

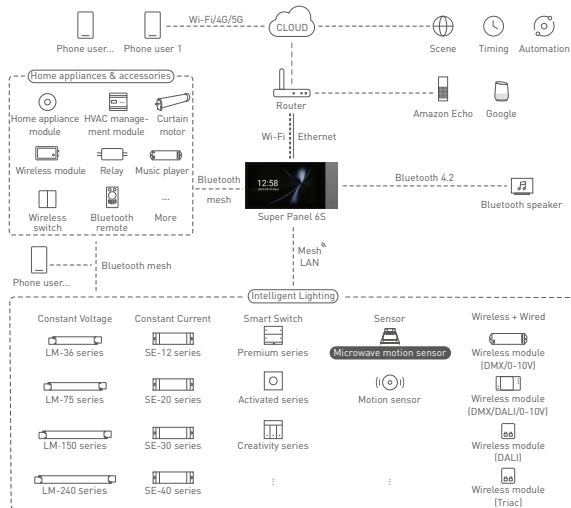
LTECH

MR04-LBS Microwave Motion Sensor



Manual
www.ltech-led.com

System Diagram



Product Features

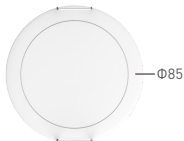
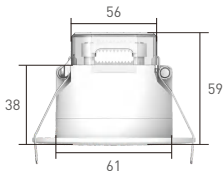
- Apply motion sensing technology to detect human motions in a detection area.
- Run on the Bluetooth 5.0 SIG Mesh system; Link with other Bluetooth devices to trigger cloud scenes and advanced lighting control.
- Support execution of local scenes without a gateway or the Internet needed, which run faster and stably.
- Support sensor grouping function to easily control multiple lights from one location.
- Control lights intelligently and accurately with high sensitivity and high anti-interference capacity.
- Turn relay turns on/off, making sensors ideal for corridors, stairways, offices, etc.
- Use zero-crossing detection technology so current flowing through the relay contacts is close to zero at the moment when the relay is turned on or off, effectively improving the lifetime of a relay.
- Ceiling mounted sensors fit well for homes, offices, shopping malls and more to easily achieve smart lighting control.
- Easily set parameters via dip switches, the infrared remote, or via the mobile APP.

Technical Specs

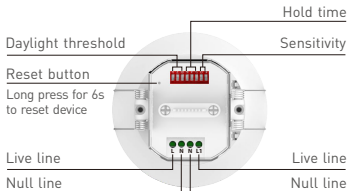
Input	Input voltage	120-277Vac, 50/60Hz
	Inrush current testing	2KV
Output	Operating mode	Bluetooth 5.0 SIG Mesh, relay
	Load type	Capacitive/resistive load
	Load capacity	≤500VA(Capacitive load), ≤1000W(Resistive load)
	Transmit power	0.3mW
	Stand-by power consumption	≤1.5W
Parameters	Operating frequency	5.8GHz
	Sensitivity	100%, 75%, 50%, 25%
	Hold time	5S, 30S, 1min, 2min, 5min, 10min, 20min, 30min
	Daylight threshold	2lux, 10lux, 25lux, 50lux, Disable
Environment	Working temperature	-20°C~55°C
	Storage temperature	-40°C~80°C
Others	Terminal specs	Wire diameter: 0.5-2.5mm ² /22-14AWG Strip length: 5-6mm
	IP grade	IP20
	Mounting type	Ceiling type
	Hole size for installation	Φ65mm-Φ70mm (recommend Φ65mm)
	Net weight	97g
	Dimensions	Φ85×59mm
	Package size	93×93×80mm(LxWxH)

Product Size

Unit: mm

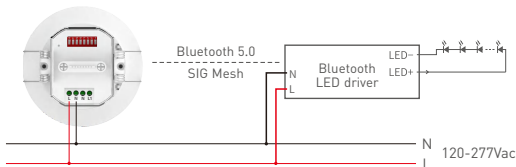


Product Structure



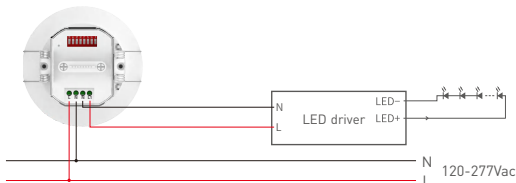
Wiring Diagram

Bluetooth Connection



Note: When a smart device is connected to the port of the relay and the relay turns off, the smart device won't respond to any control commands since it has no power supply.

