INSTRUCTION

Product Name: LifeBeing sensor (DALI control)

Model No.:   MSA020

Issue Date: 2020-07-08

Attention
1. The product shall be installed by a professional electrician. Please disconnect the power before installation, wiring or changing the setting of by DIP switch 2. Please read the relevant contents of this manual carefully before using the product. 3. This product is only suitable for indoor environment. 4. Ensure that the product is installed in a relatively dry and ventilated environment. 5. Before the product is powered on, please confirm that the input voltage range meets the requirements of the manual. 6. Keep out of reach of children.

Shenzhen Merrytek Technology Co.,Ltd
Add: No.17th Building, Dianda Guyuan Industrial Park, Mashantou, Matian, Guangming District, Shenzhen, China, 518106
Tel: +86 (0)755-2305 7253   Fax: +86 (0)755-2786 3012   Website: www.merrytek.com
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1. Features:

1) Adopt Merrytek patented Lifebeing detected technology, which can detect movement, slight motion and breathing signal.

2) Built-in daylight sensor for energy saving

3) Built-in DALI interface, which can work with DALI1.0 & DALI2.0 drivers.

4) Work with DALI bus power supply, can be grouping control

5) Support multiple access, multi-point acquisition of sensor data, transmissing the datas via broadcast mode grouping work

6) 5 years warranty.

2. Parameters

Input	Operating voltage	9.5-24V DC (DALI BUS power supply ）
	Operating current	40mA Max (@16v DC)
Output	Working mode	ON/OFF
	Work mode	DALI signal
Interface	DALI bus interface	9.5V-22V DC Bus operating current: 40mA Max
Sensor parameters	Operating frequency	5.8 GHz ±75 MHz, ISM wave band.
	Transmitting power	5mW Max.
	Hold time	5S/30S/1Min/3Min/5Min/10Min/20Min/30Min
	Work mode	Master/ slave
	Detection Area	100%/75%/50%/25%
	Daylight Sensor	5Lux、Disable
	Detection range (radius)	Movement: 3-4m (Speed: 0.3m/s） Slight motion: 3-4m Breathing: 2-3m
	Mounting height	Recommend 2.5-4m
	Detecting Angle	150°(wall mount), 360°(ceiling mount）
Operating environment	Operating Temperature	0℃～+50℃
	Storage Temperature/humidity	-40℃～+80℃
Certificate Standards	LVD standards	EN61058-1, EN61058-1-2
	EMC standards	EN55015, EN61547, EN61000-3-2, EN61000-3-3
	Environmental Requirement	Compliant to RoHS
	Certificate	CE RED
Others	Wiring	"L N ground" port diameter: 0.75-1.5 mm^2
	IP Rating	Whole: IP20 Exposed part: IP44
	Protection Class	Class II
	Installation	Built-in

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Installation imension	Cut size: Ø65-Ø70
Life time	5 years warranty@Ta 230V full load
Group selection	Select groups via rotating the encoder (Group 0 is broadcast mode，other group 1-F are packet modes.).

Note 1. "N/A"means not available.

3. Function

Instructions of signal detection：the sensor detects human walking, slight motion(such as body movement, turn up head and others minor movements) and breathing to realize the detection of human existence in non-sleep state.

