Installation and Instruction Manual

HYTRONIK®

PIR Standalone Motion Sensor with Bluetooth® Mesh

One DALI Channel Output

HBIR29/SV HBIR29/SV/R
HBIR29/SV/H HBIR29/SV/RH

1. Technical Specifications

Operation frequency	2.4 GHz - 2.483 GHz
Transmission power	4 dBm
Range (Typical indoor)	10~30m
Protocol	Bluetooth® Mesh
Operating voltage	220~240VAC 50/60Hz
Stand-by power	<0.65W (Empty load)
Switched power	Max. 40 devices, 80mA
Warming-up	5s
Sensor principle	PIR detection
Detection range (Max.)* HBIR29/SV	Installation Height : 6m Detection Range (Ø) :9m
Detection range (Max.)* HBIR29/SV/R	Installation Height : 6m Detection Range (Ø) :10m
Detection range (Max.)* HBIR29/SV/H	Installation height: 15m (forklift) 12m (person) Detection range (Ø): 24m
Detection range (Max.)* HBIR29/SV/RH	Installation height: 20m (forklift) 12m (person) Detection range (Ø): 40m
Detection angle	360°
Operation temperature	Ta:-20°C~+50°C
IP rating	IP20
Standard compliance	EN300328, EN301489-1, EN301489-17, EN62479, EN55015, EN61547, EN60669-1, EN60669-2-1, EN62493
Certification	CB, CE , EMC, RED, RCM

2. Download the App

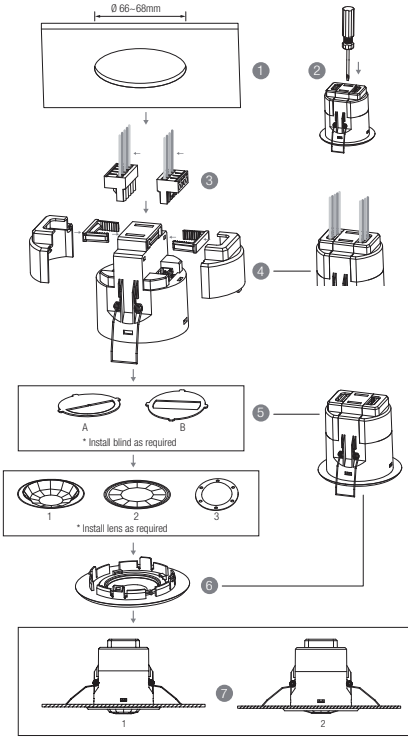
Download on the APP Store

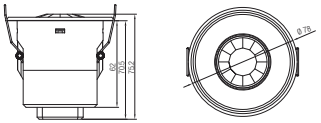
The access to Silvair apps

mobile app: Silvair on the App Store
web app: platform.silvair.com

3. Installation

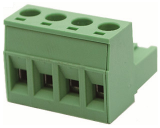
Mechanical Structure & Dimensions

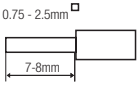




1. Ceiling (drill hole φ66~68mm)
2. Carefully prise off the cable clamps.
3. Make connections to the pluggable terminal blocks.
4. Insert plug connectors and secure using the provided cable clamps, then clip terminal covers to the base.
5. Fit detection blind (if required) and desired lens.
6. Clip fascia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

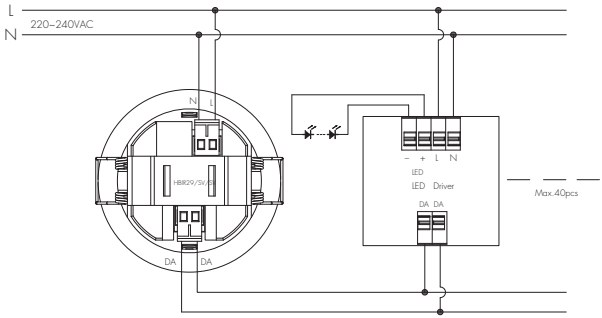
Wire Preparation





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

Wiring Diagram



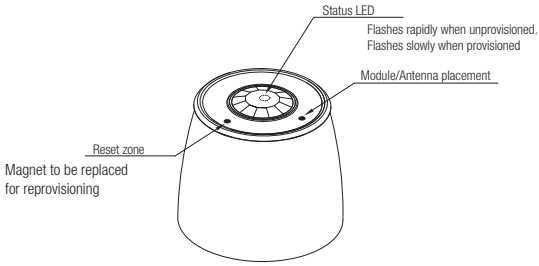
4.Mesh Factory Reset

The device HBIR29/SV/SV can be reset by placing a strong magnet (e.g. N38 neodymium magnet, d=10mm*h=4mm) near the sensor lens for 5 seconds. Once the factory reset is done successfully, the luminaire flashes and then permanent on, then the device is being able to be re-commissioned by SILVAIR app.