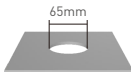
Wired Connection



Note: The built-in relay allows max. 8A of resistive load or inrush current of less than 65A.

Installation Steps

1. Drill a 65mm hole (2.56 inches) in a desired position of the ceiling.



2. Use a small flat head screwdriver to pry the cover off.



3. Connect the wires.



4. Secure the small board to fix the wires and close the cover.



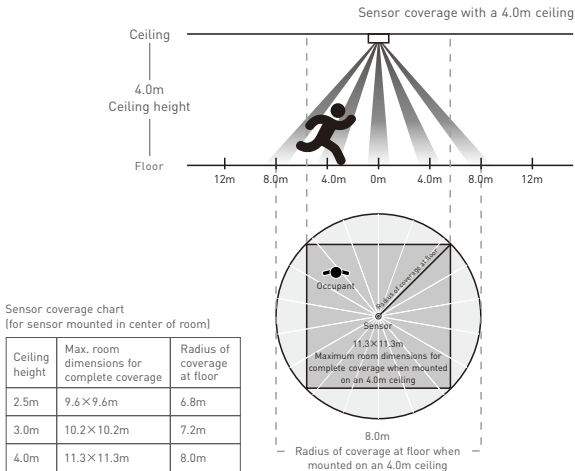
5. Pull the spring clip upward while insert the sensor into the predrilled hole.



6. Please make sure you can mount it flat on the ceiling.

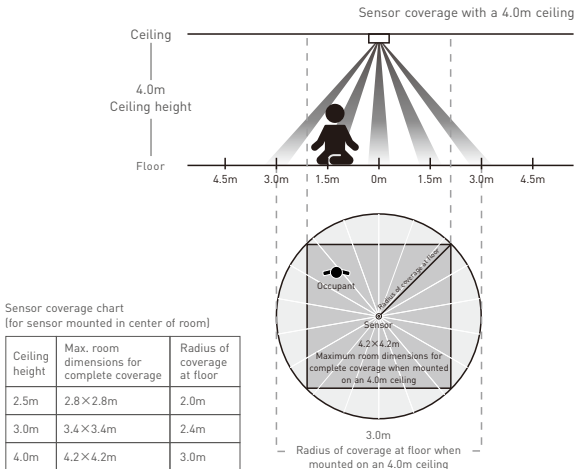


Range Diagrams for Big Motion Detection



Note: Multiple sensors can be added for extended coverage—refer to product specification submittals of receiving device to determine system limits

Range Diagrams for Minute Motion Detection



Note: Multiple sensors can be added for extended coverage—refer to product specification submittals of receiving device to determine system limits

Dip Switch Settings



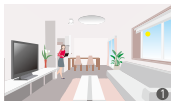
Dip switch 1-2: Sensibility. Based on the positions of dip switch 1,2, the sensor offers different sensibility options for different detection range.

Dip switch 3-5: Hold time. Lamp remains 100% illuminated over this time period after no motion is detected.

Dip switch 6-8: Daylight threshold. The sensor can be set up to work based on the ambient light level. When the ambient light is 2lux, 10lux or even reaches 25lux, 50lux, the sensor will trigger the light fixture to turn on. "Disable" mode will disable the ambient light sensing feature, which means the light fixture will be triggered to turn on once a motion is detected regardless of the ambient light level.

	Sensibility			Hold time				Daylight threshold			
ON	1	2		3	4	5		6	7	8	
	●	●	100%	●	●	●	5s	●	●	●	2lux
●	●	○	75%	●	○	○	30s	●	○	○	10lux
	○	●	50%	○	○	○	1min	○	●	○	25lux
○	○	○	25%	○	●	●	2min	○	○	●	50lux
				○	○	○	5min	○	○	○	Disable
				○	○	○	10min				
				○	○	○	20min				
				○	○	○	30min				

Functions



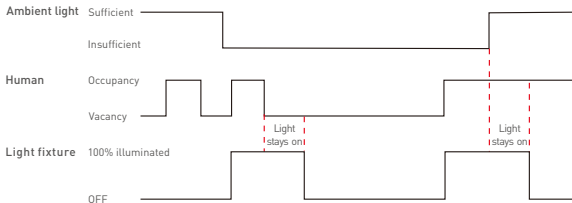
❶ With sufficient ambient light (light sensing feature enabled), the light fixture won't switch on even when a motion is detected.

