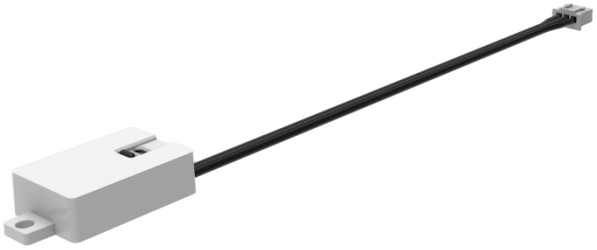
Specification

Product Name: **DC Controller**

Product Model: **MC068D RC**

Versions	Release/ change Date	Reason	Publishing
V1.0	2023.02.28		Shiyu Liang
V1.1	2023.05.27	Update dimension	Shiyu Liang
V1.2	2023.10.20	Update layout, modify wire diameter	Leun

【Product Feature】



- Patent of Low-impedance Antenna
- Small product size, Small opening size
- Low RF power output. No harm to human health
- Set parameters by Remote
- 0-10V dimming or PWM dimming can be selected
- Not affected by temperature, humidity, noise, airflow, dust, light and other environments

【Parameter】

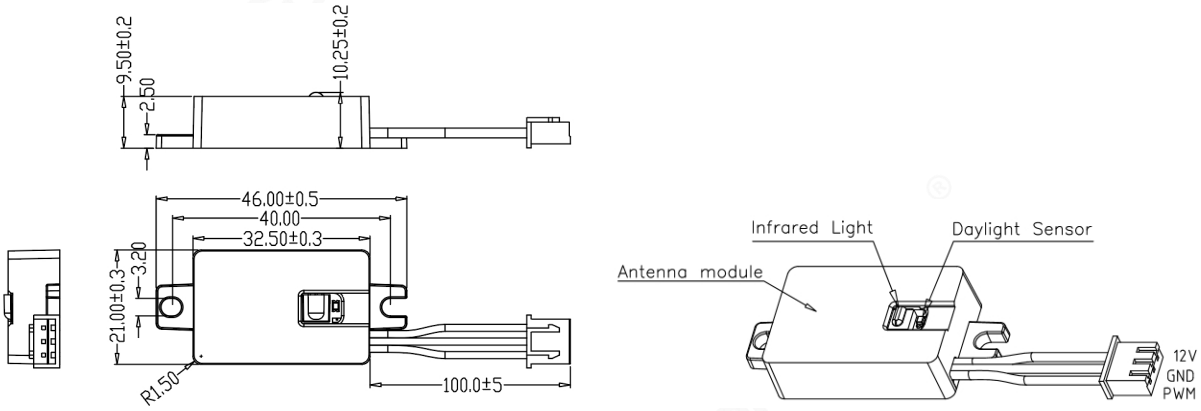
Input		
Voltage Range	5-12Vdc	
Operating Current	≤15mA	
Ripple Voltage	<100mVp-p	
Output		
Output signal	☑0-10VDCdimming signal	☑PWM dimming signal
Parameter		
Operating Frequency	5.8 GHz ±75 MHz，ISM wave band.	
Transmit power	1mW Max.	
Detection Distance(radius)	Ceiling installation 3m high: r≥3m@0.3-1m/s Test Conditions: Product Settings 100% Sensitivity; Indoor 60m^2	
Mounting Height	3m (4.5m Max)	
Environment		
Operating Temperature	Built-in: -25~85℃	
Storage Temperature	Module: 20~30℃ Humidity: ≤60%.	
Certificate Standards		
Certificate	CE, RED	
Environmental Requirement	Compliant to RoHS 2.0、Reach	
IP Rating	IP20	
Others		
Wiring	3pin 2.54mm terminal	
Installation	Built-in	
Package	Clapboard + paper carton(K=A)	
Net Weight	8.6±3g	
Lifetime	3 years warranty@Ta	

