Specification

Product Name: 5.8GHz Large-space presence sensor（ON/OFF version）

Product Model: MSA015S RC

Product Version: V1.0

Versions	Release/ change Date	Publishing
V1.0	2021.8.13	Jacky

【Product Description】

MSA015S RC is a 5.8GHz radar sensor based on Merrytek patented low-impedance high-gain antenna. Its antenna has high gain and wide detection range and is combined with Merrytek's unique software algorithm so that It can accurately detect minor movements brought by human in almost all indoor spaces like washroom、meeting room and office to control lighting or fan.

【Product Feature】

- Exclusive Merrytek Lifebeing Presence Detection
- Accurate Presence/Absence Output
- ON/OFF switch function available
- Daylight Sensor Available
- 5.8Ghz ISM Band Microwave Radar technology
- Presence detection diameter: 4-6m Max
- Minor Motion detection diameter: 6-8m Max
- Motion detection diameter: 6-8m Max
- 800w resistive loading or 400w inductive MAX loading
- Absence switch to Presence within 0.5S
- Presence switch to Absence no less than 30S
- Flush mounting installation available
- Sensor parameter adjustable by MH10 remote or DIP switch
- Sensing function based on millimeter wave radar technology
- Low RF power output. No harm to human health
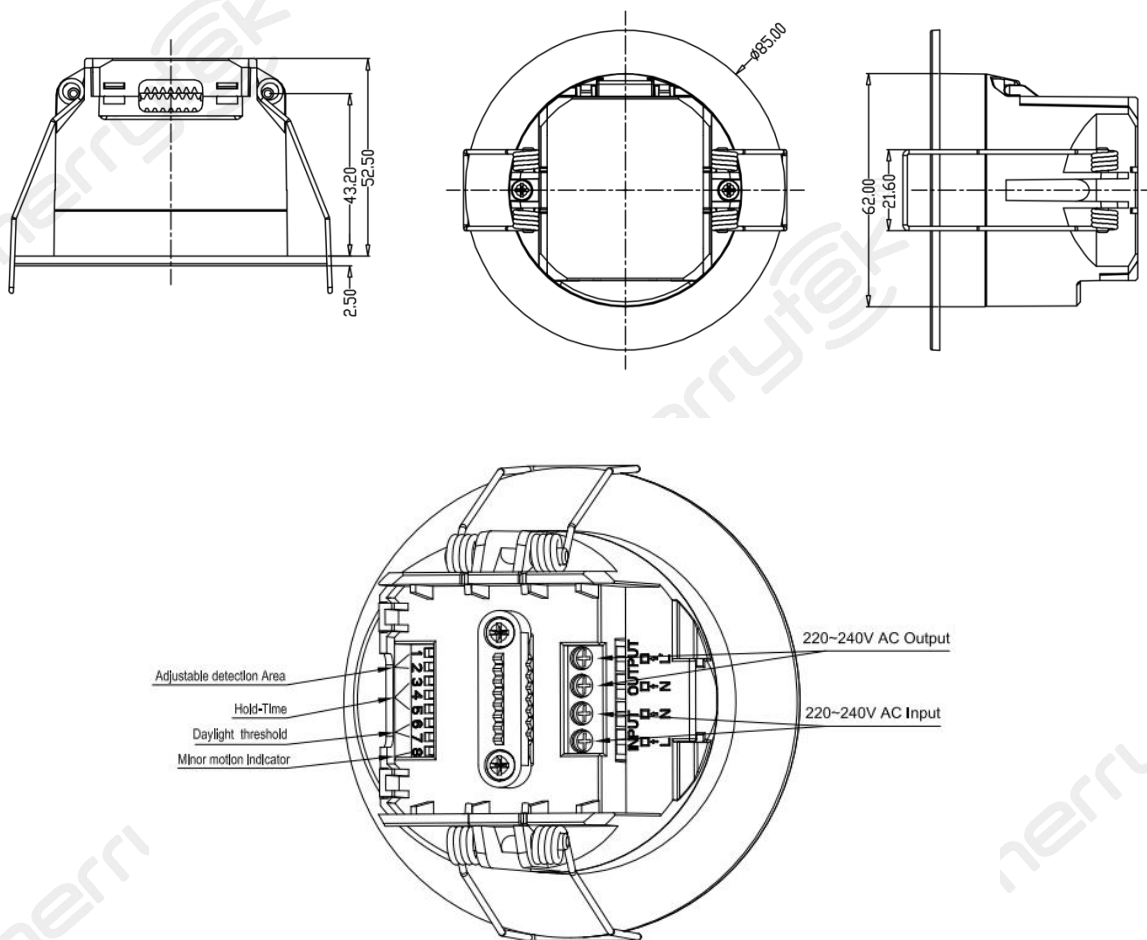- Not affected by temperature, humidity, noise, airflow, dust, light and other environments

