

624193 | WSE0010 | 624506 | 625404 (HBIR29)

One DALI output

Product Description

HBIR29 series are Bluetooth PIR standalone motion sensors with one DALI 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 Bluetooth 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!). Meanwhile, simple device setup and commissioning can be done via Lena Lighting Clue app.



App Features

-  Quick setup mode & advanced setup mode
-  Web app/platform for project deployment & data analysis
-  Koolmesh Pro app on iPad for on-site configuration
-  Floorplan feature to simplify project planning
-  coming soon
-  One-key device replacement
-  Device social relations check
-  Staircase function (primary & secondary)
-  Remote control via gateway support HBGW01
-  Heat map
-  Dynamic daylight harvest auto-adaptation
-  Grouping luminaires via mesh network
-  Scenes
-  Dusk/Dawn photocell (Twilight function)
-  Tri-level control
-  Daylight harvest
-  Circadian rhythm (Human centric lighting)
-  Push switch configuration
-  Detailed motion sensor settings
-  Schedule
-  Astro timer (sunrise and sunset)
-  Power-on status (memory against power loss)
-  Offline commissioning

-  Bulk commissioning (copy and paste settings)
-  Different permission levels via authority management
-  Network sharing via QR code or keycode
-  Interoperability with Hytronik Bluetooth product portfolio
-  Compatible with EnOcean BLE switches
-  Internet-of-Things (IoT) featured
-  Device firmware update over-the-air (OTA)
-  Continuous development in progress...

Hardware Features

-  80mA DALI broadcast output
-  Support to control DT8 LED drivers
-  2 Push inputs for flexible manual control
-  IP20/IP54 Ceiling/Surface mount box available as accessory
-  Two types of blind inserts / blanking plates
-  User-friendly design for installation
-  High bay version available (up to 1.5m in height)
-  5-year warranty



Fully support EnOcean self-powered switch module PTM215B (HBES01/W & HBES01/B)

Smartphone app for both
iOS & Android platform

Web app/platform:
www.iot.koolmesh.com

Technical Specifications

| Bluetooth Transceiver | |
|------------------------|---------------------|
| Operation frequency | 2.4 GHz - 2.483 GHz |
| Transmission power | 4 dBm |
| Range (Typical indoor) | 10~30m |
| Protocol | 5.0 SIG Mesh |

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

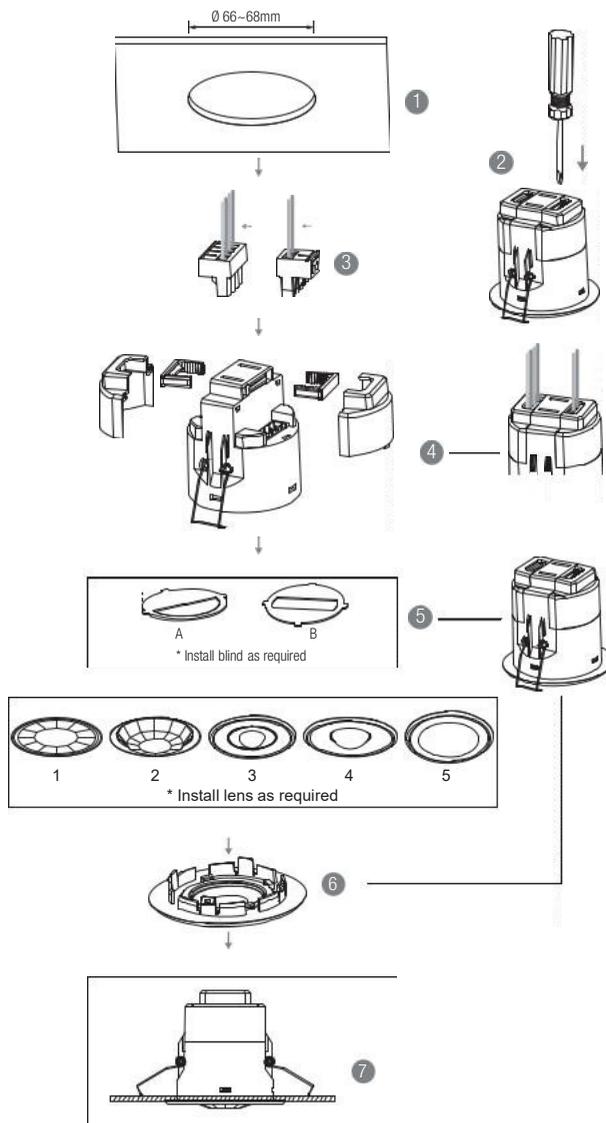
| Sensor Data | |
|-----------------|--|
| Sensor Model | PIR detection |
| HBIR29 | Installation Height : 6m Detection Range(Ø) : 9m |
| HBIR29/R | Installation Height : 6m Detection Range(Ø) : 10m |
| HBIR29/W | Installation Height : 6m Detection Range(Ø) : 18m |
| HBIR29/H | Installation height: 1.5m (forklift) 12m (person) Detection range (Ø): 24m |
| Detection angle | 360° |

