

Specification

Product series: High-mounting PIR motion sensor (ON/OFF+0-10V version)

Product model: MSA050S IR V

Product version: V1.0

Version	Release Date	Revise record	Publishing
V1.0	2024.12.14	Initial release	Jacky

【Product description】

MSA050S IR V is a high-mounting PIR motion sensor with daylight detection function. Combined with the unique software algorithm of Merrytek, it can accurately detect human movements in almost all high-mounting scenario to control lighting automatic ON/OFF and 0-10V dimming signal in warehouse,lobby,workshop etc.

【Product Feature】

- PIR motion detection
- ON/OFF+0-10V output
- Daylight sensor detection available
- Detection area,hold time and daylight threshold can be set by remote/DIP switch
- Max detection range: 8-10m in diameter
- 10m max mounting height
- Warehouse,workshop and lobby motion detection highly recommended
- Max loading capacity :800w resistive loading and 400w inductive loading
- Flush mounting and surface mounting available



【Dimension】

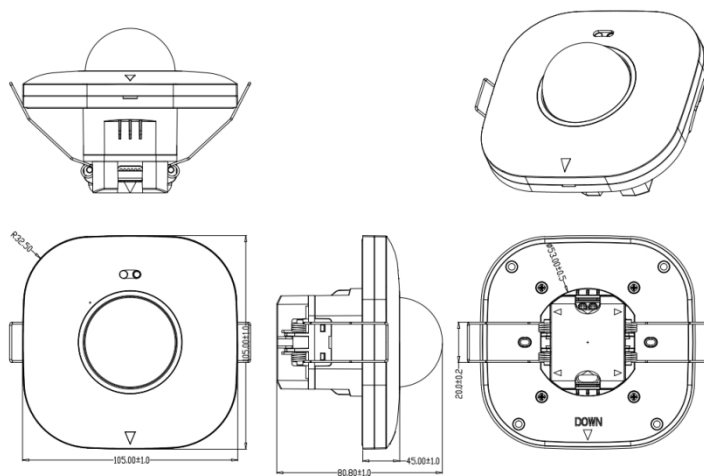
- Product size: 105x105x90.8mm(flush mounting)、105x105x65.8mm(surface mounting)
- Connection interface: 6-pin terminal