❷ With insufficient ambient light (light sensing feature enabled), the light fixture will switch on when a motion is detected.



❸ When the sensor does not detect a motion, time will start counting down according to the preset hold time. After the hold time passes, the light fixture will automatically switch off. If a motion is detected during the hold time, time will start counting down again after no motion is detected.

Sensor working principle diagram



Group Control Function

When multiple sensors are installed in a certain area and are grouped together, all lights will turn on/off simultaneously once any sensor detects human motions. This function can expand the sensor coverage area and effectively reduce both false detections and missed detections (Please refer to Page 15 in this manual for more details).



When no motion is detected, all lights will turn off.



When the ambient light is insufficient and a motion in any direction is detected, all lights will turn on.



After the hold time ends and no motion is detected, all lights will turn off simultaneously.

Recommended Applications

1. Connect to a traditional lamp and turn it into smart one.



2. Work with a Bluetooth LED driver to wirelessly control the lamp.



3. Link the Super Panel 6S with App to achieve cloud scenes and automation.



4.More applications of intelligent control are waiting for you to set up.

App Operating Instructions

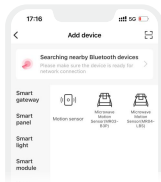
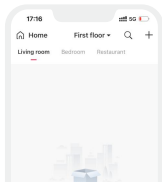
1. Register an account

Scan the QR code below with you mobile phone and follow the prompts to complete the app installation. Then open the App and log in or register an account.



2. Connect to the network

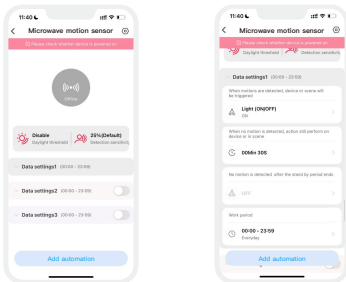
Create a home if you are a new App user. Long press the reset button of the sensor for more than 6s to trigger network connection until the buzzer beeps. Click 【+】 icon in the upper right corner of “Room” interface to access “Add device” page. Pick 【Microwave motion sensor】 and follow the on-screen prompts to add the device.



3. Control interface settings

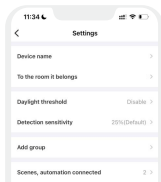
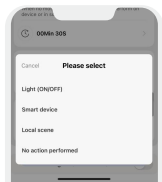
In **Room** interface, click the microwave motion sensor you have added to access its control interface. Tap **🔴** icon to enable/disable the sensor, **☀️** icon to set the daylight threshold and **📶** icon set the detection sensibility.

In “Sensor settings”, click **When motions are detected, the following will be triggered** to select a trigger action such as a light (ON/OFF), a smart device, a local scene or no action performed; Click **When no motion is detected, action still performs within** to set the hold time; Click **No motion is detected after the stand-by period ends** to set the device status after no motion detected (only when you select a smart device or a local scene as a trigger action can you change the device status after no motion detected; when you select a light (ON/OFF) or a smart light (with a 0-10V/DALI driver) as a trigger action, the default state for the light is “OFF” after no motion detected.



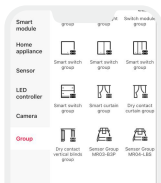
4. Power on relay always

In “Sensor settings”, when you click **【When motions are detected, the following will be triggered】** to select a trigger action such as a smart device, a local scene or no action performed, go to “Settings” page by clicking **【⚙️】** at the top-right corner where “Power on relay always” button is displayed. When the button is turned on, the relay will remain powered and won’t turn off in the automation/scene despite the setting. When it is turned off, the relay status will change according to the microwave detection situation. The relay will turn on when motions are detected and will turn off when no motion is detected. You also can go to automation/scene setting to set the executing action as the relay turning on/off.



5. Sensor group

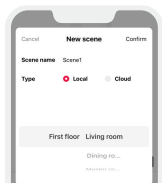
Click the **【+】** icon at the top-right corner of the “Room” interface and pick **【Group-Sensor group】** from the device list. Create a group and set the group name and the room it belongs to. Then click the devices you want to group together. Once the group is created successfully, the device data of the group will be synchronized to the group to achieve synchronous control.



