



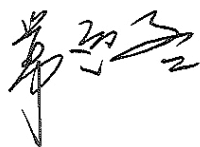
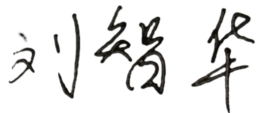
SPECIFICATION

Product Name: Car parking motion sensor

Model No.: MC087V RC

Issue Date: Sept 23, 2022

CUSTOMER APPROVED

PRODUCT DIRECTOR APPROVED	P&M CHECKED	R&D CHECKED	PREPARED
			

1. Features



- Newly designed patent needle, overcome the shortage of traditional needle antenna, no blind detection area
- Stable performance when mount in metal roof warehouse
- Slim cut-hole size, fit for tri-proof light, batten, troffer
- All parameters can be set by remote control
- Override function
- 5 years warranty

2. Parameter

Input	Rated Voltage	120/277V AC 50/60Hz
	Stand-by Power	≤1W
	Surge Test	L--N: 1kV
Output	Working Mode	ON/OFF function, 1-10V step dimming
	Type of Load	Inductive or resistive Load
	Load Capacity	2A @120Vac ,3A@277Vac, 3A@220-240Vac
	Max. Surge Capacity	30A (50%Ipeak,twidth =500uS, 230Vac full load, cold start); 60A (50% Ipeak,twidth=200uS, 230Vac, full load, cold start)
Dim Interface	1-10V Dimming	1-10Vdimming
Sensor Parameters	Operating Frequency	5.8 GHz ±75 MHz, ISM Band.
	Transmitting power	1mW Max.
	Hold time	5s/30s/1min/3min/5min/10min/20min/30min
	Stand-by DIM Level	10%(1.4-1.6V), 20%(1.9-2.1V), 30%(2.9-3.1V) , 50% (4.9-5.1V)
	Stand-by Period	0s/10s/1min/3min/5min/10min/30min/+∞
	Detection Area	100%/75%/50%/25%
	Daylight Sensor	5lux/15Lux/30Lux/50Lux/100lux/150lux/Disable Daylight priority: ON / OFF value (5lux/15Lux/30Lux/50Lux)/150Lux 100Lux/200Lux 150Lux/300Lux Note: The above are initial values. When the lamp is turned on by the Daylight priority for the second time, the off value will learn an optimal value again.

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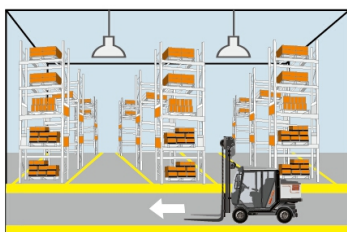
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Website: www.merrytek.com

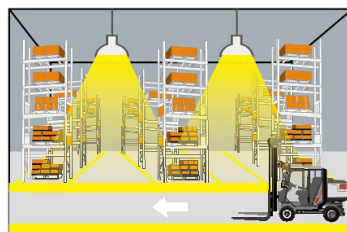
	Detecting Radius	≥3m(mount height 3m, moving speed 1m/s)
	Mounting Height	6m Max
	Detecting Angle	150°
Operating Environment	Operating Temperature	-25°C...+60°C
	Storage Temperature	Temperature:-40°C...+80°C; Humidity:10%-95% (non-condensing)
Certificate Standards	Safety standards	EN61058-1, UL60703-1
	EMC standards	EN300440; EN301489-1; EN55015; EN61547; EN61000-3-2; EN61000-3-3; EN62479
	Environmental Requirement	Compliant to RoHS
	Certificate	CE UL
Others	Input/output terminal specifications	Push-type terminal block; Input wire diameter: 0.75-1.5mm ² Output wire diameter: 0.5-1mm ²
	IP Rating	IP20
	Protection Class	Class II
	Installation	Built-in installation
	Dimension	See dimension
	Package	Bubble bag + partition + outer box (K=A)
	Net Weight	55g
	Lifetime	5 years warranty@Ta 230V full load
<p>Note</p> <p>1. "N/A" means not available.</p> <p>2. Detection area is effected on volume of motion object and motion speed. The detection area is tested by a 165cm height person and walking speed is 0.3m/s.</p>		

3. Function

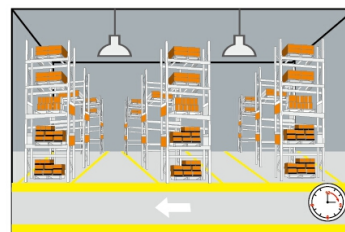
1) On/OFF Function (stand-by period be set to "0"s)



① With sufficient ambient light, the light will not be switched on even if with motion signal.



