# legrand FSIR-100 Occupancy Sensor Remote Control Instruction Manual



Contents



## legrand FSIR-100 Occupancy Sensor Remote Control


## Product Information

The Wireless IR Configuration Tool is a handheld device designed for changing defaults and testing of WattStopper devices. It provides wireless access to the devices for parameter changes and testing. The tool comes with a navigation pad that provides easy navigation through the customization fields, and the display shows menus and prompts to lead you through each process.

The Wireless IR Configuration Tool allows modification of the system without requiring ladders or tools within a certain mounting height of the sensor. The tool has an IR transceiver that allows bi-directional communication between the device and the FSIR-100 configuration tool. Simple menu screens let you see the current status of the sensor and make changes. You can change device parameters such as high/low mode, sensitivity, time delay, cut off and more. With the Wireless IR Configuration Tool, you can also establish and store device parameter profiles.

**Batteries**
The Wireless IR Configuration Tool operates on three standard 1.5V AAA Alkaline batteries or three rechargeable AAA NiMH batteries. The battery status displays in the upper right corner of the display. Three bars next to BAT= indicate a full battery charge. A warning appears on the display when the battery level falls below a minimum acceptable level. To conserve battery power, the tool automatically shuts off 10 minutes after the last key press.

**Navigation**
You can navigate from one field to another using the (up) or (down) arrow keys. The active field is indicated by flashing (alternates) between yellow text on a black background and black text on yellow background.

**IR Communication**
IR communication can be affected by the mounting height of the sensor and high ambient lightings such as direct daylight or electric light such as floodlights, and some halogen, fluorescent lamps, and leds. When trying to communicate with the device, be sure to be positioned under the sensor without any obstructions. Every time the commissioning tool establishes communication with the device, the controlled load will cycle.

**FSP-2X1 Series Sensors**

The FSP-2X1 is a family of motion sensors that dim lighting from high to low based on movement. These slim, low-profile sensors are designed for installation inside the bottom of a light fixture body. The PIR lens module connects to the FSP-2X1 through a 1.30-diameter hole in the bottom of the fixture.

## Product Usage Instructions

**To use the Wireless IR Configuration Tool, follow these steps:**

1. Insert three standard 1.5V AAA Alkaline batteries or three rechargeable AAA NiMH batteries into the tool.
2. Press the power button to turn on the tool.
3. Navigate through the menu using the (up) and (down) arrow keys.
4. When you reach the desired field, select it using the select button.
5. Use the navigation pad to make changes to devise parameters such as high/low mode, sensitivity, time delay, cut-off, and more.
6. Establish and store device parameter profiles as needed.
7. When trying to communicate with a device, be sure to be positioned under the sensor without any obstructions.
8. Monitor the battery status displayed in the upper right corner of the display and replace the batteries when necessary.
9. The tool will automatically shut off 10 minutes after the last keypress to conserve battery power.

**Note:**
IR communication can be affected by the mounting height of the sensor and high ambient lightings such as direct daylight or electric light such as floodlights, and some halogen, fluorescent lamps, and leds. Be aware of these factors when trying to communicate with the device.

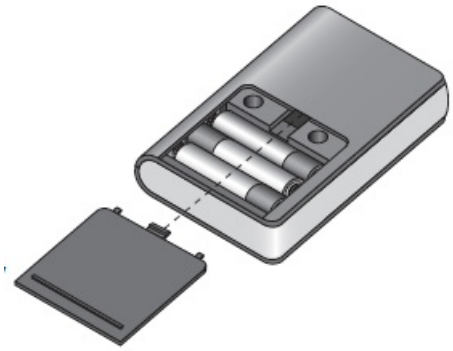
## USING THE FSIR-100 CONFIGURATION TOOL

The FSIR-100 Wireless IR Configuration Tool is a handheld tool for changing defaults and testing of WattStopper devices.It provides wireless access to the devices for parameter changes and testing.
The FSIR-100 display shows menus and prompts to lead you through each process. The navigation pad provides a simple way to navigate through the customization fields. Within a certain mounting height of the sensor, the FSIR-100 allows modification of the system without requiring ladders or tools; simply with a touch of a few buttons.

The FSIR-100 IR transceiver allows bi-directional communication between the device and the FSIR-100 configuration tool . Simple menu screens let you see the current status of the sensor and make changes. It can change device parameters such as high/low mode, sensitivity, time delay, cut off and more. With the FSIR-100 you can also establish and store device parameter profiles.

## BATTERIES

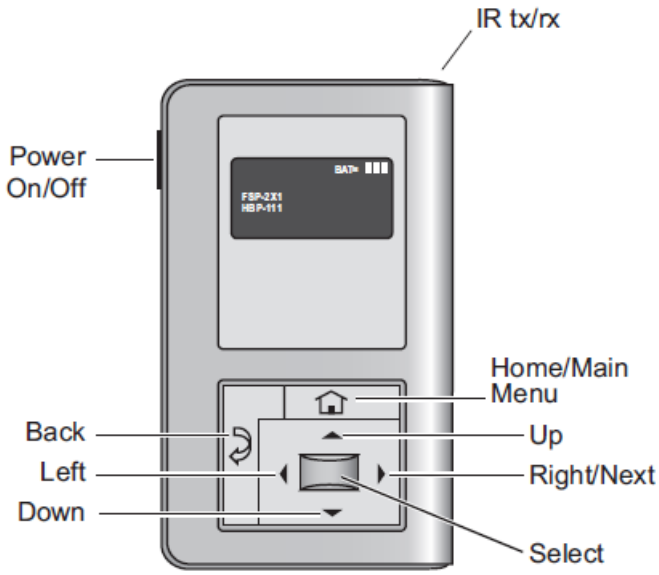
The FSIR-100 operates on three standard 1.5V AAA Alkaline batteries or three rechargeable AAA NiMH batteries. The battery status displays in the upper right corner of the display. Three bars next to BAT= indicates a full battery charge. A warning appears on the display when the battery level falls below a minimum acceptable level. To conserve battery power, the FSIR-100 automatically shuts off 10 minutes after the last key press.



- If communication is not successful, (if possible) move closer to the sensor.
- If still not successful, there may be too much IR interference from other sources. Programming the unit at night when there is no daylight available may be the only way to communicate with the sensor.

## NAVIGATION

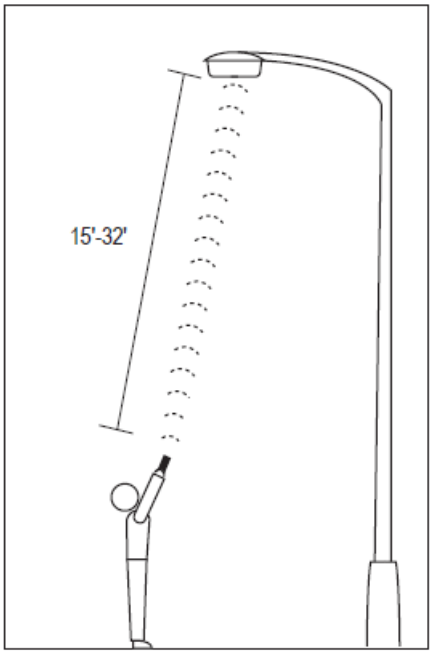
Navigate from one field to another using (up) or (down) arrow keys. The active field is indicated by flashing (alternates) between yellow text on black background and black text on yellow background.




