

R5-60G-TY/WiFi

60GHz Radar Monitoring Sensor

Product Manual (Tuya W i F i Version)

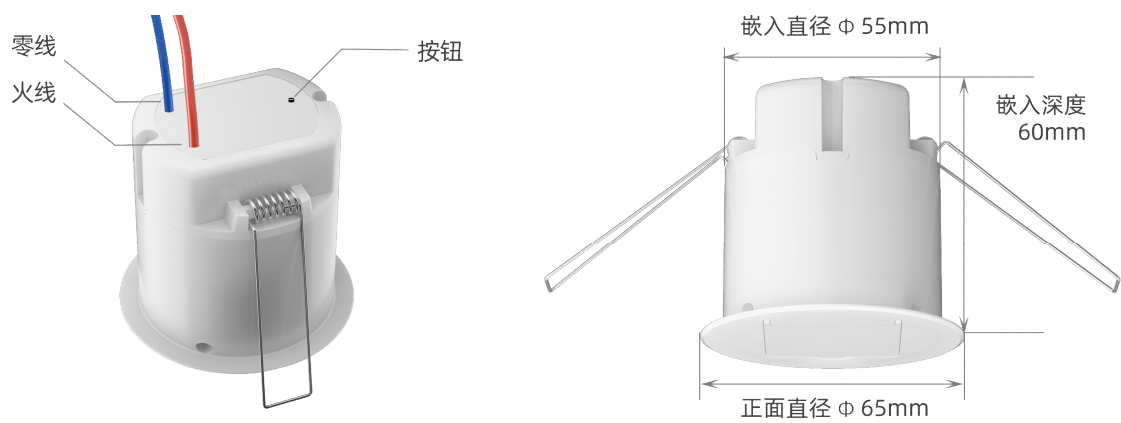
Installation Manual



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Appearance

Embedded installation, product diameter 65mm, product depth 60mm, embedded diameter 55mm.



Default Parameters

No.	Function	Default value
1	Exit Location	1.0m
2	Presence Delay	30s
3	Indicator Light	On
4	Sensor Installation Height	2.7m
5	Lying Height After Falling	0.4m
6	Sliding Distance After Falling	0.2m
7	Fall Alarm Timing	3s
8	Bed Width	1.4m
9	Bed Length	2.0m
10	Distance to Trigger When Leaving Bed	0.1m

11	Height Threshold for Leaving Bed H1	0.9m
12	Height Setting for Lying in Bed H2	0.6m
13	Number of Triggers for Height When Leaving Bed	3 times
14	Radar Installation Offset from Bed Center X	0.0m
15	Radar Installation Offset from Bed Center Y	0.0m
16	Detection Range Width	3.0m
17	Detection Range Length	4.0m
18	Presence Confirmation Time	0.1s
19	Minor-Motion Sensitivity	50%
20	Presence Sensitivity	50%

Detection Principle

The mmWave Radar Monitoring Sensor uses FMCW waveform modulation technology and MIMO array to achieve 4-dimensional detection of the target. Based on the point cloud signal of human body detection, target tracking and algorithms are used to realize the detection of human posture.



Application

Elderly Care

Room | Bathroom | Corridor/Stairs

Accurately detect the presence of breathing, the light is on when people are present, and the light is automatically turned off when people leave, saving energy and improving efficiency

Fall alarm reporting data, getting out of bed and returning to bed monitoring

Home

Entrance/Foyer | Bedroom | Living room | Bathroom

Accurately detect the presence of breathing, the light is on when people come, and it is automatically turned off when they leave, supporting home and away status recognition

Fall alarm reporting data, human posture recognition, getting out of bed and returning to bed monitoring

Hotel

Guest Room | Bathroom | Aisle/Stairway

Auxiliary judgment of whether there is someone in the room, saving energy consumption, improving human efficiency and accurately detecting the existence of breathing

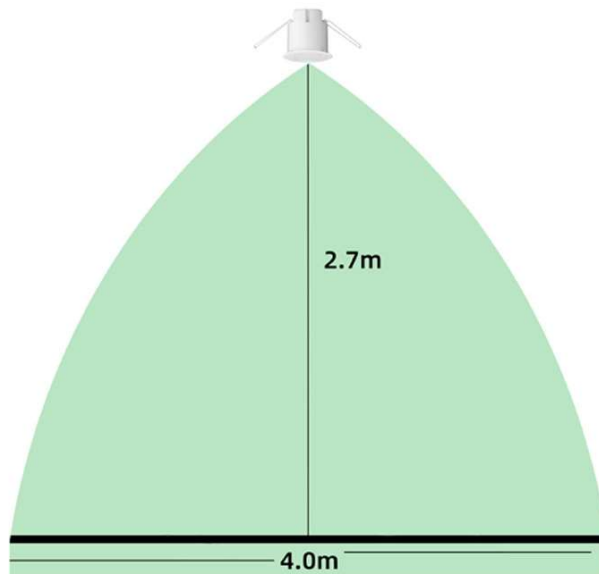
Fall alarm reporting data, assisting in realizing a more intelligent stay experience

