Specification

Product Name: **AC Controller**

Product Model: **MC613V D 99**

Versions	Release/ change Date	Reason	Publishing
V1.0	2023.03.18		James Guo

【Product Feature】

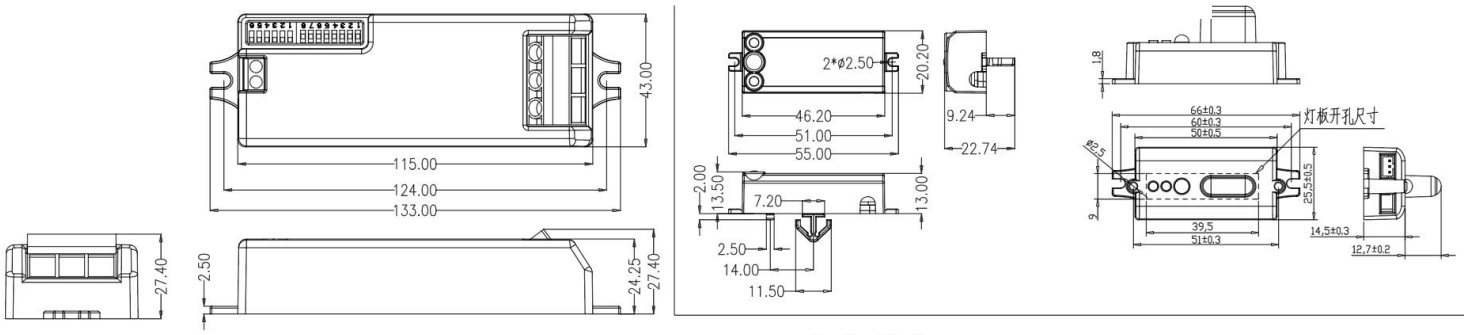
- With mini sensor detector, which does not block light
- Low transmitting power, no harm to human
- Support Remote Controller and DIP switch to adjust parameters
- low side lobe; better adaptability to metal warehouse; Strong anti-interference ability
- 0-10V match MS01 can achieve daylight harvesting function
- Not affected by temperature, humidity, noise, dust etc.

【Function】

- ⓥON-OFF function
- ⓥ2-step dimming
- ⓥ3-step dimming
- ◯override function
- ◯Daylight harvesting
- ◯Daylight priority
- ◯High-low sensitivity
- ◯Grouping

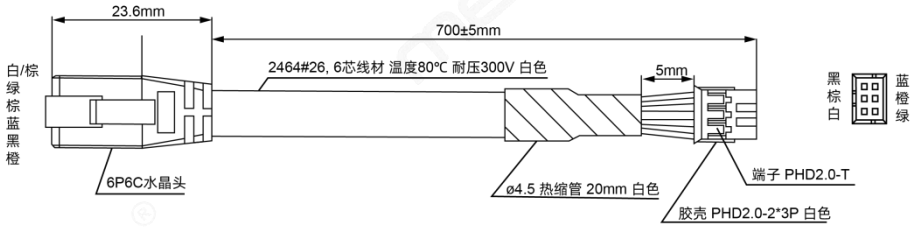
【Product Information】

- Dimension (Unit：mm)



