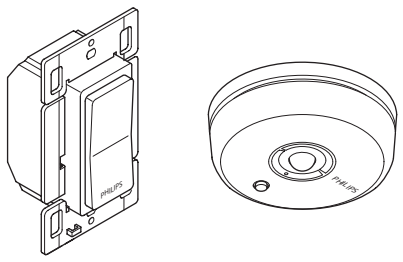
OccuSwitch™ Wireless

EN

Installation guide



Installation steps:

1. **Install the switch**
2. **Install the sensor**
3. **Link devices**
4. **Configure, test & finish**

PA-7200-R01 08-09

PHILIPS

Product description

OccuSwitch™ Wireless is a system for automatically controlling the lights based on occupancy. The system uses two parts: a ceiling-mounted sensor and a switch. The switch will turn the lights on and off based on the information it wirelessly gets from the battery-powered sensor.

Key figures

Sensor coverage area		Will vary based on ceiling height (up to 12ft). For a typical height of 8ft (2.4m): Large motion 17.7 x 23.6ft (5.40m x 7.20m) Small motion 11.8 x 17.7ft (3.60m x 5.40m) Larger areas will require multiple sensors.
Wireless range		Switch - sensor: 50ft (17m) Switch - switch (same plane): 18ft (6m) Switch - switch (line of sight): 50ft (17m)
Maximum network size		10 Sensors/switches (any combination)
Operating voltage		120V AC or 277V AC, 60Hz
Load rating:	Electronic Fluorescent Ballast	120V / 10.8A / 1300VA 277V / 4.7A / 1300VA
	Electromagnetic Fluorescent Ballast	120V / 10.8A / 1300VA 277V / 4.7A / 1300VA
	Incandescent lamps	120V / 6.67A / 800W
	Motor load	120V / 0.25HP
Sensor dimensions (diameter x height)		3.3 x 0.98 in (84 x 25mm)
Battery		Lithium-thionyl chloride, AA 3.6V DC
Switch dimensions (l x w x d)		4.13 x 2.56 x 1.79 in (105 x 65 x 45mm)
Minimum wall box depth		2.5 in
Operating conditions: temperature		41°F - 104°F (5°C – 40°C)
Operating conditions: humidity		20% – 85%, non-condensing

SAFETY

Parts of the switch carry mains power, which is a potential lethal voltage. This product was designed and manufactured to ensure maximum safety during operation and service. Always read these safety instructions before installing, maintaining or servicing the product, and strictly comply with these instructions.

General

- If you are unsure about any part of these installation instructions, consult a qualified electrician.
- The devices are designed for indoor use only. Do not expose the product to rain or moisture, to avoid short circuit. Short circuit may cause fire or electric shock hazard. Operate the devices between 41°F and 104°F (5°C and 40°C).
- Use only a soft damp cloth to clean devices, never use any abrasive or chemical cleaner.
- Whenever it is suspected that safety protection is impaired, the product must be made inoperative and secured against unintended operation. The device must be serviced or replaced as soon as possible. Safety is likely to be impaired if, for example, the equipment fails to perform the intended functions or if the equipment shows visible damage.
- Do not paint the devices.

Switch only

- Disconnect power at circuit breaker or fuse when servicing, installing or removing the fixture of the switch.
- Use the switch only with copper or copper clad wire.
- Connect the switch to the power mains according to the wiring scheme in this manual.

Sensor only

- The sensor cannot be used to control any load, without a compatible switch.
- Use only high-quality 3.6V lithium-thionyl chloride batteries with the sensor: one (1) Lithium-thionyl chloride (AA, 3.6V). Using improperly rated batteries may damage the sensor.
- Dispose of used batteries promptly. Keep batteries away from children, do not disassemble and do not dispose of in fire.

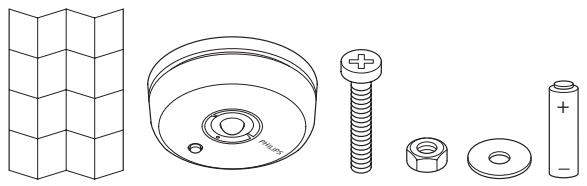
⚠ **WARNING:** This product must not be used to control equipment that could create hazardous situations when operated accidentally, like entrapment. Examples of equipment that must not be controlled with this product include (but are not limited to) motorized gates, garage doors, industrial doors, (microwave) ovens, heating devices etc.

⚠ **WARNING:** It is the installer's responsibility to ensure that the equipment being controlled is visible from every control location and that only suitable equipment is connected to these controls. Failure to do so could result in serious injury or death.

