

Introduction

The microwave sensor is an active sensor. The HF sensor emits high-frequency electromagnetic waves (5.8 GHz) and receives their echoes (power consumption less than 2 MW). This sensor detects changes in the echoes and even small movements within its detection range. . The microprocessor then triggers the "lights up" command. Signals through the door, glass plates and thin walls are likely to be detected.

Installation reminder:

The sensor switch has a blind spot in the center. If it is installed in a small indoor environment (such as a bathroom or kitchen), try to install the position to the side or install it in the corner, because the sensing area will be better, otherwise the vertical center activity may not be sensed.

1. Control principle:

The microwave sensor uses the Doppler principle to transmit and receive high-frequency microwave signals (accurately sense the movement changes of the object), and to control the opening (lighting) and off (extinguishing) of the load lamps through signal amplification and intelligent recognition of the single-chip program.

* Doppler principle, the principle of radar, is widely used in aviation, aerospace, and military.

2. Intelligent induction:

1) When a person enters the sensing detection range (within 16m diameter), the load lamp lights up; when the person passes the inductive detection range and the set delay time counts down, the load lamp automatically goes out.

2) When the person enters the inductive detection range and the load lamp has been illuminated, if the person stays within the inductive detection range, as long as the person has a slight movement (including the movement of the limb) before the end of the set delay time countdown, The sensor will drive the load luminaire to illuminate continuously until the person leaves and the set time countdown is over, the load luminaire is automatically extinguished.

3. Intelligent identification:

1) Simply put, this product can be set to not light up during the day, only when someone lights at night; it can also be set to light at any time according to demand.

2) This product has a variety of light setting options, customers can adjust according to their needs, to meet the lighting requirements in different environments.

4. Anti-interference:

As we all know, there are many signals with different frequencies in the space (such as 3GHz signal of mobile phone, 2.4GHz signal of wifi, 433KHz signal of TV remote control, sound wave signal, etc.), and some signals are similar to human body induction signals. Our products can intelligently identify useful human body sensing signals, prevent false triggering of other interference signals, and ensure product reliability.

Note:

Regarding the problem of connecting LED lights, etc., since the LED has a driving power supply, when the power is turned on, the instantaneous current is very large. This sensor switch generally has no problem with the LED below 150W, and even if the quality of the LED driving board is good, there are no problems with 600W, but The market generally has a lot of LEDs. Such as ordinary incandescent lamps and other loads, can be up to 1200W, which is not connected.

Parameters:

Size: 75*41*42mm

Working voltage: AC220-240V 50/60Hz

Load power: 1200 watts (resistive load, incandescent lamp and other resistive appliances) /600W (inductive load, energy-saving lamps and other non-resistive appliances)

Interface: 3-pin pluggable port (N, L, L'), 1.5mm² cable

Detection principle: microwave moving detect

Installation method: indoor, wall or ceiling installation

HF system: 5.8GHz +/- 75 MHz CW radio, ISM band

Transmit power: <2mW

Detection angle: 360°, 160°

Detection: 0.3 .., 3 m/s (1 ... 10 km/h)

Distance: 2-10m (radius), adjustable

Working delay: 10 seconds to 30 minutes, adjustable

Light control illuminance: 10 ~ 500 LUX, adjustable

Power consumption: close to 0.5W

Working temperature: -10 to +70 °C

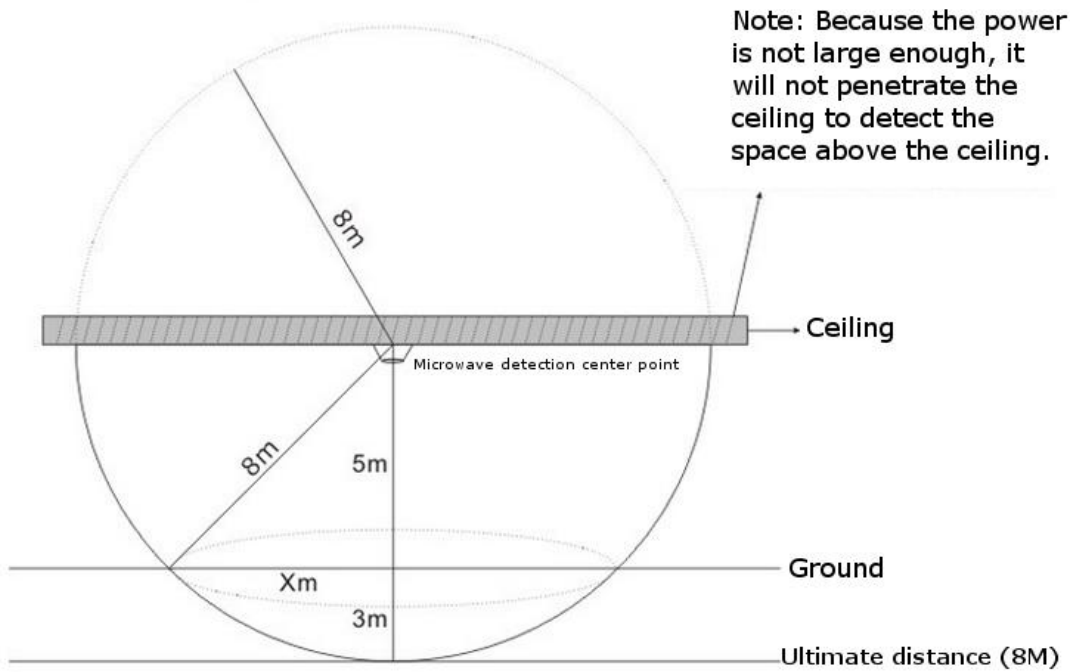
Protection level: IP20

Product weight: 80g

Package includes:

1 x Sensor switch

Calculate the actual horizontal detection distance method

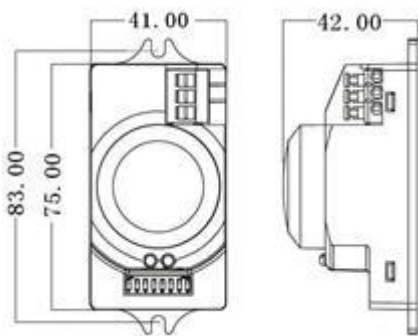
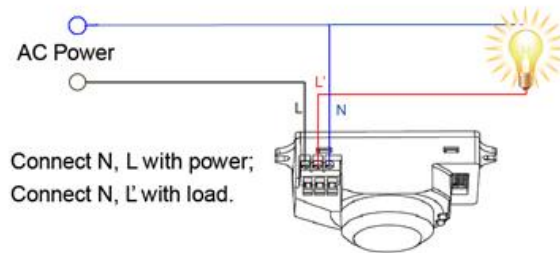


As shown, the actual detected horizontal distance can be calculated.

$$5^2 + X^2 = 8^2 \longrightarrow X^2 = 8^2 - 5^2$$

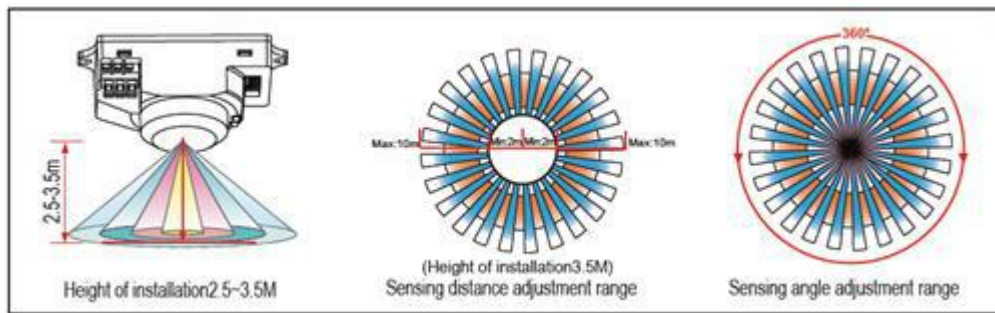
$$\longrightarrow X = \sqrt{64 - 25} \approx 6.24\text{m}$$

Wiring



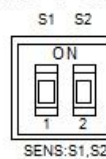
Dimension

Sensing range:



Induction sensitivity adjustment:

Install the sensor at a height of 2.5 meters and adjust the sensing radius with the S1-S2 dial switch. Switch to ON to "1" and switch off to "0" as shown:

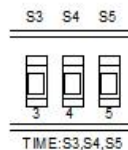


S1	S2	Sensing distance	S1	S2	Sensing distance
0	0	2m	1	0	8m
0	1	5m	1	1	10m

NOTE: The above sensing distance test conditions are tested for movement below the sensor at a height of 1.6-1.7 meters and 1.0-1.5 m/sec.

Time setting:

The sensing sensitivity reflects the time selection and can be adjusted with the S3-S5 DIP switch. Switch to ON to "1" and switch off to "0" as shown:



S3	S4	S5	time	S3	S4	S5	time
0	0	0	10S	1	0	0	15min
0	0	1	1min	1	0	1	20min
0	1	0	5min	1	1	0	25min
0	1	1	10min	1	1	1	30min

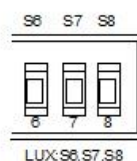
NOTE: After the light is turned off, it takes about 1 second to restart the test.

Light intensity control:

Control the light intensity selection and set it with the S6-S8 DIP switch.

Control the light intensity of 10lux-2000lux for selection.

Switch to ON to "1" and switch off to "0" as shown:



S6	S7	S8	LUX	S6	S7	S8	LUX
0	0	0	24H	1	0	0	100 LUX
0	0	1	10 LUX	1	0	1	200 LUX
0	1	0	20 LUX	1	1	0	300 LUX
0	1	1	50 LUX	1	1	1	500 LUX

NOTE: If it is necessary to work during the day, dial S6-0, S7-0, S8-0, if it is necessary to light black, start to light S6-0, S7-0, S8-1, the higher the LUX value, the higher the light-sensitive starting point.

Abnormal inspection:

Fault description	Reason	Improvement method
Load does not work	Choosing the wrong light intensity level	Adjustment settings
	Load error	Replace the load

	The power switch is not turned on	Turn on the power switch
Sensitivity is too sensitive	Continuous movement in the detection zone	Inspection area
The load is always triggered by mistake	Did not fix the microwave sensor	Firmly fix the sensor
	There are always moving obstacles in the sensing area.	Check area settings
Load does not work when there are obstacles	Fast motion is ignored or the detected detection area is too small	Check area settings