




















**Photocell&PIR sensor integrated,daylight harvest function****Product Description**

HBIR29 series are INGY PIR standalone motion sensors with one DALI/DALI-2 channel output (80mA DALI power supply built in), which can control up to 40 LED drivers. It is ideal for typical indoor applications such as office, classroom, healthcare and other commercial areas. With INGY wireless mesh networking, it makes communication between luminaires much easier without time-consuming hardwiring, which eventually saves costs for projects (especially for retrofit upgrade projects!).

**App Features**

-  Quick setup mode & advanced setup mode
-  Tri-level control
-  Daylight harvest
-  Grouping luminaires via mesh network
-  Scenes
-  Detailed motion sensor settings
-  Schedule to run scenes based on time and date
-  Astro timer (sunrise and sunset)
-  Neighbouring function
-  Internet-of-Things (IoT) featured: Asset tracking, indoor navigation, sensor data transmission
- Dali addressing
- Unlimited network size
- Unlimited group size
- Emergency lighting
- Gateway-less operation
- AES-256 encryption
-  Device firmware update over-the-air (OTA)
-  Device social relations check
-  Dynamic daylight harvest auto-adaptation
-  Power-on status (memory against power loss)
-  Commissioning without internet connection possible
-  Network sharing via QR code or keycode
-  Interoperability with INGY product portfolio
-  Compatible with EnOcean switch EWSSB/EWSDB
-  Continuous development in progress...

**Hardware Features**

-  80mA DALI output
-  Support to control DT8 LED drivers
-  Ceiling/Surface mount box available as accessory
-  Various PIR lens and blind inserts options
-  User-friendly design for installation
-  High bay version available (up to 1.5m in height)
-  5-year warranty

**EnOcean**  
Self-powered IoTFully support EnOcean  
switch EWSSB/EWSDB

## Technical Specifications

INGY Transceiver	
Operation frequency	2.4 GHz - 2.483 GHz
Transmission power	4 dBm
Range (Typical indoor)	10~30m
Protocol	INGY

Sensor Data	
Sensor Model	PIR max* detection range
HBIR29/IG	Installation Height : 6m Detection Range(Ø) : 9m
HBIR29/R/IG	Installation Height : 6m Detection Range(Ø) : 10m
HBIR29/H/IG	Installation height: 1.5m (forklift) 12m (person) Detection range (Ø): 24m
HBIR29/RH/IG	Installation height: 1.5m (forklift) 12m (person) Detection range (Ø): 40m
Detection angle	360°

