

24GHz Large-space presence sensor (ON/OFF version)



User's Manual



Instruction
MI250811A0

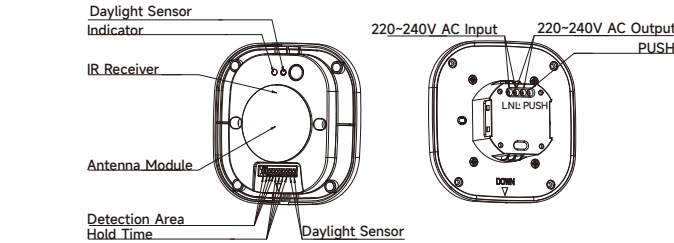
PRODUCT DESCRIPTION

MSA063 99/MSA063S 99 is a 24GHz radar sensor based on Merrytek patented orthogonal antenna. Its antenna has high gain and wide detection range. Combined with Merrytek's unique software algorithm and FMCW modulation, it can accurately detect micro movements brought by human in almost all indoor spaces to automatically turn on or turn off lighting etc electrical appliance.

INITIALIZATION

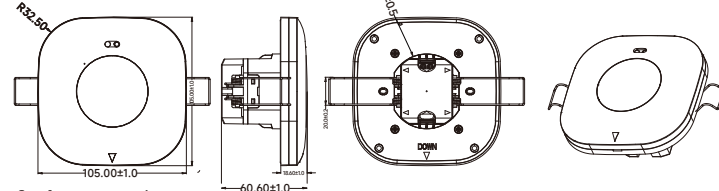
When powered on, sensor indicator will turn off after flashing for 10s and will enter a 20s detection cycle, if there's presence detected, then sensor will report presence and enter hold time calculating, if absence detected, then sensor will report absence. During initialization, sensor will not detect moving signal and you can use our MH10 remote or DIP switch to adjust detection area, hold time and daylight sensor etc parameter.

PRODUCT INTRODUCE

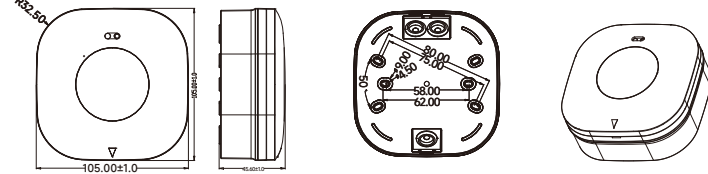


DIMENSION(mm)

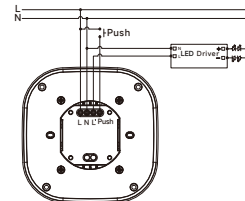
Flush mounting



Surface mounting



WIRING INSTRUCTION



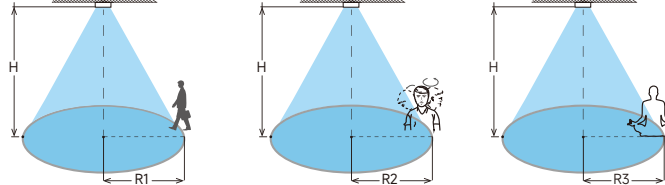
Wiring layout suggestion:

- LN terminal stands for AC input, L' N' stands for AC output, please wiring correctly
- One sensor's max loading capacity is 800w resistive loading and 400w inductive loading for one single load. if you want connect more load in one loop, we recommend to add an AC contactor in our output LN terminal to avoid momentary surge overload.
- PUSH terminal shall wire push button, and PUSH terminal wiring length shall no longer than 15m

PARAMETERS

Model	MSA063S 99
Rated Voltage	220V AC
Working Current	50mA max
Consumption	≤1W 230V DC
Output Signal	1 channel ON/OFF(Max 800w resistive loading and 400w inductive loading)+1 channel push control
Detection Area	Remote/Dip setting: 0-4m
Hold Time	Remote/Dip setting: 10s-30min Remark: presence detection will be available only when hold time be set >30s
Daylight Sensor Threshold	5-150Lux/Disable
QS1+100% Detection Range Radius	major/minor/micro movement (3m height installation) : 3.5±0.5m (based on 41 m² open area test and might change due to different space)
Mounting Height	2.5-4.0m typical value:3m
Drill Hole	Φ55mm
Working Temperature	0°C...+50°C
Storage Temperature	-25°C...+80°C
Certificate	CE/FCC/RED
IP Rating	IP20
Warranty	5 years (available due to product quality problem under indoor application)

DETECTION AREA



- Major motion activates: detect the human significant moving (walking) in the detection area.
- Minor motion maintains: detect the human slight moving in the detection area, such as leaning forward, leaning forwarder and back, swinging limbs, shaking head, typing, playing with mobile phones and so on.
- Micro motion maintains: detect human abdominal and thoracic expansion behaviors caused by breathing.

breathing.