6. Local scene

Create a local scene: Switch to the "Intelligence" interface and click **【+】** icon at the top-right corner to create a local scene. After you set the executing action, the local linkage between Bluetooth devices can be achieved.

Bind a local scene: In the control interface, click **【Sensor settings】** — **【Local scene】** to pick a scene and save it. When the preset condition is triggered, the bound local scene can be performed.



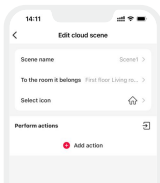
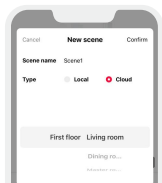
Create a local scene



Bind a local scene

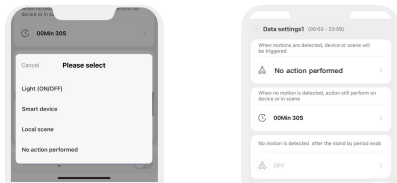
7. Cloud scene

Please be sure a smart gateway is added to your home, such as Super Panel 6S. Tap **[+]** in "Intelligence" interface and click **[+]** icon to create a cloud scene. After you set the executing action for the scene, the remote linkage can be achieved.



8. Automation

Before setting automation, you need to click **【When motions are detected, the following will be triggered】** in sensor settings to pick “No action performed”, which is used as the trigger condition or as the executing action in the automation for multiple set time periods. In sensor settings, set up hold time, then the executing action for sensor automation will be delayed over a period of time when the sensor detects no motion.



For example, set the hold time to 30 seconds.

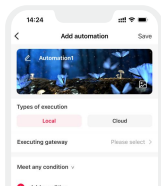
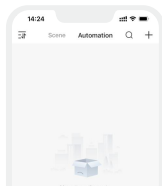
Execution period of automation	Trigger condition	Executing action
8:30~12:00	Sensor detects occupancy	Lights on
14:00~19:00	Sensor detects occupancy	Lights on

When the sensor detects no motion, the executing action for automation will have a 30 second delay.

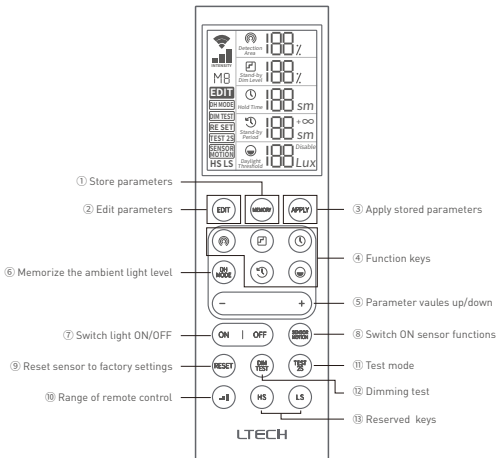
Execution period of automation	Trigger condition	Executing action
8:30~12:00	Sensor detects vacancy	Lights off
14:00~19:00	Sensor detects vacancy	Lights off

Tap **Automation** in “Intelligence” interface and tap **[+]** icon at the top-right corner to create automation, then set a trigger condition and an executing action. When the condition you set are met, a series of device actions will be automatically triggered to perform and remote linkage is achieved as well.

Note: Sensor can be set as a trigger condition or as an execution action.



Infrared remote control



Note: Please refer to LR1 manual for specific instructions of infrared remote control.

FAQs

1. How to reset a switch to factory defaults?

Method 1: In the sensor's control interface of the APP, tap **⊗** icon in the upper right corner to go to the settings, and click **[Delete device]** .

Method 2: Long press the reset button on the microwave motion sensor for more than 6s until the buzzer makes three beeps, meaning the sensor has been reset to factory defaults.

2. What should I do if I fail to search the device via APP?

- Please make sure the device is powered on normally and is in the activated state.
- Please keep you mobile phone and device as close as possible. The recommended distance between them is no more than 15 meters.
- Please make sure the device hasn't been added yet. If it has, please reset the device to factory defaults manually.

Attentions

- This product should be installed and commissioned by a qualified professional.
- The higher the sensitivity you set, the farther the range the sensor can detect. If microwaves pass through walls or a mistrigger is caused, sensitivity needs to be lowered to shorten the detection range.
- The installation area should keep away from metal boards, concrete walls and beams to prevent microwave signal being blocked.
- The installation area should keep away from glass, plasterboards and other materials that microwave can easily pass through to avoid accidental triggers.
- The sensor should keep away from exchangers, routers and other wireless devices. The installation distance should be at least 2 meters away from them to avoid radio interference.

