# Operating Instructions

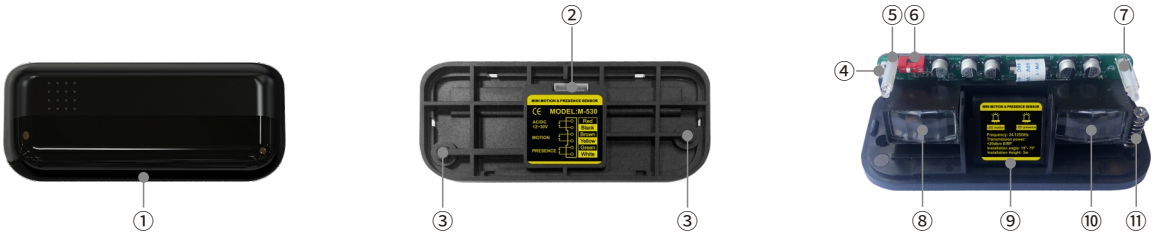
Make your choice...

## M-530 Mini Microwave Motion & Infrared Presence Sensor

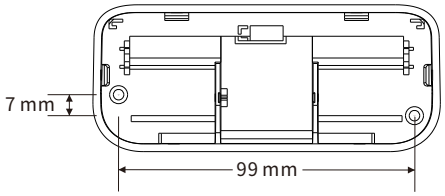
## 1 Safety Instruction

The device must be protected with safe insulation at low voltage. All adjustment and repair work must be carried out by a professional engineering workers.

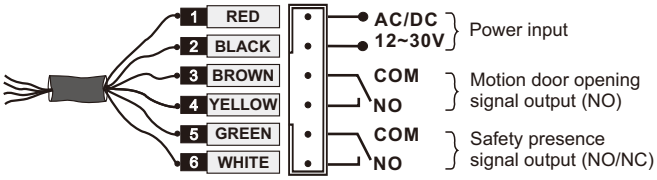
## 2 Product Overview




① Optical filter ② Connecting socket ③ Screw hole for installation ④ Microwave sensitivity adjustable knob ⑤ Microwave motion sensing indicator ⑥ Presence output signal NO/NC selector ⑦ Infrared presence sensing indicator ⑧ Infrared Presence receiving window ⑨ Microwave induction module ⑩ Infrared presence emission window ⑪ Infrared presence adjustable screw




▲ Hole size



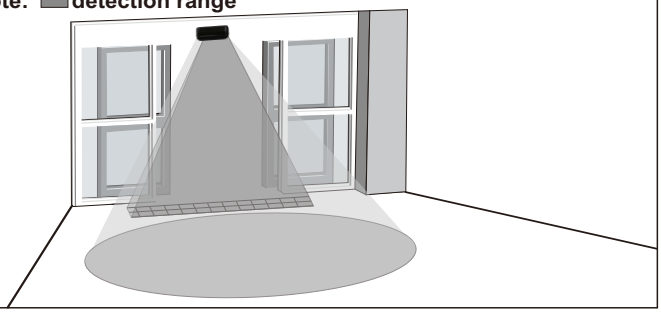

**Safety presence signal output by NO/NC, can be selected by dial switch.**

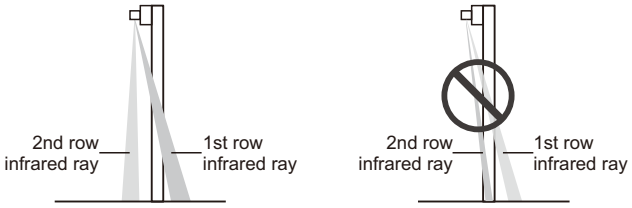
▲ Wiring

In order to avoid the induction sensitivity automatically weakened, motion and safety presence combo sensor need to installed on the position of the door head, and the distance between the bottom end of door head and the sensor, to ensure that it is less than 70mm.

## 3 Motion & Safety presence detection range

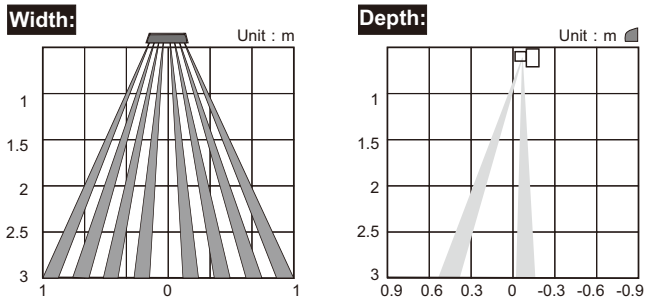
**Note: detection range**



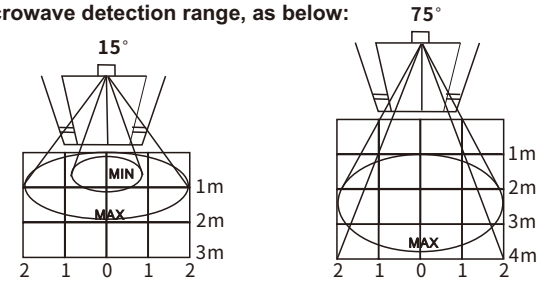



When adjusting the infrared presence range, the first row infrared can be adjusted over the threshold, can better prevent the problem of people were caught in door due to the door closed back, when people are passing under the door.

**Infrared detection range: width & depth**

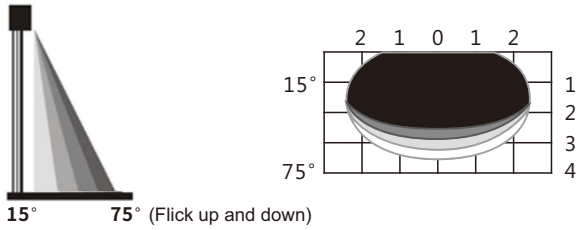



**Microwave detection range, as below:**




When the adjusted angle is larger, the induction distance is far, but also the blind area will be larger under the sensors at the same time.

