



## **ADDENDUM NUMBER 2 RFB 14-2451**

### **Lighting Efficiency Improvements – Halls A & B – Portland Expo Center**

*Note: The following additions and clarifications to Request for Bid 14-2451, hereby become part of the Request for Bid. It is essential that all prospective Bidders note the content of the Addendum.*

In the interest of fairness, this information is being provided to all interested bidders.

Clarifications and Additional Information:

1. Is there any existing emergency battery ballasts or generator for egress lighting and how does that affect the new system. Is it assumed that upon loss of power the path of egress is already established, passed by the city and will not change?
  - Emergency power is provided through a generator and as such, this project will not affect the existing system.
2. Will the Contractor use the existing old branch wire running through the fixtures or supplying and installing new?
  - It is expected that the existing wiring will be reused
3. The OCC sensors do not appear to be wireless, in the areas that are controlled by the Hubbell system does the Contractor need to run a low voltage cable from the OCC sensor to the wiHubb? Can this cable be run open cable in the rafters?
  - Low voltage wiring is to be provided by Contractor as necessary for sensors. Cable run open in the rafters is acceptable.
4. Attachment B, Page 3 – it looks like the “Switch OCC Sensors” and “Fixture Controlled by other sensor” are not accounted for on the BOM. Is there a specification for these and can the Contractor add those quantities to the BOM?
  - “Switch OCC Sensors” shall be per Attachment A to this addendum and added to Attachment A of the RFB. Attachment B to this addendum shall be used as wall mount sensors for line items #44 and #45 and also added to Attachment A of the RFB. “Fixture controlled by other sensors” references that the control of that fixture is provided with the sensor in Attachment A.
5. Fixture #6 includes a pan, does this mean the Contractor is completely removing the existing vaportight fixture and channel for the existing fixtures?
  - Yes, the entire existing fixture #6 is to be removed and replaced with the new fixture #6 specifications.
6. The SmartPort plug and play cables for the switches say “ordered separately” but do not show up on the BOM. Is there an allowance that should be added for these cables?
  - It is acceptable to use the Hubbell Brand SmartPort, or a field assembled cable to connect these devices. Any vertical cabling is required to be in conduit.

# Addendum 2/RFB 14-2451



**METRO**

600 NE Grand Ave.  
Portland, OR 97232-2736  
(503) 797-1700

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7. Attachment B, Page 3 – the number of “Custom Control System” controls correspond approximately to the number of switches shown on Attachment C (BOM) except for the (13) GANG PHBA switches, what are the GANG switches controlling and do they show up on Attachment B anywhere?
- The quantity listed for the GANG PHBA switches is incorrect. This quantity should read 2 (two) and these are each located near a main electrical panel, one in Hall A and one in Hall B. These will each provide controls for all of Hall A and B.

**Attachments:**

Attachment A: Switch OCC Sensors Cut Sheet/Specification

Attachment B: Ceiling Mount Occupancy Sensors Cut Sheet/Specification

All other terms and conditions of this solicitation remain the same.

Issued October 10, 2013

  
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Julie Hoffman, CPPB/  
Procurement Analyst



**Hubbell Building Automation, Inc.**

## LightHawk™ Wall Switch Occupancy Sensors Installation and Operating Instructions

### Hubbell Building Automation, Inc.

9601 Dessau Road, Building One, Suite 100

Austin, Texas 78754

512-450-1100 • 512-450-1215 Fax

www.hubbell-automation.com

### Description

The LightHAWK is an intelligent self-adapting occupancy sensor that is designed to replace existing wall switches.

### Specifications

- 1000 sq. ft coverage area (Models: LHIR and LHMT)
- 400 sq. ft. coverage area (Models: LHUS)
- Single or Dual circuit 120/277VAC, 50/60Hz operation
- Single or Dual circuit 347VAC 60Hz operation (Canadian version)
- Electrical Ratings: (Each Output Separately)  
120VAC – 800W Incandescent, 1000W Ballast, 1/6 HP  
277VAC – 1800W Ballast, 1/6 HP  
347VAC – 3470W Ballast (Canadian version)
- Adjustable Time Delay: 4-30 minutes, self-adapts based on occupancy
- Light Level Adjustment (Circuit B output on Dual Circuit versions): 10-500+FC
- UL, cUL listed

### Precautions

**CAUTION: RISK OF ELECTRICAL SHOCK.** Turn power off at service panel before beginning installation. Never wire energized electrical components.

