

Specification

Product series:	Low-mounting PIR motion sensor (DALI2.0 version)
Product model:	MSA070 IR
Product version:	V1.0

Versions	Release Date	Record	Publishing
V1.0	2026.2.3	Initial version	Jacky

【Product description】

MSA070 IR is a super mini PIR motion sensor with daylight detection function. Combined with the unique software algorithm of Merrytek, it can accurately detect human movements in almost all indoor spaces to trigger smart scene application in smart home, smart hotel, and smart office.

【Product Feature】

- PIR motion detection
- Super mini case with planar fresnel lens
- Dali2.0 output
- Dali bus power and communication available
- Daylight sensor detection available
- Detection area, hold time can be set by remote
- Max detection range: 8-10m in diameter
- Hallway and Toilet motion detection highly recommended
- Flush mounting available
- Compacted mini size for perfect ceiling concealed mounting



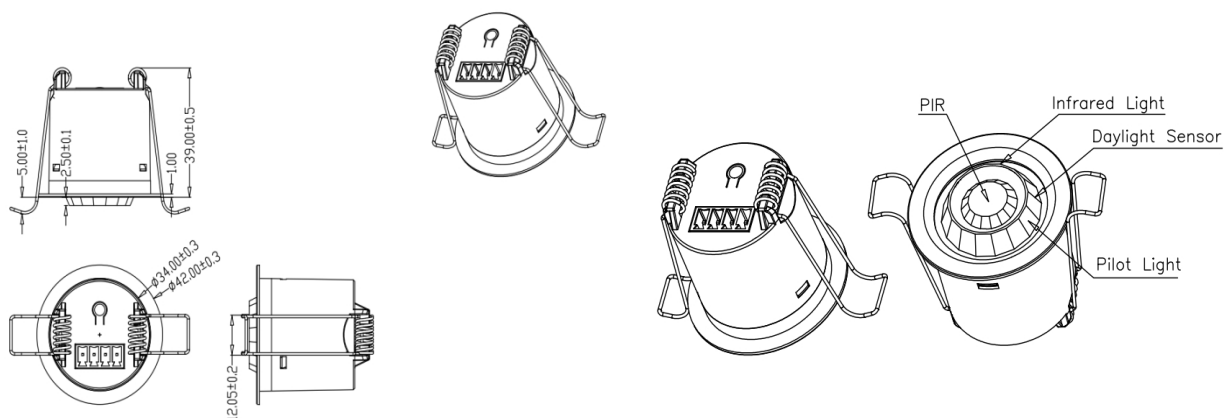
【Dimension】

- Product size: $\phi 34 \times 40 \text{mm}$
- Connection interface: 4-pin terminal

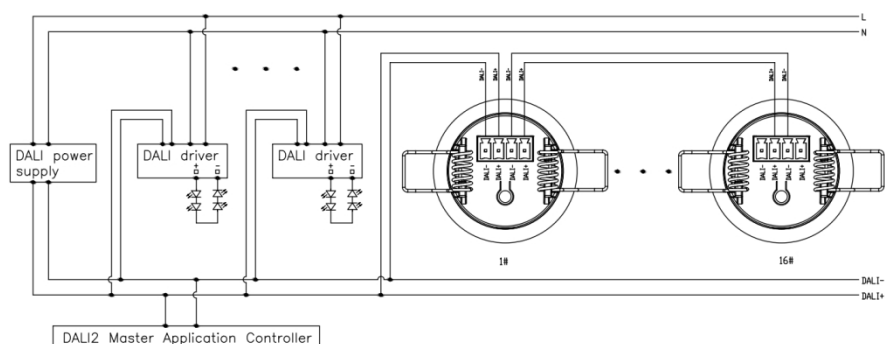
【Parameter】

Input/Output	Input voltage	DALI bus power (9.5-22.5V DC)
	Rated voltage	9.5-22.5V DC
	Working current	7mA max(during DALI master searching,current will hit 20mA)
	Power consumption	≤0.5W
	Output signal	DALI2.0
Sensor parameter	Function	PIR motion detection+ daylight sensor
	Detection Area	MH18 remote setting: 100%/75%/50%/25%
	Hold Time	MH18 remote setting: 2s/30s/1min/3min/5min/10min/30min
	Dali protocol compliance	In accordance with 101,103,303,304 dali protocol
	Radius detection range(based on 100% sensitivity)	Tangential moving based on 3m high installation: 4-5m @25℃ (radial moving detection range will shorten)
	Remote control	Available
	Mounting height	2.5-4m typical value:3m
Application environment	Drill hole	Φ35mm
	Working temperature	-35℃...+50℃(detection range might differ based on different temperature)
	Storage temperature	-40℃~+80℃
	Warranty	3 years (available due to product quality problem under indoor application)
	Wire standard	Wire diameter: 0.2-2.5mm,Stripping length: 7-8mm
Certificate Standard	Certificate	Compliant to CE
	Environmental requirements	Compliant to RoHS
	IP rating	IP20
"N/A" means not available		

【Dimension and Function diagram】



【Dimension and Function diagram】



Wiring layout suggestion:

1. In dali bus circuit, we suggest wire layout shall not exceed 300m, and dali driver device not exceed 64pc, our sensor not exceed 16pc to guarantee normal communication

