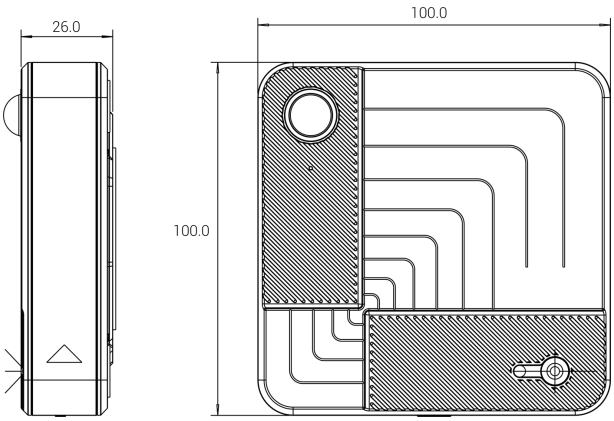
OCCUPANCY & PEOPLE COUNTING

LoRaWAN Occupancy & People Counting Sensor

Headcount, desk use and room comfort from one ceiling sensor.





Overview

The LoRaWAN Occupancy & People Counting Sensor uses an on-board AI chip to count the people in a space or report which desks are occupied, with up to 95% accuracy. Up to 10 detection regions can be drawn to match the room layout, and the sensor also measures temperature, humidity and light level, so one device gives you occupancy and comfort data together.

No images are collected, and the sensor is fully GDPR compliant. PIR-triggered detection and scheduled hibernation give up to 10.8 years on four replaceable batteries. Readings are sent over LoRaWAN to ioX-Pulse, and if the network drops, up to 2,045 records are stored on the device and sent once it returns.

Key Features

- **AI people counting.** Up to 95% accuracy; switch between People Counting and Desk Occupancy modes.
- **Up to 10 detection regions.** Draw regions around desks, tables or zones to match the room layout.
- **Comfort sensing built in.** Temperature, humidity and light level, with temperature and humidity alarms.
- **Up to 10.8 years on batteries.** Wire-free ceiling mount and on-board storage with retransmission.

Applications

- **Meeting rooms.** See how many people actually use each room.
- **Classrooms and large meeting rooms.** Headcounts for rooms over 430 sq ft (40 m^2).
- **Offices, study rooms and libraries.** Report occupancy for 4 to 8 desks per sensor for desk booking and seat tracking.
- **Open offices.** Zone-level occupancy across open floor plans.

Technical Specifications

Detection	
Technology	Low-power AI chip with PIR-triggered detection
Modes	People Counting or Desk Occupancy; up to 10 detection regions
Accuracy	Up to 95% within the optimal detection range
Field of view	129° horizontal x 93° vertical; needs at least 50 lux of light
Coverage	13.1 x 23.6 ft (4 x 7.2 m) at 9.8 ft (3 m) height; 19.7 x 36.1 ft (6 x 11 m) at 13.1 ft (4 m)
Installation	
Mounting	Ceiling, with screws or adhesive backing (bracket included); not recommended for retail
Mounting height	7.9 to 13.1 ft (2.4 to 4 m); above 7.9 ft for seated, above 9.8 ft (3 m) for standing people
Environmental Sensing	
Temperature range (device)	32 to 86 °F (0 to 30 °C), set by the device operating range
Temperature accuracy	±1.8 °F (±1 °C); resolution 0.2 °F (0.1 °C)
Humidity	0 to 100 %RH; accuracy ±2.5 %RH; resolution 0.5 %RH
Light status	Bright or dim
Wireless	
Protocol	LoRaWAN 1.0.3 (1.0.2 selectable), Class A, OTAA or ABP
Frequency bands	US915, EU868, AU915, AS923, KR920, IN865, RU864, CN470 (ordered by band)
RF output	Up to +20 dBm (915 MHz)
Receive sensitivity	Down to -137 dBm (300 bps)
Reporting	Every 10 minutes by default (2 to 1,440 min); detection interval from 2 minutes
Features	
Alarms	Configurable temperature and humidity thresholds
Datalog	Stores up to 2,045 records; resends after a network outage; history retrievable on request
Configuration	Remote configuration by LoRaWAN downlink; scheduled hibernate
Power	
Battery	4 x ER14505 Li-SOCl2, 2,700 mAh each, replaceable
Battery life	Up to 10.8 years at SF7, about 7.5 years at SF10 (US915, 8 h per day, 5 min interval, 77 °F)
USB-C	Temporary power only; extended use can cause overheating and reduced detection
Physical	
Operating environment	32 to 86 °F (0 to 30 °C); 0 to 95% RH, non-condensing; IP30, indoor use
Size and weight	3.94 x 3.94 x 1.02 in (100 x 100 x 26 mm); 5.1 oz (145 g) without batteries
Housing	White or black plastic, UL94 V-2
Certifications	FCC, CE; RoHS planned

ioX-Pulse

Connect this sensor to ioX-Pulse to see live headcounts, desk use and room conditions on your dashboards, and get email, SMS or in-app alerts when conditions change.

Start Your Free Trial

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