

24GHz Human Presence Sensor EDQ251W Specification

Medical care and recreation

Smart Business

Intelligent lighting

Smart home

EDQ251W



Product Features

- 90Vac~260Vac 50/60Hz power supply input
- Tuya WIFI Wireless Communication Protocol
- Small size, surface mounted stand-alone sensors
- Utilizes human detection technology to support motion and presence detection
- 24G strong anti-interference antenna, can effectively resist wifi, bluetooth and other wireless signal interference
- Supports left and right zone detection

Electrical Parameters

Input Voltage	AC 90-260V 50/60Hz
communication method	Tuya WIFI
Operating power consumption	Normal power consumption <1.4W (power consumption ≤2W during WIFI module distribution)
illuminance value ^②	0-1200lux

Output Parameters

Transmission frequency	24-24.25GHz
Transmission power	5dBm Max

Functional Parameters

Motion Sensing Radius ^①	5.5m
Presence sensing radius ^①	5m
Hanging height	<4m
Delay Time	2-3600s

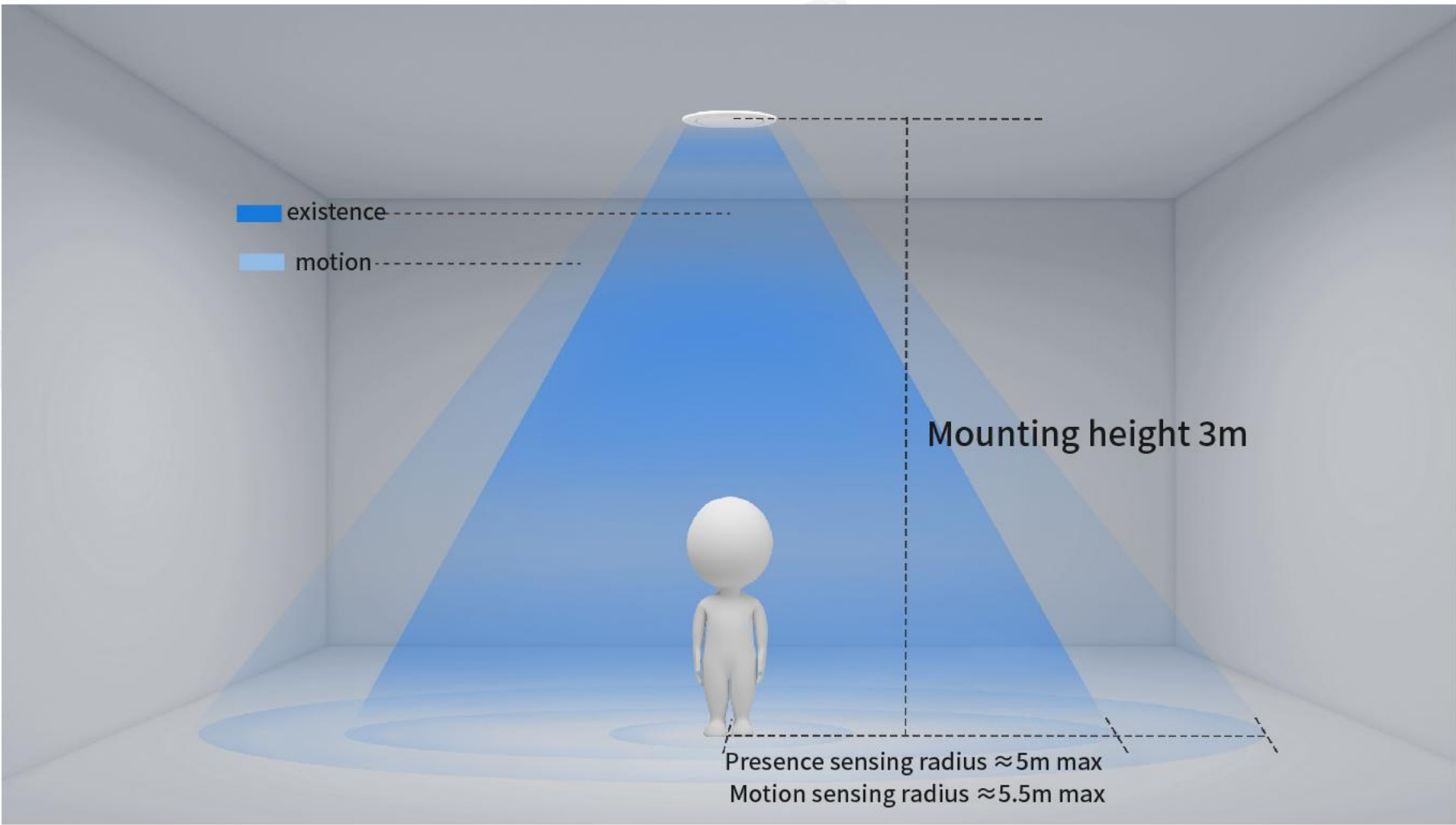
Environment & Lifespan

Operating Temperature	-25~+85°C
Storage Temperature	-25~+85°C

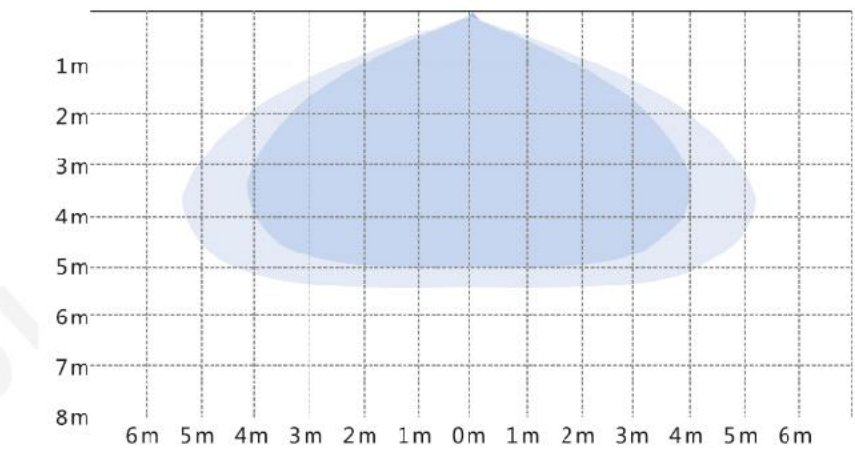
Remarks:

- ① The test distance range is based on the sensor hanging height of 3m, indoor installation environment test, the test person is 170cm tall, weight 65-75kg, walking speed 1m/s.
Different scenarios may cause changes in the range of installation, subject to the actual test.
- ② Due to the spectral characteristics of the photosensitive device, the illumination value is uniformly tested under natural light conditions.

Detection Schematic



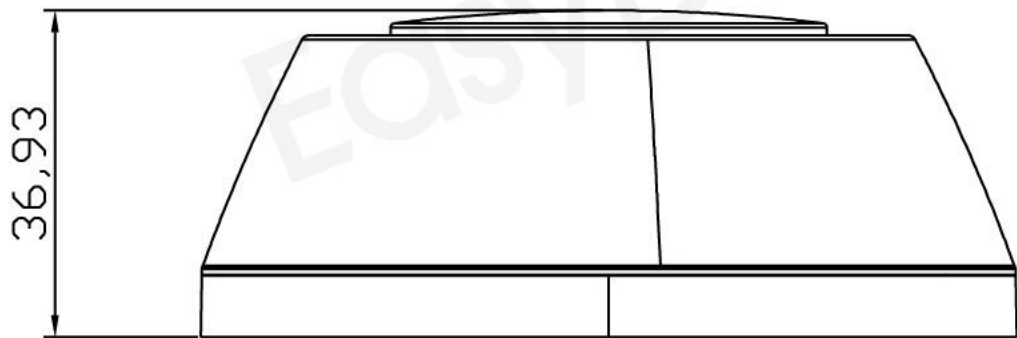
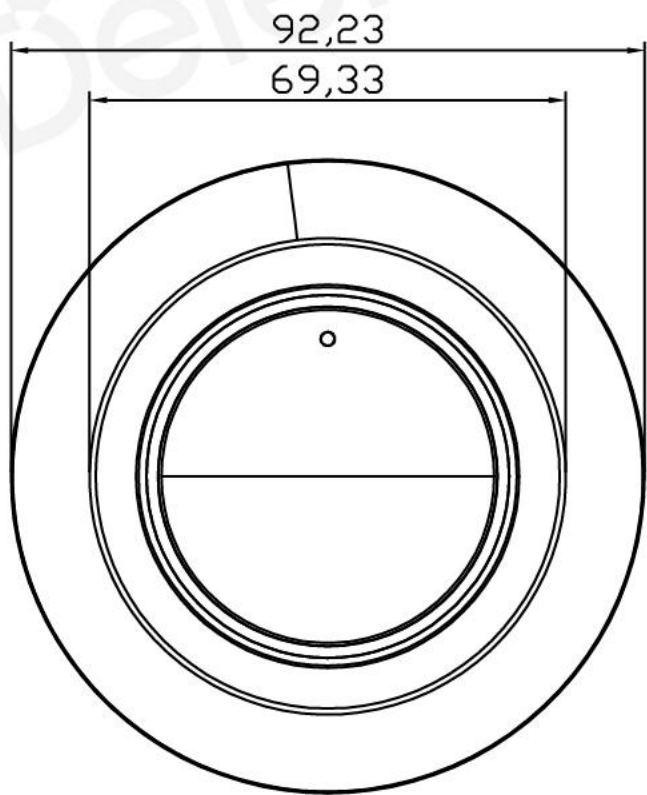
Radar Sensing Schematic



