



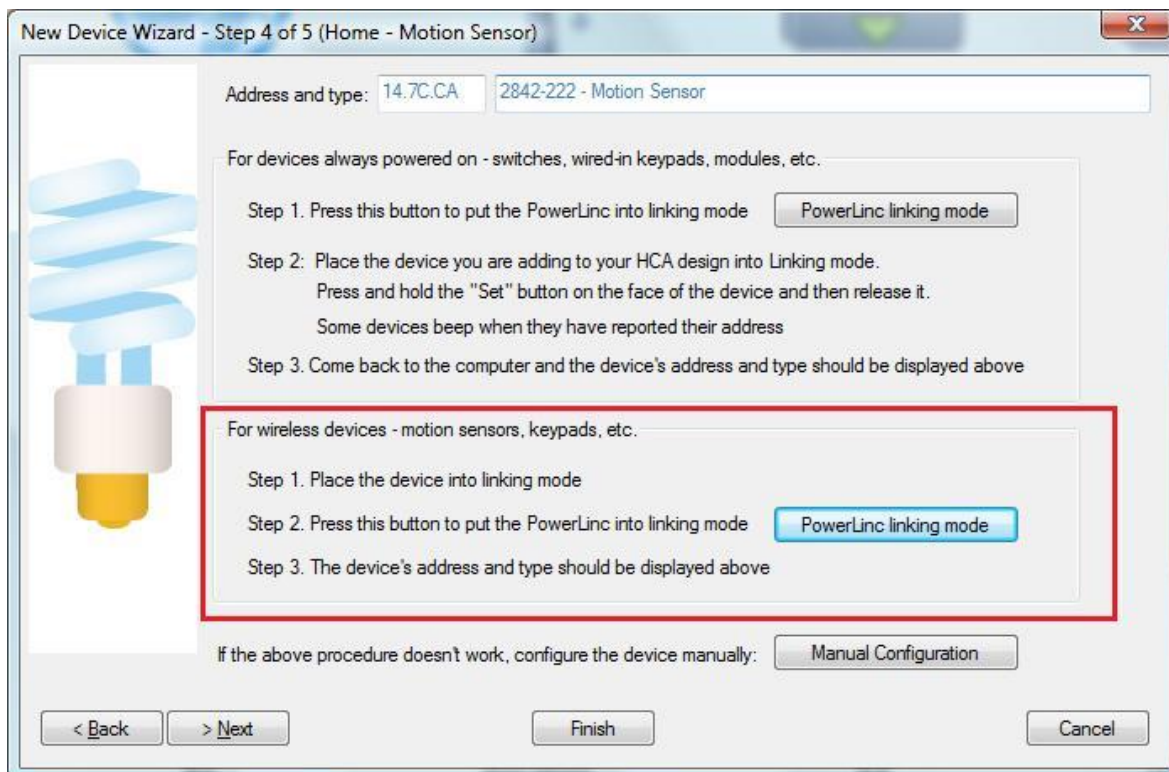
# HCA Tech Note 208

## Working with the Insteon Motion Sensor

<http://www.smarthome.com/insteon-2842-222-wireless-motion-sensor.html>

Using the Motion Sensor with HCA starts by adding it to your design. You need to be able to access the "Set" button on it to establish a link to it. The set button is behind the back cover where the battery goes.

In the Add Wizard on step 3 choose "Insteon" as the manufacturer and then press the Next button. In step 4 before pressing the dialog button to put the PowerLinc into linking mode, place the device into linking mode by pressing and holding its set button until it enters linking mode. Then press the PowerLinc button in the dialog to complete the link.



Insteon devices send commands that HCA receives. These commands are things like On, Off, Fade Start, Fade Stop, Status, etc. The message, in addition to the command, contains what is called the "group number". A group number is just a method by which the message identifies the source of the command from the possible subunits of the device. For a keypad, the group numbers are used to identify which button pressed. For other devices, the group numbers identify a specific sub-unit. In the case of this device there are several different groups. You just have to know – using the table below – what group does what.



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When you create a trigger in HCA you specify the device, the group, and the command. When a message is received that matches all three of these then the trigger happens and the program starts.

The Motion Sensor makes these transmissions:

Group 1: Motion – ON when seen, OFF when no motion after the timeout

Group 2: Day/Night – ON when night and OFF when day

Group 3: Low Battery

Group 4: Heartbeat (new models)

Unlike other wireless sensors there is no periodic one-a-day message to tell you the device is alive although in most cases you can use the group 2 (Day-Night) for this purpose (unless the device is in some always dark area).

