

## Radio Frequency Transmitter, Battery Powered, Wall Mounted Passive Infrared (PIR) Sensor, Release 1.1

**Note:** This module must be “Included in the Network” **only where it will be permanently installed.** The proper operation of this node in the mesh network is dependent on it knowing its location with respect to other nodes. You cannot “test bench” configure this module.



Shown with supplied wall mount bracket



39 foot (12 m) range, 110 degree coverage with convex honeycomb hemispherical infrared lens

### ZIR010 WALL MOUNTED SENSOR

The ZIR010 Wall Mounted Sensor is a component of the HomePro lighting control system. Inclusion of this Wall Mounted Sensor on the ZTH200 Wireless Controller menu allows remote turn-on of HomePro receivers and their connected lighting when the ZIR010 is triggered. Z-Wave nodes of other types can be added to the system and will also act as repeaters if they support this function of repeating the signal received to other modules in the system.

There are no field repairable assemblies on this unit. If service is needed, the unit must be returned where purchased.

**CAUTION!** Read and understand these instructions before installing. For indoor use only. Retain instructions for future use.

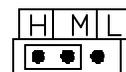
### INSTALLATION

#### Battery Installation and Sensitivity Selection

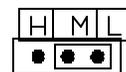
1. Remove the screw from the bottom of the enclosure.
3. Select the sensitivity setting preferred for the ZIR010 by setting the corresponding jumpers on the electronic module.

Note that H option is the highest sensitivity while the L option is the lowest. See Figure 1.

4. Install the four AAA batteries into the ZIR010.



Set High



Set Medium



Set Low (Remove jumper or put on one pin only)

Fig. 1

#### Mounting Location

The ZIR010 is designed for indoor use. It should not be mounted near large metal objects or on metal surfaces. It should be mounted on a wall or in a corner at a height of approximately 6.5 to 8.2 feet (2 to 2.5 meters) for the best general coverage in an average room.

The detector has been designed to avoid false alarms, nevertheless, it is best to avoid looking directly at sources of heat such as fires and boilers, and always try to keep away from a window.

The ZIR010 can be positioned across from a radiator but not placed above one. Do not mount the ZIR010 where its field of view may be obstructed (e.g. by curtains).

## Mounting the Detector

1. Hold the provided mounting bracket in the location you want to mount the ZIR010. Mark the wall (or ceiling) where the two screw holes will be drilled.
2. Complete the following two steps if mounting in drywall, if there is no stud (or joist).
  - a. Drill a pilot hole of 11/64".
  - b. Tap the provided wall anchors into the wall (or ceiling).
3. Screw the mounting bracket to the wall (or ceiling) with the screws provided.
4. Snap the ZIR010 onto the bracket.
5. Adjust the vertical pattern angle per figure 2, if desired.

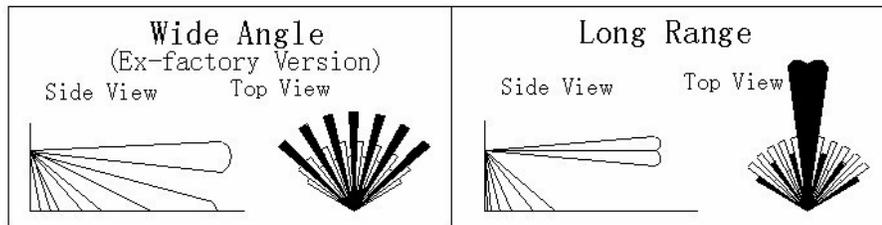


Fig 2

LENS can be adjusted to suit your needs by simply rotating the angle of the lens 180° to change from wide angle version (Default setting) to long range version if required. The number of detection zones will change between wide angle and long range.

### **WIDE ANGLE** (Default Setting)

Angle: 105° x 110°

Distance: 39 feet (12 meters)

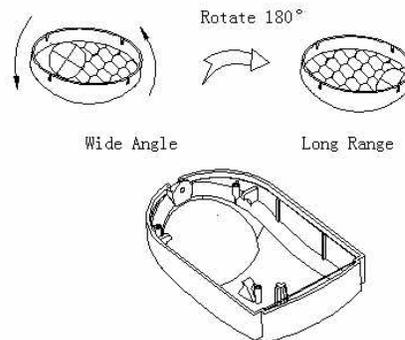
Zone Number: 64

### **LONG RANGE** (Default Setting + 180°)

Angle: 5° x 5°

Distance: 46 feet (14 meters)

Zone Number: 8



## ADD TO NETWORK

**ZIR010 must be installed in its permanent location.** To include or exclude the ZIR010 from the Z-Wave network, press the brown button marked "button" (inside) when prompted by a Z-Wave controller. For ZIR010 to work properly over longer distances (i.e. communicate via more nodes), add it to the network after you have added all other non-battery operated devices. Now replace the cover and screw. The ZIR010 will stay "awake" for ten minutes when power is first applied to allow time for configuration.

The ZIR010 can be configured to operate in 1 of 3 modes.