【Product dimension】

- Dimension: φ85x52.5mm
- Terminal: 4pin terminal

【Parameter】
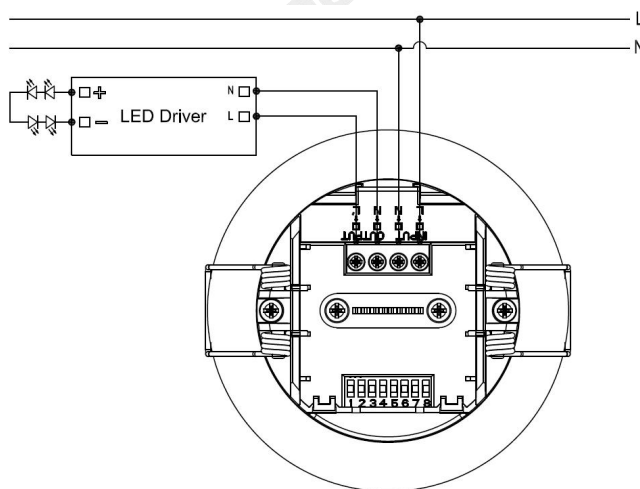
Input/Output	Input voltage	100-240V AC 50-60Hz
	Rated voltage	220V AC
	Working Current	50mA max
	Working Power	≤1W 230V DC
	Load capacity	800w resistive loading or 400w inductive loading
	Loading instant peak current	30A
Sensor Parameter	Radar frequency	5.8GHz±75MHz ISM band
	Radar transmit power	5mW Max
	Detection Area	DIP or remote setting: 100%/75%/50%/25%
	Hold Time	DIP or remote setting: 5s/30s /1min / 3min /5min /10min /20min /30min
	Radius detection range(based on 100% sensitivity)	Motion detection（3m height）：3-4m
		Minor motion detection（3m height）：3-4m
		Presence（3m height）：2-3m
	Daylight sensor	5-150lux/Disable
	Remote control	Available
	Mounting height	2.5-4.0m
	Detecting Angle	150°
Application Environment	Drill hole	Φ65-70mm
	Installation	Flush mounting
	Working Temperature	0℃ to +50℃
	Storage Temperature	-40℃ to 80℃
Certificate Standard	Certificate	CE/FCC/RED
	Environmental Requirement	Compliant to RoHS
	IP Rating	IP20
Note: "N/A" means not available.		