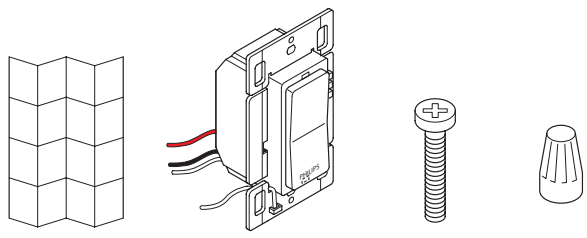
CAUTION: The battery used with the sensor device may present a risk of fire or chemical burn if mistreated. Do not recharge, disassemble, heat above 100°C, or incinerate. Replace battery with Lithium-thionyl chloride (AA 3.6V) only. Use of another battery may present a risk of fire or explosion.

Product overview

What's in the sensor box

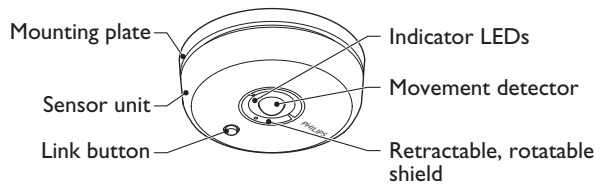


What's in the switch box

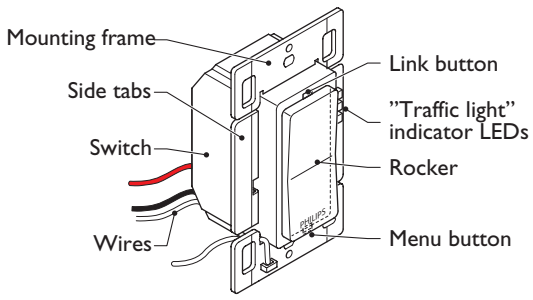


Tools you may need

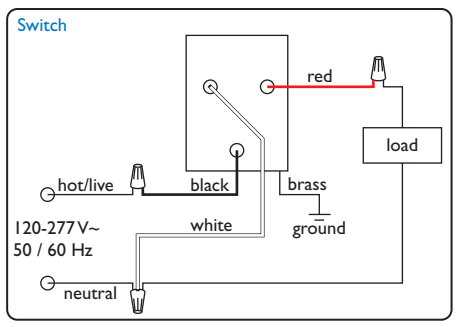
Movement detector ("sensor")

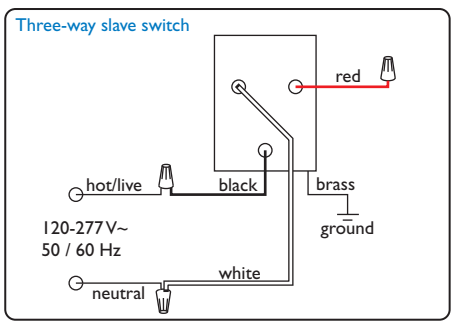


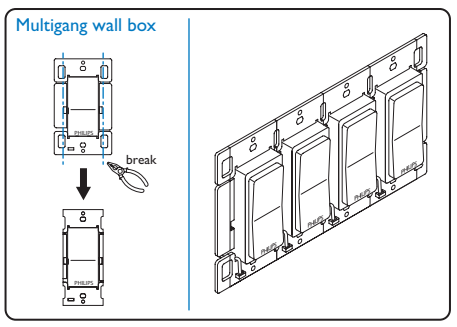
Wall switch ("switch")



1 Install the switch







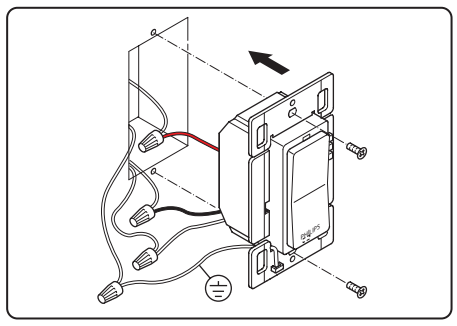
⚠ **WARNING:** Wiring the device with power ON could result in serious injury or death.

1. Remove power from the mains at fuse or circuit breaker.
2. Remove the old switch, if needed.
3. Connect the wires according to the wiring diagram above.
   Note: Hot/live and neutral may not be swapped.

