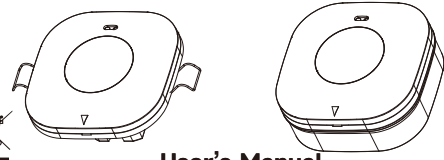


24GHz Large-space presence sensor (DALI+PUSH version)



User's Manual

Instruction
MI250827A0

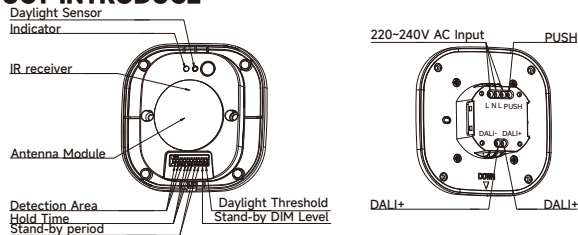
PRODUCT DESCRIPTION

MSA063 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

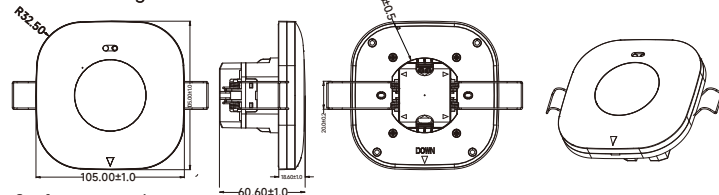
When powered on, sensor indicator will turn off after flashing for 10S and will enter a 20S detection cycle, if there's presence detected, then sensor will report presence and enter hold time calculating, if absence detected, then sensor will report absence. During initialization, sensor will not detect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

PRODUCT INTROUCE

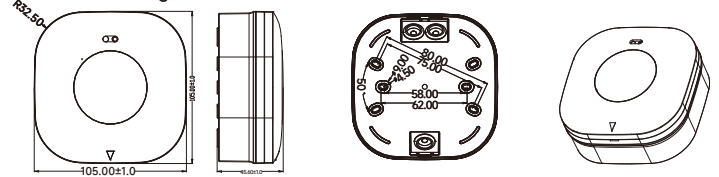


DIMENSION(mm)

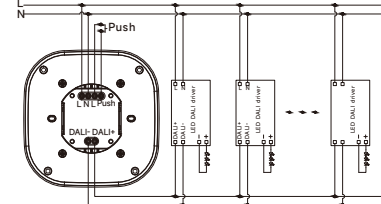
Flush mounting



Surface mounting



WIRING INSTRUCTION



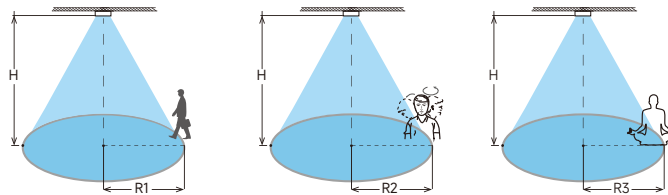
Wiring layout suggestion:

- LN stands for AC input, DALI+DALI- stands for DALI output, PUSH stands for PUSH output, please wiring correctly
- DALI terminal wiring length shall no longer than 300m and current not higher than 100mA; PUSH terminal wiring length shall no longer than 15m

PARAMETERS

Model	MSA063 99
Rated Voltage	220V AC
Working Current	50mA max
Consumption	≤1W @230V AC
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(flush mounting) IP54(surface mounting)
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.

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

PARAMETER SETTING

ON OFF	Detection Area	4m	3.5m	3m	2.5m	2.0m	1.5m	1m	0.5m
ON OFF	Hold Time	10S	30S	1min	3min	5min	20min		

