

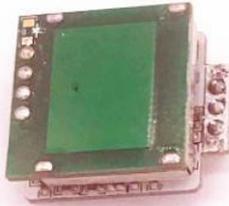


# S28 Microwave Sensor

## Small 5.8GHZ Microwave Radar Sensor Module Specification

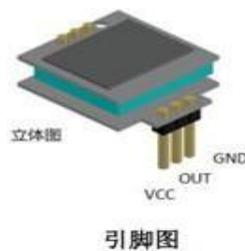
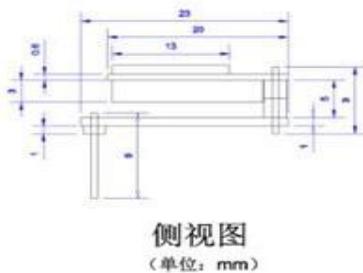
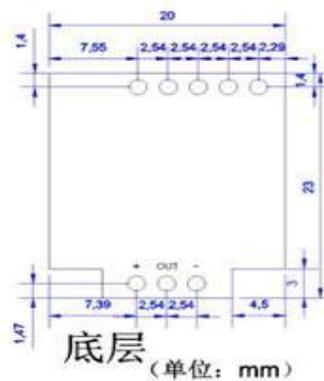
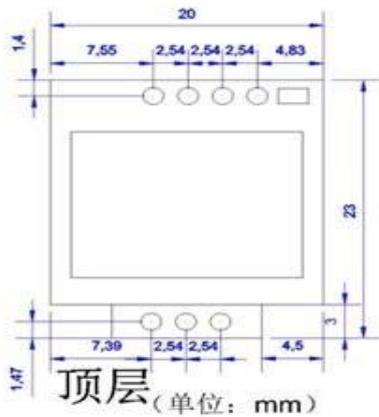
1, The module model:

1)、JW0010 (23\*20\*12MM)



5.8GHZ module front 5.8GHZ module back

2), Module size chart and pin definition diagram





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### 2, Parameters

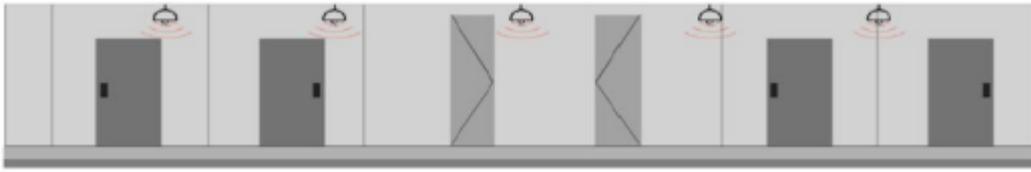
- 1), The power supply voltage: 7-18V; (suitable for constant voltage power supply)
- 2). Working current: >30MA;
- 3). Transmitting power:  $\leq 1\text{MW}$ ;
- 4). The transmission frequency:  $5.8\text{GHZ} \pm 75\text{HZ}$ ; (global free open frequency band)
- 5), The anchor: 74-114dbuF;
- 6), The output signal: TTL level, active high; (high level 5V, low level 0V)
- 7), Standby power consumption: 0.1W;
- 8), Detection angle: 150-170 ° ;
- 9), Detection distance: 5-8M;
- 10), Installation height: ceiling installation (conventional) 3-5M;
- 11), Working delay: 30 seconds;
- 12). Illumination: 50 LUX; (optional, no by default)
- 13), Antenna gain: 4db;
- 14), Working temperature: -25--85 ° ;
- 15), Storage temperature: -50-120 °

Three、Applications  
Corridor application case (Induction bulb.Downlight)

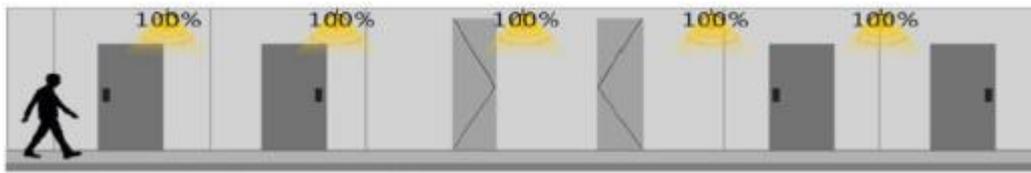
When the radar is not triggered, the light remains off.



