

Ceiling Mounted Line Voltage Vacancy Sensor

California Title 20 Compliant

Cat. No. O3C10-MDW, O3C15-IDW, O3C20-MDW

No Minimum Load Required

Compatible with electronic and magnetic ballasts, electronic and magnetic low-voltage transformers, incandescent lamps, and fans

INSTALLATION INSTRUCTIONS



WARNINGS AND CAUTIONS:

For Vacancy Sensors installed to control Emergency Lighting Equipment:

If this equipment is being used for Emergency Lighting and Power Equipment, please adhere to the following information. This equipment is rated for only 25C if used on Emergency Lighting Equipment. Apply the "Emergency Circuits" label (provided) to the front cover.

IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

- a) **READ AND FOLLOW ALL SAFETY INSTRUCTIONS.**
- b) DO NOT use outdoors.
- c) DO NOT mount near gas or electric heaters.
- d) Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
- e) The use of accessory equipment not recommended by manufacturer may cause an unsafe condition.
- f) DO NOT use this equipment for other than the intended use.

SAVE THESE INSTRUCTIONS

All servicing shall be performed by qualified service personnel. If any Emergency Circuits are fed or controlled from this panel, it must be located electrically where fed from a UPS, generator, or other guaranteed source of power during emergencies and power outage situations.

WARNINGS AND CAUTIONS:

- TO AVOID FIRE, SHOCK, OR DEATH; **TURN OFF POWER AT CIRCUIT BREAKER OR FUSE AND TEST THAT POWER IS OFF 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 to 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.

Operating Temperature: 32° to 104°F (0° to 40°C) PK-93266-10-00-2A-X2

Rating: 6A-6AX 250V 720-1440 W/VA 120-240 50Hz

120V 60Hz	8A, Electronic Ballast	277V 60Hz	5A, Electronic Ballast
	800W/VA, Tungsten, Ballast		1200VA, Ballast
	1/4 hp		1/3 hp

CATALOG ITEMS					
Cat. No.	Description	Voltage Range	Current Consumption	Coverage	Suggested Mounting Location
O3C10-MDW	2-Way Multi-Tech	120-277,50/60Hz	60-30ma	1000 sq. ft.	Mount in center of room, 8-12 ft height
O3C15-IDW	Extended Range	120-277,50/60Hz	60-30ma	1500 sq. ft.	Mount in center of room, 8-12 ft height
O3C20-MDW	2-Way Multi-Tech	120-277,50/60Hz	60-30ma	2000 sq. ft.	Mount in center of room, 8-12 ft height

TOOLS NEEDED TO INSTALL YOUR SENSOR

Slotted/Phillips Screwdriver Small Slotted Screwdriver Cutters Wire stripper

PARTS INCLUDED LIST

Sensor (1) 4" x 4" Mounting Plate (1) #6-32 x 1-1/2" Screw (2)
Mid-Range Lens (1) Emergency Label (1) Half Mask (1)
360° Perforated Mask (1) Low Voltage Connector (1) Tubing Barrier (1)

DESCRIPTION

The Line Voltage Vacancy Sensor monitors the space for vacancy. The lights can be turned ON manually by pressing the low-voltage/momentary toggle switch. The sensor turns the lights OFF when vacancy is detected and the delayed-off time has expired. The sensor continually analyzes and adjusts to changing conditions. The sensor uses the latest microprocessor-based technology which permits it to continually adjust and optimize its performance. The combination of ultrasonic (doppler shift) motion detection which gives maximum sensitivity and infrared motion detection which gives higher false triggering immunity yields a sensor with excellent performance.

INSTALLING YOUR VACANCY SENSOR

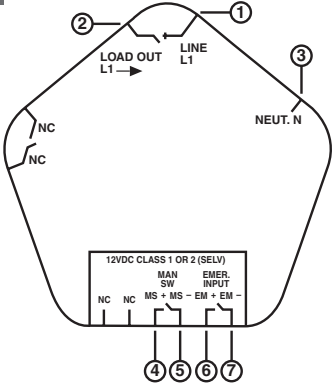
NOTE: Use check boxes ☒ when Steps are completed.

