



MSR01

Millimeter Wave
Radar Sensor

Datasheet



PRODUCT OVERVIEW

MSR01 is a millimeter-wave radar sensor independently designed and developed by MINEW, featuring multiple communication methods including WiFi and Bluetooth® LE. This specification mainly introduces the MSR01 millimeter-wave radar sensor of the Bluetooth® LE version. The MSR01 millimeter-wave radar sensor of the Bluetooth® LE version is mainly used in applications such as space management and personnel sensing. It can achieve functions such as human presence detection and pedestrian flow statistics. It features high - sensitivity sensing, excellent algorithms with an accuracy rate of up to 99%. Equipped with a self - learning function, it can deeply learn to recognize environmental conditions and filter out interference sources. Future updates will support functionalities such as trajectory tracking, and respiratory and heart rate detection. The sensor provides non-inductive detection without privacy concerns and has broad applications in smart offices, smart buildings, smart retail, smart hotels, intelligent security, and smart home solutions.

KEY FEATURES



Millimeter - wave non - inductive detection, with no privacy or sensitivity issues



Ultra - high accuracy rate, enabling precise identification of static and moving targets



4T4R MIMO antenna design offers high resolution



AI self-learning function adapts to various environments



It features ultra-strong anti-interference, unaffected by doors, windows, glass or metal



Users can flexibly configure the detection area



It can realize multi-target detection and provide coordinate information



Magnetic installation, allowing 360° rotation for adjusting the installation angle

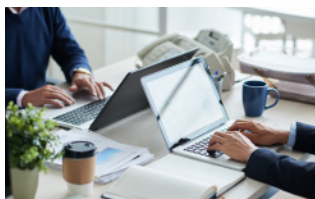


120° field of view and an installation height of 2.5 - 4m



Human presence & pedestrian flow detection. Rich functions, wide applications

MARKET APPLICATIONS



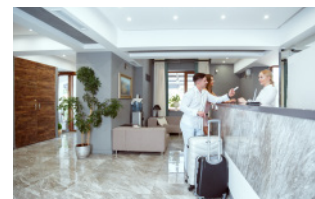
Smart Office

conference room occupancy detection, personnel positioning. Intelligent management, optimized configuration.



Smart Elderly Care

Human presence detection: Alerts are triggered when the elderly or patients leave the ward or bed, providing intelligent care.



Smart Hotel

human presence perception, entry and exit judgment. Scene linkage, improve customer experience, intelligent management, cost reduction and efficiency increase.



Smart Supermarkets

passenger flow statistics, Regional heat map effect. Intelligent data analysis, optimization of marketing strategies.



Smart Building

human body presence perception, personnel positioning, human flow statistics. Intelligent control, improve service quality, reduce cost and increase efficiency.



Smart Security

Real-time area monitoring, alerts for abnormal behavior or unauthorized access; enhances security and provides better services and benefits for enterprises.

PRODUCT SPECIFICATIONS

BASIC SPECIFICATIONS		
Model	MSR01	
Communication Version	Bluetooth® LE	
Sub Model	MSR01-A	MSR01-B
Functional category	Human presence detection (MSR01-A); pedestrian flow statistics (MSR01-B)	
Material	ABS+PC	
Color	White	
Size	Φ83*21mm (main body) Φ66*6.1mm (mounting base)	
Operating Temperature	-10℃ ~+45℃	
Operating Humidity	0~95%RH, no condensation	
Power Supply	DC12V/1A	
Power Supply Mode	DC12 V power cable connection or optional adapter	
Radar Operating Frequency	60GHz	
Radar Antenna Design	4T4R	
Detection Angle	120°	
Detection Range	Ceiling installation, projected ground radius 3 meters	
Power Consumption	<3W	
LED	1 RGB light	
Installation Mode	Ceiling mounted, magnetic	
OTA	Yes	
APP	MinewLink ^[1]	

[1] SDK is available, please contact our sales team for details.

COMMUNICATION PARAMETERS

BLUETOOTH® LE VERSION (MSR01-A/MSR01-B)	
Chip	nRF52 series
Broadcast Frames	Radar data frame+INFO frame
Bluetooth Version	Bluetooth® LE 5.0
Default Broadcast Parameter	INFO frame (0dBm, 1000ms) Radar data frame (0dBm, 1000ms)
Broadcast Distance	Up to 150 meters (open environment)
Security	Support password connection, prevent malicious connection and modification.

SUPPORT SYSTEMS

SUPPORTED MODELS

iOS 10.0 and above

iPhone6/6Plus/6S/6SPlus, iPhone 7/7Plus, iPhone 8/8Plus, iPhone x/xr/xs/xs max, iPhone SE/SE2, iPhone 11/11 pro/11 pro max, etc.

Android 4.3 and above

Samsung, Xiaomi, Huawei, Honor, OnePlus, Google pixel, etc.

DEVICE OPERATIONS

Power on

Power on when connected to the power supply, the red light will be on for 1s.

Power off

Power off when disconnected to the power supply, no lighting effect.

* For specific product instructions, please refer to the product manual, and you can contact our sales staff to provide them.

PRECAUTIONS



- * Please use the device on the suggested working temperature for safety.
- * When using the self-learning function, ensure that no one is in the area to avoid learning failures
- * Please ensure that the positive and negative poles of the power supply are connected correctly during equipment installation, otherwise the product will not work.
- * Please do not disassemble the main shell without permission, our company will not be responsible for any damage caused.
- * The Bluetooth® LE version needs to be used with a gateway. We recommend using our Bluetooth gateway.
- * The WiFi version does not need to be used with an external gateway. When the BLE scanning function is enabled, the number of scans is limited, so it is recommended to set BLE filtering conditions.

CERTIFICATIONS

CE FCC RoHS

* Note: CE, FCC, RoHS numbers are available , if you need other certifications, please contact our business team.

PACKAGING

	Inner Box	Outer Box
Picture		
Quantity	7 pcs/box	56 pcs/box
Net Weight	552 g	4.5 kg
Gross Weight	695 g	6.0 kg
Size	30.6cm×11×9.5 cm	32cm×23.5cm×40 cm

QUALITY ASSURANCE

The factory has already obtained the certification of ISO9001 Quality System. Each product has been strictly tested (tests include transmission power, sensitivity, power consumption, stability, aging, etc.).

Warranty Period: 12 months from the date of shipping (other accessories excluded).

DECLARATION

Statement of Rights:

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