Major motion activates



Minor motion maintains



Micro motion maintains

Mounting height	H=3m			
Detection Sensitivity	Setting	R1	R2	R3
High sensitivity	4m	3.5-4.5m	3.5-4.0m	3.5-4.0m
	3.5m	3.0-4.0m	3.0-3.5m	3.0-3.5m
	3m	2.5-3.0m	2.5-3.0m	2.5-3.0m
	2.5m	2.0-3.0m	2.0-2.5m	2.0-2.5m
	2m	1.5-2.5m	1.5-2.0m	1.5-2.0m
	1.5m	1.0-1.5m	1.0-1.5m	1.0-1.5m
	1m	0.5-1.5m	0.5-1.0m	0.5-1.0m
Medium sensitivity	0.5m	0.0-0.5m	0.0-0.5m	0.0-0.5m
	4m	3.5-4.2m	3.5m	3.5m
	3m	2.5-3.0m	2.5-3.0m	2.5-3.0m
	2m	1.5-2.0m	1.5m	1.5m
Low sensitivity	1m	0.0-1.0m	0.0-0.5m	0.0-0.5m
	4m	3.5-4.0m	3.5m	0.0m
	3m	2.0-3.0m	2.0-2.5m	0.0m
	2m	1.0-2.0m	1.0-1.5m	0.0m
	1m	0.5-1.0m	0.5m	0.0m

PARAMETER SETTING

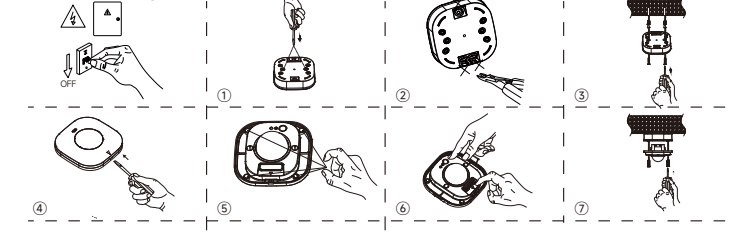
ON OFF	Detection Area	4m	3.5m	3m	2.5m	2m	1.5m	1m
ON OFF	Hold Time	10S	30S	1min	3min	5min	10min	30min
ON OFF	Daylight Sensor	5Lux	50Lux	150Lux	Disable			

Note:

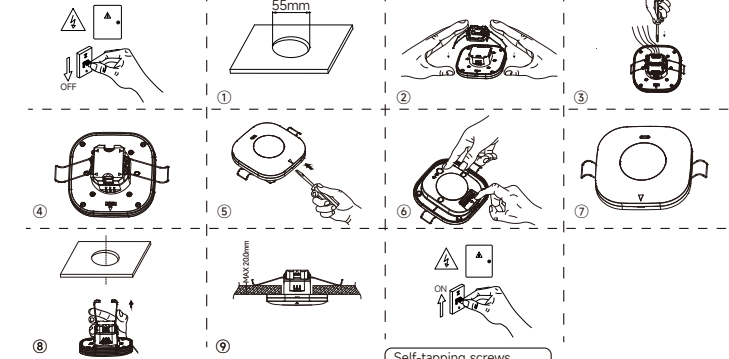
- ① The upper position of the DIP switch is "ON", and the lower position is "OFF". The black square in the diagram indicates the switch is set to that side.
- ② Factory settings: Detection Sensitivity: 4m(Medium sensitivity), Hold Time:30s, Indicator light: ON, Daylight sensor: Disable.