Once active, use the Select button to move to a menu or function within the active field. Value fields are used to adjust parameter settings. They are shown in “less-than/greater-than” symbols: <value>. Once active, change them using the (left) and(right) arrow keys. The right key increments and the left key decrements a value. Selections wrap around if you continue to press the key beyond maximum or minimum values. Moving away from the value field overwrites the original value. The Home button takes you to the main menu. The Back button can be thought of as an undo function. It takes you back to one screen. Changes that were in process prior to pressing the key are lost.

## IR COMMUNICATION

IR communication can be affected by the mounting height of the sensor and high ambient lighting such as direct daylight or electric light such as floodlights, and some halogen, fluorescent lamps, leds. When trying to communicate with the device, be sure to be positioned under the sensor without any obstructions. Every time the commissioning tool establishes communication with the device, the controlled load will cycle.

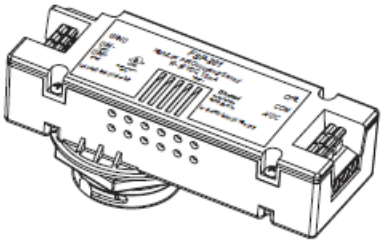



* Distance may vary depending on the lighting environment

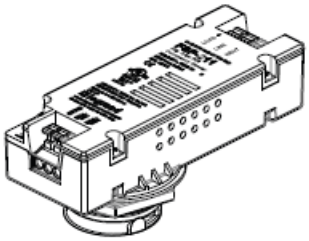
## FSP-2X1 SERIES SENSORS

The FSP-2X1 is a family of motion sensors that dim lighting from high to low based on movement. These slim, low-profile sensors are designed for installation inside the bottom of a light fixture body. The PIR lens module connects to the FSP-2X1 through a 1.30” diameter hole in the bottom of the fixture.

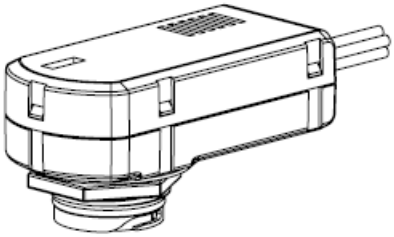
The sensors use passive infrared (PIR) sensing technology that reacts to changes in infrared energy (moving body heat) within the coverage area. Once the sensor stops detecting movement and the time delay elapses lights will go from high to low mode and eventually to an OFF position if it is desired. Sensors must directly “see” motion of a person or moving object to detect them, so careful consideration must be given to sensor/luminaire placement and lens selection. Avoid placing the sensor where obstructions may block the sensor’s line of sight.



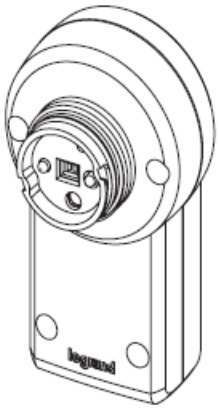
FSP-201



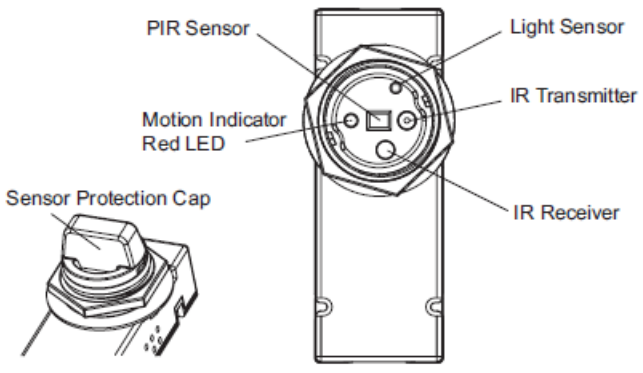
FSP-211



FSP-221



FSP-201B / FSP-211B / FSP-221B

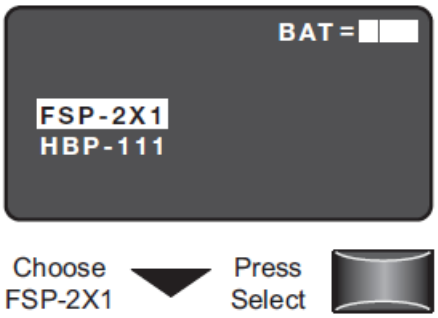



**NOTE: Remove Cap before use**

## FSP-2X1 SCREENS

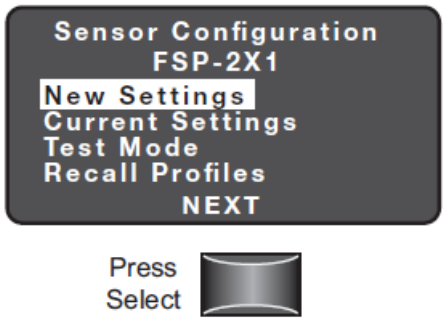
### Home Menu

The Home (or Main) menu displays after the power-up process completes. It contains information on the battery status and sensor menu choices. Press the up or down buttons to highlight the desired sensor then press Select.




### New Settings

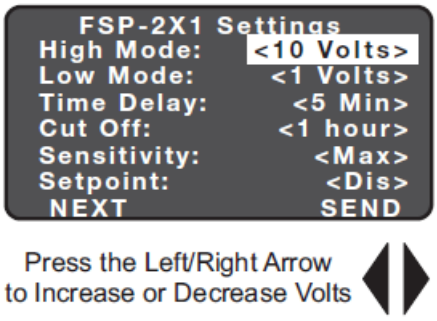
New Settings allow you to select the different sensor parameters such as: High/Low Mode, Time Delay, Cut Off, Sensitivity, Setpoint and Ramp/Fade rates.




### High Mode

When the sensor detects motion the dimming control output ramps up to the selected HIGH light level (default is 10V).

- **Range:** 0 V to 10 V
- **Increments:** 0.2 V



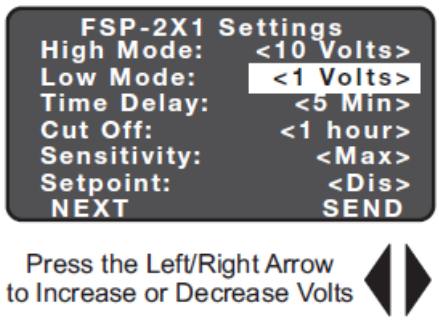

To program the FSP-2X1 with the selected parameters go to SEND and press the Select button. The controlled-load should cycle once the sensor is updated.

### Low Mode

After the sensor stops detecting motion and the time delay expires the dimming control output fades down to the selected LOW light level (default is 1V).