Presence sensing radius $\approx 5\text{m}$ max
Motion sensing radius $\approx 5.5\text{m}$ max

Product Dimension Drawing

Size unit:mm

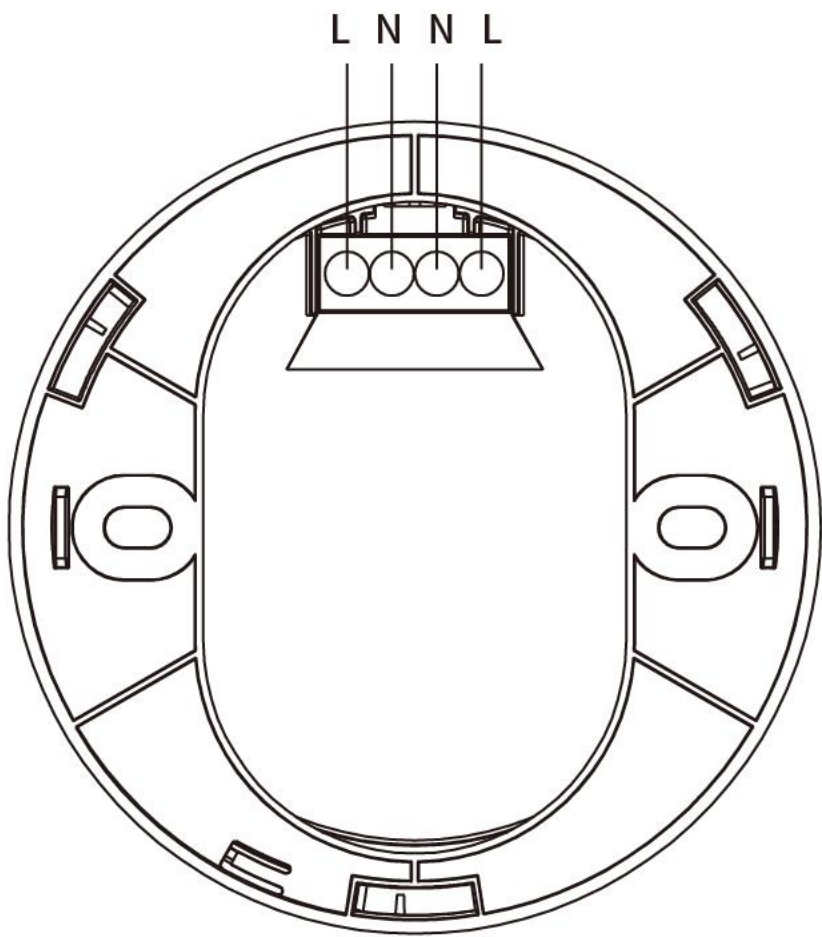


EDQ251W Dimensional tolerance: ± 0.2

Status of an instruction

- 1、Power on: after power on, it enters into initialization state, the LED indicator light is always on for 5s, after initialization, the LED indicator light is off, and it enters into 2s locking state, and after locking is over, it enters into normal sensing state.
 - 2、Network distribution: under the network distribution state, the LED indicator flashes quickly for 3 minutes, and the indicator lights up for 5s after the successful network entry.
 - 3、Sensing: when the sensor enters occupied state from unoccupied state, the LED indicator flashes once, and when it continues to be in occupied state, the LED indicator flashes once every 5s.
 - 4、Setting parameters: after successful setup, the indicator light will flash twice.
- Note: When the movement is triggered several times within 5 seconds, the indicator light will flash only once.