【Parameter】

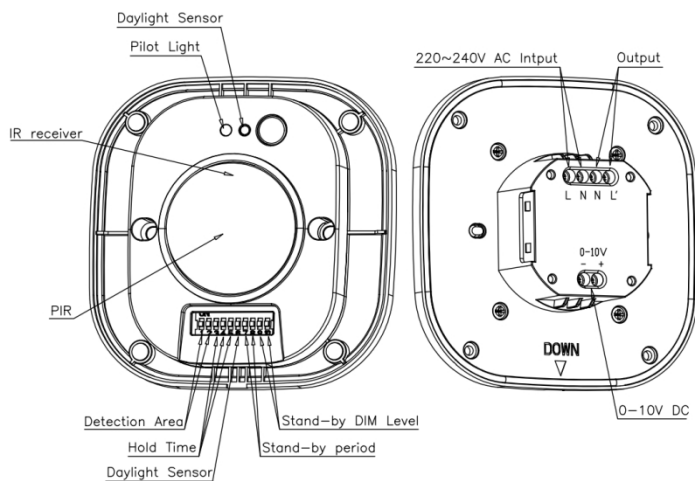
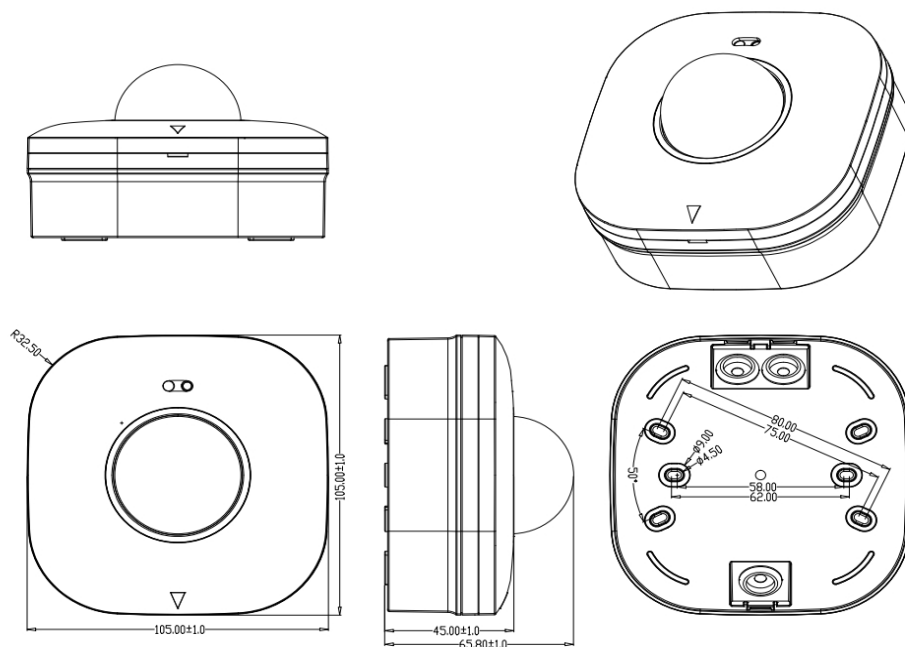
Input/Output	Input voltage	100-240V AC
	Rated voltage	230V AC
	Working current	20mA max
	Power consumption	≤0.5W @12/24V DC
	Output signal	1 channel ON/OFF(Max 800w resistive loading and 400w inductive loading)+1 channel 0-10V
	Max. Surge Capacity	50A (50% Ipeak, twidth =200us, 230Vac full load, cold start)
Sensor parameter	Function	PIR motion detection+ daylight sensor
	Detection Area	DIP or remote setting: 100%/75%/50%/25%
	Hold Time	DIP: 5S/1min/5min/10min/20min/30min MH10 remote:5s/30s/1min/3min/5min/10min/20min/30min
	Standby dim level	10%/20%/30%/50%
	Standby time	0S/1min/10min/∞
	Daylight Sensor	DIP: 50Lux/Disable MH10remote: 5Lux/15Lux/30Lux/50Lux/100Lux/ 150Lux/Disable
	Daylight harvesting	Available (when daylight harvesting mode is enabled,its dimming range is 10%-100%,and our sensor will automatically be disabled when environment lux is higher than 1000lux and recover enabled when environment lower than 120lux)
	Radius detection range(based on 100% sensitivity)	4-5m@25℃ based on 8m mounting height
	Remote control	Available
Application environment	Mounting height	2.5-10m, typical value:8m
	Drill hole	Φ55mm
	Working temperature	-25℃...+50℃(detection range might differ based on different temperature)
	Storage temperature	-40℃~+80℃
Certificate Standard	Warranty	5 years (available based on product quality and indoor application)
	Certificate	Compliant to CE
	Environmental requirements	Compliant to RoHS
IP rating	IP rating	IP54(surface mounting)/IP20(flush mounting)
	“N/A” means not available	

【Dimension and Function diagram】

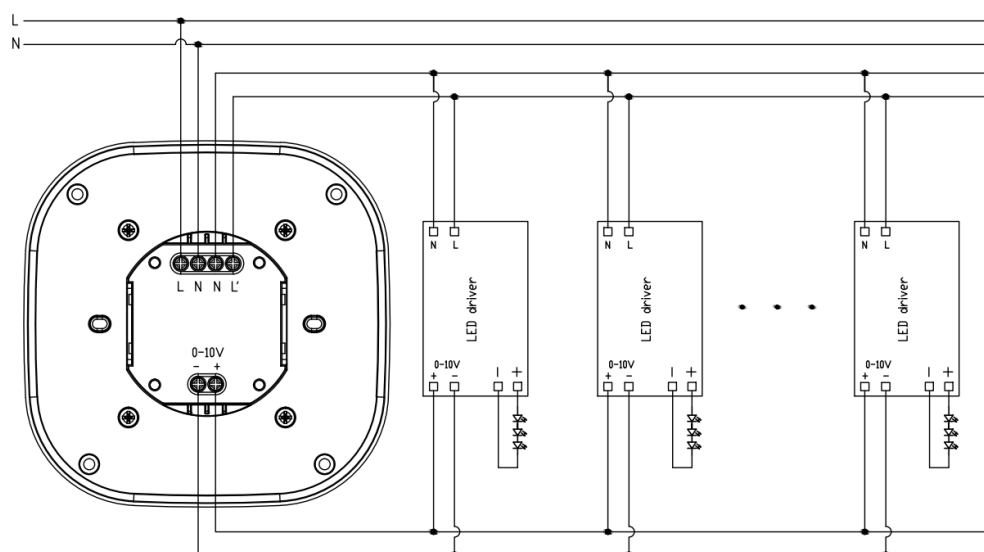
Flush mounting



Surface mounting



【Wiring instruction】



Wiring layout suggestion:

1. LN terminal stands for AC input, L'N' stands for AC output, please wiring correctly
2. 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.