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.

**NOTICE:** For indoor use only.

**CAUTION: USE COPPER CONDUCTOR ONLY.**

Confirm that device ratings are suitable for application prior to installation.

**NOTICE:** Do not install if any damage to product is noticed.

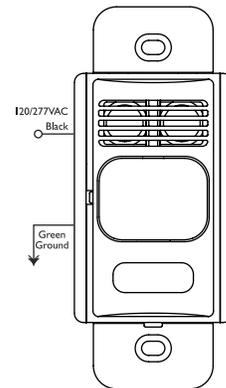
### Installation

1. Turn power off at the service panel.
2. Remove the old switch(es) if applicable.
3. Wire as shown in the Wiring Diagram section. A secure connection to ground is necessary for the sensor to function properly.
4. Install sensor in wall box using mounting screws provided.
5. Restore power to the sensor and allow it to warm up (up to 2 min.).
6. Remove the sensor's cover – see Adjustments section.
7. If desired, calibrate the photocell sensor and adjust the sensor's configuration switch settings as described below.
8. Reinstall the sensor's cover.
9. Install a Decorator style wall plate (not included).

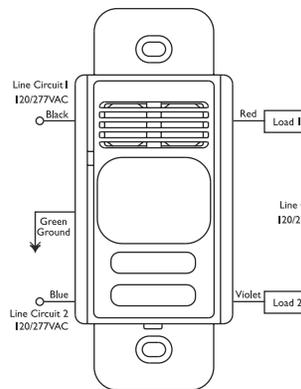
### Test Mode – to enter test mode:

1. Make sure lights are on.
2. Press and hold the ON/OFF button until the lights cycle off then back on. For dual circuit sensors, press and hold the ON/OFF button for Circuit A. For No-button sensors, press and hold the Test Button. See Sensor Operation Diagram.

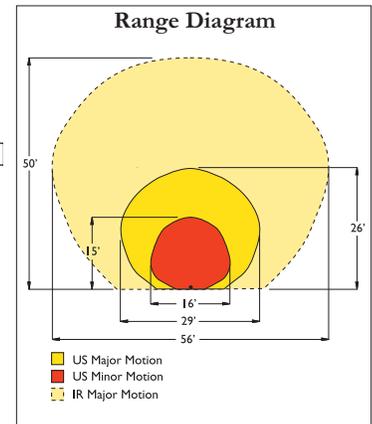
### Wiring Diagram



Single Circuit

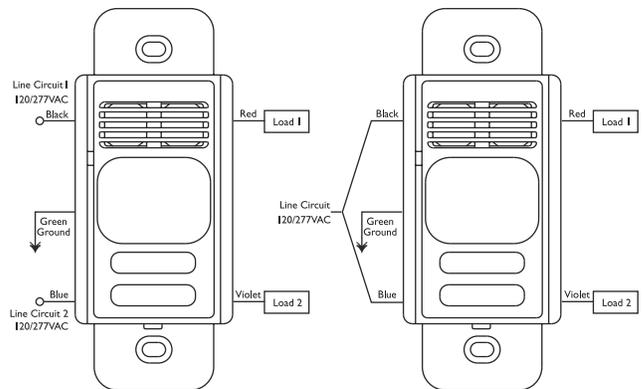


Dual Circuit Sensor  
(Wired for Dual Circuits)



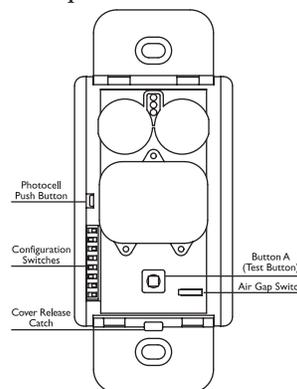
Range Diagram

- US Major Motion
- US Minor Motion
- IR Major Motion

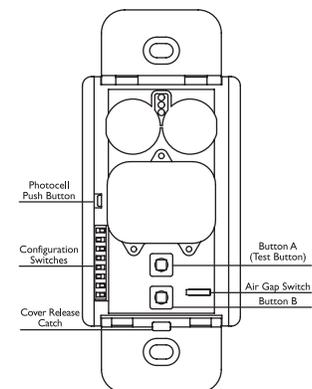


Dual Circuit Sensor  
(Wired for Single Circuit)