Pin and Key Description



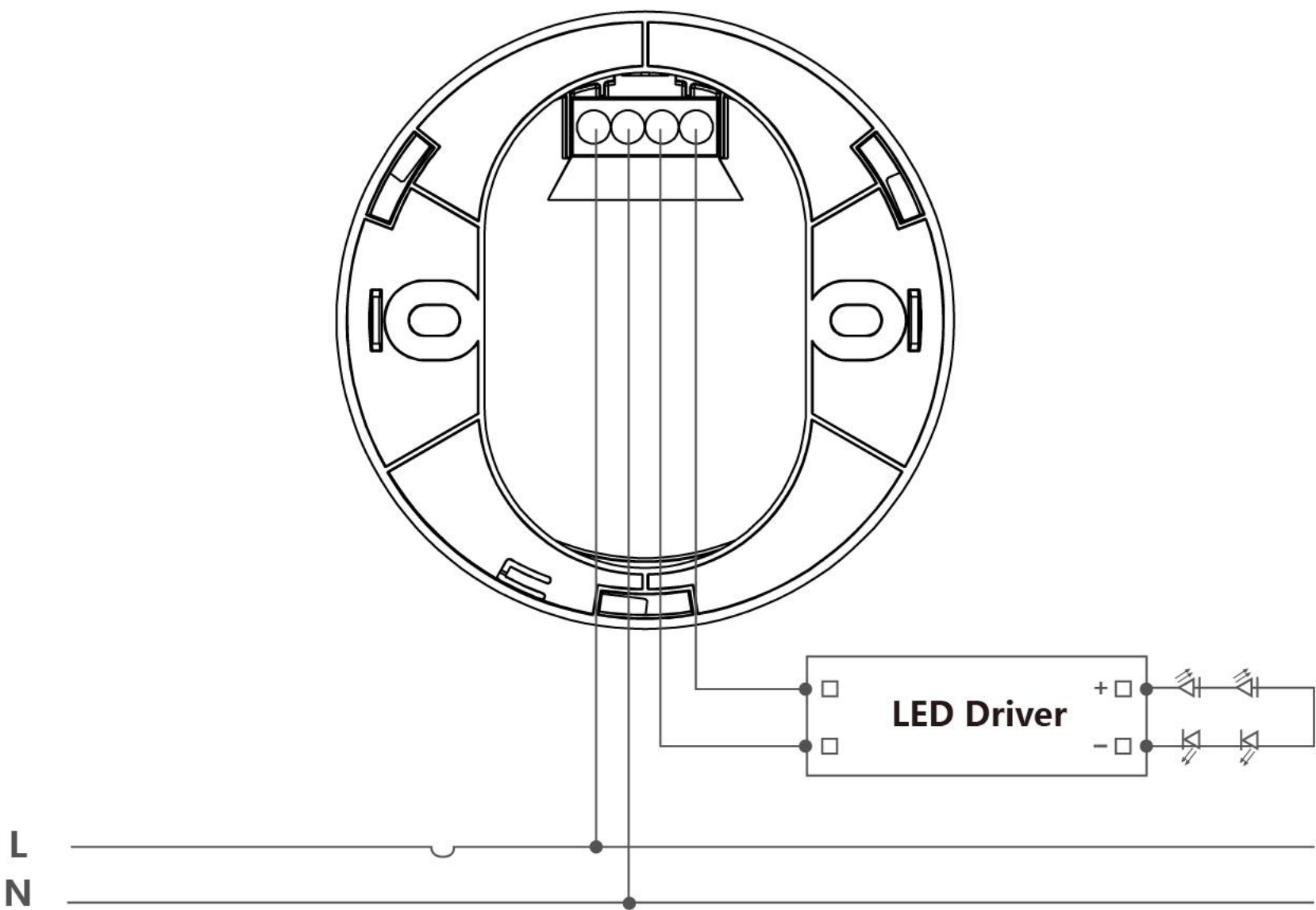
Pin	Description
L	Firewire INPUT
N	Zero Line INPUT
N	Zero line OUTPUT
L	Firewire OUTPUT

Instructions for key operation :

1. Networking: Long press the button for 3s, the indicator light will flash to enter the network mode, the indicator light will be on for 5s if the network is successful, and will be off for 5s if the network is not successful. The indicator light will be flashing for 3 minutes, and if APP does not perform the operation of entering the network during this period, the device will return to normal operation at the end of the time.
2. Parameter restore factory default: long press the button 7s, the indicator light is always on to let go, parameter restore factory default: radar detection is on, presence detection is on, delay 30s, induction range 7th gear, the highest sensitivity, the detection area of the whole area, illuminance compensation coefficient of 1x.
3. The opening for the illumination sensor position, and the button into an integrated design.

