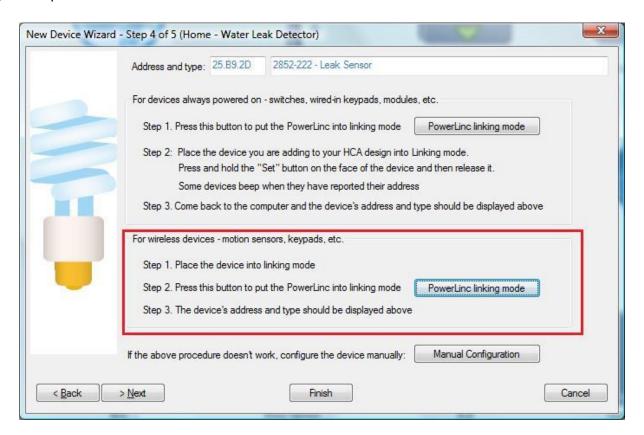# HCA Tech Note 205

Working with the Insteon Water Leak Detector
http://www.smarthome.com/insteon-2852-222-water-leak-sensor.html

Using the Water Leak Detector 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 on the top of the device.

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.

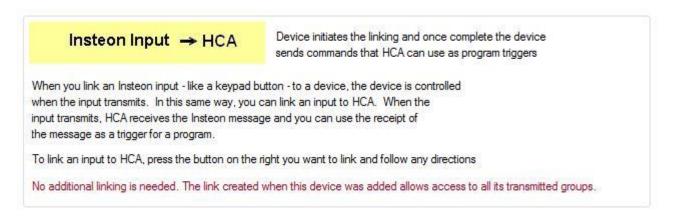The Hidden Door Sensor makes these transmissions:

Group 1: Button pressed when in "dry" state
Group 2: Button pressed when in "wet" state or detected "wet"
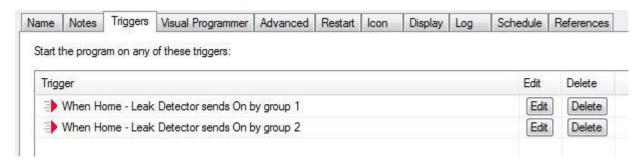Group 3: (Not used)
Group 4: Periodic notification so you know it is alive. Reports approximately once a day.

Unlike some of the other wireless sensors no additional linking is needed to have HCA receive the group 1, 2, and 4 messages.

Once added to the design you can create program triggers for the events you want to handle. For example this program triggers on the dry and wet messages.
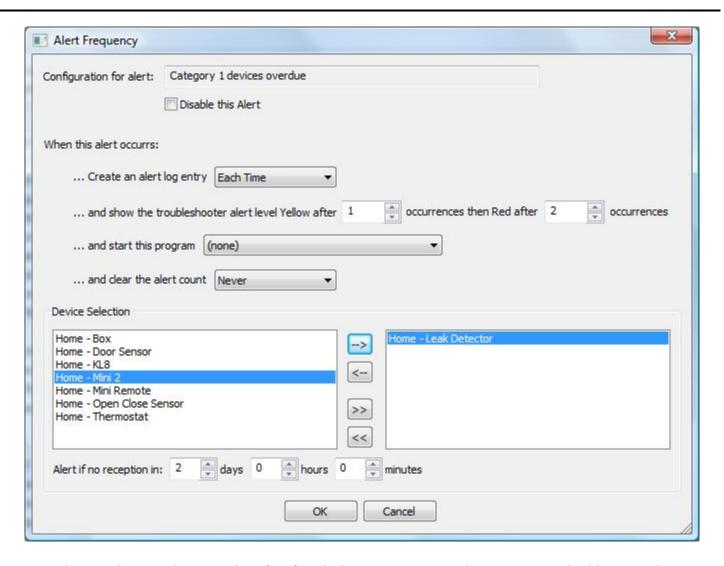

Two important points:

If the device detects "wet" it sends the group 2 message <u>every few minutes and does not stop</u> until you press the "set" button. If you create a program that, for example, sends you a SMS message upon receipt of a Group 2 message you will receive many of these messages until you reset the device. A better implementation is to have the program start off by testing a flag to see if the "wet" message was already delivered and if so the program can terminate. If not, it can send the SMS message and set the flag. Create a second program that triggers on the "dry" message to clear the flag.

HCA records the state of each group – on or off – as part of the runtime state of devices and you can test their state using the Visual Programmer Test element. This is useful for devices like keypads to see if the button is on or off. But testing of the state of group 1 or 2 doesn't yield useful data. If the device detects a "wet" condition then group 2 will be "on". Once you reset the detector group 2 will still be "on" as the reset sends a ON to group 1 and not an OFF to group 2.

You can configure the Overdue Device Alert to watch for the group 4 messages and raise an alert if the device isn't heard from over two days. Configuring the overdue time of two days handles the possibilities of a missed message.
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You can also use the Visual Scene Editor (VSE) with this sensor. Using the VSE you can build scenes that are controlled by the sensor and control Insteon receivers (switches, KeypadLinc LEDs, output devices). When using the HCA VSE, the programming pauses when the scene contains a wireless device to give you time to place it into linking mode so its receiver is on and can then receive the programming commands.