L' **legrand**®

Wattstopper®

Outdoor PIR Motion Sensors

Installation Instructions • Instructions d'Installation • Instrucciones de Instalación
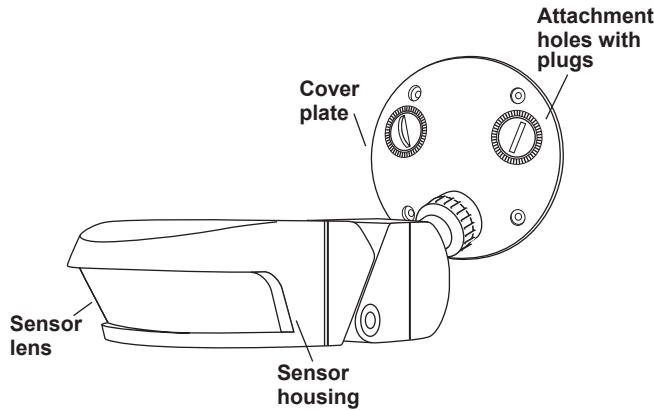
Catalog Numbers • Les Numéros de Catalogue • Los Números de Catálogo: EW-200-120, EW-200-277

Country of Origin: Made in China • Pays d'origine: Fabriqué en Chine • País de origen: Hecho en China

Attachment holes with plugs

Cover plate

Sensor lens

Sensor housing

Box Contents

• One (1) EW-200-120, EW-200-277
• Accessory bag:
Cover plate for 4" round outdoor junction box, with two cover plate attachment hole plugs, cover plate gasket, cover plate screws & screw covers (4 ea), lens mask, wire nuts (3)
• Installation instructions

Please read all of the installation instructions before installing this product.

SPECIFICATIONS

Voltage:

EW-200-120 .... 120VAC, 60Hz
EW-200-277 .... 277VAC, 60Hz
Mountable Locations .... Wall, ceiling or under eaves
Operating Temperature .... -40° to 130°F (-40° to 55°C)
Lens Coverage: .... 270°
Load Ratings ....0–1000W ballast or tungsten @120VAC
....0–1000W ballast @277VAC
Motor Load: ....1/6 HP @20VAC
....1/3 HP @277VAC

Current Consumption

Without Isolated Relay .... 22 mA max.
With Isolated Relay .... 34 mA max.
Time Delay Adjustment .... 12sec.–16min.
Light Level Adjustment 0.5FC–200FC
Isolated Relay on EW-200 (both -120 & -277 models)
Normally Open & Normally Closed contacts.
Isolated Relay Rating: .... 1A @ 30VAC/DC
UL 773A Raintight Rated
IEC-IP-55 RateD

U.S.Patents: 4,787,722; 5,640,113

UNIT DESCRIPTION

The EW sensors are outdoor passive infrared (PIR) motion sensors rated for wet conditions. They are preassembled with a junction box cover and are ready to install to standard round outdoor junction boxes.

The EW sensors utilize advanced PIR technology and a superior lens design to detect motion. PIR sensing is passive, and detects the difference between infrared energy in motion and the background space.
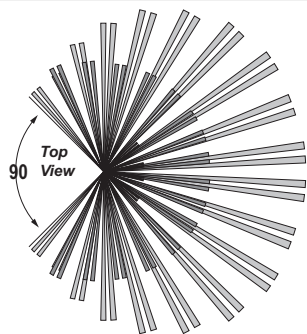
COVERAGE PATTERN