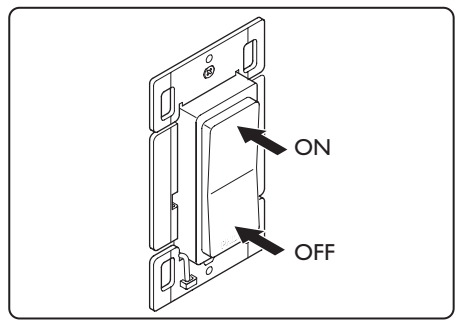
4. For a **three-way circuit** connect the wires as follows:
   - The master switch (that controls the load) according to the regular wiring diagram.
   - The slave switch (no load) according to the wiring diagram above. Make sure that the switch has a steady feed (hot/live and neutral).

   The three-way configuration is done via the menu, later in the installation.

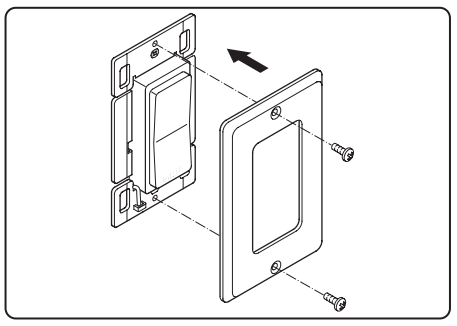
5. If installing in a multigang wall box: break the tabs of joining sides. Do not break the outside tabs on controls at the end of the gang.



6. Place the switch into the wall box, and fix it with the mounting bolts.
7. Power the mains at fuse or circuit breaker.

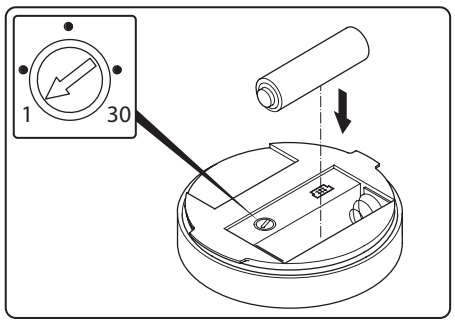


8. Test that the switch is wired correctly using the rocker to turn the lights ON/OFF.



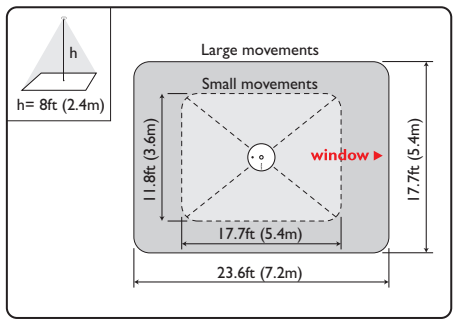
9. Attach a wall plate adapter and wall plate. Wall plate and adapter must be purchased separately.

2 Install the sensor



1. Set the dial on the sensor to **1 minute** for testing purposes.
2. Place the battery into the sensor.

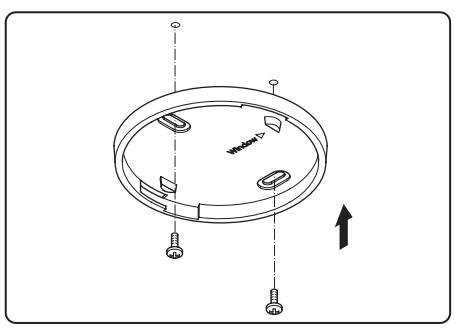
CAUTION: Only use a high-quality 3.6V lithium-thionyl chloride battery with the sensor.
See SAFETY for more information on the battery.



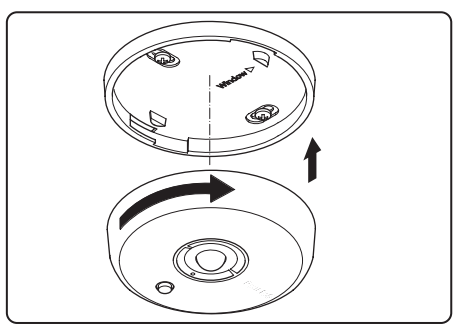
3. Choose the sensor location on the ceiling. The window arrow in the mounting plate defines the direction of the detection field, which is rectangular. See Sensor placement guidelines for more information.