Note: When the movement is triggered several times within 5 seconds, the indicator light will only flash once.

Wiring diagram



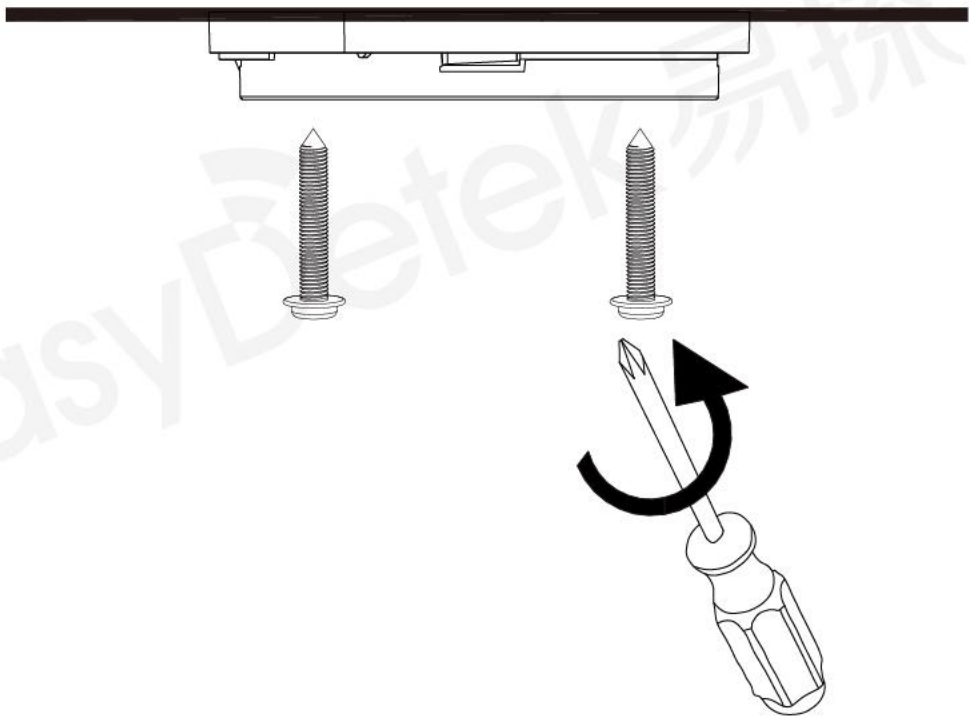
Dialing Instructions

延时 _{delay time}	1	2	感应范围 _{sensing range}	3	4
30s	ON	ON	25%	ON	ON
1M	ON	OFF	50%	ON	OFF
5M	OFF	ON	75%	OFF	ON
10M	OFF	OFF	100%	OFF	OFF

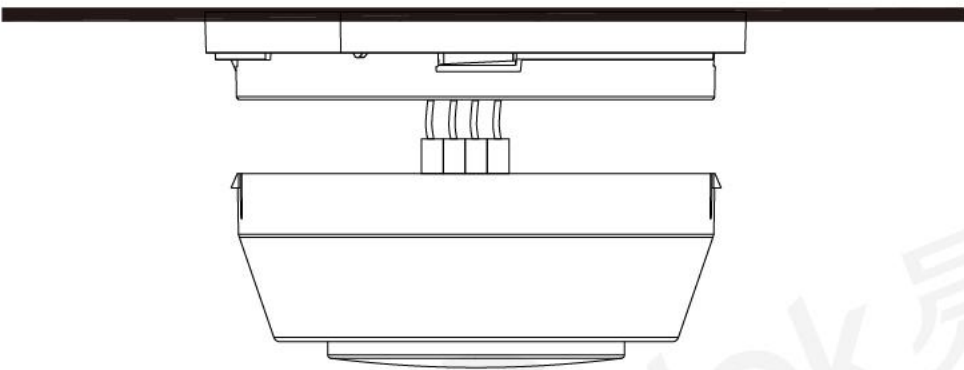
Note: This product supports mobile app and dialing code settings, subject to the last setting.If you change the dialing code setting after initialization, the relay will act once within 3 seconds, which means the setting is successful: if you change the dialing code setting in the case of power failure, it will be updated to the latest setting automatically after power on.

