

# Operation Instructions

Make your choice...

## M-506E Microwave Motion & Infrared Safety Sensor

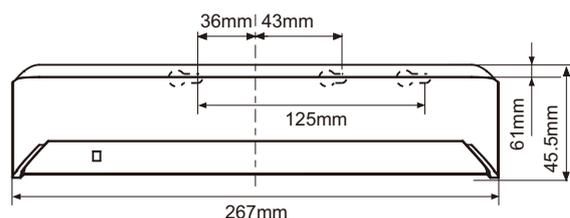
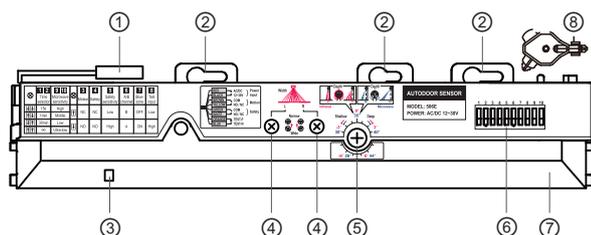


### 1 Safety Instructions



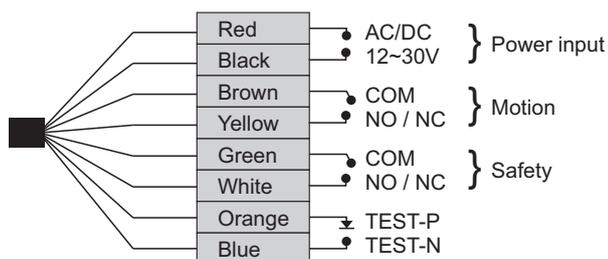
The device must be protected with safety insulation at low voltage. All adjustment and maintenance work must be carried out by a professional engineering installer.

### 2 Product Overview



- ① Connector    ② Installation hole    ③ Action indicator light    ④ Safety width adjustment screw    ⑤ Depth angle adjustment screw
- ⑥ DIP switch    ⑦ Detecting window    ⑧ Adjustment tool

### 3 Wiring Diagram

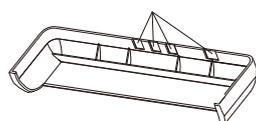


- Note:**
- 1, When connecting the wire, please don't tear the protection cover, as this may cause an electric leakage hazard or sensor failure.
  - 2, Check whether the sensor is properly connected to the door controller. Power the sensor and adjust its detection range.
  - 3, Please don't enter the detection area after power on and during the green LED light flashes.

### 4 Installation

- 1, Measure and mark the positions of the installing holes, according to the installation diagram.
- 2, Drill two fixing screw holes of  $\varnothing 3.5\text{mm}$ .
- 3, And drill one wiring hole of  $\varnothing 8\text{mm}$ .
- 4, Fix the sensor tightly by 2 screws.

**NOTE:** Please install the sensor on the door head as low as possible, but make sure the sensor is not lower than the bottom of the door head.  
If wiring with surface-mounted way, can cut the outside shell concealed hole wire.

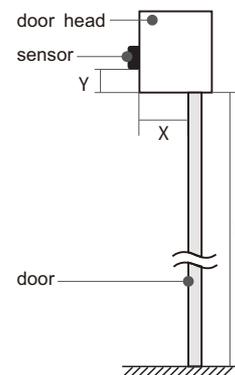


If wiring with surface-mounted way, please cut the concealed holes of outer shell for wiring.

- H. Distance from the ground to the bottom of the door head.
- X. Distance from the door to the fix surface.
- Y. The maximum distance from the bottom of door head to the sensor.

