

Specification

Product Name: AC ON/OFF sensor

Product Model: MC030S L & MC119S

Versions	Release/ change Date	Reason	Publishing
V1.0	2023.07.14	Merged version	James Guo

【Product Feature】

- Conform to new ERP standards; low stand-by power.
- 5.8GHz microwave license-free ISM wave band; bulk order are compliant with RED&TUV approval.
- Compact size design, can be built-in most of light fixtures.
- Simple to operate: adjusting DIP switches to change detection area, hold time, daylight sensor and other parameters.
- Input and output terminals are convenient for connecting.
- Five year warranty



【Parameter】

Input				
Rated Voltage	220-240VAC 50/60Hz			
Stand-by Power	≤0.3W			
Surge Test	L--N: 1kV			
Output				
Output Control	ON-OFF			
Load Capacity	MC030S L:	400W(Inductive/LED) ; 800W(Resistive)	MC119S:	200W(Inductive/LED) ; 400W(Resistive)
Max. Surge Capacity	MC030S L:	30A (50% Ipeak, twidth =500us, 230Vac full load, cold start); 60A (50% Ipeak, twidth =200us, 230Vac, full load, cold start)		
	MC119S:	20A (50% Ipeak, twidth =500us, 230Vac full load, cold start); 40A (50% Ipeak, twidth =200us, 230Vac, full load, cold start)		
Sensor Parameter				
Operating Frequency	5.8 GHz ±75MHz, ISM wave band.			
Transmitting power	1mW Max.			
Detecting Radius	Ceiling installation 3m height: 1m/s ≥ 2.5m, 0.3m/s ≥ 3.5m Test condition: Product setting 100% sensitivity, 60 m² indoor open space			
Mounting Height	2.5-6m (ceiling mounting), 2-3m (wall mounting)			
Environment				
Operating Temperature	-25~60℃			
Storage Temperature	-40℃~80℃, Humidity: ≤85%(Non-condensing)			
Maximum Shell Temperature (Tc)	80℃			
Certificate Standard				
Certificate	CE, RED, TUV			
Environmental Requirement	Compliant to RoHS 2.0, Reach			
IP Rating	IP20			
Product Category	Class II			
Other				
Product Model	MC030S L		MC119S	
Wiring	Press-in type terminal block, wiring 0.75-1.5 mm²		Press-in type terminal block, wiring 0.5-0.75mm²	
Installation	Built-in			
Package	Bubble bag + Clapboard + Carton(K=A)			

Net Weight	MC030S L:	37.8±3g	MC119S:	25.2±3g
Lifetime	5 years warranty @Ta			

【Function】

☑ON-OFF function

Setting daylight sensor to “disable” or ambient brightness is lower than the preset daylight sensor value, when detecting moving signals sensor starts working and light will turn on. When hold time ends, light will turn off.

○2-step dimming

N/A

○3-step dimming

N/A

☑Override function
(MC119S)

Switch it on and off 5 times within 5 seconds(on-off-on-off-on-off-on-off-on-off-on) will turn on constant on mode, the sensing mode will restored after it power on again. Note: After switch on and off five times, the lamp will flash 3 times and then enter constant mode.

○Daylight harvesting

N/A

○Daylight priority

N/A

○High-low sensitivity

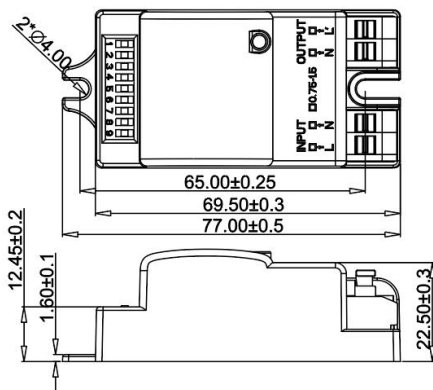
N/A

○Grouping

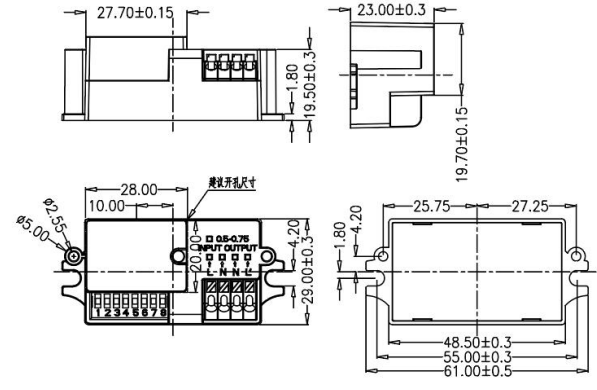
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【Product Information】

● Dimension(units: mm)

