

# User Guide



# • Overview

## Introduction

Gumband's Presence Sensor will let you and your team capture real-time engagement data for your in-person spaces and experiences.

The unit is powered by a privacy-centric sensor using 60 GHz mmWave radar, with on-board processing for dwell tracking and interface control. This sensor allows for maximum simultaneous tracking of 20 people in a space, with up to a 6 m x 6 m tracking area and 120° field of view (FoV).

Power over Ethernet (PoE) enables a single cable solution for power and data, as well as live data visualization over a network connection.

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• 01 Specifications

Electrical

PoE PD Compliance	IEEE 802.3af
PoE Mode	Mode B
Voltage	36-57 VDC
Power Consumption	Avg. 5.50 W / Max. 7.0 W
Cable Requirements	Shielded twisted pair
Safety Standard	UL/c-UL/EN/CB 62368-1

Environmental

Operating Temperature	-10°C to 60°C
Relative Humidity	25% to 80% (Non-Condensing)
Vibration	TBD †

† This is not a sensor shock endurance rating. Output data integrity is impacted by vibration events in excess of this rating during operation.

Network

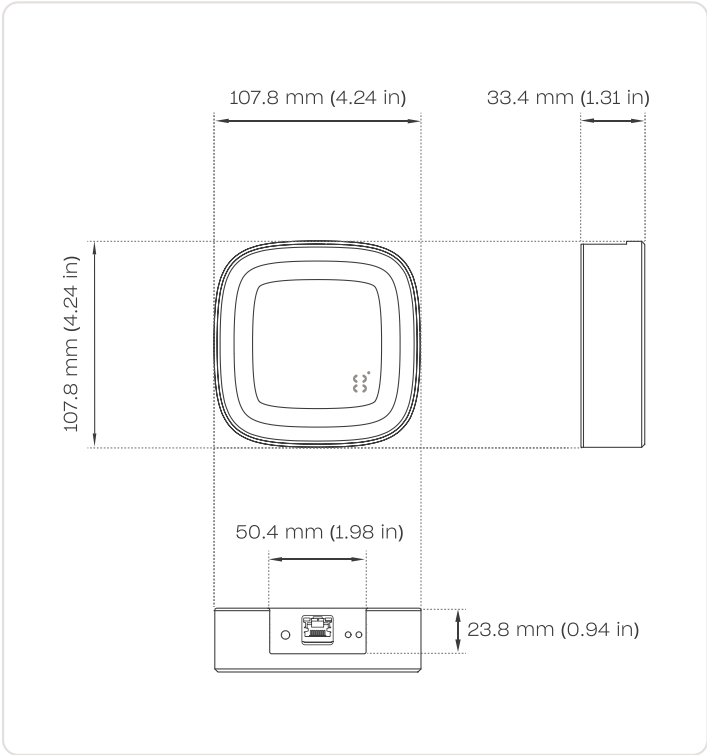
IPv4	DHCP or Static †
Ports	1883/8883 and 80/443 ‡
Max. Throughput	2 Mbps §

† Default is DHCP but configurable to use Static.  
‡ MQTT is the primary protocol, HTTP ports only used for updates.  
§ Network traffic is highly dependent on activity within the field of view of the sensor, typical data is <10 Kbps.

