



OMNI™ Passive Infrared, Ultrasonic and Dual Technology Ceiling Sensors

Installation Instructions

Hubbell Building Automation

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DESCRIPTION

Hubbell Building Automation's OMNI™ Ceiling Mount Sensors employ passive infrared and ultrasonic technologies to turn lighting on and off based on occupancy. These sensors represent the state-of-the-art in sensor technology and are designed to provide accurate turn-on while virtually eliminating false-offs. The sensors feature 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.

SPECIFICATIONS

- Power Requirements: Powered by UVPP or MP-Series power pack (sold separately)
- IntelliDAPT® self-adaptive technology
- All-digital passive infrared, ultrasonic and dual technology versions available
- Non-volatile memory for sensor settings
- Coverage range: 450 sq. ft. to 2000 sq. ft. (based on model)
- Optional Isolated Form C relay with Normally Open / Normally Closed contacts
- For indoor use only
- Five year limited warranty

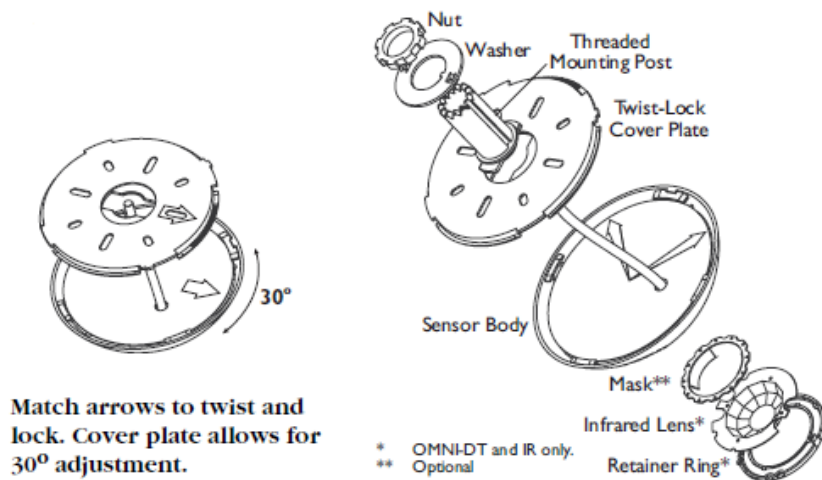
PRECAUTIONS

- 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 device ratings are suitable for application prior to installation. Use of device in applications beyond its specified ratings or in applications other than its intended use may cause an unsafe condition and will void manufacturer's warranty.
- 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.

OCCUPANCY SENSOR COVERAGE AND PLACEMENT

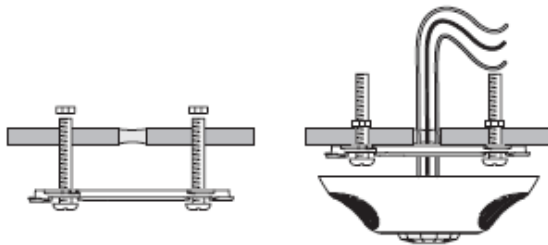
- The patterns for range coverage are provided below. Closely follow the range diagrams for major and minor motion coverage.
- Sensor must have an unobstructed view of the room. Do not mount behind or near tall cabinets, shelves, hanging fixtures, etc.
- Keep the sensor away from air flow – at least 6-8 feet from HVAC vents.
- For interior use only. These sensors should not be installed in damp locations such as near a shower or steam source, in wet locations, or where exposed to rain.
- Do NOT install wall mount sensor in view of strong direct or reflected light sources.
- Decrease total coverage area by 15% for “soft” rooms (for example, heavy draperies or heavy carpeting).
- Indicated ranges are based on mounting heights of 8’-12’. Ceiling and wall mounted sensors should not be mounted on ceilings or walls above 12’.

COMPONENTS

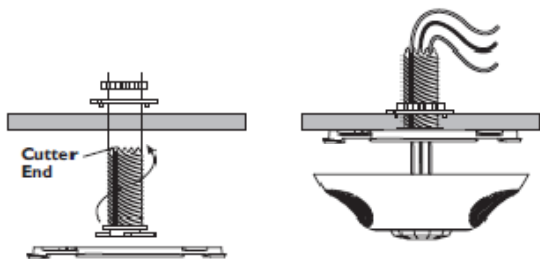


Match arrows to twist and lock. Cover plate allows for 30° adjustment.

INSTALLATION



Mounting Method 1: Screw and mount twist-lock cover plate.



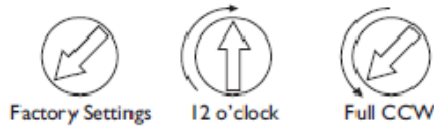
Mounting Method 2: Twist and lock threaded mounting post into cover plate. Drill into ceiling tile.