【Initialization】

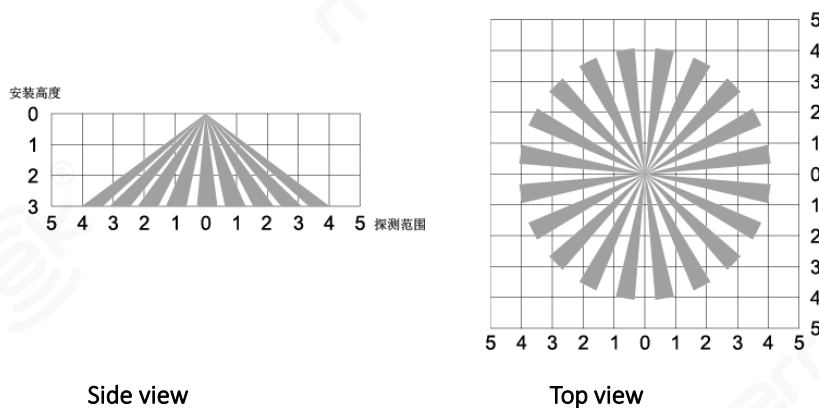
When power on, our sensor will enter self-checking mode and will not respond to any motion movement for 10s

【Factory setting】

Detection Area: 100%, Hold Time: 2s, Indicator: Open

【Detection radiation】

MSA070 IR is highly recommended ceiling flush mounting and its detection radiation is as below shows:



Side view

Top view

【Detection Signal】

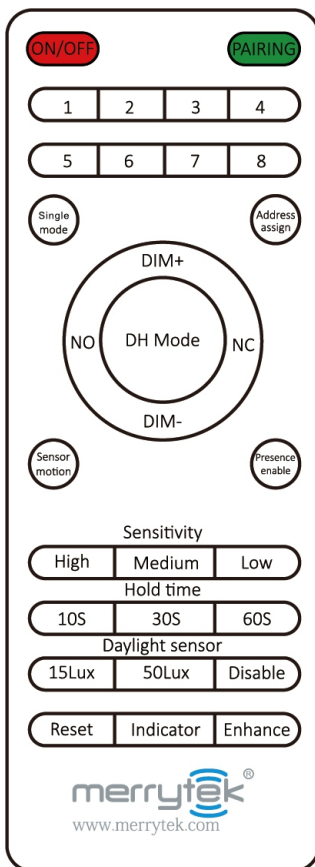
The product detects human moving signals and below is a description of the moving signals:

- **Major motion signal:** detect the human significant moving (walking) in the detection area.



【Remote manual】

MH18 remote



Detection range:

1=100%,2=75%,3=50%,4=25%

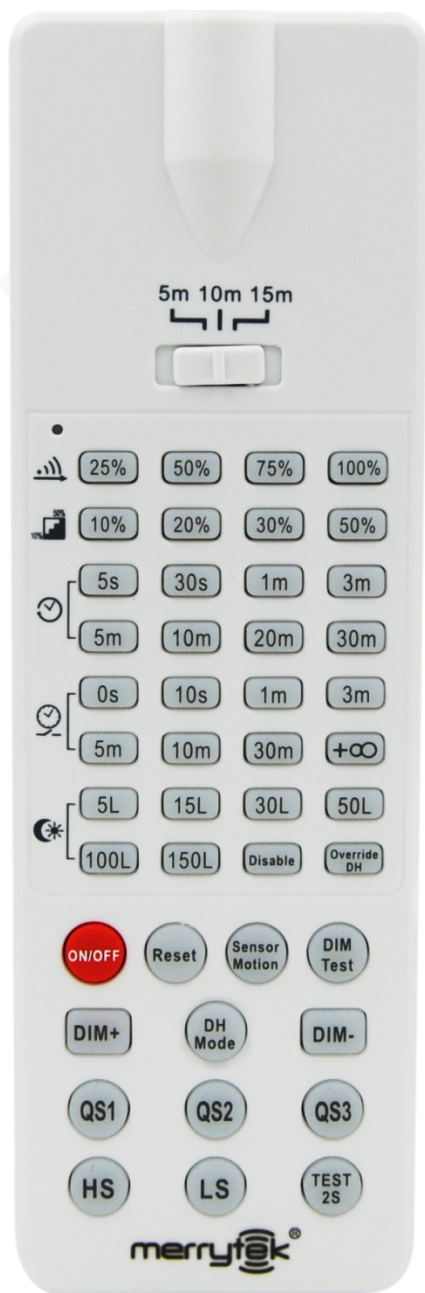
Hold time: short press to switch 2s/30s/60s

5=3min,6=5min,7=10min,8=30min

Reset: all parameter back as factory setting

Indicator: short press to open indicator, long press to close indicator

MH10 remote



Detection range: 100%,75%,50%,25%

Hold time: 2s(5s button)/30s/1min/3min/5min/10min/20min/30min

HS: turn on indicator

LS: turn off indicator

【Application tips】

1. Our sensor shall be installed by professional electrician under power-off state
2. Our sensor support 4m high installation for indoor use only.And it's strongly suggested installed far away from hot or temperature-change-fast area to avoid false trigger
3. To ensure normal detection,there shall be no big object within our sensor's detection area because our sensor can't detect by penetrating object
4. There shall also no strong-reflect object,wifi router,microwave oven etc before our sensor to avoid false trigger
5. Our sensor's detection area function is based on 25°C environment temperature,when environment temperature is higher/lower than this temperature,our sensor will be dull/sensitive,such the detection area will be shorter/longer
6. Our sensor's detection area function is based on tangential movement,and become short if you test by radial movement due to PIR character

【Disclaimer】

Due to the complexity of product technology and differences in application environment, it is difficult to guarantee a completely accurate or complete description, so this specification is only for user reference.

We will reserve the right to make changes to the product specifications without notifying the user, and do not make any commitments and guarantees in the legal sense. At the same time, our company encourages users to supplement or modify the contents of our specifications after using our products.