② With insufficient ambient light, the sensor switches on the light when motion is detected.



③ After elapse of hold time, the sensor switches off the light when no motion is detected.

2) 2-step dimming function (stand-by period be set to "+∞")

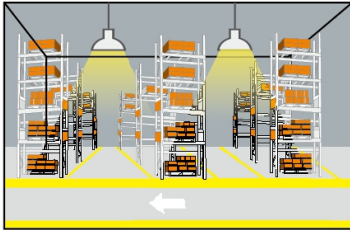
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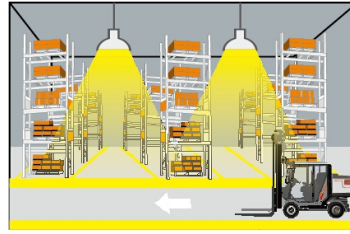
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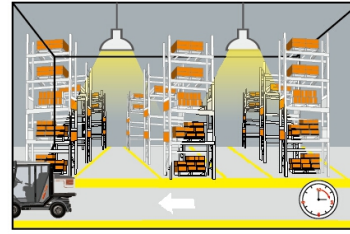
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1 If there is no motion detected, the light will be remained at a low light level all the time.

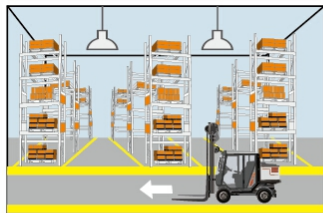


2 When motion is detected, the sensor will switch on the light to 100% brightness

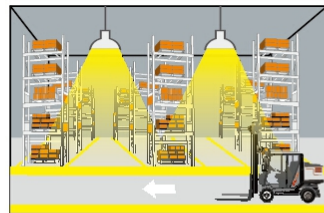


3 After elapse of hold time, the sensor dims the light at the present low light level if no motion is detected.

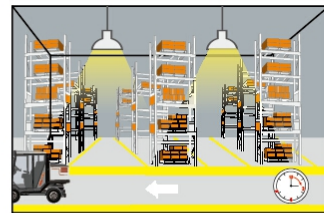
3) 3-step dimming function (stand-by period 设置为“10S/1min/3min/5min/10min/30min”)



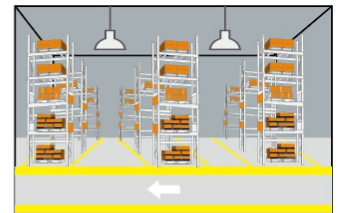
1 With sufficient ambient light, the light will not be switched on even if with motion signal.



2 With insufficient ambient light, the sensor switches on the light when motion is detected.

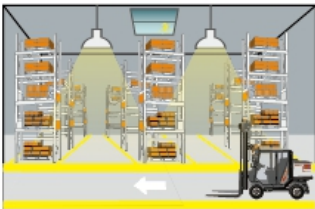


3 After elapse of hold time, the sensor dims the light at a low light level if no new motion is detected.

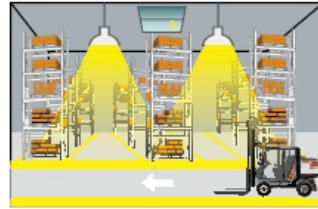


4 After elapse of standby period, the sensor switches off the light if no motion is detected in the detection zone.

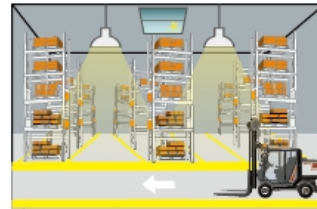
4) Daylight priority(Long press 3S MH10 “DH Mode”, daylight sensor be set to “5lux/15lux/30lux/50lux/100lux/150lux”)



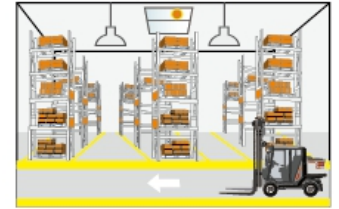
1 Lamp turns on at low light level 10% in the night.