Sensor placement guidelines

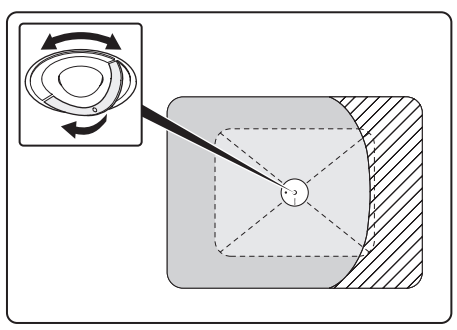
- The sensor should be mounted in such a way that:
  - Small movements are detected for the workspace
  - Large movements are detected for the entire room, and in particular for the area near the doorway.
  - Motion from adjectent areas, e.g. the hallway, is not picked up.
- The center of a room is usually not a good location. Moving the sensor towards the wall where the door is located may still cover the entire room, while blocking unwanted detection of motion from the hallway.
- The sensor should not be placed close to heat sources (especially incandescent lamps) or HVAC exhausts.



4. Fix the mounting plate onto the sensor's location, using the mounting hardware. Alternatively, use toggle bolts (not included).



5. Place the sensor onto the mounting plate, and rotate clockwise to fix.



6. If needed, pull out the sensor shield (indicated on the ring with a dot), and rotate it to the required direction. This step is covered in more detail in Configure, test & finish.

TECHNICAL SUPPORT
For technical support on this product, please contact:
Philips Lighting Electronics N.A.
10275 W. Higgins Road
Rosemont IL 60018
Customer Care: 1-800-372-3331
tech.service.rosemont@philips.com

3 Link devices

Create a network

A combination of one or more switches and sensors that work together is called a **network**.
A **network** is created by linking one or more devices to a switch. Take the following steps to link one sensor to one switch:

Action	Result
1. **Tip:** If the lights are on, use the rocker to turn the lights off.	The lights turn off.
2. Briefly press the **LINK** button on the **switch** (see picture below) to enter the **linking mode.**	The **green LED** on the switch starts **blinking**.
3. Briefly press the **LINK** button on the **sensor** to add it to the network.	The lights turn on and the **green LED** on the sensor **turns on**.
4. Briefly press the **LINK** button on the **switch** again to exit the linking mode.	The **green LED** on the switch stops blinking.

Troubleshooting

- If you cannot find a button or an LED, look below at LEDs and buttons.
- In step 3, if the **red LED** on the sensor **turns on**, then linking failed. Try again. If the problem persists, see if you can move the sensor closer to the switch. Keep in mind the maximum distance between switch and sensor (see Key figures).
- In step 3, if the **red LED** on the sensor starts to **blink**, then you probably pressed and held the **LINK** button, instead of pressing it briefly. The sensor entered the action menu. Press and hold the link button to exit (see also Menus). Then continue linking.

Link additional devices

Additional devices can be linked in a similar way:

Action	Result
1. Make sure that the **switch** that was initially used to setup the network is in linking mode by briefly pressing its **LINK** button.	The **green LED** is **blinking**.
2. Link each additional switch or sensor by briefly pressing its **LINK** button.	The **green LED** on the added switch/sensor will **turn on**.

Troubleshooting

- If the **green LED** starts blinking on any additional switch, that switch is now also in linking mode, starting its own network. Press the LINK button on that switch and try the whole procedure again. If the problem persists, the distance between the new switch and the existing switch may be too large (see Key figures).
- If the **yellow LED** is turned on after linking, the switch is in manual override and does not respond to messages from the sensor. After you leave the room and the sensor timer has expired, it will return to automatic mode and the LED will be switched off.

4 Configure, test & finish

Configure devices

When all sensors and switches are linked, it is a good time to change any settings. You can do this at any switch; the settings are automatically sent to all devices in the network. You can select the following options in the configuration menu (see Menus):

- **Manual ON/Auto OFF** ("Title 24 Vacancy Mode"): After activation, the lights turn off to indicate they need to be switched on manually. In this mode the **yellow LED** (manual override) is not used.
- **Three-way switch**: After activation, test all switches by pressing their rocker. All switches should control all connected loads.

Test sensor coverage

Once all devices are installed, linked and configured, you can test the installation to ensure that:

- The sensor detects motion in the workspace.
- The sensor does not pick up motion from adjacent areas, e.g. the hallway.

To test, take the following steps:

Action	Check
1. Ask other people to leave the room.	You are the only person in the room.
2. Select **Test sensor coverage** from the action menu on one of the switches (see Menus) and wait up to 1 minute until the **yellow LED** on the sensor starts to **blink**.	During the coverage test, the **yellow LED** on the **sensor blinks** when movement is detected. This test ends automatically after 10 minutes and does not affect normal operation of the system.
3. Move around the room, testing corners and the main workspace areas around the desks and tables.	Check that the **yellow LED** on the **sensor blinks** at all (important) places.
4. Leave the room and walk by the hallway.	Check that the **yellow LED** on the **sensor** does not blink.
5. Enter the room again.	Check that the **yellow LED** on the **sensor blinks**.
6. Leave the room and wait for about 1 minute for the lights to turn off, and then walk by the hallway.	Check that the lights do not turn on.
7. Enter the room.	Check that the lights turn on when you pass the doorway.

