

Specification

Product Name:

AC ON/OFF sensor

Product Model:

MC130S, MC130S 1

Versions	Release/ change Date	Reason	Publishing			
V1.0	14 th Feb, 2023	2	James Guo			
V1.1	30 th March, 2023	Update Remote control	James Guo			
V1.2	11 th August, 2023	Add clasp free housing structure	James Guo			
V1.3	28 th August, 2023	cancel MC130 2	James Guo			
V1.4	13 th October, 2023	Modified sensing distance	James Guo			
V1.5 27 th November, 2023		Product adapts ceiling light	James Guo			
A.C.		X				



[Product Feature]

- Patented Mini Coupling DiPole Antenna for ceiling light. suitable to built-in metal LED tray without false trigger.
- Compact size, not effect light distribution.
- Low sidelobe, no false trigger in metal reflection space.
- Low transmitting power, no harm to human.
- Sensor data can be set by DIP switch & remote control.
- Not affected by temperature, humidity, noise, dust etc..



MC130S

MC130S 1

MC130S

[Parameter]

Input							
Rated Voltage	220-240VAC 50/60Hz						
Stand-by Power	≤0.5W						
Surge Test	LN: 1kV						
Output							
Output Control	ON-OFF						
Load Capacity	200W(Inductive/LED) ; 400W(Resistive)						
Max. Surge Capacity	10A relay: 30A (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	r≥3m @ ceiling mounting, r≥8m @ wall mounting Motion speed: 1m/s, 100% sensitivity, 165cm person.						
Mounting Height	2.5-5m (ceiling mounting), 2-3m (wall mounting)						
Environment							
Operating Temperature	-25~60°C						
Storage Temperature	-40°C~80°C, Humidity: ≤85%(Non-condensing)						
Certificate Standard							
Certificate	CE, RED, UKCA, SAA, CB						
Environmental Requirement	Compliant to RoHS 2.0, Reach						



IP Rating	IP20				
Other					
Wiring	Press-in type terminal block, wiring 0.5-0.75mm ²				
Installation	Built-in				
Package	Bubble bag + Clapboard + Carton(K=A)				
Net Weight	36g±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
□Daylight harvesting	N/A
□Daylight priority	N/A

[Product Information]



• Wiring and Function diagram



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



[Installation Instruction] Recommended for use on ceiling lights

Screw installation



Snap-in installation

Note: Please check the sensor installation method with Merrytek before design any luminaire.







[DIP Switch Setting]

Detection Area				Hold Time			Daylight Sensor						
Toggle up the DIP Switch to "ON"		1	2		Detection Radius	3	4	5		6	7	8	
	ON	ON	ON	100%	Around 5 meters	ON	ON	ON	5S	ON	ON	ON	2 Lux
				N 75%	Around 4 meters	-	ON	ON	30S	ON	ON	_	10 Lux
			ON			ON	—	ON	90S		0.1		201
		ON	-	50% 25%	Around 2.5 meters Around 1.5 meters		_	ON	5min		ON		JULUX
						ON	ON	_	20min	ON	-	_	50 Lux
		-				_	—	—	30min		-	-	Disable

[Detection Range]







[Remote control]



MH10 Instruction

Remote Control Setting		Button	Remarks					
		ONOFF	Press the "on/off" button, the light goes to constant on/off mode, sensor function is disabled; In the constant on/off mode, the DIM+/DIM- function can be used, and the brightness set by DIM+/DIM- can be maintained after power on again ; In constant on mode,Power off and then power on, the light will go to constant on mode; In constant off mode, Power off and then power on , the light will be on for 2 seconds and goes to constant off mode					
		Reset	Press "Reset" button, all parameters are the same as setting of DIP switch.					
	-	Sensor	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)					
5m 10m 15m	-	DIM Test	N/A					
25% 50% 75% 100%	-	DIM+ DIM-	N/A					
20% 30% 50% 55 305 1m 3m		DH Mode	N/A					
5m 10m 20m 30m 0s 10s 1m 3m 5m 10m 30m ++ 5t 15t 30t 50t 100t 150t pounds pounds		Q1 Q2 Q3	N/A					
Rever DENTOR DEN		TEST 2S	N/A					
		HS LS	N/A					
	-	C*	Daylight Sensor Set up daylight threshold: 5Lux/15Lux/30Lux/50Lux/100Lux/150Lux/ Disable					
		\bigcirc	N/A					
	-	\bigcirc	Hold time Set up hold time: 5S/30S/1min/3min/5min/10min/20min/30min					
		10%	N/A					
		.)))	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

 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.





[Initialization]

After power on, the sensor automatically turns on light to 100% brightness and turns off light in 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.

• 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.

• 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.

• The installation spacing between sensors is recommended to be greater than 2m, and the installation spacing between sensors and routers is recommended to be greater than 2m.

• 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.