2 Motion detected, lamp automatically lights up to 100%.

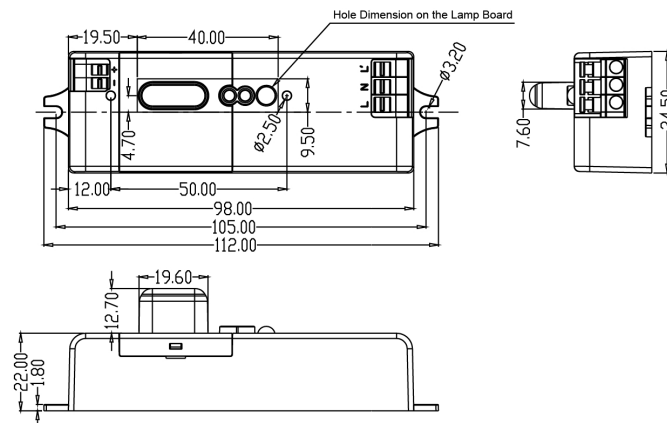


3 After hold time, the lamp gradually dims to a low light level 10% if no movement detected.



4 Lamp turns off after dawn.

4. Dimension (mm)



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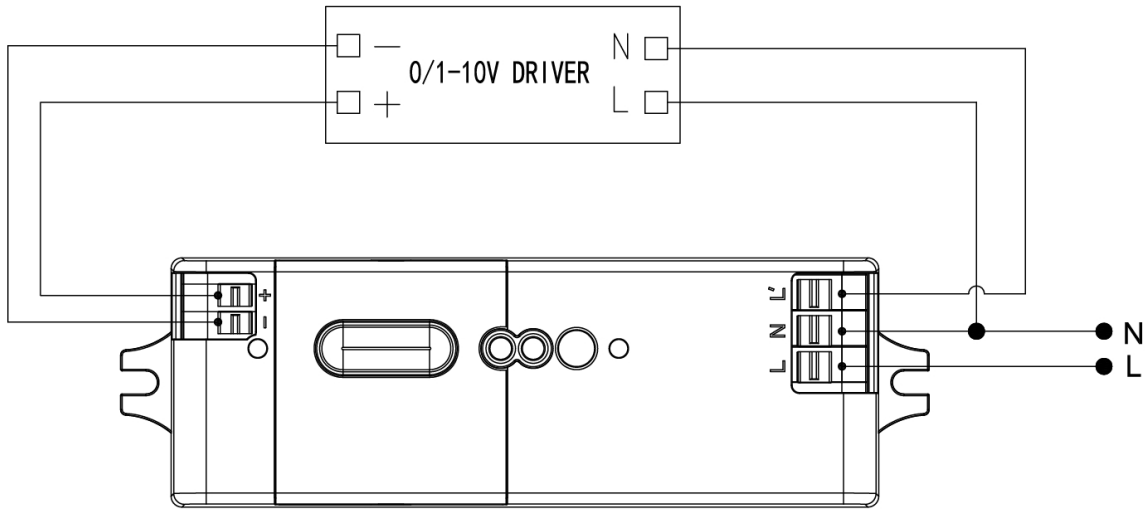
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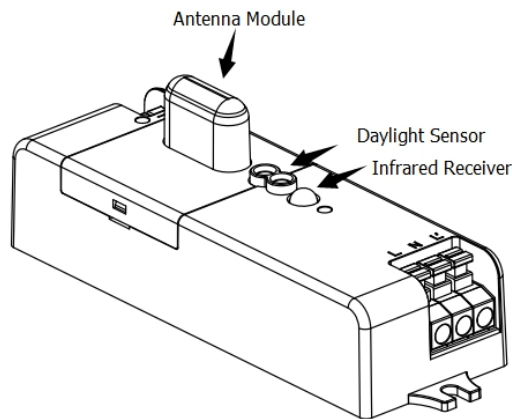
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5. Wiring



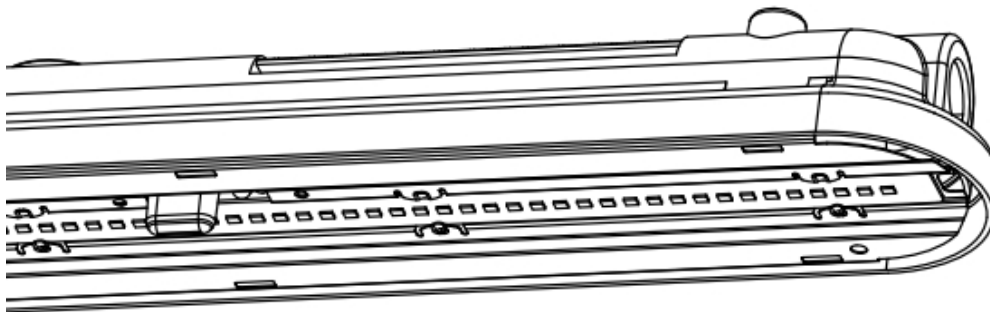
*The sensor is designed for connect one load only. Connect more than one loads may damage the sensor.