INSTALLATION

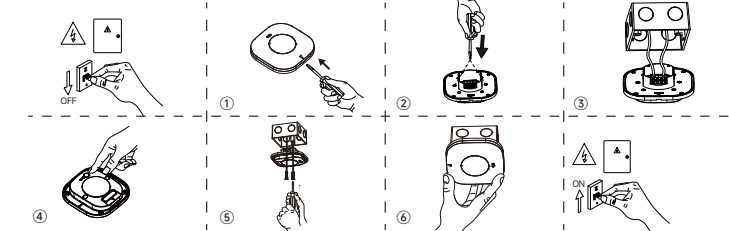
Surface mounting



Flush Mounting



Mounted with EU 86 type switch socket box



MH18 Rmote Manual

Remote Control Setting	Button	Remarks
ON/OFF	PAIRING	Disable sense function
1 2 3...	1 2 3 4 5 6 7 8	N/A
Single mode	Long press>3s	to enter single mode
Address assign	N/A	
NO/NC	N/A	
DH Mode	N/A	
Sensor motion	Enable sense function	
Presence enable	Short press	enable presence detection, long press disable presence detection
Sensitivity	Short press	to switch high/medium/low sensitivity
Hold time	Short press	to switch 10s/30s/60s hold time
Daylight sensor	Short press	to switch 15lux/50lux/disable
Reset	All parameters	back as factory setting
Indicator	Short press	to open indicator, long press to close indicator
Enhance	Short press	to enter self-learning mode

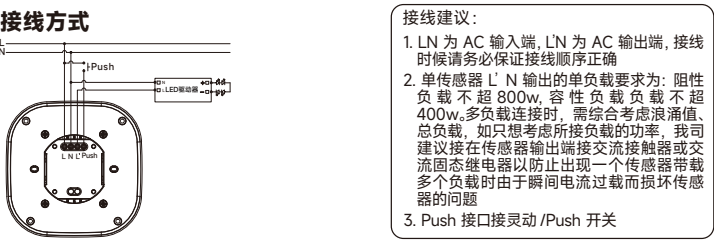
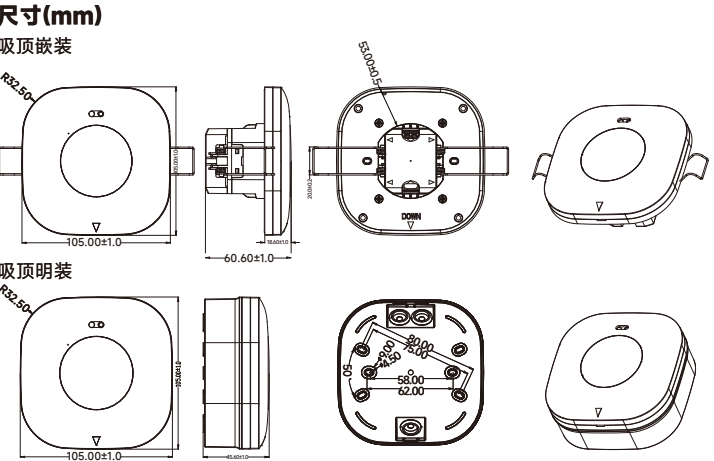
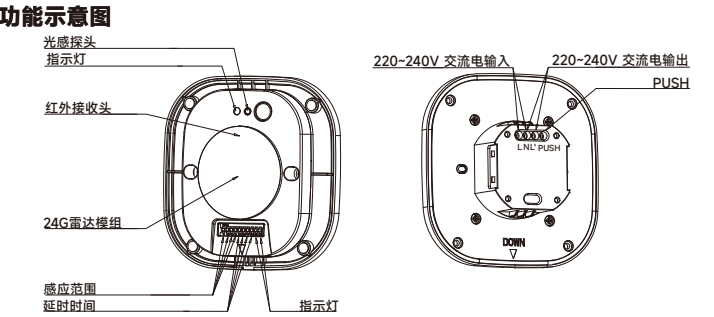


产品介绍

MSA063S 99 是一款基于迈睿科技发明专利的大波束正交天线的 24GHz 雷达感应器,其天线增益高,感应范围广,结合迈睿科技独特的软件算法和车规级 FMCW 雷达调制方式,它可以实现几乎所有室内空间的人体生命体征带来的细微运动的精准检测,特别适用于洗手间、会议室、办公室等灯光直连控制,避免人在关灯的问题。

初始化

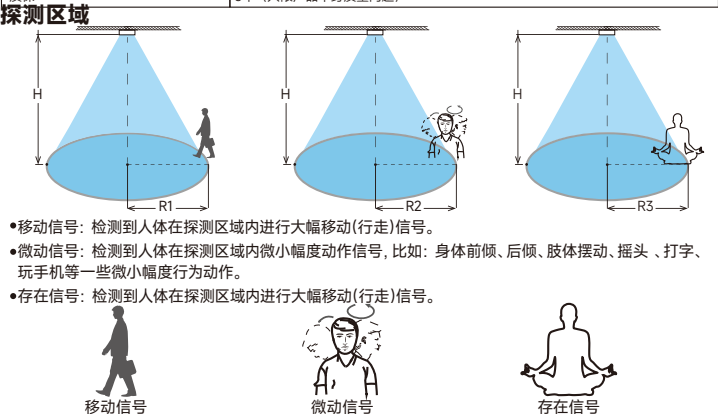
初次通电指示灯闪烁 10 秒后关闭,初始化期间不探测外界移动感应信号,指示灯可以通过拨码 / 遥控将关闭和打开,延时时间、探测范围(感应距离)可以通过拨码 / 遥控来设置。