Run wiring through ceiling tile. Attach sensor body to cover plate by aligning arrows and twist locking into place. Connect wiring with wire nuts.

TIMER TEST MODE

1. Open the retainer ring.
2. Rotate the black timer adjustment knob midway (12 ‘clock.)
3. Return setting to minimum setting (full counter-clockwise.)



4. The timer will remain in the 8 second test mode for 1 hour, then automatically reset to 8 minutes.
5. To manually take the timer out of the 8 second test mode, turn the timer adjustment approximately 1/16” clockwise to set slightly above minimum 8 minute setting.

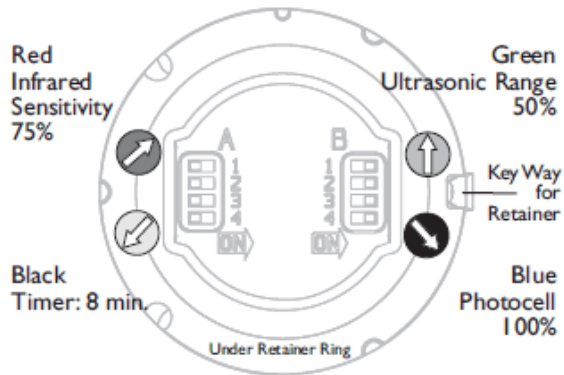
TROUBLESHOOTING

Problem	Possible Cause	Test	Solution
Lights stay on	Air conditioning interference	Reduce both green and red knobs by 15%	Move sensor Temporarily reduce sensitivity
Lights stay off	Bad low voltage wiring	Connect red to blue wire at power pack	Force lights on
Lights stay off	Bad high voltage wiring	Connect red to red (relay wires)	Force lights on
Lights on too long	Timer setting too high	Check switch settings	Typical setting is 8 minutes
Hallway traffic turns lights on	Sensor can “see” into hallway	Put in timer test mode and walk hallway	Move sensor

WIRE LENGTH CHART

# Sensors	1	2	3	1	2	1
# Slaves	0	0	0	1	1	2
22 AWG	750'	375'	250'	375'	250'	250'
20 AWG	1200'	600'	400'	600'	400'	400'
18 AWG	2400'	1200'	800'	1200'	800'	800'

FACTORY SETTINGS



SENSOR CONTROLS & MODIFICATIONS

Hubbell Building Automation sensors are designed to optimize performance by automatically adjusting the sensitivity and time delay to meet the application. The sensor controls can be modified for custom operation. The modification options are outlined below.

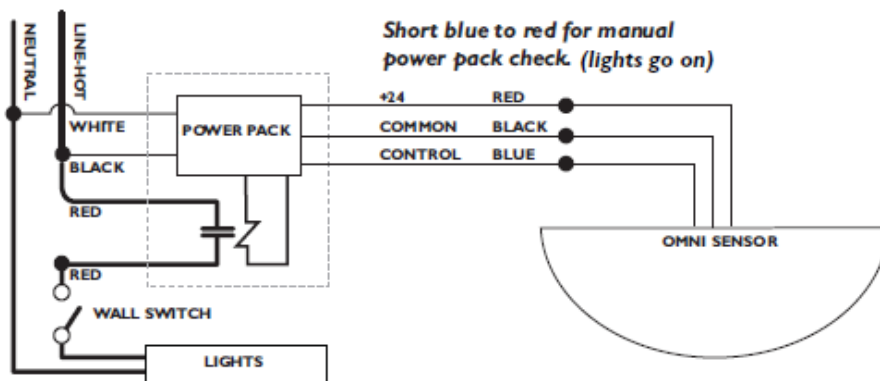
Bank A DIP Switches

Switch	Description	Off (Default)	On
A1	Auto/Manual	Automatic (Normal)	Manual On (Bypass On Override)
A2	Threshold – Dual Technology Mode	High Confidence (Requires both Passive Infrared AND Ultrasonic detection)	High Sensitivity (Either Passive Infrared OR Ultrasonic detection)
A3	LED Motion Indicator	LEDs flash when motion is detected	Disable LED Indicators
A4	Reset Learned Settings	Retain Settings (Normal)	Erase All Learned Settings. Restart Learning (Toggle On, then Toggle Off)

