Step 3 cont’d

### TO AVOID FIRE, SHOCK, OR DEATH:

**WARNINGS AND CAUTIONS:**

- Do not terminate using data type wire, such as Cat 5/5E.
- If you are unsure about any part of these instructions, consult an electrician.

**Step 2**

**NOTE:** Use check boxes when Steps are completed.

**INSTALLING YOUR OCCUPANCY SENSOR**

**NOTE:** Use check boxes when Steps are completed.

**Step 1**

**WARNING:** TO AVOID FIRE, SHOCK, OR DEATH; TURN OFF POWER AT CIRCUIT BREAKER OR FUSE AND TEST THAT POWER IS BEFORE WIRING:

- To be installed and/or used in accordance with appropriate electrical codes and regulations.
- If you are unsure about any part of these instructions, consult an electrician.
- Sensors must be mounted on a vibration free surface.
- Do not terminate using data type wire, such as Cat 5/5E.
- Do not mount sensors closer than 10 feet from each other.
- All sensors must be mounted at least 6 feet away from air vents, air handlers, and reflective surfaces (windows/mirrors).
- Do not touch the surface of the lens. Clean outer surface with a damp cloth only.

**Tools needed to install your Sensor**

- Slotted/Phillips Screwdriver
- Electrical Tape
- Cutters
- Pencil

**Parts Included List**

- Sensor (1)
- #8-32 Washer and Nut (2)
- #8-32 x 1/2” Screw (2)
- Threaded Rod (1) and Hex Nut (1)
- Plastic Washer (1)

### DESCRIPTION

The Occupancy Sensor is a low-voltage ultrasonic sensor that works with the OSPxx Series and CN100 power pack, or other Class II power supplies, to automatically control lighting. The sensor turns the lights on and keeps them on whenever occupancy is detected and will turn them off after the ‘delayed-off time’ has expired.

The sensor continually analyzes and adjusts to changing conditions. The sensor uses Commercial Power Pack, or other Class II power supplies, to automatically control lighting. The sensor turns the lights on and keeps them on whenever occupancy is detected and will turn them off after the ‘delayed-off time’ has expired. The sensor uses the most sophisticated processor technology which permits it to continually adjust and optimize its performance. Ultrasonic (doppler shift) motion detection gives maximum sensitivity that yields a sensor with excellent performance.

### INSTALLING YOUR OCCUPANCY SENSOR

**NOTE:** Use check boxes when Steps are completed.

**Step 2**

**Preparing and Connecting Wires:**

- Strip Gage (assure bare size listed)

**Step 3**

**Typical Installations:**

- Listed are 3 typical installation options (A, B, and C). Choose one that best suits your needs. Other methods of installation may be possible but they have not been described here.

**A Drop Ceiling Installation (Mounting Option A):**

- Use the threaded rod included.
- Select location for mounting of sensor for your application (refer to Mounting Location Diagram).
- Make a hole in the ceiling tile and insert the threaded rod until the sensor is flush with the tile.
- Insert screw through the hole in the included washer, then place the included washer over the rod and screw on the included hex nut.
- Class 2 Wiring: Connect low-voltage wires from Power Pack to Sensor per WIRING DIAGRAM as follows: Use separate wires of each lead tightly and, with circuit conductors, push firmly into appropriate wire connector. Screw connectors on obsolete making sure that no bare conductor shows below the wire connectors. Secure each connector with electrical tape.
- Rotate the sensor to the desired orientation. Note that the sensor base and back cover are locked. To lock the device in place, ensure that the arrows are not aligned.
- Restore power at circuit breaker or fuse to Power Pack. Installation is complete. Use check boxes when Steps are completed.

**Step 4**

**Install back cover of the sensor to wallboard or drop ceiling using the included screws, nuts and washers, or screws in combination with commercially available wall anchors:**

- Optional: Install base of the sensor such that the arrows do not line up.