### Sensor Operation



One/No Button Sensors



Two Button Sensors

- Sensor is now in test mode. Vacate room, lights should turn OFF after 5 seconds. Wait 5 seconds after turn OFF before re-entering space, for US only sensors wait 15 seconds. Step back into room (sensing zone), lights will turn back on. Repeat as necessary to confirm sensor is operating and detecting in the lighting zone as desired. Sensor will flash red or green LED while occupied to indicate Passive Infrared or Ultrasonic occupancy detection respectively.
- To exit Test Mode, press any button. Note: Sensor will automatically exit Test Mode after 1 hour.

Controls selection between Auto ON/Auto OFF Mode and Manual ON/Auto OFF Mode. For Dual Circuit versions, this switch controls Auto/Manual Mode for Circuit A only. (Manual ON/Auto off mode requires A button push to turn lights ON.)

**Switch 2 – Auto/Manual B (Dual Circuit Versions Only)**

Controls selection between Auto ON/Auto OFF Mode and Manual ON/Auto OFF Mode for Circuit B.

**Switch 3 – Photocell Mode**

Controls selection between One Way Mode and Continuous Mode. In One Way Mode, the sensor turns lights on in response to occupancy when light levels are below the photocell set point then maintains them in the on condition regardless of light level. In Continuous Mode, the sensor functions the same as One Way Mode, except that during periods of occupancy it will turn the lights off if ambient light levels increase sufficiently to illuminate the space. Note: For Dual Circuit versions, the photocell controls the operation of Circuit B only.

**Switches 4 and 5 – Timer 1 and Timer 0**

Use to set the initial timer value that the sensor will maintain lights on without detecting occupancy. See Auto/Fixed Timer below for additional information.

**Switch 6 – Auto/Fixed Timer**

Controls selection between Adaptive Timer Mode and Fixed Timer Mode. In Automatic Adaptive Timer Mode, the sensor will use the timer interval setting from switches Timer 0 and Timer 1 above. It will then begin adjusting it's timer settings as appropriate for the lighted space to optimize performance based on occupancy patterns. In Fixed Timer Mode, the sensor's self-adapting timer functions are disabled and the sensor maintains the lights in the space according to the switch settings of Timer 0 and Timer 1.

**Switch 7 – Hallway**

Disables or enables the sensor's hallway algorithm. When enabled, this feature reduces false tripping of the lights associated with hallway traffic outside the room where the sensor is controlling the lights. This feature should be enabled when the sensor's range of detection extends into a hallway or adjoining areas with occupancy.

**Switch 8 – Adaptive Reset**

When toggled on then off, this switch resets the sensor's adaptive timer and sensitivity settings. The adaptive timer is reset according to Timer 0 and Timer 1 above. The adaptive sensitivity (both PIR and Ultrasonic as applicable) are reset to factory default. The Photocell Sensor is also reset to factory default (disabled) such that the sensor will turn on the light(s) in response to occupancy regardless of ambient light levels in the lighted space.

**Manual Override** – Press button(s) to toggle lights ON or OFF. Lights will remain in the last state determined by the buttons while occupancy is detected. Sensor will return to automatic mode when the sensor's unoccupied timer value is reached. Note: No-button sensors cannot be manually turned off.

**Air-Gap Override** – If it is necessary to service the controlled circuits without de-energizing them at the breaker panel (this is not recommended as a standard procedure):

- Remove the sensor's cover plate (see Adjustments section).
- With the circuit(s) on, turn the air-gap switch to OFF (toward the outside of the sensor).
- Push the button(s) to turn the circuit(s) OFF.
- Push the button(s) again to verify override.

The air-gap switch will now interrupt sensor operation, preventing output(s) from turning on again, regardless of occupancy or pushbutton conditions. To return the sensor to normal operation, flip the air-gap switch to the ON position and push the button(s) to return the circuit(s) to Automatic mode. Re-install the sensor cover. Note: Sensor cover cannot be re-installed unless the air-gap switch is in the ON position.