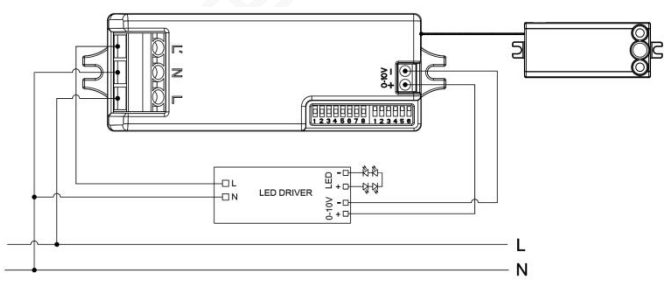
body　　Tpye A sensor　　Tpye B sensor

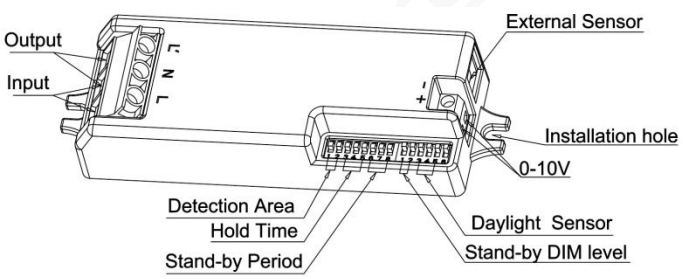
Tolerance: ±0.3mm



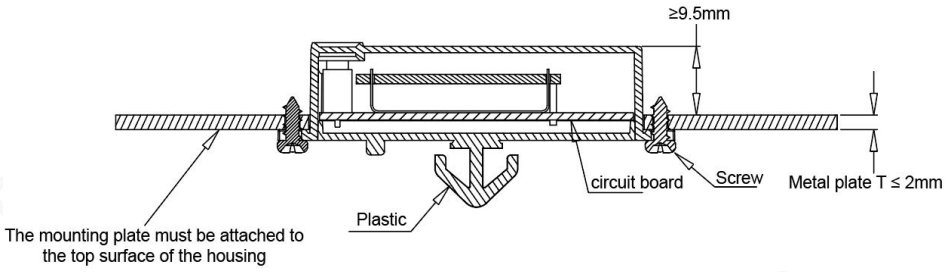
Wiring: 712±5mm

- Wiring、Function

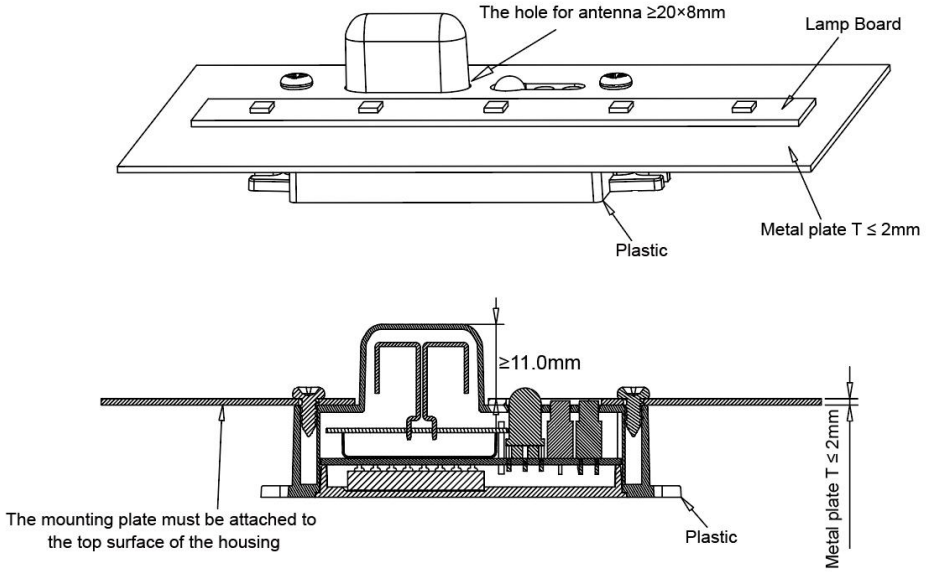




【Installation Instruction】



Type A sensor



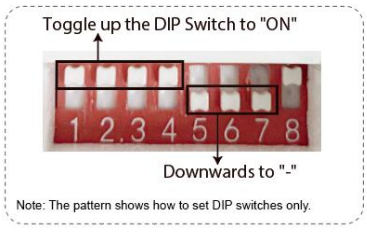
Tpye B sensor

Note

The sensor is allowed to be connected to one load only. The sensor may be damaged if connecting more than one load.

Sensor antenna should be above LED tray.