| 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 |

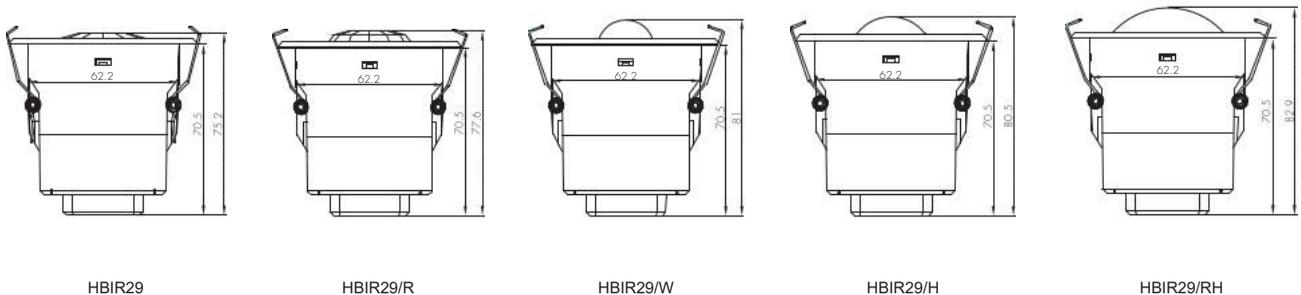
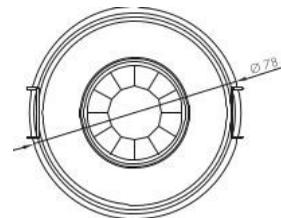
| Environment | |
|-----------------------|-------------------|
| Operation temperature | Ta: -20°C ~ +50°C |
| IP rating | IP20 |

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

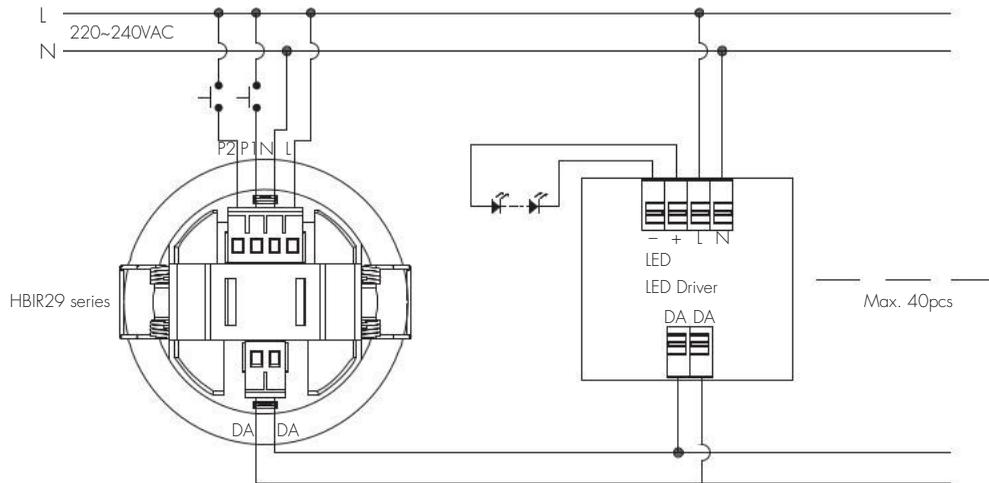
Mechanical Structure & Dimensions



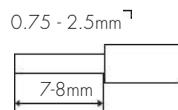
1. Ceiling (drill hole \varnothing 66-68mm)
2. Carefully prise off the cable clamps.
3. Make connections to the pluggable terminal blocks.
4. Insert plug connectors and secure using the provided cable clamps, then clip terminal covers to the base.
5. Fit detection blind (if required) and desired lens.
6. Clip fascia to body.
7. Bend back springs and insert into ceiling.



Wiring Diagram



Wire Preparation



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°C)
2. 300 metres (total) max. for 1.5mm² CSA (Ta = 50°C)

Placement Guide and Typical Range

Smart Phone to Device Range



The smart device with the App installed will have a typical range of 10m, but varies from device to device. During commissioning, the installer will need to be in range of the devices when searching for devices to add to the network.