Coverage is shown as tested in a controlled setting with the unit mounted at 8 ft at a 10° tilt from the horizontal surface. The actual outside coverage pattern may vary substantially at the specific installation site and is dependent on several factors including weather conditions, external light sources, mounting height and sensor tilt.
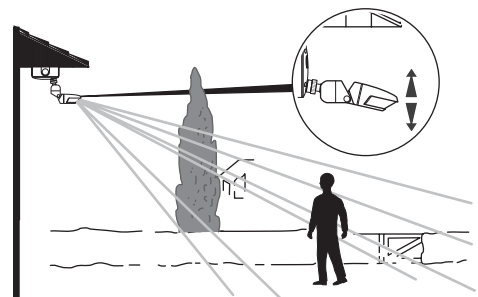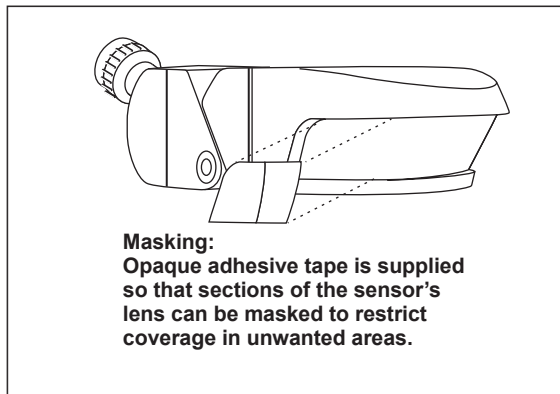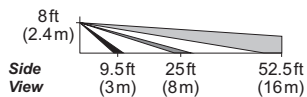
Coverage adjustment:
The front of the sensor housing can be moved up and down for easy coverage adjustment.

COVERAGE PATTERN (CONT'D)

Top View

90

8ft
(2.4m)

**EW-200
270° coverage**

Side View

9.5ft
(3m)

25ft
(8m)

52.5ft
(16m)

**Masking:
Opaque adhesive tape is supplied
so that sections of the sensor's
lens can be masked to restrict
coverage in unwanted areas.**

MOTION SENSOR PLACEMENT

Mounting Options

- Install onto a standard 4" round outdoor junction box.
- Mount to a flat, stable, vibration-free surface.
- Mount vertically or horizontally, usually to a wall, ceiling or under an eave.

Careful consideration must be given to sensor placement. PIR sensors detect the difference between infrared energy in motion and the background space. To be detected, a person or vehicle must be within the sensor's coverage pattern and have an unobstructed view of the sensor.
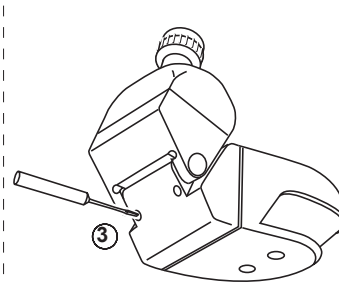
Horizontally Mounted:
For horizontal mounting, such as under eaves, **rotate the sensor housing** as shown in the diagrams below. **Make sure that the gasket is seated properly.**
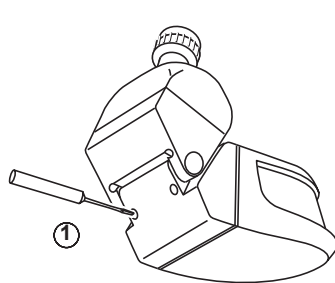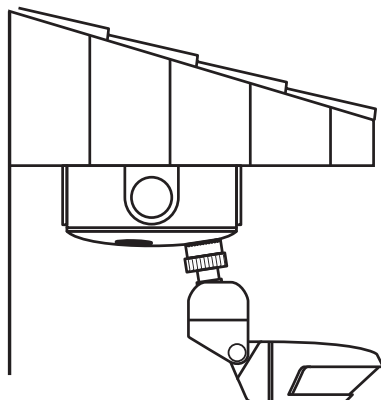
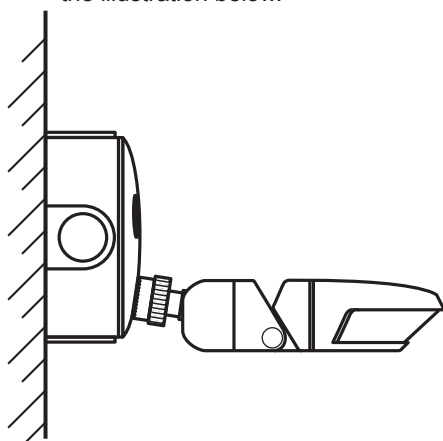① **Loosen the two screws at the back of the sensor.**
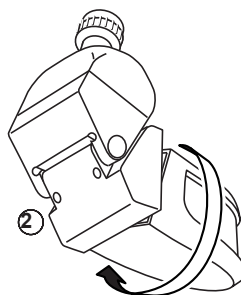
② **Rotate the sensor housing 180°.**

