Rayvenlights®

Foshan Rayven lighting Co.,Ltd

Product specification

Description	Ceiling light radar sensor module (wireless master-slave)	
Model No.	RAVOLI2300B / RAVOLK2300B	
Version	1.0.0V	
Page	9 Pages	
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1.Features

1) The sensing distance is farther than the infrared sensing module, the angle is wider, and there is no dead zone, lens and lens aging problems

2) Not affected by temperature, humidity, airflow, dust, noise, light and dark, etc., and has strong anti-interference ability

3) Can penetrate acrylic, glass and thin non-metallic materials

4) Built-in MCU, embedded with multiple digital filtering algorithms, has higher immunity, small size and low power consumption

2. Electrical parameters

Input	**Voltage range**	DC-12V
	Standby power consumption	⩽1W
Output	**Mode**	PWM modulation pulse
Sensing parameters	**Operating frequency**	5.8GHz± 75MHz band
	Detection range (radius) (installed at 3 meters high)	4-5m/3-4m/2-3m/constant light (remote control adjustment)
	Sensing delay setting	30 seconds/3 minutes/5 minutes (remote control adjustment)
	Second-order delay setting	30 seconds/3 minutes/5 minutes (remote control adjustment)
	Photosensitive threshold setting	10Lux/30Lux/50Lux/light sensitivity off (remote control adjustment)

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	Second-Stage brightness	50%/30%/10%/second order off (remote control adjustment)
	Factory default parameters	Detection range: 4-5 meters Sensing delay setting: 30 seconds Second-order delay setting: 30 seconds Photosensitive threshold setting: turn off photosensitivity Second-order brightness: 10%

1. The test distance range is based on the module installed in the lamp at a height of 3m, indoor environment test, tester height 178cm, weight 65-75kg, walking speed 1m/s (2 steps per second), different scene installation may cause the range to change, please refer to the actual test
2. Due to the spectral characteristics of the photosensitive device, the threshold is uniformly tested under natural light conditions
3. The delay time can be customized according to customer needs, the delay tolerance is ±10%

Wireless parameters	**Operating frequency range**	2.4GHZ
	Number of channels	8
	Signal strength	-12.2dbm
	Data rate	62.5kbps
	Transmission distance	100m
	Number of groups	8 Groups
	Number of single groups	Recommended: 30-50

1. Supplement
2. 1. Due to environmental factors, the communication distance between lamps may not be received. The actual installation distance needs to be adjusted according to local conditions
3. 2. Because the lamps use 2.4G radio communication, there may be air channel congestion. It is recommended to view or synchronize operations within the group before installation or within the visible range
4. Before data synchronization, it is recommended to use the view group function to let members enter the radio silent state to ensure that the instructions are received as soon as possible

3. Function Description

1) The radar function is turned on, but the light intensity detection is not turned on.

When the sensor detects a motion signal, the light will turn on.

After the delay time, if no motion signal is detected, the light will be adjusted to a set low brightness.

After the waiting time, if no motion is detected in the detection area, the light will automatically turn off.

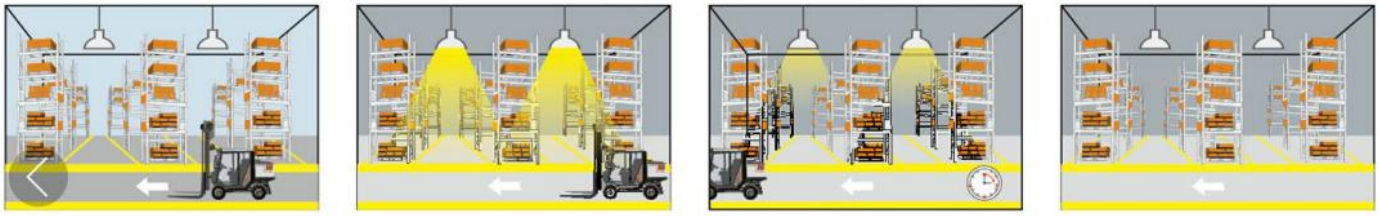
2) Stay behind function

When the ambient light is sufficient, it will not turn on even if there is mobile signal

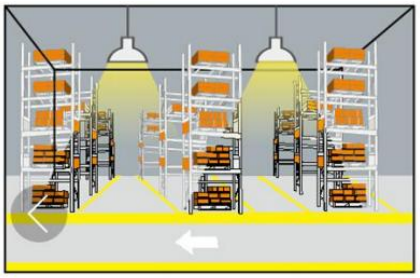
When the ambient light is insufficient, the sensor detects movement signals and the lights turn on

After the delay time, if no mobile signal is detected, the light will be adjusted to a set low brightness.