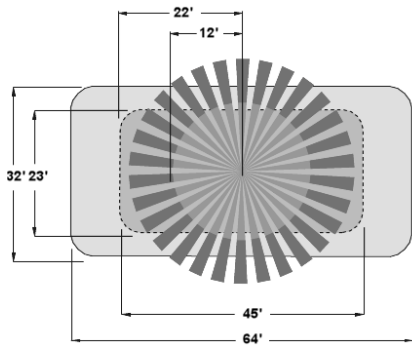
Bank B DIP Switches

Switch	Description	Off (Default)	On
B1	Strong Airflow Compensation	Normal or very low airflow present	Strong airflow present
B2	Over Doorway Installation	No (Normal – sensor mounted away from door)	Yes (Sensor mounted over doorway - Low turn-on threshold)
B3	Timer Adjust	Adjust Timer Automatically (Normal)	Adjust Timer Manually using Black Timer Knob
B4	Auto Sensitivity	Adjust Sensitivity Automatically (Normal)	Adjust Sensitivity Manually using Red Infrared Sensitivity Knob and/or Green Ultrasonic Sensitivity Knob

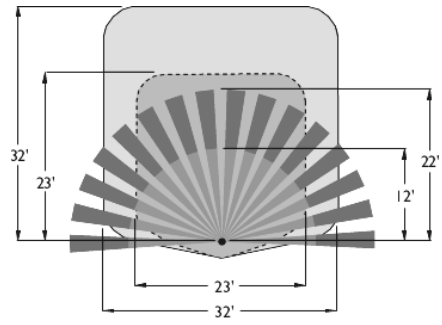
WIRING



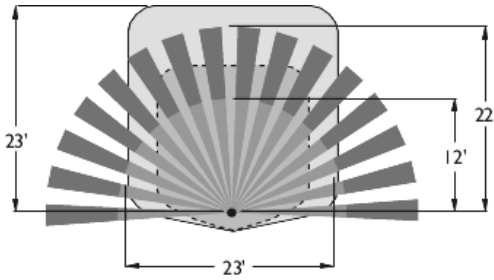
RANGE DIAGRAMS



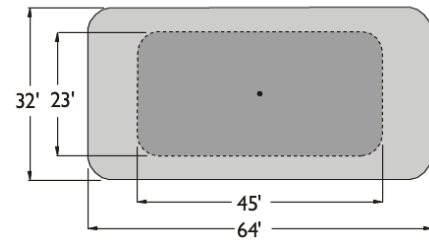
OMNIDT2000



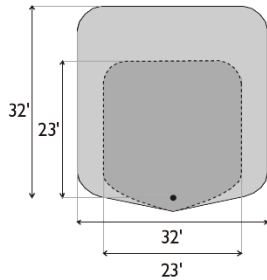
OMNIDT1000



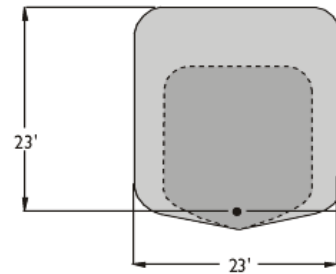
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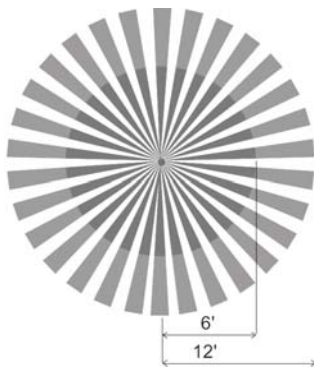
OMNIUS2000



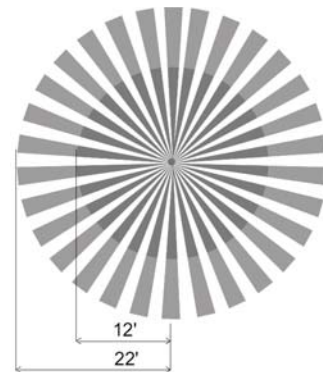
OMNIUS1000



OMNIUS500



OMNIIR



OMNIIRL

OMNI™ and LightOWL™ -RP Option

Supplementary Installation Instructions

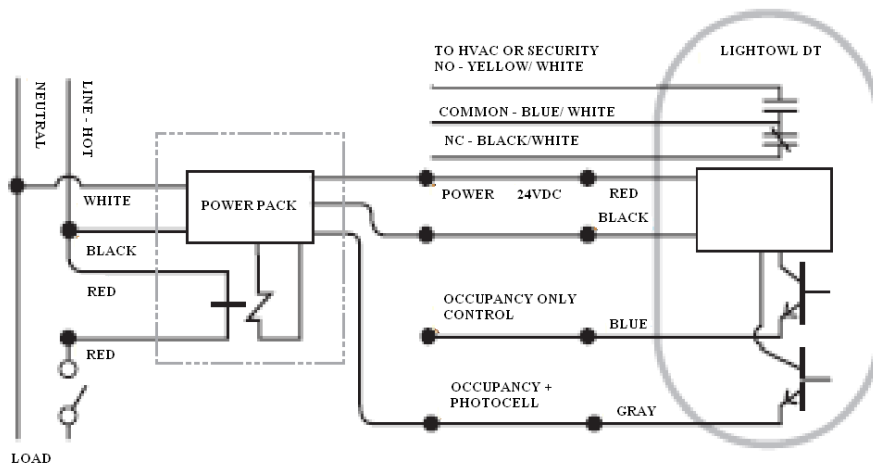
DESCRIPTION

Hubbell Building Automation’s -RP Option for OMNI™ and LightOWL™ sensors adds a photocell and an isolated relay. The additional gray wire combines occupancy plus low light level to control a UVPP or MP-Series power pack. The blue wire can be used to control another power pack for occupancy. Dual zone lighting can be achieved by wiring a slave pack (MPSA) to the blue wire.