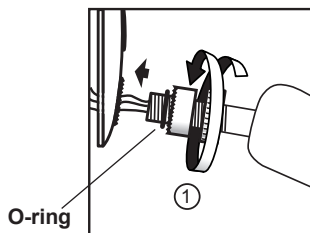③ **Replace and tighten the screws.**

Vertically Mounted:

The sensor comes assembled and ready for vertical cover plate mounting, as shown in the illustration below.
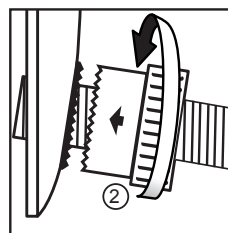
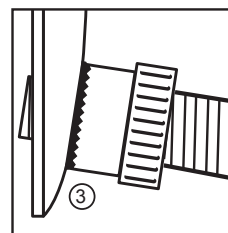**Attach mounting post to the cover plate:**

Make sure that the O-ring is on the threaded end of the mounting post before installing.

O-ring

① **Lightly screw the mounting post into the cover plate by rotating the sensor.**

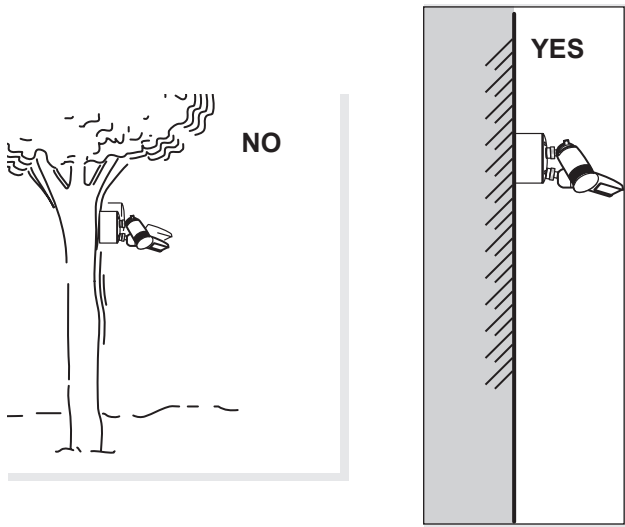② **Adjust the sensor to the desired angle, then tighten the locking ring.**

③ **Locking ring and collar must be securely seated against the cover plate locking ring.**

2

MOUNTING AND SENSOR POSITIONING GUIDELINES

WARNING: LAMP BULB MUST BE 1/2 INCH OR MORE FROM SENSOR HOUSING

Mount to flat, stable, vibration-free surface

NO

YES

Avoid runoff; sheltered locations preferred
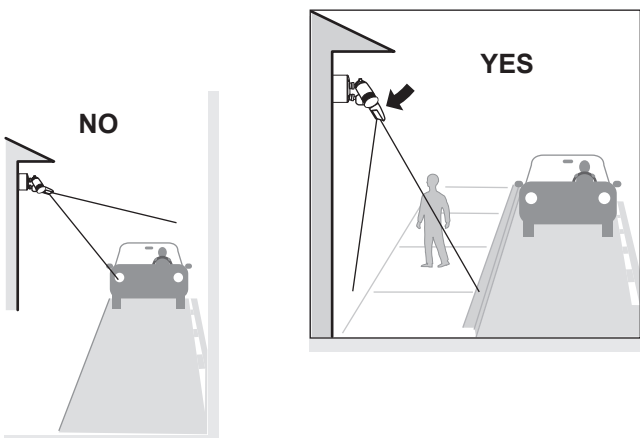
NO