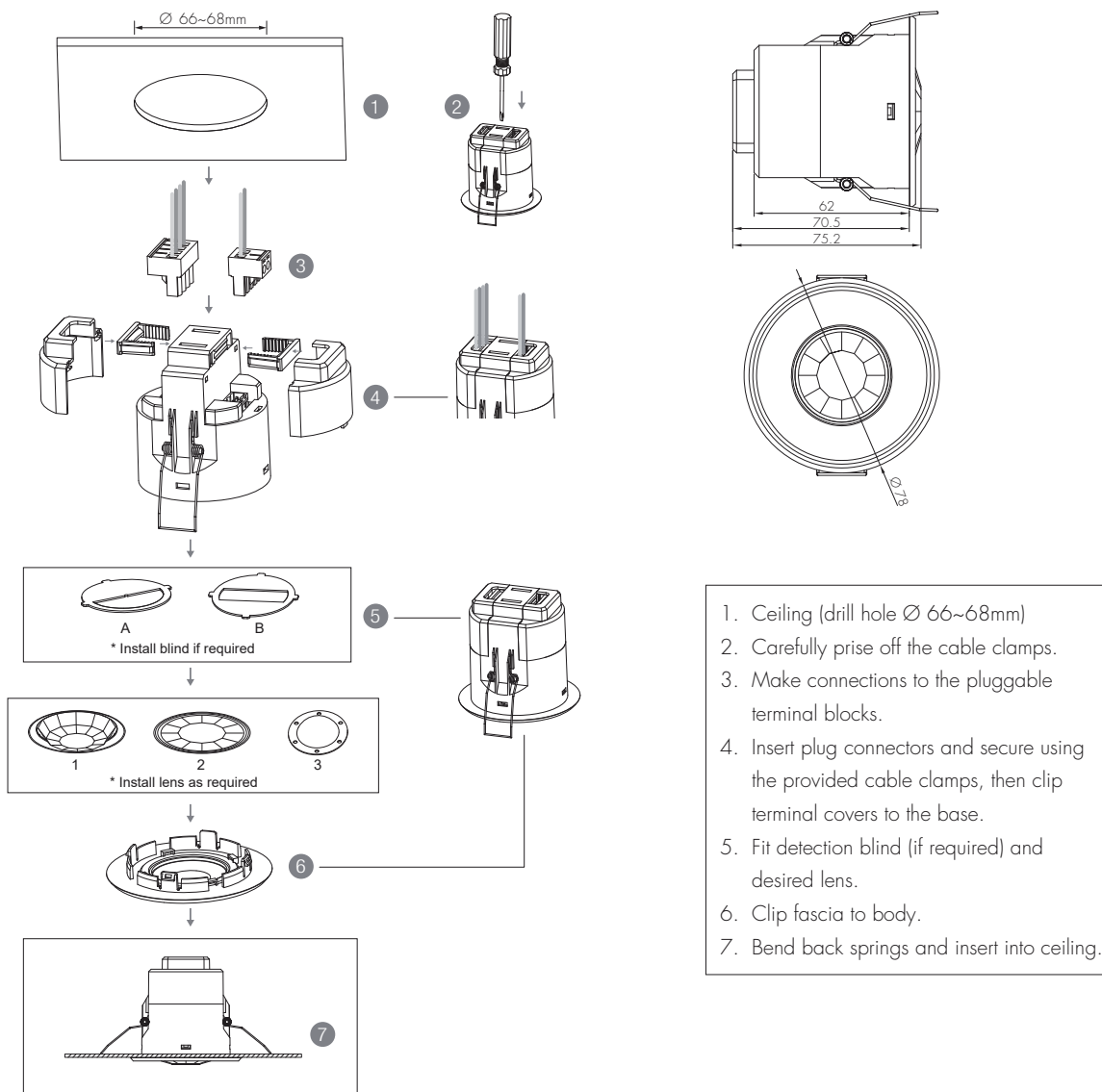
\* For more details of detection range, please refer to "detection pattern" section.

Input & Output Characteristics	
Operating voltage	220~240VAC 50/60Hz
Stand-by power	<1W
Switched power	Max. 40 devices, 80mA
Warming-up	20s

Safety & EMC	
EMC standard (EMC)	EN55015, EN61000, EN61547
Safety standard (LVD)	EN60669-1, EN60669-2-1 AS/NZS60669-1/-2-1
RED	EN300328, EN301489-1/-17
Certification	CB, CE, EMC, RED, RCM

