



## Bluetooth® Occupancy Sensor with ON/OFF and 0-10V Dimming Control

### INSTALLATION INSTRUCTIONS

#### INSTALLATION OVERVIEW

The installation instructions contained in this document are provided as a guide for proper and reliable installation. The mounting location should be selected and prepared based on the application. All electrical wiring and mounting hardware (i.e. electrical mounting box, conduit, etc.) should be prepared with consideration of the requirements outlined in the wiring and mounting diagrams below.

#### PRECAUTIONS

- Read and understand all instructions before beginning installation.
- NOTICE: For installation by a licensed electrician in accordance with National and/or local Electrical Codes and the following instructions.
- Disconnect switch or a circuit breaker must be provided and marked as the disconnecting device.
- Disconnect switch / circuit breaker must be within reach of operator.
- CAUTION: RISK OF ELECTRICAL SHOCK. Turn power off at service panel before beginning installation. Never wire energized electrical components.
- CAUTION: USE COPPER CONDUCTOR ONLY.
- Confirm that device ratings are suitable for application prior to installation.
- Use only approved materials and components (i.e. wire nuts, electrical box, etc.) as appropriate for installation.
- NOTICE: Do not install if product appears to be damaged.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- Contains Transmitter Module FCC ID: QOQ13
  1. This device complies with FCC part 15 Rules. Operation is subject to the following two conditions: This device may not cause harmful interference.
  2. This device must accept any interference received, including interference that may cause undesired operation.
- FCC Interference Statement (Part 15.105 (b))
- 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 can radiate 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 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.
- FCC Part 15 Clause 15.21: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- ISED RSS-Gen Notice:

This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

  1. This device may not cause interference; and
  2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

  1. l'appareil ne doit pas produire de brouillage;
  2. l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

#### PRODUCT OVERVIEW

The Bluetooth WASP Occupancy Sensor is specifically designed to provide ON/OFF and 0-10VDC dimming control for luminaires. An easy to use Bluetooth App (available for download on GooglePlay™ and App Store®) allows the user to set sensor settings. The sensor is available in end mount and surface mount versions in both line and low voltage options. Interchangeable twist-on lenses (sold separately) eliminate the need for field masking. All Bluetooth WASP sensors feature a photocell for ON/OFF control and daylight harvesting.

The Low temp / Water-tight / Outdoor versions feature a gasketed design of the enclosure which makes it impervious to dust and able to withstand water ingress making it an ideal sensor for outdoor and wet locations including those with temperatures of -40° F/C.

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## Bluetooth® Occupancy Sensor with ON/OFF and 0-10V Dimming Control

### INSTALLATION INSTRUCTIONS

#### SENSOR MODULE SPECIFICATIONS

Timer Timeouts	Timer1 (selectable range from 1 second to 20 minutes) Timer2 (selectable range from 1 minute to 5 hours)
Passive Infrared	Dual element pyrometer and lens designed for reliable detection of a walking person. NOTE: When used with program start ballast and LED drivers, a 1-2 second delay from occupancy detection to turn-on may be experienced. HCS recommends that you consult your fixture/ballast manufacturer for suitability with occupancy sensors.
Electrical	Low Voltage sensors (-24V): 12-24VDC +/- 20% "Class 2" (connects to UVPP, MP-series power packs, or Dim to OFF Drivers with Aux supply - not included) Line Voltage sensors (-UNV): 120-480VAC, 60Hz
Load Ratings	Line Voltage Version (-UNV) 120VAC: 10A Tungsten 120-347VAC: 5A Standard Ballast 120-277VAC: 5A Electronic Ballast 347VAC: 3A Electronic Ballast 480VAC: 3A Standard Ballast
Daylight Sensor Range	1 FC to 50 FC or 5 FC to 500FC
Operating Environment	Standard Version 32° to 149°F (0 to 65°C) Low temp / Water-tight / Outdoor Version IP65 Compliant -40° to 149°F (-40° to 65°C)
Certifications	Conforms with UL STD 508, UL STD 244A LWO version conforms to IP65 Bluetooth® Version 4.1 FCC Part 15.247 Contains Transmitter Module FCC ID: QOQ13