- If pets move through the detection area, they might mistrigger the sensor.
- If multiple sensors are installed side by side, they should be more than 1 meter apart to ensure the sensors can work individually.
- This product is non-waterproof, Please avoid the sun and rain.
- When installed outdoors, please ensure it is mounted in a water proof enclosure.
- Good heat dissipation will extend the life the product. Please install the product in a environment with good ventilation.
- If a fault occurs, please do not attempt to fix the product by yourself. If you have any question, please contact the supplier.

Warranty Agreement

- Warranty periods from the date of delivery: 5 years.
- Free repair or replacement services for quality problems are provided within warranty periods.

Warranty exclusions below:

- Beyond warranty periods.
 - Any artificial damage caused by high voltage, overload, or improper operations.
 - Products with severe physical damage.
 - Damage caused by natural disasters and force majeure.
 - Warranty labels and barcodes have been damaged.
 - No any contract signed by LTECH.
1. Repair or replacement provided is the only remedy for customers. LTECH is not liable for any incidental or consequential damage unless it is within the law.
 2. LTECH has the right to amend or adjust the terms of this warranty, and release in written form shall prevail.

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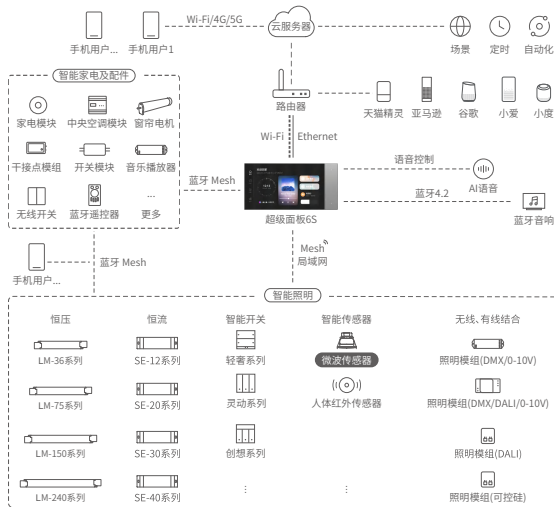
MR04-LBS 微波传感器



产品说明书

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系统图



产品介绍

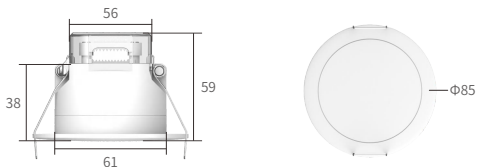
- 应用移动感应技术，可检测区域内人体运动，实现更人性化的控制；
- 采用蓝牙 5.0 SIG Mesh系统，联动蓝牙设备，实现云场景触发或更高级的灯光联动控制，丰富了应用场景；
- 支持本地场景，去网关，断网可控，更快更稳定；
- 支持传感器群组功能，轻松实现多地一控；
- 智能精准灯控，高灵敏度、高抗干扰性；
- 支持继电器通断电，适用走廊、楼道、办公室等不同场合的应用需求；
- 采用过零点检测技术，通过软件计算控制，使得继电器在开合瞬间，通过触点的电流几乎为0，有效提高继电器的使用寿命；
- 吸顶式结构设计，适用于办公、商场和家庭等多元环境下的应用，轻松实现智能灯控；
- 可通过拨码、红外遥控器或手机APP进行更多的参数设置，易于安装和调节。

技术参数

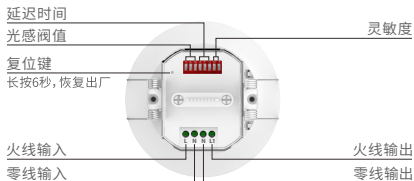
输入	输入电压	120-277Vac, 50/60Hz
	浪涌测试	2KV
输出	工作模式	蓝牙 5.0 SIG Mesh、通断
	负载类型	容性或阻性
	负载容量	≤500VA(容性负载), ≤1000W(阻性负载)
	发射功率	0.3mW
	待机功耗	≤1.5W
参数	工作频率	5.8GHz
	灵敏度	100%、75%、50%、25%
	延迟时间	5S、30S、1min、2min、5min、10min、20min、30min
	光感阈值	2lux、10lux、25lux、50lux、Disable
环境	工作温度	-20°C~55°C
	储存温度/湿度	-40°C~80°C
其他	端子规格	线径: 0.5-2.5mm ² /22-14AWG, 剥线长度: 5mm-6mm
	IP等级	IP20
	安装方式	吸顶式安装
	开孔尺寸	φ65mm-φ70mm (推荐φ65mm)
	产品重量	97g
	产品尺寸	Φ85×59mm
	包装尺寸	93X93X80mm(LxWxH)