Environment	
Operation temperature	Ta: -20°C ~ +50°C
IP rating	IP20

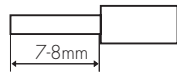
## Mechanical Structure & Dimensions



## Wire Preparation



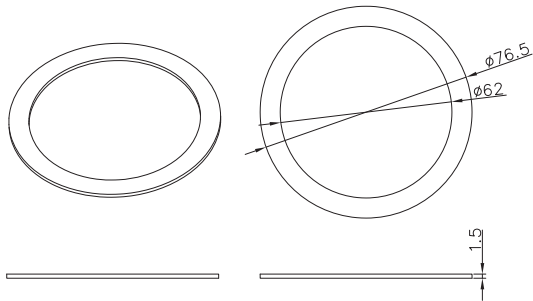
0.75 - 2.5mm<sup>2</sup>



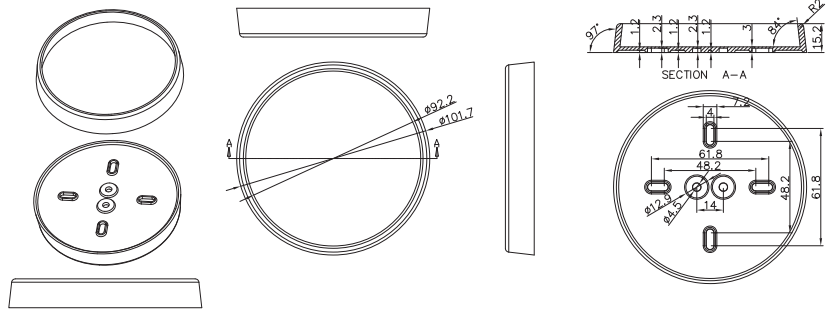
Pluggable screw terminal. It is recommended to make connections to the terminal before fitting to the sensor.

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)



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



## Detection Pattern & Optional Accessories

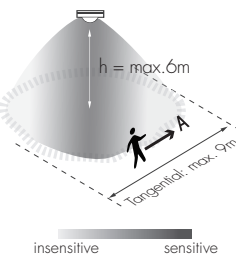
### 1. HBIR29/IG (Low-bay)



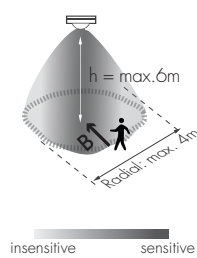
**HBIR29/IG:** Low-bay flat lens detection pattern for **single person** @ Ta = 20°C  
(Recommended ceiling mount installation height **2.5m-6m**)

**Photocell&PIR sensor integrated, daylight harvest function**

A: Tangential movement



B: Radial movement



Mount height

Tangential (A)

Radial (B)

2.5m

max 50m<sup>2</sup> (∅ = 8m)

max 13m<sup>2</sup> (∅ = 4m)

3m

max 64m<sup>2</sup> (∅ = 9m)

max 13m<sup>2</sup> (∅ = 4m)

4m

max 38m<sup>2</sup> (∅ = 7m)

max 13m<sup>2</sup> (∅ = 4m)

5m

max 38m<sup>2</sup> (∅ = 7m)

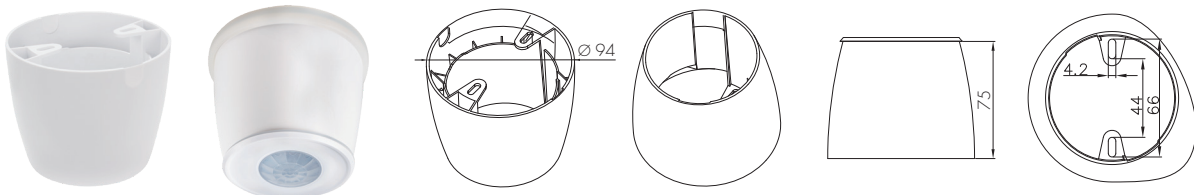
max 13m<sup>2</sup> (∅ = 4m)

6m

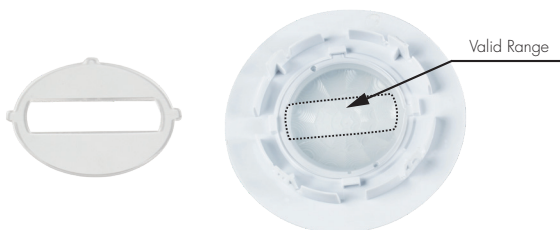
max 38m<sup>2</sup> (∅ = 7m)

max 13m<sup>2</sup> (∅ = 4m)

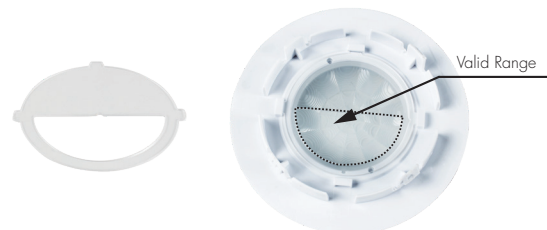
Optional Accessory -- Ceiling/Surface Mount Box: HA03 with big&small water-proof gaskets