【Function】

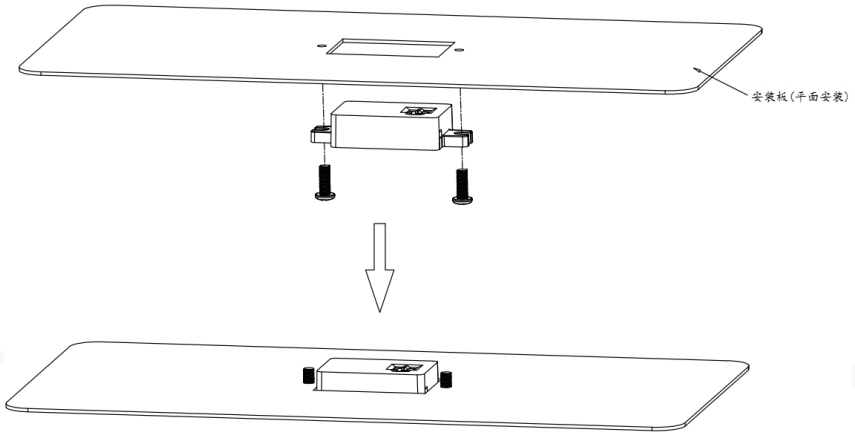
☑On/OFF Function	Stand-by Period be set to “0s”
☑2-step dimming function	Stand-by Period be set to “+∞”
☑3-step dimming function	Stand-by Period be set to “3min/10min”
☐Daylight harvesting	N/A
☐Daylight priority	N/A

【Diagram】

- **Function & Dimension (unit: mm) & Wiring Diagram**



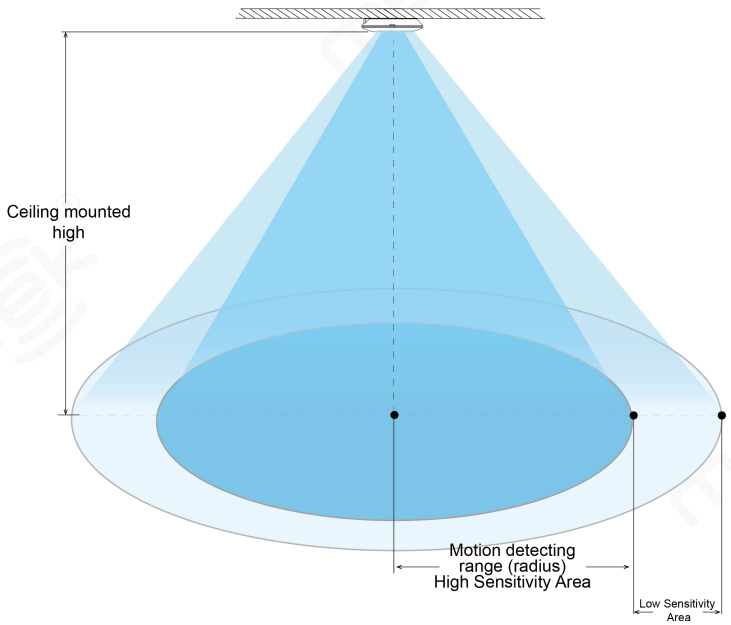
- **Installation Instruction**



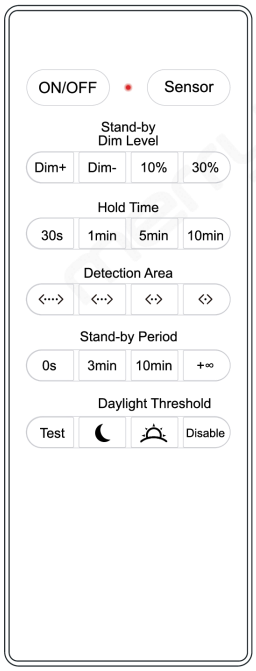
Note

When installing, please pay attention to the distance between the microwave antenna and the lamp panel. See the precautions for details