Specifications

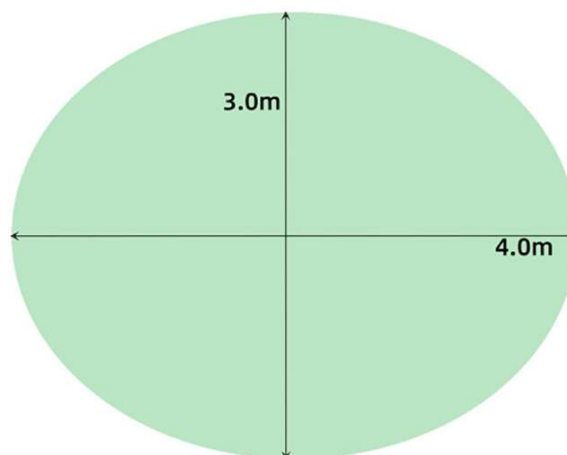
Detection method	60GHz millimeter-wave radar FMCW (Frequency Modulated Continuous Wave)
Installation height	2.0~3.2 meters
Detection angle	360°
Detection Range	When the installation height is 2.7~3.2 meters ①2.7 m,detection range ≤ 3.0 m * 4.0 m ②3.2 m,detection range ≤ 3.4 m * 4.5 m
Detection sensitivity	0~100%
Illuminance Sensor	0~32000 Lux (Accuracy ±1%)
Product Dimensions	65*60mm
Hole size	Φ55mm
Product weight	80g
Power input	100~240VAC
Operating environment	-20~45℃ Humidity<95%
LED Indicator Light	①Flash for 3 seconds when receiving command ②Constant light when someone is detected, the brightness of the indicator light is automatically adjusted with illuminance ③Can be set to off (not lit when someone is detected) Indicator Light Description Entering network configuration: Blue light slowly flashes at 1Hz Detecting presence: Blue light breathes and adjusts brightness Detecting absence: Blue light is off Fall alarm: Red light flashes quickly at 3Hz, in a loop Left bed: Green light flashes once, exit Right side off bed: Green light flashes 2 times, exit Left side back to bed: Green light flashes 3 times, exit Right side back to bed: Green light flashes 4 times, exit Leave area: Steady light for 2 seconds, exit

Detection Range

When the 60G is installed at a height of 2.7 meters



Side View



Top View

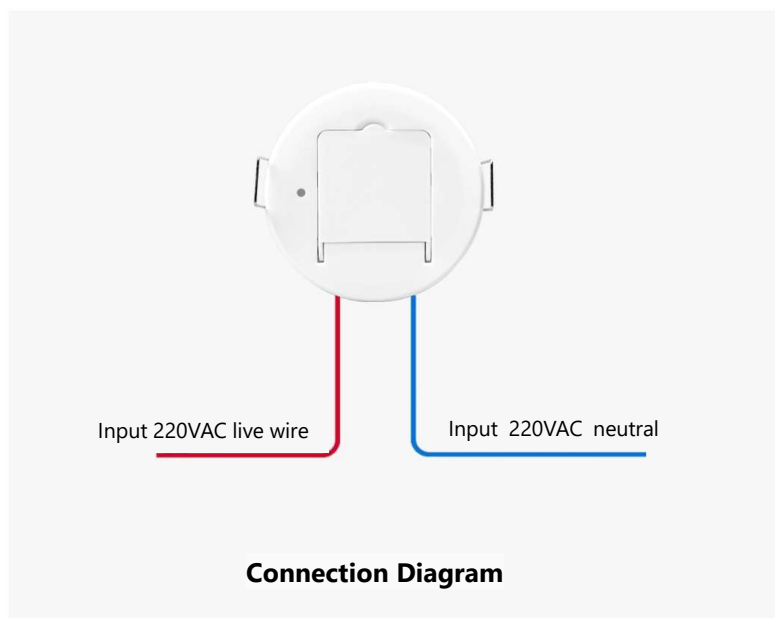
Wiring



Red: power input live wire



Blue: power input neutral line



Settings

APP Download



Tuya Smart



Smart Life

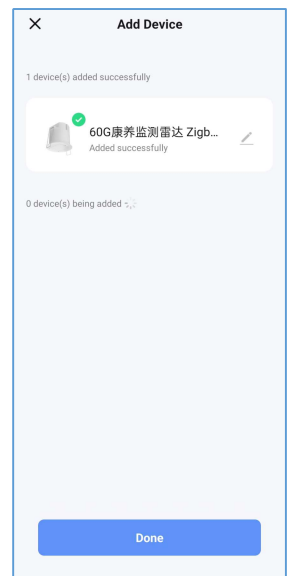
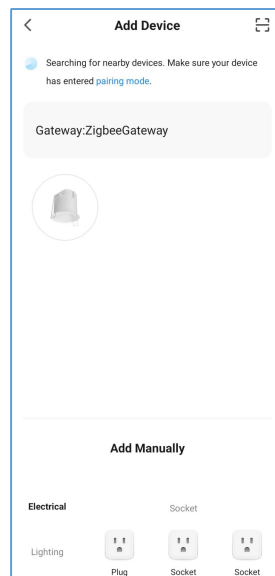
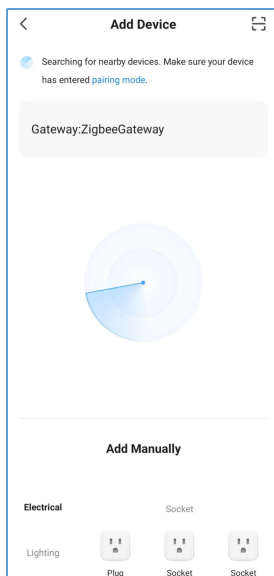
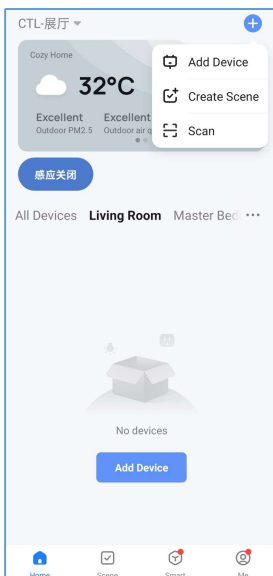