Movement signal active   Slight motion& Breathing signal maintains

* Movement signal: to trigger the sensor
* Slight motion signal: the sensor keeps to detect and the indicator flashes once.
* Breathing signal: when no slight motion signal, the indicator quick flashes 3 times after the sensor detects 3 effective breathing signals.
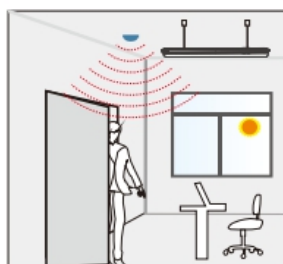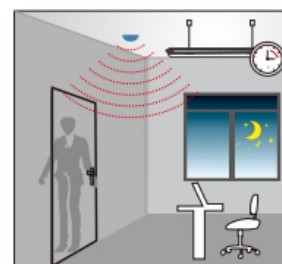
❶ When the ambient light is sufficient, the light will not turn on even if the moving signal is detected.
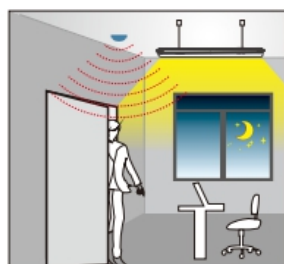
❷ When the ambient light is insufficient, a moving signal is detected and the light will turn on automatically.
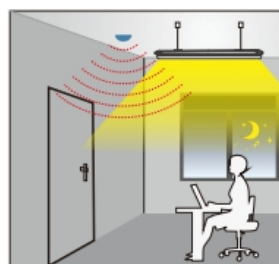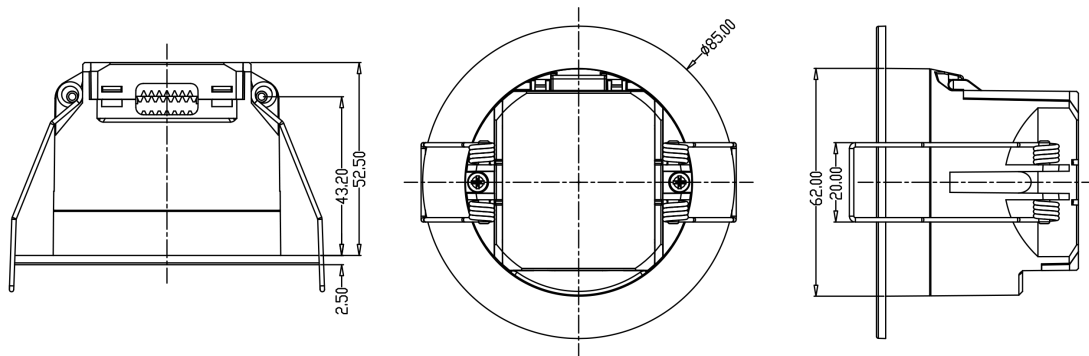