【Initialization】

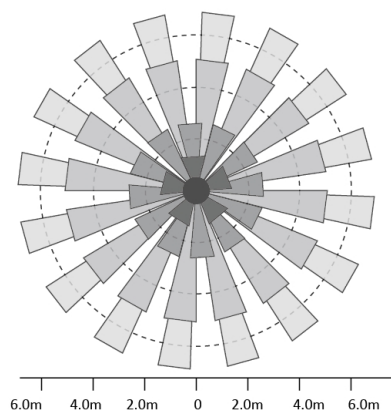
When powered on, sensor indicator will turn off after flashing for 10S and will not detect moving signal during this time. After 10S, you can use our MH10 remote or dip switch to adjust detection area、hold time and daylight sensor etc parameter.

【Factory setting】

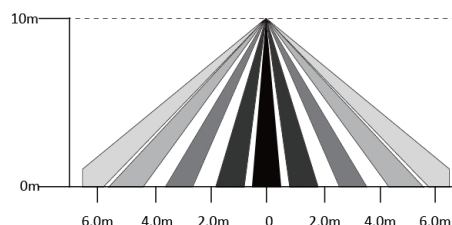
Detection Area: 100%, Hold Time: 5s, Standby time: 0s Standby dim level: 10% Daylight Sensor: Disable

【Detection radiation】

MSA050S IR V is highly recommended ceiling flush mounting its detection radiation is as below shows:



Top view



Side view

【Detection Signal】

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

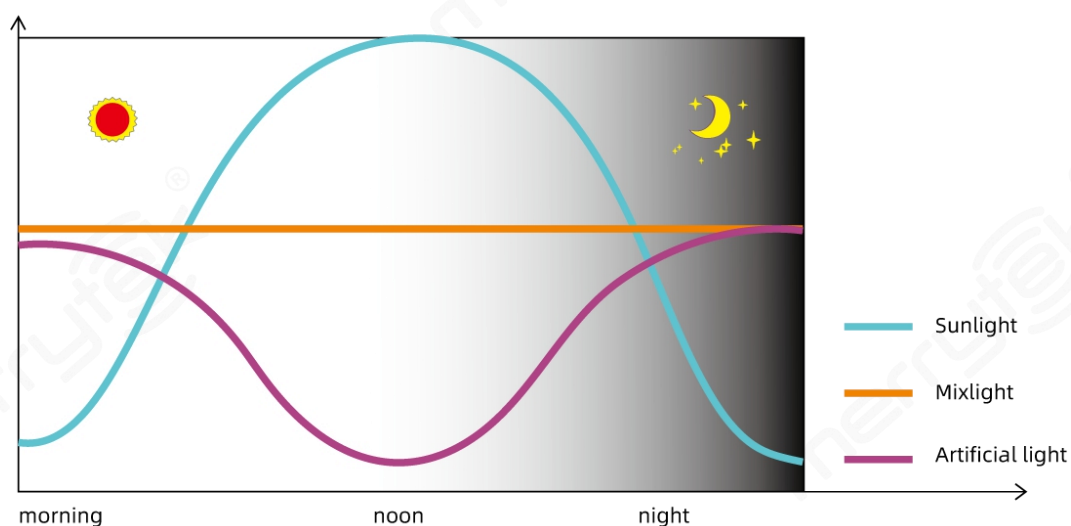
- **Moving signal:** detect the human significant moving (walking) in the detection area.

【Detection harvesting manual】

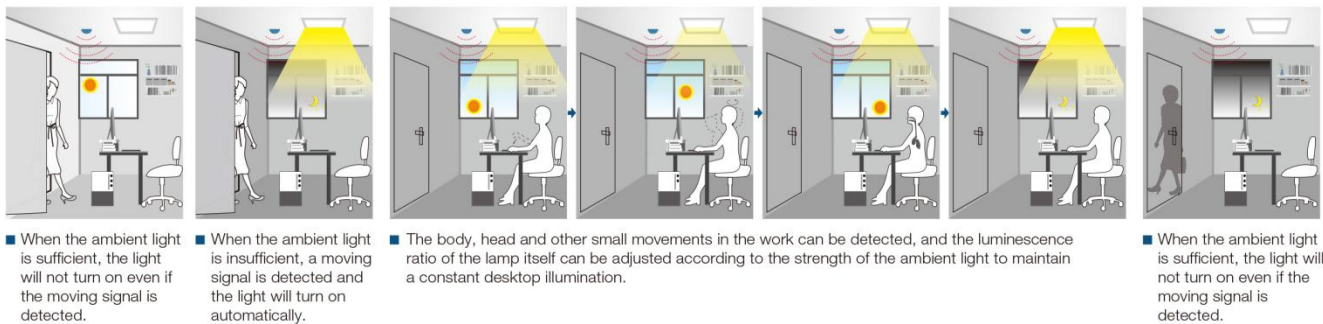
The built-in light sensor can automatically detects the intensity of natural light to adjust the artificial light according to the preset lux level, to maintain target illumination. It can be used in offices, airports, shopping malls and other occasions where the brightness of lamps needs to be adjusted according to sunlight during the day