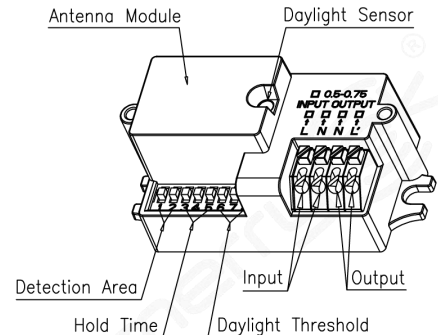
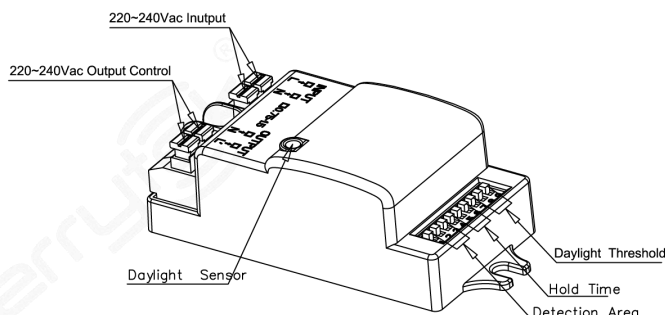


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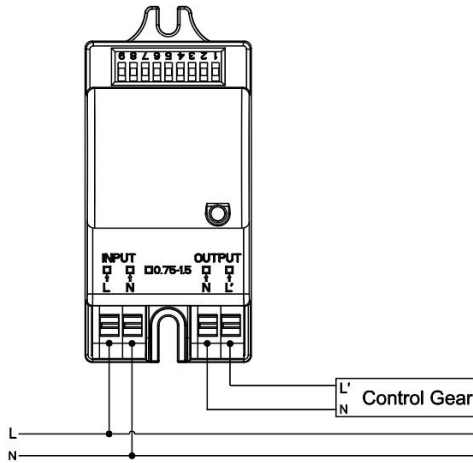


MC119S

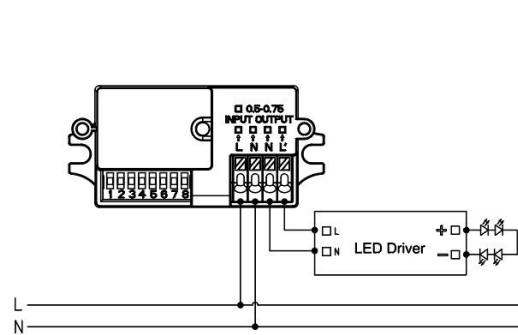
● Structure



● Wiring



MC030S L

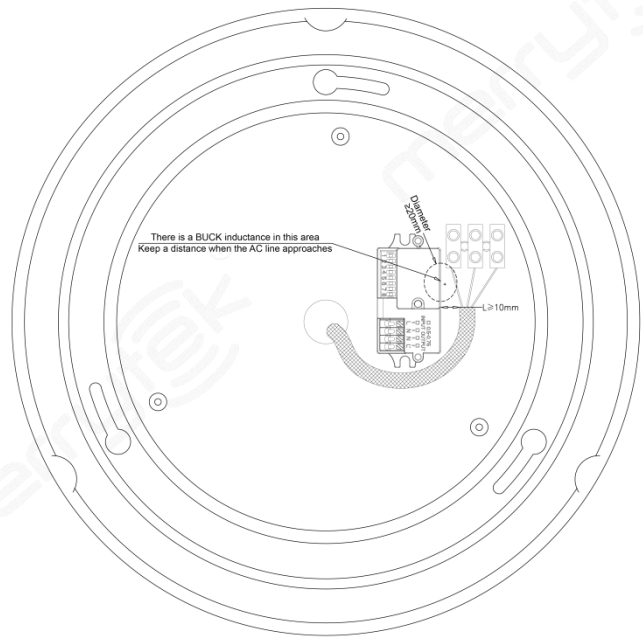
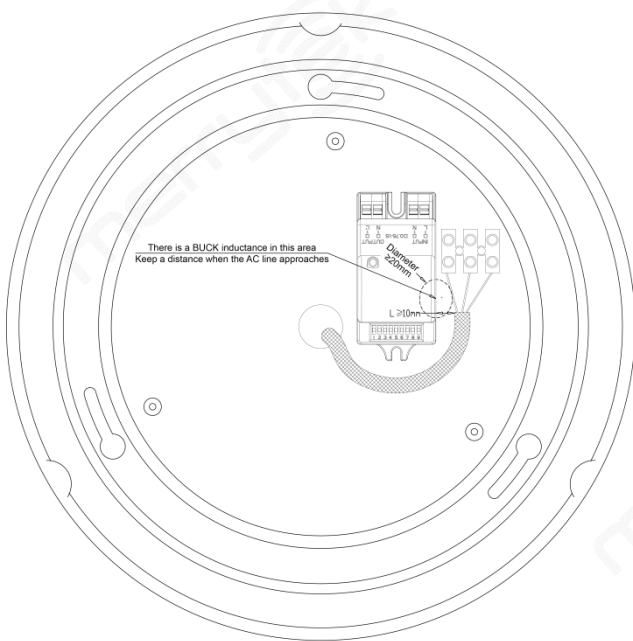


MC119S

Note:

*The sensor is designed for connect one load only. Connect more than one loads may damage the sensor.