Scan the QR code to download

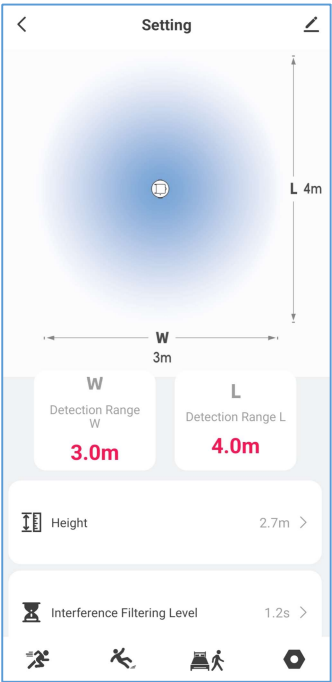
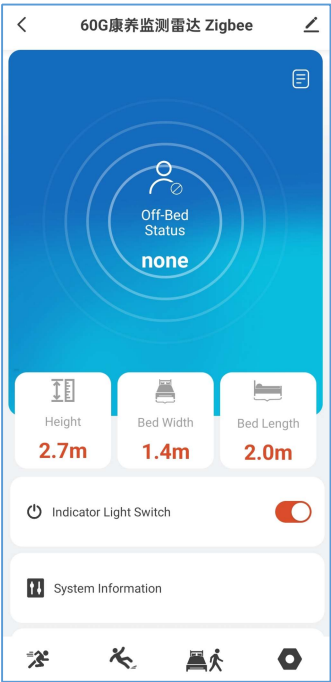
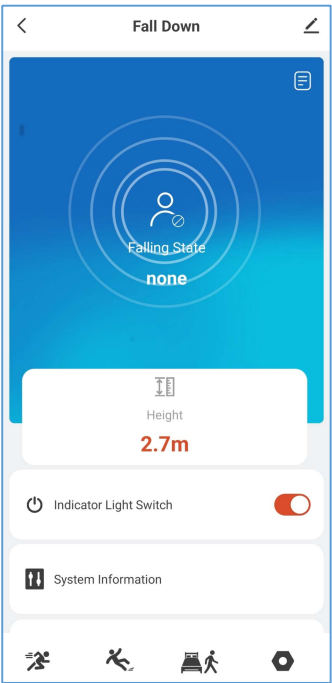
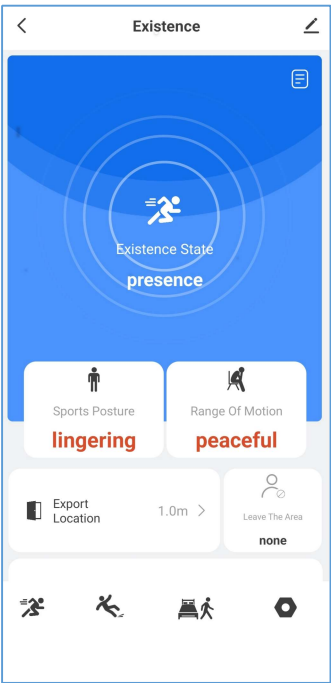
You can download by scanning this QR code, or directly search for the app name in the application market to download.

Device Networking

Connect the sensor to AC220V power supply, long press the pairing button, wait for the indicator light to flash and enter pairing mode, turn on Bluetooth on your phone and connect to 2.4G WIFI, click the plus sign to add the device and wait for the system to search for devices, finally click add to complete.



Interface Overview



Setup

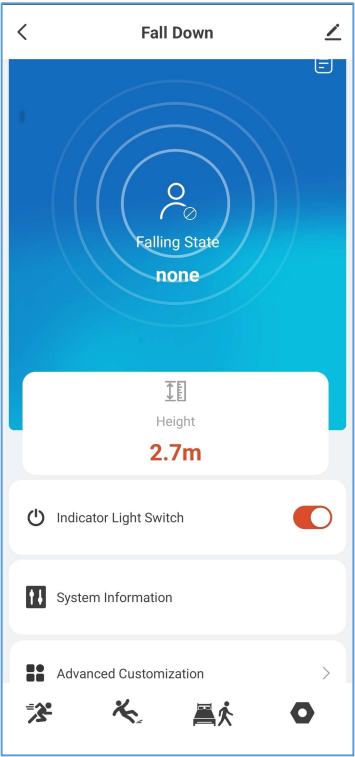
Fall detection

Parameter settings:

Serial number	Parameter name	Recommended setting value	Parameter modification	Glossary
1	Installation height	Actual value	Support	Actual height of the sensor installed horizontally from the ground
2	Height H when lying on the ground after a fall	Default value	Support	Height of the person lying on the ground after a fall
3	Distance L slid out after a fall	Default value	Support	Distance the person slides out after a fall
4	Fall alarm timing	Default value	Support	Reporting time after a fall