**Adjustments**

Open the sensor cover by inserting a small blade screwdriver into the catch at the bottom of the sensor and gently snap the cover loose. Set the adjustment switches as desired (see Configuration Switch Settings below). To re-install cover, insert catches at top of cover into recesses in sensor housing and gently snap cover into catch at bottom of housing.

**Photocell**

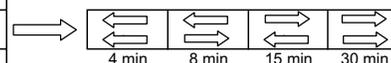
The photocell is used to detect if other light sources such as sunlight, are enough to illuminate the space without turning on the lights. For Dual Circuit versions, only Circuit B is controlled by the photocell. The sensor is shipped from the factory with the photocell control disabled. If use of the photocell is desired, calibrate the photocell set points as follows:

- Remove the sensor's cover plate.
- With the sunlight at the desired level where the controlled lights should be off, press the photocell button.
- Step back from the sensor to avoid changing ambient light levels in the room. Note: During calibration the sensor will turn the lights off and on.
- After the calibration process is complete (approx. 7 min.), reinstall sensor cover. (Calibration is over when LED's blink in response to motion.)

**Configuration Switch Settings**

Switch Settings (as seen on front of sensor)

Switch	Function	switch toggle direction	
		←	→
8	Sensitivity/Timer/Photocell	Enable Adaptation	Restore Factory Defaults
7	Hallway Mode	Disable	Enable
6	Timer Mode	Automatic	Fixed
5	Timer Select 1		
4	Timer Select 0		
3	Photocell Control Mode	One Way	Continuous
2	Relay Override B	Automatic	Manual
1	Relay Override A	Automatic	Manual




**Building Automation, Inc.**

## Ceiling Mount Occupancy Sensors

*OMNI-BP™ Line Voltage Dual Technology Ultrasonic and Passive Infrared Ceiling Sensor featuring IntelliDAPT®*

### KEY FEATURES

- IntelliDAPT self-adaptive technology—no manual adjustment required
- All-digital dual technology (ultrasonic [US] and passive infrared [PIR]) sensor
- Non-volatile memory for sensor settings
- 500–2,000 square-foot coverage area (depending on model)
- Self-contained power supply
- Universal voltage (100-277VAC; 50/60 Hz)
- UL and cUL listed
- California Title 24 compliant
- Five-year warranty



OMNIDT2000BP1277

### OVERVIEW

The OMNIDTBP1277 line voltage ceiling sensor combines ultrasonic (US) and passive infrared (PIR) technologies to turn lighting on and off based on occupancy. This dual technology provides accurate turn-ons while virtually eliminating false-offs. This sensor features Hubbell Building Automation's patented IntelliDAPT technology, which makes all the sensor adjustments automatically. Throughout the product's lifespan, smart software analyzes the controlled area and makes digital adjustments to sensitivity and timer settings. Occupancy sensors with IntelliDAPT provide a maintenance-free install-and-forget operation.

### FEATURES and BENEFITS

#### Features

Self-contained power supply

IntelliDAPT technology

All-digital dual technology (ultrasonic [US] and passive infrared [PIR]) sensor

Non-volatile memory for sensor settings

#### Benefits

- Does not require Class 2 (low voltage) wiring or separate power/switch pack
- Automatic voltage detection
- Sensor automatically determines the ideal setting for an area
- Excellent false trip immunity (for improved accuracy)
- No manual sensitivity and timer adjustments required
- Provides a maintenance-free install-and-forget operation
- Superior US minor-motion detection with excellent PIR long-range major-motion detection
- Learned and adjusted settings will not be lost during power outages