- **Range:** OFF, 0 V to 9.8 V

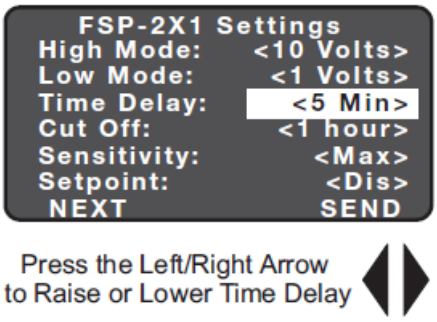
- **Increments:** 0.2 V




**Time Delay**
The time period that must elapse after the last time the sensor detects motion for the lights to fade to LOW mode (default is 5 min).

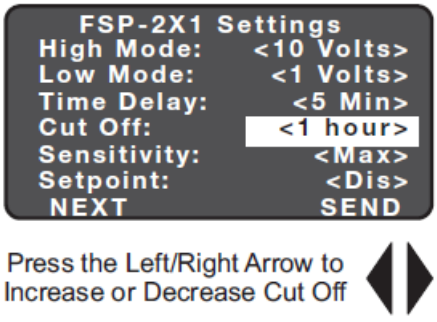
**NOTE:**
For the FSIR-100-RU, the default is 2 min.

- **Range:** 30 sec, 1 min to 30 min
- **Increments:** 1 min




**Cut Off**
The time period that must elapse after the lights fade to Low Mode and the sensor detects no motion for the lights to turn OFF (default is 1 hour).

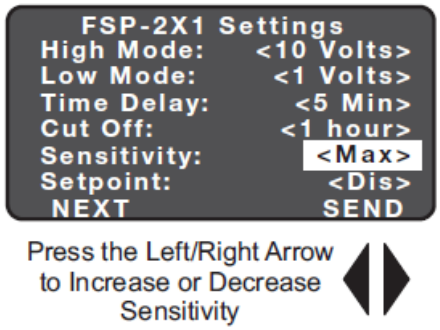
- **Range:** Disable (No cut-off, lights will stay in low mode) 1 min to 59 min, 1 hr to 5 hr (press and hold should cause to move faster through the increments)
- **Increments:** 1 min or 1 hr




**Sensitivity**
The response of the PIR detector to motion within the sensor's coverage area (default is max).

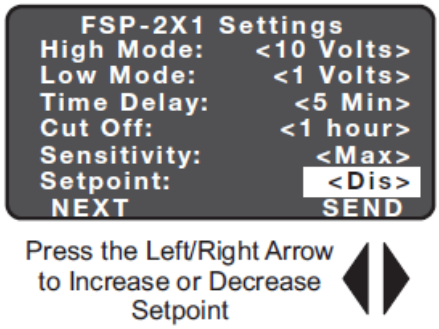
- **Range and Sequence:** On-Fix, Off-Fix, Low, Med, Max

  (On-Fix: relay closed, occupancy detection disabled; Off-Fix, relay open, occupancy detection disabled.



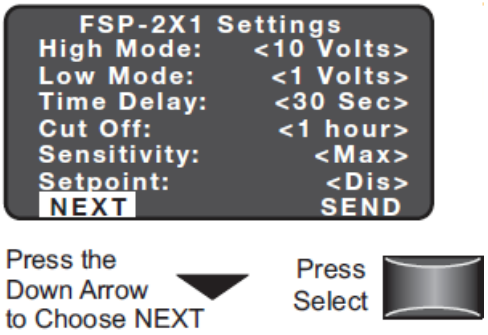

**Hold Off Setpoint**
The selectable ambient light level threshold will hold the lights off or at LOW level when the sensor detects motion (default is Disable).

- **Range:** Auto, Disable, 1 fc to 250 fc
- **Increments:** 1 fc (press and hold should cause to move faster thru the increments)
- **Sequence:** Disable, 1 fc to 250 fc



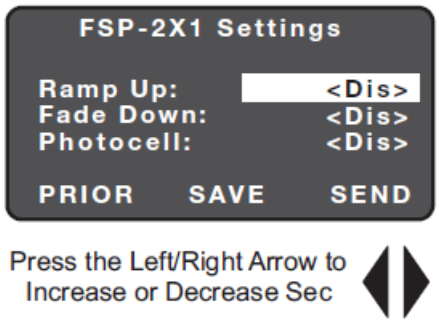

The Auto option invokes an automatic calibration procedure to establish an appropriate setpoint based on the contribution of the electric light. As part of this procedure, the controlled load is turned on to warm up the lamp, and then it is switched off and on eight times, terminating in an off state. After this process, a new setpoint value is automatically calculated. During this time, communication to the FSP-2X1 is disabled.

**Next**
To view more settings go to NEXT and press the Select button




**Ramp Up**
Time period for light level to increase from LOW to HIGH (default is Disable; light/load switches instantly).

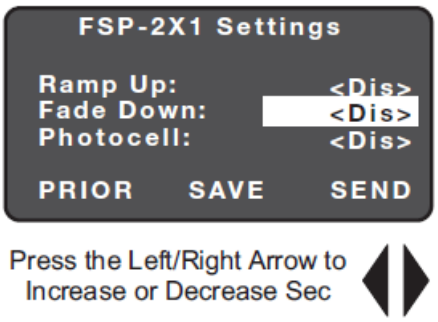
- **Range:** Disable, 1 sec to 60 sec
- **Increments:** 1 sec



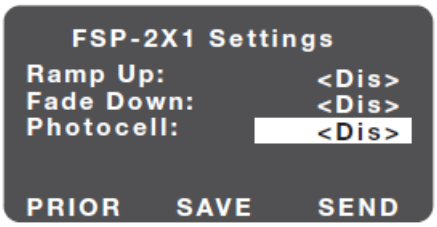

**Fade Down**

Time period for light level to decrease from HIGH to LOW (default is Disable; light/load switches instantly).

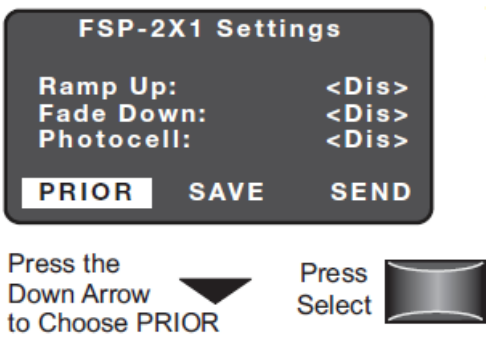
- **Range:** Disable, 1 sec to 60 sec
- **Increments:** 1 sec




**Photocell On/Off**
When the light level exceeds this setting, the lights will turn off even when the space is occupied. Once the light level exceeds this setting, the sensor will wait and monitor for a short period of time in order to confirm the light level increase is not temporary before forcing the lights to go off. When light level goes below the settings, the light will turn on even without motion detection. This feature is disabled by default. If using this setting in combination with the Hold Off setpoint, there must be at least 10fc of dead band between the two settings. The Photocell setpoint is automatically set to maintain at least 10fc of dead band above the Hold Off setpoint to help avoid load cycling.