【Dimension and Function diagram】

ϕ85.00

52.50
43.20
2.50

62.00
21.60

Adjustable detection Area
Hold·Time
Daylight threshold
Minor motion Indicator

1 2 3 4 5 6 7 8

OUTPUT
INPUT

220~240V AC Output

220~240V AC Input

【Wiring instruction】

L
N

LED Driver

N
L

1 2 3 4 5 6 7 8

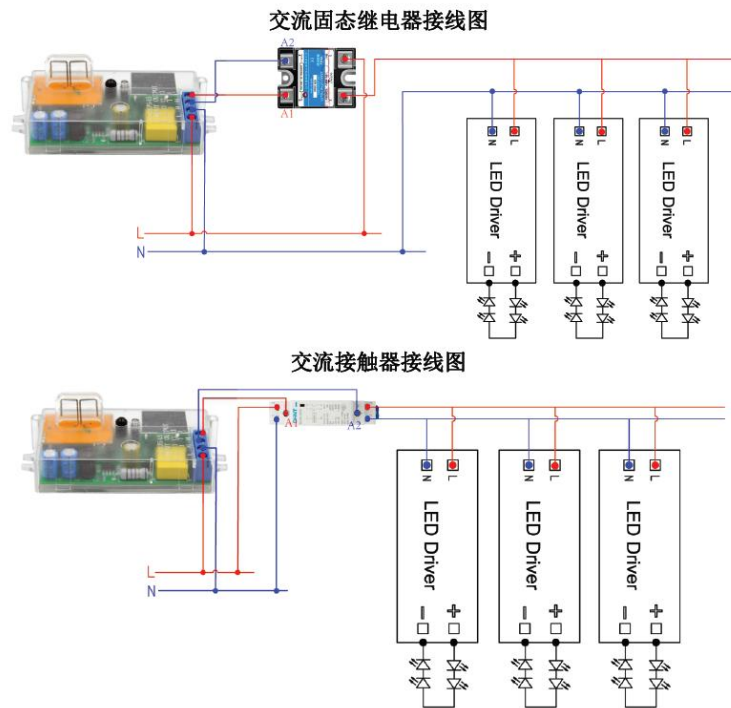**Wiring layout suggestion：**

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.

交流固态继电器接线图

交流接触器接线图

注：负载能力由交流固态继电器/交流接触器性能决定。

【Initialization】

When powered on,sensor indicator will turn off after flashing for 20S and will not detect moving signal during this time. After 20S,you can use our MH10 remote or dip switch to adjust detection area、hold time and daylight sensor etc parameter.

