

Type(s)  
Project  
Date  
Notes

**GENERAL INFORMATION**

The MOS-IR is a 360-degree ceiling-mount sensor that uses passive infrared (PIR) technology to detect occupancy. It uses wireless technology to communicate with Echoflex controllers to efficiently manage lighting and increase energy savings.

The sensor harvests solar energy from both natural and artificial light sources. Its efficient energy management system eliminates the need for batteries in typical workplace settings. The MOS-IR is suitable for vacancy applications where energy codes require lights to be manually turned ON and automatically shut OFF or dimmed when the space is vacant. Precision circuitry also allows it to provide immediate response to new occupancy states, making it an ideal solution for partial-ON/auto-ON applications.

The MOS-IR incorporates test features that provide installers with the ability to ensure sufficient energy harvesting, and occupancy detection without extra tools or software. Sensitivity settings for PIR can be adjusted to eliminate false tripping and ensure the right level of detection.

The sensor has three different lenses to provide suitable PIR coverage: lenses A and B are intended for office applications optimized for ceiling heights of 2.4 to 2.7 m (8 to 9 ft). Lens C is intended for high bay applications, approximately 12 m (40 ft) ceiling height, and is equipped with a battery to guarantee consistent operation in locations that have low light and are difficult to access.

**APPLICATIONS**

- Education: Classrooms, administration, corridors, stairwells
- Hospitality: Banquet halls, lobbies
- Healthcare: reception, administration
- Commercial office: Conference rooms, private offices, open office space, corridors, stairwells
- Commercial warehouse: high bay

**ORDERING INFORMATION**

**PIR Ceiling Occupancy Sensor**

MODEL	DESCRIPTION
MOS-IR-UA	PIR Ceiling Occupancy Sensor, 902 MHz, 93 m <sup>2</sup> (1,000 ft <sup>2</sup> ) coverage
MOS-IR-UB	PIR Ceiling Occupancy Sensor, 902 MHz, 176 m <sup>2</sup> (1,900 ft <sup>2</sup> ) coverage
MOS-IR-UC	PIR Ceiling Occupancy Sensor, 902 MHz, 585 m <sup>2</sup> (6,300 ft <sup>2</sup> ) coverage, high bay
MOS-IR-YA	PIR Ceiling Occupancy Sensor, 868 MHz, 93 m <sup>2</sup> (1,000 ft <sup>2</sup> ) coverage
MOS-IR-YB	PIR Ceiling Occupancy Sensor, 868 MHz, 176 m <sup>2</sup> (1,900 ft <sup>2</sup> ) coverage
MOS-IR-YC	PIR Ceiling Occupancy Sensor, 868 MHz, 585 m <sup>2</sup> (6,300 ft <sup>2</sup> ) coverage, high bay

**FEATURES**

- Solar powered, wireless, PIR occupancy/vacancy sensor
- Ceiling mounted with 360° of detection
- Supports partial-ON and partial-OFF applications for energy code compliance
- Adjustable PIR sensitivity to fine-tune detection level
- Walk-Test feature allows installers to test operation and installation location
- Integrated LEDs indicate solar harvesting light level
- Operates in low light, 20 lux (2 fc), and up to 9 days in darkness without a battery
- Optional battery start assist
- Reliable radio reception range of 24 m (80 ft) - commercial office spaces (typical), up to 100 m (330 ft) line-of-sight
- Available in 902 MHz and 868 MHz frequencies
- Installation options: integrated magnets for T-bar ceiling, wire strap, screw mount, or double-sided tape (not included)

## SPECIFICATIONS

### HARDWARE

- Power supply: Integrated solar cell
- Operational light level: 20 lux, (2 fc) minimum
- Charging light level, minimum: 100 lux, (10 fc)
- Charging period: 6 hours to maximum charge at 320 lux (32 fc)
- Operating life at maximum charge: 9 days in 0 lux, no battery
- Battery:
  - CR2032 coin cell
  - Battery life expectancy: Shelf life as defined by the battery manufacturer or five years, whichever occurs first
  - MOS-IR-A and MOS-IR-B: not included, optional start assist
  - MOS-IR-C: included and required
- Inputs: Teach button
- Outputs: LEDs - green, blue and red

### EQUIPMENT PROFILES

- EEP A5-07-01: Occupancy Sensor: PIR on, PIR off. Supply voltage monitor

### MOUNTING

- Integrated magnets\*, wire bracket\*, screws (not supplied), double-sided tape (not supplied)
  - \*902 MHz models only

### COMMUNICATIONS

- 902 MHz (U) or 868 MHz (Y) radio frequencies
- Wireless range of up to 24 m (80 ft) - commercial office spaces (typical), up to 100 m (330 ft) line-of-sight
- Integrated whip antenna
- Message transmission: On motion or on heartbeat period
- Message heartbeat period: Minimum 100 seconds

### ENVIRONMENTAL

- Operating temperature: -10°C to 45°C (14°F to 113°F)
- Storage temperature: -25°C to 65°C (-13°F to 149°F)
- Relative humidity: 5%–92% non-condensing

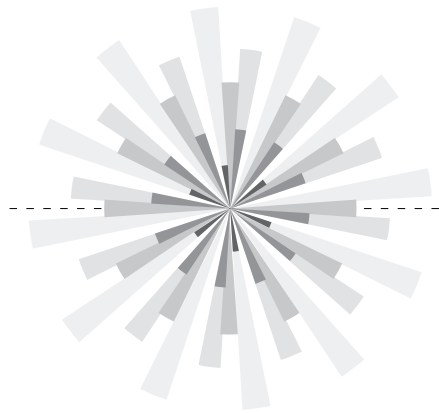
### REGULATORY AND COMPLIANCE

- Complies with UL 916
- ANSI / ASHRAE / IES Standard 90.1
- International Energy Conservation Code - IECC
- FCC Part 15.231 - Remote Control Transmitter
- ISED (Industry Canada) RSS-210