(mm)

X \ Y \ H	2000	2200	2500	3000	3500
50	200	200	200	200	200
100	180	180	180	180	200
150	100	100	120	150	170
200	50	80	100	120	140



## 5 DIP Switch

1 2	3	4	5	6	7	8	9 10
Time selector	Motion	Safety	Safety Sensitivity	A/B channel	Bluezone	Test input	Microwave sensitivity
<div style="display: flex; justify-content: space-between;"> <div>                     ↓↓ 15s                      ↑↓ 1min                 </div> <div>                     ↑ NC                      ↓ NO                 </div> <div>                     ↑ NC                      ↓ NO                 </div> <div>                     ↑ Low                      ↓ High                 </div> <div>                     ↑ B                      ↓ A                 </div> <div>                     ↑ OFF                      ↓ ON                 </div> <div>                     ↑ Low                      ↓ High                 </div> </div>							
<div style="display: flex; justify-content: space-between;"> <div>                     ↓↑ 30min                      ↑↑ Not update                 </div> <div>                     ↓ NO                      ↓ NO                 </div> <div>                     ↓ NO                      ↓ NO                 </div> <div>                     ↓ High                      ↓ High                 </div> <div>                     ↓ A                      ↓ A                 </div> <div>                     ↓ ON                      ↓ ON                 </div> <div>                     ↓ High                      ↓ High                 </div> </div>							
							↓↓ High ↑↓ Middle ↓↑ Low ↑↑ Ultra-low

**NOTE: When the test signal function is not used, it must be set in the high input active state, otherwise the sensor will not work normally.**

## 6 Microwave sensitivity & infrared detection range

■ 1st row infrared safety    ■ 2nd row infrared safety  
 ■ 3rd row infrared safety    ● Microwave sensing area

Depth adjusting screw      Adjustment tool

The pink screw is used to adjust the depth of infrared safety induction. Turn clockwise will away from the door. Turn counterclockwise will close to the door.

shallow    deep

← deep    shallow →

The blue screw is used to adjust the depth of microwave induction. Turn clockwise will away from the door. Turn counterclockwise will close to the door.

The left & right width screws is used to adjust the induction width, with narrow and wide two levels.

Microwave sensitivity adjustment: high, middle, low, ultra-low, a total of 4 levels. High sensitivity with the maximum detection range, ultra-low sensitivity with the minimum detection range.

## 7 Attentions

When the sensor is powered, the green light flashes and output the door opening signal. In the safety detection range, the sensor detects the stable background for 8 consecutive seconds, self-learning is successful. Green light is on and not output the door opening signal, sensor will enter the standby state.

