# Operation Instructions

Make your choice...

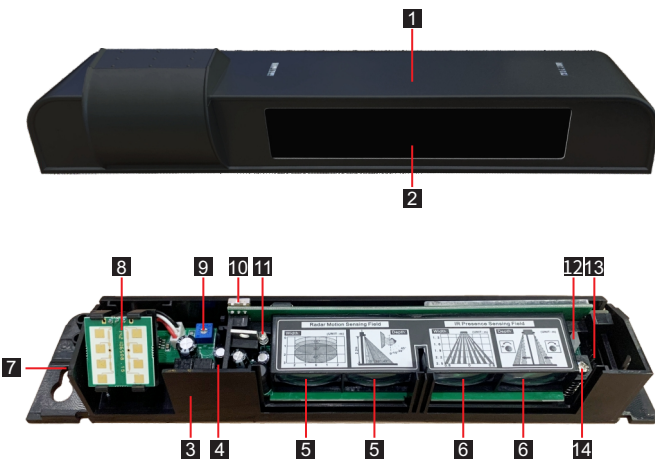## M-235  Motion & Presence Safety Conbined Sensor
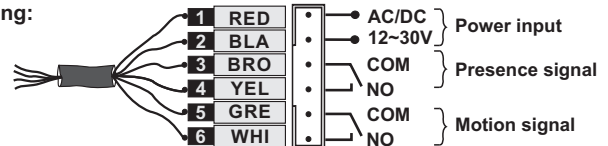


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### 1  Safety Instruction

⚠ This device must use protected safety insulation low voltage, all adjustment and maintenance work must be carried out by professional engineering installers.

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### 2  Product Overview



1 Top Cover
2 Optical surface lens
3 Bottom Cover
4 NO/NC selective removable PIN
5 Transmitting window
6 Receiving window
7 Microwave angle adjustment

8 Microwave receiving module
9 Microwave sensitivity adjustment knob
10 Background updated time dial switch
11 Activation Indicator
12 Safety Indicator
13 Wiring socket
14 Infrared adjustment screw

**Wiring:**



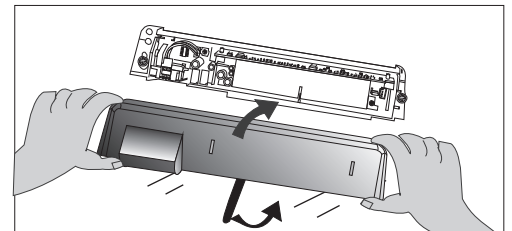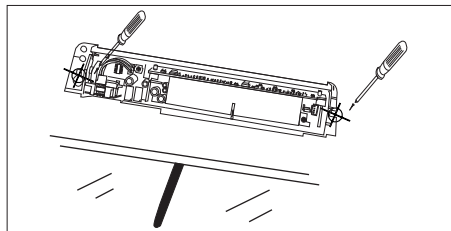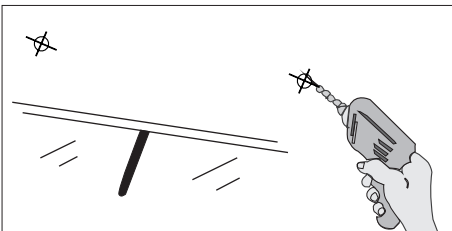| 1 | RED | AC/DC | Power input |
| 2 | BLA | 12~30V | |
| 3 | BRO | COM | Presence signal |
| 4 | YEL | NO | |
| 5 | GRE | COM | Motion signal |
| 6 | WHI | NO | |

**Note: Presence signal normally open and normally closed mode**

1. If insert the pin cap on AB is NO signal;

2. If insert the pin cap on BC is NC signal.

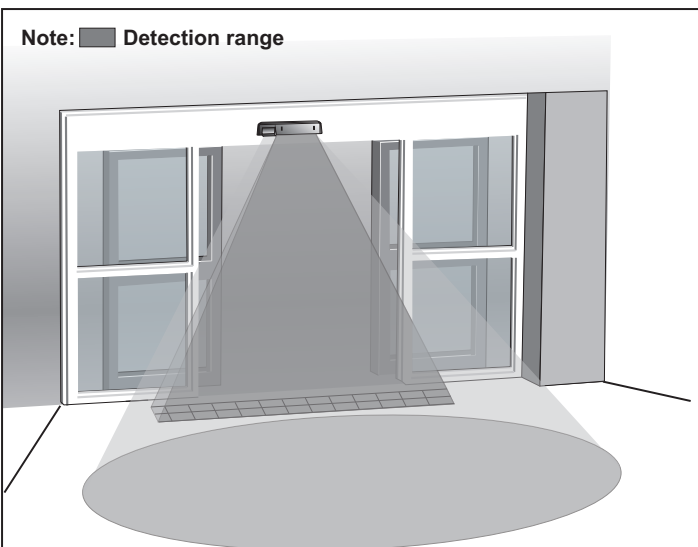**Note: Background update time is optional**    ▬▭ 15s    ▬▭ 30min
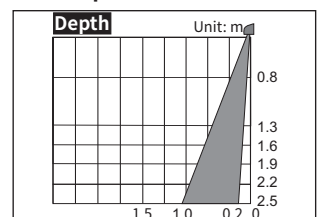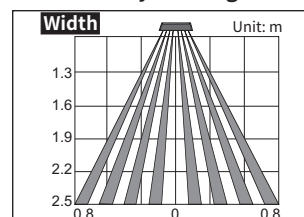
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### 3  Installation



