

### 1. Technical Specifications

Mains voltage	220-240VAC 50/60Hz
Stand-by power	<0.3W
Load ratings:	
Capacitive	800VA
Resistive	800W
Warming-up	20s
Sensor principle	Occupancy Motion detection
Detection range (Max.)*	Installation Height: 3m Diameter (Ø): 10m
Sensitivity	10% / 50% / 75% / 100%
Detection angle	360°
Operation temperature	Ta: -20°C ~ +50°C
IP rating	IP20/IP54

### 2. Functions

#### 2.1 On/off Control

This sensor is a motion switch, which turns on the light upon detection of motion or breathing, and turns off after a pre-selected hold-time when there is no movement or breathing. A daylight sensor is also built in to prevent the light from switching on when there is sufficient natural light.

#### 2.2 Lux Off Function

The built-in photodiode will also automatically turn off the light when the ambient natural light exceeds the programmed lux level for more than 5min, regardless of whether motion is detected or not.

#### 2.3 Manual Override

With the help of push-switch, this sensor can be over-riden by the end-user to manually switch on/off the light, which makes the product more user-friendly and offers more options to fit some extra-ordinary demands:

\* Short Push (<1s): on/off function;

On → Off: the light turns off immediately and cannot be triggered ON by motion until the expiration of pre-set hold-time. After this period, the sensor goes back to normal sensor mode.

Off → On: the light turns on and goes to sensor mode, no matter if ambient Lux level exceeds the daylight threshold or not.

Note: if end-user do not want this manual override function, just leave the "push" terminal unconnected to any wire.

#### 2.4 Semi-auto Mode (Absence Detection)

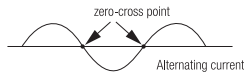
It is easy to forget to switch off the light, in office, corridor, even at home. And in many other cases, people do not want to have a sensor to switch on the light automatically, for example, when people just quickly pass-by, there is no need to have the light on. The solution is to apply this "absence detector": motion sensor is employed, but only activated on the manual press of the push-switch, the light keeps being ON in the presence, and switches off in the long absence.

Note: end-user can choose either function 3.3 or function 3.4 for application.

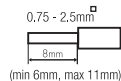
Default function is manual override.

#### 2.5 Zero-cross Relay Operation

Designed in the software, sensor switches on/off the load right at the zero-cross point, to ensure that the in-rush current is minimised, enabling the maximum lifetime of the relay.



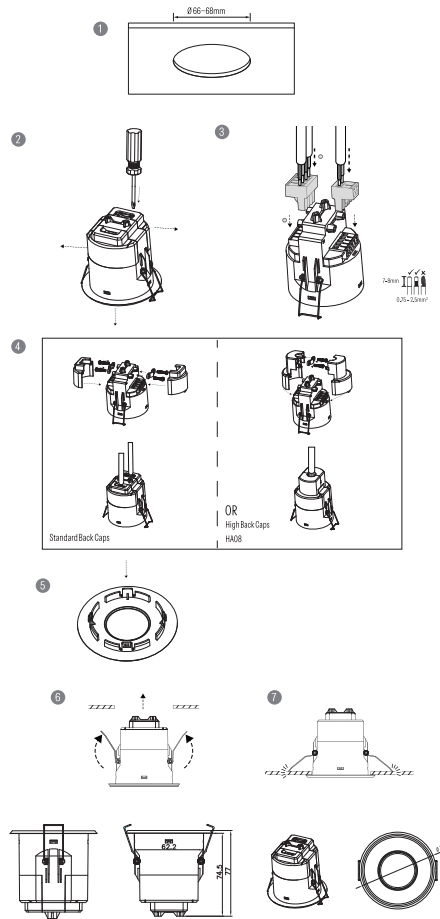
#### Wire Preparation



Pluggable screw terminal. It is recommended to make connections to the terminal before fitting to the sensor.