产品尺寸

单位: mm

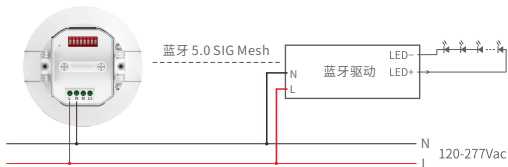


产品结构



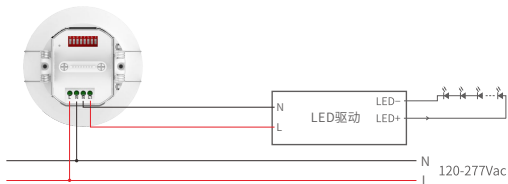
接线图

蓝牙连接方式



注：如果继电器端口接了智能设备，在继电器关闭时，智能设备没有电源供应，将无法响应任何控制指令。

有线连接方式



- 内置继电器最大可负载8A电流阻性负载或浪涌电流小于65A的负载。

安装示意图

1. 在需安装产品的位置开孔65mm。



2. 用小一字螺丝刀小心撬开外壳。



3. 接入电源线。



4. 装好压线扣，盖上侧盖。



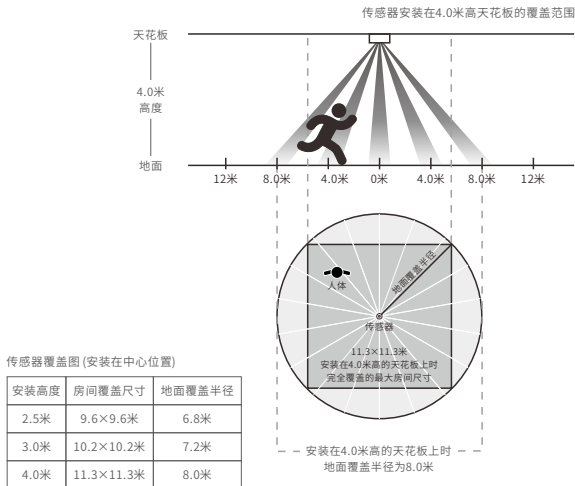
5. 向上弯曲弹簧夹，推进天花预先开好的孔位。



6. 确保安装后感应面平整。

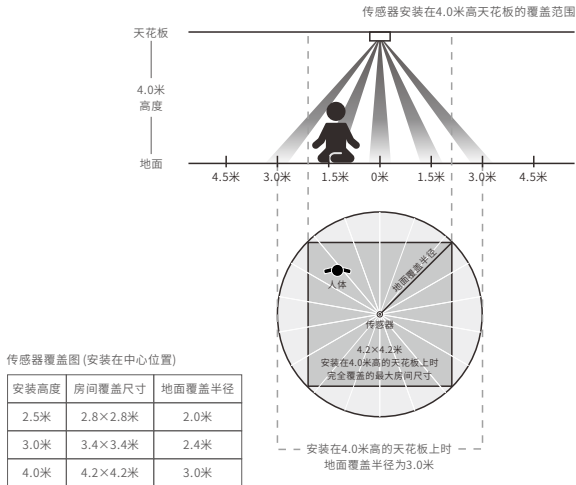


挂高感应范围(运动检测)



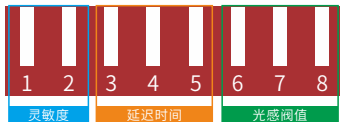
注：可添加多个传感器来扩大覆盖范围，具体请根据接收设备的规格来决定系统最多允许装几个传感器。

挂高感应范围(微动检测)



注：可添加多个传感器来扩大覆盖范围，具体请根据接收设备的规格来决定系统最多允许装几个传感器。

拨码开关定义



1-2位：灵敏度。通过不同的拨码组合，对感应范围大小做出合适选择。

3-5位：延迟时间。在没有检测到运动后，灯具保持100%全亮的时间。

6-8位：光感阈值。可选择让传感器在什么条件下工作。“2lux、10lux” 仅在黑暗时工作 “50lux” 仅在微暗时工作; “Disable” 关闭光感功能，只要检测到物体运动时，传感器都会打开。

