ENCELIUM® Ceiling-Mounted Occupancy Sensors

ENCELIUM Modern occupancy sensors use digital technology to ensure that the occupants in a room have light when they are present and that lighting energy is saved when the room is unoccupied.

Depending on the application, either single technology or multi-technology sensors are appropriate to maximize occupant and energy manager satisfaction.

ENCELIUM single-technology Passive Infra-Red (PIR) sensors are a cost-effective option for small and large spaces when major motion is available. The multi-technology option adds an active Ultrasonic (U/S) sensor to the PIR sensor to increase minor motion sensitivity in critical applications like single-occupant offices and restrooms.

Application Information

Applications

- Cafeterias
- Classrooms
- Computer rooms
- Conference rooms
- Executive and private offices (U/S models)
- Day care centers
- Filing rooms
- Hallways
- Loading docks
- Open warehouses
- Offices with cubicles
- Open areas
- Parking garages
- Restrooms (U/S models)
- Stairwells
- Storage rooms
- Warehouses
- Workspaces

Key Features & Benefits

- **State of the Art Sensors:** Passive Infra-Red (PIR) sensor and optional Ultrasonic (U/S) sensor afford a wide variety of space coverage while providing options for fine motion sensitivity. (450 to 2000 sq. ft., see Ordering Information table.)
- **Simple Installation:** Easy ceiling mount with low-voltage connection and twist-lock attachment for 360° directional flexibility.
- **Flexible Timer Settings:** Automatic – 30 seconds– 30 minutes. Includes installer test mode with 6 seconds auto exit programming.
- **Adaptive Learning with Local Protected Memory:** Sensor self-calibrates to optimize performance and retains settings during power interruptions.
- **Low Voltage Operation:** Uses ENCELIUM PPK Series Power Pack with Class 2, 24 volt wiring. Multiple sensors can control single or multiple power packs.
- **Convenient AC Power Base Option:** Make any ENCELIUM low-voltage ceiling sensor a line-voltage sensor and avoid bulky external power-packs. (see PBA-015)
- **Integrated Daylight Hold-OFF Light Sensor:** Avoid wasting energy when there is enough natural light.
- **Auto-Adapting Mode:** Sensor's digital system continually analyzes and adjusts the sensitivity and time delay.
- **Walk-Through Mode:** Provides increased energy savings by decreasing the time delay to 2.5 minutes when someone momentarily walks through the monitored space.

For Greater Savings

Combine with the ENCELIUM Energy Management System to gain considerable benefits over occupancy sensors alone:

- **Polaris 3D™ Software** enables the addition of Daylight-Harvesting, Time Scheduling, Task Tuning, Variable Load Shedding and Personal Control for significantly greater energy savings.
- **Software Remapping:** any sensor to any zone.
- **Software Adjustable:** Time-out, delay, light levels.
- **Connects directly** to ENCELIUM Sensor Interface Module.
- **BACnet Interface (optional):** Occupancy sensing for building automation, HVAC, security, traffic data, etc.

For more information on the ENCELIUM Energy Management System, refer to LMS075 – ENCELIUM BROCHURE.

SEE THE WORLD IN A NEW LIGHT

OSRAM

Ordering Information

Item Number	Ordering Description	Sensing Technology(ies)	Sensing Angle (degrees)	Coverage (ft²)	Current Required (mA)
45363	SCP-0450	PIR	360	450	20
45364	SCP-1500	PIR	360	1500	20
45365	SCM-0500	PIR + U/S	180	500	25
45366	SCM-1000	PIR + U/S	360	1000	35
45367	SCM-2000	PIR + U/S	360	2000	30
45376	PBA-015	Power Base Adapter, 120-277VAC, 15A			

Adaptive Learning Scenarios

Real-World Scenario	Adaptive Learning Reaction
An installer accidentally leaves the sensor in the 6 sec. timer test mode and the lights may go OFF or ON every 6 sec.	The sensor automatically resets the timer to 10 min. after 15 min. of test mode.
The sensor detects movement in a nearby corridor or hallway and the room lights turn ON.	After an initial movement is sensed, if another movement is not sensed within the timer setting then the delayed OFF time setting is automatically reduced.
The sensor does not detect movement because an occupant sits virtually motionless at a desk and the lights turn OFF.	If motion is sensed within a short period after the lights go OFF, then the current delayed OFF-time setting is increased.

