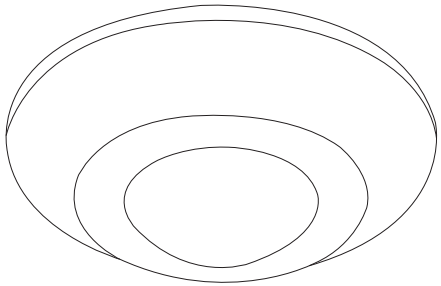
Specializing in Building Sensors

OS-361

Low Voltage Occupancy Sensor

INSTALLATION INSTRUCTIONS



Indoor dry location use only
Utilisation a L'interieur Uniquement

⚠ WARNING & CAUTION

- **Turn power OFF at circuit breaker before connecting Power Pack or Sensor.**
- **Wire all Class 2 circuits using types CL3, CL3P, CL3R, or equivalent conductors.**

⚠ AVERTISSEMENT & PRUDENCE

- **Coupez l'alimentation au disjoncteur avant d'installer Power Pack ou capteurs.**
- **Câble toute classes 2 circuits CL3, CL39, CL3R ou conducteur équivalent.**

OVERVIEW

The OS-361 is a 360° ceiling mount low voltage occupancy sensor designed to signal the occupancy status for a rea lighting, or HVAC control, for energy efficient building management. The sensor is operated by 24V low voltage power supply from an IR-TEC power pack, or building management system, and provides a dry contact signal for control of the connected lighting or HVAC equipment.

A cutting edge quad element pyroelectric infrared sensor and unique Fresnel lens are employed to provide superior occupancy sensing capability. When the sensor detects an occupant's presence, the form C relay contact output will be engaged until the OFF-delay time expires. If the sensor is applied to control the operation of HVAC systems, the ON-delay can be enabled to prohibit short-cycle restarting or unwanted load activation caused by walk-through traffics. Both ON and OFF delays can be easily selected through jumper pin positioning.

APPLICATION NOTES

1. PIR sensor is more sensitive to the movements "crossing" the detection zones than "toward" or "away" the sensor unit. Avoid placing the sensor in line with the path of occupant, if possible.

2. PIR sensor cannot "see" the movements behind obstacles, such as furniture, shelf, glass or partitions. As a general rule, ensure to place the sensor at where the occupant could have clear view of the sensor.

3. For open office areas with partition which could block the sensor view to occupant movements, it is recommended to place the sensors over the intersection of multiple workstations. For large areas of open office or space, place multiple sensors so that there is overlap coverage with each adjacent sensor.

4. The OS-361 can be either surface mounted or recess mounted in a hole with 3.4" diameter on the ceiling.

SENSOR OPERATION

The sensor will enter a warm-up period when power is first applied and then operate as described below.

A. Standby mode

The sensor will enter into standby mode after the warm-up period expires. The LED will flash if any jumper is not properly placed on the pin.

B. ON delay mode

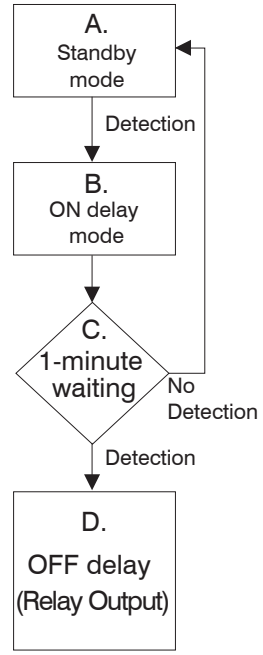
If the ON-delay is enabled, the sensor will enter this mode when it first detects the presence of an occupant. **Any further motion detected during the ON-delay mode will NOT reset the timer.**

C. 1-minute waiting

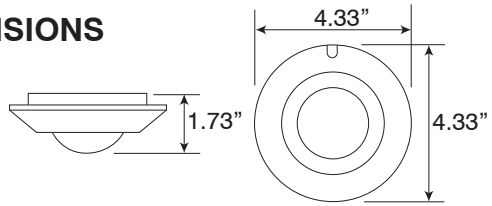
When the ON-delay expires, the sensor will enter into the 1-minute waiting period. If no motion is detected within this time period, the sensor will return to standby mode. If motion is detected within this time period, the sensor will engage the relay contact and enter into OFF-delay mode.

D. OFF delay mode

The OFF-delay is the time period that the sensor will hold its relay contact engaged. Every motion detected during this time period will reset the timer. The sensor will return to standby mode if no further motion is detected during this time period and the relay will be disengaged.



DIMENSIONS



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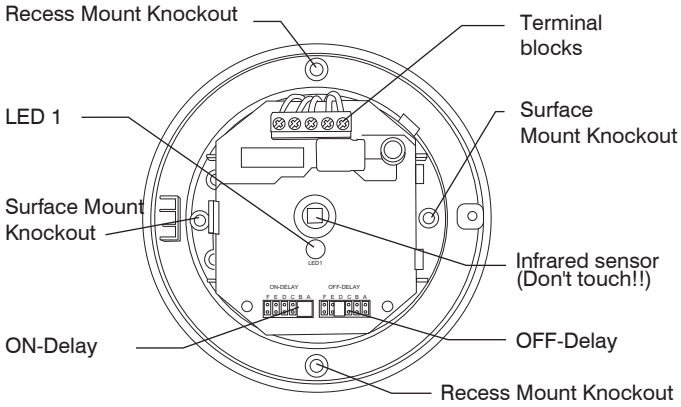
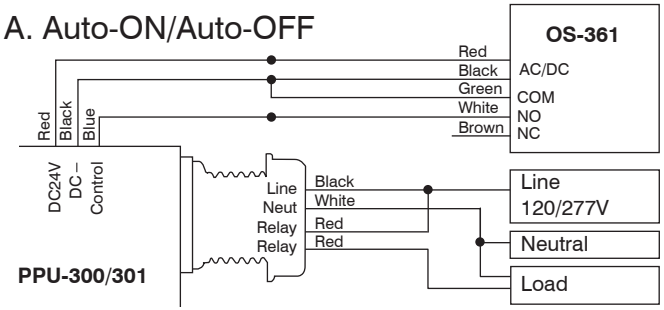
SENSOR INTERNAL