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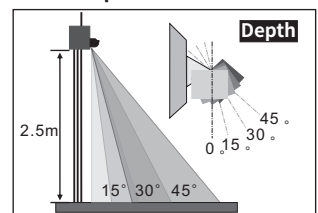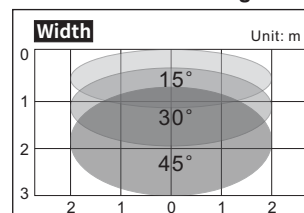### 4  Detection Range

**Note:** ▨ Detection range



**Infrared Safety Sensing Field: Width & Depth**



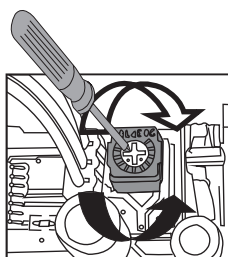**Radar Activation Sensing Field: Width & Depth：**

## 5 | Adjustment For Microwave Sensitivity And Infrared Detection Range.

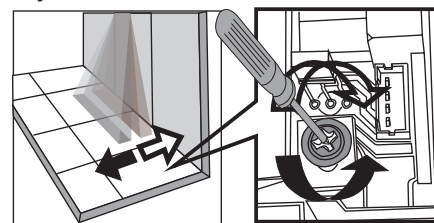**Microwave Sensitivity Adjustment**

NOTE:
Turn clockwise to adjust the sensitivity more strong; Turn counterclockwise to adjust the sensitivity more weak.
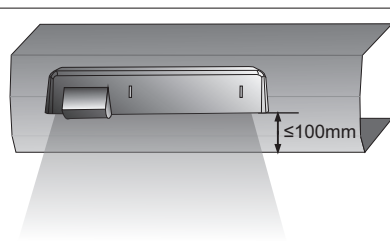
**Infrared Detection range adjustment**

Turn clockwise to adjust the detection range moved inward.Turn counterclockwise to adjust the detection range moved outward.
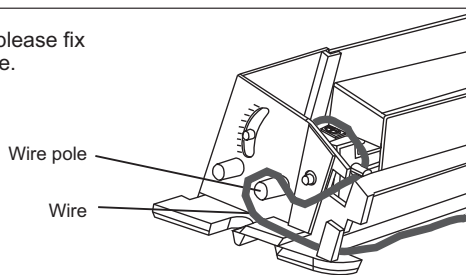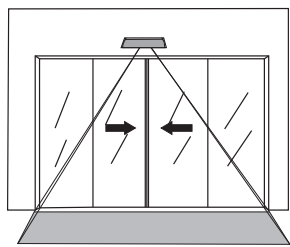
## 6 | Note

≤100mm

In order to avoid the sensitivity of sensor becomes lower autormtically, this sensor should be installed on the door head (The bottom line of door head is away from the sensor is less than 100mm. )

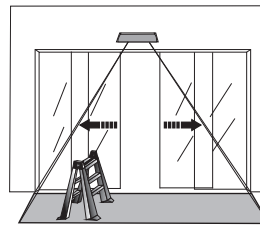For easy installation, please fix the wire round the pole.

Wire pole

Wire

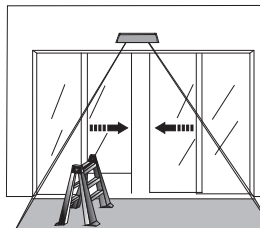**Note: ☐ Infrared  Safety Detection Range**

When debugging, in order to avoid the wrong foreground information in the system, before the self-learning process, Please make sure the door in the closing state; In the whole self-learning process, all irrelevant background objects must be removed from the detection range, such as workers, ladders, toolboxes,etc.
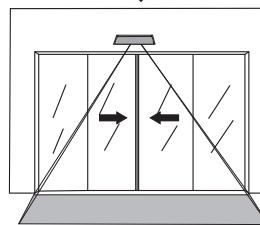
**Note: ☐ Infrared  Safety Detection Range**

When put a extra stationary object in the detection area, the sensor will transmit a door open signal in time. (As picture showed)

After 15s or 30min(optional), when the sensor is in the sensing area with only stationary object and no other objects or human body entering, the system will learn the objects as the background automatically, then to adapt to the new background, won't transmit door open signal, door will be closed. (As picture showed)

When remove this object away again, and restore to the original scene, the system will intelligently recognize the original scene and transmit a door opening signal for 2 seconds, then return to normal standby state.

## 7 | Parameter

| | | | | |
|---|---|---|---|---|
| Power Input: | AC/DC 12~30V(±10%) | | Temperature: | -40℃~60℃ |
| Cable Length: | 2.5m | | Detection Range: | 1600(W) * 800(D)mm |
| Signal Output: | Relay, 1 way motion, 1 way anti-pinch (NO/NC is optional) | | Output time: | 500ms |
| Max Installation Height: | 2500mm | | Respond: | ≤100ms |
| Static Current: | 65mA | | Optical surface: | PMMA |
| Action Current: | 130mA | | Microwave Activation: | |
| Dimension: | 260.3(L)*53.4(W)*44(H)mm | | Technology: | Microwave processor |
| Cover: | ABS | | Frequency: | 24.125GHz |
| Infrared Safety | | | Emission Power: | <20dBm EIRP |
| Ray  Type: | Infrared modulated light | | Transmission frequency density: | <5mW/cm2 |
| Ray Source: | Infrared 940nm | | Detection Mode: | Movement |
| Quantity Of Ray: | 8 rays transmitting, 8 rays receiving | | Detection Range: | 4m(W) * 2m(D) |
| Self-learning Time: | 15s, 30min optional | | Output time: | 2s |
| Operation Indicate: | Standby: blue LED; Detection: red LED | | Temperature: | -20℃~ +55℃ |

## 8 | Packing List

■ Sensor *1   ■ Operation instructions *1   ■ Crews bag *1   ■ 6PIN wire(2.5m) *1