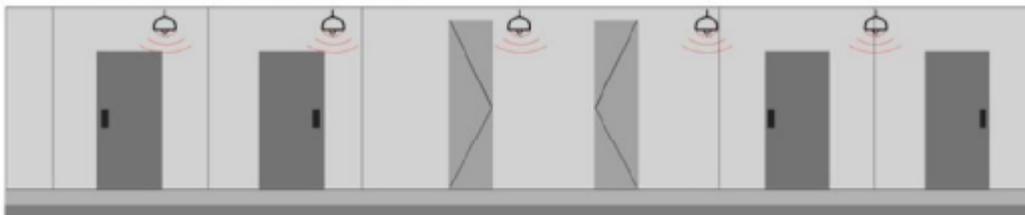
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When the radar is triggered, the light reaches the maximum brightness

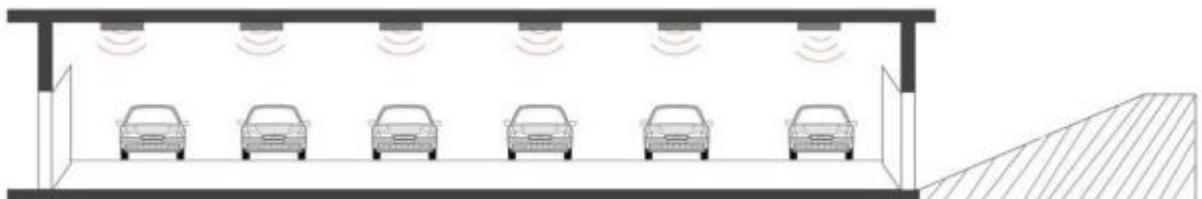


After 30 seconds delay, if the radar still has no trigger, the light is off.



Parking garage case:

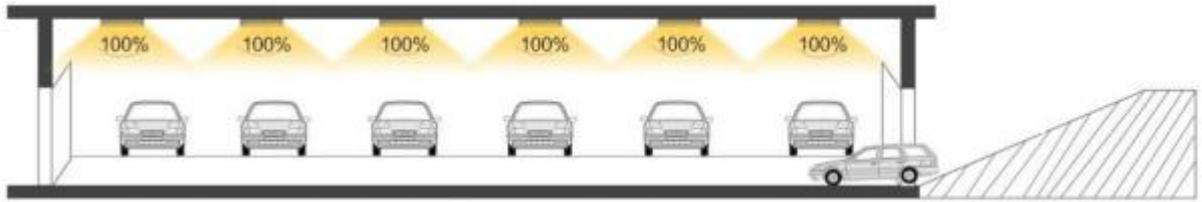
No movement into the parking garage sensing zone, the lights remain off.



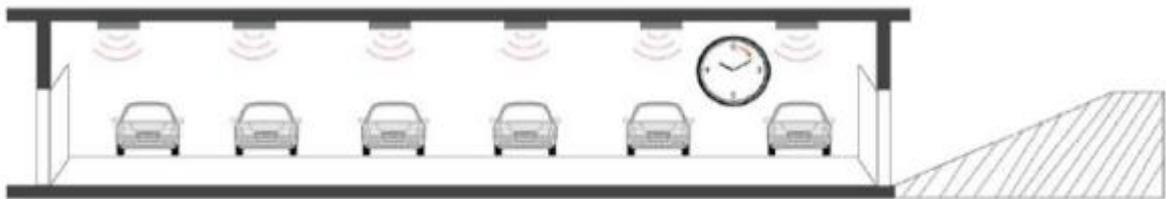
When there is motion into the sensing zone, the light in the sensing zone are triggered and turned on at 100% brightness and remain in this state for 30 seconds.



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When all the movements leave the sensing zone, the lights will all turn off.



#### 4, S28 5.8GHZ microwave radar sensor module features,

1), Intelligent induction: Adopting the Doppler effect When someone enters the detection range of this product, the output of the microwave radar sensing module Vout outputs TTL 5V high level. After a delay period, the output returns to TTL 0V low level.

2), Small size: S28 5.8GHZ induction module, mainly for bulbs, lamps, and other lamps with limited space, designed for easy installation.

3), Light control: According to the external light intensity, the output state of the module is controlled to achieve energy saving effect.

(Optional)

4), Comparison with infrared sensors: The microwave radar sensing



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module has a longer sensing distance, a wide angle, no dead zone, and is not affected by external influences such as environment temperature and ash layer, and has a longer life.

5). Compared with the ordinary microwave module, the WellDone Sensor S28 5.8GHZ induction module adopts the Doppler principle, and the frequency is strictly controlled in the range of 5.8GHZ to ensure that the requirements for certification have been met. The microwave anti-interference ability is also much stronger than the 2.4GHZ module. S28 5.8GHZ induction module transmits and receives 5.8GHZ signal with planar antenna, basically achieves point-to-point, the signal is amplified and the intelligent processing of single-chip program outputs high and low level signals, which can control the sensing products, strong concealment and anti-interference. Strong ability, suitable for induction lighting products that require export certification.

The 5.8GHZ microwave radar sensor module is an ideal replacement for infrared and voice-activated sensing and is widely used in the field of certified induction lamps.