接线建议：

1. LN 为 AC 输入端, L'N 为 AC 输出端, 接线时候请务必保证接线顺序正确
2. 单传感器 L' N 输出的单负载要求为: 阻性负载 不超 800w, 容性负载 不超 400w, 多负载连接时, 需综合考虑浪涌值、总负载, 如只想考虑所接负载的功率, 我司建议接在传感器输出端接交流接触器或交流固态继电器以防止出现一个传感器带载多个负载时由于瞬间电流过载而损坏传感器的问题
3. Push 接口接灵动 /Push 开关

参数	
型号	MSA063S 99
额定电压	220V AC
工作电流	50mA max
工作功耗	≤1W 250V DC
负载功率	阻性负载: 800W 容性负载: 400w
感应范围	拨码/遥控: 0-4m
延时设置	拨码/遥控: 10s-30min 备注: 存在探测功能至少设置 ≥30s
光感阈值	5-150Lux/Disable
探测范围 (100%灵敏度, 半径)	移动/微动/呼吸感应距离: 3-4m (基于室内空旷 41 m³空间测试, 在不同环境下感应距离可能会略有波动)
安装高度	2.5-4.0m
开孔尺寸	Φ55mm
工作环境温度	0°C...+50°C
储存温度	-25°C...+80°C
符合认证	CE/FCC/RED
防护等级	IP20 (吸顶嵌装)
质保	5年 (仅限产品本身质量问题)



- 移动信号: 检测到人体在探测区域内进行大幅移动(行走)信号。
- 微动信号: 检测到人体在探测区域内微小幅度动作信号, 比如: 身体前倾、后倾、肢体摆动、摇头、打字、玩手机等一些微小幅度行为动作。
- 存在信号: 检测到人体在探测区域内进行大幅移动(行走)信号。

安装高度	H=3m			
感应灵敏度	档位	R1	R2	R3
高感	4m	3.5-4.5m	3.5-4.0m	3.5-4.0m
	3.5m	3.0-4.0m	3.0-3.5m	3.0-3.5m
	3m	2.5-3.0m	2.5-3.0m	2.5-3.0m
	2.5m	2.0-3.0m	2.0-2.5m	2.0-2.5m
	2m	1.5-2.5m	1.5-2.0m	1.5-2.0m
	1.5m	1.0-1.5m	1.0-1.5m	1.0-1.5m
	1m	0.5-1.5m	0.5-1.0m	0.5-1.0m
	0.5m	0.0-0.5m	0.0-0.5m	0.0-0.5m
中感	4m	3.5-4.2m	3.5m	3.5m
	3m	2.5-3.0m	2.5-3.0m	2.5-3.0m
	2m	1.5-2.0m	1.5m	1.5m
	1m	0.0-1.0m	0.0-0.5m	0.0-0.5m
低感	4m	3.5-4.0m	3.5m	0.0m
	3m	2.0-3.0m	2.0-2.5m	0.0m
	2m	1.0-2.0m	1.0-1.5m	0.0m
	1m	0.5-1.0m	0.5m	0.0m

注意: 以上测试数据基于 81 m³开阔空间, 1.6m 高测试人员以 0.3m/s 切向走向传感器直至触发所得。在不同空间下, 不同体态的人以不同速度走向传感器的触发距离可能有所偏差。