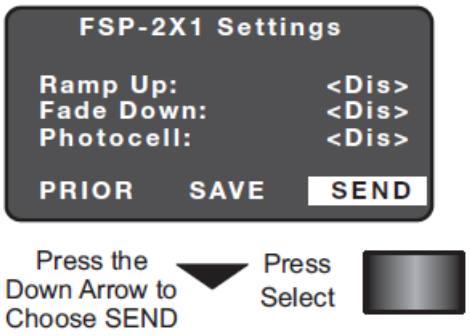



**Prior**
To go back to previous settings go to PRIOR and press the Select button.



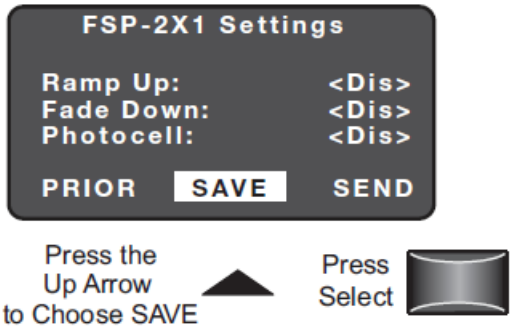
**Send**

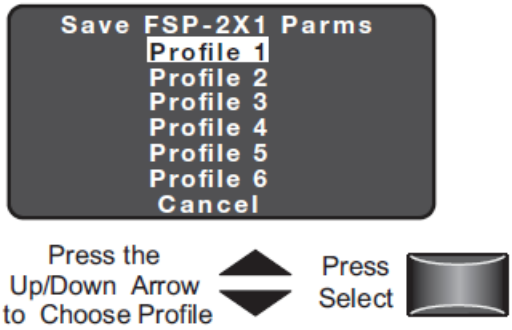
To program the FSP-2X1 with the selected parameters go to SEND and press the Select button. The controlled-load should cycle once the sensor is updated.



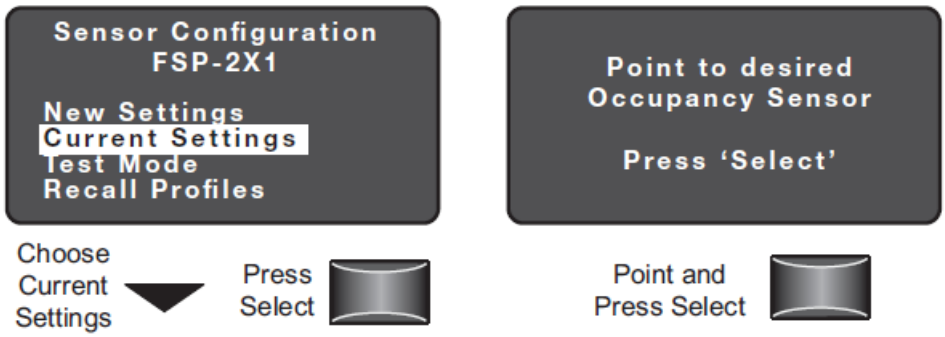

**Save**

To Save these New Settings parameters as one of the profiles go to SAVE and press the Select button.



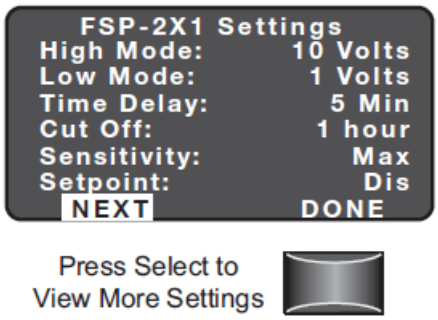

**Current Settings**



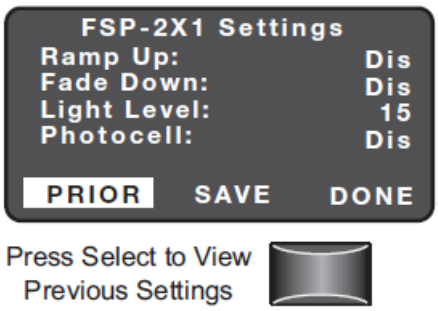

Current Settings allows you to recall the parameters for a specific sensor. These are read-only parameters. Highlight and press Select to view the Current Settings. Then, point the FSIR-100 at the sensor and press Select.

**View Current Settings**

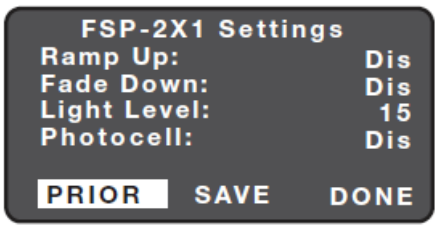
To view the rest of the settings, press the Select button.



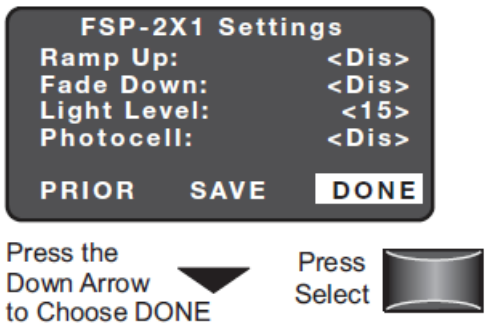

To go back to previous settings go to PRIOR and press the Select button. If you would like to save the sensor's current settings as a profile, go to SAVE and press the Select button.



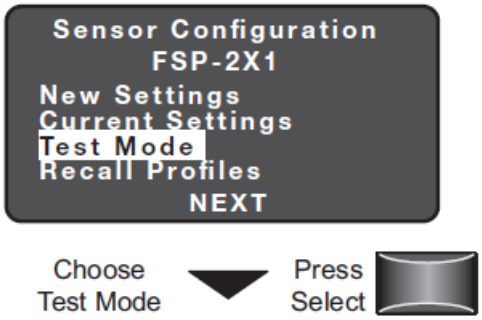

**Light Level**
Displays the current light level at the FSP-2X1. The light level reading can be used as a reference for setpoint adjustments.



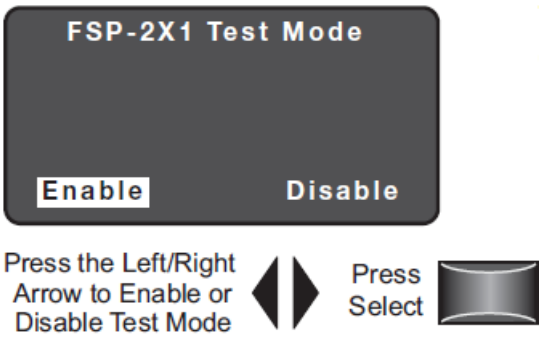

**Done**
To go to the FSP-2X1 Home screen go to DONE and press the Select button.



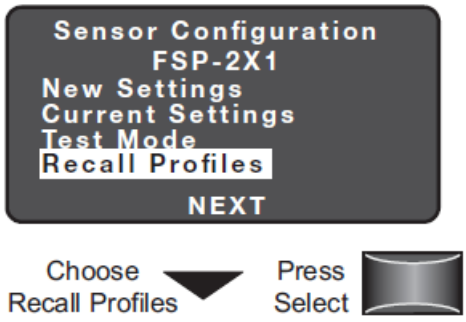

**Test Mode**
Test Mode shortens timeouts for High/Low and Cut Off, to allow quick verification of settings. Test Mode disables automatically after 5 minutes.