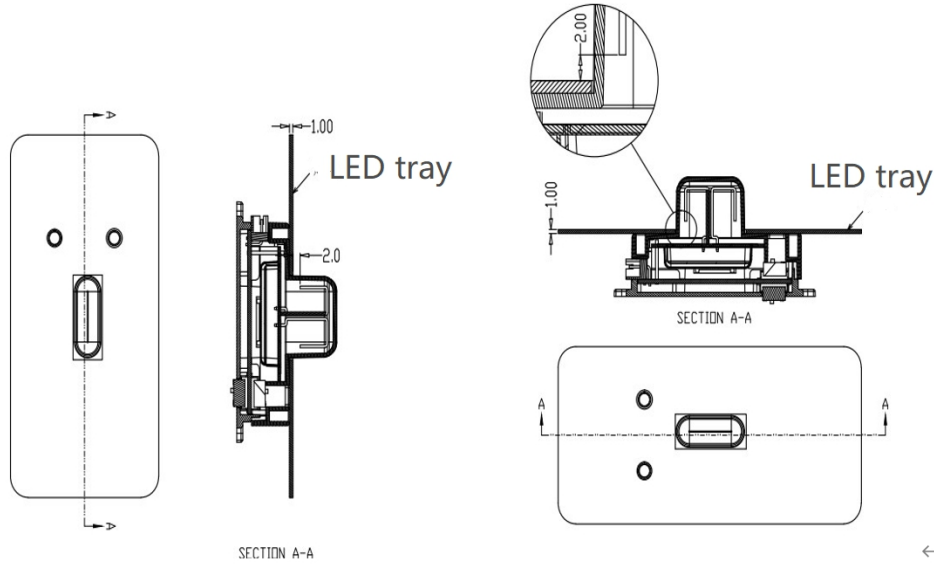
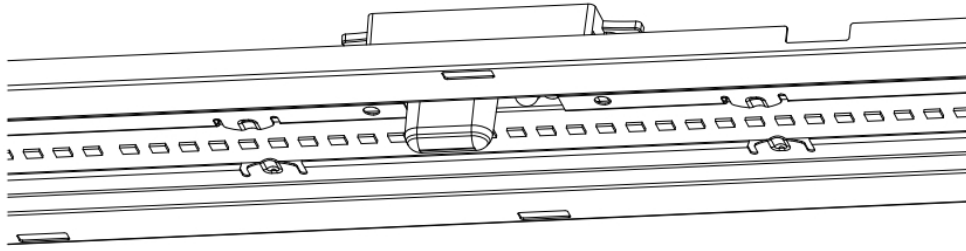
6. Function Diagram



7. Installation directive

Sensor antenna must be out of LED plate

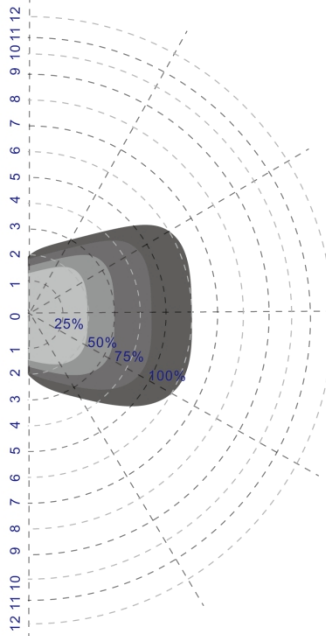




Note: Sensor antenna should be above LED tray at least 2mm.