YES
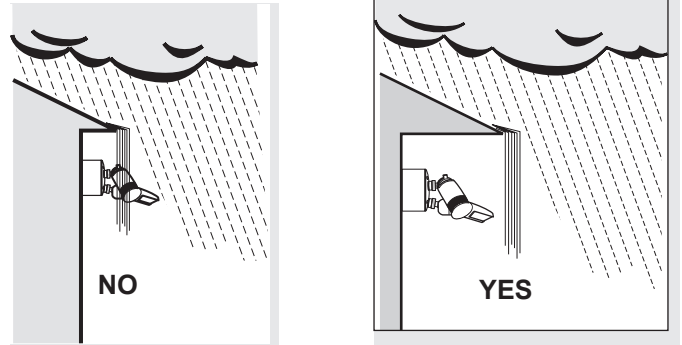
Mount motion sensor level

NO

YES
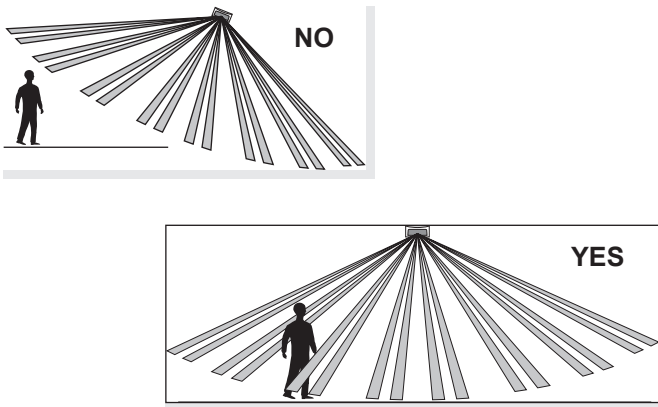
Mount sensor below lamps to avoid heat effects

YES

NO
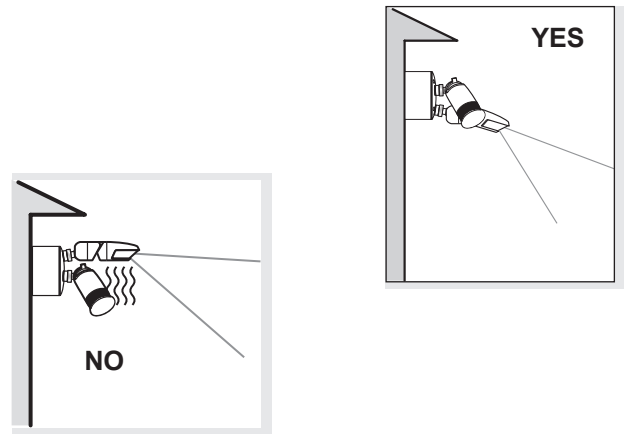
Aim motion sensor downward to limit sensing

NO

YES

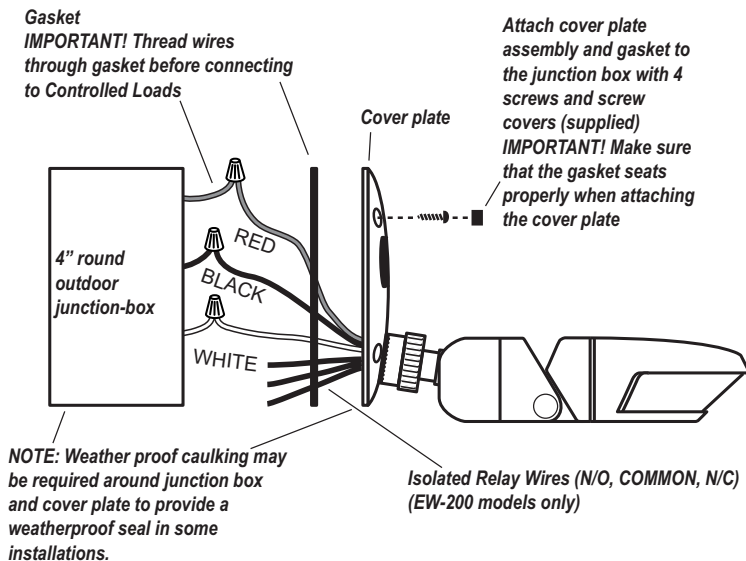**Do not mount by vents or above lamps**
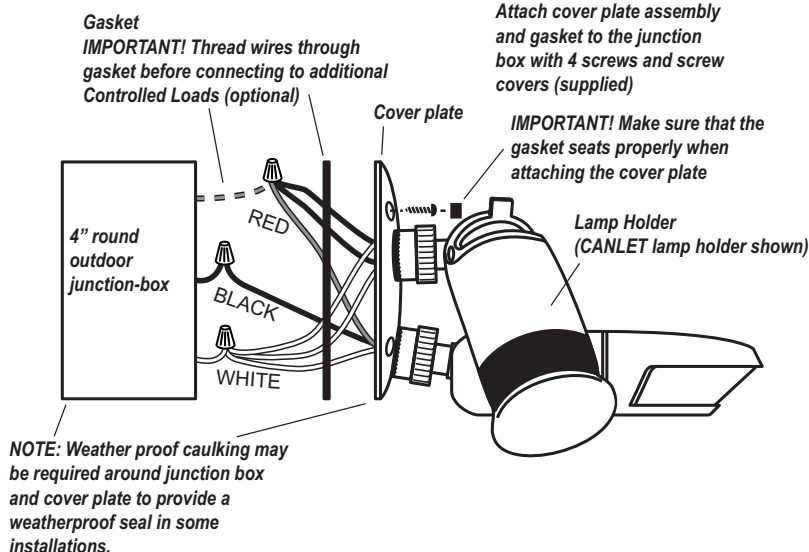
NO