### APPLICATIONS

- Offices
- Small conference rooms
- Break rooms

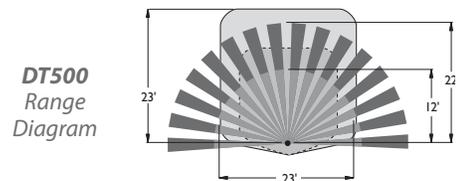
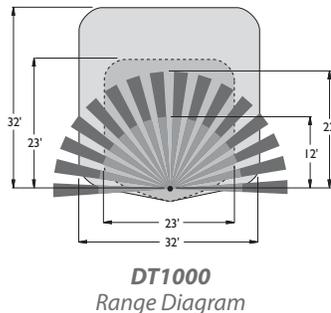
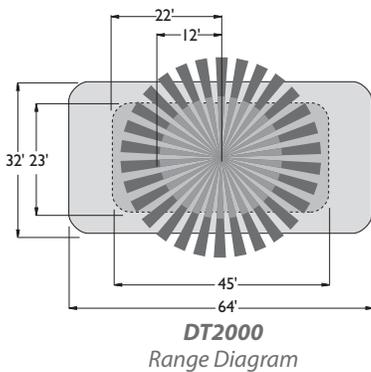
**SPECIFICATIONS**

IntelliDAPT	<ul style="list-style-type: none"> <li>• Auto reset from test setting</li> <li>• Self-adjusting timer</li> <li>• Self-adjusting ultrasonic and passive infrared thresholds</li> <li>• Automatic false-on/false-off corrections</li> </ul>
LED lamp	<ul style="list-style-type: none"> <li>• Red—infrared motion</li> <li>• Green—ultrasonic motion</li> </ul>
Timer timeout	<ul style="list-style-type: none"> <li>• Automatic mode: 8–30 min. (self-adjusts based on occupancy)</li> <li>• Test mode: 8 seconds (for an easy check at installation)</li> </ul>
Ultrasonic (US) output	<ul style="list-style-type: none"> <li>• OMNIDT500: 40kHz output</li> <li>• OMNIDT1000 and OMNIDT2000: 32kHz</li> </ul>
Passive infrared (PIR)	<ul style="list-style-type: none"> <li>• Dual-element pyrometer and 12-element cylindrical rugged lens</li> </ul>
Coverage	<ul style="list-style-type: none"> <li>• 500–2,000 square feet (depending on model)</li> </ul>
Power requirements	<ul style="list-style-type: none"> <li>• 100/277VAC; 50/60Hz</li> <li>• Single phase only</li> </ul>
Output	<ul style="list-style-type: none"> <li>• 24 VDC active high-logic control signal with short circuit protection</li> </ul>
Operating environment	<ul style="list-style-type: none"> <li>• Indoor use only</li> <li>• Operating temperature: 32°–104°F (0°– 40°C)</li> <li>• Relative humidity (non-condensing): 0%–95%</li> </ul>
Construction	<ul style="list-style-type: none"> <li>• Casing—rugged, high-impact, injection-molded plastic KJB ABS Cicolac (UL-945VA) flame class rating, UV inhibitors</li> <li>• Color-coded leads are 6” long</li> </ul>
Size and weight	<ul style="list-style-type: none"> <li>• Size: 4.5” diameter, 3.4” height (114 mm diameter, 86.4mm height)</li> <li>• Weight: 8.2 oz (232g)</li> </ul>
Color	<ul style="list-style-type: none"> <li>• Off-white</li> </ul>
Mounting	<ul style="list-style-type: none"> <li>• Mounting using a single gang mud ring attached to 4 inch square electrical box</li> <li>• Recommended MAX mounting height: 12ft.</li> </ul>
Certifications	<ul style="list-style-type: none"> <li>• UL and cUL listed</li> </ul>
Warranty	<ul style="list-style-type: none"> <li>• Five years</li> </ul>

**HOW TO ORDER**

Catalog Number	Description	Color	Coverage
OMNIDT500BP1277	Line Voltage Ultrasonic and PIR Ceiling Sensor with IntelliDAPT	Off-white	500 sq. ft.
OMNIDT1000BP1277	Line Voltage Ultrasonic and PIR Ceiling Sensor with IntelliDAPT	Off-white	1,000 sq. ft.
OMNIDT2000BP1277	Line Voltage Ultrasonic and PIR Ceiling Sensor with IntelliDAPT	Off-white	2000 sq. ft.

**RANGE DIAGRAMS**



**Building Automation, Inc.**

**Hubbell Building Automation, Inc.**  
 9601 Dessau Road | Building One | Austin, Texas 78754  
 {512} 450-1100 | {512} 450-1215 fax  
[hubbell-automation.com](http://hubbell-automation.com)