● Installation instruction

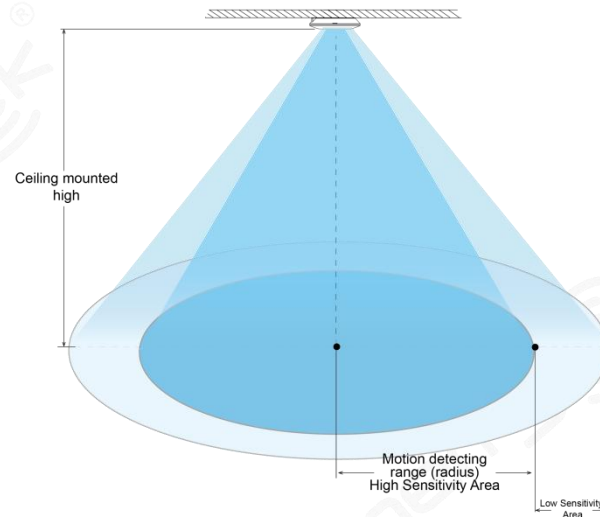


Note:

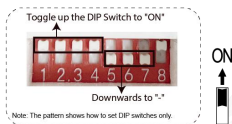
When installation, please pay attention to the front of microwave antenna is not allowed to be blocked by metal.

The AC incoming line needs to keep a distance of more than 10mm from the BUCK inductance, Otherwise it will cause conduction to fail. As shown in the following figure.

【Detection Range】



【DIP Switch Setting】





Detection Area



Hold Time



Daylight Sensor

1	2	3		Detection Radius	4	5	6		7	8	9	
ON	ON	ON	100%	Around 4meters	ON	ON	ON	5S	ON	ON	ON	2Lux
-	ON	ON	75%	Around 3.5 meters	-	ON	ON	30S	ON	ON	-	10 Lux
ON	-	ON	50%	Around 3 meters	ON	-	ON	90S	-	ON	-	25Lux
-	-	ON	25%	Around 1.5 meters	-	-	ON	3min	-	ON	-	50Lux
-	-	-	10%	Around 1.0 meter	ON	ON	-	20min	ON	-	-	50 Lux
-	-	-			-	-	-	30min	-	-	-	Disable

MC030S L



Detection Area



Hold Time



Daylight Sensor

1	2	Detection Radius		3	4	5	6	7	8
I	ON ON	100%	Around 3.5 meters	I	ON ON ON	5s	I	ON ON ON	2Lux
				II	ON ON -	30s		II	ON ON -
II	ON -	75%	Around 2.5 meters	III	ON - ON	1min	II	ON ON -	10Lux
				IV	ON - -	3min		III	- ON
III	- ON	50%	Around 1.5 meters	V	- ON ON	5min	III	- ON	25Lux
				VI	- ON -	10min	IV	ON - -	50Lux
IV	- -	25%	Around 1.0 meter	VII	- - ON	20min			
				VIII	- - -	30min	V	- - -	Disable

MC119S

【Initialization】

After power on, the sensor automatically turns on light to 100% brightness and turns off light after 10 seconds. During initialization, sensor is not able to detect movement.

【Default setting】

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

【Application Notice】

- Sensor should be installed by a professional electrician. Please turn off power before installing, wiring, or setting the DIP switches.
- 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. If antenna needs to pass through the metal plate, please ensure that the top of sensor is close to the metal plate.
- The installation spacing between sensors is recommended to be greater than 2m. Keep it away from wireless devices such as switches and routers, and the installation spacing between sensors and routers is recommended to be greater than 2m. The antenna surface of the microwave sensor should be away from the input AC and output DC to avoid low/high frequency signals affecting the normal operation of the microwave sensor antenna.

- 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 high testers in an indoor open environment.
- This model is suitable for ceiling installation. If wall installation is used, the microwave sensor sensing detection area is greatly increased, and it may cause the phenomenon of microwave penetrate wall or the light not going out. So please adjust the sensitivity to 10%. If the sensitivity 10% can not be used, please avoid to the wall installation or ask the manufacturer for technical support.
- 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 should not be covered or hided by metal, PCB, LED tray etc..The spacing between the sensor antenna and surrounding materials should be greater than 5mm. There should be no metal or PCB tracks near the sensor antenna, above or below it. The recommended thickness of cover is 2mm, and keep the spacing between the sensor antenna and cover is greater than 3.2mm.
- Vibration signals will be regarded as moving signals to trigger sensor. Installing sensor should be away from the object that vibrates for a long time, such as large metal equipment, pipes, air conditioning outlets, exhaust vents, smoke exhaust machine ports, shaking fans, etc. Pets in detecting area may cause false trigger.
- The antenna surface of microwave module should be away from input AC, output DC, rectifier bridge, transformer, switch tube and other high-power devices to avoid high frequency signals affecting the normal operation of microwave sensor's antenna.
- 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. When the sensor is installed in a metal lamp, a metal reflective surface or a small enclosed environment, the microwave will be reflected many times and cause false triggering, please reduce the sensitivity or ask the manufacturer for technical support.
- When ambient temperature is over 80'C, over temperature protection may be triggered (automatic recovery after cooling)
- For the new installation environment, it is recommended to test 5pcs samples before installation.