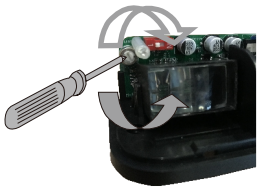
**Detection direction adjustment(Front and rear directions can be adjusted flexibly)**
Adjusting angle of Plane antenna to get different detection distance and range.




**NOTE:**
Initial setting is 45 degree by factory. The above parameter is based on a height of 2.8M. And all parameter values in this manual just for your reference, all are subject to the actual conditions. Detection range will be different because of the making material of door and ground, please adjust the sensitivity by the knob mentioned above.

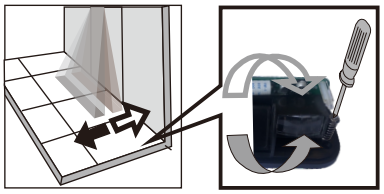
## 4 Microwave detection sensitivity and infrared detection range adjustment

**Microwave detection sensitivity adjustment**



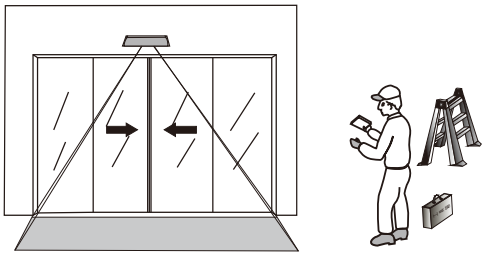
**NOTE:**
As picture shows, the higher sensitivity, the larger detection distance and range; The lower sensitivity, the smaller detection distance and range.

**Infrared detection range adjustment**

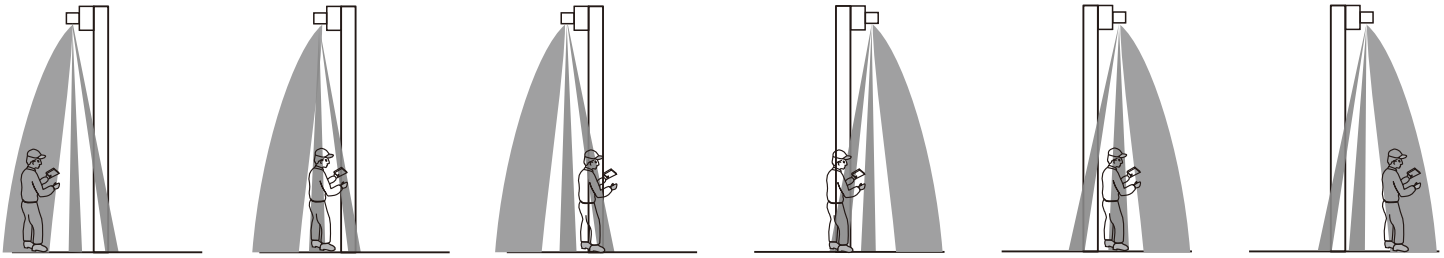


**NOTE:**
As picture shows, when the knob is adjusted clockwise, the detection range will move inward; when the knob is adjusted counterclockwise, the detection range will move outward.

**NOTE: Infrared detection range**



When debugging, in order to avoid the wrong background information in the system, during the entire self-learning process, all irrelevant background objects must be removed from the detection range, such as workers, ladders, toolboxes, etc. After the sensor is powered, the left green LED indicator will off after 5 seconds, the right blue LED indicator flashes, and enter to the self-learning background state. When the sensor detects the stable background for 2 consecutive seconds, blue LED indicator flashes quickly and the self-learning is successed, blue LED indicator always on, the sensor enter the standby state.



Activation relay output green light on | Anti-clamp relay output red light on | Anti-clamp relay output red light flashes | No induction | Anti-clamp relay output red light on | Activation relay output green light on

## 5 Technical Parameter

| | |
|---|---|
| Power input: | AC/DC 12 30V(±10%) |
| Cable length: | 2.5m |
| Output connection: | NO |
| Maximum mounting height: | 3000mm |
| Static current: | 53mA |
| Action current: | 73mA |
| External dimension: | 116(L)×49(W)×34(H)mm |
| Shell material: | ABS |
| **Infrared safety presence** | |
| Ray type: | Infrared modulated light |
| Optical source: | Infrared 940mm |
| Light beam: | 2 way, 8 transmission, 32 light spot |
| Powered self-learning time: | Dynamic stability for 2 seconds |
| Background self-adapt update: | Stable 15 seconds for self-learning |
| Response time: | ≤100ms |
| Optical surface: | PMMA |
| Temperature: | -40℃ to+60℃ |

| | |
|---|---|
| LED indicator: | Standby mode: blue LED; 2nd row infrared ray detect mode red light on; 1st row infrared ray detect mode red light flashes. |
| Detection range: | 1800(W)<br>300-800mm(D) adjustable |
| Output hold time: | 1second |
| **Microwave induction** | |
| Technology: | Microwave & Microwave processor |
| Emission frequency: | 24.125GHz |
| Emission power: | <20dBm EIRP |
| Emission frequency density: | <5mW/cm2 |
| Detection Mode: | Motion |
| Temperature: | -20℃ to+55℃ |
| Output hold time: | 2 seconds |
| Led indicator: | standby mode: light off;<br>action mode: green LED |

## 6 Packing List

| NO. | PART | QTY | REMARK |
|---|---|---|---|
| 1 | Sensor | 1 | |
| 2 | 6-pin line | 1 | 2.5m |
| 3 | Screws bag | 1 | |
| 4 | Operating instructions | 1 | |