Specification

Product Name: Low-mounting microwave motion sensor

(Tuya Zigbee version)

Product Model: MSA053 Z

Product Version: V1.2

Versions	Release/ change Date	Change reason	Publishing
V1.0	2022.09.05		Jacky
V1.1	2023.05.30	Modify the factory Settings of the remote control	Jacky
V1.2	2023.06.28	Update QS setting of the remote control	Jacky

【Product Description】

MSA053 Z is a 24GHz radar sensor based on Merrtek patented high gain low sidelobe antenna. Its antenna has high gain and wide detection range and is combined with Merrytek's unique software algorithm. It can accurately detect movements brought by human in almost all indoor spaces and provide fast and accurate front-end sensing input for smart home, smart hotel, smart office and other scenes.

【Product Feature】

- Timely motion detection response
- Supports TUYA ZigBee wireless communication
- International standard: 24Ghz ISM Band Millimeter Wave Radar
- Moving detection diameter: 4-6m Max
- Supports hidden built-in installation and open ceiling installation
- Set parameters by TUYA APP
- Sensing function based on millimeter wave radar technology
- Low RF power output. No harm to human health
- Not affected by temperature, humidity, noise, airflow, dust, light and other environments
- Elliptical radiation pattern, effectively covering corridors and other public applications

【Product Application】

- Health Care
- Smart Home
- Intelligent Lighting
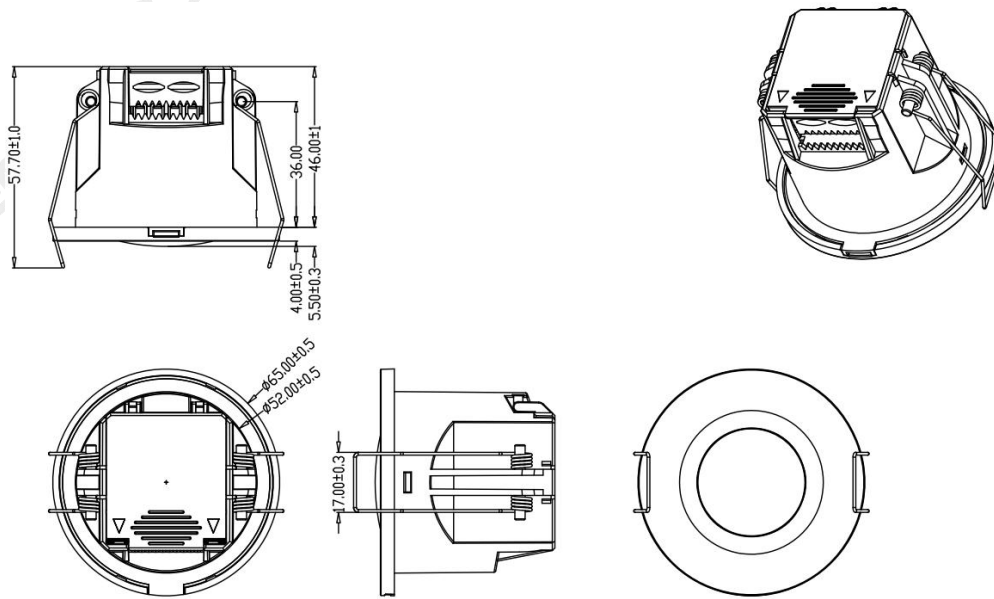- Smart Hotel
- Smart Energy Consumption Control
- Home Security