After the waiting time, if no movement is detected in the detection area, the light will automatically turnoff.



3)Always on



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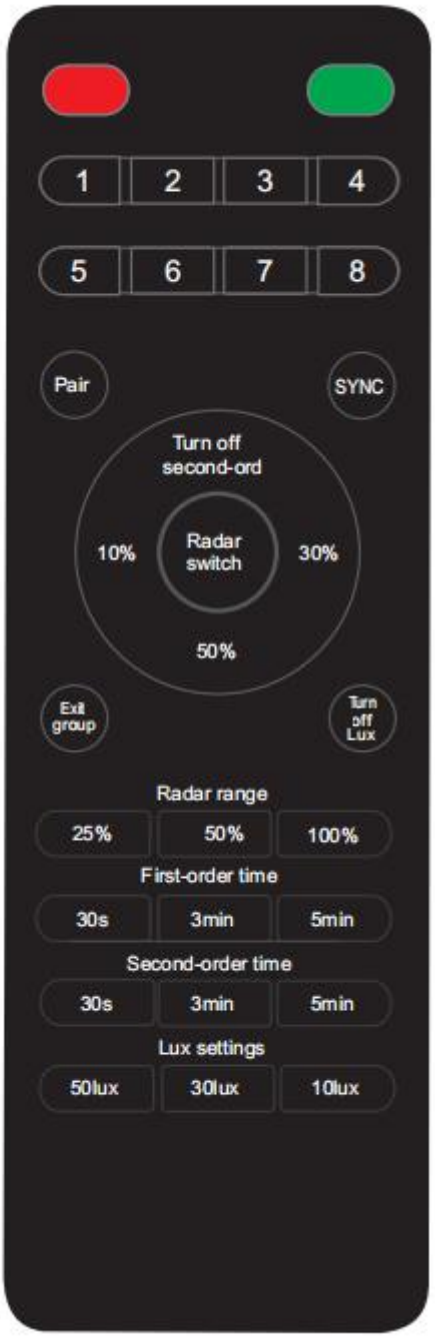
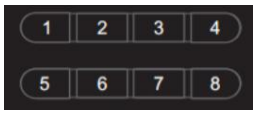
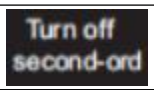
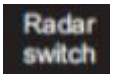
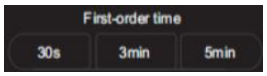
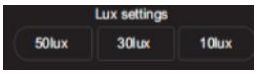
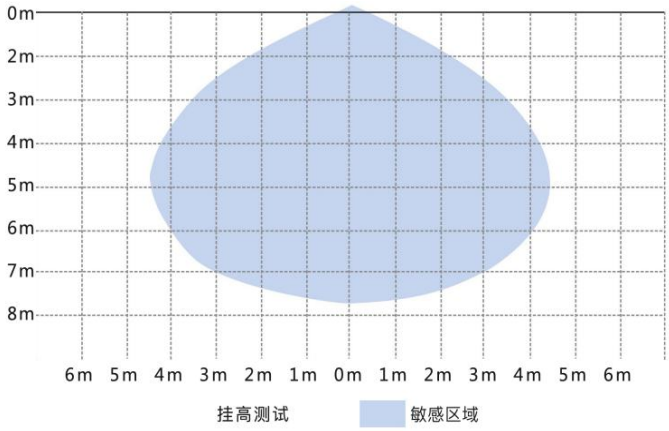
4. Remote Control setting



	Switch the ON/OFF wireless communication function
	Short press: view the group members Long press: the group number of the paired members
	Long press to enter pairing mode
	Long press to enter group parameter synchronization
	Disable second-stage delay
	Second stage brightness setting
	
