Specification

Product Name: **DC Controller**

Product Model: **MC087D 3**

Version	Date	Reasons	Publishing
V1.0	2024.04.25		James. Guo

【Product Feature】

- 12V DC input, 0-10V dimming signal or PWM dimming signal output, suitable for DC systems or LED driver with 12V DC auxiliary power output.
- Three-step and two-step dimming is optional, detection area is adjustable.
- Patented antithetical dipoles 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 Logistics warehouse and other complex environment places
- Sensor parameters can be set by remote control and
- DIP switches, easy to configured.

【Parameter】

Input		
Rated Voltage	12±1Vdc	
Working Current	26±3mA	
Ripple Voltage	<100mVp-p	
Output		
Output Signal	PWM dimming signal	0-10VDC dimming signal
Daylight Sensor		
Daylight Sensor	Daylight Threshold	DIP：5Lux/15Lux/50lux/Disable Remote：5Lux/15Lux/30Lux/50lux/100Lux/150Lux/Disable
Stand-by DIM Level	10%/20%/30%/50%	
Sensor Parameters		
Working Frequency	5.8 GHz ±75MHz，ISM band	
Transmitting Power	1mW Max.	
Detection Area	100%/75%/50%/25%	
Hold Time	DIP：5S/1min/3min/10min Remote：5S/30S/1min/3min/5min/10min/20min/30min	
Stand-by Period	DIP：0S/1min/3min/+∞ Remote：0S/10S/1min/3min/5min/10min/30min/+∞	
Detection Area(Radius)	Ceiling mounting 3m: r≥4m@0.3m/s, r≥2.5m@1m/s; Wall mounting: r≥5m@0.3m/s, r≥3m@1m/s Test condition: Set 100% sensitivity, open 60 ㎡ indoor area.	
Mounting Height	3m (6m Max)	
Environment		

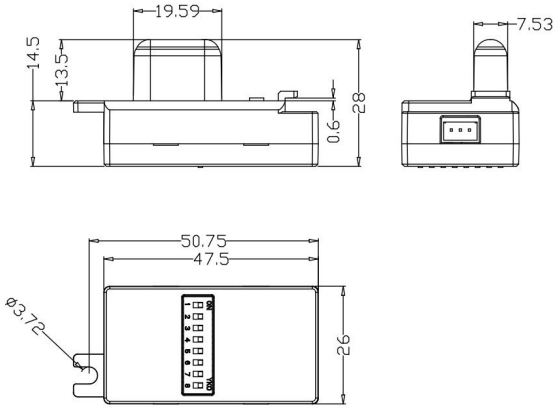
Working Environment Temperature	-25~60℃
Storage Temperature	-40~80℃ Humidity: ≤85% non-condensing
Certificate Standards	
Certified	CE
Environmental Requirements	RoHS 2.0, Reach
IP Rating	IP20
Other	
Wiring	3pin 2.0mm terminal
Installation	Built-in
Package	Clapboard + Carton(K=A)
Net Weight	Pending
Lifetime	5 years warranty@Ta

【Function】

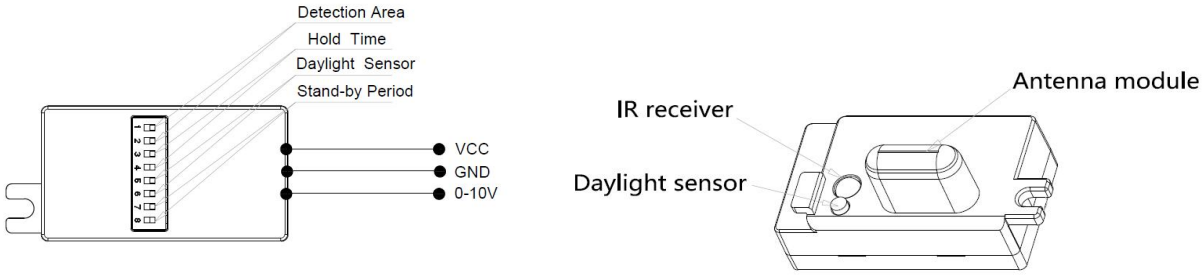
☑ON/OFF function	Stand-by Period set to “0s”
☑Two-step dimming function	Stand-by Period set to “+∞”, Daylight Sensor set to “Disable”
☑Three-step dimming function	Stand-by Period set to “1min/3min”, Daylight Sensor not set to “Disable”
☐Daylight harvesting	N/A
☐Daylight priority	N/A

【Product Information】

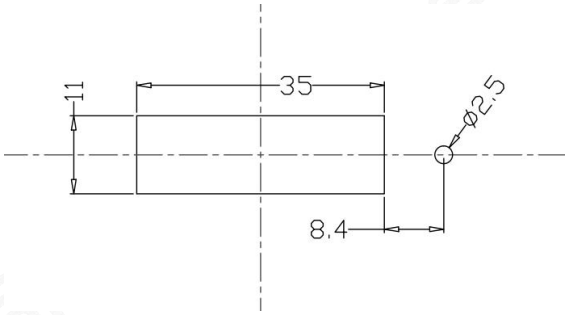
- Dimension(units: mm)