- Notes:
- 1. Installation must be level without tilting
 - 2. Accurately set the sensor installation height
 - 3. No obstacles should block the body after a fall, otherwise it will affect the detection results

Reference Example



Setup

Get Up and Return to Bed Detection

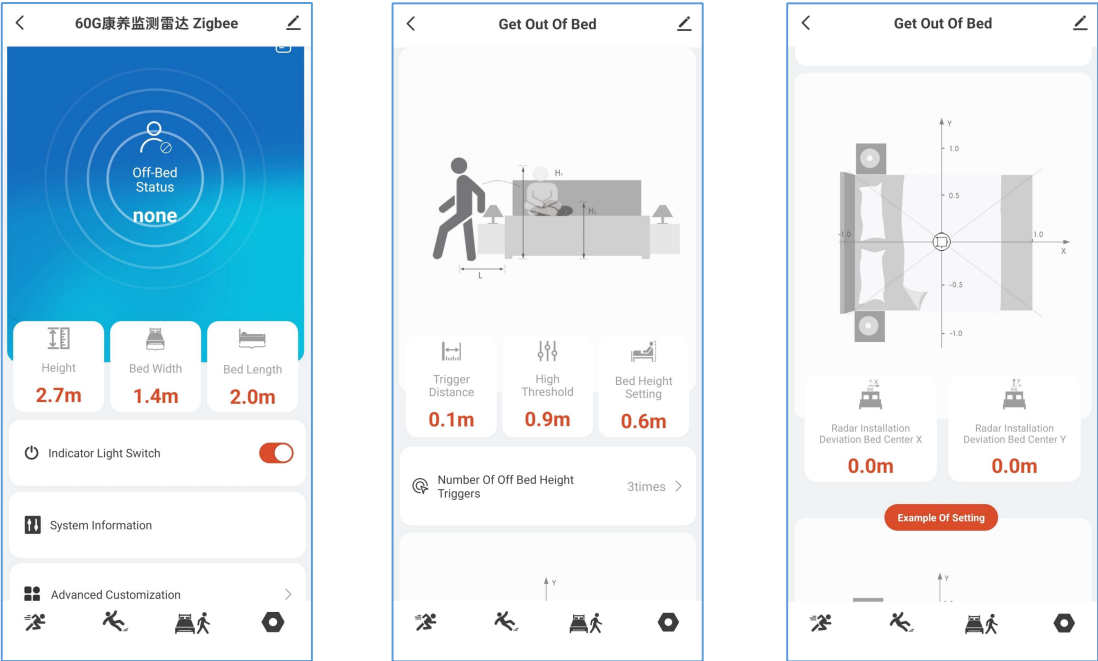
Parameter settings:

Serial number	Parameter name	Recommended setting value	Parameter modification	Glossary
1	Installation height	Actual value	Support	Actual height of the sensor installed horizontally from the ground
2	Window Width Size	Actual value	Support	Actual Bed Width
3	Bed length size	Actual value	Support	Actual Bed Length
4	Distance L for Triggering Leaving Bed	Default value	Support	Trigger Distance for Moving Away from Bed
5	Height threshold H1 for leaving the bed	Default value	Support	Height Threshold for Leaving Bed
6	Height setting H2 for lying on the bed	Default value	Support	Height Threshold for Lying on Bed
7	Trigger count for leaving the bed height	Default value	Modification is Not Recommended	Number of Trigger Events for Leaving Bed within a Unit Time
8	Radar installation deviation from bed center X	Default value	Support	Offset from Bed Center Position X
9	Radar installation deviation from bed center Y	Default value	Support	Offset from Bed Center Position Y

Notes:

1. Installation must be level without tilting
2. Sensor Installation Offset from Bed Center X, Y Axis $\leq 20\text{cm}$
3. Bed Dimensions: Length, Width, Height $\leq 2.2\text{m}, 2\text{m}, 60\text{cm}$