### **5. S28 5.8GHZ microwave radar sensing product testing method**

S28 5.8GHZ microwave radar sensing products ensure proper installation and proper power supply. The power supply voltage and current of the power supply must meet the module requirements, and the ripple glitch should be as small as possible to avoid interference with the module.

1). The microwave module is divided into two types: ceiling mounting and wall mounting. The sensing area is different. The ceiling mounting antenna is driven downwards, and the surface of the antenna is mounted on the front side of the antenna surface. The sensing distance (conventional 5- 8M).



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2). Test the sensing product. When the power is turned on, the indicator light will light up immediately. Do not move for a while.

The module enters the self-test state. After 3-5 seconds, the indicator will be automatically turned off. When there are objects or people entering this

Immediately after the environment is lit, it closes 30 seconds after the object or person leaves, and enters the normal state.

3), when mass production of induction lamps, it is best to test one by one, you can see the waveform changes through the oscilloscope,

The oscilloscope is tuned to DC 1V 200MS. If a moving object is detected, the waveform will change. in case

There is no change in the waveform, indicating that the microwave is not working.

4), the module can adjust the delay time, the first resistor on the back of the module TIME is used to delay

For the time, our sample defaults to a 39K resistor and the delay time is 1 minute. If you need to shorten

You can adjust the 39K resistor to 100K and the delay time will be 1 second. If you change the resistance to

The 56K delay time is 30 seconds. If you change the resistance to 3.3K, the delay time will become 10 minutes.

The resistance is increased by a large delay, and the resistance is reduced by a small delay. Currently up to 10 minutes.

(The following figure)



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5), this module can adjust the sensing distance, the module default distance is the maximum distance, if you need to adjust the distance

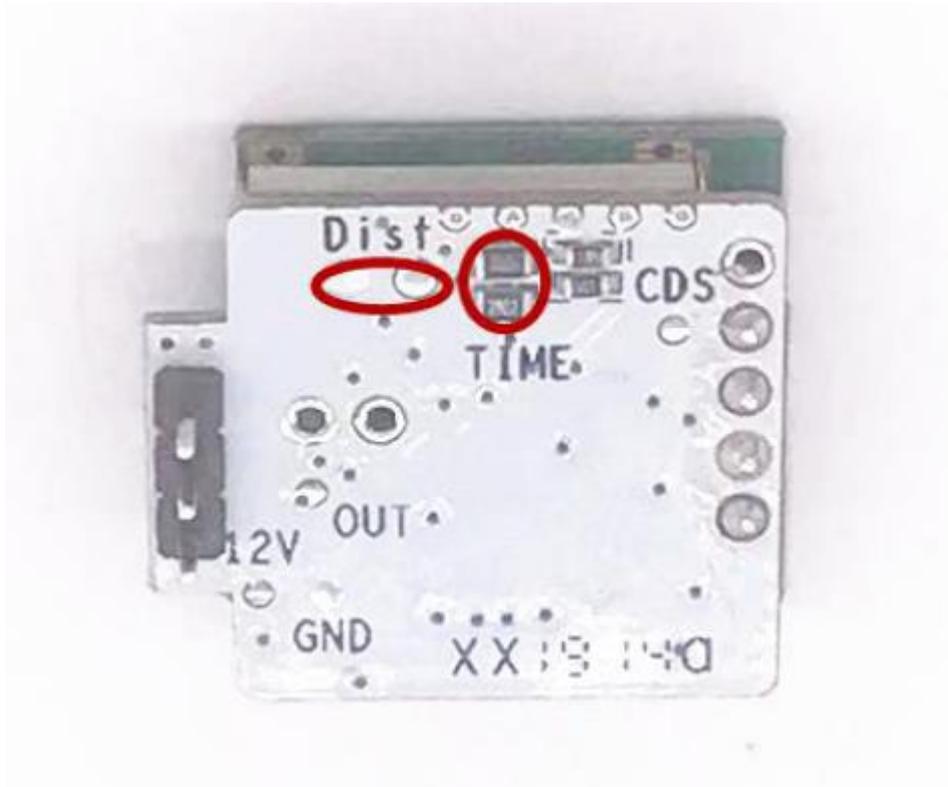
Short TIME The second resistor above, changing 20K to 39K distance will become 80%.

Change to 62K distance will become 60%, change to 82K distance will become 40%,

When changed to 100K, the distance will be only 20%. (The following figure)

6), the back of the module DIST position is convenient for customers to quickly test, put a position on the two solder joints

For a 100R resistor, the delay time immediately becomes 2 seconds and the sensitivity does not change. (The following figure)



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### Remarks:

1. When testing (especially when the desktop antenna is facing up), the person must be away from the microwave sensing antenna. Meter;
2. After the indicator light is off, it needs to be separated for more than 2 seconds.
3. When testing, try to eliminate external interference factors, such as machines that move or to move next door, and low frequency resonance to prevent mis-judgement.