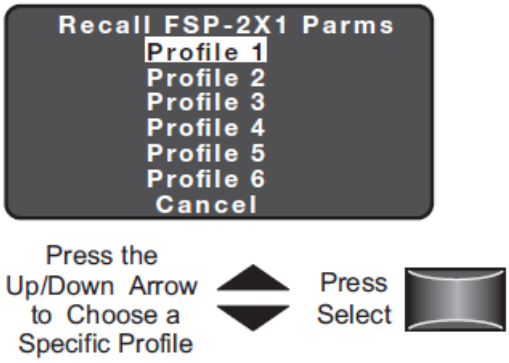

**Enable/Disable**
Test Mode has been enabled.

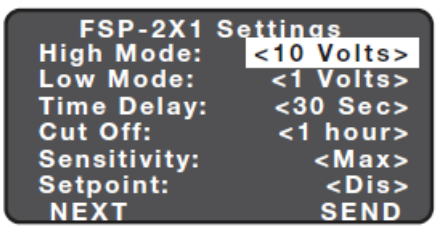



**Recall Profiles**
Recall Profiles allows the user to select saved parameter profiles. This feature is used when programming multiple FSP-2X1s with the same parameters.



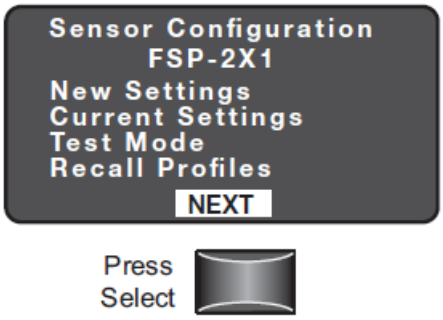

After selecting the profile, you return to the Settings screen, where you can edit the parameter values, if needed, before sending the parameters to the sensor



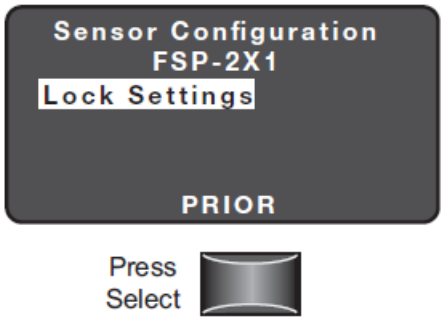



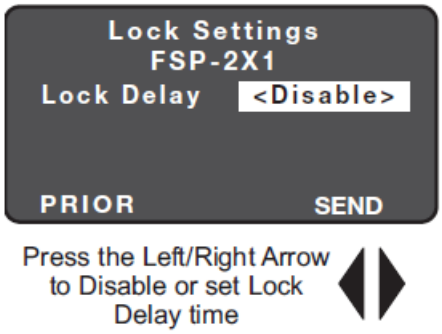
**Lock Settings**
IR communication locks to prevent unauthorized changes of FSP-2X1 parameters.

To view more sensor configuration settings go to NEXT and press the Select button.



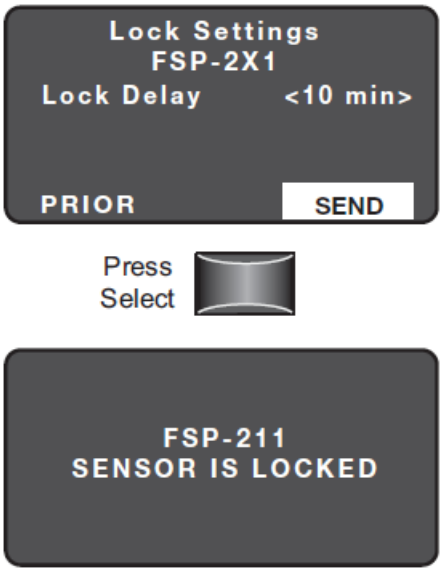

FSP-2X1 default settings communicate with the FSIR-100; however, this security feature limits communication only for authorized installers who have access to main power supply to the FSP-2X1 sensor. Press Select to set Lock Delay or press PRIOR to go back.




Factory default Lock Delay setting is disabled and FSP-2X1 parameter can change with any FSIR-100 at anytime. To enable Lock Delay with time, select lock delay time and press SEND to set delay time in the FSP-2X1. Its parameter changes with the FSIR-100 will be locked after the specified timer expires from the last message. At the end of the specified time the FSP-2X1 will be locked unless there is a power cycle. Any locked sensor needs power cycling to initiate any configuration through the FSIR-100. To permanently disable Lock Delay after power cycling, select Disable and press SEND.

- **Range:** 10 min – 240 min
- **Increments:** 1 min



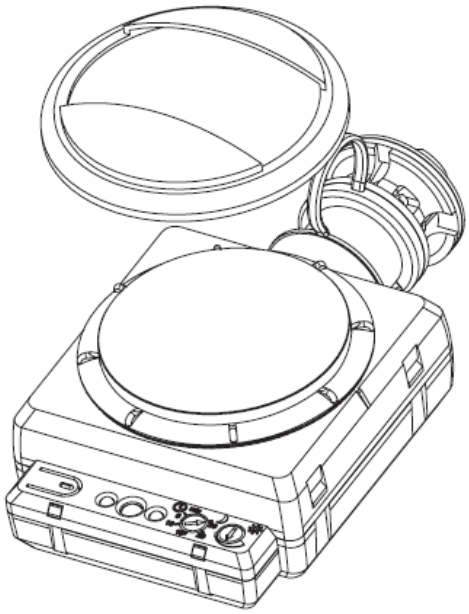

Highlight SEND and press Select to enable lock settings.

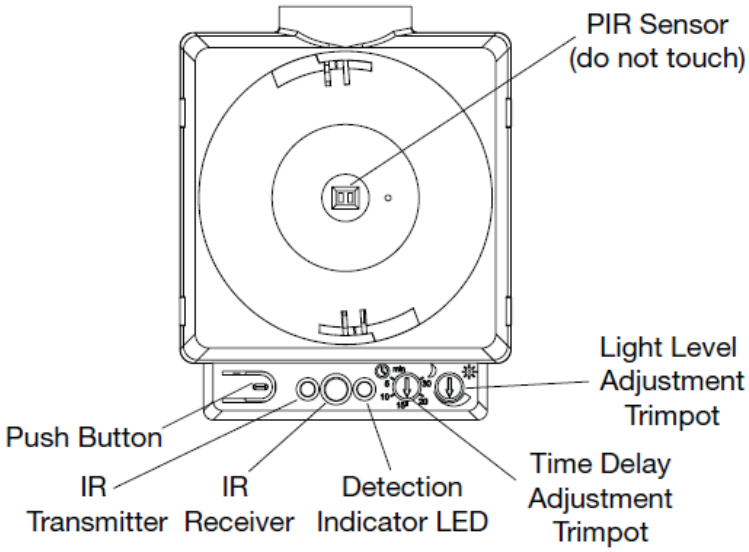
This screen will appear if the FSP-2X1 is locked. If it is locked, cycle the power.