5.To Reprovision

Place a strong magnet on the site of the Reset/Hall effect sensor (see diagram 4 below). To trigger the reset the magnet must be held in position for 5 seconds.

Diagram



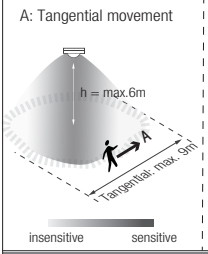
Note: When change the lens part of HBIR29/SV/SV, please kindly make sure that the lens fits the right location, where the “Reset dot” and “BLE dot”matches with the physical location on the PCB.

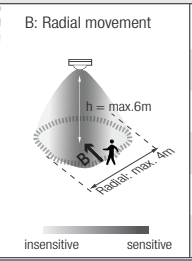
Status LED blinking Sequence		
HBIR29/SV/SV Unprovisioned	30ms ON	300ms OFF
HBIR29/SV/SV Provisioned	15ms ON	2,000ms OFF
Factory reset	500ms ON	1,000ms OFF
Factory reset (initial burst)	100ms ON	1,000ms OFF
MESH package received	30ms ON	50ms OFF
Attention (from network)	500ms ON	500ms OFF

6. Detection Pattern & Optional Accessories

1. HBIR29/SV (Low-bay)

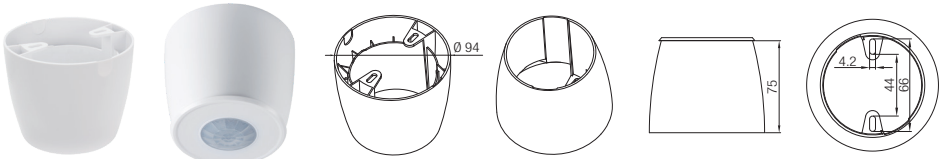
HBIR29/SV: Low-bay flat lens detection pattern for **single person** @ Ta = 20ºC
(Recommended ceiling mount installation height **2.5m-6m**)



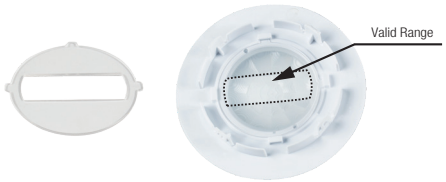


Mount height	Tangential (A)	Radial (B)
2.5m	max 50m² (Ø = 8m)	max 13m² (Ø = 4m)
3m	max 64m² (Ø = 9m)	max 13m² (Ø = 4m)
4m	max 38m² (Ø = 7m)	max 13m² (Ø = 4m)
5m	max 38m² (Ø = 7m)	max 13m² (Ø = 4m)
6m	max 38m² (Ø = 7m)	max 13m² (Ø = 4m)

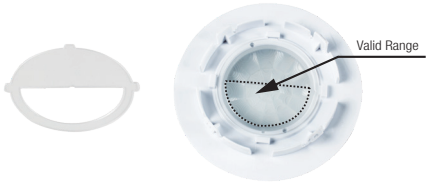
Optional Accessory --- Ceiling/Surface Mount Box: HA03



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



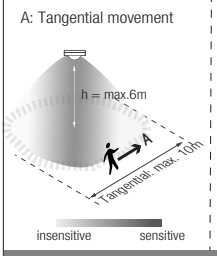
Blind Option 1 --- Aisle Detection

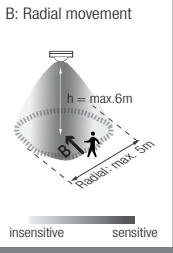


Blind Option 2 --- 180º Detection

2. HBIR29/SV/R (Reinforced Low-bay)

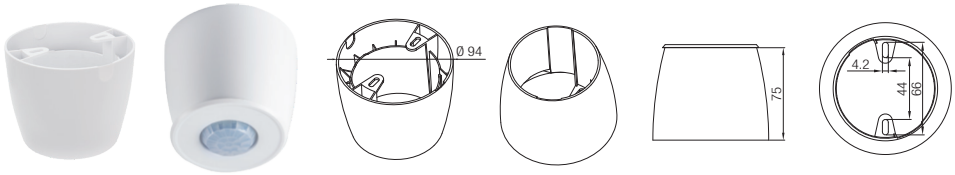
HBIR29/SV/R: Low-bay convex lens detection pattern for **single person** @ Ta = 20ºC
(Recommended ceiling mount installation height **2.5m-6m**)