DIP Switch Settings

Switch	Switch Functions	Switch Settings	Switch Settings
	BANK A	OFF	ON
A1 (U/S Only)	Mode	**Multi-Tech**	Single Tech
A2 (U/S Only)	PIR or U/S Select	PIR Only (if in single-tech mode, see A1)	U/S Only (if in single-tech mode, see A1)
A3	Manual Mode	Auto Adapting Enabled	**Auto Adapting Disabled**
A4	Walk-Thru Disable	Walk-Thru Enabled	**Walk-Thru Disabled**
	BANK B		
B1	Override to ON	**Auto Mode**	Lights forced ON
B2	Override to OFF	**Auto Mode**	Lights forced OFF
B3	Test Mode	OFF▸ON▸OFF to start Test Mode. Auto-exits after 15 min.	—
B4	LEDs Disabled	**LEDs Enabled**	LEDs Disabled

*Bold items are factory defaults

Sensor Specifications (SCM and SCP Models)

Sensor Electrical Specifications:

Power Requirements: 24 VDC, works with ENCELIUM® PPK Power Pack or ENCELIUM PBA Power Base Adaptor

Power Consumption: See Current Required (mA) in Ordering Information

Output: 24 VDC active high logic control signal with short circuit protection

Control Specifications:

U/S Sensitivity: 0 to 100%; green knob (U/S models only)

PIR Sensitivity: 0 to 100%; red knob

Light Sensor: 20 to 3,000 Lux.; blue knob (Connect gray wire to blue PPK wire for Light Sensor function)

Time Delay: 30 seconds–30 minutes; black knob (Factory setting: 10 minutes)

Indicator Specifications:

Red LED: Motion detected with PIR sensor

Green LED: Motion detected with U/S sensor (U/S models only)

Environmental Specifications:

Operating Temperature Range: 32°F to 104°F (0°C to 40°C)

Relative Humidity: 0% to 95% non-condensing, for indoor use only

Physical Specifications:

Size: Base Diameter: 4.2" (107mm); Height: 1.57" (40mm)

Weight: 5oz (142g)

Wire Length: 6" (160mm)
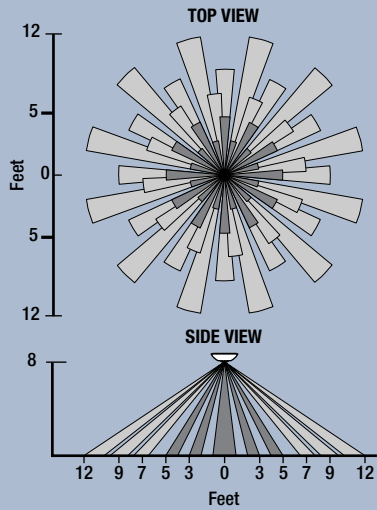
Color: White

Housing: Rugged, high-impact, UV inhibitors
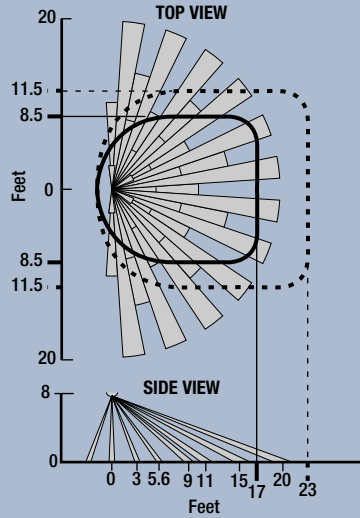
Other Specifications:

Mounting Height: 8-12 feet

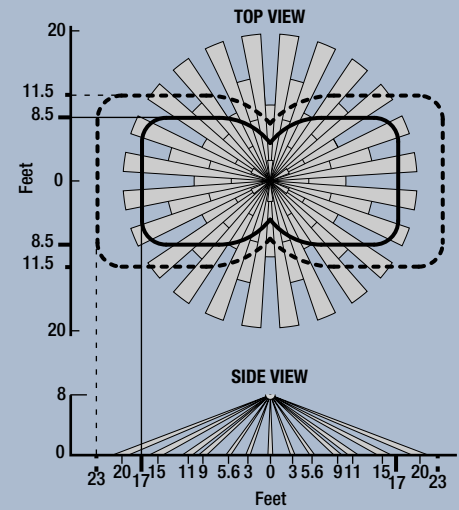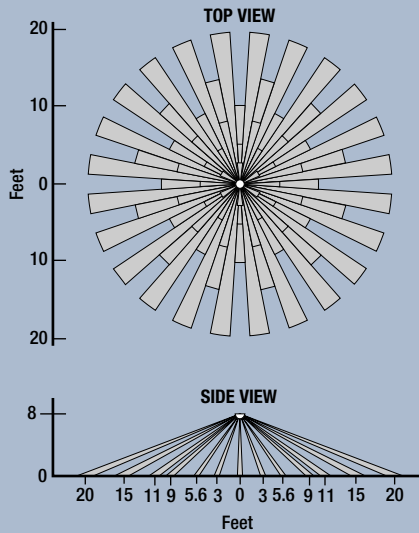**Listings:** CUL/US Certified, meets ASHRAE Standard 90.1 and CEC Title 24 requirements
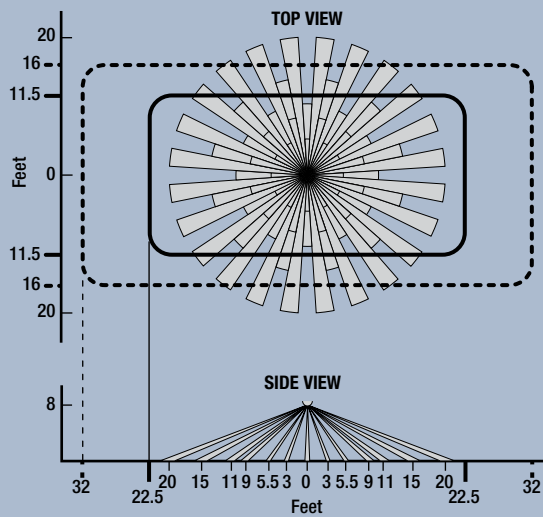
TOP VIEW

SCP-0450, 450 sq. ft.

TOP VIEW

SCM-0500, 500 sq. ft.

TOP VIEW

SCM-1000, 1000 sq. ft.

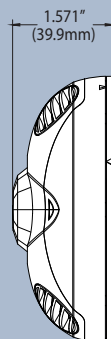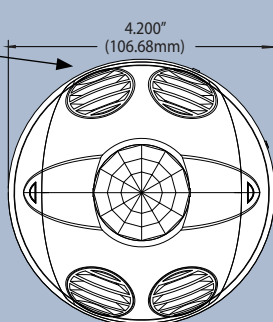## TOP VIEW

SCP-1500, 1500 sq. ft.

TOP VIEW

SCM-2000, 2000 sq. ft.

SIDE VIEW

Minor Motion, PIR

Major Motion, PIR

Minor Motion, U/S

Major Motion, U/S

Mounting Height = 8–12 ft.

Ultrasonic Ports for U/S models only

4.200″ (106.68mm)

1.571″ (39.9mm)

Weight: 5 oz.

Color coded leads: 6" (152.4mm)

OSPxx Series Power Pack

Sensor

NC-Brown
Common-Green
NO-Brown/White
To HVAC System

Red (24VDC)
Black
Blue (control)

Red
Black
Blue* (occupancy)
Gray* (photocell + occupancy)

Red
Black
Blue* (occupancy)
Gray* (photocell + occupancy)