Troubleshooting

If the sensor's coverage is not good enough, you have the following options:

- The sensor has a rectangular field of view. Rotate the mounting plate 90 degrees if needed (see Install the sensor).
- Move the sensor(s) to a better location.
- Add an additional sensor to enlarge the coverage area.

If the sensor(s) pick up motion when they should not, you have the following options:

- Move the sensor(s) to a better location. Moving it closer to the wall where the door is located may reduce unwanted detection of hallway motion.
- With your fingernails or a small screwdriver, (partly) retract the sensor shield. Rotate the shield in such way that it prevents the unwanted motion detection.
- Rotate the mounting plate to change the sensor's field of view.

Finish installation

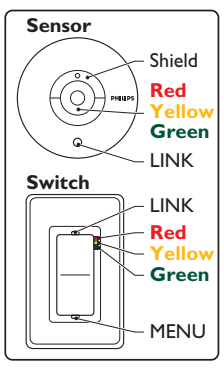
Set the dial at the back of **all** sensors, to set the time delay after which the lights turn off when the workspace is unoccupied. Some guidelines:

- Shared rooms (such as copy rooms, coffee rooms, etc.) typically have lots of motion. The timer can be set to a small value, such as 5 or 10 minutes.
- Private offices may have people sitting behind their desk typing for some time. A suitable timer value could be 15 minutes or longer.

Tip: After this initial setting, the timer is automatically extended by the sensor to adjust to the users' occupancy pattern.

Congratulations, you have successfully installed the OccuSwitch™ Wireless system!

LEDs and buttons



Indication		Meaning
Red, **yellow**, **green**		Device starts up
Blinking green	For 10 seconds	A device asked to show all linked devices
	For longer	Device is in linking mode
Blinking yellow	Irregular	Sensor is showing coverage
	Every 2 seconds	Device is in the configuration menu
Blinking red	Regular	A linked device is missing (see Troubleshooting)
	Every 2 seconds	Device is in the action menu
Steady yellow		Lights are switched manually. Automatic behavior resumes after vacancy

Menus

Configuration menu on switch

Action	Result
1. To enter the menu briefly press **MENU** on a **switch**.	The **yellow LED** starts to **blink** once every 2 secs.
2. Briefly press **MENU** again to go to the next option. Repeat until the right menu option is selected (see table below).	The **yellow LED blinks** 2 times for the 2nd option, 3 times for the 3rd option, etc.
3. To activate the selected option: • Briefly press **LINK** to activate option A. • Press and hold **LINK** to activate option B.	• The **green LED turns on** to indicate activation of option A. • The **green LED blinks** to indicate activation of option B.

Manual ON / Auto ON: By default, the lights will automatically turn on if occupancy is detected. It is possible to disable this function: the system then requires manual use of the rocker to turn on the lights. Using Manual ON makes the system compliant to California Title 24 regulations.

Three-way / Stand-alone switch: By default the switch will act as a **stand-alone switch:** the rocker only controls the load that is connected to that switch. However, all switches react to all sensors. When configured as a **three-way switch**, all loads are controlled from any switch.

Options on switch

Yellow LED	Option A	Option B (default)
1 blink	Exit menu	Exit menu
2 blinks	Manual ON/Auto OFF	Auto ON/Auto OFF
3 blinks	Three-way switch	Stand-alone switch

Action menu on switch

Action	Result
1. To enter the menu press and hold **MENU** until the **red LED** starts to **blink**.	The **red LED** starts to **blink** once every 2 secs.
2. Briefly press **MENU** again to go to the next item. Repeat until the right menu item is selected (see table below).	The **red LED blinks** 2 times for the 2nd option, 3 times for the 3rd option, etc.
3. To activate the selected item briefly press **LINK**.	The **green LED** confirms activation.

Action menu on sensor

Action	Result
1. To enter the menu press and hold **LINK** until the **red LED** starts to **blink**.	The **red LED** starts to **blink** once every 2 secs.
2. Briefly press **LINK** again to go to the next item. Repeat until the right menu item is selected (see table below).	The **red LED blinks** 2 times for the 2nd option, 3 times for the 3rd option, etc.
3. To activate the selected item press and hold **LINK**.	The **green LED** lights up to indicate activation.