NO

3
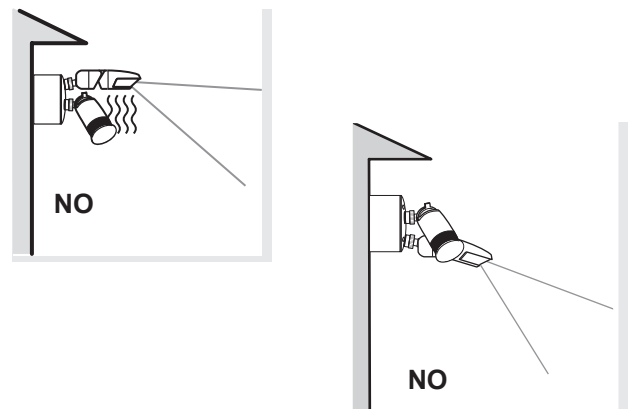
WIRING AND INSTALLATION

⚡ **WARNING:**
WHEN USED WITH LAMP HOLDERS THE LAMPS NEED TO BE 1/2" OR GREATER FROM THE SENSOR. ⚡

⚠ **CAUTION: TURN POWER OFF AT THE CIRCUIT BREAKER BEFORE INSTALLING SENSOR.SENSOR MUST BE INSTALLED BY QUALIFIED PERSONNEL ONLY.** ⚠

Wire connections for sensor

Gasket
IMPORTANT! Thread wires through gasket before connecting to Controlled Loads

Cover plate

Attach cover plate assembly and gasket to the junction box with 4 screws and screw covers (supplied) IMPORTANT! Make sure that the gasket seats properly when attaching the cover plate

4" round outdoor junction-box

RED
BLACK
WHITE

NOTE: Weather proof caulking may be required around junction box and cover plate to provide a weatherproof seal in some installations.

Isolated Relay Wires (N/O, COMMON, N/C) (EW-200 models only)

Wire connections when attaching lamp holders (Isolated relay wires not shown)

Gasket
IMPORTANT! Thread wires through gasket before connecting to additional Controlled Loads (optional)

Cover plate

Attach cover plate assembly and gasket to the junction box with 4 screws and screw covers (supplied)

IMPORTANT! Make sure that the gasket seats properly when attaching the cover plate

4" round outdoor junction-box

RED
BLACK
WHITE

Lamp Holder (CANLET lamp holder shown)