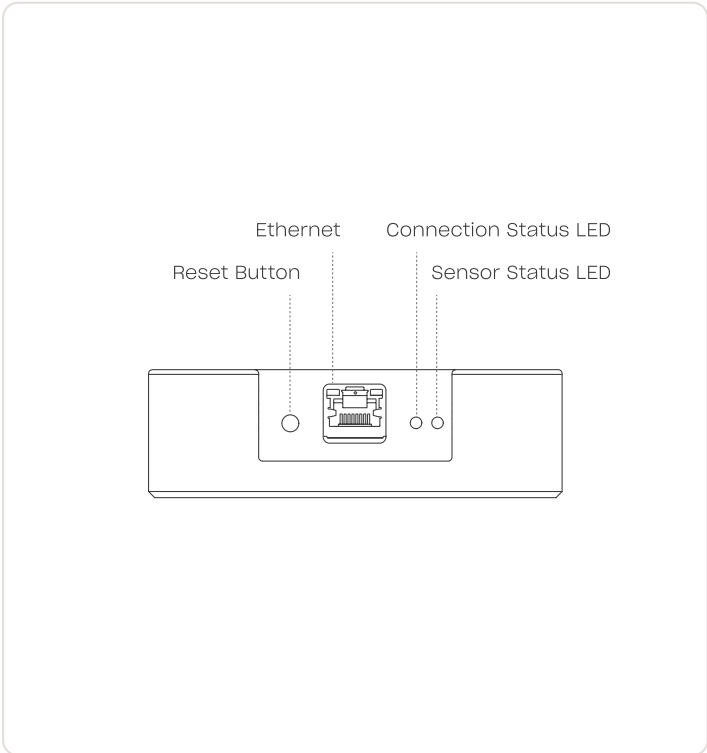
Material

Housing	6061 T6 Aluminum
Radome / Faceplate	ABS
Weight	370 g (13.05 oz)

Dimensions

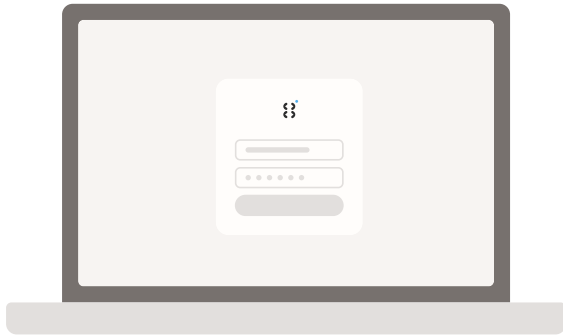


Inputs/Outputs



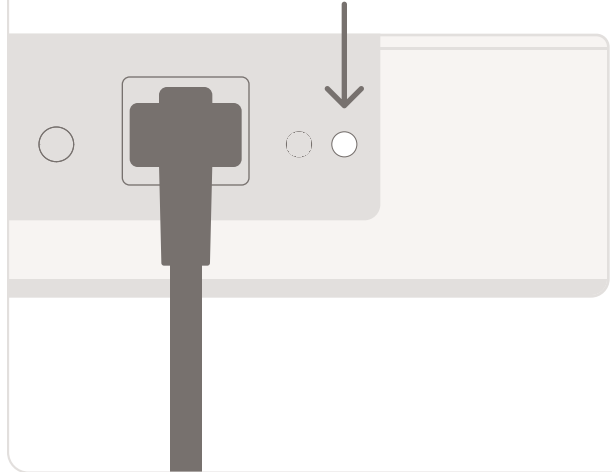
## • 02 Setup

1



Log in to the Gumband platform at [app.gumband.com](https://app.gumband.com) and follow the on screen instructions to connect your device to your exhibit.

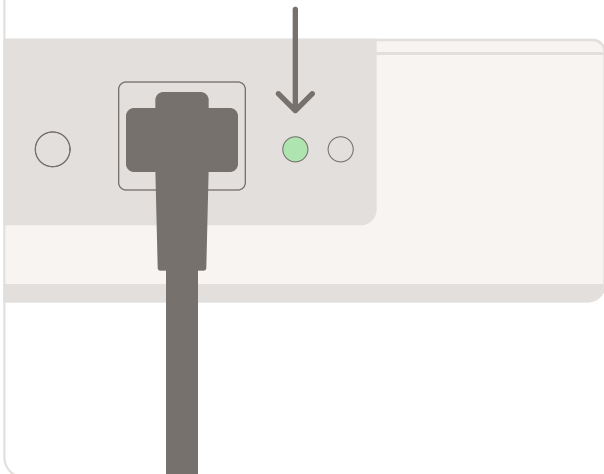
2



The sensor status LED will illuminate solid white once the device has booted and the radar is enabled.

Please see our troubleshooting guide if the sensor status LED displays another color or pattern.