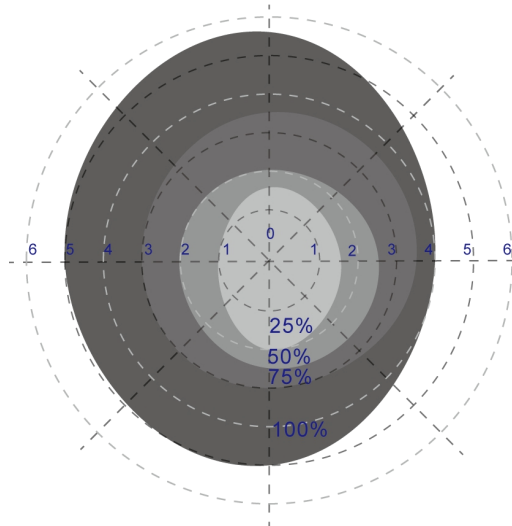
8. Radiation Pattern

Wall Mounting height: 2m
Detection area:
100%/75%/50%25%



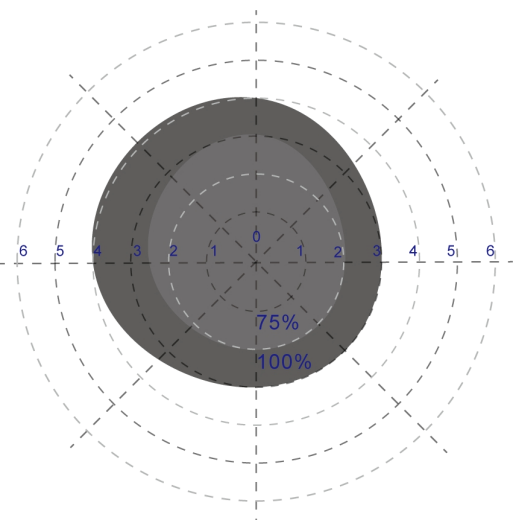
Moving speed: 1m/s

Ceiling Mounting height: 3m
Detection area: 100%/75%/50%25%

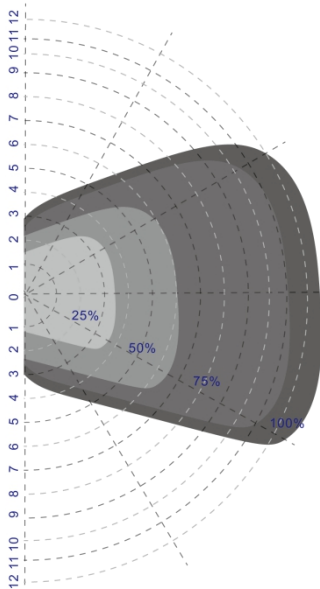


Moving speed: 1m/s

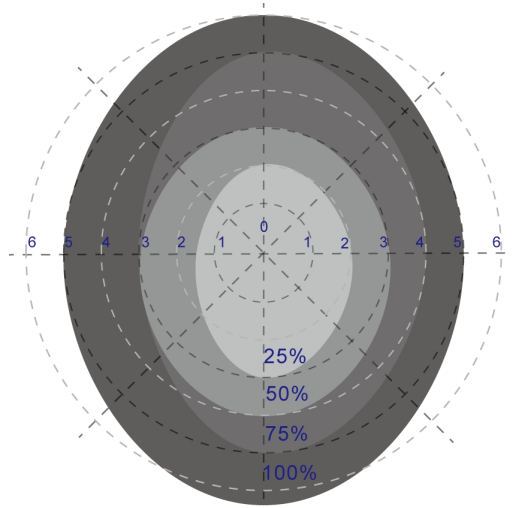
Mounting height: 6m(*)
Detection area: 100%/75%