	
	Turn on or off the radar sensor function
	Long press to exit the team
	Turn off Photosensitivity
	Radar sensitivity setting
	First-Stage delay time setting
	Second-Stage delay time setting
	Light-sensitivity threshold setting

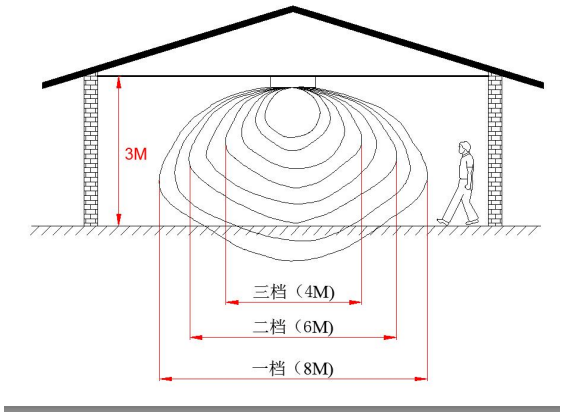
5. Radiation Pattern

Ceiling installation:



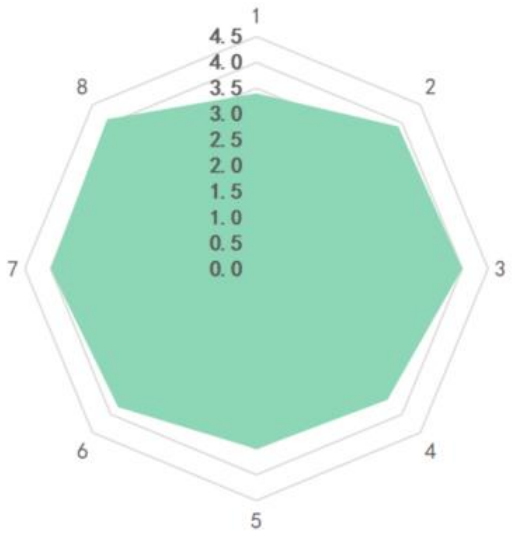
Radar radiation area map:

(high installation, schematic diagram above the lamp)



Radar radiation area map:

(3m installation, schematic diagram)



6. Startup process and initialization

When the sensor is powered on for the first time, the light will turn on to 100% brightness, and then turn off after 5 seconds. During the initialization period, the sensor will not detect external motion sensing signals.

7.Application Notes

1. Sensor lamps should be installed by professional electricians. Please cut off the power before installation, wiring, changing settings, etc.
2. The product has good penetrating ability to plastic, wood, etc., but there should be no metal accessories, metal casing, glass casing, etc. in front of or near the antenna of the microwave module, otherwise it will affect the transmission and reception of the microwave antenna.
3. This product is only suitable for indoor installation. When installed semi-outdoor or outdoors, wind or rain may be regarded as mobile signal triggering.

4. The antenna surface of the sensor should avoid facing the AC driving power supply, and should be kept away from high-power devices such as rectifier bridges, transformers, and switching tubes of the driving power supply.
To prevent power frequency signals from interfering with the microwave module.
5. The sensing distance is related to factors such as the moving speed of the moving object, the size of the moving object, the installation height, the installation angle, whether the installation environment is open, and the material of the reflector. The detection distances given in the specifications are typical values, measured by a 175cm tall tester in an open indoor environment. The detection distance when installed on the wall will be greatly increased compared to that when installed on the ceiling. If you use wall installation, please reduce the sensitivity or use it in conjunction with
Contact our company to confirm the usage settings.
6. Long-term vibrating equipment or moving objects should be avoided around the sensor. The vibration signal will be regarded as a moving signal to trigger the induction.
7. If a pet passes by in the detection area, the sensor may be triggered.
8. The light sensitivity threshold is in a sunny environment, no shadows, and ambient light diffuse reflection conditions. In different time periods, climates, and environments, the illumination values detected by the light sensor may be different.
9. It is recommended that the installation distance between the product and the router should be greater than 1.5m.
10. The installation plane of the product (for example: aluminum substrate, PCB board) needs to be a certain height different from the antenna plane of the microwave module.
The line plane should be more than 5mm higher than the nearby plane to achieve the best detection effect.
11. The product cannot detect mobile signals during the power-on self-test process and will work normally after initialization.