Before HCA can receive the groups 2 & 3 reports they first must be linked. **First, place the motion sensor into linking mode so that it is listening**, and then on the linking tab press the group buttons to create the link. The linking button shows "HCA" if it is already linked.

Name Notes Room Type Insteon Options Linking Triggers Restart Icon Display Key Names Log Groups

**Insteon Input → HCA** Device initiates the linking and once complete the device sends commands that HCA can use as program triggers

When you link an Insteon input - like a keypad button - to a device, the device is controlled when the input transmits. In this same way, you can link an input to HCA. When the input transmits, HCA receives the Insteon message and you can use the receipt of the message as a trigger for a program.

To link an input to HCA, press the button on the right you want to link and follow any directions

HCA  
HCA  
HCA

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Once linked, then you can create program triggers for the events you want to handle. Here are two examples, the first to turn on lights when motion is detected and the second a program to trigger on the low battery message.

To start a program on motion, you want to trigger on the Group 1 message. Create a trigger like this:



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Trigger

Trigger Type: Insteon Message

Start the program on this trigger:  
When Home - Motion Sensor sends On by group 1

Device sending command  
Dev: Home - Motion Sensor

Component: group 1

Command

On  Fast On  
 Off  Fast Off  
 Dim  
 Bright  
 Fade Start  
 Fade Stop  
 All On  
 All Off

OK Cancel

After you close the trigger creation dialog with OK, the trigger is listed:

"Home - Stairway Motion" Properties

Name Notes Triggers Visual Programmer Advanced Restart Icon Display Log Schedule References

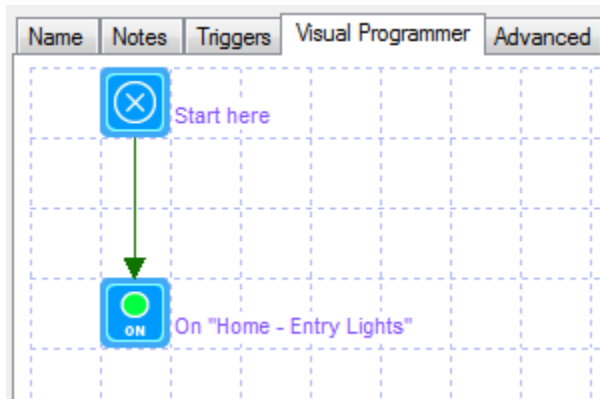
Start the program on any of these triggers:

Trigger	Edit	Delete
▶ When Home - Motion Sensor sends On by group 1	Edit	Delete

Then in the body of the program create what you want to have happen:



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This is a very simpler example that you could easily do with manual linking of the motion sensor and the Insteon device. But you could expand this program to check the time of day and control the light to different levels instead of just ON.

When the motion sensor triggers, the log shows the action:

Inst	9/25/2017 6:59:11 AM	Insteon(5)	ON	0A.40.13	Home - Motion Sensor	Group: 1
Pgm	9/25/2017 6:59:11 AM				Home - Stairway Motion	Start here
Pgm	9/25/2017 6:59:11 AM				Home - Stairway Motion	On "Home - Entry Lights"
Inst	9/25/2017 6:59:11 AM	Insteon(5)	ON	0C.C9.A5	Home - Entry Lights	
Pgm	9/25/2017 6:59:11 AM				Home - Stairway Motion	Exit

For the second example, trigger on the “low battery” message – group 3:

Trigger	Edit	Delete
▶ When Home - Motion sends On by group 3	Edit	Delete

Then in the program it could send you a SMS or email saying it is time to replace the battery.

Note: We have found that the low battery message isn't 100% reliable. When the battery gets low it might already have reduced power enough so the range of its transmitter has dropped. Because of that, we recommend that you use the Overdue Device Alert to watch for daily transmissions. Because of the day/night



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messages the device should be heard from twice each 24-hour period. You can raise an alert if the device isn't heard from over two days.

Configuring the overdue time of two days rather than a single day handles the case of a missed message.

**Alert Frequency**

Configuration for alert:

Disable this Alert

When this alert occurs:

... Create an alert log entry

... and show the troubleshooter alert level Yellow after  occurrences then Red after  occurrences

... and start this program

... and clear the alert count

Device Selection

Home - Entry Lights	-->	Home - Motion Sensor
Home - Lights	<--	
	>>	
	<<	

Alert if no reception in:  days  hours  minutes