【Factory setting】

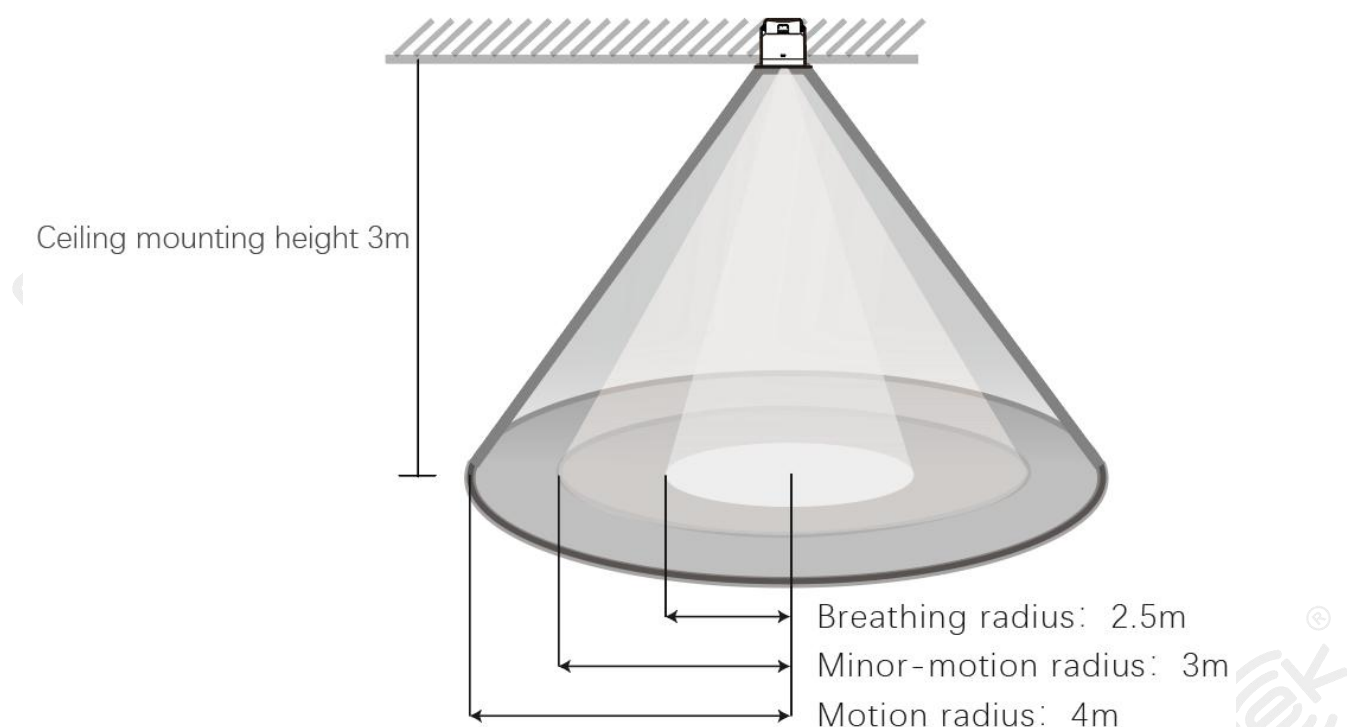Detection Area: 100%   Hold Time: 1Min

Indicator light: Open   Daylight sensor: Disable

【Detection radiation】

MSA015S RC is highly recommended ceiling flush mounting and its detection radiation is as below shows:

Ceiling mounting height 3m

Breathing radius: 2.5m
Minor-motion radius: 3m
Motion radius: 4m

【Detection Signal】

The product detects human moving, minor moving, and presence signals, and realizes the detection of human-existing/no-human in non-sleep state. The following is a description of the moving, minor moving and presence signals:

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

● **Minor moving signal:** 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.

● **Presence signal:** detect human abdominal and thoracic expansion behaviors caused by breathing, but not detect moving signal and minor moving signal.

【DIP 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	30S
III	ON	ON	-	1min
IV	ON	-	-	3min
V	-	ON	ON	5min
VI	-	-	ON	10min
VII	-	ON	-	20min
VIII	-	-	-	30min

Remark: Hold time shall be more than 1min if you want presence detection function
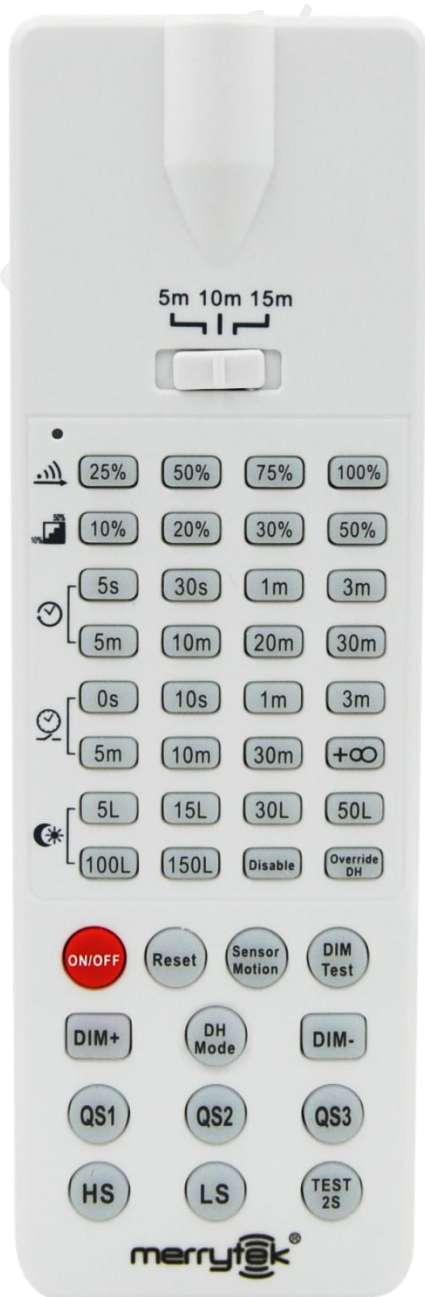
Daylight Sensor

	6	7	
I	ON	ON	5Lux
II	ON	-	25Lux
III	-	ON	50Lux
IV	-	-	Disable

Once daylight sensor set as Disable,our motion sensor will detect human movement regardless of environment lux

Indicator

	8	
I	ON	open
II	-	close

【Remote manual】

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

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

Daylightthreshold: 5lux/15lux/30lux/50lux/100lux/150lux/Disable

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

QS1/QS2/QS3: High/Medium/Low sensitivity 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.