Note: you shall long press MH10 remote's "DH mode" button more than 3s to start this function, when the load fixtures flash once means the function is enabled successfully. After that you shall press "DIM+" / "DIM-" button to set target lux level. When the setting is successful, when the external natural light becomes dark (brighter), the sensor will increase (lower) the brightness of the lamp to maintain preset target lux level (this status is short in "With DH" in following) .

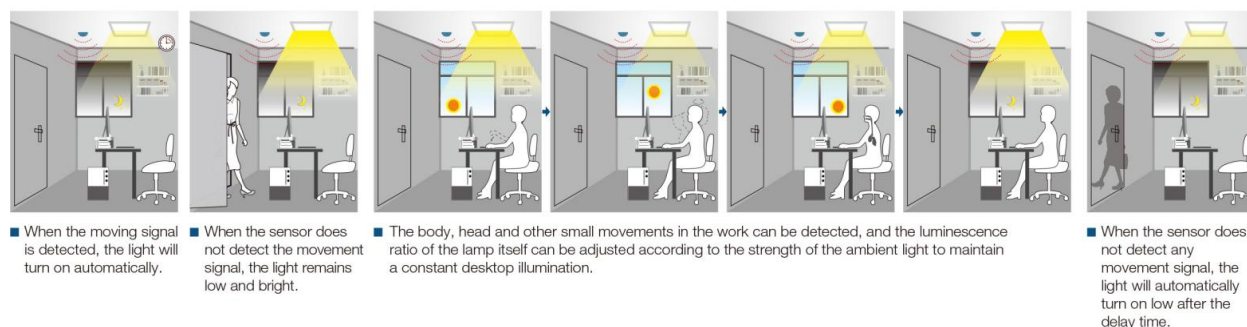
Long press "Override DH" 3s on remote control to override daylight harvesting function, load fixtures flash once means the function is disabled successfully.



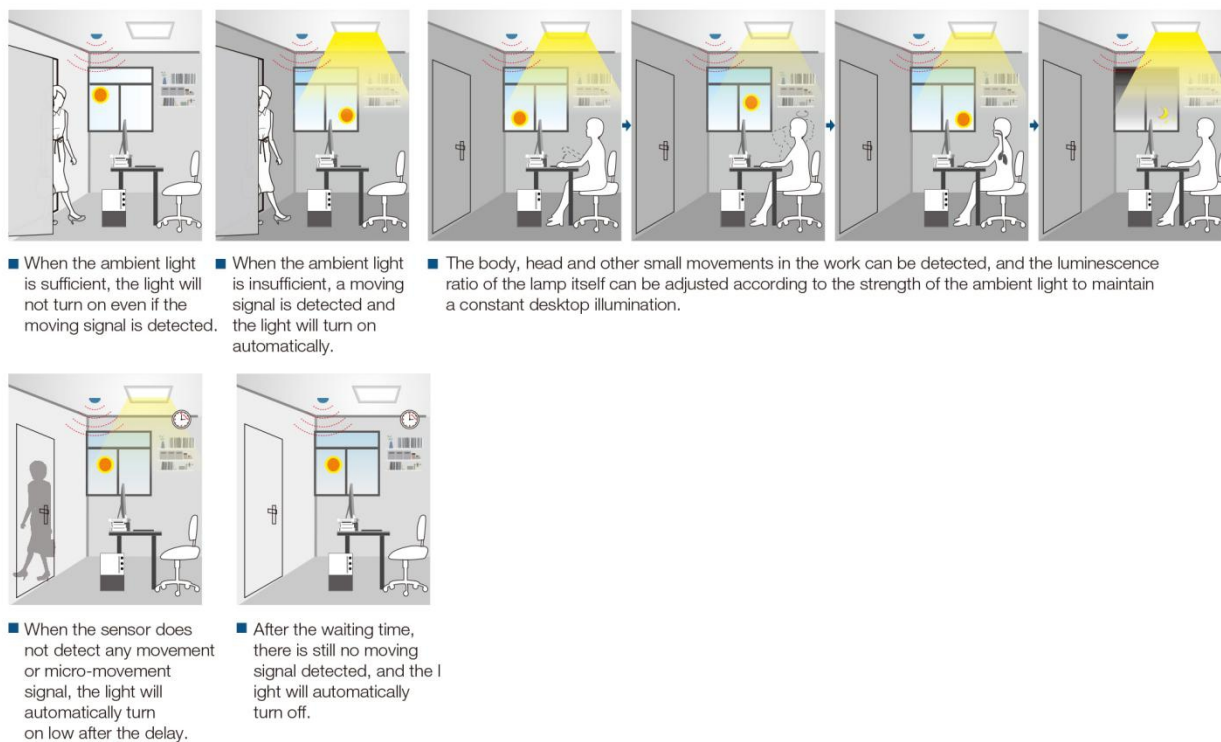
Breath detection on / off function (stand-by period be set to “0s”, with DH mode)



