

Type(s)
Project
Date
Notes

GENERAL INFORMATION

The MOS-DT is a 360-degree ceiling-mount sensor that detects occupancy and communicates wirelessly with Echoflex lighting controllers. A combination of passive infrared (PIR) and audio sensing technologies ensures positive occupant detection.

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. Passive audio sensing technology provides coverage of audible human activity across the PIR detection range and innovative noise filtering prevents false triggers that keep lights on in empty rooms. The MOS-DT is suitable for vacancy applications where energy codes require lights to be manually turned ON and automatically shut OFF when the space is vacant. Precision circuitry also allows it to provide immediate response to new occupancy states, making it an ideal solution for auto-ON applications.

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

The sensor has two 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).

APPLICATIONS

- Education: Classrooms, administration
- Hospitality: Banquet halls
- Healthcare: Clinics, administration
- Commercial office: Conference rooms, private offices, general assembly

ORDERING INFORMATION

Dual Tech Ceiling Occupancy Sensor

MODEL	DESCRIPTION
MOS-DT-UA	Dual Tech Ceiling Occupancy Sensor, 902 MHz, 93 m ² (1,000 ft ²) coverage
MOS-DT-UB	Dual Tech Ceiling Occupancy Sensor, 902 MHz, 176 m ² (1,900 ft ²) coverage
MOS-DT-YA	Dual Tech Ceiling Occupancy Sensor, 868 MHz, 93 m ² (1,000 ft ²) coverage
MOS-DT-YB	Dual Tech Ceiling Occupancy Sensor, 868 MHz, 176 m ² (1,900 ft ²) coverage

FEATURES

- Solar powered, wireless, dual technology occupancy/vacancy sensor
- Passive audio detection of human activity operates even in quiet spaces, 5.5 m (18 ft) range
- 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, 50 lux (5 fc) with audio enabled
- 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-DT-A and MOS-DT-B: not included, optional start assist
- 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
- Telegram transmission: On motion or on heartbeat period
- Telegram 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

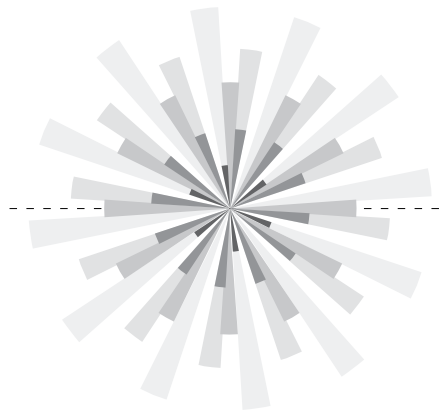
REGULATORY AND COMPLIANCE

- 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

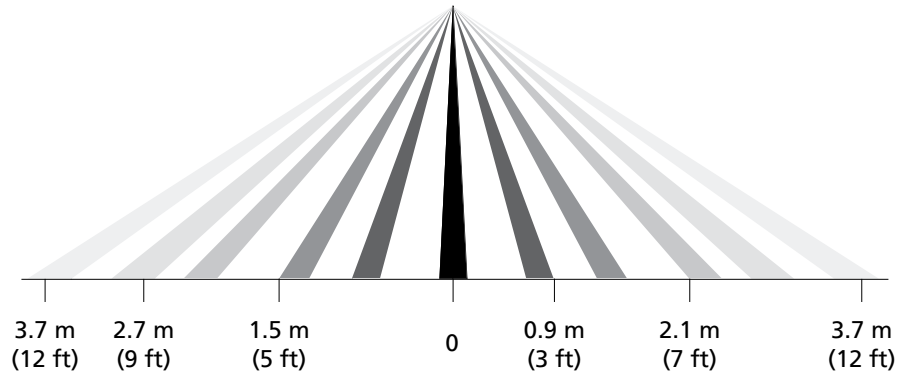
LENS A

TOP VIEW

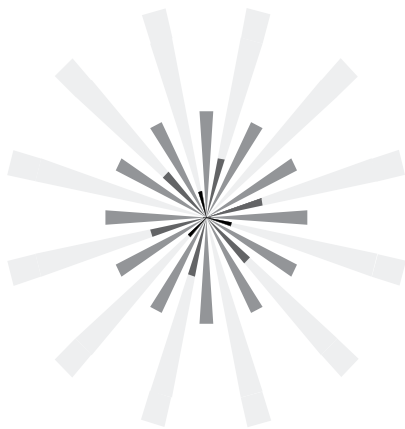


Typical ceiling height 2.4 m (8 ft)

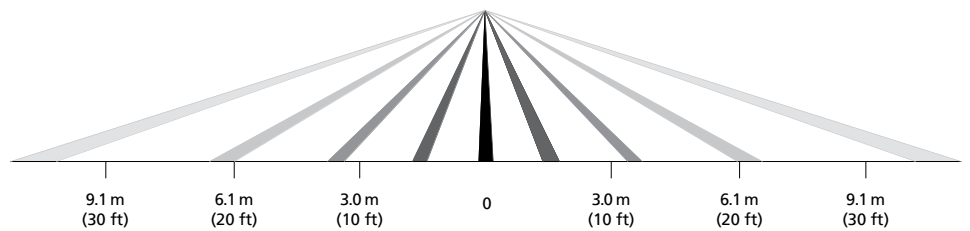
SIDE VIEW



LENS B



Typical ceiling height 2.7 m (9 ft)



PHYSICAL

Dual Tech Ceiling Occupancy Sensor Weight and Dimensions†

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

†Weights and dimensions typical

