Installation and Instruction Manual
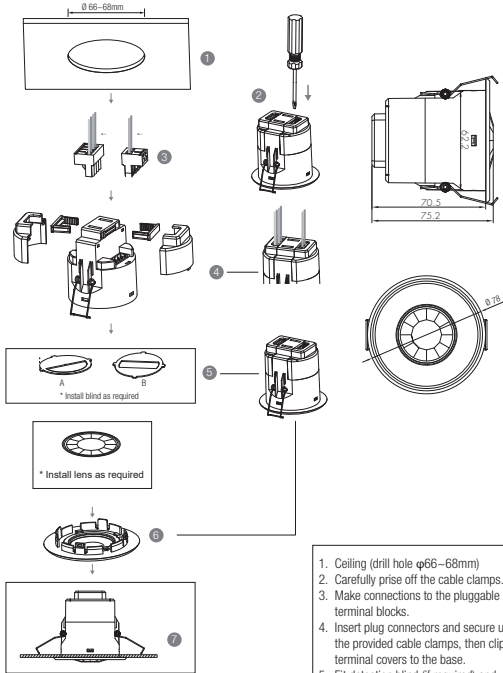
advance LED lighting solutions

FLUSH MOUNT PIR MOTION SENSOR - PIR 8
One DALI Channel Output

1. Technical Specifications

Mains voltage	220~240VAC 50/60Hz
Stand-by power	<0.5W
Switched power	Max. 40pcs devices, 80mA
Warming-up	Appr. 20s
Sensor principle	PIR detection
Detection range (Max.)*	Installation Height : 6m
	Detection Range (Ø) :9m
Detection angle	360°
Operation temperature	Ta: -20°C ~ +50°C
IP rating	IP20
EMC standard (EMC)	EN55015, EN61000, EN61547
Safety standard (LVD)	EN60669-1, EN60669-2-1, AS/NES60669-1/-2-1
Certification	UKCA, CB, CE , EMC, LVD, RCM, ROHS compliance

2. Installation

Ø 66~68mm

70.5
75.2

Ø 78

A   B
* Install blind as required
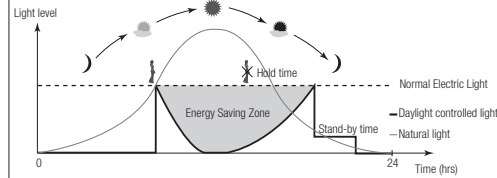
* Install lens as required

1. Ceiling (drill hole φ66~68mm)
2. Carefully prise off the cable clamps.
3. Make connections to the pluggable terminal blocks.
4. Insert plug connectors and secure using the provided cable clamps, then clip terminal covers to the base.
5. Fit detection blind (if required) and desired lens.
6. Clip fascia to body.
7. Bend back springs and insert into ceiling.

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3. Functions

3.1 Daylight Harvest (Daylight Regulating)

Daylight sensor measures the available surrounding natural light, calculates how much electrical light is needed to reach the total lux expected. The demand is given to the LED driver by DALI signal, so as to deliver the needed amount of electric light.

Light level

Hold time

Normal Electric Light

Energy Saving Zone

Stand-by time

— Daylight controlled light
— Natural light

0   24   Time (hrs)

3.2 Manual Override

With the help of push-switch, this sensor can be over-ridden 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.
* Long Push (>1s): adjust the target lux level by turning the light up or down. Both the adjustment on remote control and push switch can overwrite each other. The last adjustment remains in memory.

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

3.3 Semi-auto Mode (Absence Detection)

Selecting this mode will activate the following logic:

Manual on - The lights will not switch on until they have manually been switched on at the wall switch. The occupancy sensor is inactive whilst the lights are off.

Auto off - When the lights are on, the sensor becomes active and monitors the space for activity. Once the area is vacated (absence selection), the sensor will automatically switch off the lights if the last person out forgets to switch off the light manually.

Note: The wall switch can be assigned to function **3.2** or **3.3** , but not both. The default function is manual override.