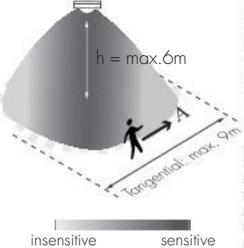
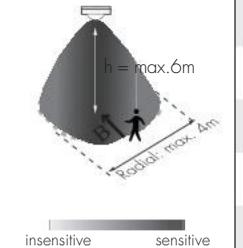
Once the devices have been added to the network via the App, the devices will start communicating within the wireless mesh. This means that once the network is complete, all devices are accessible from the smart device when in a 20m range of a single point.

1. HBIR29 (Low-bay)

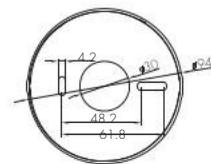
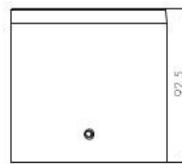


HBIR29: Low-bay flat lens detection pattern for **single person** @ $T_a = 20^{\circ}\text{C}$

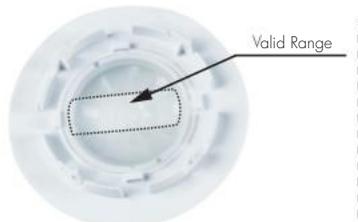
(Recommended ceiling mount installation height **2.5m-6m**)

| A: Tangential movement | B: Radial movement | Mount height | Tangential (A) | Radial (B) |
|---|---|--------------|-------------------------------|-------------------------------|
|  |  | 2.5m | max 50m ² (Ø = 8m) | max 13m ² (Ø = 4m) |
| | | 3m | max 64m ² (Ø = 9m) | max 13m ² (Ø = 4m) |
| | | 4m | max 38m ² (Ø = 7m) | max 13m ² (Ø = 4m) |
| | | 5m | max 38m ² (Ø = 7m) | max 13m ² (Ø = 4m) |
| | | 6m | max 38m ² (Ø = 7m) | max 13m ² (Ø = 4m) |

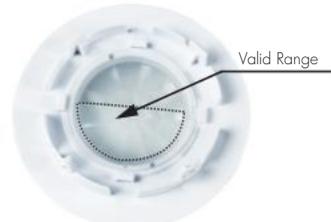
Optional Accessory --- Ceiling/Surface Metal Mount Box: HA09/W, HA09/B, HA09/G



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



Blind Option 1 --- Aisle Detection

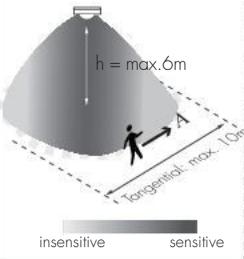
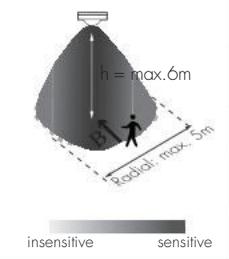


Blind Option 2 --- 180° Detection

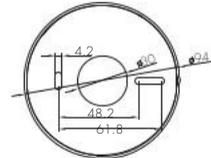
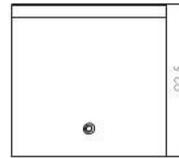
2. HBIR29/R (Reinforced Low-bay)



HBIR29/R: Low-bay convex lens detection pattern for **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) |
|---|---|--------------|--------------------------------|-------------------------------|
|  |  | 2.5m | max 79m ² (∅ = 10m) | max 20m ² (∅ = 5m) |
| | | 3m | max 79m ² (∅ = 10m) | max 20m ² (∅ = 5m) |
| | | 4m | max 64m ² (∅ = 9m) | max 20m ² (∅ = 5m) |
| | | 5m | max 50m ² (∅ = 8m) | max 20m ² (∅ = 5m) |
| | | 6m | max 50m ² (∅ = 8m) | max 20m ² (∅ = 5m) |

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



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



Blind Option 1 --- Aisle Detection



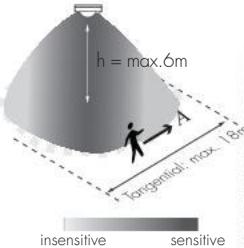
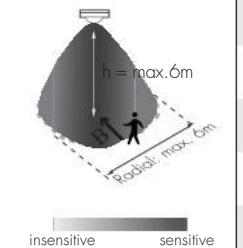
Blind Option 2 --- 180° Detection

3. HBIR29/W (Wide range Low-bay)

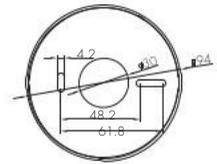
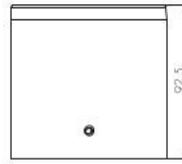


HBIR29/W: Low-bay convex lens detection pattern for **single person** @ $T_a = 20^{\circ}\text{C}$