Step 1

WARNING: TO AVOID FIRE, SHOCK, OR DEATH; TURN OFF POWER at circuit breaker or fuse and **TEST** that power is off before wiring!

Step 2

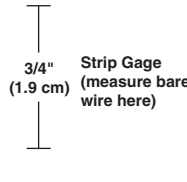
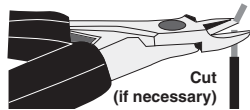
Identifying your wiring:



1. Line (Hot) - L1
2. Load - L1 →
3. Neutral - N
4. Manual Switch +
5. Manual Switch -
6. Emergency Interface +
7. Emergency Interface -

Step 3

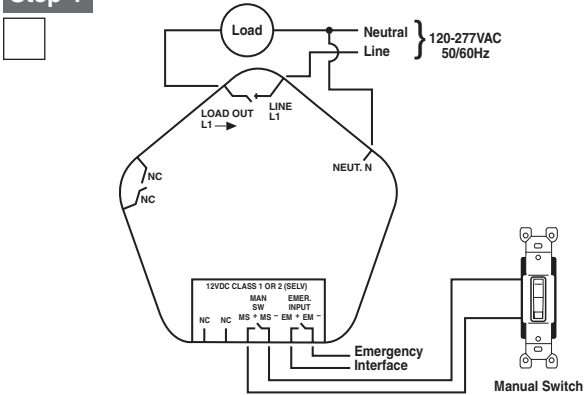
Preparing and connecting wires:



- Make sure that the ends of the wires from the electrical box are **straight (cut if necessary)**.
- Remove insulation from each wire in electrical box as shown.
- Wire per Specifications:
Line, Neutral, Load Wires (Copper)
Wire range: #12-18 AWG, 3.3 - 0.75 mm square - **Torque rating:** 20 lb-in, 23 kgf-cm.
Control Wires (Manual Switch and Emergency Interface)
Wire range: #16-26 AWG, 4.0 - 0.12 mm square - **Torque rating:** 2.5 lb-in, 2.88 kgf-cm.

Step 4

Installing your Sensor:



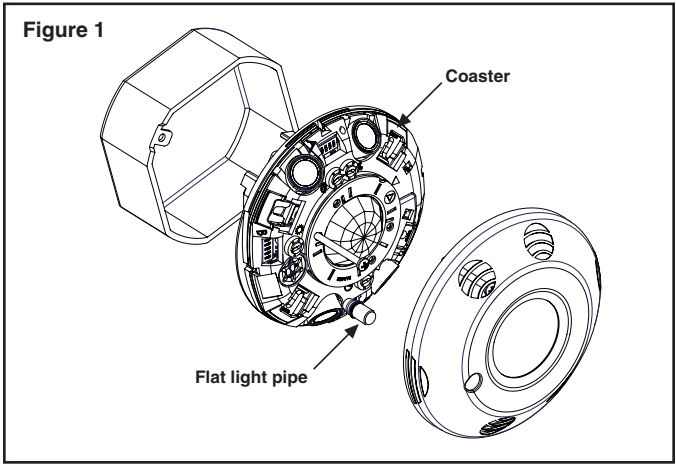
Wiring Sensor

Connect wires per WIRING DIAGRAM as follows:

1. Insert wires into proper terminals. Use a screwdriver to turn terminal screws clockwise and secure wires.
 - a) Line wire to Line terminal.
 - b) Neutral wire to Neutral terminal.
 - c) Load wire to Load terminal.
 - d) Manual Switch and Emergency Interface to their respective marked terminals.
- NOTE:** When wiring Manual Switch and Emergency Interface Class 2, use the provided tubing for insulation inside the junction box.

Mount Sensor in Electrical Box

- To mount inside 4" octagon 2.125" deep ceiling electrical box, refer to **Figure 1**.
- Dress line voltage wires to provide enough clearance in electrical box when device is installed.
 - Partially thread two #8-32 screws (not included) into the mounting holes of the electrical box.
 - Pull out the two coasters that align with the two screws.
 - Align sensor so that it fits between the mounting holes of the electrical box and insert over mounting screws.
 - Push in the two coasters that align with the two screws.
 - Tighten mounting screws firmly.

