InHome™

Water Leak Detection Package
For Model Numbers ILD10A-L and ILD10A-B

Installation Guide / Wiring Diagram
For Creating Water Leak Detection-based Events
with Line-Powered or Battery-Powered Sensors
In Control4® Home Automation Projects

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Package Contents
The Card Access™ InHome™ Water Leak Detection Packages (model numbers ILD10A-L, ILD10A-B) are “all-in-one” solutions including everything Control4 Dealers need to monitor for water leaks in a Control4-automated home. The InHome Water Leak Detection Package is available in two configurations:

- InHome Water Leak Detection Package - Line-Powered Version (model number ILD10A-L)
- InHome Water Leak Detection Package - Battery-Powered Version (model number ILD10A-B)

Along with the Installation Guide (the instructions and wiring diagrams for installing the Contact Switch and respective liquid detection sensors), the Card Access InHome Water Leak Detection Packages include the following equipment:

<table>
<thead>
<tr>
<th>The Line-Powered Version (model number ILD10A-L) includes:</th>
<th>The Battery-Powered Version (model number ILD10A-B) includes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) InHome Wireless Contact Switch</td>
<td>(1) InHome Wireless Contact Switch</td>
</tr>
<tr>
<td>(2) AA batteries</td>
<td>(2) AA batteries</td>
</tr>
<tr>
<td>(1) InHome North American 12V DC External Power Supply</td>
<td>(1) G.R.I. 2826FS including:</td>
</tr>
<tr>
<td>(1) G.R.I. 2600T including:</td>
<td>(1) battery-powered relay switch</td>
</tr>
<tr>
<td>(1) line-powered relay switch</td>
<td>(2) leak detection probes</td>
</tr>
<tr>
<td>(2) leak detection probes</td>
<td>(1) custom battery module</td>
</tr>
<tr>
<td>Installation Guide/Wiring Diagram</td>
<td>Installation Guide/Wiring Diagram</td>
</tr>
</tbody>
</table>

The key Card Access component in both InHome Water Leak Detection Packages is the Control4 Certified InHome Wireless Contact Switch. The InHome Wireless Contact Switch operates on either two AA batteries or a low-voltage power supply (included in the InHome Water Leak Detection Package - Line-Powered Version). This single, small device combines up to three contact switches, two temperature sensors, and—when line-powered—a ZigBee™ (IEEE 802.15.4) repeater.

!!! NOTE !!!: The Card Access InHome Wireless Contact Switch included in this Package runs for one year (on average) when running on two AA non-rechargeable alkaline or lithium batteries. It also provides Battery Low and Battery Critical values in the form of variables for use in the Control4 home automation system for programming events, dealer or homeowner e-mail notification of battery states, etc.
Key Differences in Line-Powered and Battery-Powered Versions

InHome Water Leak Detection Package - Line-Powered Version (Card Access Model No.: ILD10A-L)
The InHome Water Leak Detection Package - Line-Powered Version includes the G.R.I. 2600T 12 Volt DC Water Sensor. The 2600T used in conjunction with the InHome Wireless Contact Switch can detect and report the presence of water and provide a relay output for signal or control events in the Control4 home automation system. The sensor operates on 12 Volts DC and functions as a Normally Closed Sensor for a Closed Loop system. The G.R.I. 2600T provides a method of detecting water in difficult to monitor locations, such as under carpets, hot water tanks, washing machines, and drop ceiling panels, etc. One or more sensor probes can be mounted in various locations around the area to be monitored, and the probe wires are run to the terminal screws on the 2600T.

Figure 2 – The ILD10A-L’s Line-Powered Water Sensor:
The G.R.I. 2600T 12 Volt DC Water Sensor

!!! NOTE !!!: G.R.I. 2600T 12 Volt DC Water Sensor

has four wires. All four of the wires must be connected to the InHome Wireless Contact Switch for proper function. The wire connections are documented in the table to the right of this text:

<table>
<thead>
<tr>
<th>Lead Color</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>+12 volts DC</td>
</tr>
<tr>
<td>Black</td>
<td>Ground</td>
</tr>
<tr>
<td>Green</td>
<td>Relay Contact</td>
</tr>
<tr>
<td>White</td>
<td>Relay Contact</td>
</tr>
</tbody>
</table>

!!! NOTE !!!: G.R.I. 2600T 12 Volt DC Water Sensor

operates on 12 Volts DC. The Red wire is connected to the positive side of the auxiliary 12 volt supply and the Black wire is connected to the negative. The power requirements are documented in the table to the right of this text:

<table>
<thead>
<tr>
<th>Power Requirements</th>
<th>Power Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Voltage</td>
<td>+12 volts DC</td>
</tr>
<tr>
<td>Operating Current</td>
<td>10 mA</td>
</tr>
<tr>
<td>Max Power</td>
<td>.35 VA</td>
</tr>
</tbody>
</table>
The InHome Water Leak Detection Package - Battery-Powered Version includes the G.R.I. 2826FS Liquid Level Detector. Use the battery-powered version of the InHome Water Leak Detection Package in remote or hard to reach locations where there is no viable low-voltage power source. The 2826FS sensor used in conjunction with the InHome Wireless Contact Switch can detect and report the encroachment of non-volatile liquids into an isolated sensitive location and provide signal or control events to the Control4 home automation system. Relay contacts are latched in an open or closed position based on the conductivity measured between the sensors. One or more sensor probes can be mounted in various locations around the area to be monitored, and the probe wires are run to the terminal screws on the 2826FS.