Those modes are:

- Lighting Mode (factory default)
- Alarm Mode
- Sensor Mode

To change the mode of operation:

**For Lighting Mode:** Send a value of 0 to Configuration Parameter #17.

**For Alarm Mode:** Send a value of 1 to Configuration Parameter #17.

**For Sensor Mode:** Send a value of 2 to Configuration Parameter # 17.

Refer to your controller instructions on how to set Configuration parameters.

## ADDING CONTROL OF Z-WAVE ENABLED DEVICES (ASSOCIATING)

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To associate control of Z-Wave enabled devices to one of the three groups in your ZIR010 refer to your controller instructions. **Those devices must be installed in their permanent location.** If using a HomePro ZTH200 it will probably ask you to select a group within the Association menu, in this case group One, to start. You can include up to 5 Z-Wave devices to that group.

When you press the button on the device to be associated to a group in the ZIR010, the controller may ask you to *include* or *press the button* on the “source node”, or the “controlling node”. If so push the button under the cover on the ZIR010 marked “button” once to include each device.

### Group 1

If the ZIR010 is configured to operate in **Lighting Mode**, any device that is associated into Group 1 will be sent ON and OFF commands. See *OFF/IDLE command section below for how to configure the length of a delay before an OFF command is sent\**.

If the ZIR010 is configured to operate in **Alarm Mode**, any device that is associated into Group 1 will be sent an ALARM command when the ZIR010 detects motion.

If the ZIR010 is configured to operate in **Binary Sensor Mode**, any device that is associated into Group 1 will be sent an update whenever the ZIR010 detects motion or stops detecting motion.

\* See *OFF/IDLE command section below to configure the length of a delay before an OFF command is sent.*

### Group 2

If the ZIR010 is configured to operate in **Lighting Mode**, any device that is associated into Group 2 will be sent ON commands when the housing of the ZIR010 is opened.

If the ZIR010 is configured to operating in **Alarm Mode**, any device that is associated into Group 2 will be sent an Alarm command when the housing of the ZIR010 is opened.

If the ZIR010 is configured to operate in **Binary Sensor Mode**, any device that is associated into Group 2 will be sent an update when the housing of the ZIR010 is opened.

### Group 3

Any device that is associated into Group 3 will be sent battery level indications at specific intervals. There can be up to 5 devices associated into each group.

## OTHER SETTINGS

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**OFF/IDLE** (*Applicable only when the ZIR010 is configured for Lighting or Binary Sensor Mode*).

The ZIR010 will consider there to be “No Activity” after 2 minutes passes during which the ZIR010 detected no motion. At that point, the ZIR010 can be configured to immediately send the OFF or IDLE command or it can be configured to send it from 1 minute to 255 minutes later. (+/- 1 minute).

### CONFIGURING THE OFF/IDLE DELAY

The ZIR010 has a number of configuration parameters. The configuration parameter that can be used to adjust the amount of delay before the OFF or IDLE command is transmitted is Configuration Parameter # 18. This parameter can be configured with the value of 0 through 255. Where 0 means no delay and 255 means 255 minutes of delay.

### BATTERY LEVEL

The level of the battery will report a “good” level until it reaches a level where the ZIR010 will not work reliably unless the battery is changed. The battery level is typically sent from the ZIR010 every 4 hours to any device that is associated into Group 3.

## ADVANCED OPERATION

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The following information is for someone that has some experience setting up a Z-Wave system or someone that has computer software running a Z-Wave controller.

### DISABLING THE ZIR010 FROM SENDING COMMANDS UNSOLICITED

The ZIR010 can be disabled from sending commands unsolicited without removing associated devices by setting Configuration Parameter # 19 to 0 (when asked for number of bytes, select 1). Setting it back to 1 will re-enable the ZIR010.

## WAKEUP COMMAND CLASS

The ZIR010 will send a Wakeup Notification Command approximately 3 minutes after power up IF and only IF it has been included into a Z-Wave network. From that point on, the ZIR010 will wake up every 4 hours and re-send the Wakeup Notification Command unless configured for another time interval. The ZIR010 will stay awake by default for 30 seconds and then go back to sleep to conserve battery life.

The time interval between Wakeup Notification Commands can be adjusted if you have a device that supports this. Refer to that device's instructions.

The time the ZIR010 stays awake can be adjusted from 15 seconds to 45 seconds by sending a value of 15 to 45 to the ZIR010 using Configuration Parameter # 22 (when asked for the number of bytes, select 1). This awake time period starts over every time the ZIR010 receives a command or request.

## INTEROPERABILITY WITH Z-WAVE™ DEVICES

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A Z-Wave™ network can integrate devices of various classes, and these devices can be made by different manufacturers. The ZIR010 can be incorporated into existing Z-Wave™ networks.

The "button" inside the cover of the ZIR010 can be used to carry out inclusion, association, or exclusion.

## SPECIFICATIONS

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Power	Four (4) AAA batteries
Mounting	Mounting bracket provided
Signal (Frequency)	868.42 MHz
Range	Up to 100 feet (30.48 meters) line of sight between the Wireless Controller and /or the closest HomePro Receiver Module
Mounted Dimensions (H x W x D)	4.125" x 2.6" x 3.10" (10.47cm x 6.6cm x 7.8 cm)

## WARRANTY

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For warranty and general product information visit our web site at [www.act-solutions.com](http://www.act-solutions.com)