#### SURFACE MOUNT SENSOR INSTALLATION

1. Turn power off at the service panel before installing sensor.
2. Electrically connect the sensor to the lighting system per the applicable wiring diagram on page 4 and 5.
3. Attach sensor to fixture or electrical box using the (2) 8-32 x 1.25 mounting screws provided. Mounting holes should be 2.75" on center (See enclosed mounting diagram template). For indoor box mounting use a standard 3½" octagon (RACO #110 or similar). Alternately, a 4" octagon box (RACO #125 or similar) may be used along with a 4" offset crossbar fixture strap. For outdoor applications use a 4" round water tight box (BELL #5361-1 or similar) Note: some water tight boxes use #10 screws. These will require the that the mounting holes in the sensor be enlarged to accommodate the #10 screws.
4. Verify sensor is functioning by waving hand under lens and observing that the sensor's red light (located under the lens) flashes. NOTE: Low Temp/Water Tight/ Indoor/Outdoor Surface Mount sensors feature a water tight gasket on the housing. Sensor must be installed flush onto a flat surface area to ensure that a proper water tight seal is made between the sensor and the surface area.
5. Adjust sensor operation using Bluetooth App.

#### END MOUNT SENSOR INSTALLATION

1. Turn power off at the service panel before installing sensor.
2. Insert the sensor's wires and threaded nipple into a ½" knockout on the fixture body or an electrical junction box.
3. Thread the sensor's wires through the lock-nut.
4. Verify that the sensor is positioned correctly (i.e. Lens facing downward).
5. Screw lock-nut onto the sensor's threaded nipple and tighten.
6. Electrically connect the sensor to the lighting system per the applicable wiring diagram on page 4 and 5.
7. Attach sensor lens to sensor module and rotate clockwise approximately five degrees to lock into place (See Fig. 1 & 2).
8. Turn power on and allow sensor 2 minutes minimum to stabilize.
9. Verify sensor is functioning by waving hand under lens and observing that the sensor's red light (located under the lens) flashes.  
NOTE: Low Temp / Water Tight / Indoor / Outdoor End Mount sensors feature a water tight gasket that goes onto the chase nipple. Gasket must be installed onto the sensor's chase nipple to ensure that a proper water tight seal is made between the sensor and the fixture.
10. Adjust sensor operation using Bluetooth App.

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### SENSOR LENS INSTALLATION/REMOVAL INSTRUCTIONS

1. Place lens assembly flush onto sensor module and rotate clockwise approximately five degrees to lock into place (see Fig. 1 & 2.)
2. To remove lens: Rotate lens assembly counter clockwise approximately five degrees and lift off.



Figure 1: Lens Installation

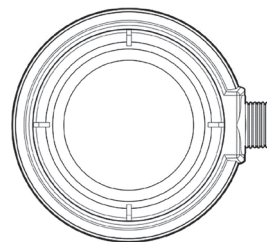


Figure 2: 360 Lens Installed

### SENSOR SETTINGS

The Hubbell Control Solutions' Device Setup Mobile App provides Bluetooth® wireless setup and configuration of HCS Control devices including luminaires equipped with a BT WASP sensor. The mobile App is available in Android™ and iOS® versions for free download from Google Play™ or Apple®.

- Remote "from the ground" programming of motion sensor and photo sensor settings
- Ability to create sensor profiles and clone to other sensors
- Intelliscope™ feature for precise real-time calibration and testing
- Apple iOS and Android operating systems supported
- Uses Bluetooth BLE for communication

For BT WASP programming information, download the HCS BT WASP Setup and Calibration Guide.

### SENSOR AND RANGE TESTING

Putting the sensor into test mode provides a means to confirm that the sensor's coverage pattern (see Figures 7 and 8, page 5) is aligned properly in the lighted space as well as verifying the basic functionality of the sensor.