**HBP-111**

The HBP High Bay Passive Infrared (PIR) Occupancy Sensor consists of two components. These components were developed to work as a convenient system and include both sensor and lens modules. HBP-111 sensor is designed for automatic lighting control in warehouses and other indoor high bay spaces. The lens is specifically engineered to provide reliable coverage from a wide range of mounting heights. Time Delay and Light Level settings for the HBP sensor can be adjusted via trimpots designated for each. The HBP-111 can also be commisioned remotely using a wireless configuration tool.

The HBP occupancy sensor is designed to mount directly to a light fixture and control the load in the fixture. It can be wired to control all ballasts in the fixture. When motion is detected within the sensor's coverage area, the relay in the sensor closes, and lighting loads are automatically turned on. When motion is no longer detected for the duration of the time delay setting, the relay opens and the lighting load is turned off. The sensor's light level hold-off and time delay settings are factory preset at 300 foot candles and 15 minutes, respectively, which are suitable for most high bay applications.

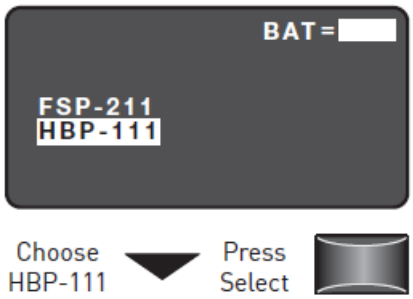




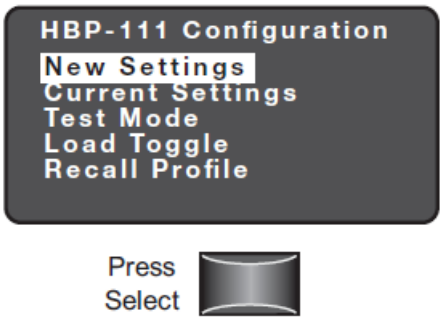

## HBP-111 SCREENS

**Home Menu**

The Home (or Main) menu displays after the power-up process completes. It contains information on the battery status and sensor menu choices. Press the up or down buttons to highlight the desired sensor then press Select.

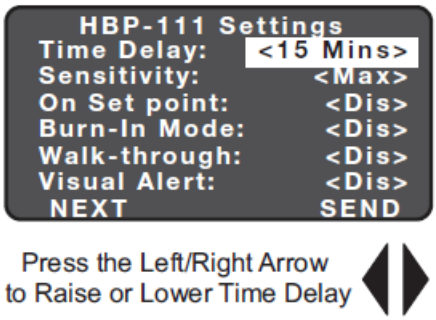



**New Settings**
New Settings allow you to select the different sensor parameters such as: Time Delay, Sensitivity, On Set point and Burn-In Mode.




**Time Delay**
The time period that must elapse after the last time the sensor detects motion for the lights to fade to LOW mode (default is 5 min).

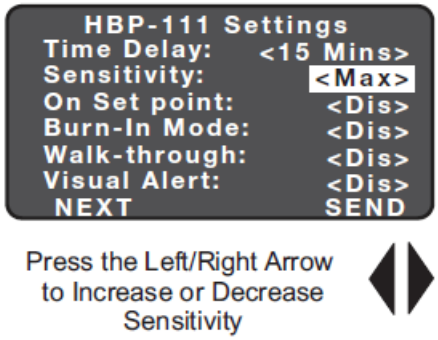
- **Range:** 1 min to 30 min
- **Increments:** 1 min




To program the HBP-111 with the selected parameters go to SEND and press the Select button. The controlled-load should cycle once the sensor is updated.

**Sensitivity**
The response of the PIR detector to motion within the sensor's coverage area (default is max).

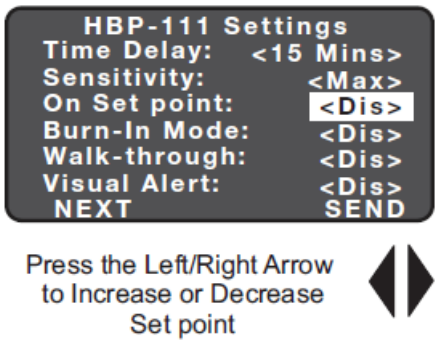
- **Range and Sequence:** Low, Med, Max




Press the Left/Right Arrow to Increase or Decrease Sensitivity

**On Set point**
The selectable ambient light level threshold that will hold the lights off when the sensor detects motion (default is 300 fc).

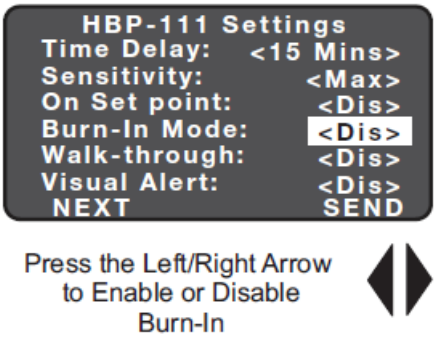
- **Range:** Disabled, 1 fc to 300 fc
- **Increments:** 1 fc (press and hold should cause to move faster thru the increments)
- **Default:** Disabled




Press the Left/Right Arrow to Increase or Decrease Set point

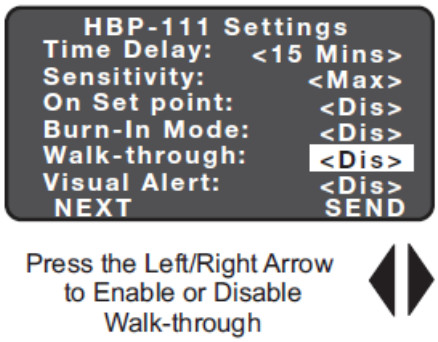
**Burn-In Mode**
When burn-in is enabled, the light load will turn On for 100 hours and remain on regardless of occupancy. The push button on the HBP-111 can be used to toggle the load and exit burn-in mode. The FSIR-100 can also be used to exit burn-in mode.

- **Default:** Disabled



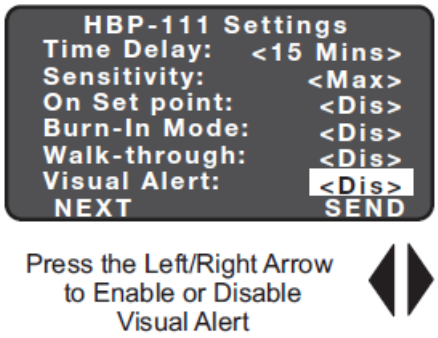

Press the Left/Right Arrow to Enable or Disable Burn-In

**Walk-through Mode**
Walk-through mode provides a 3 min time delay for applications where occupancy is brief, such as a copy room, closet, etc. When enabled, if no activity is detected after the first 30 sec from the initial trigger, the sensor will turn the load off 3 min after the initial detection. If there is activity after the first 30 sec, the sensor will use the set time delay. Once the time delay has expired, the sensor will revert to using the standard walk-through mode time delay Default is Off.