NOTE: Weather proof caulking may be required around junction box and cover plate to provide a weatherproof seal in some installations.
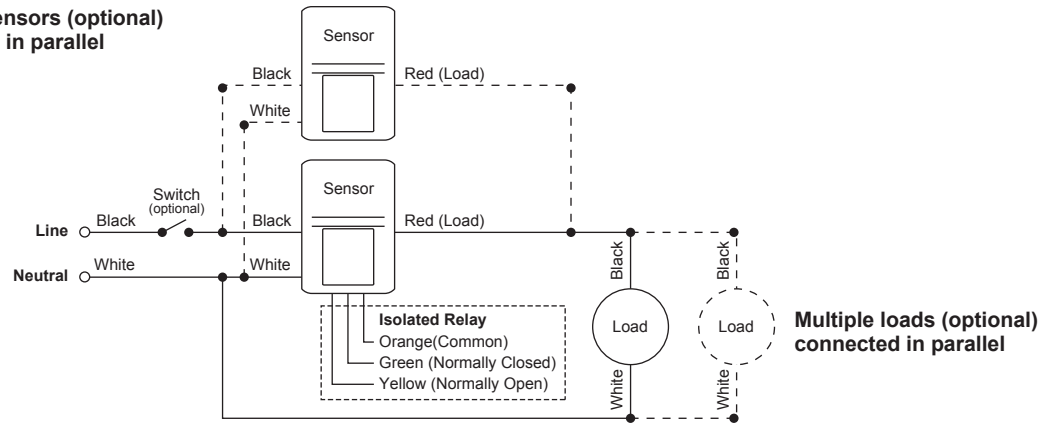
WIRING AND INSTALLATION

Wire the sensor as shown:
- **BLACK** wire from sensor to line voltage.
- **WHITE** wire from sensor to Neutral.
- **RED** wire is connected to lighting loads, if used, as shown (see diagram above and below), **not to exceed load rating** (see Specifications, front cover).
- Isolated Relay (EW-200 models only. See Specifications, front cover, for rating).
  Connect the wires necessary to the application that requires this output.
    ‣ **ORANGE** (Common) (must be used for proper operation).
    ‣ **GREEN** (Normally Closed) (Open when occupancy is detected).
    ‣ **YELLOW** (Normally Open) (Closed when occupancy is detected).

NOTE: When power is restored to the sensor, the lights will turn on. If no motion is detected by the sensor, the lights will remain on for approximately one minute and then turn off. (See **Security Override**).

Multiple sensors (optional) connected in parallel

Sensor

Black — Red (Load)

White

Sensor

Switch (optional)

Line ○— Black ——— Black — Red (Load)

Neutral ○— White ——— White

Black

Black

Isolated Relay
Orange(Common)
Green (Normally Closed)
Yellow (Normally Open)

Load

Load

Multiple loads (optional) connected in parallel

White

White

NOTE: When power is restored to the sensor, the lights will turn on. If no motion is detected by the sensor, the lights will remain on for approximately one minute and then turn off. (See **Security Override**).

TESTING AFTER INSTALLATION

To facilitate coverage testing, the factory setting for Time Delay is 12 seconds, and the Light Level is at Maximum.

If you want to test a sensor for intended detection or operation:

1. Make sure that the time delay is set to 12 seconds and the light level is set to maximum (clockwise to the sun ☼ icon. The dials are located on the bottom of the sensor.)
2. Adjust sensor and lamp holders to the desired position.
3. Ensure that power has been restored to the sensor.
4. Move into the location to be tested; lights should turn on. Stand still. In about 12 seconds the lights should turn off. Move or walk and the lights should turn on. Repeat this process to test other locations. Make sensor coverage adjustments as needed (see **Sensor Positioning**).

   NOTE: When power is restored to the sensor, the lights will turn on for approximately one minute. (See **Security Override**.)

   NOTE: If the lights do not turn on with movement in the area after they have turned off in step 4, the level of daylight may be too high and the sensor's light level adjustment is keeping the sensor inactive. Wait until daylight levels have reduced before testing again.

5. See **Dial Adjustments**, for guidelines to adjust the time delay and light level to the desired settings for operation.

DIAL ADJUSTMENTS

Time Delay and **Light Level** control dials are located on the bottom of the sensor.

1. **Adjust Time Delay:**

   The time delay is the amount of time that elapses before lights turn off since the sensor last detected motion. This can be set from 12 seconds to 16 minutes. For normal operation, the time delay should be set to 1 minute or more.

   • In areas where there is mostly walk through movement, the time delay amount can be low.
   • In areas where people may stop and remain for periods of time, the time delay should be set to a higher amount, preferably 16 minutes.