1. Using the Bluetooth App, connect into the sensor and set the sensor's settings according to desired functionality.
2. Place sensor into Test Mode by pressing the test mode button in the app. NOTE: The sensor's LED will blink in bursts of 3 to indicate that Test Mode is active. When testing low voltage sensors, all sensors connected to power pack must be in Test Mode.
3. Vacate the sensor detection pattern. Remove obstructions (i.e. ladder or lift) from the sensor detection area as necessary.
4. Wait for at least 4 seconds, then re-enter sensor detection pattern area and observe that lights turn on.
5. Step out of sensor detection pattern area and observe that lights respond according to programming.
6. Repeat steps 4 and 5 from different entry points on the detection pattern area as necessary to verify proper detection pattern area coverage.
7. If necessary, modify sensor detection pattern area by adjusting sensor and/or lens orientation.
8. Sensor will automatically exit Test Mode after 60 minutes. Sensor detection will be indicated by a single blink of the LED. To manually exit Test Mode, press Test Mode button.

### WIRING DIAGRAMS

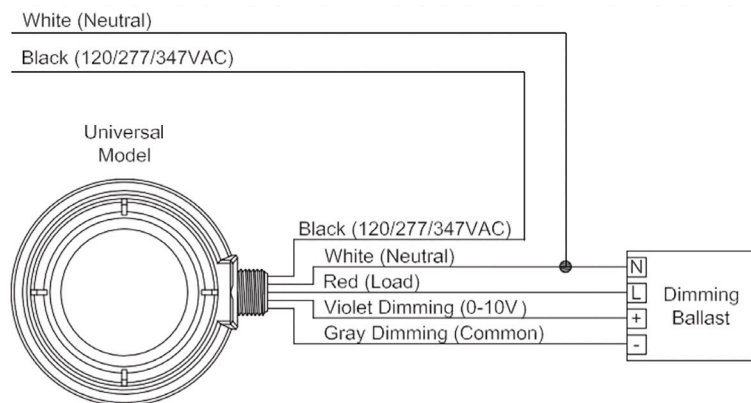


Figure 3: Wiring Diagram A - 120/277/347VAC Line Voltage Wiring Diagram

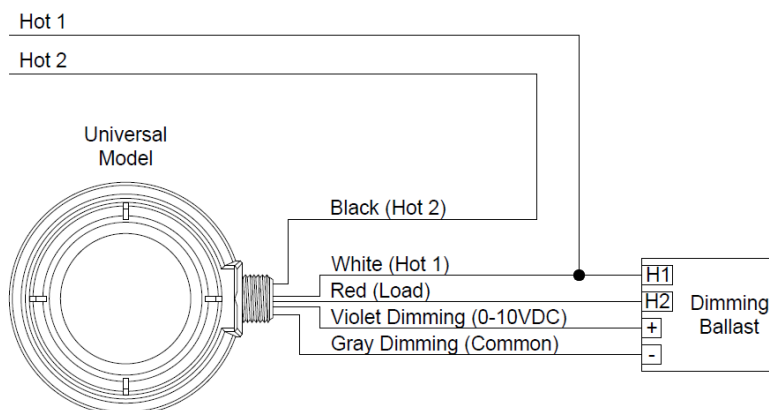


Figure 4: Wiring Diagram B - 208/240VAC and 480VAC Line Voltage Wiring Diagram

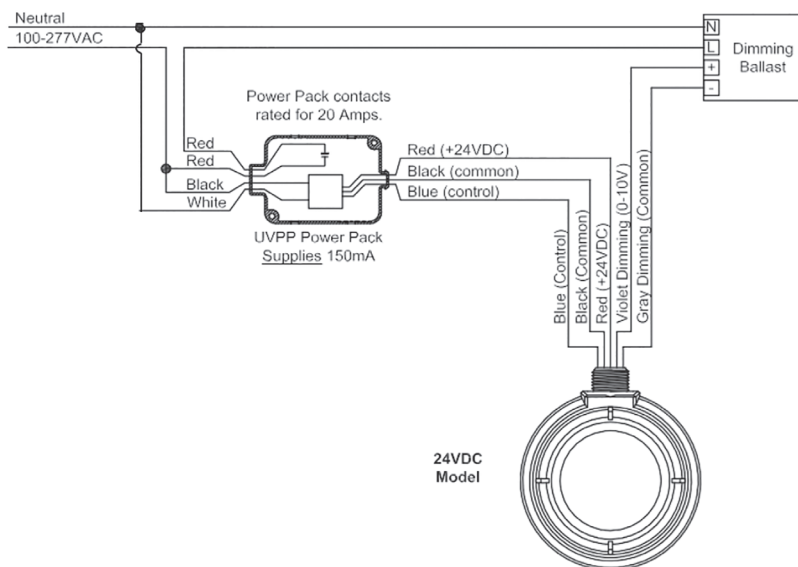


Figure 5: Wiring Diagram C - Low Voltage Sensor Connected to Power Pack

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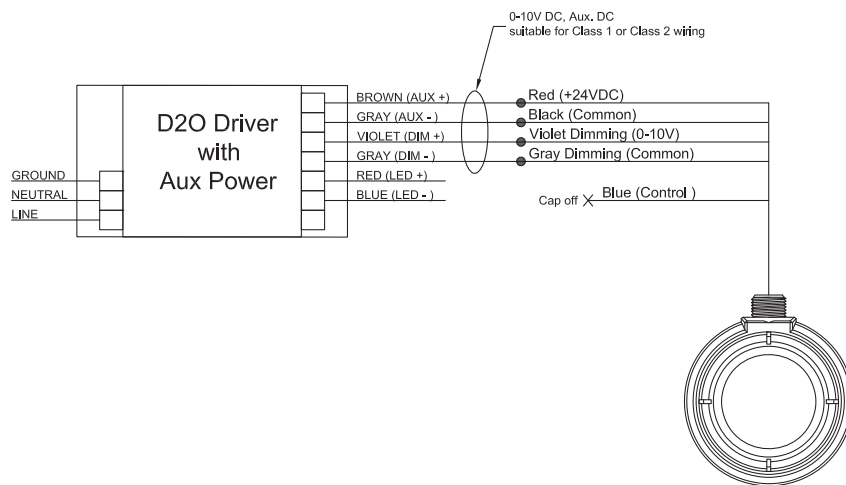


Figure 6: Wiring Diagram D - Low Voltage Sensor Connected to a Dim to OFF Driver with Aux Supply (12-24VDC)

#### Sensor Lens Coverage and Detection Patterns (When Mounted at 8 ft)

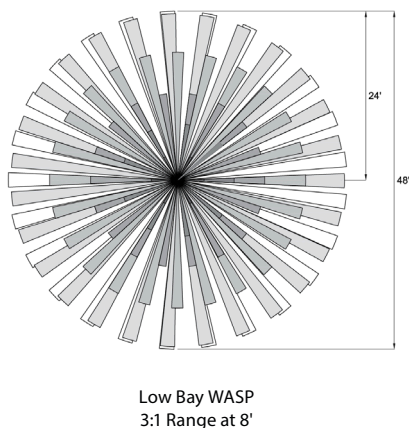


Figure 7: Top View of Lens Coverage Pattern at 8 ft

#### Sensor Lens Coverage and Detection Patterns (When Mounted at 30 ft and 45 ft with High Mount Lens)

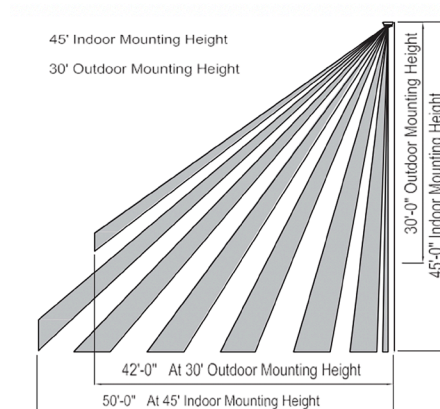


Figure 8: Side View of Lens Coverage Pattern at 30 ft and 45 ft