SPECIFICATIONS

- Relay: NO + NC contacts; SPDT; 500 mA rated @ 24VDC; three-wire isolated relay
- Photocell: adjustable natural-light override ranges from 0 to 100 foot-candles (1-1,000 lux)

WIRING DIAGRAM



LightOWL wiring shown
OMNI similar

GRAY WIRE LOGIC

When room is first occupied

Light Level	Lights
Below set value	Turn on
Above set value	Remain off

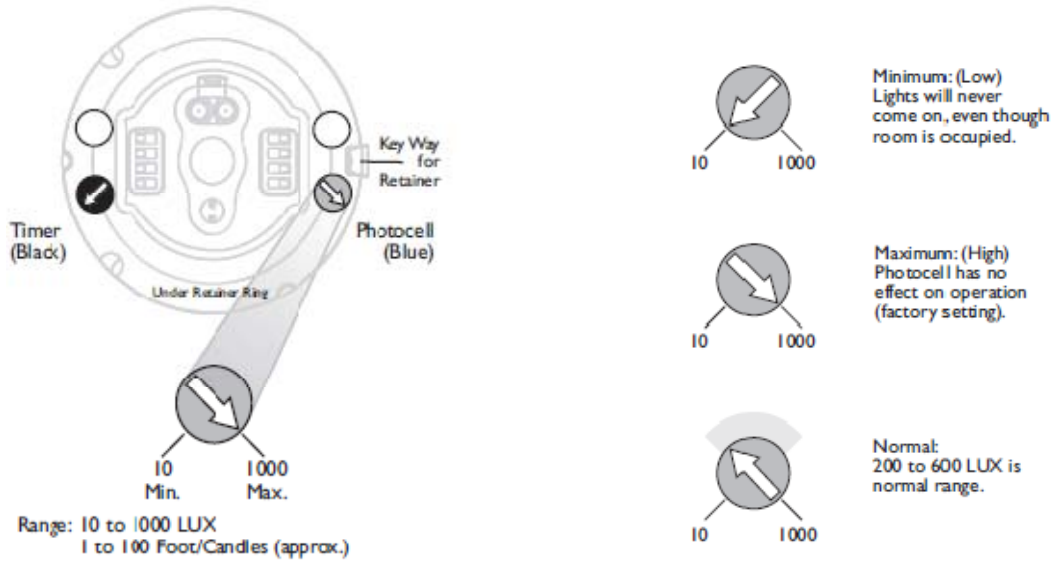
During Occupancy

Light Level	Lights
Falls below set value	Turn on
Moves above set value	Remain off

PHOTOCELL OPERATION

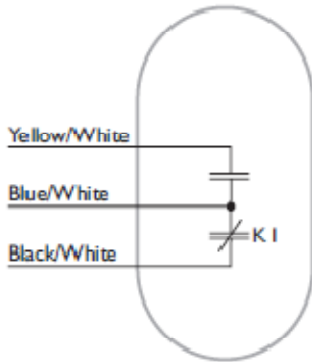
The photocell prevents the lights from turning on when the area is adequately lit with natural light. The sensor must be mounted directly over an area that is representative of the average, natural room lighting. Wait until the natural light is bright enough to adequately light the room before setting the photocell control.

PHOTOCELL ADJUSTMENT



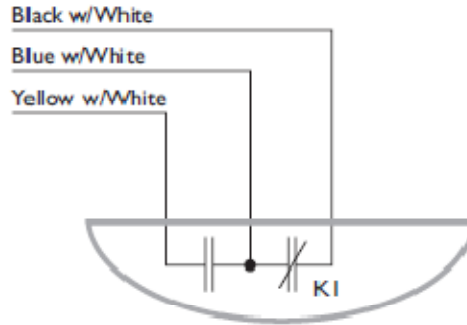
ISOLATED RELAY WIRING

Relay Wiring For Light Owl



K1	Blue/ Yellow	Blue/ Black
Occupied	Closed	Open
Unoccupied, Timer Elapsed	Open	Closed

Relay Wiring For OMNI Sensor



K1	Blue/ Yellow	Blue/ Black
Occupied	Closed	Open
Unoccupied, Timer Elapsed	Open	Closed