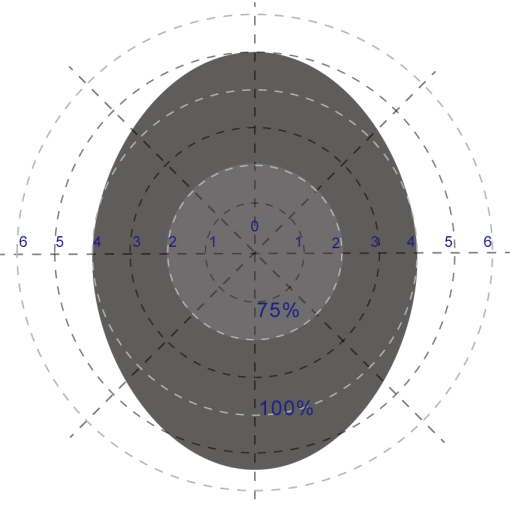
Moving speed: 1m/s



Moving speed: 0.3m/s



Moving speed: 0.3m/s



Moving speed: 0.3m/s

*When mount 6m in height, sensor can detect motion sensor @100%/75%

9. Remote Control



MH10
Instruction

Remote Control Setting	Button	Remarks																								
	ON/OFF	Press "ON/OFF", the load lamp will enter normal ON/OFF mode, sensor function will be override. This mode hasn't memory function, sensor motion will be restart after power on again.																								
	Reset	Press "RESET", sensor parameters return to default setting.																								
	Sensor motion	Press "Sensor motion", return to sensor mode (previous parameters setting is valid)																								
	DIM Test	Press "DIM Test" button, the 1-10V dimming works to test whether the 1-10Vdc dimming ports are connected prooperly. After 2s, it returns to the latest setting automatically.																								
	Override DH	Long press 3S to exit the daylight priority mode.																								
	DIM + DIM -	Short press "DIM+/DIM-" to dim up/down load, each press will dim 5% of full power Dimming range: 50% to 100% Note: Press "DIM+ / DIM-" to dim up/down load in normal ON mode																								
	DH Mode	Long press 3S to enter the Daylight Priority function Note: long press the "Override DH" key for 3S and short press the "Disable" key to exit the Daylight Priority function and enter the normal Daylight Control mode.																								
	Q1 Q2 Q3	<table border="1"> <thead> <tr> <th>Scence Options</th> <th>Dection Area</th> <th>Hold Time</th> <th>Stand-by period</th> <th>Stand-by dim level</th> <th>Daylight Sensor</th> </tr> </thead> <tbody> <tr> <td>QS1</td> <td>100%</td> <td>5min</td> <td>10min</td> <td>10%</td> <td>30Lux</td> </tr> <tr> <td>QS2</td> <td>100%</td> <td>10min</td> <td>30min</td> <td>10%</td> <td>Disable</td> </tr> <tr> <td>QS3</td> <td>100%</td> <td>20min</td> <td>30min</td> <td>10%</td> <td>Disable</td> </tr> </tbody> </table> <p>Note: Dection 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.</p>	Scence Options	Dection Area	Hold Time	Stand-by period	Stand-by dim level	Daylight Sensor	QS1	100%	5min	10min	10%	30Lux	QS2	100%	10min	30min	10%	Disable	QS3	100%	20min	30min	10%	Disable
Scence Options	Dection Area	Hold Time	Stand-by period	Stand-by dim level	Daylight Sensor																					
QS1	100%	5min	10min	10%	30Lux																					
QS2	100%	10min	30min	10%	Disable																					
QS3	100%	20min	30min	10%	Disable																					
	TEST 2S	Press the "Test 2S" botton can enter the test mode any time. 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																								
	Stand-by dim level	Set up stand-by dim level: 10%/20%/30%/50%																								
	Detection Area	Set up detection area: 25%/50%/75%/100%																								
	Remote Distance	Toggle bottom can set the remote distance of remote control and sensor.																								

11. Factory Setting

Detection area: 100%, Hold Time: 5S, Stand-by Period: 0S, Stand-by dim level: 10%, Daylight Sensor: Disable

13. Application Notice

1) The sensor should be installed by professional electricians. Please turn off power before installing, wiring, and setting parameters.

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- 2) 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 the product. If antenna needs to pass through the metal flat, please ensure that the top of sensor is close to the metal flat.
- 3) The distance among sensors should be greater than 3 meters. Keep sensor at least 1.5 meters away from switches, routers and other wireless devices to avoid interference. The antenna surface of microwave sensor should be away from input AC and output DC to avoid low or high frequency signals affecting the normal operation of microwave sensor's antenna.
- 4) 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 trigger sensing.
- 5) Sensor is for indoor use only. When installed outdoor or half-outdoor, the waterproof effect will be affected. Wind, rain, and moving objects may cause false triggering. When the sensor is installed in a metal lamp, on a metal reflective surface, or in a narrow enclosed device, microwave will be reflected repeatedly and cause false triggering. Please reduce the sensitivity of sensor or contact manufacturer for technical support.
- 6) This product is suitable for ceiling mounting. If wall mounting, the detecting area will enlarge which makes microwave penetrate wall or light not turn off. Please change sensitivity to 25%. If 25% is useless, please avoid wall mounting or contact the manufacturer for technical support.
- 7) Due to continuous improvement, the contents of this instruction will be changed without prior notice.
- 8) The effect of low brightness will be different when connecting to different 1-10V drivers. 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.
- 9) Sensitivity area is related to moving speed of objects, size of moving objects, mounting height, mounting angle, installation environment, reflecting materials and others.
- 10) Given detecting area is typical value that is measured by 165cm high testers in an indoor open environment.
- 11) When installing in new environment, please install and test at least 5pcs product firstly before mass installation.
- 12) This product is only suitable for surface mounting