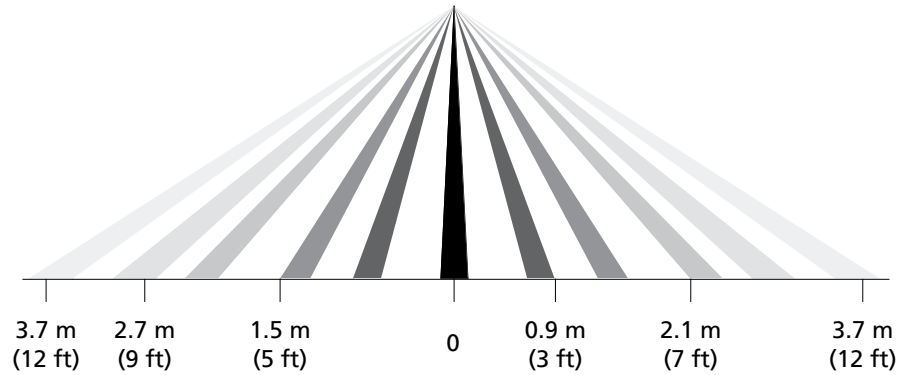
## LENS COVERAGE DIAGRAMS

### LENS A

TOP VIEW

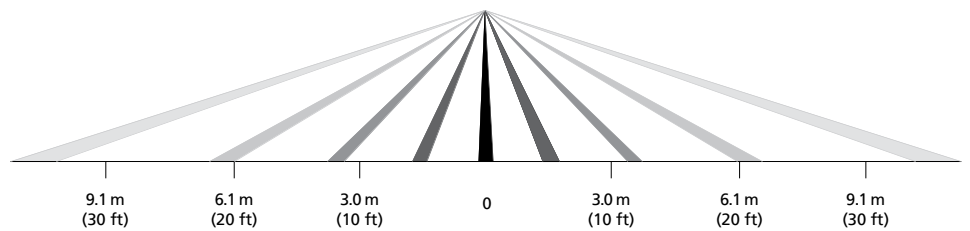
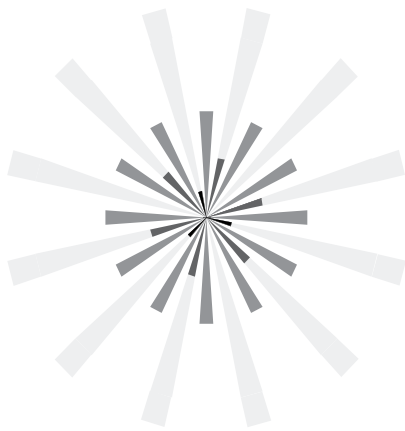


SIDE VIEW



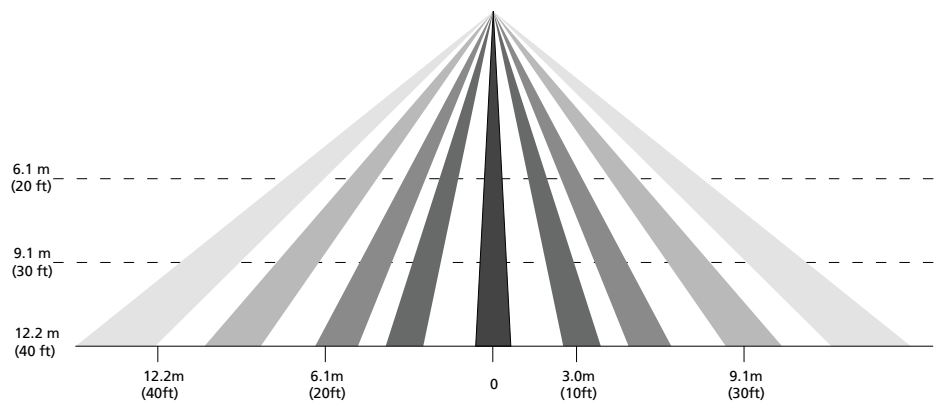
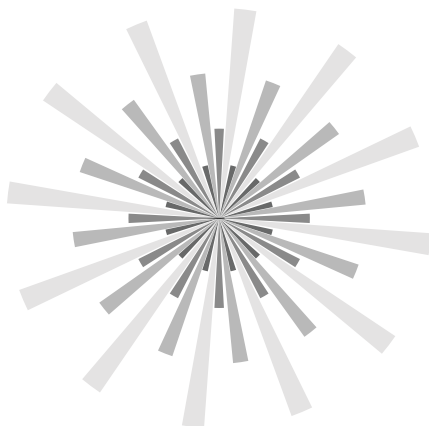
Typical ceiling height 2.4 m (8 ft)

### LENS B



Typical ceiling height 2.7 m (9 ft)

### LENS C - HIGH BAY



PHYSICAL

PIR Ceiling Occupancy Sensor Weight and Dimensions†

MODEL	HEIGHT		WIDTH		DEPTH		WEIGHT	
	mm	in	mm	in	mm	in	g	oz
MOS-IR	111	4.4	111	4.4	36	1.4	104	3.7

†Weights and dimensions typical