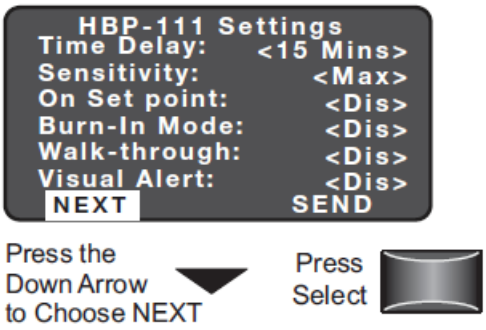

**Visual Alert**

The sensor will toggle the load for 1 sec alerting the occupant that the set time delay will be reached within 1 min and turning the lighting off. This provides a visual indication so that the occupant can keep the lights on by moving within the coverage area if the space will still remain occupied. The default is Off.



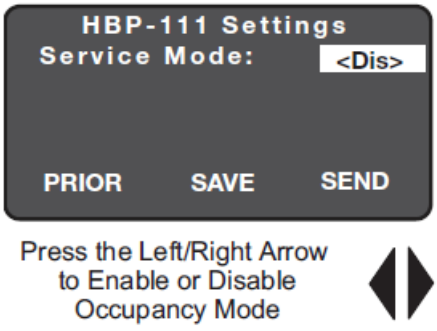

**Next**

To view more settings go to NEXT and press the Select button



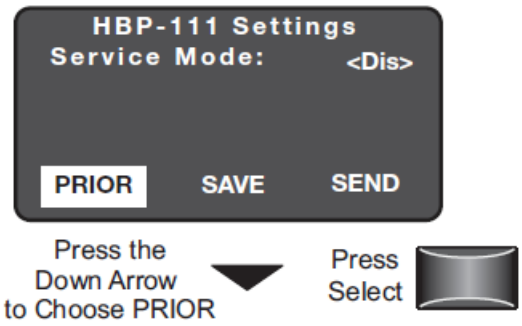

**Service Mode**

In Service Mode, motion detection is disabled. If you enable Service Mode, loads must be turned ON and OFF manually. When disabled (the default), the sensor functions normally.



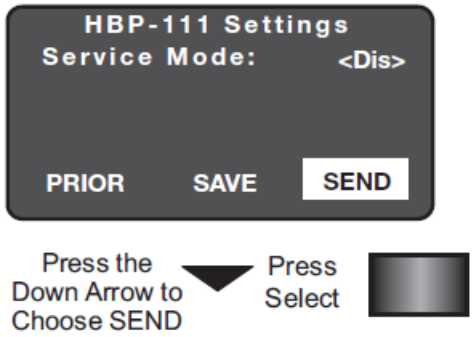

**Prior**

To go back to previous settings go to PRIOR and press the Select button.



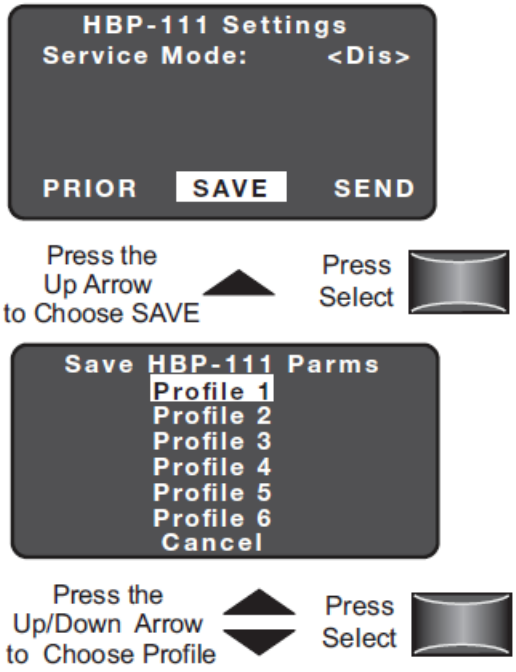

**Send**

To program the HBP-111 with the selected parameters go to SEND and press the Select button. The controlled-load should cycle once the sensor is updated.

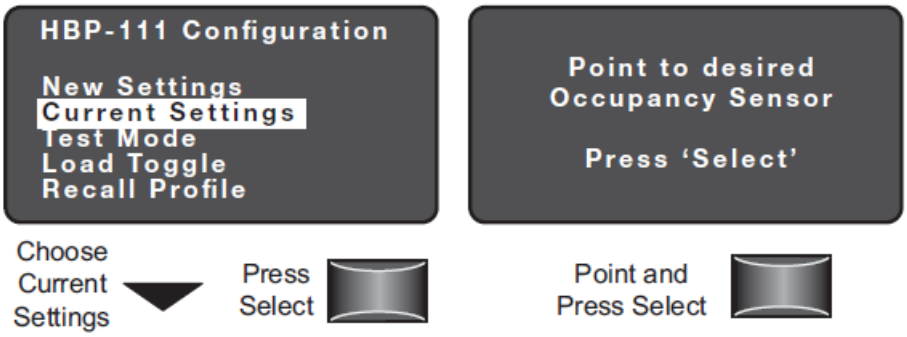



**Save**

To Save these New Settings parameters as one of the profiles go to SAVE and press the Select button.

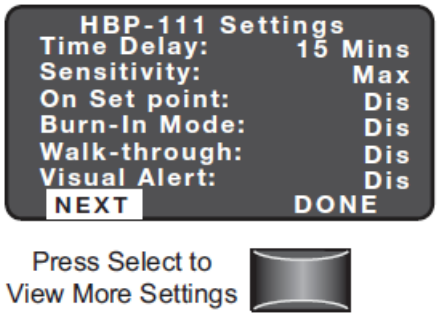



**Current Settings**

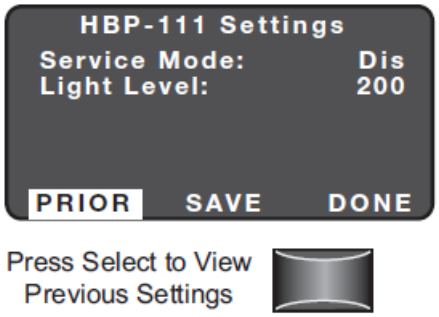



Current Settings allows you to recall the parameters for a specific sensor. These are read-only parameters. Highlight and press Select to view the Current Settings. Then, point the FSIR-100 at the sensor and press Select.

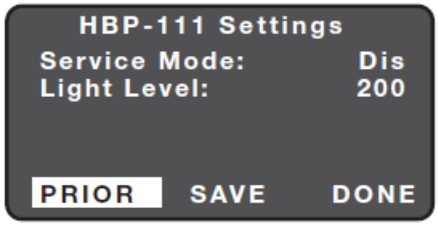
**View Current Settings**
Highlight and press Select to view the current settings.