Optional Accessory -- Blind Insert for Blocking Certain Detection Angles



Blind Option 1 --- Aisle Detection



Blind Option 2 --- 180° Detection

## 2. HBIR29/R/IG (Reinforced Low-bay)



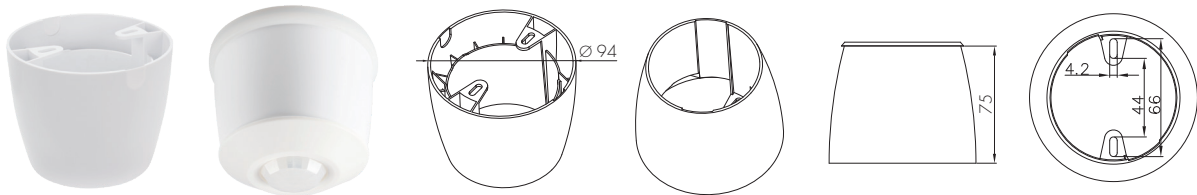
**HBIR29/R/IG** : Low-bay convex lens detection pattern for **single person** @  $T_a = 20^\circ\text{C}$

(Recommended ceiling mount installation height **2.5m-6m**)

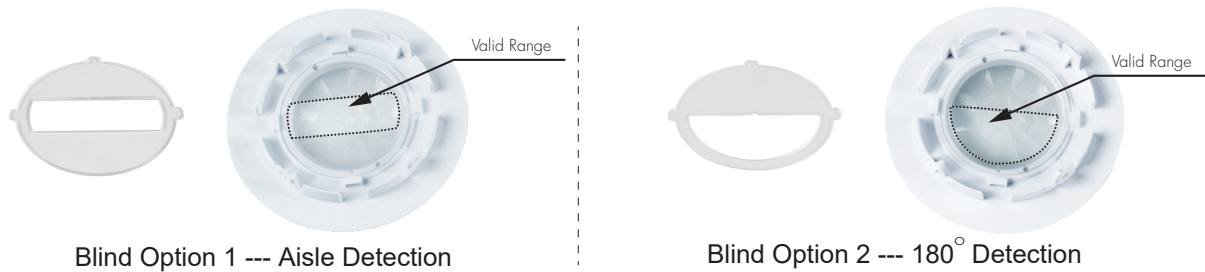
**Photocell&PIR sensor integrated, daylight harvest function**

A: Tangential movement	B: Radial movement	Mount height	Tangential (A)	Radial (B)
		2.5m	max 79m <sup>2</sup> (Ø = 10m)	max 20m <sup>2</sup> (Ø = 5m)
		3m	max 79m <sup>2</sup> (Ø = 10m)	max 20m <sup>2</sup> (Ø = 5m)
		4m	max 64m <sup>2</sup> (Ø = 9m)	max 20m <sup>2</sup> (Ø = 5m)
		5m	max 50m <sup>2</sup> (Ø = 8m)	max 20m <sup>2</sup> (Ø = 5m)
		6m	max 50m <sup>2</sup> (Ø = 8m)	max 20m <sup>2</sup> (Ø = 5m)

Optional Accessory --- Ceiling/Surface Mount Box: HA03 with big&small water-proof gaskets



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

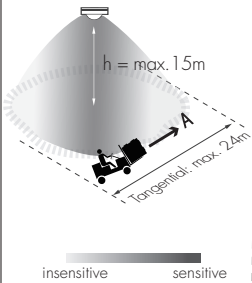


### 3. HBIR29/H/IG (High-bay)

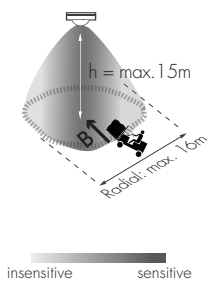
**HBIR29/H/IG: High-bay lens detection pattern for forklift @  $T_a = 20^\circ\text{C}$**   
**(Recommended ceiling mount installation height 10m-15m)**  
**Photocell&PIR sensor integrated, daylight harvest function**