Figure 3 – The ILD10A-B’s Battery-Powered Water Sensor:
The G.R.I. 2826FS Liquid Level Detector

!!! NOTE !!!: G.R.I. 2826FS Liquid Level Detector includes a battery-powered relay switch and two (2) probes. The device’s contact ratings are documented in the table to the right of this text:

<table>
<thead>
<tr>
<th>Contact Rating Parameter</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Switching Power</td>
<td>250mW</td>
</tr>
<tr>
<td>Max Switching Voltage</td>
<td>30VDC</td>
</tr>
<tr>
<td>Max Switching Current</td>
<td>500mA</td>
</tr>
<tr>
<td>Max Number Sensor Probes</td>
<td>10</td>
</tr>
<tr>
<td>Max Wire Length for Detector to Probe</td>
<td>100 ft.</td>
</tr>
</tbody>
</table>

The 2826FS has an on-board battery with a useful life of approximately four years, and has fail safe capabilities to notify the homeowner when the on-board battery is depleted.

!!! WARNING !!!: Unlike the InHome Wireless Contact Switch, the 2826FS’s on-board battery fail safe mode does NOT provides Battery Low and Battery Critical values in the form of variables for use in the Control4 home automation system for programming events, dealer or homeowner e-mail notification of battery states, etc.

Instead, when the 2826FS’s on-board battery expends the last of its power (three to five years under normal conditions), the 2826FS automatically places itself in a safe mode to help prevent danger to devices, property and/or people.

This fail safe mode sends a continuous contact event to the InHome Wireless Contact Switch. The InHome Wireless Contact Switch does NOT receive a different signal from the 2826FS in this fail safe mode, so it will see this fail safe mode state as a leak event (as you have programmed in the system). The intent is to cause the homeowner and/or installer to physically inspect the 2826FS and replace the battery to resume normal operation.
Introduction
Water leaks generate more home insurance claims than fires, storms or thefts. In a Control4-automated home, the Card Access™ InHome™ Water Leak Detection Package (model numbers ILD10A-L, ILD10A-B) delivers an all-in-one solution that makes it quick and easy to add water detection equipment and events to a Control4 system.

Easy Installation
The InHome Water Leak Detection Package is designed for quick installation with high reliability. The Card Access InHome Wireless Contact Switch installs quickly. The two water leak sensor options from G.R.I. install easily and are then connected to the InHome Wireless Contact Switch. An entire automation package can easily be installed by experienced installers in as little as 30 minutes.

Applications
There isn’t much worse than arriving home and finding a basement full of water from a broken pipe or a failed sump pump. Now the InHome Water Leak Detection Package from Card Access eliminates this worry for Control4-automated homeowners. When used in Control4 systems, homeowners can monitor their homes for water leaks from miles away.

Use the InHome Water Leak Detection Package in primary and secondary residences (cabins, for example) under kitchen sinks, water chillers, ice makers, garbage disposals, dishwashers, bathroom sinks, toilets, washing machines, water beds, water heaters, water supply and return lines, drains prone to clogging, basement foundation walls, air conditioners, aquariums, indoor water features, skylights, operable windows, sliding glass doors, and drip pans to mention just a few.

Control4 Compatibility

!!! NOTE !!!: The InHome Water Leak Detection Packages have been tested and are designed to work with Control4 Software version 1.3.2. All necessary drivers for the Package are included in this Control4 version.

Water Leak Detection Event Wiring Diagrams
As there are two InHome Water Leak Detection Package two configurations (Line-Powered and Battery-Powered), the following diagrams are configuration dependent. Follow the steps below for the specific Package you are installing.

InHome Water Leak Detection Package - Line-Powered Version
To install the needed hardware to support automation events around a water leak, please complete the following steps while referring to the diagram in Figure 4 below.
1. Add one InHome Wireless Contact Switch to the Composer Project and create the proper bindings (please refer to the InHome Wireless Contact Switch Installation Guide for additional installation details.)

2. Connect the InHome Wireless Contact Switch to the 2600T as follows:
   a. Wire the **green** wire from the G.R.I. 2600T's switch (the component with the two screw terminals) to the IWCS Tray Assembly Pin 1.
   b. Wire the **white** wire from the G.R.I. 2600T's switch to the IWCS Tray Assembly Pin 2.
   c. Wire the **black** wire from the G.R.I. 2600T's switch to the IWCS Tray Assembly's – Pin 4.
   d. Wire the **red** wire from the G.R.I. 2600T's switch to the IWCS Tray Assembly's + Pin 5.
   e. Connect an appropriate (9-24VDC) power supply to the IWCS Tray Assembly's + and - Pins. (NOTE: you must match polarity.)