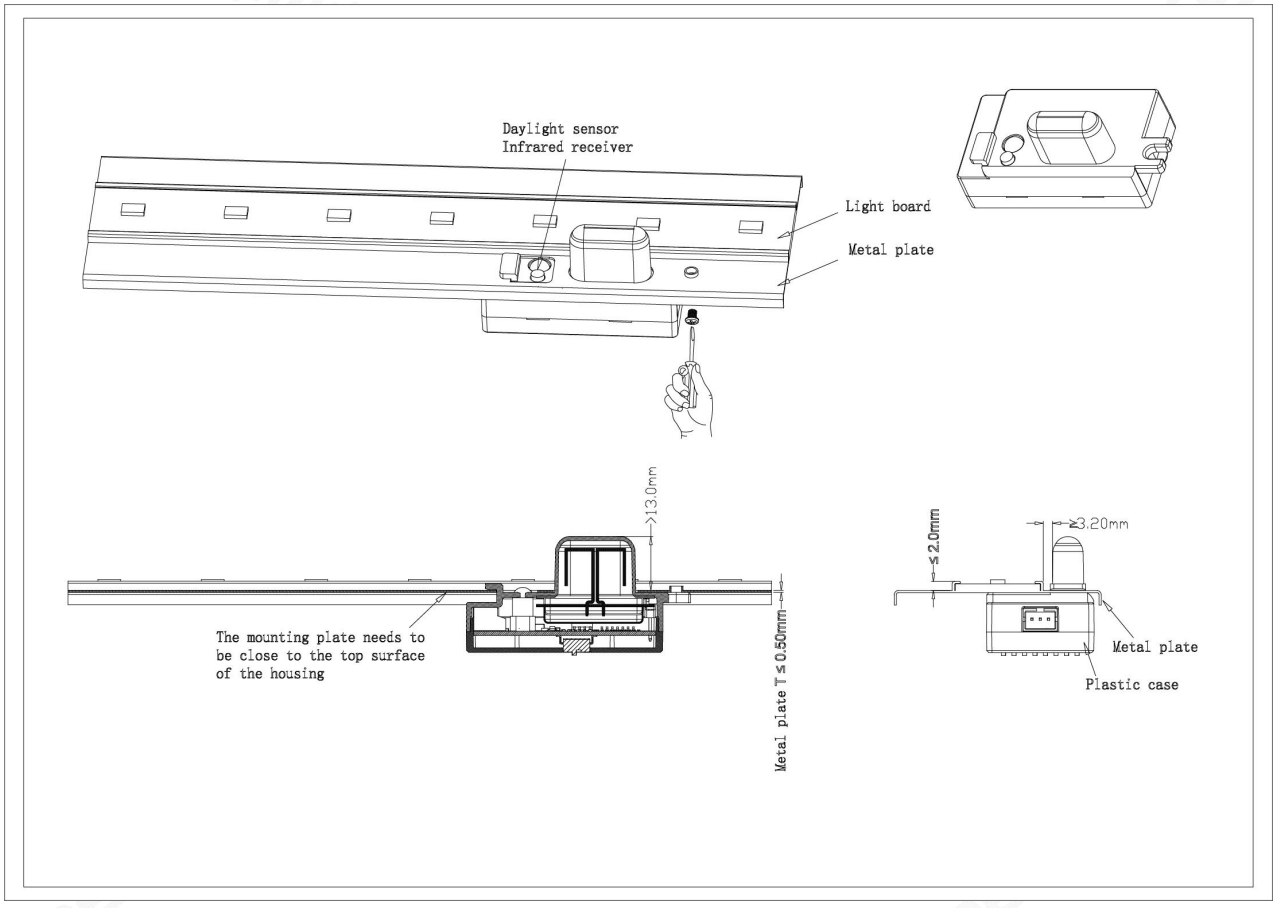


- Function & Wiring



- Installation&Hole size





Note:

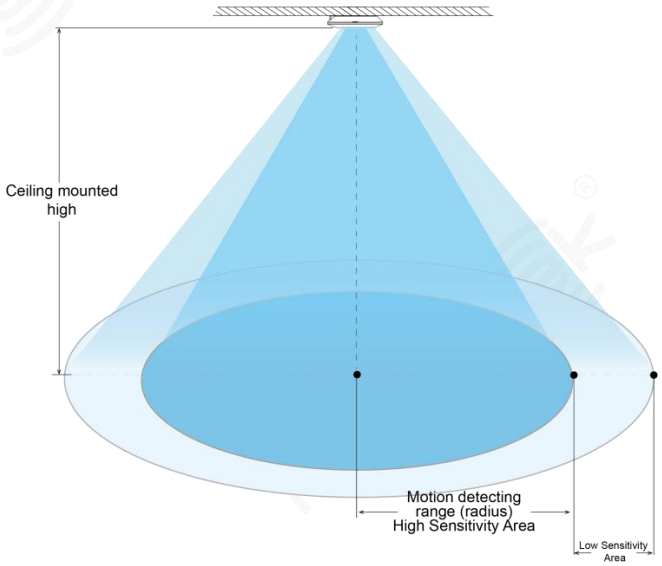
Note: The distance between microwave antenna and the metal plate and lamp housing must be greater than 3.2mm, and the metal plate step should not be higher than 2mm, otherwise it will affect the operation of the microwave antenna.