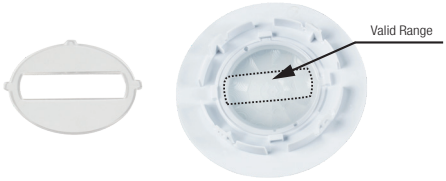


Mount height	Tangential (A)	Radial (B)
2.5m	max 79m² (Ø = 10m)	max 20m² (Ø = 5m)
3m	max 79m² (Ø = 10m)	max 20m² (Ø = 5m)
4m	max 64m² (Ø = 9m)	max 20m² (Ø = 5m)
5m	max 50m² (Ø = 8m)	max 20m² (Ø = 5m)
6m	max 50m² (Ø = 8m)	max 20m² (Ø = 5m)

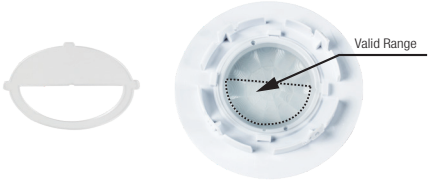
Optional Accessory --- Ceiling/Surface Mount Box: HA03



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



Blind Option 1 --- Aisle Detection

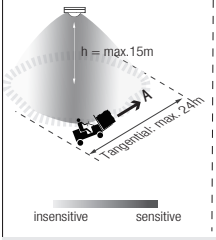


Blind Option 2 --- 180º Detection

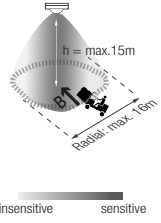
3. HBIR29/SV/H (High-bay)

HBIR29/SV/H: High-bay lens detection pattern for **forklift** @ Ta = 20ºC
(Recommended ceiling mount installation height **10m-15m**)

A: Tangential movement



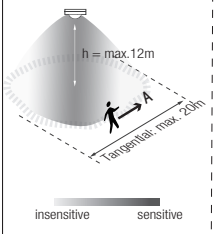
B: Radial movement



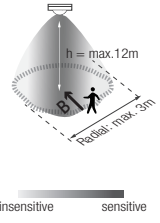
Mount height	Tangential (A)	Radial (B)
10m	max 380m² (Ø = 22m)	max 201m² (Ø = 16m)
11m	max 452m² (Ø = 24m)	max 201m² (Ø = 16m)
12m	max 452m² (Ø = 24m)	max 201m² (Ø = 16m)
13m	max 452m² (Ø = 24m)	max 177m² (Ø = 15m)
14m	max 452m² (Ø = 24m)	max 133m² (Ø = 13m)
15m	max 452m² (Ø = 24m)	max 113m² (Ø = 12m)

HBIR29/SV/H: High-bay lens detection pattern for **single person** @ Ta = 20ºC
(Recommended ceiling mount installation height **2.5m-12m**)

A: Tangential movement

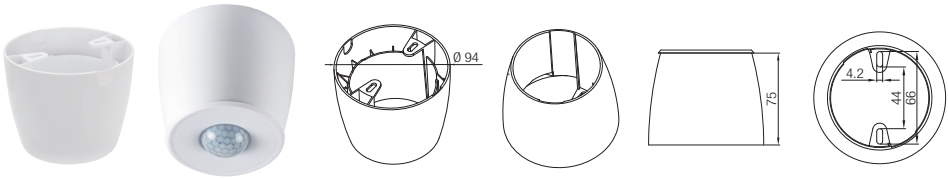


B: Radial movement

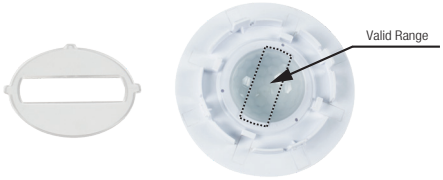


Mount height	Tangential (A)	Radial (B)
2.5m	max 50m² (Ø = 8m)	max 7m² (Ø = 3m)
6m	max 104m² (Ø = 11.5m)	max 7m² (Ø = 3m)
8m	max 154m² (Ø = 14m)	max 7m² (Ø = 3m)
10m	max 227m² (Ø = 17m)	max 7m² (Ø = 3m)
11m	max 269m² (Ø = 18.5m)	max 7m² (Ø = 3m)
12m	max 314m² (Ø = 20m)	max 7m² (Ø = 3m)