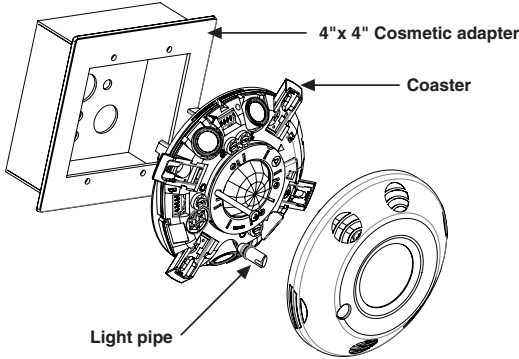


MOUNT SENSOR IN ELECTRICAL BOX WITH MUD RING

To mount inside 4" square 1.5" deep ceiling electrical box with mud ring, refer to **Figure 2** below.

- Ensure that conduit/cable entry clamp is located in corner of electrical box.
- Dress line voltage wires to provide enough clearance in electrical box when device is installed.
- Install a two-gang mud ring (not included) on electrical box.
- Partially thread the two #6-32 screws provided into the mounting holes of the electrical box.
- Pull out the two coasters that align with the two screws.
- Align sensor so that it fits between the mounting holes of the electrical box and insert over mounting screws.
- Push in the two coasters that align with the two screws.
- Tighten mounting screws firmly.

Figure 2

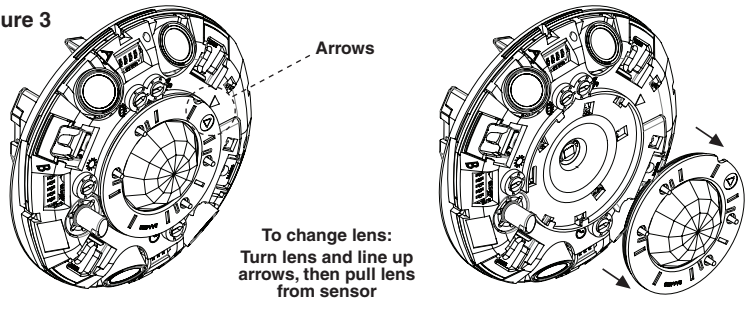


VACANCY SENSOR OPERATION

Manual switch press will turn the lights ON. The sensor turns the lights OFF when vacancy is detected and the delayed-off time has expired.

- **Delayed-Off time:** The sensor is designed to turn the lights OFF if no motion is detected after a specified time. This length of time is called the delayed-off time and is set using the timer (Black) knob on the sensor.
- **Walk-through Mode:** The walk-through feature is useful when a room is momentarily occupied. The walk-through feature works as follows: When a person enters the room and turns the lights ON with the manual switch. If the person leaves the room before the default walk-through timeout of 2.5 minutes, the sensor will turn the lights OFF 2.5 minutes later. If the person stays in the room for longer than 2.5 minutes, the sensor will proceed with the standard operation.
- **Reset Device State:** To reset Auto adapting settings to factory default.
- **Manual ON/OFF Switch:** Use to turn the lights ON or OFF by pressing the low voltage momentary/toggle switch. Pressing manual switch will reset the time delayed OFF timer and lights will turn OFF after the delayed-off timer expires.
- **Emergency Interface:** This input is intended for use with BMS (Building Management System) or any contact closure to force the lights ON in case of emergency. Lights will stay ON until emergency signal is cleared.
- **Manual ON:** Occupants **must** press the low voltage switch to turn the load ON. When the occupancy sensor is the only input keeping the load ON, the load turns OFF when the sensor time delay expires. If the sensor input re-triggers within 30 seconds after the load turns OFF, the load turns ON again. After the 30 seconds expires with no sensor input, press the momentary switch to turn the load ON.