【DIP Switch Setting】

Function	Detection Area			Hold Time			Daylight Sensor			Stand- by period		
Dial code	1	2	Detection area	3	4	Hold time	5	6	Light control value	7	8	Stand-by period
Ⅰ	ON	ON	100%	ON	ON	5s	ON	ON	5Lux	ON	ON	0s
Ⅱ	ON	-	75%	ON	-	1min	ON	-	15Lux	ON	-	1min
Ⅲ	-	ON	50%	-	ON	3min	-	ON	50Lux	-	ON	3min
Ⅳ	-	-	25%	-	-	10min	-	-	Disable	-	-	+∞

Note: when stand-by period dial code set to+∞, it will enter daylight priority, half-bright shutdown.

- Radiation Pattern



【Remote Control】

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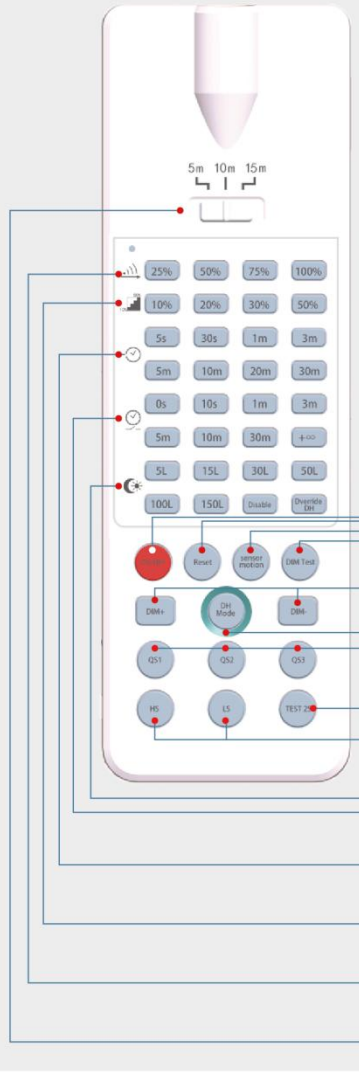
Remote Control Setting	Button	Remarks
	ON/OFF	Press the "ON/OFF" button, the light goes to constant on/off mode, sensor is disabled. Press "Sensor motionto quit from this mode and the sensor starts to work. The button have power-off memory function
	Reset	Press "Reset" button, all parameters are same 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-	Short press"DIM+/DIM-" button to transmit dimming signal. The brightness of the lamp adjusts at 5% per unit. (Set the maximum highlight in ordinary light control mode)
	DH Mode	N/A
	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: Detection area / Hold time /Stand-by period /Stand-by dim level / Daylight sensor can be adjusted by pressing the corresponding button.The latest setting will stay valid.
	TEST 2S	Press the "TEST 2S" bottom can enter the test mode anytime.At the mode, the sensor parameters as below:Detection Area is 100%, Hold Time is 5s, 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 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%	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

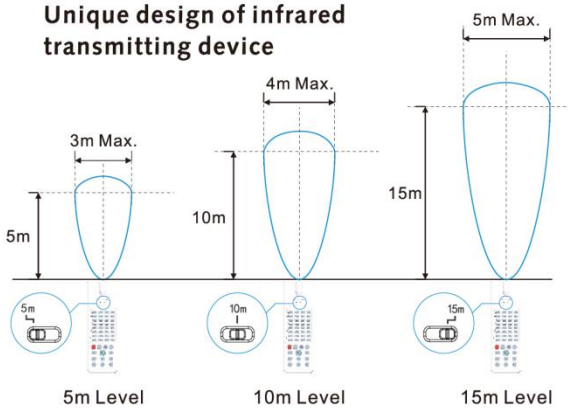
1.DIP switch setting convert to remote control Press any bottom except "RESET" on the remote control, and the sensor settings convert to the function currently selected by the remote control. (No function button settings invalid)

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】

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 Stand-by period: 0s

Stand-by dim level: 20%

【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.

● Sensor are equipped with different PWM drivers, and the low-brightness effect may be different.

● DC regulated power supply with stable output voltage and low ripple coefficient must be used. The ripple of the power supply should be less than 100mV ; the load current should be greater than 30mA