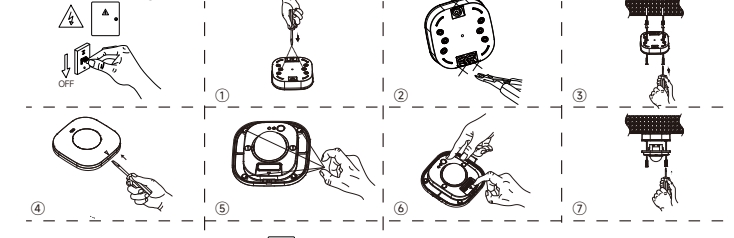
ON  OFF	Standby time	0S 	1min 	5min 	∞ 
ON  OFF	Standby DIM Level	30% 	50% 		
ON  OFF	Daylight sensor threshold	50Lux 	Disable 		

Note:

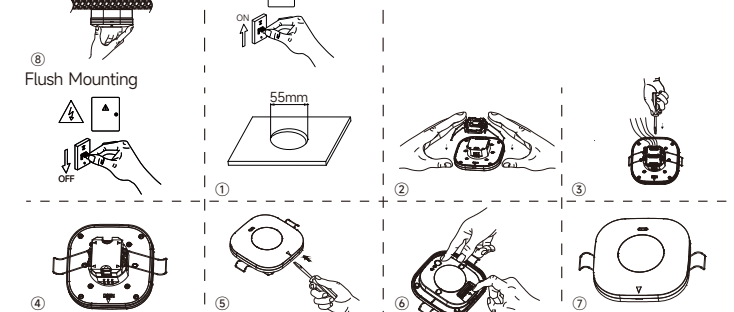
- The upper position of the DIP switch is "ON", and the lower position is "OFF". The black square in the diagram indicates the switch is set to that side.
- Factory settings: Detection Sensitivity: 4m(Medium sensitivity), Hold Time:30s, Indicator light: ON, Daylight sensor: Disable.