Figure 3



LED INDICATORS

- RED** - Blinks upon PIR detection. LED can be disabled by moving B4 to ON (See Table 2). Solid for 3 minutes then blinks for 3 minutes during photocell manual calibration. Solid when device malfunctions.
- GREEN** - Blinks upon US detection. LED can be disabled by moving B4 to ON (See Table 2). Solid for 24 hours during photocell auto calibration.
- YELLOW** - Blinks in test mode. Solid with emergency interface/BMS input on.
- BLUE** - Blinks when the knob setting has changed.

SETTINGS

Default Settings:
Adjust knob settings as per "recommended manual settings," (refer to Figure 4 and Table 1). All switches in the OFF position, except A3, A4 are set to ON (refer to Table 2).

Figure 4 - Knob Settings

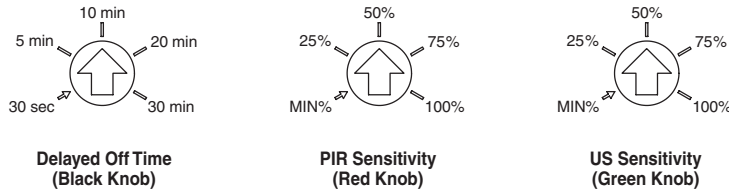


TABLE 1 : ADJUSTMENT KNOB SETTINGS				
Knob Color	Symbol	Function	Knob Setting	Factory Default Setting
Green		Sets the ultrasonic range	Range Setting Full CCW = min. (OFF) Full CW = max.	50 %
Red		Sets the infrared range	Range Setting Full CCW = min. (OFF) Full CW = max.	75 %
Black		Delayed - Off Time	Full CCW = min. (30 sec) Full CW = max. (30 min.)	50 % (10 min)

TABLE 2: SWITCH SETTINGS			
SWITCH	SWITCH FUNCTIONS	SWITCH SETTINGS	
	Bank A	OFF	ON
A1	Single/Multi-Tech Mode	Multi-Tech	Single Tech
A2	PIR/Ultrasonic Mode	PIR	Ultrasonic
A3	Manual Mode	Auto Adapting Enabled	Auto Adapting Disabled
A4	Walk-Through	Walk-Through Enabled	Walk-Through Disabled
	Bank B	OFF	ON
B1	Forced Mode	Normal	Override Enabled (B2)
B2	Forced State	Override OFF	Override ON
B3	Test Mode	Disabled	Enabled. OFF → ON
B4	LEDs State	LEDs Enabled	LEDs Disabled
B5	Reset Device State	OFF → ON → OFF	