【Product Package】

- Dimension: φ55 x 46mm
- Wiring: 4-position terminal

【Parameter】

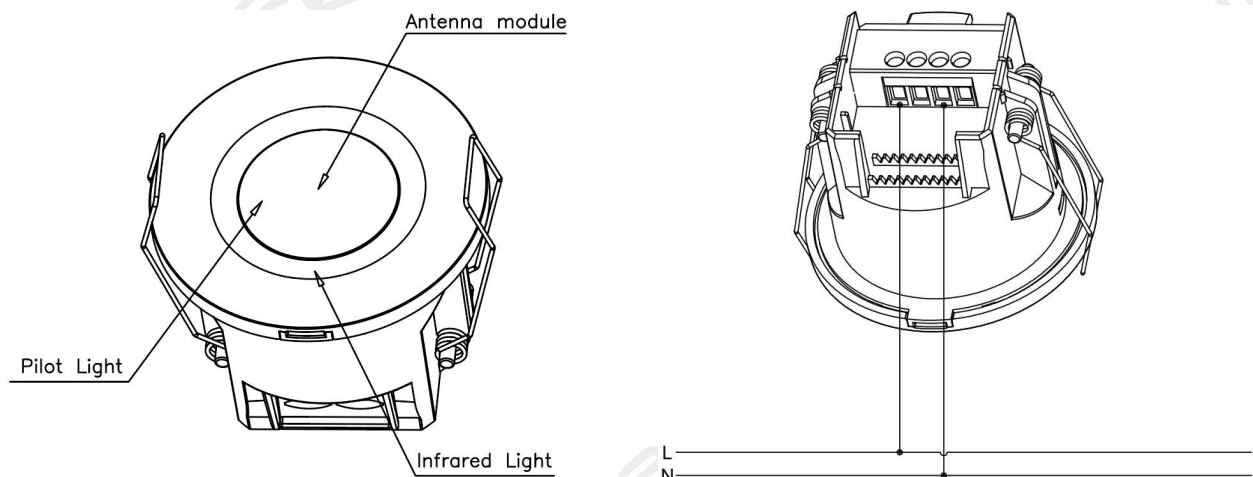|		
Input/Output	Voltage Range	100-240Vac 50Hz/60Hz
	Rated Voltage	220V AC
	Working Current	50mA max
	Working Power	≤1W 230V AC
Wireless module	Communication Model Frequency	2.4GHz-2.484GHz ZigBee Transmitting Frequency: 10dB Receiving Sensitivity: -101±2dBm
Sensor Parameter	Transmitting Working Frequency	24GHz-24.25GHz ISM Wave.
	Transmitting Power	5mW Max.
	Detection Area	0% 25% 50% 75% 100% (set by remote control MH10) 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%(set by APP)
	Hold Time	5s /30s /1min / 2min/ 3min /5min /10min / 20min / 30min (set by remote control MH10) 5s /30s/1min / 2min/ 3min /5min /10min / 20min / 30min(set by APP)
	Detecting Range (100% detection area, radius)	Movement: 2-3m (at 3m height)
	Mounting Height	2.5-4.0m typical value: 3m
	3db Beam Angle	100° (XZ field)
		100° (YZ field)
Environment	Working Temperature	0℃...+50℃
	Storage Temperature	-25℃~+80℃
Certificate Standard	Certificate	FCC/RED
	Environmental Requirement	Compliant to RoHS
	IP Rating	IP20
Note: "N/A" means not available.		

【Dimension】

【Function & Wiring Diagram】

Antenna module

Pilot Light

Infrared Light

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N

Wiring layout suggestion：

1. Our sensor is recommended layout in UPS circle to guarantee instant smart scene execution or electrical appliance operation

【Start Process & Initialization】

When the first power-on, indicator turns off after flashing for 10 seconds. Sensor does not detect moving signal during initialization. Turning ON/OFF indicator, hold time and detection area can be controlled by APP.

【Factory setting】

Detection Sensitivity : 100%   Hold Time : 1min

Indicator light : ON

【Detection radiation】

MSA050 Z1 is highly recommended surface mounting and its detection radiation is as below shows:

【Detection Signal】

The product detects human moving signals, and realizes the detection of human-existing/no-human in non-sleep state. The following is a description of the moving signals:

● **Moving signal:** detect the human significant moving (walking) in the detection area.

【Disclaimer】

Due to the complexity of product technology and differences in application environment, it is difficult to guarantee a completely accurate or complete description, so this specification is only for user reference.

We will reserve the right to make changes to the product specifications without notifying the user, and do not make any commitments and guarantees in the legal sense.

At the same time, our company encourages users to supplement or modify the contents of our specifications after using our products.