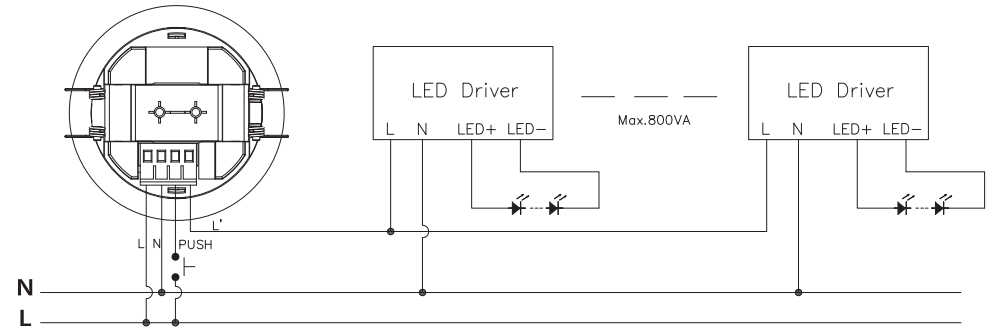
### 3. Installation

#### Mechanical Structure & Dimensions



1. Ceiling (drill hole  $\phi 66-68\text{mm}$ )
2. Carefully prise off the cable clamps.
3. Make connections to the pluggable terminal blocks.
4. Secure the cables with screws for better stability (provide high back caps HA08 option).
5. Fit desired lens.
6. Clip fascia to body.
7. Bend back springs and insert into ceiling.

### 4. Wiring Diagram



-----This product should be installed by a qualified electrician.

### Sensor Installation and Commissioning Guidelines

#### A. Installation Preparation

1. Make sure the room is empty with no moving people or machinery when first powered up for 1 minute.
2. There is a 20-second warm-up time for the sensor, Please do the commissioning after warm-up.
3. When the sensor is powered off, repeat the initial steps once it's re-powered

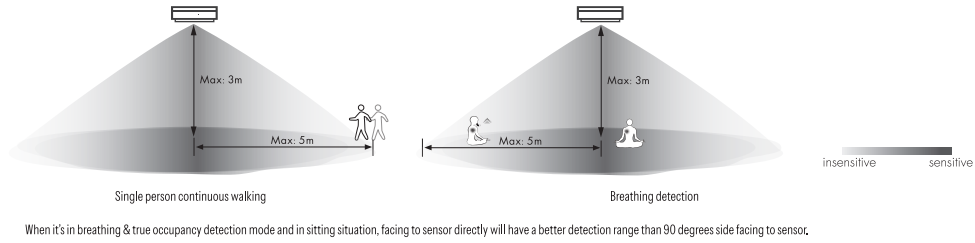
#### B. Sensor Placement

1. The distance between sensors should be at least 3 meters.
2. Sensors should not directly face sources of microwave interference, such as other microwave sensors, microwave ovens, or wireless routers. Maintain a distance of at least 3 meters.
3. The installation environment should avoid object vibrations, strong airflows, curtain movements, water flow in pipes, window glass vibrations, and wind-induced movements of metal roofs. Aim for a stable environment with minimal variables.
4. The sensor is highly sensitive and suitable for stable and quiet environments like offices and hotels, but not for industrial settings.

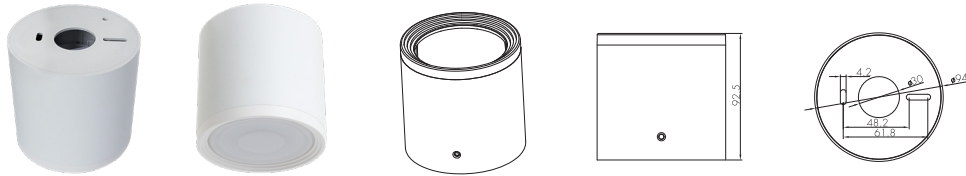
#### C. Sensor Operation

1. Movements within 0.3 meters of the sensor, such as waving an arm, might not trigger the sensor, as it will identify and filter out such large movements.
2. In test mode, a red LED will flash when the sensor is triggered, There are no visual indications in normal mode.
3. Avoid accidentally entering semi-auto mode.
4. Pay attention to the daylight sensor threshold value, which needs to be adjusted according to the installation environment.