Figure 5 (Cat. No. O3C10)
Field-of-View Ranges

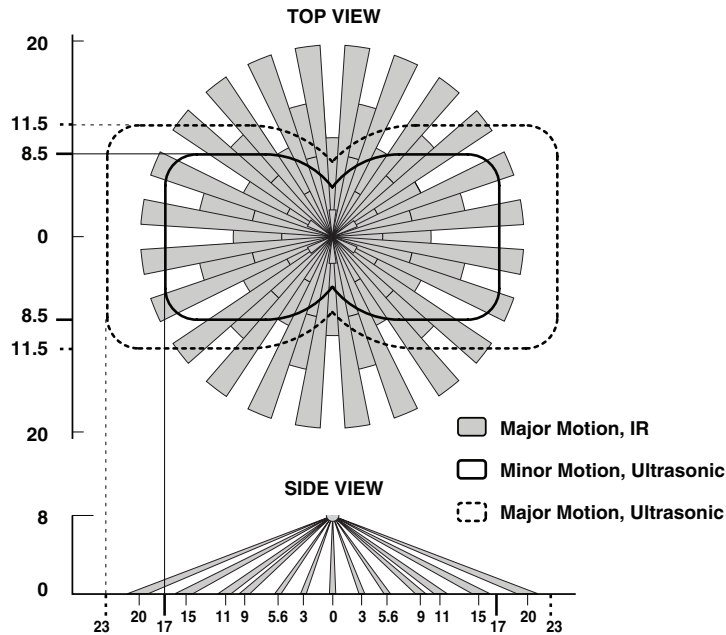


Figure 6 (Cat. No. O3C20)
Field-of-View Ranges

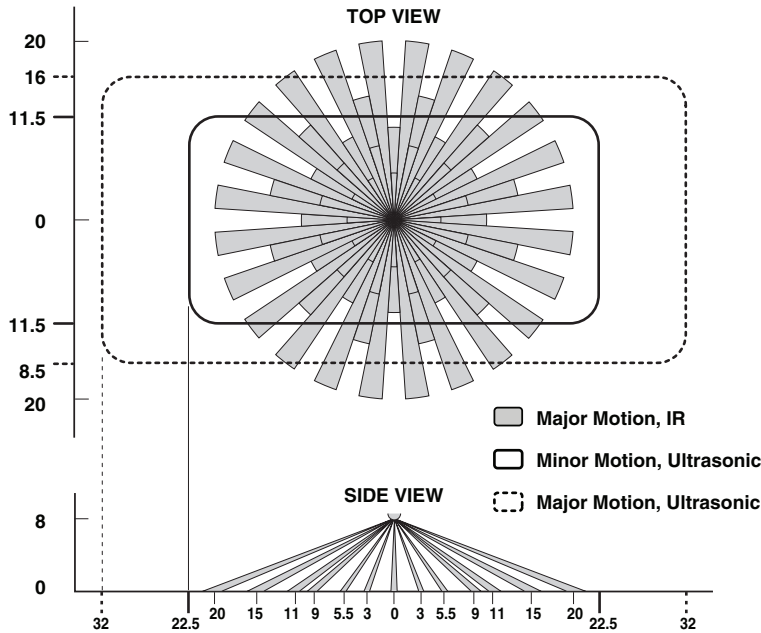


Figure 7 - (Cat. No. O3C15) - Field-of-View Ranges
Extended range lens (black frame), mounting height (8-12 ft)

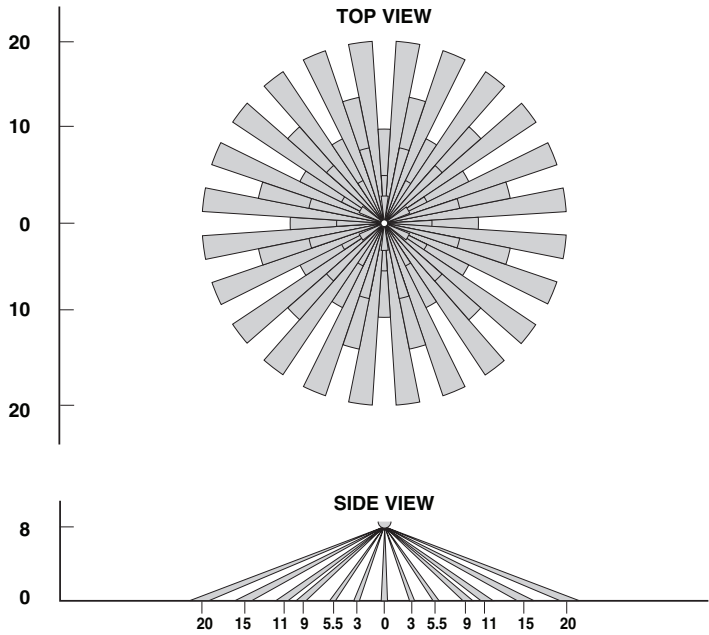
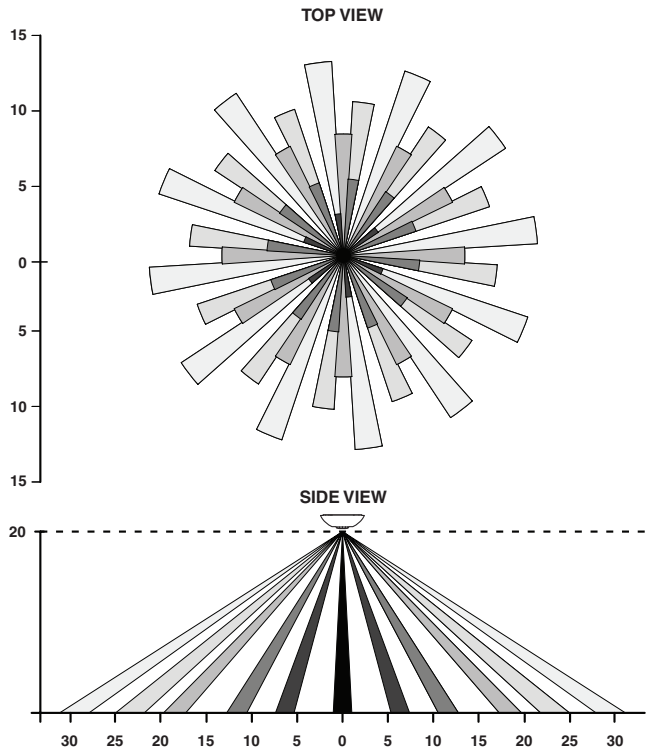
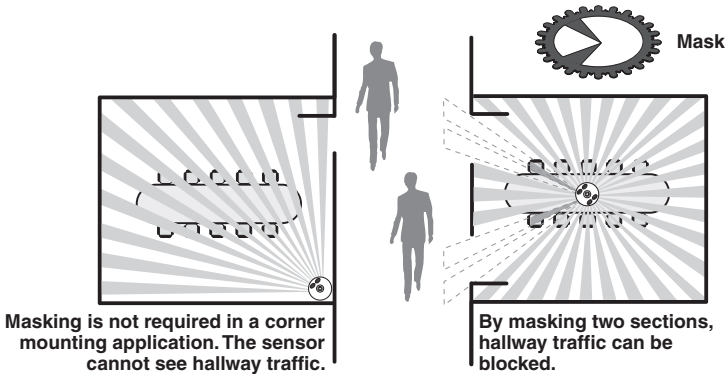