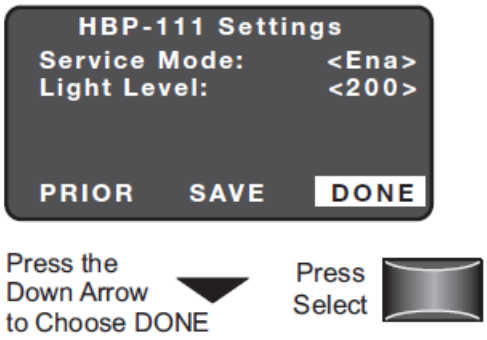

To go back to previous settings go to PRIOR and press the Select button. If you would like to save the sensor's current settings as a profile, go to SAVE and press the Select button.



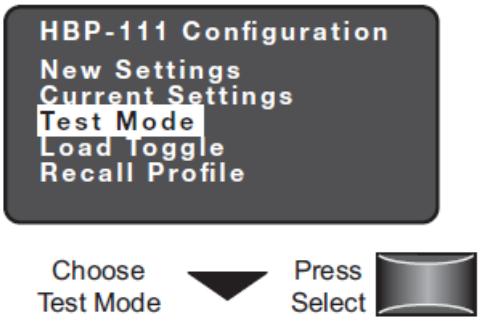

**Light Level**
Displays the current light level at the HBP-111. The light level reading can be used as a reference for setpoint adjustments.



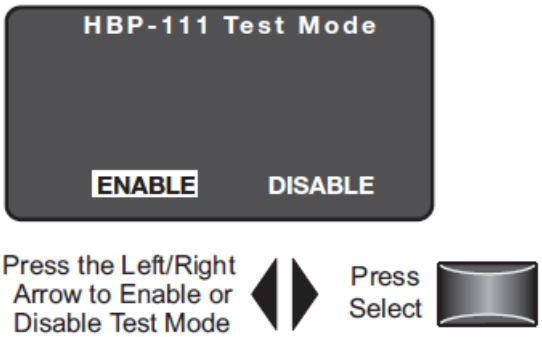

**Done**
To go to the HBP-111 Home screen go to DONE and press the Select button.




**Test Mode**
Test Mode shortens the time delay to allow quick verification of HBP coverage for motion detection. Test Mode disables automatically after 10 minutes.

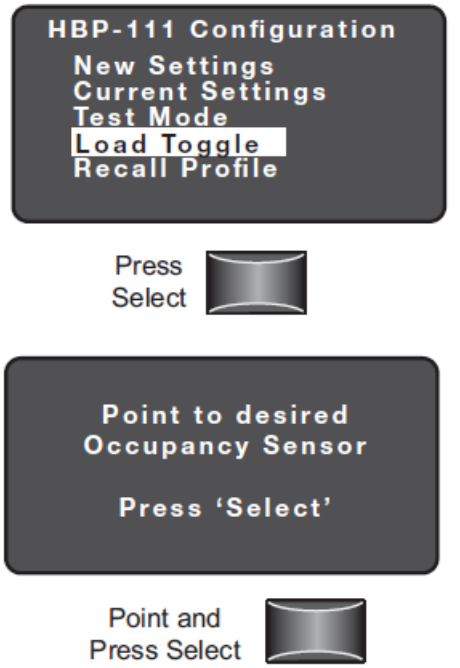



**Enable/Disable**
Test Mode has been enabled.

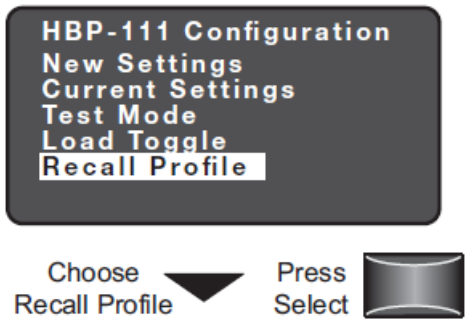



**Load Toggle**
Used to turn the load ON and OFF from the FSIR-100. When occupancy mode is disabled, the light will remain ON or OFF depending on the last state.

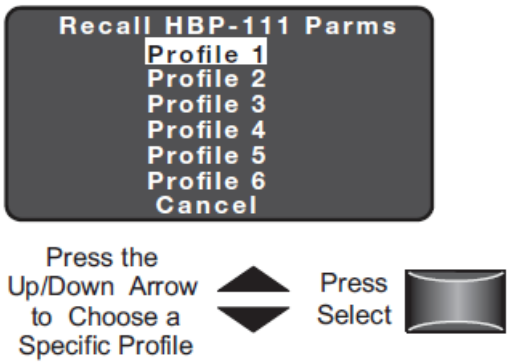
- **Options:** ON, OFF
- **Default:** ON




**Recall Profile**
Recall Profiles allows the user to select the saved parameter profiles. This feature is used when programming multiple HBP-111's with the same parameters.




After selecting the profile, you return to the Settings screen, where you can edit the parameter values, if needed, before sending the parameters to the sensor



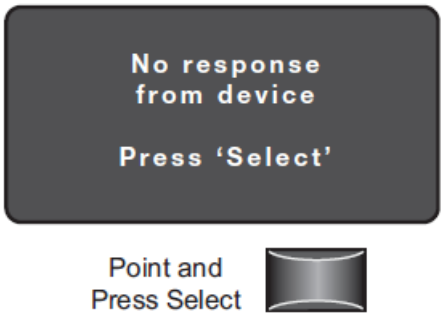

## TROUBLESHOOTING

**Problem:**
The display does not come on when I press the Power On Button.

- Make sure the batteries are installed correctly.

- Make sure the batteries are good.

**Problem:** No Response Screen appears:




- Make sure that the device is not obstructed and try again.
- Move closer to the device.
- The angle may be too high, move closer so that you are directly underneath the sensor.
- If still not successful, there may be too much IR interference from other sources. Programming the unit at night when there is no daylight available may be the only way to communicate with the sensor.
- Make sure you are using the FSIR-100 and not the LMCT-100.
- Make sure the device is within range.
- Make sure the device you are pointing at is powered.

For other issues not related to communication, consult the appropriate installation instructions or contact Technical Support at 800.879.8585.

## WARRANTY INFORMATION

Wattstopper warranties its products to be free of defects in materials and workmanship for a period of five (5) years. There are no obligations or liabilities on the part of Wattstopper for consequential damages arising out of, or in connection with, the use or performance of this product or other indirect damages with respect to loss of property, revenue or profit, or cost of removal, installation or reinstallation.

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www.legrand.us/wattstopper.

## Documents / Resources

| | |
|---|---|
|  | legrand FSIR-100 Occupancy Sensor Remote Control [pdf] Instruction Manual<br>FSIR-100 Occupancy Sensor Remote Control, FSIR-100, Occupancy Sensor Remote Control, Sensor Remote Control, Remote Control, Control |

## References

- Legrand US | Delivering and Managing Power, Light, and Data

Manuals+,