❸ The body, head and other small movements in normal work can be detected, and the light is always on.
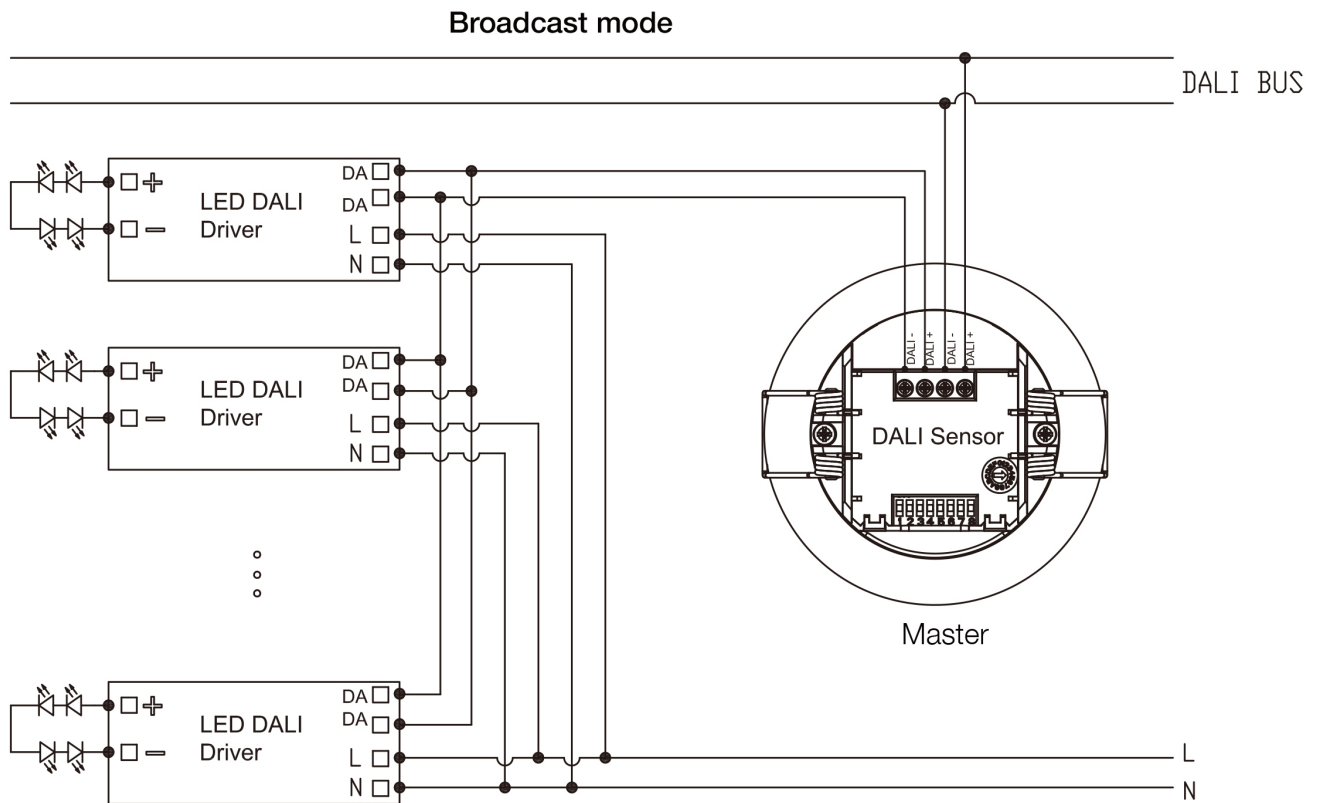
❹ When the sensor fails to detect movement and inching signal, the light will automatically turn off after the delay time.
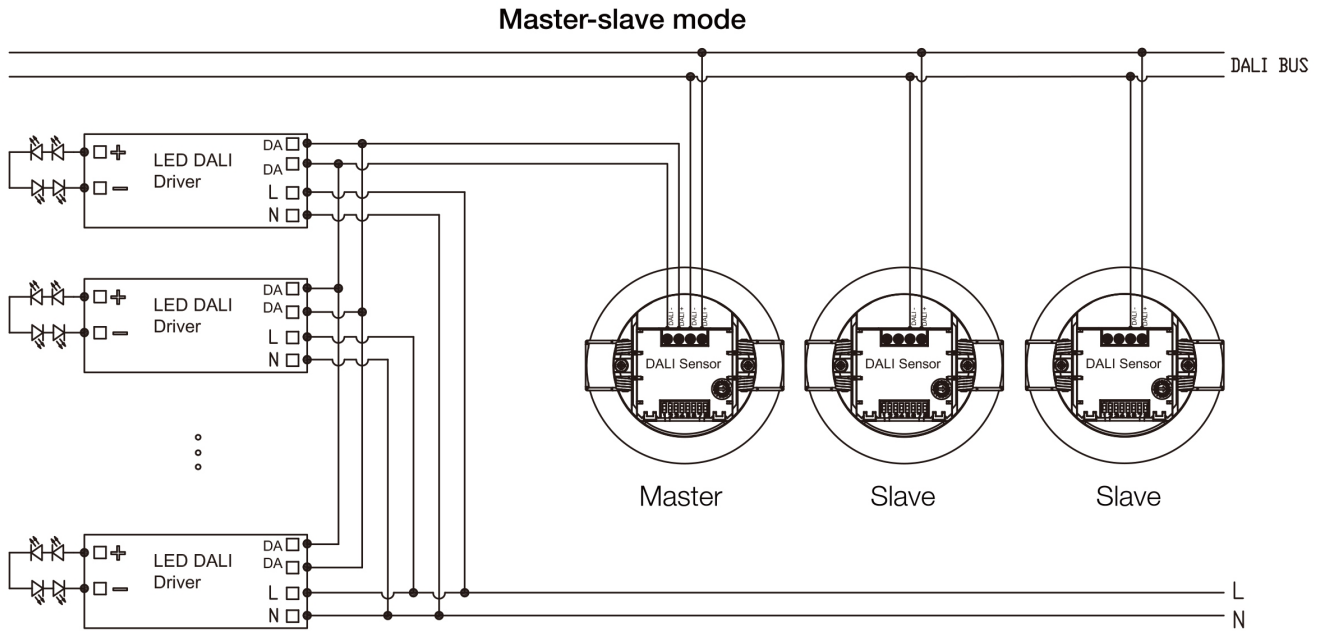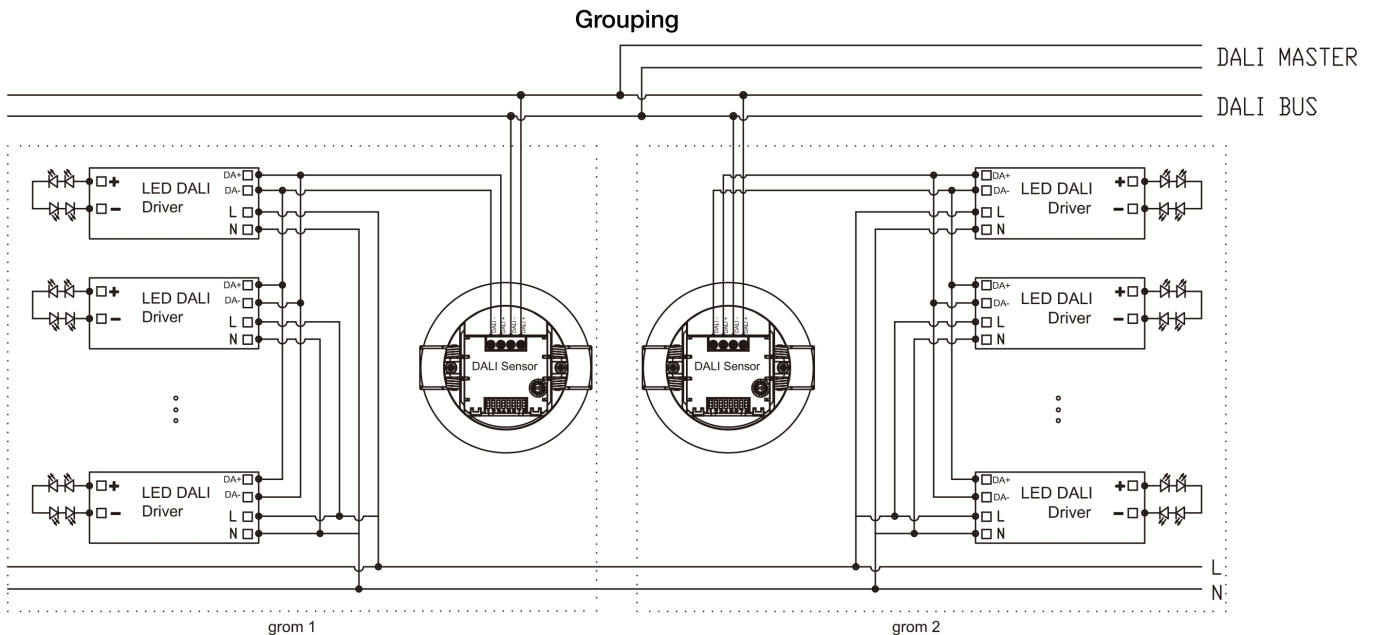
4. Dimension (mm)