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

| A: Tangential movement | B: Radial movement | Mount height | Tangential (A) | Radial (B) |
|---|---|--------------|---------------------------------|-------------------------------|
|  |  | 2.5m | max 254m ² (Ø = 18m) | max 28m ² (Ø = 6m) |
| | | 3m | max 254m ² (Ø = 18m) | max 28m ² (Ø = 6m) |
| | | 4m | max 154m ² (Ø = 14m) | max 28m ² (Ø = 6m) |
| | | 5m | max 113m ² (Ø = 12m) | max 28m ² (Ø = 6m) |
| | | 6m | max 79m ² (Ø = 10m) | max 13m ² (Ø = 4m) |

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



4. HBIR29/H (High-bay)

HBIR29/H: High-bay lens detection pattern for forklift @ Ta = 20°C

(Recommended ceiling mount installation height **10m-15m**)

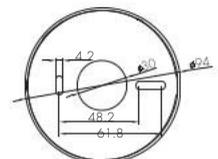
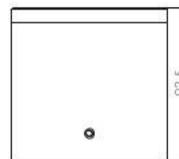
| A: Tangential movement | B: Radial movement | Mount height | Tangential (A) | Radial (B) |
|------------------------|--------------------|--------------|---------------------------------|---------------------------------|
| | | 10m | max 380m ² (Ø = 22m) | max 201m ² (Ø = 16m) |
| | | 11m | max 452m ² (Ø = 24m) | max 201m ² (Ø = 16m) |
| | | 12m | max 452m ² (Ø = 24m) | max 201m ² (Ø = 16m) |
| | | 13m | max 452m ² (Ø = 24m) | max 177m ² (Ø = 15m) |
| | | 14m | max 452m ² (Ø = 24m) | max 133m ² (Ø = 13m) |
| | | 15m | max 452m ² (Ø = 24m) | max 113m ² (Ø = 12m) |

HBIR29/H: High-bay lens detection pattern for single person @ Ta = 20°C

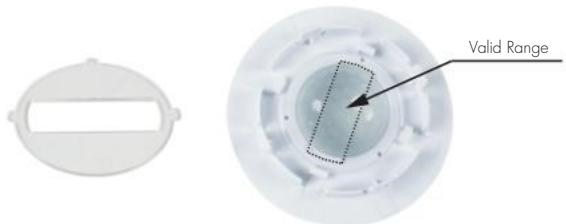
(Recommended ceiling mount installation height **2.5m-12m**)

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

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



Optional Accessory -- Blind Insert for Blocking Certain Detection Angles

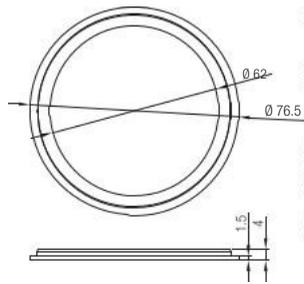


Blind Option 1 --- Aisle Detection

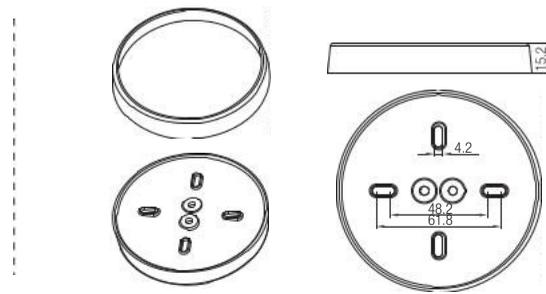


Blind Option 2 --- 180° Detection

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



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



Additional Information / Documents

1. To learn more about detailed product features/functions, please refer to [www.hytronik.com/download ->knowledge ->Introduction of App Scenes and Product Functions](http://www.hytronik.com/download->knowledge->Introduction%20of%20App%20Scenes%20and%20Product%20Functions)
2. Regarding precautions for Bluetooth product installation and operation, please kindly refer to [www.hytronik.com/download ->knowledge ->Bluetooth Products - Precautions for Product Installation and Operation](http://www.hytronik.com/download->knowledge->Bluetooth%20Products%20-%20Precautions%20for%20Product%20Installation%20and%20Operation)
3. Regarding precautions for PIR Sensors installation and operation, please kindly refer to [www.hytronik.com/download ->knowledge ->PIR Sensors - Precautions for Product Installation and Operation](http://www.hytronik.com/download->knowledge->PIR%20Sensors%20-%20Precautions%20for%20Product%20Installation%20and%20Operation)
4. Data sheet is subject to change without notice. Please always refer to the most recent release on [www.hytronik.com/products/bluetooth technology ->Bluetooth Sensors](http://www.hytronik.com/products/bluetooth%20technology->Bluetooth%20Sensors)
5. Regarding Hytronik standard guarantee policy, please refer to [www.hytronik.com/download ->knowledge ->Hytronik Standard Guarantee Policy](http://www.hytronik.com/download->knowledge->Hytronik%20Standard%20Guarantee%20Policy)