Show linked devices: Troubleshooting function to test which devices are part of a single network. When activated, each device in the network **blinks** its **green LED** for 30 seconds. It may take up to 1 minute before the sensors start to blink, and only after having detected motion.

Test sensor coverage: Sensors **blink** their **yellow LEDs** when motion is detected. The test automatically ends after **10 minutes** or can be stopped on **each sensor separately**, by pressing the **LINK** button. It does not affect normal operation of the system.

Change channel: If devices are shown missing (the **red LED** is **blinking** continuously), the wireless link may be disturbed. In this case use a channel change to resolve the problem. The network will use the new channel. The LEDs on the device will **blink green** while trying the channel change. After completing, the device will light the **green LED** in case of success, or **blink** the **red LED** in case of failure.

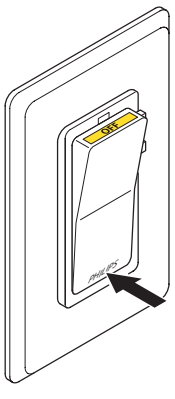
Menu items on switch

Red LED	Item
1 blink	Exit menu
2 blinks	Show linked devices
3 blinks	Test sensor coverage
4 blinks	Change channel

Menu items on sensor

Red LED	Item
1 blink	Exit menu
2 blinks	Show linked devices
3 blinks	Test sensor coverage

Maintenance



Routine lamp replacement

To safely do a routine replacement of a connected lamp, the lamp must be physically disconnected from mains power. To do so:

- On all switches, firmly press the OFF-side until the rocker clicks into the position where a **yellow band** with "OFF" becomes visible.

The load is now separated from the mains by an air gap, so you can safely replace the lamp.

⚠ **WARNING:** If this air gap function is not used, the power to the load may be switched on unintentionally while replacing the lamp.
This could result in serious injury or death.

⚠ **WARNING:** For any procedure other than lamp replacement, power must be disconnected at the main electric panel. Working on any such procedure with power ON can result in serious injury or death.

Replacing the sensor battery

CAUTION: You must have read the SAFETY section before replacing the battery.

To replace the battery of the sensor:

1 Rotate the sensor counterclockwise to remove it from the mounting plate.

2 In a safe and dry place, remove the old battery and insert the new battery.
CAUTION: Use only high-quality AA 3.6 V DC lithium-thionyl chloride batteries with the sensor.
Using improperly rated batteries may damage the sensor.

3 Place the sensor back on the mounting plate and rotate clockwise to fix it.

4 Dispose of used battery promptly. Keep away from children. Do not disassemble and do not dispose of in fire.

Troubleshooting

The lights turn off too quickly
The system has a smart timer that adjust the switch off time automatically. If this is not sufficient, correct the sensor's movement timeout: set the dial to a higher value.

The system is set to Manual ON, but lights turn on automatically
When entering the area within 5 minutes after lights turning off, the system assumes that turning off was not desired.

The system shows that a linked device is missing
When a device is missing, use the menu to show all linked devices. If a sensor does not show as linked, replace its battery. If this does not resolve the error, reset all devices (see below) and link them again (see Link devices).

The lights immediately turn on after being turned off
The sensor may be placed too close to a (heat generating) light source. Move the sensor to a better location.

Reset the device to factory defaults

To reset the device to its factory default configuration: Press and hold the link button on the device for more than 10 seconds. Release the button when the **red**, **yellow** and **green LEDs** light briefly.

WARRANTY STATEMENT

The Philips OccuSwitch™ Wireless products, when properly installed and under normal conditions of use (without overload, abuse or alteration), is warranted to you, the original user, for a period of two (2) years from the date of original purchase, to be free from defects in materials and workmanship. If during the warranty period you believe the purchased product or any part thereof has such a defect, you must return the product (or part) at your cost during such period, with proof of purchase (or if installed by a third-party a written explanation of installation transaction with proof of date), to Philips Lighting Electronics N.A (1-800-372-3331 / www.philips.com/advance), for repair or replacement (or to an authorized Philips Lighting Electronics N.A. supplier which agrees in advance to handle the return and replacement by factory authorization). If the product or part is found by Philips to have been defective in material or workmanship it will be repaired or replaced (as deemed necessary by Philips Lighting Electronics N.A.), and the replacement will be returned to you free of charge. The original user is solely responsible for any costs associated with removal and re-installation of the product and shipping to Philips Lighting Electronics N.A. or its authorized supplier.

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