3.4 Synchronisation Function

By connecting the "SYNC" terminals in parallel (see wiring diagram), no matter which sensor detects motion, all HIR27 in the group will turn on the lights when surrounding natural light is below the daylight threshold. The detection area could be widely enlarged in this way.
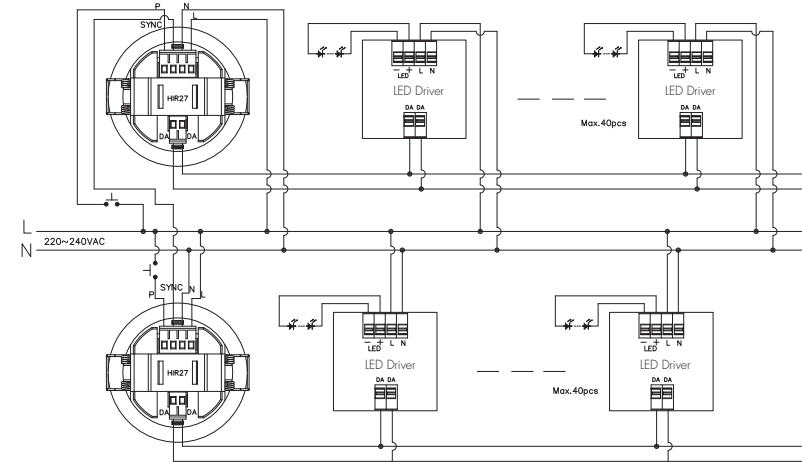
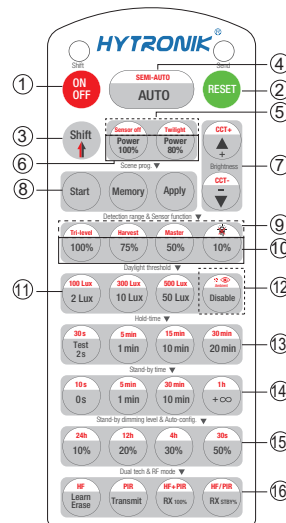### Wire Preparation

0.75 - 2.5mm²

8mm

(min 6mm, max 11mm)

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

1. 200 metres (total) max. for 1mm² CSA (Ta = 50 ℃)
2. 300 metres (total) max. for 1.5mm² CSA (Ta = 50 ℃)

4. Wiring Diagram

LED Driver   LED Driver
Max.40pcs

L
N   220~240VAC

LED Driver   LED Driver
Max.40pcs

5. Description of the Button Functions

Permanent ON/OFF [button①]
Press button①, to select permanent ON or permanent OFF mode.
* Press button②/④to resume automatic operation.
The mode will change to AUTO Mode after power failure.

RESET[button②]
Press button②, all settings go back to default values as below：
Hold-time 5min, daylight threshold Disabled.

Shift [button③]
Press button③, the LED on the top left corner is on for indication.
All values / settings in RED are in valid for 20 seconds.

Auto Mode [button④]
Press button④to initiate automatic mode. The sensor starts working and all settings remain as before the light was switched ON/OFF.
Note: the function of Semi-auto is disabled.

Sensor off [button⑤] (Daylight harvest without occupancy)
Note: the function of button⑤are all disabled.

Power output [button⑥]
Note: the function of button ⑥ are all disabled.

Brightness +/- [button⑦]
Note: the function of button ⑦ are all disabled.

Scene prog. [zone ⑧] (One-key-commissioning)
1. Press button "Start" to program.
2. Select the buttons in ⑩ "Detection range",⑪/⑫ "Daylight threshold", ⑬ "Hold time", ⑭ "Stand-by time" to set all parameters.
3. Press button "Memory" to save all the settings programmed in the remote control.
4. Press button "Apply" to set the settings to each sensor unit(s).
   For example, to pre-set detection range 100%, daylight threshold Disable, hold time 5min, stand-by time +∞, the steps should be as follows:
   Press button⑧ Start, button⑩ 100%,⑫ Disable, ③ Shift,⑬ 5min, ③ Shift,⑭ +∞, ⑧ Memory. By pointing to the sensor unit(s) and pressing⑧ Apply, all settings are passed on the sensor(s).

Sensor function [button⑨]
Note: the function of button⑨ are all disabled.

Detection range [button⑩]
Press buttons⑩ to set detection range at 100% / 75% / 50% / 10%.