5. Wiring

1. Broadcast mode：

Broadcast mode

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2. Master-slave mode：

Master-slave mode
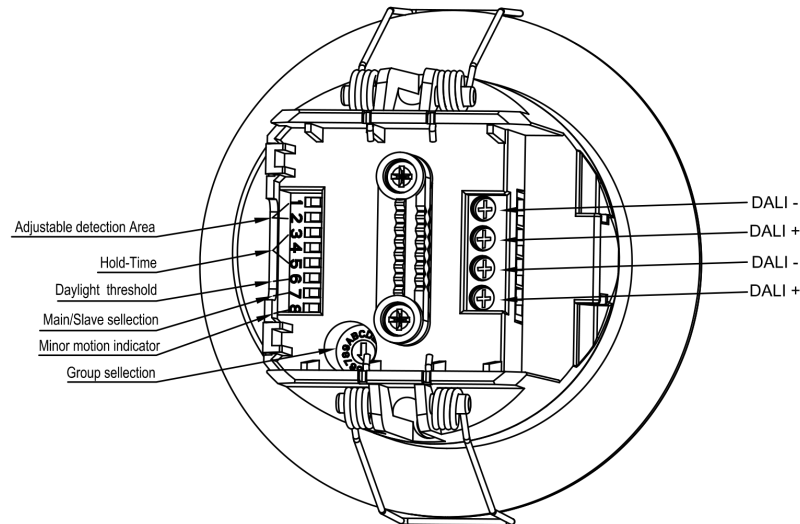

3.Wiring of group control：
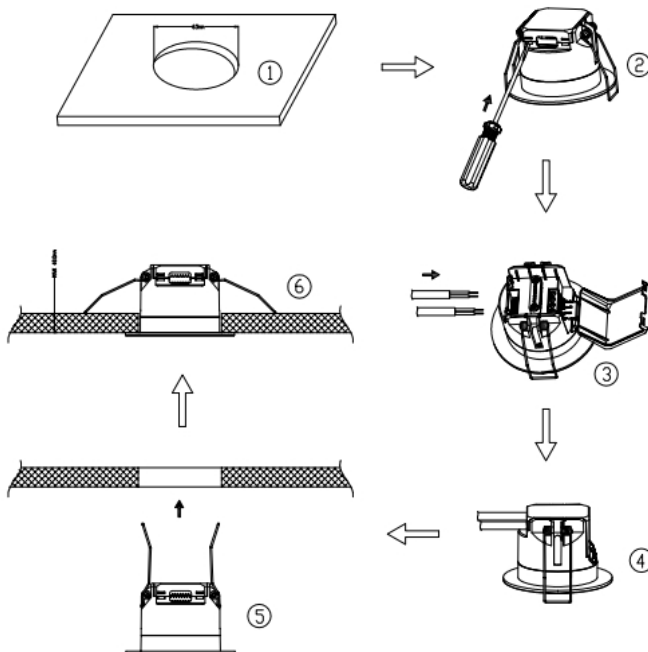
Grouping

Note ：

1. When multiple sensors are connected, only one sensor can be the master, others should be slaves. And when signel mode or master-slave mode, one sensor must be the master.

2. When working normally, the hold time depend on the setting of the last triggered sensor.

3. It's recommended to connect 64pcs DALI drivers when one sensor is connected; 40pcs DALI drivers when 2 sensors; 30pcs DALI drivers when 3ps sensors; 20pcs DALI drivers when 4pcs sensors. Up to 4pcs DALI sensors can be connected to one DALI bus.

4. All settings should be set to Group 0 when using broadcast mode or master-slave mode.

When using grouping mode, the settings of the sensor are set on the 1-F rotary encoder, to divide to 1-15 groups via PC configuration software. Pls note that one master can be grouped into max. 4 groups.
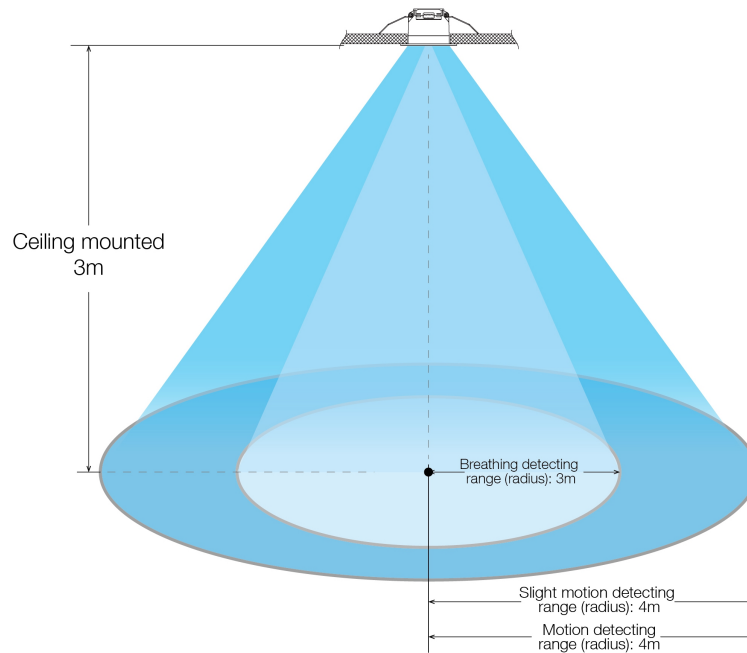
6. Structure

Adjustable detection Area
Hold-Time
Daylight threshold
Main/Slave sellection
Minor motion indicator
Group sellection

DALI -
DALI +
DALI -
DALI +

7. Installation Instruction

1. Cut a hole of 65-70mm on the ceiling

2. Open the button of the rotating protective cover to the maximum state

3. Wiring (input & output)

4. Install the screw of the line clasp and rotate the protective cover on the cover

5. Bend the spring clamp backward to push the pre-opened hole in the ceiling

6. Ensure smooth and reliable installation

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8. Detection pattern

Ceiling mounted 3m

Breathing detecting range (radius): 3m

Slight motion detecting range (radius): 4m

Motion detecting range (radius): 4m

9. Dip switch settings

1) Detection Area

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

2) 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

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Ⅵ	-	-	ON	10min
Ⅶ	-	ON	-	20min
Ⅷ	-	-	-	30min

Note：It's necessary to set the hold time 30s or >30s if you want to realize breathing detecting.

3) Daylight Sensor

	6	
Ⅰ	ON	5Lux
Ⅱ	-	Disable

*If daylight sensor is disable, the light will be on when movement is detected even if the lux level is enough or not.