【DIP Setting】



ON

Detection Area

	1	2		Detection Radius
I	ON	ON	100%	Around 3 meters
II	ON	–	75%	Around 2.5 meters
III	–	ON	50%	Around 2 meters
IV	–	–	25%	Around 1 meters

Hold Time

	3	4	5	
I	ON	ON	ON	8s
II	ON	–	ON	30s
III	–	ON	ON	1min
IV	ON	–	–	5min
V	–	ON	–	10min
VI	–	–	ON	15min
VII	–	–	–	30min

Stand-by Period

	6	7	8	
I	ON	ON	ON	0s
II	ON	–	ON	1min
III	–	ON	ON	3min
IV	ON	–	–	5min
V	–	ON	–	10min
VI	–	–	ON	30min
VII	–	–	–	+∞

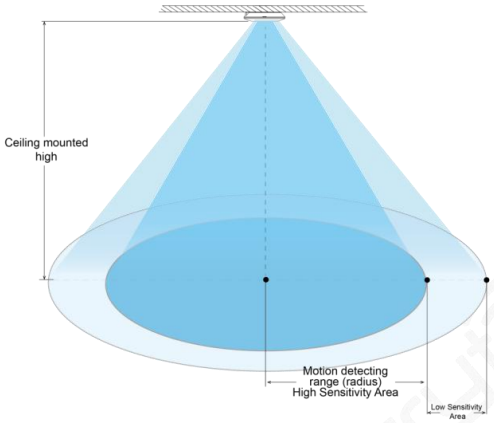
Stand-by DIM Level

	1	2	
I	ON	ON	10%
II	ON	–	20%
III	–	ON	30%
IV	–	–	40%

Daylight Sensor

	3	4	5	6	
I	ON	ON	ON	ON	5Lux
II	–	ON	ON	ON	15Lux
III	ON	–	ON	ON	30Lux
IV	–	–	ON	ON	50Lux
V	ON	ON	–	ON	100Lux
VI	ON	ON	ON	–	150Lux
VII	–	–	–	–	Disable

【Detection Range】



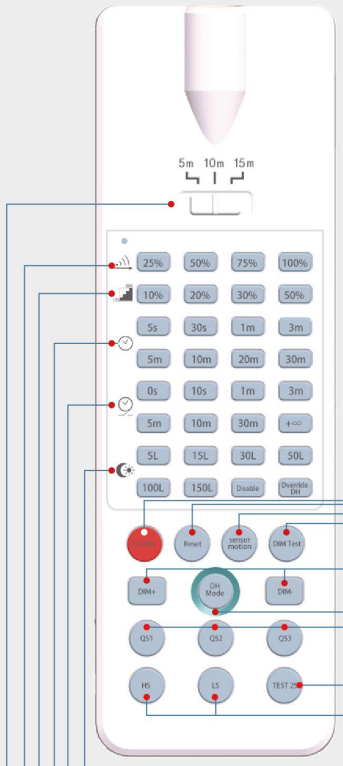
【Parameter】

Input		
Rated Voltage	120/277/347VAC 50/60Hz	
Stand-by Power	≤1W	
Surge Test	1KV(L/N, EN61000-4-5)	
Output		
Output dimming Mode	0-10VDC Dimming Signal	ON/OFF Signal
Load Capacity	@120VAC 3.6A Ballast @277VAC 3.4A Ballast @347VAC 3.3A Ballast	
Max. Surge Capacity	50A (50% Ipeak, twidth =500us, 230Vac full load, cold start)	
Dim interface		
0-10V Dimming	< 50mA（Non-constant source） 10%(0.5-1V) 20%(1.9-2.1V) 30%(2.9-3.1V) 40% (3.9-4.1V)	
Sensor Parameter		
Operating Frequency	5.8 GHz ±75MHz, ISM wave band.	
Transmitting power	1mW Max.	
Detecting Radius	1m/s ≥2.5m. @ 3m ceiling mounting, 1m/s ≥4m @ 2m wall mounting Test conditions : the product is set to 100% sensitivity, and there is no obvious occlusion in the room of 60 ㎡, 165cm person.	
Mounting Height	3-6m (ceiling mounting)	
3db beam angle	80°@XZ plane	
	96°@YZ plane	
Environment		
Operating Temperature	-35~70℃	
Storage Temperature	-40℃~80℃, Humidity: ≤85%(Non-condensing)	
Certificate Standard		
Certificate	UL, CE, RED	
Environmental Requirement	Compliant to RoHS 2.0, Reach	
Safety Standards	UL60730	
IP Rating	IP20	
Protection Class	Class II	
Other		