A: Tangential movement



B: Radial movement

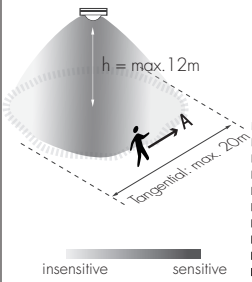


Mount height	Tangential (A)	Radial (B)
10m	max 380m <sup>2</sup> (Ø = 22m)	max 201m <sup>2</sup> (Ø = 16m)
11m	max 452m <sup>2</sup> (Ø = 24m)	max 201m <sup>2</sup> (Ø = 16m)
12m	max 452m <sup>2</sup> (Ø = 24m)	max 201m <sup>2</sup> (Ø = 16m)
13m	max 452m <sup>2</sup> (Ø = 24m)	max 177m <sup>2</sup> (Ø = 15m)
14m	max 452m <sup>2</sup> (Ø = 24m)	max 133m <sup>2</sup> (Ø = 13m)
15m	max 452m <sup>2</sup> (Ø = 24m)	max 113m <sup>2</sup> (Ø = 12m)

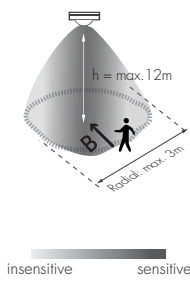


**HBIR29/H/IG: High-bay lens detection pattern for single person @  $T_a = 20^\circ\text{C}$**   
**(Recommended ceiling mount installation height 2.5m-12m)**  
**Photocell&PIR sensor integrated, daylight harvest function**

A: Tangential movement

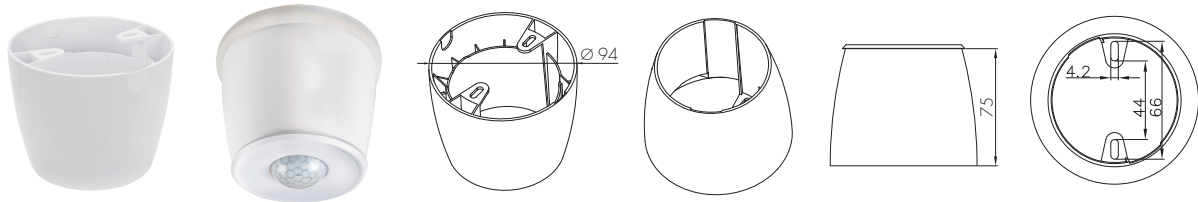


B: Radial movement

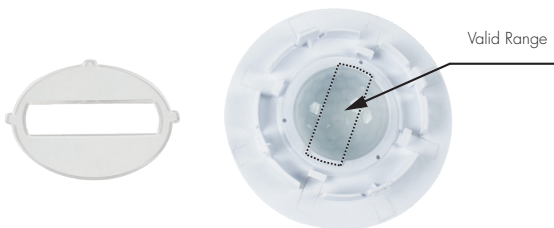


Mount height	Tangential (A)	Radial (B)
2.5m	max 50m <sup>2</sup> (Ø = 8m)	max 7m <sup>2</sup> (Ø = 3m)
6m	max 104m <sup>2</sup> (Ø = 11.5m)	max 7m <sup>2</sup> (Ø = 3m)
8m	max 154m <sup>2</sup> (Ø = 14m)	max 7m <sup>2</sup> (Ø = 3m)
10m	max 227m <sup>2</sup> (Ø = 17m)	max 7m <sup>2</sup> (Ø = 3m)
11m	max 269m <sup>2</sup> (Ø = 18.5m)	max 7m <sup>2</sup> (Ø = 3m)
12m	max 314m <sup>2</sup> (Ø = 20m)	max 7m <sup>2</sup> (Ø = 3m)