4) Mode Selection (master-slave mode)

	7	
Ⅰ	ON	Master
Ⅱ	-	Slave

Note：pls be sure to set the sensor as master when using single or group mode；it only have one set as the master and others as the slaves when master-slave mode.

5) Indicator light

	8	
Ⅰ	ON	open
Ⅱ	-	close

Note: the indicator light is on when factory setting, you can turn off it via DIP or pressing the LS button of remote controller.
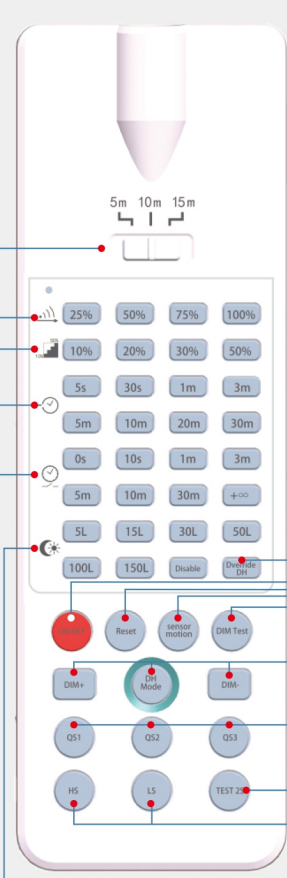
6) Group Selection

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Group	Group 0	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9	Group 10	Group 11	Group 12	Group 13	Group 14	Group 15

* It's broadcast mode or master-slave mode in Group 0, all connected DALI drivers are controlled synchronization.

* On group 1 to 15, the DALI master should to divide DALI drivers into the same array, up to 15 groups.

10. Remote control

Panel settings	Button	Function Description
	ON/OFF	Press "ON/OFF" button. When the load lamp enters the mode normal or off, press "RESET" button and "Auto mode" button to exit the mode normal on or off. No memory for ON-OFF setting after power off. Sensor mode will auto recover after restart power supply.
	Reset	Press "reset "button to return all settings back to current DIP settings.
	Sensor motion	Press the "Sensor motion" button. Switch from on/off mode to inductive mode (function return subject to the last setting)
	DIM Test	N/A
	Override DH	N/A
	DIM + DIM - DH Mode	N/A
	QS1 QS2 QS3	N/A
	TEST 2S	In any state, press "TEST 2s" button to TEST the mode today.
	HS LS	HS: Turn ON indicator light LS : Turn OFF indicator light
	☾☀	Light sensor Setting: 5Lux/15Lux/30Lux/50Lux/100Lux/150Lux/ Disable
	⏱	N/A
	⏱	Hold Time Setting : 5S/30S/1min/3min/5min/10min/20min/30min
	50% 10%	N/A
	)))	Detection area Setting : 25%/50%/75%/100%
	5m 10m 15m	Remote Distance Toggling the button can set the distance of remote control controlling sensor

Remote control / DIP setting switchover

1. Adjusting the DIPs when power off, the settings back to current DIPs settings.

2. When press any buttons on remote controller, the settings back to current remote control settings.

11. Initialization

The light will turn on 100% brightness in the initial energizing sensor, and turn off after 60s.During

initialization, no external motion sensing signal will be detected.

12. Factory setting

Detection Area: 100%   Hold Time: 1min   Daylight Sensor: Disable   Main/Slave selection: Main

Indicator light: Open   Group Selection: Group 0, broadcast mode.

13. Application notice

1) The sensor should be installed by a professional electrician. Please disconnect the power before installing, wiring or changing the setting of the DIP switch.

2) Put the sensor as far as possible from large areas of metal plate, glass and other materials with high medium density to avoid triggering by mistake.

3) Avoid using objects that have been vibrating for a long time around the sensor, such as shaking fans, etc. The vibration signal will be regarded as the motion signal to trigger the sensor.

4) Avoid the detection window of the daylight sensor of the detector irradiated by an invalid light source, which will interfere with the measurement of ambient light.

5) The microwave sensor has a certain penetrating ability to the wall of the building, and the microwave penetrating to the outside of the wall may cause false alarm when it ACTS on the moving objects outside the fortified area.In order to avoid triggering by mistake, the installation position and appropriate induction range should be selected during installation.

6) The data on detection pattern is typical value tested in factory, the detection range could be affected by moving speed, installation height, motion object and different environment.