INSTALLATION

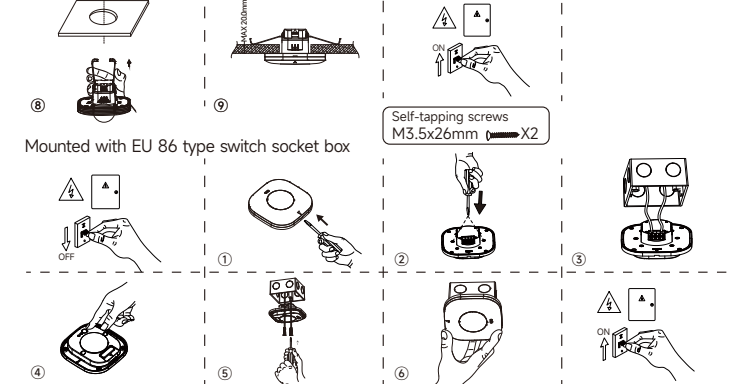
Surface mounting



Flush Mounting

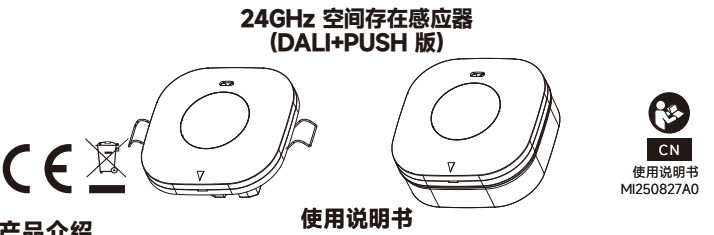


Mounted with EU 86 type switch socket box



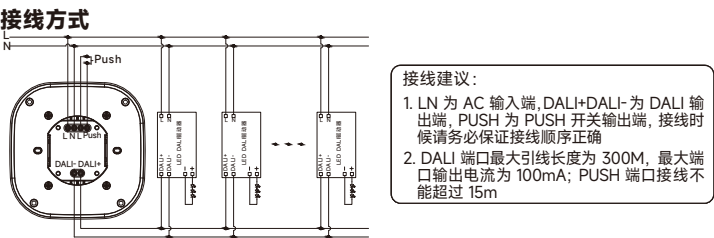
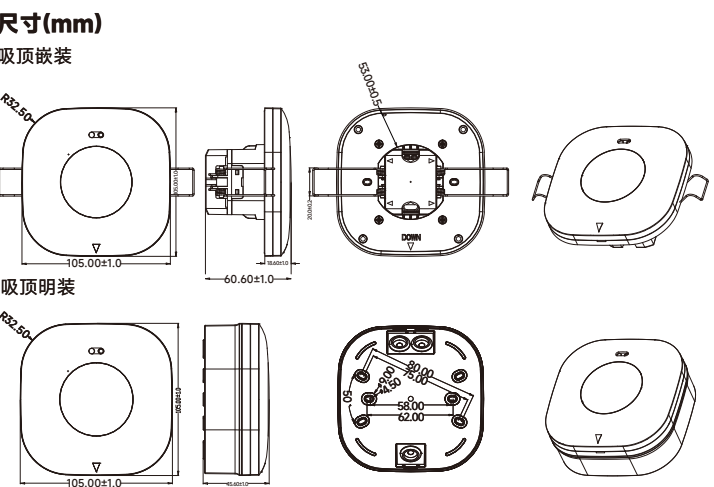
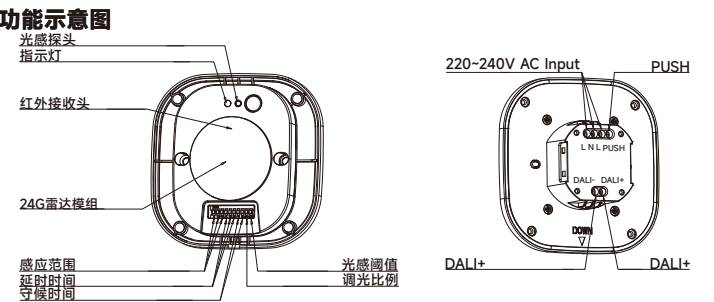
MH18 Rmote Manual

Remote Control Setting	Button	Remarks
ON/OFF	PAIRING	Disable sense function
PAIRING	1 2 3 4	N/A
1 2 3...	Push-button Distance	1 0.5m 2 1.0m 3 1.5m 4 2.0m 5 2.5m 6 3.0m 7 3.5m 8 4.0m
Single mode		Long press>3s to enter single mode
Address assign		N/A
NO/NC		N/A
DH Mode		Short press to enter daylight harvesting mode(DIM+and DIM-to dim ideal lux value), long press>3s to quit daylight harvesting mode
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

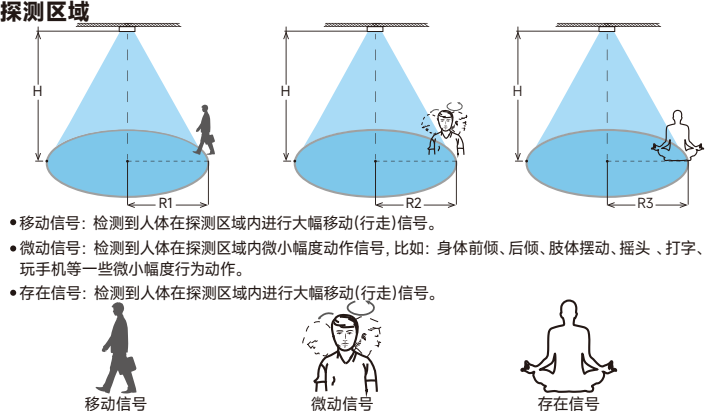


产品介绍
MSA063 99 是一款基于迈睿科技发明专利的大波束正交天线的 24GHz 雷达感应器，其天线增益高，感应范围广，结合迈睿科技独特的软件算法和车规级 FMCW 雷达调制方式，它可以实现几乎所有室内空间的人体生命体征带来的细微运动的精准检测，特别适用于洗手间、会议室、办公室等灯光直连控制，避免人在关灯的问题。

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。指示灯延时间、探测范围（感应距离）等参数可以通过拨码 / 遥控来设置。



参数	
型号	MSA063 99
额定电压	220V AC
工作电流	50mA max
工作功耗	≤1W @230V AC
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	50Lux/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 41m³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）IP54（吸顶明装）
质保	5年（仅限产品本身质量问题）

