Specification

Product Name: **AC ON/OFF sensor**

Model No.:   **MC098S 99, MC098S 99 1**

Version	Date	Reasons	Publishing
V1.0	2023.12.16		James. Guo
V1.1	2024.02.22	Add product pictures	James. Guo

【Product Features】

- Patented coupling dipole antenna design and Adaptive Algorithm, which effectively solves the problem of low installation height of columnar antenna sensors and false triggering caused by side-lobe radiation of the antenna when installed in a metal room.
- Widely used in parking lots and other places, it solves the problem that traditional sensor cannot detect vehicles or the vehicle cannot be detected until it passes directly under the sensor.
- Sensor parameters can be set by remote control and DIP switches, easy to configured.

MC098S 99

MC098S 99 1
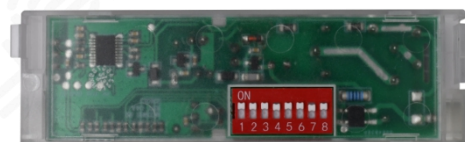
【Parameters】

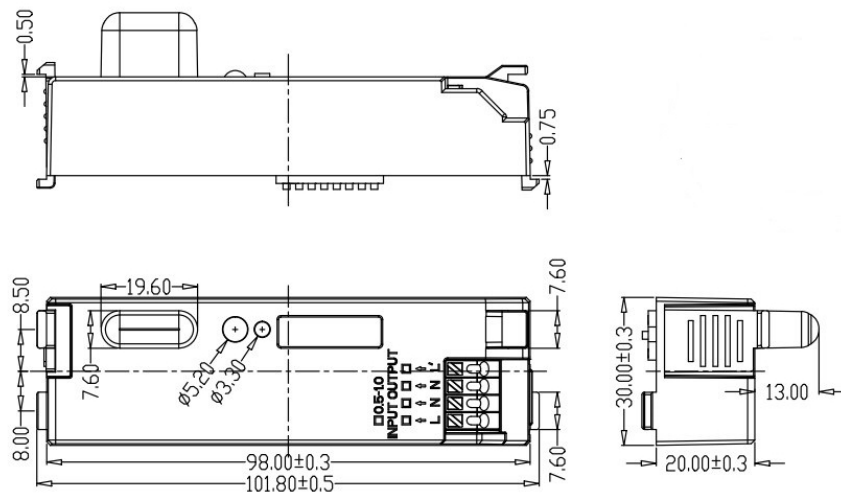| Input	
Rated Voltage	220-240Vac 50/60Hz
Stand-by Power	≤0.5W
Surge Test	1KV(L/N,EN61000-4-5)
Output	
Output Signal	ON/OFF
Type of Load	Inductive or Resistive
Load Capacity	200W@230Vac(Inductive) ; 400W@230Vac(Resistive)
Max. Surge Capacity	7A relay 20A(50% Ipeak, twidth =200uS, 230Vac full load, cold start);
Sensor Parameters	
Working Frequency	5.8 GHz ±75MHz, ISM wave band
Transmitting Power	1mW Max.
Detection Area(Radius)	Ceiling mounting height 3m: r≥4m@0.3m/s, r≥2.5m@1m/s; Wall mounting height 3m: r≥5m@0.3m/s, r≥4m@1m/s Test condition: Set 100% sensitivity, open 60 ㎡ indoor area.
Mounting Height	3m (6m Max)
Hold time	5s/30s/90s/5min/20min/30min (Dial code) 5s/30s/1min/3min/5min/10min/20min/30min (MH10 setup)
Detection Area	100%/75%/50%/25%
Daylight Sensor	Normal: 2Lux/10Lux//30Lux//50Lux/Disable Daylight: 5Lux/15Lux/30Lux/50Lux/100Lux/150Lux/Disable (MH10setup)
Operating Temperature	-25℃…+60℃
Storage Temperature	-40~80℃ Humidity: ≤85% non-condensing
Certificate Standards	
Certified	CE, RED
Environmental Requirements	Comply with RoHS 2.0 Reach