Figure 8 - (Mid-Range Lens) Field-of-View Ranges
Mid range lens (red frame), mounting height (13-20 ft)
Note: This lens is included with all PIR models



Mounting Location Diagram



TROUBLESHOOTING

- Lights do not turn ON**
 - Circuit breaker or fuse has tripped.
- Lights stay ON**
 - Constant motion. **To Test:** Reduce RED and/or GREEN knob by 25%; remove motion source. If unsatisfactory, move sensor.
 - Infrared sensor can "see" into hallway. **To Test:** Put sensor in Timer Test mode and walk hallway. If lights continue to come ON, move sensor.
- Light turns ON too long**
 - Timer setting too high. **To Test:** Check switch settings. Typical setting is 10 minutes.
 - LED illuminates solid RED for longer than 5 minutes, device malfunction, contact technical assistance.

PRODUCT INFORMATION

- For technical assistance, contact us at **1-800-824-3005**
- Visit our website at www.leviton.com

FCC COMPLIANCE STATEMENT

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device must not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by Leviton could void the user's authority to operate this equipment.

LIMITED 5 YEAR WARRANTY AND EXCLUSIONS
Leviton warrants to the original consumer purchaser and not for the benefit of anyone else that this product at the time of its sale by Leviton is free of defects in materials and workmanship under normal and proper use for five years from the purchase date. Leviton's only obligation is to correct such defects by repair or replacement, at its option, if within such five year period the product is returned prepaid, with proof of purchase date, and a description of the problem to **Leviton Manufacturing Co., Inc., Att: Quality Assurance Department, 201 North Service Road, Melville, New York 11747**. This warranty excludes and there is disclaimed liability for labor for removal of this product or reinstallation. This warranty is void if this product is installed improperly or in an improper environment, overloaded, misused, opened, abused, or altered in any manner, or is not used under normal operating conditions or not in accordance with any labels or instructions. **There are no other or implied warranties of any kind, including merchantability and fitness for a particular purpose**, but if any implied warranty is required by the applicable jurisdiction, the duration of any such implied warranty, including merchantability and fitness for a particular purpose, is limited to five years. **Leviton is not liable for incidental, indirect, special, or consequential damages, including without limitation, damage to, or loss of use of, any equipment, lost sales or profits or delay or failure to perform this warranty obligation.** The remedies provided herein are the exclusive remedies under this warranty, whether based on contract, tort or otherwise.