Daylight threshold [zone ⑪]
Press buttons in zone⑪to set the daylight sensor at 2Lux / 10Lux / 50Lux / 100Lux / 300Lux / 500Lux or Disable as threshold / target Lux level.
Note: To set daylight sensor at 100Lux / 300 Lux / 500Lux, press button③Shift at first.

Ambient daylight threshold [button⑫]
1. Press button ③Shift, the red LED is on for indication.
2. Press button⑫, the ambient lux level is sampled and set as daylight threshold / target Lux level.

Hold time [zone ⑬]
Press buttons in zone⑬ to set the hold time at 2s / 30s / 1min / 5min / 10min / 15min / 20min / 30min.
Note: 1.To set hold-time at 30s / 5min / 15min / 30min, press button ③Shift at first.
   2. 2s is for testing purpose only, stand-by period and daylight sensor settings are disabled in this mode.
*To exit from Test mode, press button②or any button in zone⑬ .

Stand-by time [zone ⑭]
Press buttons in zone⑭to set the stand-by period at 0s / 10s / 1min / 5min / 10min / 30min / 1h / +∞.
Note: To set 0s, 1min, 10min, +∞, press button③"Shift"at first.

All buttons in zone "Stand-by dimming level & Auto-config" and "Dual-tech & RF mode" are disabled.

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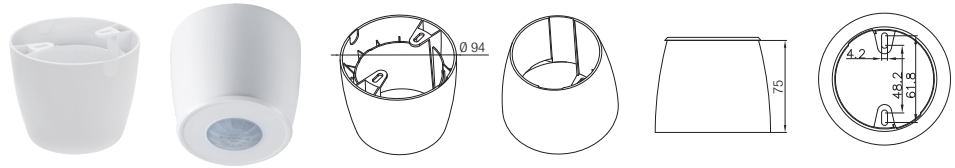
6. Detection Pattern & Optional Accessories

PIR8

PIR8 - Flat lens detection pattern for a **single person** @ Ta=20°C

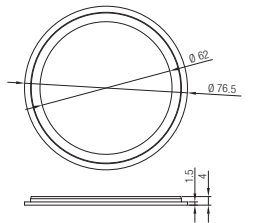Recommended ceiling mount installation height - 2.5m - 6m

A: Tangential movement	B: Radial movement	Mount height	Tangential (A)	Radial (B)
h = max.6m	h = max.6m	2.5m	max 50m² (Ø = 8m)	max 13m² (Ø = 4m)
		3m	max 64m² (Ø = 9m)	max 13m² (Ø = 4m)
Tangential: max. 9m	Radial: max. 4m	4m	max 38m² (Ø = 7m)	max 13m² (Ø = 4m)
		5m	max 38m² (Ø = 7m)	max 13m² (Ø = 4m)
insensitive sensitive	insensitive sensitive	6m	max 38m² (Ø = 7m)	max 13m² (Ø = 4m)

Optional Accessory --- Ceiling/Surface Mount Box: HA03
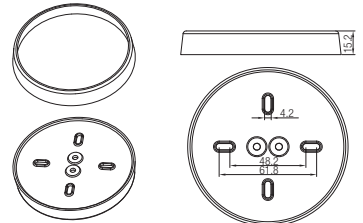
Ø 94

75

4.2
48.2
61.8

Big and small silicon gasket used to make IP54 degree protection when HBIR29 series device mounted into HA03 housing for ceiling mount
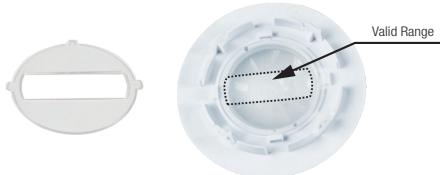
Small silicon water-proof gasket dimension(size:mm)

Ø 62
Ø 76.5
1.5
4

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

15.2
4.2
48.2
61.8

Optional Accessory --- Blind Insert for Blocking Certain Detection Angles

Valid Range

Valid Range

Blind Option 1 --- Aisle Detection

Blind Option 2 --- 180º Detection

7. Additional Information / Documents

1. Regarding precautions for PIR sensor installation and operation, please kindly refer to www.hytronik.com/download ->knowledge ->PIR Sensors - Precautions for Product Installation and Operation

2. Regarding Hytronik standard guarantee policy, please refer to www.hytronik.com/download ->knowledge ->Hytronik Standard Guarantee Policy