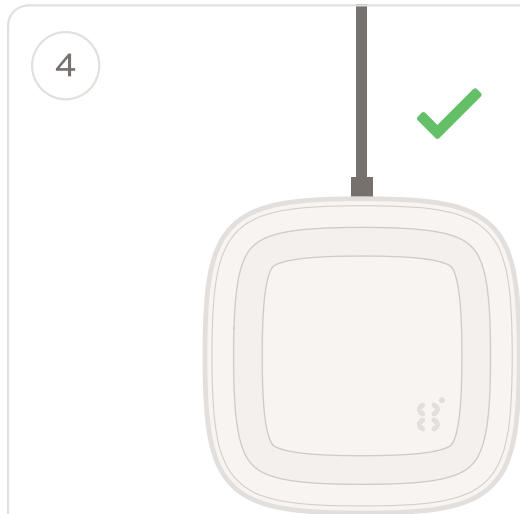
3



The connection status LED will slowly pulse green once the device is connected to the Gumband Cloud.

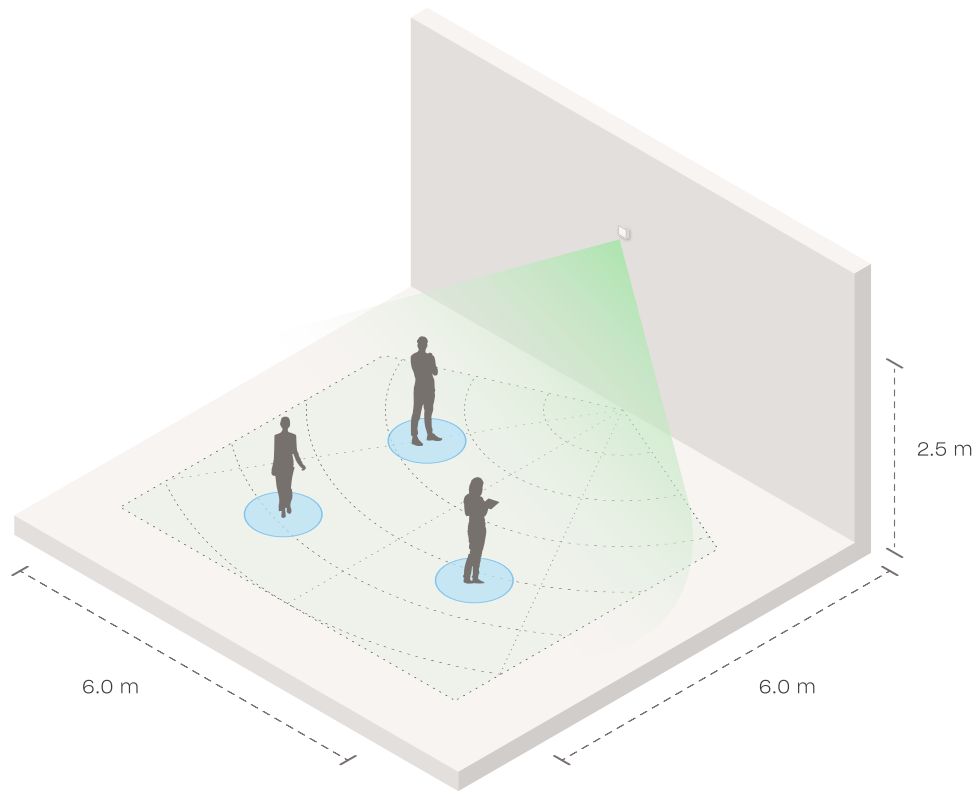
Please see our troubleshooting guide if the connection status LED displays another color or pattern.

4



The sensor will automatically begin streaming data once these steps have been completed successfully.

• 03 Placement



Instructions

The sensor must be mounted rigidly to a solid structure in order to prevent excess vibrations that can negatively impact data quality.

The ideal mounting height for the unit is approximately 2.5 meters (8 feet) above the floor. This height helps prevent individuals in the foreground from blocking the field of view (FoV), while providing optimal signal strength and coverage area. While the unit can function when mounted at other heights, coverage area and sensitivity may be reduced.


There is a single 1/4"-20 threaded hole on the center of the rear of the unit (standard camera tripod mount).