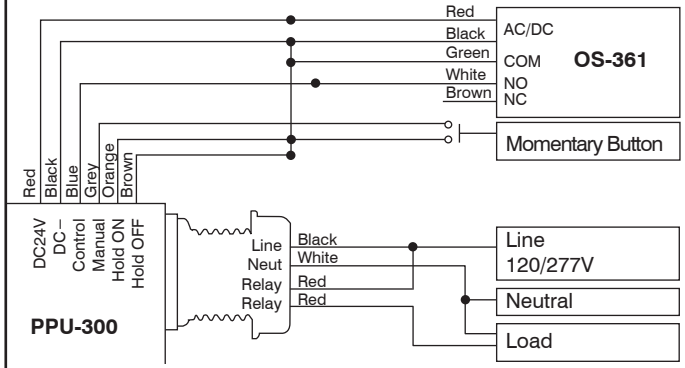
WIRING DIAGRAM

Various control modes may be achieved by different wiring connections. The following diagrams are typical control for reference. For the availability of more complex control, please contact an IR-TEC team member directly.

A. Auto-ON/Auto-OFF



B. Manual-ON/Auto-OFF with PPU-300



NOTE: Each IR-TEC PPU-300/301 power pack can supply power for up to 6 OS-361 sensors. When more sensors are connected, multiple power packs may be required.

MOUNTING THE SENSOR

1. Loosen the locking screw to the position where the front cover can be removed. Leave the screw attached with the cover.
2. Connect the wire leads with IR-TEC power pack or BMS as per wiring diagram of the desired control.
3. Mount the sensor base with screws provided. For surface mount, use two knockout holes underneath both sides of the PCBA. For recess mount, use two holes on the flange of sensor base.
4. Replace the front cover and tighten the screw.

Note: The supplied rubber pad can be used to cover the locking screw for aesthetic purpose.

RANGE TEST

It is recommended to conduct a walk test to verify optimum coverage after sensor installed. To test the sensor range, apply the low voltage power and wait approximately 30 seconds for sensor to warm up. The LED will blink during warm-up period. Walk into the projected area in the path of occupant show up and observe if the sensor can detect the presence. The LED will be lit whenever sensor detects the motion. If the space has multiple entrances, repeat the test in all available paths.

Note: Stay out of sensor coverage during warm-up to avoid extending the period.

ON & OFF DELAYS

ON-delay is the time given to the sensor to inhibit its output to avoid unnecessary HVAC operation activated by walk-through traffics or short stay. OFF-delay is the time the relay output will be engaged after the sensor detects the last motion within its range.

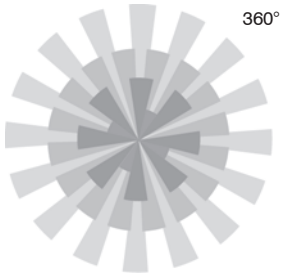
Both ON and OFF delay times can be easily set by placing the header at respective pin position on the sensor board as per following table.

Delay	A	B	C	D	E	F
ON	0	10”	30”	1’	5’	10’
OFF	10”	1’	5’	10’	20’	30’

Factory set

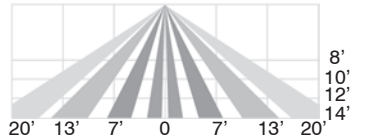
DETECTION PATTERN

Top View



Mounting Height	8’	10’	12’	14’
Coverage (dia.)	20’	25’	30’	35’

Side View



SPECIFICATIONS

Power supply	24 ± 2VAC/DC
Current drain	5/16 mA @ 24 VDC, vacant/occupied
Infrared sensor	Quad element pyroelectric
Sensor output	Form C, 30VAC/DC, 0.2A max.
Detection range	Mounting height x 2.5
Mounting height	7.9 ft.~13.8 ft.(2.4~4.2m)
Delay time (ON)	0/10"/30"/1'/5'/10' selectable
Delay time (OFF)	10"/1'/5'/10'/20'/30' selectable
RFI immunity	Ave. 20V/m (10~1000MHz)
Humidity	Max. 95% RH
Temperature	-4°F~122°F (-20°C~50°C)
Dimensions	4.3” x 1.7” (110mm x 44mm)

WARRANTY

IR-TEC International Ltd. warranties this product to be free of defects in materials or workmanship for a period of five years from date of shipment. There are no obligations or liabilities on the part of IR-TEC International Ltd. for consequential damages arising out or in connection with the use or performance of this product or other indirect damages with respect to loss of property, revenue, or profit, or cost of removal, installation or reinstallation.

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