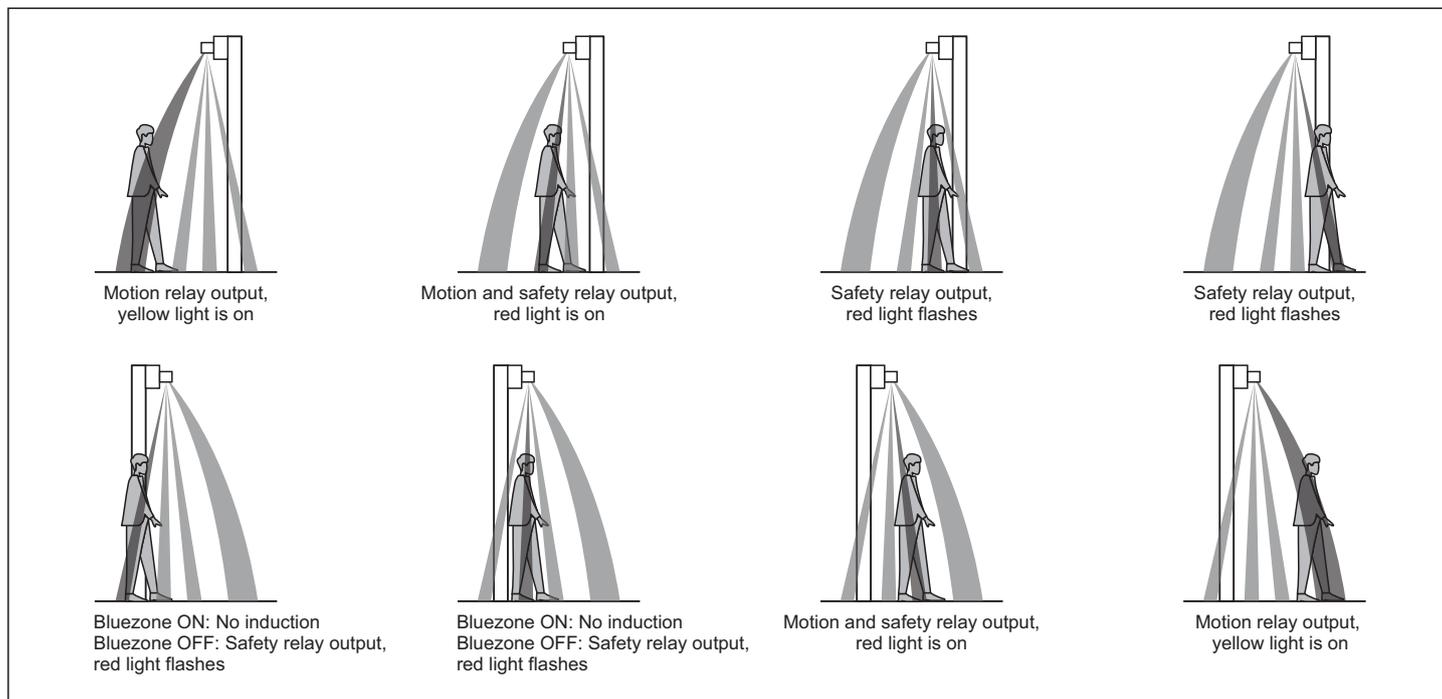
(NOTE: During the self-learning process, all irrelevant background objects must be removed from the detection range, such as workers, ladders, toolboxes, etc.)

When put one static object in the safety presence detection range, the sensor will trigger the door opening signal in time. (As the picture shows)

After continuously hold for 15 seconds (15s, 1min, 30min are optional), no other objects or human bodies appear in the detection range, the system will automatically learn the static object as the new background. And it will no longer trigger the door opening signal, and automatic door will close back automatically (As the picture shows).

When installing two sensors in adjacent areas, please separately choose channel A and channel B to avoid mutual interference and misoperation.

## 8 Output Diagram



## 9 Parameters

Power input:	AC/DC 12~30V(±10%)
Wire length:	2.5m
Signal output:	Relay, 1 way motion, 1 way safety (NO/NC optional)
Installation height:	3500mm(max)
Static current:	75mA (DC 12V power)
Action current:	120mA (DC 12V power)
Dimension:	268(L)x61(W)x38(H)mm (exclude the bottom shell)
Material:	Optical surface with PMMA, shell with ABS
Working temperature:	-25°C~55°C
<b>Infrared Safety</b>	
Ray type:	Infrared modulated ray
Ray source:	infrared 940nm
Light beam:	1 way motion and safety, 12 light spot; 2 way safety, 24 light spot
Self-learning time:	Dynamic stable learning for 8 seconds
Led indicator:	Standby mode in Green LED, 3rd row infrared ray's action mode, Red LED is always on; 1st and 2nd row infrared ray's action mode, Red LED flashes.
Detection range:	2500(W)x600(D)mm (Installation height=2.5meter)
Output holding time:	1. 2s
Response time:	≤150ms
Background update time:	15s, 1min, 30min, not update, 4 levels optional
<b>Microwave motion</b>	
Technology:	Microwave and microwave processors
Frequency:	24.125GHz
Transmitting power:	<20dBm EIRP
Transmitting power density:	<5mW/cm <sup>2</sup>
Detection mode:	motion
LED indicator:	Microwave motion in Yellow LED
Detection range:	4m(W)x2m(D) (Installation height=2.5meter)
Retention time:	2s
Packing list:	Sensor *1, operating instructions *1, screws bag *1, 8-pin line(2.5m) *1, bottom shell *1