3. Connect at least one of the G.R.I. 2600T's sensor probes (two are included) to the G.R.I. 2600T switch’s screw terminals per the instructions included with the unit.

4. Using the included mounting screws and wall anchors, mount the InHome Wireless Contact Switch to a location near the area where you wish to detect liquids (but not in the area where the leak may actually take place).

5. Using the included mounting screws and wall anchors, place and attach the sensor probe(s) in the location(s) where you wish to detect liquids by using the screws and insulators included in the 2600T’s packaging.

6. Using the Composer software, now add events around the detection of a leak. Ideas for events include:
   a. Continuously playing a pre-recorded message over the home’s audio zones reporting the detection of a water leak. A suggested audio message might include the occurrence of a leak and the location where the leak is being detected. For example:

   "There has been a water leak detected by the water heater."

   b. Changing the color on specific Control4 LED Keypad buttons to indicate an alert condition signaling the detection of a water leak.

   c. Turning lights on and off in an area of the home to indicate the detection of a water leak.

   d. Sending an e-mail to the homeowner indicating the detection of a water leak.

   !!! NOTE !!!: For detailed instructions about how to use the sensor probes, refer to the instructions inside the G.R.I. 2600T 12 Volt DC Water Sensor packaging.
To install the needed hardware to support automation events around a water leak, please complete the following steps while referring to the diagram in Figure 5 below.

1. Add one InHome Wireless Contact Switch to the Composer Project and create the proper bindings (please refer to the InHome Wireless Contact Switch Installation Guide for additional installation details.)

2. Using two AWG 16-28 gauge jumper wires, connect the InHome Wireless Contact Switch to the 2826FS (the component containing the two screw terminals and on-board battery) as follows:
   a. Wire a red wire from the 2826FS’s Pin 3 to the IWCS Tray Assembly’s Pin 1.
   b. Wire a white wire from the 2826FS’s Pin 4 to the IWCS Tray Assembly’s Pin 2.

3. Connect the 2826FS’s sensor probe(s) to the 2826FS’s Detector Relay Switch as follows:
   a. Wire the green wire on the sensor probe (two are included with the G.R.I. 2826FS) to the G.R.I. 2826FS’s Detector Relay Switch Pin 1.
   b. Wire the black wire on the sensor probe (included with the G.R.I. 2826FS) to the G.R.I. 2826FS’s Detector Relay Switch Pin 2.

4. Using the included mounting screws and wall anchors, mount the InHome Wireless Contact Switch to a location near the area where you wish to detect liquids (but not in the area where the leak may actually take place).

5. Using the included mounting screws and wall anchors, place and attach the sensor probe(s) in the location(s) where you wish to detect liquids by using the screws and insulators included in the 2826FS packaging.

6. Using the Composer software, now add events around the detection of a leak. Ideas for events include:
   a. Continuously playing a pre-recorded message over the home’s audio zones reporting the detection of a water leak. A suggested audio message might include the occurrence of a leak and the location where the leak is being detected. For example:

   "There has been a water leak detected by the water heater."

   b. Changing the color on specific Control4 LED Keypad buttons to indicate an alert condition signaling the detection of a water leak.
   c. Turning lights on and off in an area of the home to indicate the detection of a water leak.
   d. Sending an e-mail to the homeowner indicating the detection of a water leak.

!!! NOTE !!!: For detailed instructions about how to use the sensor probes, refer to the instructions inside the G.R.I. 2826FS Liquid Level Detector packaging.
Product Support
If you have any difficulties, please contact Card Access Product Support at +1.801.748.4900, extension 15 weekdays from 8am to 5pm Mountain Time for technical assistance.

Product Registration
Please visit www.cardaccess-inc.com/inhome/registration to register your new product. Along with your contact information, you must provide the following additional information:
• Product Name (Card Access InHome Doorbell and Phone Event Package)
• Model Number (ILD10A-L or ILD10A-B)
• Date of Purchase
• Place of Purchase
• Serial Number (this is the “MAC ID” located on the sticker attached to the radio/logic board inside the Cover Assembly of the InHome Wireless Contact Switch included in the Package)

Please refer to the One-Year Limited Warranty for complete warranty information.

One-Year Limited Warranty
This product is warranted to be free of defects in material and workmanship for one year from date of original purchase from Card Access, Inc. (“Card Access”).

Card Access will, at its election and as the purchaser’s or end user’s sole and exclusive remedy for any breach of the limited warranty set forth above, repair or replace this product if a defect in material or workmanship is identified and communicated to Card Access within the one-year period described above. Card Access is not responsible for removal or reinstallation costs. This warranty is not valid in cases where damage to this product is the result or arises out of misuse, abuse, incorrect repair or improper wiring or installation.

To notify Card Access of any breach of the foregoing limited warranty and to obtain warranty service, contact Card Access Customer Support by e-mail to inhomesupport@cardaccess-inc.com or by calling 801-748-4900, extension 15, to obtain a Return Materials Authorization (“RMA”) number and instructions for returning your defective product to Card Access.

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This is Card Access’ exclusive written warranty.

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