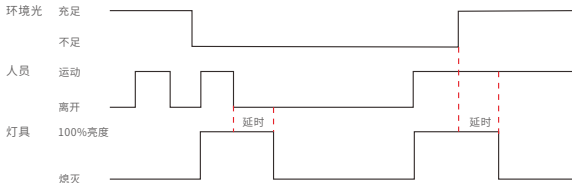
灵敏度				延迟时间				光感阈值			
ON  •  ○	1	2		3	4	5		6	7	8	
	•	•	100%	•	•	•	5s	•	•	•	2lux
	•	○	75%	•	•	○	30s	•	○	○	10lux
	○	•	50%	•	○	•	1min	○	•	○	25lux
	○	○	25%	•	○	○	2min	○	○	○	50lux
				○	•	•	5min	○	•	•	Disable
				○	•	○	10min				
				○	○	•	20min				
				○	○	○	30min				

产品功能



- ① 在环境光照充足的情况下(光感功能有效时),即使感应到人体运动,灯光也不会打开。
- ② 在环境光照不足的情况下(光感功能有效时),当感应到人体运动时,传感器自动打开灯光。
- ③ 当传感器没有感应到人体后,根据设定的延迟时间开始计时,延迟时间结束后自动关灯,如延迟时间内再次感应到人体运动,则从感应不到人体后重新计时。

感应时序逻辑图



群组控制功能

在一定范围内加装更多传感器组成群组时，只要任何一个传感器检测到人体运动，灯具将同步开/关灯。可扩大覆盖范围，亦可有效减少误检、漏检现象。(详情请参考说明书P15)



没有检测到运动时，所有灯关闭。



环境光不足时，从任何方向检测到运动时，所有灯同步打开。



延迟时间过后，没有检测到运动时，所有灯将同步关闭。

推荐应用控制方式

1. 连接传统灯具，秒变智能灯具。



2. 搭配蓝牙驱动器，实现无线控制灯具。



3. 搭配智能网关，实现可视化控制，自动化联动。



4.智能控制，更多应用搭配等您来设置。

APP操作说明

1. 账号注册

通过手机扫描下方二维码，按提示完成APP安装后即可进行登录/注册操作。



2. 配网操作

新用户 在APP上创建家庭后，长按传感器复位键6秒以上触发入网，直至蜂鸣器响起。

在“房间”界面点击右上角【+】进行添加，在添加设备列表中选择【微波传感器】后，按照界面提示完成添加即可。



3. 控制界面设置

在“房间”界面点击已添加的传感器进入控制界面，点击【】图标可开启或关闭传感器，点击【】图标可设置光感阈值，点击【】图标设置感应距离。

在“感应设置”中，点击【当检测到有人时，将触发】可选择开关、智能设备、本地场景、不执行动作作为触发动作；点击【检测到无人，延迟一段时间】设置延迟时间 点击【结束后，将进入无人状态】设置未感应人体运动时的状态（当触发条件选择智能设备或本地场景时，才可更改无人状态执行的动作；当触发条件为接线应用时，无人状态默认为执行关灯动作）。



4. 继电器常通电

在“感应设置”中【当检测到有人时，将触发】选择了智能设备、本地场景或者不执行动作作为触发动作时，点击右上角【⚙️】进入“设置”界面，会显示“继电器常通电”开关。开启时，继电器将会保持常通电状态，且不会响应自动化/场景设置的继电器关闭动作；关闭后，继电器将会随微波状态而改变，传感器检测到有人时将继电器打开，无人时关闭，也可通过自动化/场景设置的执行动作将继电器开启/关闭。



5. 群组功能

在“房间”界面点击右上角【+】进行添加，在添加设备中选择【群组—传感器组】创建群组并设置群组名称及所属房间，点击要加入群组的设备即可。创建成功后，群组内的子设备将同步传感器组的数据，实现同步控制。



