

# Wireless Photosensor (WPS1)

## Installation Instructions

Daintree's WPS1 Wireless Photosensor is a battery powered light sensor that transmits and receives wireless messages in the ControlScope wireless lighting control system. It is intended to be mounted to the ceiling, to measure the light level in the space. No wiring, adjustment or calibration is needed.

As part of the ControlScope system and using open, standards based ZigBee wireless communications, the WPS1 reports real-time light measurements. Designed to work with the ControlScope daylight harvesting solution, the WPS1 enables automatic and continuous adjustment of electric light levels to auto-defined or user-defined setpoints.

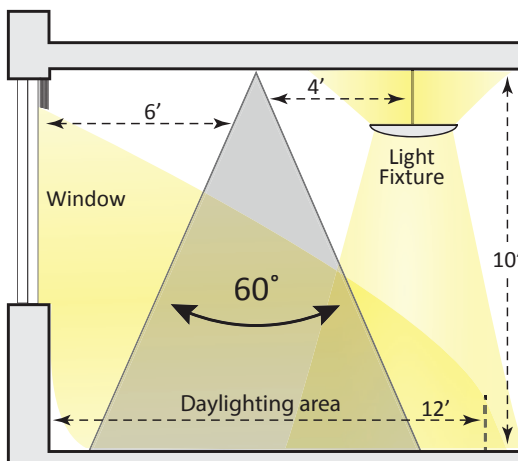
- Suitable for many applications: office, retail, education, etc.
- Ceiling surface mount, completely wireless installation

### Placement

Place the photosensor so that it views the daylight and the electric light available in the controlled area.

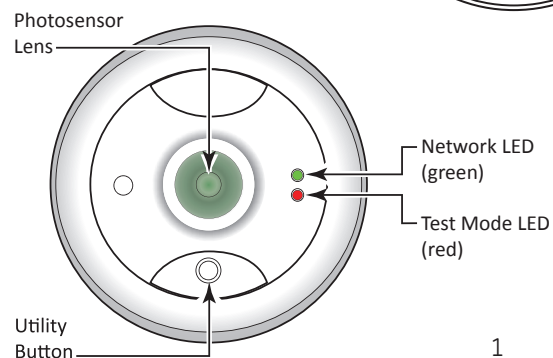
In areas with pendant fixtures providing uplighting, place the photosensor at least 4' (1.2m) away from the nearest uplighting fixture.

In areas where the primary light source is through a window, place the photosensor between 6' and 15' (1.8m to 4.5m) from the window.



### Installation Process

1. Determine the mounting local on for the sensor based on daylight availability and task area. See **Placement** for details.
2. Remove the sensor from the base by twisting it. Locate the sensor's IEEE address on the label inside the base. Record the sensor's IEEE address in its local on on the facility floor plan.
3. Attach the mounting base to the ceiling in the specified location. Be sure the label is visible after mounting the base.
4. Install the batteries in the orientation (+ -) shown on the bottom of the battery compartments.
5. Secure the sensor to the ceiling by twisting it onto the base.



# Wireless Photosensor (WPS1)

## Installation Process continued

6. Initiate the Installation Test Mode: momentarily press the Utility button. The green LED flashes once then the red LED starts flashing. (The test mode times out after 5 minutes.)

- Decrease the light at the photosensor by covering the lens with your hand: note that the LED flashes slower.
- Increase the light at the photosensor by moving your hand away from the lens: note that the LED flashes faster.

7. If you observe the behaviors described in step 6, the sensor has passed the installation test. Exit Installation Test Mode by momentarily pressing the Utility button again.

If you do not observe the proper behavior, see

### Troubleshooting.

8. Complete the installation by resetting the device to factory defaults: press and hold the Utility button for 5 seconds. Release the button when the Network LED begins to flash rapidly.

The sensor attempts to join a ZigBee network for up to 30 seconds. If it is able to join, the Network LED turns on solid for 10 seconds. If it is unable to join, it automatically retries every 15 minutes until it succeeds in joining a network.

**Note**, the sensor will not be able to join a network until a Wireless Area Controller (WAC) is commissioned.

See [LED Operation](#) table.

## LED Operation

Green LED: Network Indicator	Description
<b>Rapid flash</b> (12 times per second) for up to 30 seconds	Device is trying to join ZigBee network. If it fails to join, it will retry after 15 minutes. See the <a href="#">Joining the ZigBee Lighting Control Network</a> section for details.
<b>Solid for 10 seconds</b>	Device successfully joined a ZigBee network.
<b>Flashes once</b>	Utility button was pressed to initiate Installation Test Mode.
<b>Flashes twice</b>	Utility button was pressed for 2 seconds and the device is currently joined to a network.
<b>On for 2 seconds every 30 seconds</b>	Batteries low. Replace the batteries. Low battery warning in CSM-DP.

Red LED: Installation Test Mode, Motion	Description
<b>Flashes</b> at the rate of 2 times per second to 12 times per second	Installation Test Mode is active. The red LED flashes at a speed proportional to the amount of light detected. At the minimum light level it flashes 2 times per second. At the maximum light level it flashes 12 times per second.
<b>Off</b>	Normal operation. Installation Test Mode automatically exits after 5 minutes.



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## Joining the ZigBee Lighting Control Network

After successfully completing the Installation Test the WPS1 is ready to communicate with the Daintree Wireless Area Controller (WAC) and the Daintree ControlScope Manager (CSM) web-based lighting management user interface.

\* A network join can be retrIGGERED manually at any time using one of the following methods:

- **Reset** to factory defaults: This causes the device to leave any network to which it is currently joined. Following the reset, the device attempts to join a network. Press and hold the Utility button for 5 seconds. Release the button when the Network LED begins to flash rapidly.
- **Activate** device: Press and hold the Utility button for 2 seconds. If the device is already joined to a network, the Network LED flashes twice. If the device is not joined to a network, the Network LED flashes rapidly and the device will attempt to join a network.

For more information about configuring the lighting control network, see the instructions and on-line help provided with the ControlScope Manager application.

## Troubleshooting

### If the Installation Test procedure fails:

- Make sure that the photosensor lens is not obstructed and there is no debris on the lens.
- Check to be sure the batteries are installed correctly, observe polarity.
- Repeat the Installation Test.

### No LEDs ever flash. Is the unit working?

When the device is operating normally and it has joined a network, the LEDs are off. If you want to confirm that the batteries are not dead, you can initiate the Installation Test Mode ([Installation Procedure](#) step 6) or Activate the device as described in [Joining the ZigBee Lighting Control Network](#).



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## FCC warning message

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and radiates radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna;
- Increase the separation between the equipment and receiver;
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected;
- Consult the dealer or an experienced radio/TV technician for help.

### Specifications

<b>Power Supply</b>	(2) AA 3.6V Lithium-thionyl chloride battery (included)
<b>Battery Life</b>	5 years
<b>Radio Properties</b>	2.4 GHz, +7dBm transmit power
<b>Operating Environment</b>	Indoor, dry location.
<b>Temperature</b>	14° to 122° F (-10° to 50° C)
<b>Light Sensor Range</b>	1 to 2000 lux (0.092 to 185 fc)
<b>Lens</b>	Field of view: 60° cone
<b>Mounting</b>	(2) Screw holes on base plate; ceiling mount; twist-lock sensor
<b>Dimensions</b>	Diameter: 3.7" (95mm) Depth: 1.3" (32mm)

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### WPS1

#### CAUTION

RISK OF EXPOSURE IF BATTERY IS REPLACED BY AN INCORRECT TYPE.  
DISPOSAL OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS