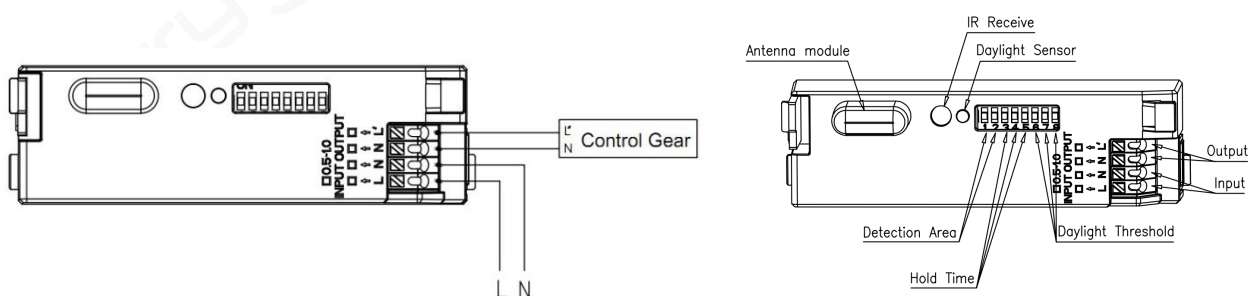| IP Rating	IP20
Other	
Remote Model	MH10; MH16; MH03
Wiring	Press-in Type Terminals, wire diameter: 0.5-0.75mm^2
Installation	Built-in
Package	Bubble bag+Clapboard + Carton(K=A)
Net Weight	40.3±3g
Lifetime	5 years warranty@Ta

【Function】

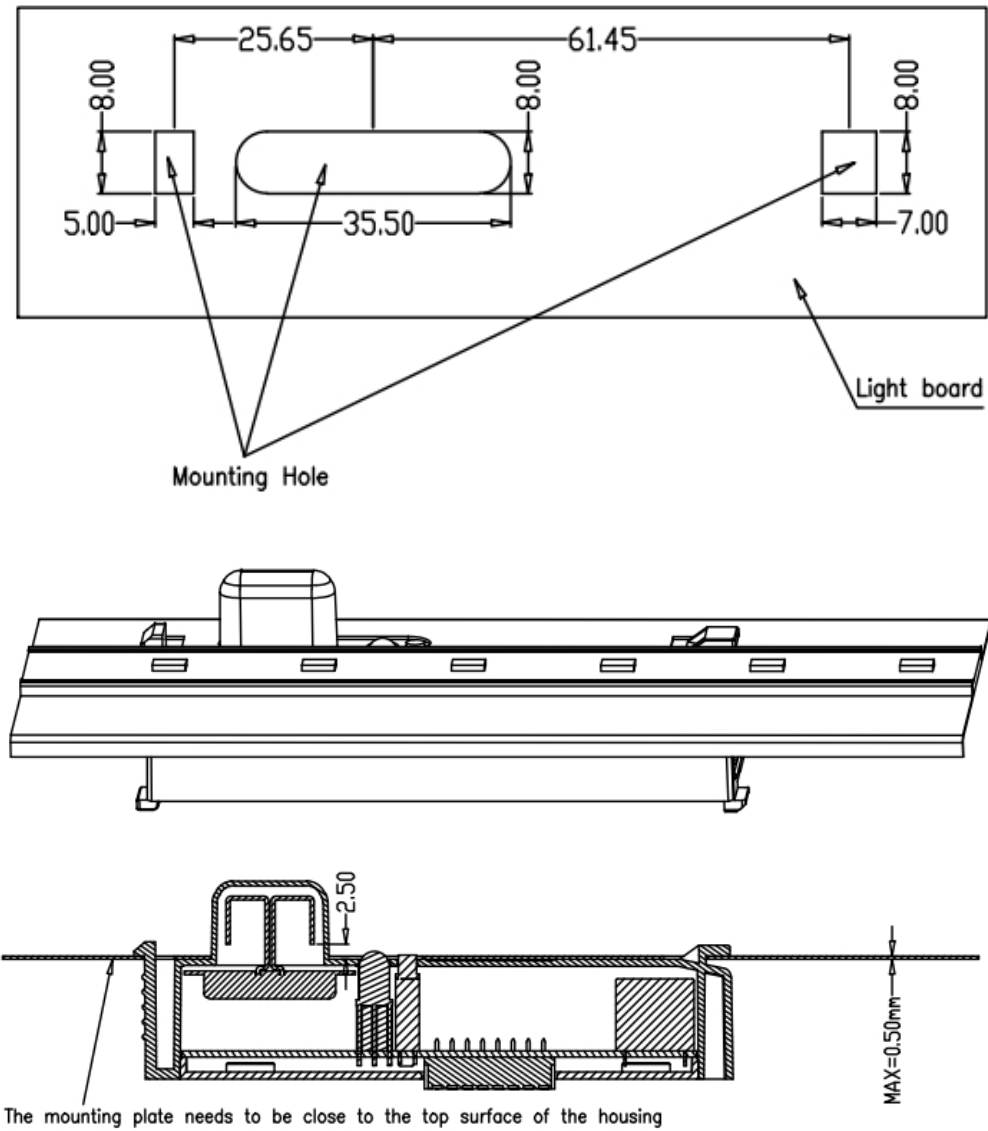|	
☑ON/OFF function	Light control Disable or external brightness value is lower than the set value. When the microwave sensors detects the movement of an object, the sensor triggers and enters the light-on state. It maintains the light-on state after a delay and then enters the light-off state.
☐Two-step dimming function	N/A
☐Three-step dimming function	N/A
☐Daylight harvesting	N/A
☐Daylight priority	N/A

【Product Information】

● Dimension(units: mm)

● Function & Wiring

● Installation

Method 1

25.65   61.45

8.00   8.00   8.00

5.00   35.50   7.00

Mounting Hole

Light board

2.50

MAX=0.50mm

The mounting plate needs to be close to the top surface of the housing

Method：二

8.00   98.00   8.00

5.00   5.00

Mounting Hole

Light board

MAX=0.75mm
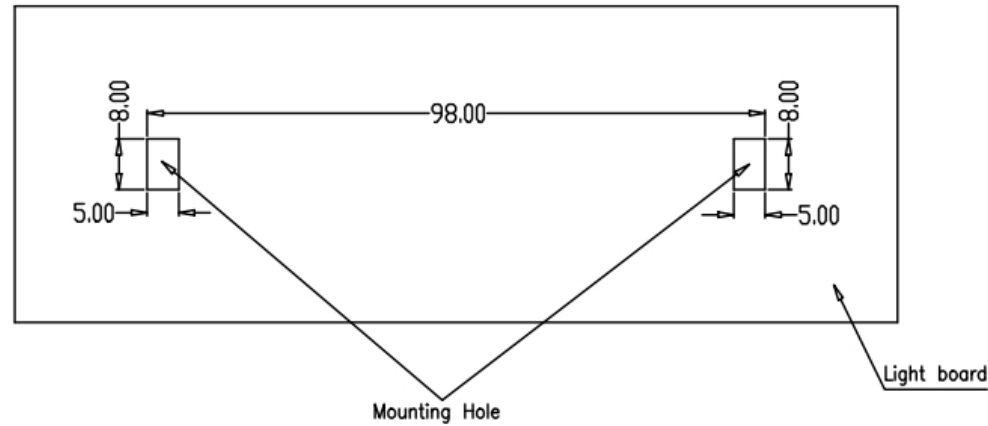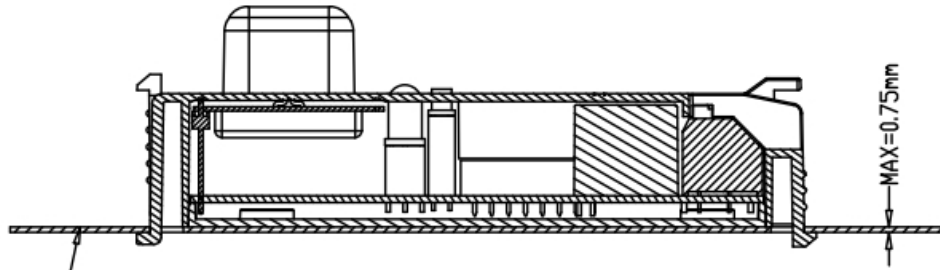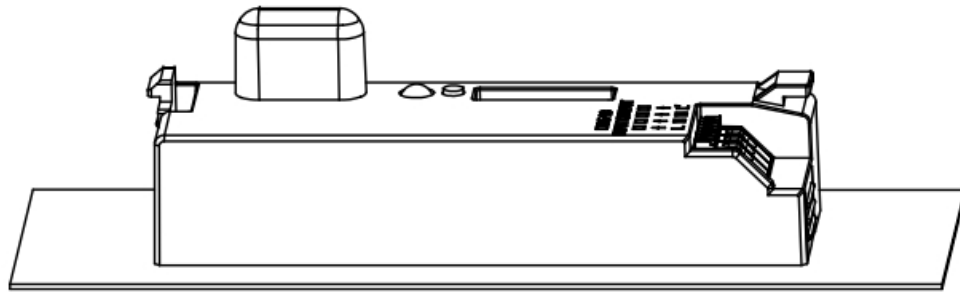
The mounting plate needs to be close to the top surface of the housing

Antenna installation tips

2.00

1.00

Lamp

1.00

Lamp

2.0

SECTION A-A

A

A
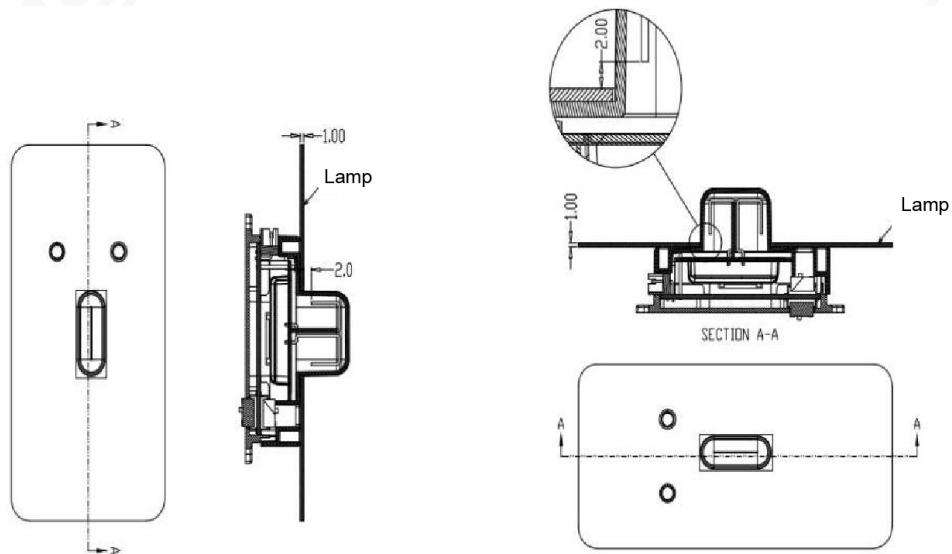
Suggestion: The bottom Angle of the light plate from the microwave antenna should be higher than 2mm, otherwise the induction distance will become closer

【DIP Switch Setting】

MC098S 99

Function	Detection Area			Hold Time			
Dial code	1	2	Detection area	3	4	5	Hold time
I	ON	ON	100%	ON	ON	ON	5s
II	-	ON	75%	-	ON	ON	30s
III	ON	-	50%	ON	-	ON	90s
IV	-	-	25%	-	-	ON	5min
V	N/A	N/A	N/A	ON	ON	-	20min
VI	N/A	N/A	N/A	-	-	-	30min

Function	Daylight Sensor			
Dial code	6	7	8	Daylight Sensor Threshold
I	ON	ON	ON	2Lux
II	ON	ON	-	10Lux
III	-	ON	-	30Lux
IV	ON	-	-	50Lux
V	-	-	-	Disable*
VI	N/A	N/A	N/A	N/A

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Function	Daylight Sensor				Hold Time				Detection Area		
Dial code	1	2	3	Daylight Sensor Threshold	4	5	6	Hold time	7	8	Detection area
Ⅰ	ON	ON	ON	2Lux	ON	ON	ON	5S	ON	ON	100%
Ⅱ	-	ON	ON	10Lux	ON	ON	-	30S	ON	-	75%
Ⅲ	-	ON	-	30Lux	ON	-	ON	90S	-	ON	50%
Ⅳ	-	-	ON	50Lux	ON	-	-	5min	-	-	25%
Ⅴ	-	-	-	Disable	-	ON	ON	20min	N/A	N/A	N/A
Ⅵ	N/A	N/A	N/A	N/A	-	-	-	30min	N/A	N/A	N/A

● Radiation Pattern

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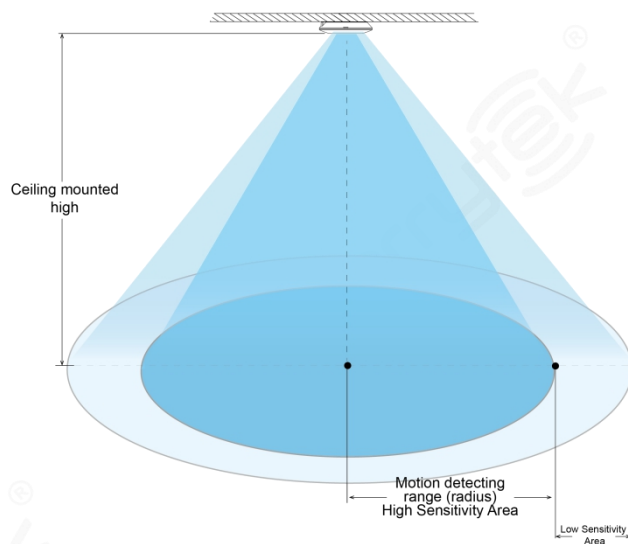
【MH10 Remote Control】