Wiring	Press-in terminals wire diameter: L /N /L': 18AWG +/-Dimming port: 22AWG
Installation	Built-in
Package	Clapboard + Carton(K=A)
Net Weight	220±5g
Lifetime	5 years warranty @Ta 230V

【Retome】

MH10
Instruction

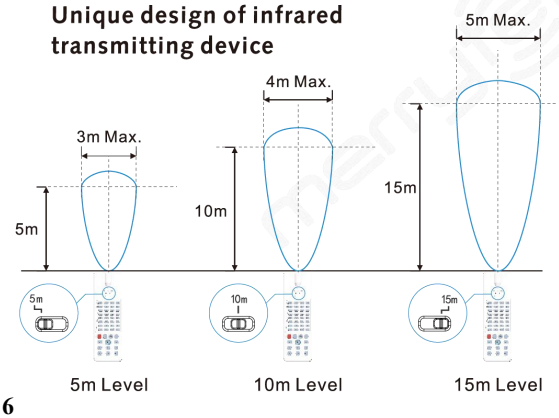
Remote Control Setting	Button	Remarks
	ON/OFF	Press the "ON/OFF" button, the light enters the constant ON/OFF mode, and the sensing function is disabled. In ON/OFF mode, DIM+/DIM- function is available, it maintains the same brightness after powering on again. Power off under NO mode and then power on, the lamp enters constant OFF mode. Power off under constant ON mode and then power on, the load lamp lights 2s and then enters NC mode.
	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	Press"DIM Test" button, the 1-10 V dimming works to test whether the10Vdc dimming ports are connected properly. After 2s, it returns to the latest setting automatically.
	DIM+ DIM-	Short press to transmit a dimming signal, and the brightness of the lamp will be adjusted with +/-5% each time; dimming range:50%-100 %. (Only available for daylight priority function sensor) Note: the maximum brightness can be set with this button;
	DH Mode	Long press" DH Mode" >3s to enter the daylight priority function; Press "Reset" quit the daylight priority function
	Q1 Q2 Q3	Scence Options / Dection Area / Hold Time / Stand-by period / Stand-by dim level / Daylight Sensor / Induction model QS1: 100% / 5min / 10min / 10% / 30Lux / Hs QS2: 100% / 10min / 30min / 10% / Disable / Hs QS3: 100% / 20min / 30min / 10% / Disable / Hs Note: Users can press any button to adjust parameters, subject to the last setting. When the sensor does not have the above parameter function, the parameter setting is invalid. Hold time, dim level are not applicable to ON/OFF sensor, Sensor mode is not available for low installation sensor.
	TEST 2S	Press the "RESET" and then Press the "TEST 2S" bottom can enter the test mode any time At the mode the sensor parameters as below:Detection Area is 100%, Hold Time is 2s. Stand-by Dim Level is 10%, Stand-by Period is 0s, daylight sensor disable This function only for testing. Quit the mode by pressing "RESET"or any other function buttons.
	HS LS	N/A
		Daylight Sensor Set up daylignt thereshold: 5Lux/15Lux/30Lux/50Lux/100Lux/150Lux/Disable
		Stand-by period Set up stand-by time:0S/10S/1min/3min/5min/10min/20min/30min/+∞
		Hold time Set up hold time:5S/30S/1min/3min/5min/10min/20min/30min
	50% 10%	Stand-by dim level Set up stand-by dim level:10%/20%/30%/50%
		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



【Initialization】

● Switch function/three-stage dimming function: the light will be turned on 100% brightness by the initial energizing sensor, and will be turned off after 10 seconds. During initialization, no external motion sensing signal will be detected.

● Two-phase dimming function: the light will turn on 100% brightness in the initial energizing sensor, and turn to low brightness 10 seconds later (the brightness set by stand-by dim level). During initialization, no external motion sensing signal will be detected.

【Default setting】

Sensitivity: 100%, Hold time: 8s, Daylight sensor: Disable, Stand by period: 0s, Stand by DIM level: 10%

【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 3m, 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.