Mounting Specifications

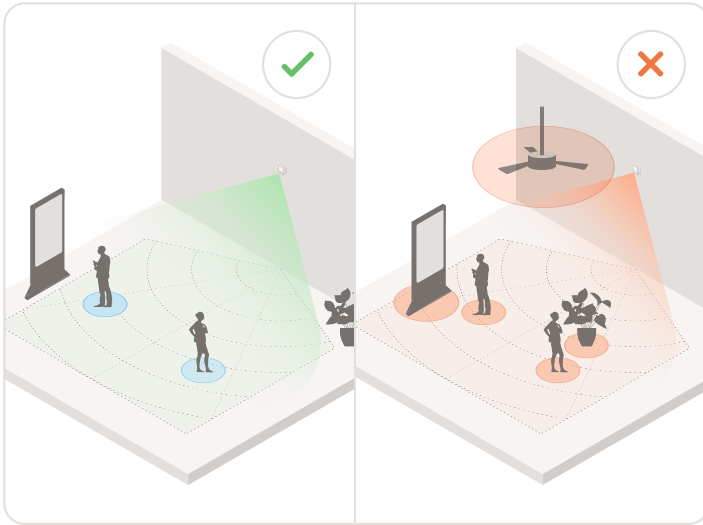
FoV	120°
Coverage Area	6.0 m x 6.0 m (19.5 ft x 19.5 ft)
Angle	~20° (+/-10°) †
Orientation	Cable up or cable down ‡
Height	2.5 m (8 ft) ‡

† The unit will autoconfigure itself for its orientation and will report an error if the orientation is invalid (see troubleshooting section).

‡ If the mounting height is other than recommended it should be reconfigured via the device dashboard at [app.gumband.com](https://app.gumband.com).

 For additional information, please see our sensor mounting guide at [docs.gumband.com](https://docs.gumband.com)

## • 03 Placement

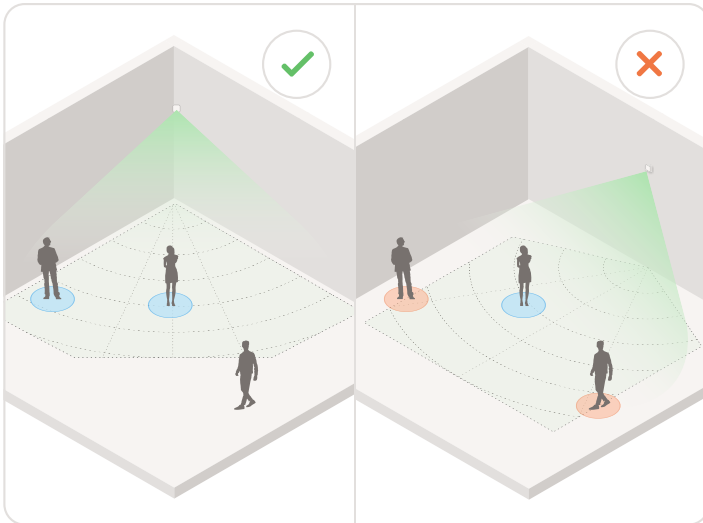


### Object Interference

While the sensor is generally resilient to signal noise from nearby stationary objects, minimizing objects within the field of view (FoV) will minimize interference.

Objects that may cause the most interference include:

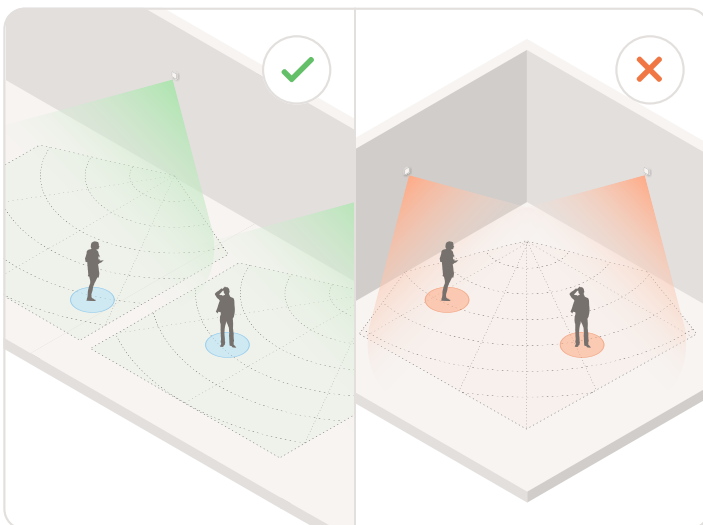
- Objects that may partially/fully occlude individuals;
- Moving objects, such as sliding doors and fans;
- Objects with highly reflective surfaces, such as large metal objects.
- Objects suspended from the ceiling, such as ducts, wire trays, speakers, and sprinklers.



### Entry & Exit

To optimize data capture, minimize the areas in which individuals may stand or move along the edge of the FoV, where they might frequently transition in and out of the detection range.

Designing set entry and exit points or mounting the sensor in a location that takes advantage of existing barriers, such as in a corner, can prevent access to edge areas and blind spots.



### Multi-Device Interference

Interference may occur when two or more devices are in close proximity, leading to reduced signal strength and overall diminished performance. To optimize sensor performance, avoid overlapping fields of view and minimize the number of co-located devices.

# • 04 Troubleshooting

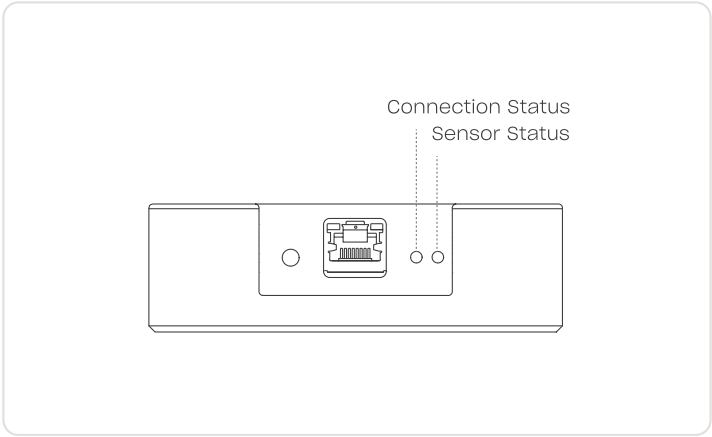
## Device Status

The unit includes two status LEDs, next to the Ethernet connection port and opposite the reset button.

If neither the sensor status LED nor the Ethernet connector LED is illuminated, the device is not receiving power. In this case, verify that the wired network connection is a valid Power over Ethernet (PoE) connection.

In the event of a system or sensor error, component logs available on the Gumband platform will provide detailed information about the specific failure.

## Status LEDs




## Sensor Status LED Messages

◦ Solid White	Sensor configured and running
• Off	Sensor configuration failed
• Blinking Red	Sensor error
• Blinking Blue	Excess motion or vibration
• Blinking Orange	Mounted in incorrect orientation

## Connection Status LED Messages

• Pulsing Green	Server connected
• Pulsing Orange	Server disconnected
• Pulsing Magenta	Network disconnected or no IP assigned
• Blinking Red	System error

 For additional information, please see our sensor troubleshooting guide at [docs.gumband.com](https://docs.gumband.com)



FCC ID: 2BL2J-PS001

Model: PS01

Deeplocal  
1601 Marys Ave  
Suite 3G  
Sharpsburg, PA  
15215

[gumband.com](http://gumband.com)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION: Changes or modifications not expressly approved could void your authority to use this equipment.



Innovation, Science and  
Economic Development Canada

IC ID: 33216-PS001

This device complies with Innovation, Science and Economic Development Canada's license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

## RF Exposure Notice

To ensure compliance with FCC and ISED RF exposure requirements this device must be installed to provide a minimum of 20cm between the device and people.

Pour garantir la conformité aux exigences d'exposition RF de la FCC et d'ISED Canada, cet appareil doit être installé de manière à laisser un minimum de 20 cm entre l'appareil et les personnes.