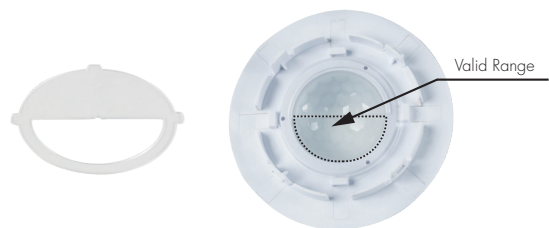
Optional Accessory --- Ceiling/Surface Mount Box: HA03 with big&small water-proof gaskets



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



Blind Option 1 --- Aisle Detection



Blind Option 2 --- 180° Detection

## 4. HBR29/RH/IG (Reinforced High-bay with 3-Pyro)



**HBR29/RH/IG:** Reinforced high-bay lens detection pattern for **forklift** @ Ta = 20°C  
(Recommended ceiling mount installation height **10m-15m**)

**Photocell&PIR sensor integrated, daylight harvest function**

A: Tangential movement	B: Radial movement	Mount height	Tangential (A)	Radial (B)
		10m	max 346m <sup>2</sup> (Ø = 21m)	max 177m <sup>2</sup> (Ø = 15m)
		11m	max 660m <sup>2</sup> (Ø = 29m)	max 177m <sup>2</sup> (Ø = 15m)
		12m	max 907m <sup>2</sup> (Ø = 34m)	max 154m <sup>2</sup> (Ø = 14m)
		13m	max 962m <sup>2</sup> (Ø = 35m)	max 154m <sup>2</sup> (Ø = 14m)
		14m	max 1075m <sup>2</sup> (Ø = 37m)	max 113m <sup>2</sup> (Ø = 12m)
		15m	max 1256m <sup>2</sup> (Ø = 40m)	max 113m <sup>2</sup> (Ø = 12m)

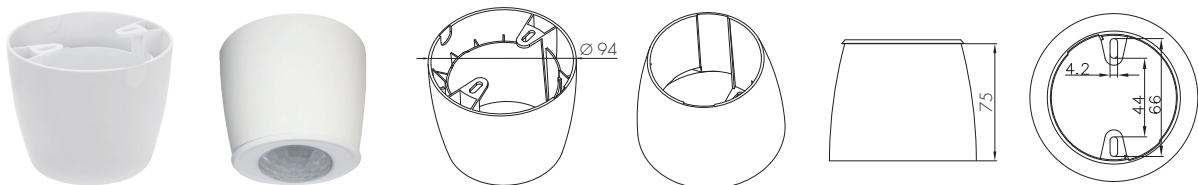


**HBR29/RH/IG:** Reinforced high-bay lens detection pattern for **single person** @ Ta = 20°C  
(Recommended ceiling mount installation height **2.5m-12m**)

**Photocell&PIR sensor integrated, daylight harvest function**

A: Tangential movement	B: Radial movement	Mount height	Tangential (A)	Radial (B)
		2.5m	max 38m <sup>2</sup> (Ø = 7m)	max 7m <sup>2</sup> (Ø = 3m)
		6m	max 154m <sup>2</sup> (Ø = 14m)	max 7m <sup>2</sup> (Ø = 3m)
		8m	max 314m <sup>2</sup> (Ø = 20m)	max 7m <sup>2</sup> (Ø = 3m)
		10m	max 531m <sup>2</sup> (Ø = 26m)	max 13m <sup>2</sup> (Ø = 4m)
		11m	max 615m <sup>2</sup> (Ø = 28m)	max 13m <sup>2</sup> (Ø = 4m)
		12m	max 707m <sup>2</sup> (Ø = 30m)	max 13m <sup>2</sup> (Ø = 4m)

Optional Accessory -- Ceiling/Surface Mount Box: HA03 with big&small water-proof gaskets



### Wiring Diagram