merrytek®

| Remote Control Setting	Button	Remarks
	ON/OFF	Press the "ON/OFF" button, the light goes to constant on/off mode, sensor is disabled. Press Sensor motion to quit from this mode and the sensor starts to work. The button have power-off memory function
	Reset	Press "Reset" button, all parameters are same as setting of DIP switch or factory settings.
	Sensor motion	Press "Sensor motion" button, the light quits from the constant on/ off mode,and the sensor starts to work (The latest setting stays in validity)
	DIM Test	N/A
	DIM+ DIM-	N/A
	DH Mode	N/A
	Q1 Q2 Q3	N/A
	TEST 2S	N/A
	HS LS	N/A
	☾☀	Daylight Sensor Set up daylight threshold: 5Lux/15Lux/30Lux/50Lux/100Lux/150Lux/ Disable
	⏱	Stand-by period Set up stand-by time: 0S/10S/1min/3min/5min/10min/30min/+∞
	⏱	Hold time Set up hold time: 5S/30S/1min/3min/5min/10min/20min/30min
	50% 10%	
	•)))	Detection Area Set up detection area: 25%/50%/75%/100%
	5m 10m 15m	Remote Distance Toggle bottom can set the remote distance of remote control and sensor.

Remote control and code setting conversion

1.DIP switch setting convert to remote control Press any bottom except "RESET" on the remote control, and the sensor settings convert to the function currently selected by the remote control. (No function button settings invalid)

2 remote control convert to DIP switch setting
a. Press the "RESET" button on the remote control, and all settings return to the DIP switch settings of the sensor.
b. Turn off the power, toggle any DIP switch,connect to the power, and all settings return to the DIP switch settings when supply power again.

Unique design of infrared transmitting device

3m Max.   4m Max.   5m Max.

5m   10m   15m

5m Level   10m Level   15m Level
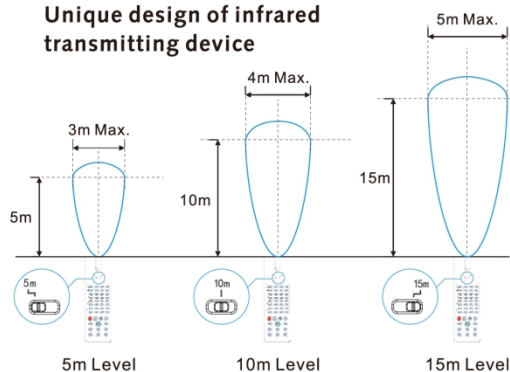
Note: When a product with an infrared remote control receiver is built into a low color temperature lamp, the wavelength of lamp bead may coincide with the wavelength of the infrared remote control and interfere with signal reception, and it may cause the remote control distance to be short. The remote control distance shall be subject to actual testing.

【Initialization】

The light will be turned on 100% brightness after power on, and will be turned off after 10 seconds. During initialization, no external motion sensing signal will be detected.

【Default Setting】

Sensitivity: 100%   Hold time: 5s   Daylight sensor: Disable

【Application Notice】

● The sensor should be installed by a professional electrician. Please turn off the power before installing, wiring, changing the setting of the DIP switch.

● Sensitivity area is related to moving speed of objects, size of moving objects, mounting height, mounting angle, working environment, reflecting materials and etc.. Given detecting area is typical value that was measured by 165cm/65kg testers in an indoor open environment.

● The detection area of the microwave sensor when installed on the wall will be greatly increased compared to when installed on the ceiling. If adopts wall ceiling, please reduce the sensitivity or contact our company to confirm the usage settings. The daylight thresholds are measured on a sunny day without shadow and in an ambient light diffuse reflection status. Different environment and climate cause different brightness values that daylight sensor measures.

● Sensor parameters may need to be reconfigured in different installation environments, please refer to the following instructions or contact the manufacturer.

● Sensor is for indoor use only. The waterproof effect for outdoor or half-outdoor use will be affected. Wind, rain, and moving objects may cause false triggering.

● The installation height of the sensor product cannot exceed 6 meters, and the optimal height is 3 meters. The distance between the two sensors should be greater than 3m.

● When the sensor is installed in a metal lamp, on a metal reflective surface, or in a small closed environment, the microwave will be reflected multiple times and cause false triggering. Please reduce the sensitivity of the sensor or contact the manufacturer for technical support.

● Please make sure that there are no moving signals such as fans, DC motors, sewer pipes, air outlets, etc. around the sensor, otherwise the sensor may cause false triggering.

● Microwaves cannot penetrate metal. Do not place product in a closed or a half-closed metal lamp. Neither metal nor glass is not allowed to cover above the product.