2. **Adjust Light Level:**

   Turning the light level adjustment dial raises or lowers a **daylight level** in the sensor. When the light of the day rises above this set level, the sensor becomes inactive; this keeps the lights off when there is enough daylight present.

We suggest initially setting the light level adjustment to **half way** between minimum and maximum. If a different setting is desired after installation, then follow the **Making Changes** procedures.
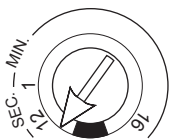
TIME DELAY DIAL

Minimum: 12 seconds
Maximum: 16 minutes

LIGHT LEVEL DIAL

Minimum = ☾
Maximum= ☼

MAKING CHANGES

If you want the lights to turn on/high sooner—turn the light level dial toward the sun ☼ icon, as desired; this raises the light level setting. (Remember, the sensor must detect motion for lights to turn on.)

• The lights **turn on sooner** in the **evening**.
• The lights **stay on longer** in the **morning**.

If you want the lights to turn on later—turn the light level dial toward the moon ☾ icon, as desired; this lowers the light level setting. (Remember, the sensor must detect motion for lights to turn on.)

• The lights **turn on later** in the **evening**.
• The lights **turn off sooner** in the **morning**.

Additional Notes:

- When testing adjustments, make sure not to block any of the light that is reaching the sensor or reflect any light into the sensor's lens.
- The sensor requires about 5 seconds for light level adjustments to take effect. This feature prevents the lights from turning on/high and off/low with quick light reflections, from car windows for example.
- The sensor will not turn lights off/low until no motion is detected and the time delay elapses.

SECURITY OVERRIDE

The EW sensors have an override-on feature which allows lights to be turned on for the set time delay period.

- If there is an installed switch—turning the switch off then on, turns the lights on. If no motion is detected by the sensor, the lights will remain on for approximately one minute and then turn off.

This will also happen when power is restored after a power outage.

NOTE: If the lights do not turn on, the sensor may be inactive due to the daylight level. Turn the switch off for 5 seconds, then turn it on. The lights should turn on as described above.

TROUBLESHOOTING

Lights do not turn off:

1. The sensor may be detecting movement outside the desired coverage area. The sensor's lens may need to be masked to block unwanted coverage (see Masking). If this does not solve the problem, see step 2.
2. Test to see that the sensor is operating properly. Set the time delay to minimum (12 seconds). Remain still, or move out of range of the sensor. If there is no movement in the coverage area, the sensor should turn lights off/low in 12 seconds. Reset the time delay to the desired value.
3. If the lights do not turn off/low, have a person qualified to check high voltage connections verify that the sensor and lighting are wired correctly (see **Wiring and Installation**).
   CAUTION: Make sure power is turned off at the circuit breaker before checking wiring.
4. If the sensor is wired correctly, call our Technical Support number.

Lights turn on/high when there is sufficient daylight:

Decrease the light level setting, as desired (counterclockwise toward the moon ☽ icon, see **Dial Adjustments**).

Lights do not turn on/high:

1. If there is a controlling switch installed, make sure that it is turned on.
2. If the lights do not turn on/high when lights are needed—increase the light level setting, as desired (clockwise toward the sun ☼ icon, see **Dial Adjustments**).
3. Have a person qualified to check high voltage connections verify that the sensor and lighting are wired correctly (see **Wiring and Installation**).
   CAUTION: Make sure power is turned off at the circuit breaker before checking wiring.
4. If the sensor is wired correctly, call our Technical Support number.

ORDERING INFORMATION

Catalog #	Description
EW-200-120	120VAC, 60Hz, 270° Outdoor/Indoor PIR Motion Sensor with Isolated Relay, includes cover plate
EW-200-277	277VAC, 60Hz, 270° Outdoor/Indoor PIR Motion Sensor with Isolated Relay, includes cover plate

When ordering, add (-W) for Arctic White or (-G) for Architectural Gray to catalog numbers.

THIRD-PARTY ORDERING INFORMATION

Additional color-matched lamp holder accessories (Outdoor incandescent lamp holders , Shrouds for PAR 20 & PAR 38 lamps , and Round outdoor junction boxes & cover plates) are available through your local distributor, or for further assistance call CANLET at 1-888-461-5307

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