

Specification

Product Name: 60GHz Small-space presence sensor (Dry contact version)

Product Model: MSA300D 99

Product Version: V1.0

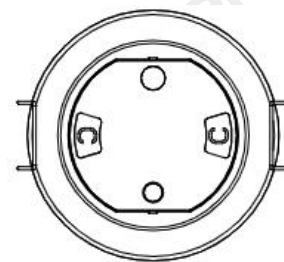
Versions	Release/ change Date	Publishing
V1.0	2023.09.08	Jacky

【Product Description】

MSA300D 99 is a 60GHz radar sensor based on Merrytek patented multi-array antenna. Its antenna is flipable from -30° to 30° to focus sensing on your target area. Meanwhile, thanks to its high gain, concentrated detection range and Merrytek's unique software algorithm. It can accurately detect human presence information within a small range with clear boundary like workplace and toilet cubicle. Thus it can provide fast and accurate human presence/absence information for smart office work station, small meeting cubicle and smart toilet solution.

【Product Feature】

- Exclusive Merrytek Lifebeing Presence Detection
- Accurate Presence/Absence Output
- Daylight Sensor Available
- NO/NC dry contact output available
- Detection antenna flipable from -30° to 30°
- 60GHz ISM Band Millimeter Wave Radar technology
- Motion/presence detection diameter :1-3m
- Presence, minor motion and motion detection range are highly coincide
- Round radiation. Effectively managing a whole space by a single sensor
- Absence switch to Presence within 0.5S
- Presence switch to Absence no less than 30S
- Flush mounting and Surface mounting installation available
- Sensor parameter adjustable by MH10 remote
- Low RF power output. No harm to human health
- Not affected by temperature, humidity, noise, airflow, dust, light and other environments



