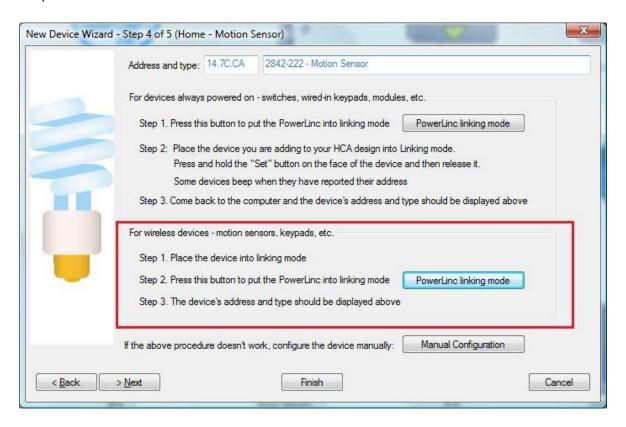# HCA Tech Note 208

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 <u>before</u> 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.

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:

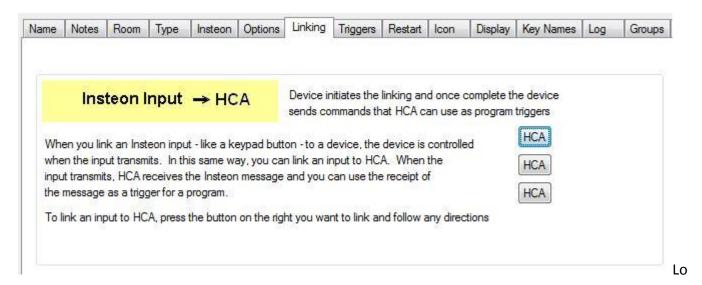Group 1: Motion – ON when seen, OFF when no motion after the timeout
Group 2: Day/Night – ON when night and OFF when day
Group 3: Low Battery
Group 4: Heartbeat (new models)

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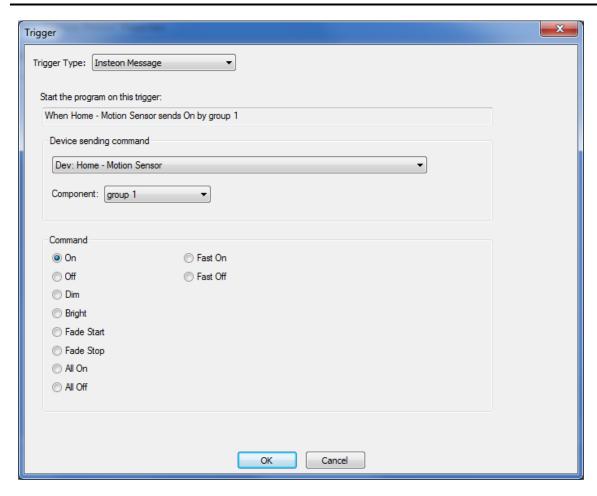
Before HCA can receive the groups 2 & 3 reports they first must be linked. **First, place the motion sensor into linking mode so that it is listening**, and then on the linking tab press the group buttons to create the link. The linking button shows "HCA" if it is already linked.
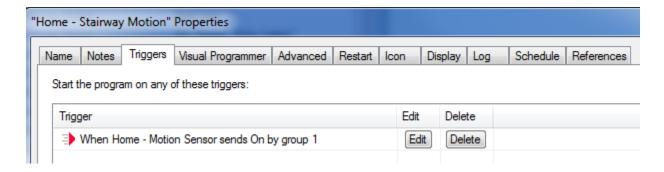

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Once linked, then you can create program triggers for the events you want to handle. Here are two examples, the first to turn on lights when motion is detected and the second a program to trigger on the low battery message.

To start a program on motion, you want to trigger on the Group 1 message. Create a trigger like this:
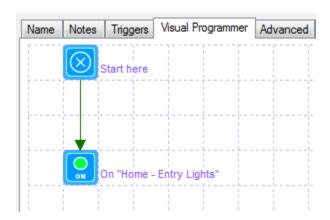
After you close the trigger creation dialog with OK, the trigger is listed:

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

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:

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

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.