Installation Diagram

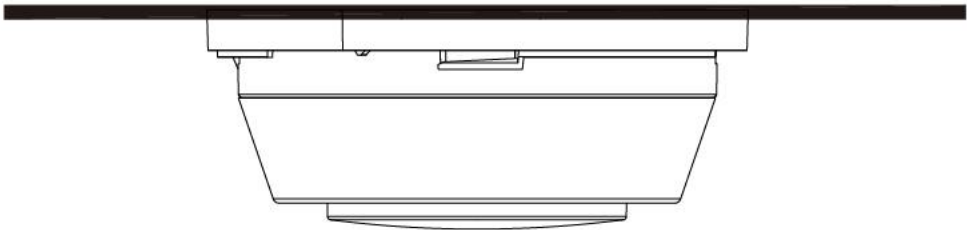
①Screws to secure the base to the ceiling



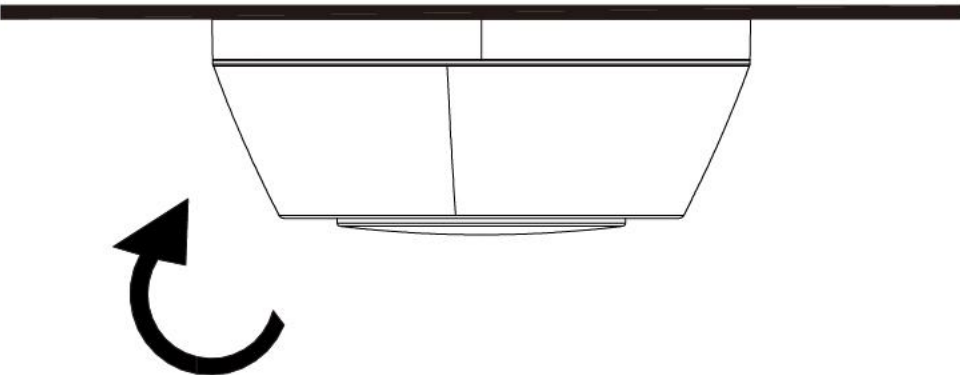
②Connection of equipment and wires



③Sensor press snap back to base



④Final rotary mounting sensor housing



Tuya WIFI device entry instructions

Tuya wifi triggers the sensor to enter the distribution state in 2 ways:

- ① The device has not been previously connected to the network and the initial power-up, the initialization is completed, it will issue a network allocation command to allow the device to enter the network allocation mode, at this time, the indicator light flashes fast for 3 minutes.
- ② Long press the network access button on the face cover opening for >3 seconds, the indicator will enter the blinking mode for 3 minutes.

Guidelines for APP Entry

Way :

- 1. Open Graffiti APP on your cell phone and turn on WIFI to connect to the local network, log in to the account to enter the main interface of Graffiti APP (Figure 1), click the "+" button in the upper right corner and choose to add a device.



图1

2. Click Add Device to enter the search device interface (Figure 2), when searching for a device in the network will pop up the sensor icon (Figure 3), click the icon will enter the device network interface (Figure 4), enter the phone's current connection to the network hotspot and the corresponding password click on the next and wait for the connection to complete.