**Step 5**

**Wiring Diagram:**

- Multiple Sensor, Single Power Pack
- Single Sensor, Single Power Pack

**TABLE 2: WIRE DESIGNATIONS**

<table>
<thead>
<tr>
<th>Color</th>
<th>Code</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>24</td>
<td>120-277 VAC, 120-240 VDC</td>
</tr>
<tr>
<td>Blue</td>
<td>26</td>
<td>120-277 VAC, 120-240 VDC</td>
</tr>
<tr>
<td>Brown</td>
<td>29</td>
<td>120-277 VAC, 120-240 VDC</td>
</tr>
<tr>
<td>Black</td>
<td>30</td>
<td>120-277 VAC, 120-240 VDC</td>
</tr>
</tbody>
</table>

**NOTE:** Ensure to use consumer wiring that is not being used.

**WARNING:** TO AVOID FIRE, SHOCK, OR DEATH; TURN OFF POWER AT CIRCUIT BREAKER OR FUSE AND TEST THAT POWER IS BEFORE WIRING:

- Use check boxes when Steps are completed.

**Step 5**

- Mounting Option Diagram A

- Mounting Option Diagram B

- Mounting Option Diagram C

**C. Junction Box or Surface Mount Raceway Installation (refer to Mounting Diagrams):**

**NOTE:** Listed below are Junction BOX installations which require mounting to conduit in one of the following three ways:

- Wire Mold Round Fixture
- Octagon Box
- Wire Mold Raceway (use applicable fittings)

**ULTRASONIC CEILING MOUNTED OCCUPANCY SENSOR**

**Catalog Items**

<table>
<thead>
<tr>
<th>Description</th>
<th>Voltage Range</th>
<th>Current Consumption</th>
<th>Hvac Relay</th>
<th>Operating Frequency</th>
<th>Coverage</th>
<th>Suggested Mounting Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSC05-RUN</td>
<td>16-28VDC/VDC</td>
<td>≤6mA DC, ≤18mA AC</td>
<td>4 &amp; 6 A 50/60Hz</td>
<td>1200 Hz</td>
<td>650 sq. ft</td>
<td>Mount in corner/over doorway</td>
</tr>
<tr>
<td>OSC05-5E</td>
<td>16-28VDC/VDC</td>
<td>≤6mA DC, ≤18mA AC</td>
<td>4 &amp; 6 A 50/60Hz</td>
<td>1200 Hz</td>
<td>650 sq. ft</td>
<td>Mount in corner/over doorway</td>
</tr>
<tr>
<td>OSC05-39</td>
<td>16-28VDC/VDC</td>
<td>≤6mA DC, ≤18mA AC</td>
<td>4 &amp; 6 A 50/60Hz</td>
<td>1200 Hz</td>
<td>650 sq. ft</td>
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</tr>
</tbody>
</table>

**FCC COMPLIANCE STATEMENT**

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference which may cause undesired operation. Any changes or modifications not expressly approved by Leviton could void the user's authority to operate this equipment.
ADAPTIVE FUNCTIONS

The sensor continually analyzes the parameters of the motion detection signal and adjusts its internal operation to optimize detection of motion while mitigating the effects of noise (electrical noise, air currents, temperature changes, etc.).

Operation:
- When the lights turn on, the sensor initially enters the "walk-through" mode. Once the room is occupied for longer than 2.5 minutes, the sensor exits the "walk-through" mode and enters the "Occupied" mode. When the sensor is first installed, the delayed-off time for the occupied mode is set on the time adjustment settings. While the sensor is in use, the delayed-off time will change, based on how the sensor adapts to the room conditions. Whenever the sensor subsequently turns on, the value of the delayed-off time will be the adapted value (refer to Occupancy Pattern Learning for Ultrasonic Technology).
- The adapted settings can be reset using the DIP switch.

Occupy Pattern Learning For Delayed Off Time:
- If the sensor adapts the delayed off time to anything other than the factory default settings, the sensor will automatically change the delayed off time in response to the occupancy and environmental conditions of the space it is installed in. The sensor analyzes the motion signal properties and will minimize the delayed-off time duration when there is weak and infrequent motion detection.

Occupy Pattern Learning For Ultrasonic Technology:
- The sensor learns the occupancy patterns of a space during the course of a day, for a seven day period. Any given time, the sensor looks at the collected data and adjust its ultrasonic sensitivity. The sensor will adjust the sensitivity to make it less likely to turn on during a period of non-occupancy and more likely to turn on during a period of occupancy.

SETTINGS

Adjustment knobs settings as per "recommended manual settings" (refer to Table 3 and Figure 1):
- All switches in the OFF position, except A4 is set at ON (refer to Table 4).

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