Breath detection with 2 step dimming function (stand-by period be set to “+∞”, with DH mode)



Breath detection with 3 step dimming function (stand-by period be set to “1min/3min/10min/30min”, with DH mode)



【DIP switch setting】

Detection Area

	1	2	
I	ON	ON	100%
II	-	ON	75%
III	ON	-	50%
IV	-	-	25%

Hold Time

	3	4	5	
I	ON	ON	ON	5S
II	-	ON	ON	1min
III	ON	-	ON	5min
IV	-	-	ON	10min
V	ON	-	-	20min
VI	-	-	-	30min

Daylight Sensor

	6	
I	ON	50Lux
II	-	Disable

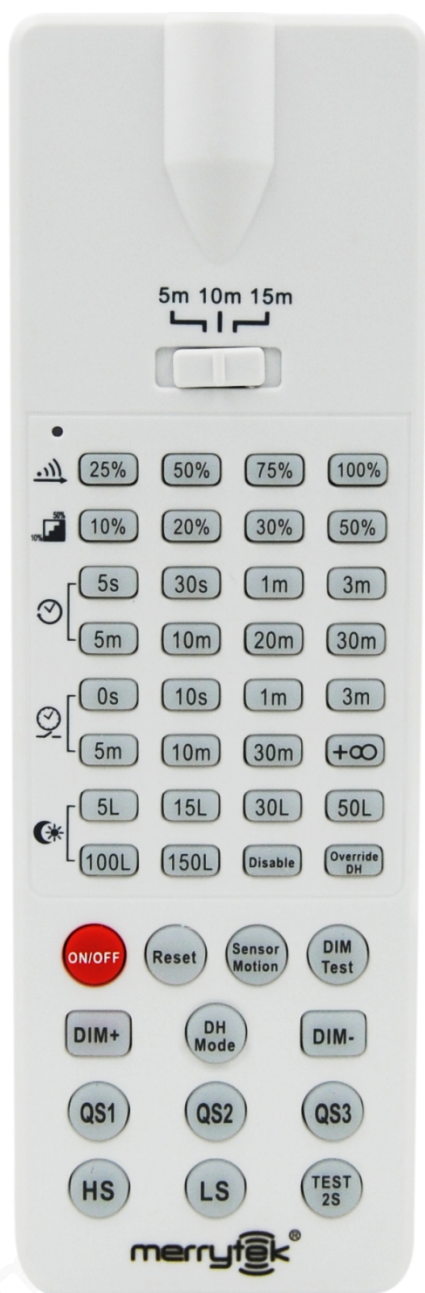
Standby Time

	1	2	
I	ON	ON	0
II	-	ON	1min
III	ON	-	10min
IV	-	-	∞

Standby Dim Level

	1	2	
I	ON	ON	10%
II	-	ON	20%
III	ON	-	30%
IV	-	-	50%

【Remote manual】



Detection range: 25%/50%/75%/100%
Standby dim level:10%/20%/30%/50%

Hold time: 5s/30s/1min/3min/5min/10min/20min/30min
Standby time:0s/10s/1min/3min/5min/10min/20min/∞

Daylight threshold: 5lux/15lux/30lux/50lux/100lux/150lux/Disable

ON/OFF: disable sense function
Sensor motion: enable sense function
Reset: all parameter back as factory setting

HS: turn on indicator
LS: turn off indicator

【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.