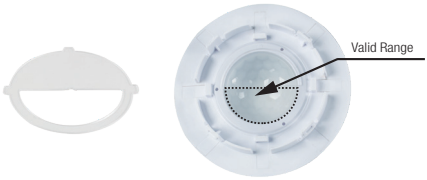
Optional Accessory --- Ceiling/Surface Mount Box: HA03



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



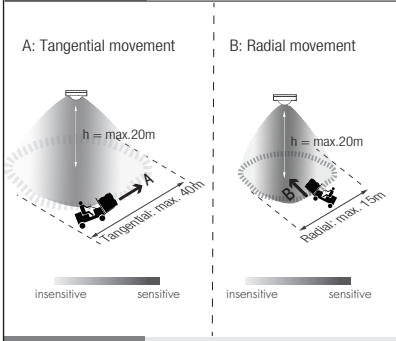
Blind Option 1 --- Aisle Detection



Blind Option 2 --- 180º Detection

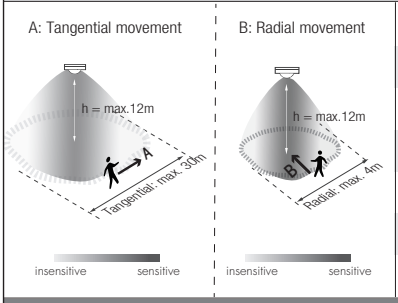
4. HBIR29/SV/RH (Reinforced High-bay with 3-Pyro)

HBIR29/SV/RH: Reinforced high-bay lens detection pattern for **forklift** @ Ta = 20ºC
(Recommended ceiling mount installation height **10m-15m**)



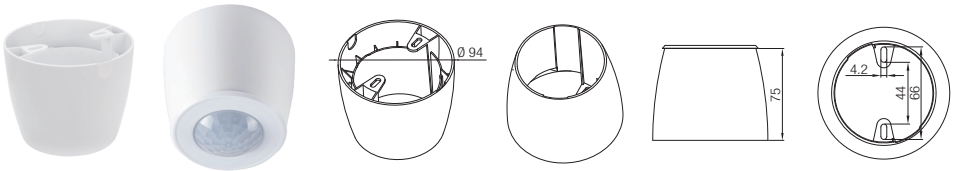
Mount height	Tangential (A)	Radial (B)
10m	max 346m² (Ø = 21m)	max 177m² (Ø = 15m)
11m	max 660m² (Ø = 29m)	max 177m² (Ø = 15m)
12m	max 907m² (Ø = 34m)	max 154m² (Ø = 14m)
13m	max 962m² (Ø = 35m)	max 154m² (Ø = 14m)
14m	max 1075m² (Ø = 37m)	max 113m² (Ø = 12m)
15m	max 1256m² (Ø = 40m)	max 113m² (Ø = 12m)
20m	max 707m2 (Ø = 30m)	max 113m2 (Ø = 12m)

HBIR29/SV/RH: Reinforced high-bay lens detection pattern for **single person** @ Ta = 200C
(Recommended ceiling mount installation height **2.5m-12m**)



Mount height	Tangential (A)	Radial (B)
2.5m	max 38m² (Ø = 7m)	max 7m² (Ø = 3m)
6m	max 154m² (Ø = 14m)	max 7m² (Ø = 3m)
8m	max 314m² (Ø = 20m)	max 7m² (Ø = 3m)
10m	max 531m² (Ø = 26m)	max 13m² (Ø = 4m)
11m	max 615m² (Ø = 28m)	max 13m² (Ø = 4m)
12m	max 707m² (Ø = 30m)	max 13m² (Ø = 4m)

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



7. Additional Information / Documents

1.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

2.Data sheet is subject to change without notice. Please always refer to the most recent release on www.hytronik.com/products/bluetooth technology ->Partnership

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