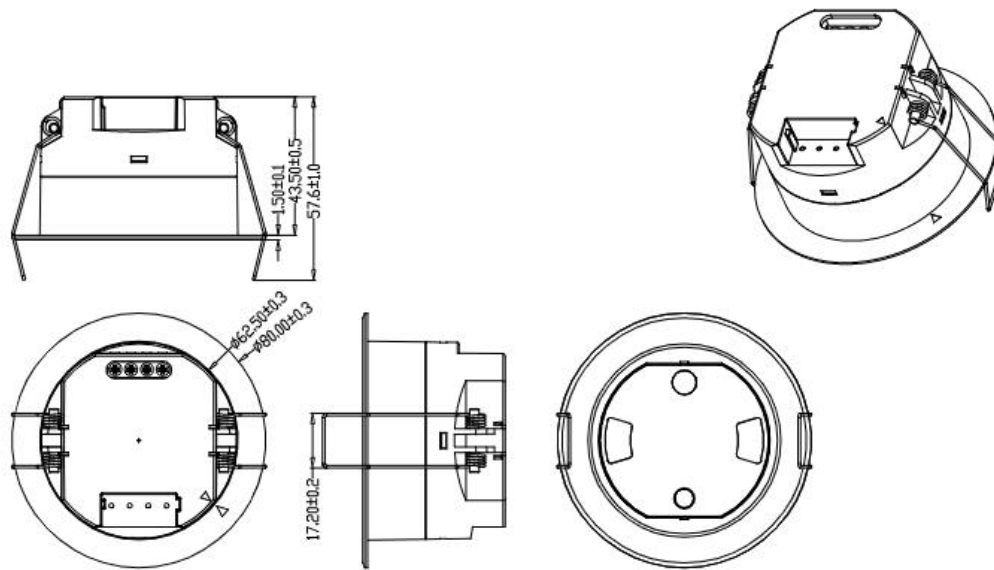
【Product dimension】

- Dimension: $\phi 80 \times 43.5 \text{mm}$
- Terminal: 4 pin terminal

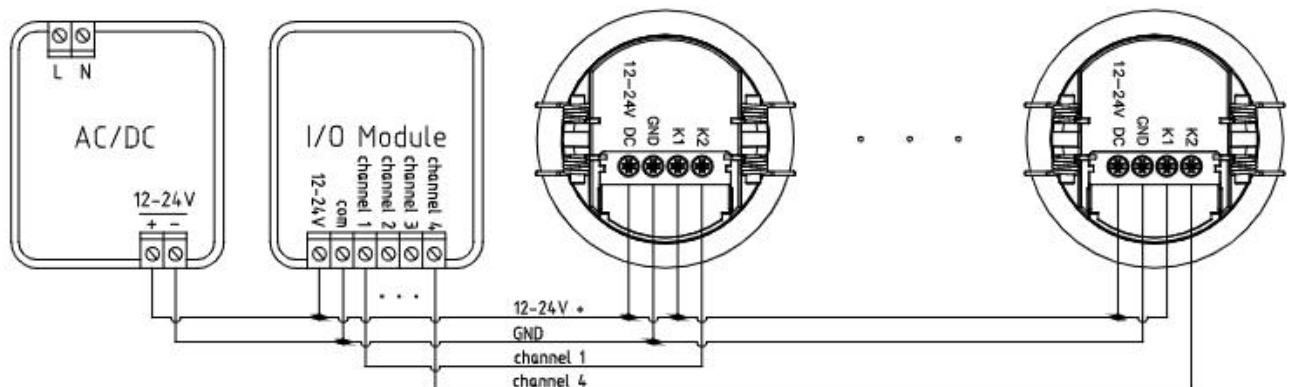
【Parameter】

Input/Output	Input voltage	12-24V DC
	Rated voltage	12V/24V DC
	Working Current	300mA max
	Working Power	≤1W @24V DC
	Output signal	NO/NC dry contact (Factory setting is NO dry contact)
Sensor Parameter	Radar frequency	60GHz-64GHz
	Transmitting Power	5mW Max
	Detection Area	MH10 remote setting: 25%-100%
	Hold Time	MH10 remote setting: 5s-30min
	Daylight sensor threshold	5-150lux
	Radius detection range(based on QS1 mode 100% sensitivity)	Motion/presence (3m height) : 0.5-1.5m
	Remote control	Available
	Mounting height	2-3.5m
	3dB beam angle	30° (horizontal) 30° (vertical)
Application Environment	Drill hole	Φ70mm
	Working temperature	0℃...+50℃
	Storage temperature	-25℃~+80℃
Certificate Standard	Certificate	FCC/RED
	Environmental requirements	Compliant to RoHS
	IP rating	IP20
Note: "N/A" means not available.		

【Dimension and Function diagram】



【Wiring instruction】



Wiring layout suggestion:

1. Hand-in-hand wiring is highly recommended, yet star-topology or tree-topology is strongly deprecated
2. When there's more than 1pc sensor is a line, you shall consider all equipment current consumption shall not surpass your driver's loading capacity.

【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 to adjust detection area、hold time and daylight sensor etc parameter.

【Factory setting】

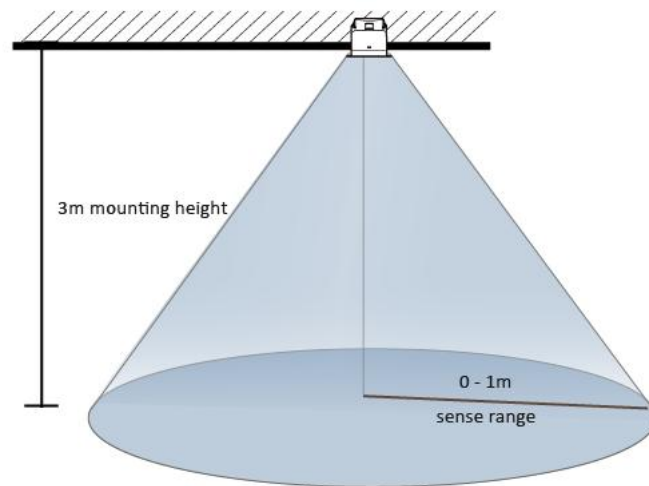
Detection Area :100%

Hold Time :30S

Indicator light :open

【Detection radiation】

MSA300D 99 is highly recommended ceiling flush mounting and its detection radiation is as below shows:

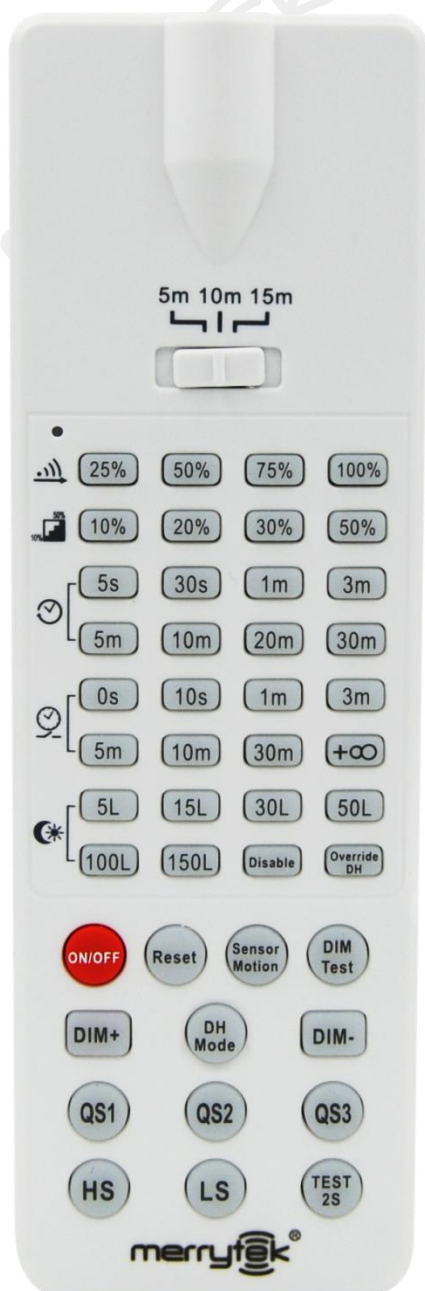


【Detection Signal】

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.

【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

DIM+: NO dry contact,DIM-: NC dry contact,

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.