verified
- UL 639
- ULC S306-03
- SIA-PIR-01 Passive Infrared detector standard features for false alarm immunity.

Product must be tested at least once each year.

All wiring must be in accordance with: the National Electrical Code (ANSI/NFPA70); the Canadian Electrical Code, Part I (where applicable); UL681, Standard for Installation and Classification of Burglar and Holdup Alarm Systems; ULC-S302, Standard for Installation and Classification of Burglar Alarm Systems for Financial and Commercial Premises, Safes and Vaults; ULC-S310, Standard for Installation and Classification of Residential Burglar Alarm Systems; local codes and the authorities having jurisdiction.

The products are intended to be powered by a power-limited output of a UL/CUL Listed Burglar Alarm control unit, or via a Listed UL603/ULC-S318 power-limited power supply that provides 4 hours of standby power.

The sensor must be mounted indoors, within the protected premises, and on a wooden stud, solid wood or with a robust wall anchor.

**UL Notes:** All interconnecting devices must be UL Listed. The anti-mask feature has not been evaluated by UL.

#### **FEDERAL COMMUNICATIONS COMMISSION STATEMENTS**

The user shall not make any changes or modifications to the equipment unless authorized by the Installation Instructions or User's Manual. Unauthorized changes or modifications could void the user's authority to operate the equipment.

#### **CLASS B DIGITAL DEVICE STATEMENT**

This equipment has been tested to FCC requirements and has been found acceptable for use. The FCC requires the following statement for your information:

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna until interference is reduced or eliminated.
- Move the radio or television receiver away from the receiver/control.
- Move the antenna leads away from any wire runs to the receiver/control.
- Plug the receiver/control into a different outlet so that it and the radio or television receiver are on different branch circuits.
- Consult the dealer or an experienced radio/TV technician for help.

#### **INDUSTRY CANADA CLASS B STATEMENT**

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

#### **FCC / IC STATEMENT**

This device complies with Part 15 of the FCC Rules, and RSS210 of Industry Canada. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme à la partie 15 des règles de la FCC & de RSS 210 des Industries Canada. Son fonctionnement est soumis aux conditions suivantes: (1) Cet appareil ne doit pas causer d'interférences nuisibles. (2) Cet appareil doit accepter toute interférence reçue y compris les interférences causant une réception indésirable.

For the latest documentation and online support information, please go to:

<http://www.security.honeywell.com/hsc/resources/MyWebTech/>

For the latest U.S. warranty information, please go to: [www.honeywell.com/security/hsc/resources/wa](http://www.honeywell.com/security/hsc/resources/wa) or

Please contact your local authorized Honeywell representative for product warranty information.