Reference Example



Setup

Presence Detection

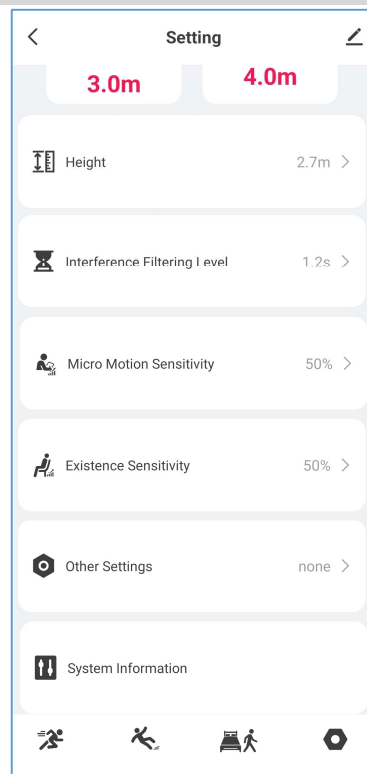
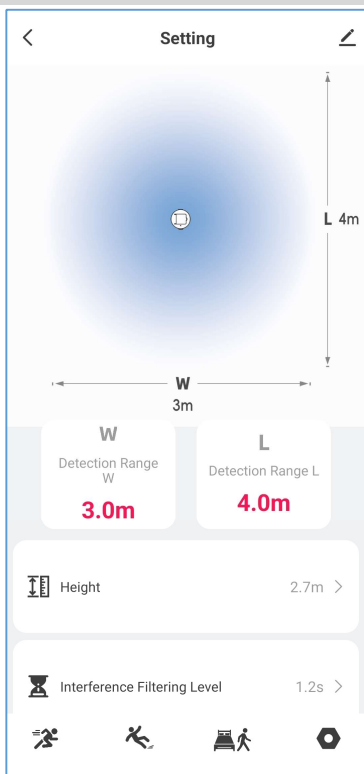
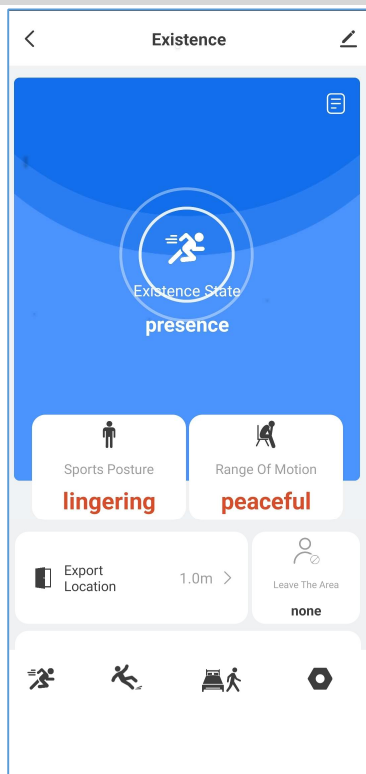
Parameter settings:

Serial number	Parameter name	Recommended setting value	Parameter modification	Glossary
1	Installation height	Actual value	Support	Actual height of the sensor installed horizontally from the ground
2	Detection Range Width W	Actual value	Support	Detection range width
3	Detection range length L	Actual value	Support	Detection range length
4	Existence confirmation time	Default value	Support	Confirmation time from no one to someone
5	Micro-movement sensitivity	40%~80%	Support	Micro-motion detection sensitivity
6	Static sensitivity	40%~80%	Support	Static detection sensitivity

Notes:

1. Installation must be level without tilting
2. Maximum detection range width: 3.0 meters, 4.0 meters

Reference Example



Setup Instructions

Leave area detection

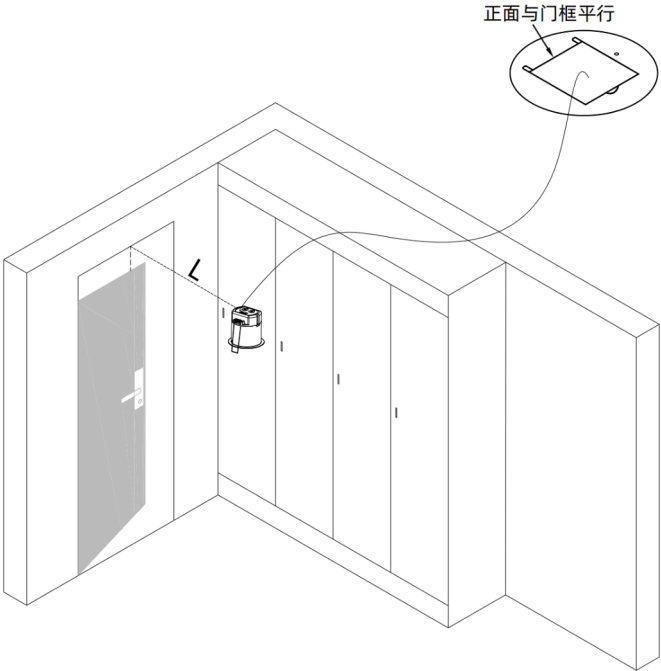
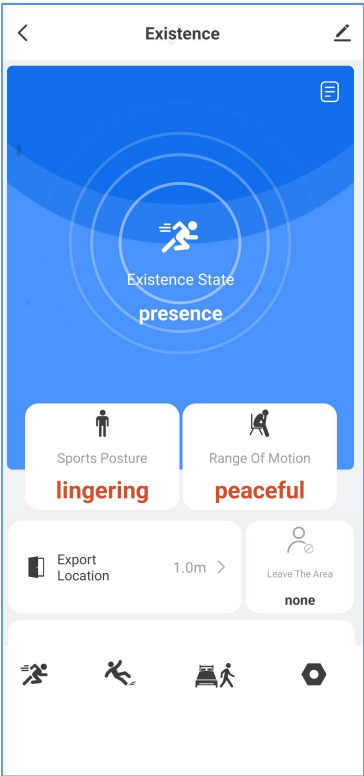
Parameter settings:

Serial number	Parameter name	Recommended setting value	Parameter modification	Glossary
1	Installation height	Actual value	Support	Actual height of the sensor installed horizontally from the ground
2	Exit position	Actual value	Support	Sensor installation distance from the door position

Notes:

- 1. Installation must be level without tilting
- 2. $0.5 \text{ meters} \leq \text{sensor installation distance from door frame } L \leq 1.2 \text{ meters}$