Figure 2



Figure 3

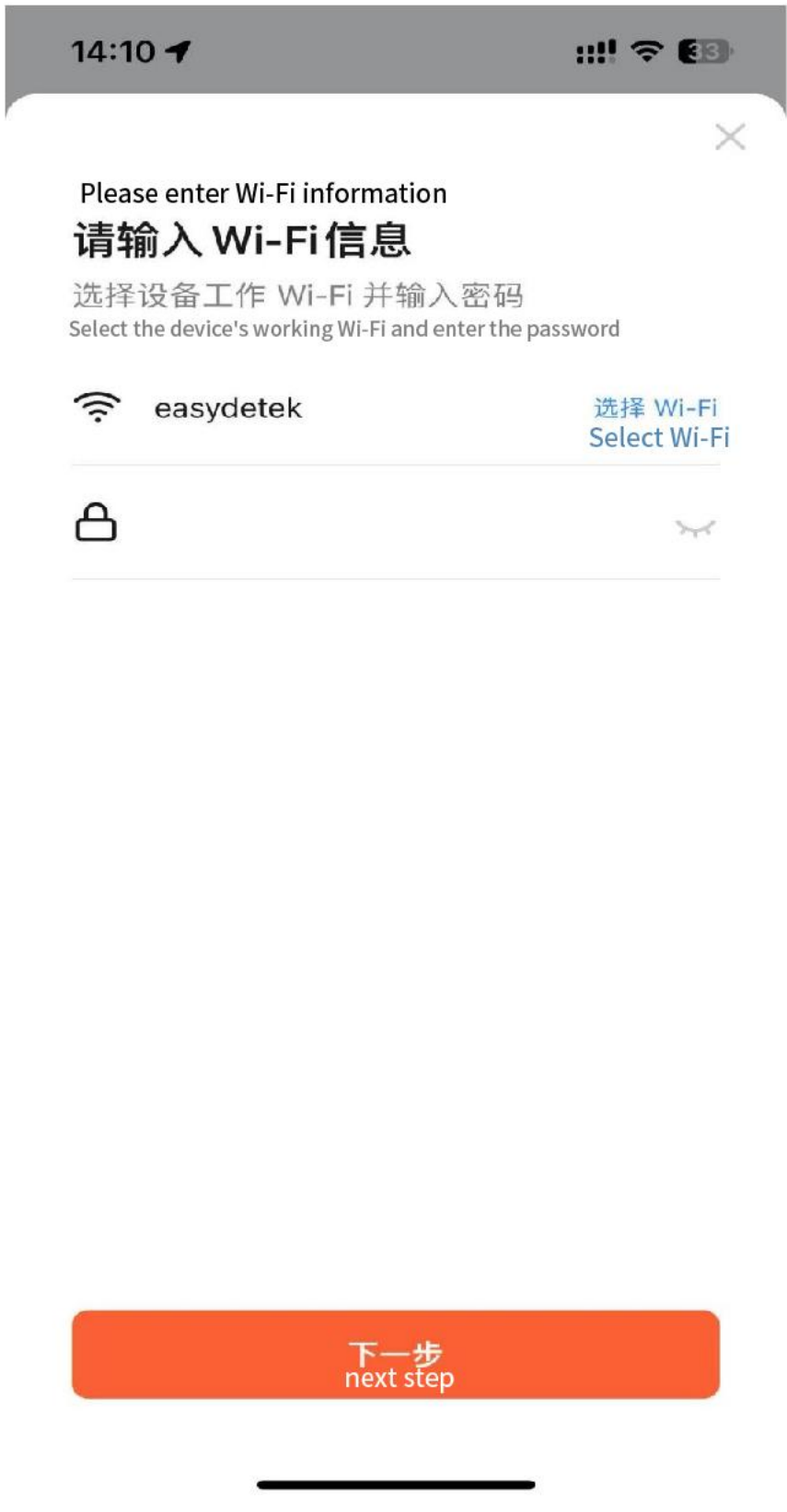


Figure 4

3. After successful connection, it will show the device added successfully (Figure 5), click Finish to enter the sensor operation interface (Figure 6).



Figure 5



Figure 6

APP Function Description



<

参数设置
Parameter settings

灵敏度 · 高档
Sensitivity · High Grade

高档
High Grade

检测区域 · 全部区域
Detection area · All areas

全部区域
All areas

Sensitivity:

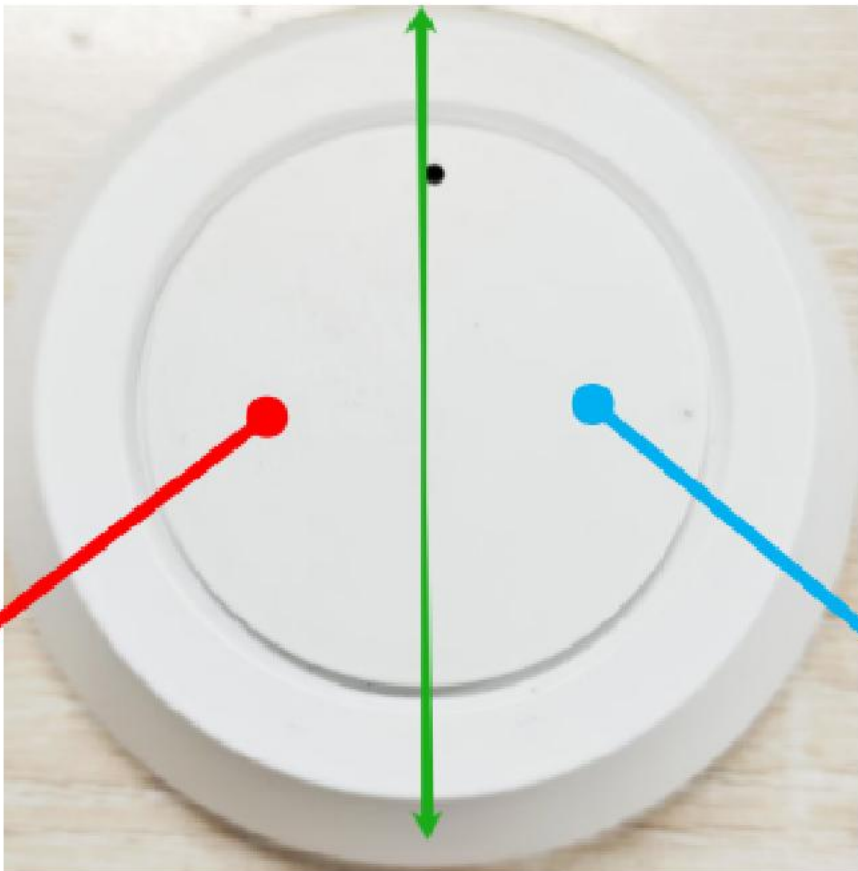
Setting the sensitivity of the sensor will affect the detection range of its presence

Detection area:

divided into the entire area, left area and right area, with the entire detection surface working in the entire area; The left area only enables the left half sensing, and the right area only enables the right half sensing. The partition diagram is shown in the attached figure below

Sensor Detection Zoning Description

detection area left zone: when the left zone is selected, the corresponding sensing range of the right zone is not detected



detection area right zone: when the right zone is selected, the corresponding sensing range of the left zone will not be detected

partition description: the default is to detect all areas. based on the light sensing opening facing upwards, the left side of the centerline is the left area, and the right side of the centerline is the right area

Application Scenarios



smart home



smart lighting



smart business



medical care
and recreation

Product Naming Law

ED	Frequency Band	Product Categories	Product Subdivision	Product Number	Delay Time	Serial number
ED	Q	2	5	1	Y	
EasyDetek	C 5.8GHz	1 Microwave sensor module	0 Ultra-low-power series	0-9, A-Z	Y	Has light sensor
	X 10.5GHz	2. Microwave radar switch	1 Flagship series		N	no light sensor
	Q 24GHz	3 Radar antenna	2 Short-distance series		P	programmable
	V 60GHz	4 MCU	3 Adjustable series			
	W 77GHz	5 Microwave power supply	4 External antenna series			
		6 IC	5 General Series			
		7 Other	6 To be defined			
		8 Networking	7 To be defined			
			8 Basic series			
			9 High altitude series			

Historical Revision Record

Version	Time	Description	Note
V1.0	2024-4-12	First edition	-
V2.0	2024-7-16	Software and hardware version updates	-
V3.0	2025-04-08	Software version updates	

Precautions

1. When installing the product, a distance of at least 50cm should be maintained from the exhaust fan and air conditioning outlet

The vibration generated during operation can cause false triggering of sensor detection.

During installation, it is also necessary to avoid vibrations caused by external human or object activities

Region.

2. The product has certain penetrability to thinner wooden boards and glass materials, and these two factors should be considered when installing the fabric points. At the same time, avoid being in front of the sensor

There is a large area of metal to avoid accidental triggering.

3. When there is a large area of glass and smooth tiles on the decorative surface within the detection range of the sensor, electromagnetic wave reflection will be strengthened. It is recommended to adjust according to the size of the space

Adjust the sensing range appropriately.

4. When multiple sensors are applied in the same site, it is recommended that the installation distance of the product be greater than 2.5 meters. Installing too close may cause individual transmission

Periodic false alarm.

5. The electromagnetic waves emitted by sensors have different sensing ranges due to the varying reflectivity of obstacles in practical application environments

Normal phenomena, such as in corridors and spacious rooms, may have slight differences in sensing distance.

6. EasyDetek Technology is committed to providing customers with high-quality and better experience radar sensors. Product version updates and iterations will not be conducted separately