## 5. Detection Pattern & Optional Accessories

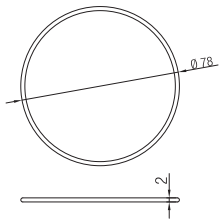


Optional Accessory --- Ceiling/Surface Metal Mount Box: HA09/W, HA09/B, HA09/G

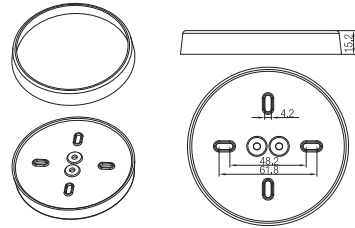


Big and small silicon gasket used to make IP54 degree protection (mounted into HA09 housing for ceiling mount)

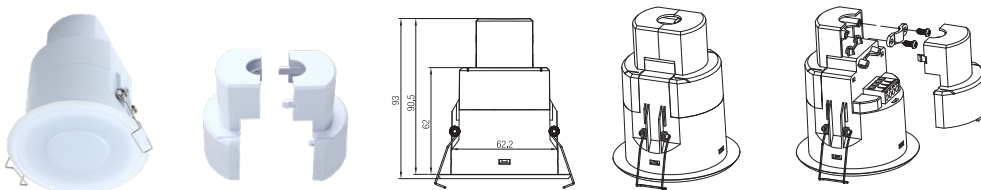
Small silicon water-proof gasket dimension(size:mm)



Big silicon water-proof gasket dimension(size:mm)



Optional Accessory --- HA08



\*Note: Optional Accessory HA09 & HA08 can not be used together.

## 6. Description of the Button Functions (remote control HRC-12)

**Permanent ON/OFF [button ①]**  
Press button ①, to select permanent ON or permanent OFF mode.  
\* Press button ②/③ to quit this mode.  
The mode will change to AUTO Mode after power failure.

**RESET [button ②]**  
Press button ②, all settings go back to default values as below:  
Detection range: 100%; Hold-time: 5min; Lux disabled

**Auto Mode [button ③]**  
Press ③ button, the sensor starts to function and all settings remain the same as the latest status before the light is switched on/off. To exit this mode, simply press button ④.

**Semi-auto Mode [button ④]**  
Press ④ button, to enter semi-auto mode, the fixture is manually on by push-switch. To exit this mode, simply press button ③.

**Detection range [zone ⑤]**  
Press buttons in zone ⑤ to set detection range at 100% / 75% / 50% / 10%.

**Daylight threshold [zone ⑥]**  
Press buttons in zone ⑥ to set daylight sensor at 2Lux/ 10Lux / 50Lux / 100Lux / 300Lux / 500Lux / Disable.

**Ambient daylight threshold [button ⑦]**  
Press ⑦ button, the surrounding lux level is sampled and set as the new daylight threshold.

**Hold time [zone ⑧]**  
Press buttons in zone ⑧ to set the hold-time at 5sec / 1min / 5min / 10min / 15min / 30min / 60min.  
\* Press button 30min / 60min, hold time is actually 25min.

HRC-12

## 7. Additional Information / Documents

1. Regarding precautions for PIR sensor installation and operation, please kindly refer to [www.hytronik.com/download](http://www.hytronik.com/download) → knowledge → Microwave Sensors - Precautions for Product Installation and Operation

2. Regarding Hytronik standard guarantee policy, please refer to [www.hytronik.com/download](http://www.hytronik.com/download) → knowledge → Hytronik Standard Guarantee Policy