6. 本地场景

创建本地场景：

切换到“智能”界面，点击右上角【+】创建本地场景，设置执行动作后，即可实现蓝牙设备的本地联动。

绑定本地场景：

在“控制”界面中，点击【感应设置】—【本地场景】选择场景保存成功后，当触发设定的状态时即可执行绑定的本地场景。



创建本地场景



绑定本地场景

7. 云场景

确保家庭内已添加智能网关，如超级面板6S。

切换到“智能”界面，点击【+】创建云场景，设置执行动作后，即可远程联动。



8. 自动化

设置自动化前，我们需要在感应设置中【当检测到有人时，将触发】选择“不执行动作”作为触发动作，用于传感器在自动化设置多个不同时间段的触发条件或执行动作，在感应设置中设定延迟时间，当传感器检测到无人状态时，将延迟一段时间执行触发条件为无人状态的自动化。



例如：当我们设定延迟时间为30秒。

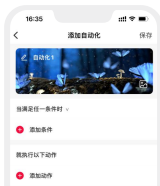
自动化执行时间段	触发条件	执行动作
8:30~12:00	传感器，有人状态	将灯打开
14:00~19:00	传感器，有人状态	将灯打开

当检测到无人时，将会延迟30秒执行触发条件为无人状态的自动化。

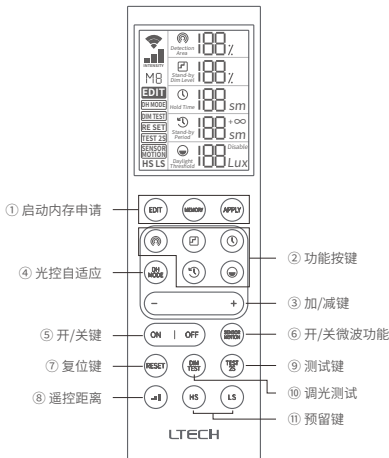
自动化执行时间段	触发条件	执行动作
8:30~12:00	传感器，无人状态	将灯关闭
14:00~19:00	传感器，无人状态	将灯关闭

在“智能”界面中选择【自动化】，点击【+】创建自动化。设置触发条件及执行动作，当满足已设置的触发条件时，自动触发一系列设备动作，实现远程联动。

注：传感器既可设置为触发条件，亦可作为执行动作。



搭配红外遥控器



注：红外遥控器具体使用方法请参考LR1说明书。

常见问题

1. 如何恢复出厂设置？

方法一：在APP“控制”界面中，点击右上角【⊙】图标进入“设置”界面，点击【删除设备】即可。

方法二：长按微波传感器复位键6秒以上，直至蜂鸣器响3声，即表示已恢复出厂。

2. 设备一直搜索不到怎么办？

请检查以下选项：

- 确保设备正常通电，并且处于激活状态；
- 确保手机与设备两者尽量靠近，建议不超过15米；
- 确保设备未被添加过，如被添加过，请手动恢复出厂。

注意事项

- 本产品请由具有专业资格的人员进行调试安装；
- 探测灵敏度越高探测距离越远，如遇微波穿墙或误触发需降低灵敏度使用；
- 安装时远离金属板、混凝土墙，横梁，以避免遮挡微波信号；
- 安装时应远离玻璃、石膏板等易被微波穿透物质，以免误触发；
- 感应器应远离交换机、路由器等无线设备，安装间隔至少2米，避免无线电干扰；
- 如监测区域内有宠物经过，可能触发感应；

- 在多个感应器并排安装的情况下，应相距1米以上，保证感应器相互独立，不受影响；
- 本产品(专有型号除外)不能防水，需避免日晒雨淋。如安装在户外，请使用防水箱；
- 良好的散热条件会延长产品的使用寿命，请把产品安装在通风良好的环境；
- 如果发生故障，请勿私自维修；如有疑问，请联系供应商。

保修条例

- 自出厂之日起保修服务期为5年。
- 在保修服务期内出现产品质量问题雷特将给予免费修理或更换服务。

非保修条例:

属下列情况不在免费保修或更换服务范围之内:

- 已经超出保修服务期;
 - 过高电压、超负载、操作不当等人为造成的损坏;
 - 产品外形严重损坏或变形;
 - 自然灾害以及人力不可抗拒原因造成的损坏;
 - 产品保修标签和产品唯一条形码损坏;
 - 无雷特签订的合同或发票凭证。
1. 修理或更换是雷特对客户的唯一补救措施。雷特不承担任何附带引起的损害赔偿責任, 除非在适用法律范围之内。
 2. 雷特享有修正或调整本保修条款的权利, 并以书面形式发布为准。