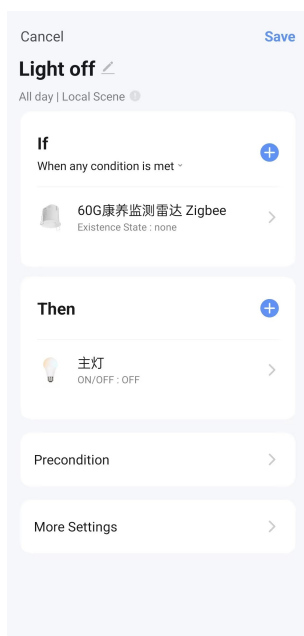
Reference Example



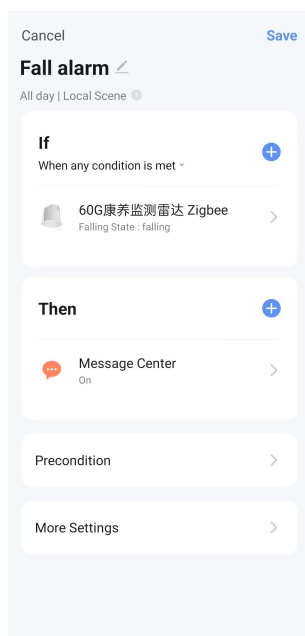
Example of Scene Settings

1. Bathroom

① Induction of someone/no one to turn on/off the light



② Fall alarm



③ Installation diagram



Example of Scene Settings

2. Living room

① Motion posture recognition

CancelSave

Living room motion

All day | Local Scene

If

When any condition is met

60G康养监测雷达 Zigbee

Sports Posture : walk

Then

主灯

Brightness : 80%

Precondition

More Settings

CancelSave

Living room existence

All day

If

When any condition is met

60G康养监测雷达 Zigbee

Sports Posture : lingering

Then

主灯

Brightness : 50%

Precondition

More Settings

CancelSave

Living room no one

All day

If

When any condition is met

60G康养监测雷达 Zigbee

Existence State : none

Then

主灯

ON/OFF : OFF

Precondition

More Settings

② Fall alarm

CancelSave

Falling in the living room

All day

If

When any condition is met

60G康养监测雷达 Zigbee

Falling State : falling

Then

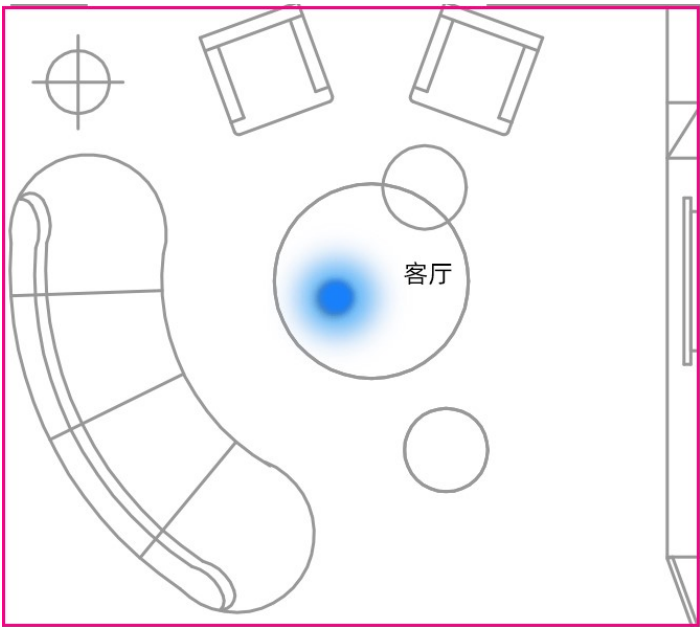
Message Center

On

Precondition

More Settings