【Radiation】



【Remote control instruction】



Button	Function	Description
ON/OFF	Normal ON/OFF	Pressing the ON/OFF button, sensing function is canceled and the light will remain ON/OFF. Sensor has power-off memory function, that is: Power on again under the “ON” mode of the load lamp, the load lamp enters “ON” mode. Power on again under the “OFF” mode of the load lamp, the load lamp enter the normally “OFF” mode after on for 2s
Sensor	Recover sensing	Pressing this button to recover sensing function.
Dim+	Increasing Brightness	Pressing this button continuously, the brightness will increase. When adjusting the brightness at full brightness. ON/OFF mode is still available.
Dim-	Reducing Brightness	Pressing this button continuously, the brightness will reduce. When adjusting the brightness at full brightness, ON/OFF mode is still available.
Stand-by Dim Level	Low Brightness	10%, 30%
Hold Time	100% Brightness	30s, 1min, 5min, 10min
Detection Area	Detection Area	100% ⟷ , 75% ⟷ , 50% ⟷, 25% ⟷
Stand-by Period	Stand-by Time	0s, 3min, 10min, +∞
Test	TEST Button	Pressing this button, the light will turn off after 2 seconds. Restore to last sensing setting after power off.
Daylight Threshold	Threshold	15lux , 50lux , Disable

【Initialization】

Sensor turns light on at 100% brightness when first power on and turns down the brightness of light in ten second. During the initialization, sensor do not detect movement signals.

【Default setting】

Detection Area: 100%; Hold Time: 2s; Stand-by Period: 0s;

Stand-by Dim Level: 10%; Daylight Sensor: Disable

【Application Notice】

- Sensor should be installed by a professional electrician. Please turn off power when installing, wiring, changing the setting.
- The product has good ability to penetrate plastic and wooden objects, but there should be no metal accessories or metal shells, glass shells and others in front of and near the antenna of the microwave module, otherwise it will affect the transmission and reception of the microwave antenna.
- Detection distance is related to the moving speed of objects, the size of moving objects, mounting height, mounting angle and working environment. Different directions cause different detection distances.

● Daylight threshold is in a sunny environment with no shadows and ambient light diffuse reflection conditions. The values illuminantion detected by sensor may vary in different environment, at different times, in different seasons, and in different climates.

● The installation distance of the product is recommended to be greater than 1.5m, and the installation distance between the product and the router is recommended to be greater than 1.5m.

● The installation plane of the product (for example: aluminum substrate, PCB board) needs to be different from the antenna plane of the microwave module by a certain height. The antenna plane of the microwave module should be higher than the nearby plane by more than 5mm to achieve the best detection effect.

● It is recommended to use a DC stabilized power supply with stable output voltage, low current and ripple coefficient. The ripple of the power supply should be less than 100mV, and the minimum load current of the power supply should be greater than 50mA. At the same time, it is recommended to install an electrolytic capacitor not less than 100uF at the VCC terminal of the input power supply. filtering.

● The product should be installed as far away as possible from large metal equipment, pipes, air-conditioning outlets, exhaust vents, smoke exhausters and other scenes, so as to avoid the impact of equipment vibration on the detection effect.

● The microwave module should avoid being close to the AC drive power supply, and should be kept away from high-power devices such as rectifier bridges, transformers, and switching tubes of the drive power supply, so as to prevent high-frequency signals from interfering with the normal operation of the microwave module.

● Product specifications and parameters may be optimized without prior notice.

● Designing the product: the antenna surface of the microwave module and its nearby circuits should avoid high current flow, and avoid transformers or high-frequency components nearby. The distance should be greater than 10mm, and the height should be 5mm lower than the plane height of the microwave module.

● There should be no metal accessories or glass blocks in front of and near the product, so as not to affect the normal operation of the sensor. At the same time, the thickness of the plastic should be less than 2mm as much as possible. Too thick will affect the detection effect and directionality of the microwave module.