拨码设置

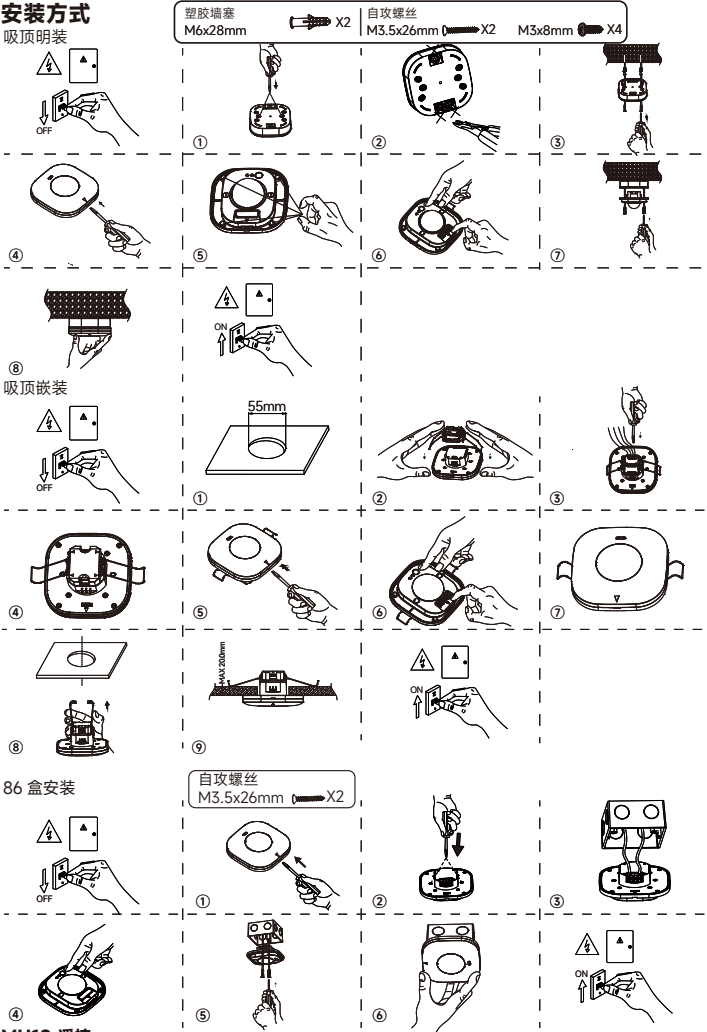
ON	感应范围	4m	3.5m	3m	2.5m	2m	1.5m	1m
OFF		1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	

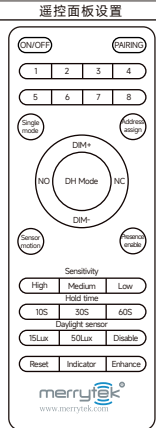
ON	延时设置	10S	30S	1min	3min	5min	10min	30min
OFF		5 6 7 8	5 6 7 8	5 6 7 8	5 6 7 8	5 6 7 8	5 6 7 8	5 6 7 8

ON	光感阈值	5Lux	50Lux	150Lux	Disable
OFF		8 9	8 9	8 9	8 9

注意：

- ①拨码开关上方为 ON, 下方为 OFF, 图示黑色小方块代表拨码开关拨向该方向;
- ②出厂默认设置: 感应范围: 4m(中感), 延时时间: 30s, 指示灯: 打开, 光感阈值: Disable.



遥控面板设置		按键	功能说明																		
		ON/OFF	按“ON/OFF”键,负载灯进入常亮模式,感应功能取消 (具备断电记忆功能)																		
		PAIRING	N/A																		
		1 2 3 4	<table border="1"><tr><td>按键</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr><tr><td>距离</td><td>0.5m</td><td>1.0m</td><td>1.5m</td><td>2.0m</td><td>2.5m</td><td>3.0m</td><td>3.5m</td><td>4.0m</td></tr></table>	按键	1	2	3	4	5	6	7	8	距离	0.5m	1.0m	1.5m	2.0m	2.5m	3.0m	3.5m	4.0m
		按键		1	2	3	4	5	6	7	8										
		距离	0.5m	1.0m	1.5m	2.0m	2.5m	3.0m	3.5m	4.0m											
		5 6 7 8	1 2 3...																		
		Single mode	长按大于 3S,进入单人模式																		
		Address assign	N/A																		
		NO/NC	N/A																		
		DH Mode	N/A																		
Sensor motion	按“Sensor Motion”键,手动模式转换到感应模式 (功能返回至最后一次设置为准)																				
Presence enable	按“Presence enable”键,短按打开存在感应功能,长按大于 3S 关闭存在功能																				
		Sensitivity	“Sensitivity”设置存在感应器灵敏度; High: 存在高灵敏度; Medium: 存在中灵敏度; Low: 存在低灵敏度																		
		Hold time	设置感应延时时间: 10s、30s、60s																		
		Daylight sensor	设置光感阈值: 15Lux、50Lux、Disable																		
		Reset	短按恢复出厂设置;																		
		Indicator	短按打开指示灯,长按 3S 关闭指示灯;																		
		Enhance	短按进入环境学习, 长按 3s 恢复默认状态																		