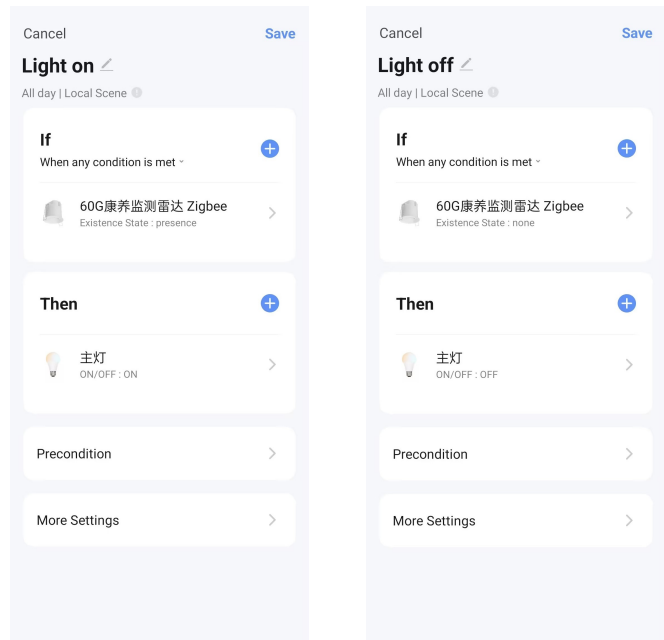
③ Installation diagram



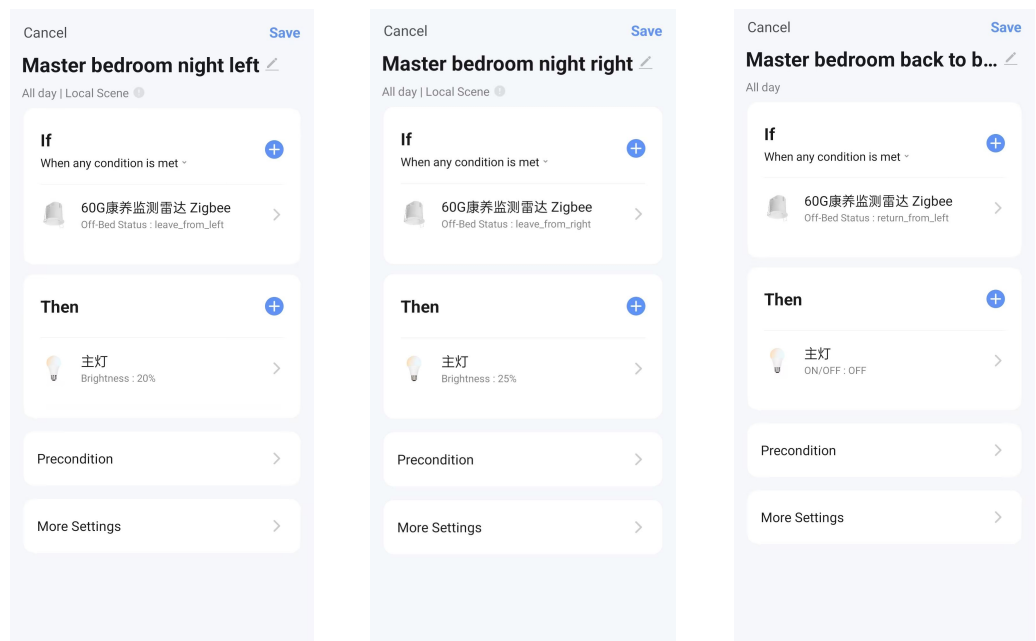
Example of Scene Settings

3. Bedroom

① Induction of someone/no one to turn on/off the light

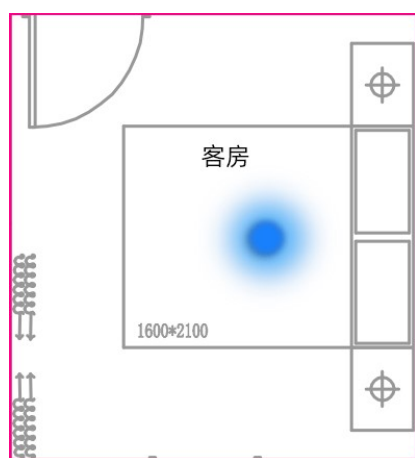
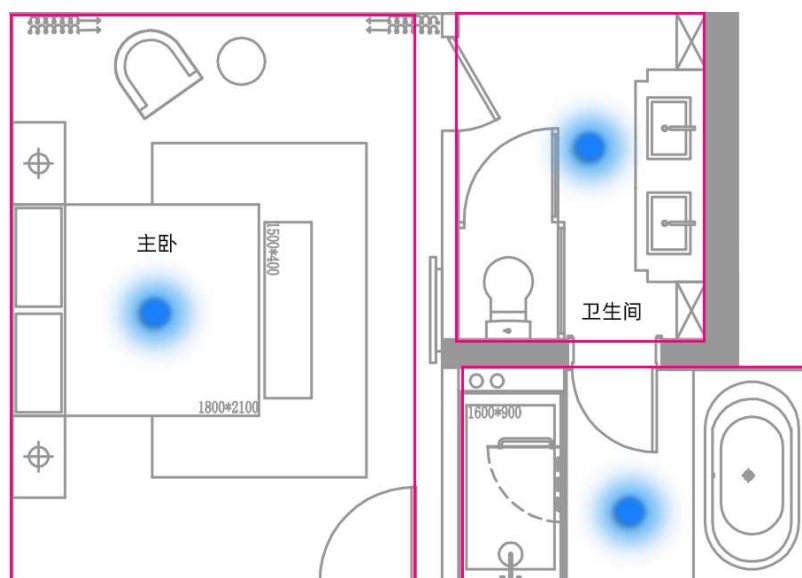


② Night Mode



Example of Scene Settings

③ Installation diagram



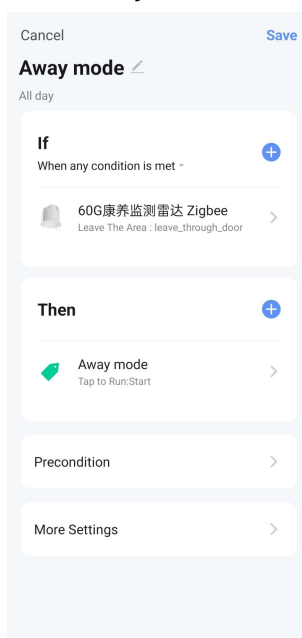
Example of Scene Settings

4. Entrance

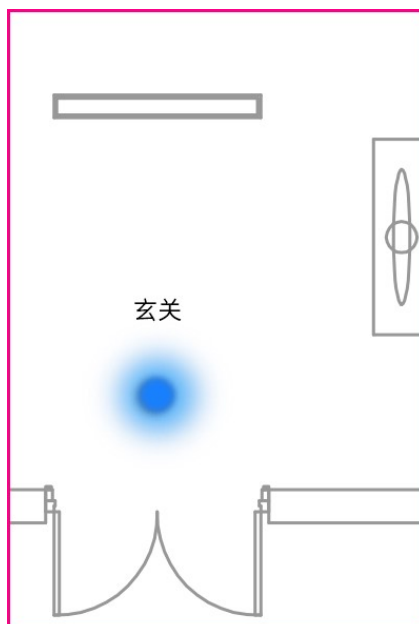
① Induction of someone/no one to turn on/off the light



② Away Mode



③ Installation diagram



Installation

Ceiling Installation



Installation

Installation Environment Requirements

To ensure the correct operation and detection accuracy of this product, please follow the environmental requirements for installation. Operating in unsuitable environments may interfere with detection results:

Dynamic Interference Objects: Please avoid the presence of continuously moving non-human objects in the sensing area, such as animals, continuously swinging curtains, or large potted plants facing the wind.