Black

Load

White

Hot
Black
Blue
Blue
Black

Line 120/277/347 VAC60Hz

White

Neutral (White)
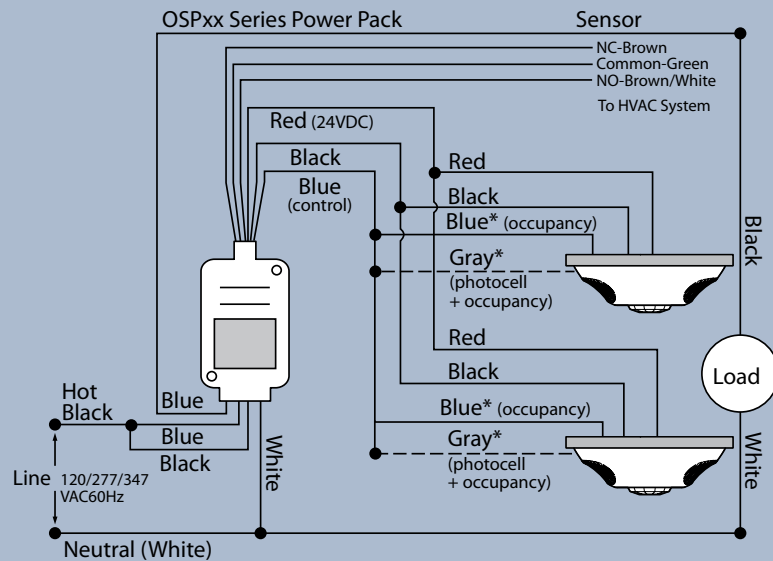
Power Base Adapter Specifications (PBA-015)

Electrical Specifications:

Input Voltage: 120-277VAC @ 50/60Hz

Output Voltage: 24 VDC, 40mA nominal

Load Rating: 15A Incandescent, Electronic or Magnetic Fluorescent Ballast; 3/4 HP at 120V

Wire Designation: Line-Black, Load-Blue, White-Neutral

Power Consumption (base only):
Lights ON: 120V – 1.58W, 277V – 2.34W
Lights OFF: 120V – .27W, 277V – 1.04W

Environmental Specifications:

Operating Temperature Range: 32°F to 104°F (0°C to 40°C)

Relative Humidity: 0% to 90% non-condensing, for indoor use only

Physical Specifications:

Case: High impact plastic

Relay: Class B (130°C) insulating material. Silver alloy contacts switching power supply – 120/230/277 VAC

Wire: 6" (152.4mm) leads 14 AWG input, two-part terminal block output

Size: 4.5" (114.3mm) dia. x 1.75" (44.45mm) deep

Color: White
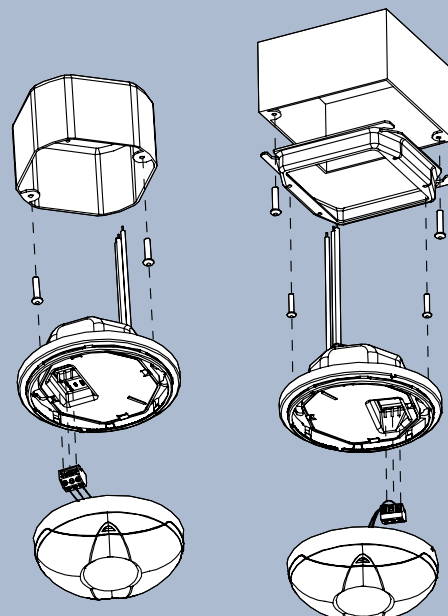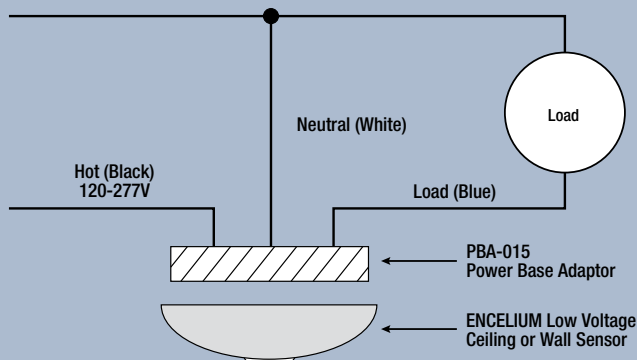
Other Specifications:

Agency Standards and Compliance: UL and cUL Listed, CEC Title-24

Warranty: Limited Five-Year Warranty

Installation and Wiring

Connect and mount the PBA-015 to the electrical box. Using the terminal block, connect the low voltage sensor. Match the arrows on the sensor to the base and twist to lock. Test the sensor for correct operation.

Neutral (White)

Load

Hot (Black) 120-277V

Load (Blue)

PBA-015 Power Base Adaptor

ENCELIUM Low Voltage Ceiling or Wall Sensor

Warranty

ENCELIUM® Occupancy Sensors and Power Pack Family are covered by a Limited Five-Year warranty. For the full text of the limited warranty, or to download the warranty registration form, refer to the limited warranty which is available in the Tools & Resources section of www.sylvania.com.

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