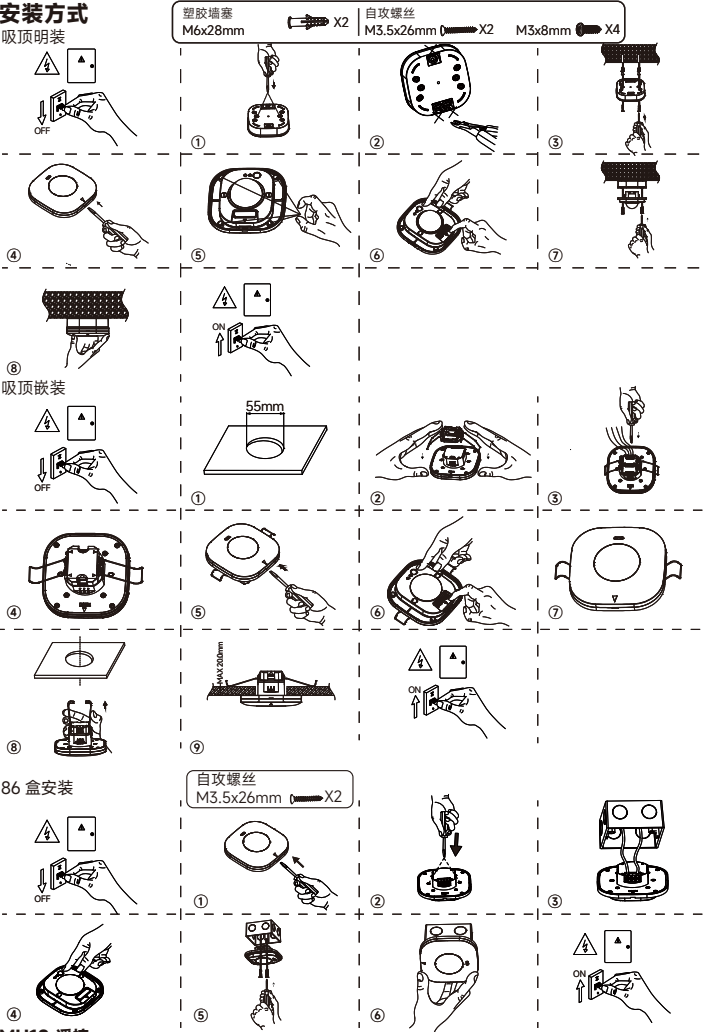


安装高度	H=3m			
感应灵敏度	档位	R1	R2	R3
高感	4m	3.5-4.5m	3.5-4.0m	3.5-4.0m
	3.5m	3.0-4.0m	3.0-3.5m	3.0-3.5m
	3m	2.5-3.0m	2.5-3.0m	2.5-3.0m
	2.5m	2.0-3.0m	2.0-2.5m	2.0-2.5m
	2m	1.5-2.5m	1.5-2.0m	1.5-2.0m
	1.5m	1.0-1.5m	1.0-1.5m	1.0-1.5m
	1m	0.5-1.5m	0.5-1.0m	0.5-1.0m
0.5m	0.0-0.5m	0.0-0.5m	0.0-0.5m	
中感	4m	3.5-4.2m	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	2.5-3.0m	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	4m	3.5m	3m	2.5m	2.0m	1.5m	1m	0.5m
ON 感应范围 OFF								
ON 延时设置 OFF								
ON 守候时间设置 OFF								
ON 调光比例 OFF								
ON 光感阈值 OFF								

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)，延时设置：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...	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	
Single mode	长按大于 3S，进入单人模式	
Address assign	N/A	
NO/NC	N/A	
DH Mode	短按“DH Mode”键，进入光感自适应模式，长按 3s 退出光感自适应模式（DIM+ 调亮，DIM- 调暗）	
Sensor motion	按“SensorMotion”键，手动模式切换到感应模式（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	