Strong Reflective Materials: There should be no large areas of strong reflectors in the sensing area, as strong reflections directly facing the millimeter-wave radar sensor may cause interference.

Installation Location: Avoid installing this product in metal junction boxes, on metal surfaces, on mirrored or water ripple ceilings, or within ventilation ducts, as these environments may cause the device to self-excite and generate false alarms.

Packaging and Installation

1. When using sharp tools to open the packaging box, safety should be a priority to avoid injuring the product or yourself.
2. After unpacking, promptly check whether the product and accessories are complete.
3. To prevent suffocation hazards for infants or children, packaging materials should be destroyed immediately after unpacking or kept out of reach of children.
4. Do not discard packaging materials carelessly; they should be disposed of properly according to local sanitation department regulations.

Electrical Safety

1. Before wiring, please ensure that the power is turned off.
2. Please strictly follow the wiring diagram and requirements for wiring operations.
3. Handle with care during installation to avoid colliding with circuit board components, and prevent the device from falling or the casing from deforming or breaking.

4. All line voltages and main cables must use cables certified by national certification or professional testing agencies.
5. Appropriate short-circuit and overload protection must be provided in the distribution cabinet, and ensure that the voltage does not exceed the specifications stated in the product manual.

Installation Distance and Stability

1. When installing multiple millimeter-wave radar sensors, the distance between them should not be less than 4 meters to avoid mutual interference.
2. Ensure that the sensor installation position is secure and stable to avoid any movement of the device itself, as this may affect the accuracy of the detection results.
3. Ensure that there are no moving or vibrating objects behind the radar, as the penetration of radio frequency may also detect nearby moving objects.
4. Ensure that the radar antenna is facing the detection area and that there are no obstructions around it to facilitate the propagation and reception of the waveform.

Product Description

Product Specifications and Changes

If there are changes to the product design specifications, no further notice will be given. The actual product may differ slightly from the illustrations.

Disclaimer

Please strictly adhere to the installation guidelines above. The company is not responsible for any interference or performance issues caused by improper installation. Ensure that all installation steps and environmental requirements are properly executed to guarantee optimal performance and accuracy of the device. If you have any questions or encounter issues during the installation process, it is recommended to contact us for assistance in a timely manner.

This product is an auxiliary item designed to provide users with a convenient daily life experience. Please note that this product is not a medical device and does not possess any medical diagnostic, treatment, or prevention functions. Users should be aware of the auxiliary nature of this product and avoid misusing it as a medical device. This product is only intended for assisting in detecting human movement postures. Our company is not responsible for any losses or damages resulting from improper use of this product.

We strongly recommend that users consult a professional doctor or medical institution promptly when encountering any health issues or concerns. Please be sure to follow the doctor's advice and treatment plan, and do not use this product as a medical means. When using this product, please be sure to operate according to the manual or relevant guidelines to ensure safe use. If you have any questions or discomfort, please stop using it immediately and contact our customer service team. Thank you for your understanding and cooperation; we will do our best to provide you with quality products and services.

Maintenance

Cleaning the exterior of the detector

Regularly: When the surface of the detector's external lens is dirty or obstructed.

Cleaning materials: Soft cloth - wipe with clean water that does not contain any chemical agents.

● Caution!

Do not use chlorine-containing or abrasive products or alcohol to remove particularly noticeable dirt.

1. Clean the top cover of the device with a cloth soaked in water.
2. Wipe with a dry cloth after cleaning.

Disposal and Waste

● Important Notice!

Do not dispose of discarded components or any other product materials carelessly in the environment.

Seek assistance from a waste recycling company for disposal.

Troubleshooting

Malfunction	Cause of Malfunction	Solution
Device cannot connect to the network	Wi-Fi and Bluetooth are not turned on	Check if Bluetooth is enabled on the phone and if the network is connected to 2.4G
Inaccurate distance from bed and exit	Coordinate position does not match the actual location	Modify coordinate position
LED indicator light is not lit	LED light has been set to off	Set LED light to on
No one in the detection area, the indicator light also lights up	There are moving objects in the area (swaying curtains, rotating fans, etc.)	Remove moving objects from the detection area or change the position of the detector
	Person has not completely left the detection area	Person leaves 4 meters away and remains still for more than 30 seconds or turn off breath detection
	Detection distance is too high or sensitivity is too high	Adjust the detection distance or sensitivity according to the setting table
	Wiring error	Please wire according to the correct wiring method
LED indicator light is on, but no signal output	Person has not completely left the detection area	Person leaves 4 meters away and remains still for more than 30 seconds Then re-enter
	Illuminance value set too low	Detecting illuminance value, close the lighting conditions

Warranty

Warranty Period

The device enjoys a 2-year warranty period from the original purchase date.

Repair Method

During the warranty period, free replacement of the device for faults not caused by human factors.

The replaced device enjoys the remaining duration of the original 2-year warranty.

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