

1. Technical Specifications

Operation frequency	2.4 GHz - 2.483 GHz
Transmission power	4 dBm
Range (Typical indoor)	10–30m
Protocol	Bluetooth® 5.0 SIG Mesh
Operating voltage	220–240VAC 50/60Hz
Load ratings	CH1: Max. 25 devices, 50mA CH2: 24VDC≤2A, 250VAC≤2A
Warming-up	20s
Sensor principle	PIR detection
Installation height (Max.)	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/-2-1, AS/NZS60669-1/-2-1
RED	EN300328, EN301489-1/-17
Certification	CB, CE, EMC, RED, RCM, UKCA

2. Download the App

Free App for set-up and commissioning

Bluetooth 5.0 SIG mesh

for iOS

for Android

Smartphone app for both iOS & Android platform

for iPad

for iPad

Koolmesh Pro app for iPad

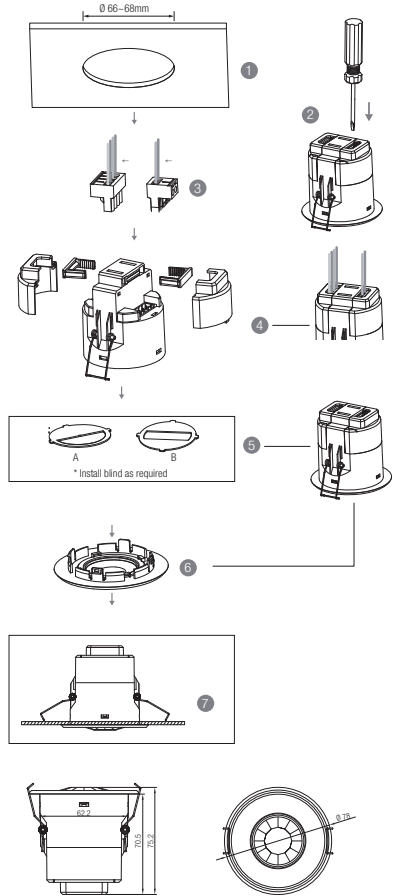
Web

for Web

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

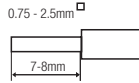
3. Installation

Mechanical Structure & Dimensions



1. Ceiling (drill hole ϕ 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.

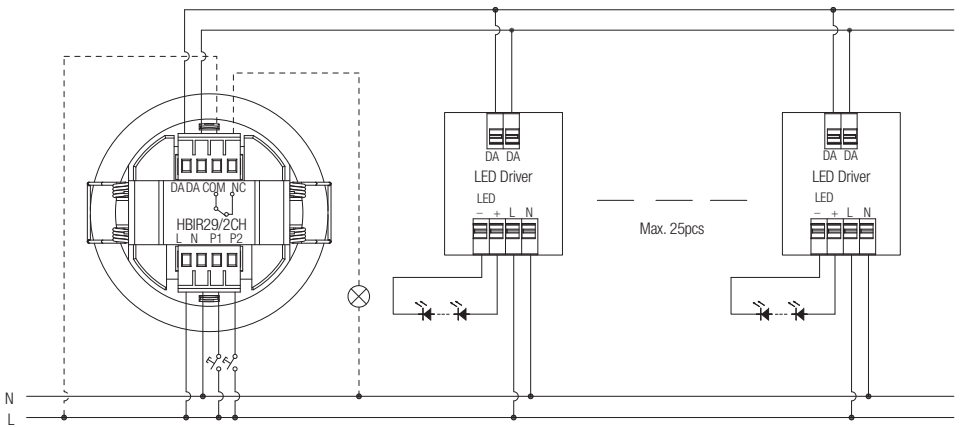
Wire Preparation



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)

3. Wiring Diagram



4. Dimming Interface Operation Notes

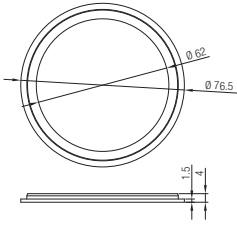
Switch-Dim

The provided Switch-Dim interface allows for a simple dimming method using commercially available non-latching (momentary) wall switches. Detailed Push switch configurations can be set on Koolmesh app.

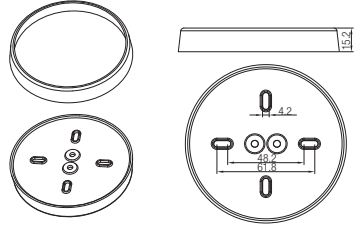
Switch Function	Action	Descriptions
Push switch	Short press (<1 second) * Short press has to be longer than 0.1s, or it will be invalid.	- Turn on/off - Recall a scene - Turn on only - Exit manual mode - Turn off only - Do nothing
	Double push	- Turn on only - Exit manual mode - Turn off only - Do nothing - Recall a scene
	Long press (≥1 second)	- Dimming - Colour tuning - Do nothing
Simulate sensor	/	- Upgrade a normal on/off motion sensor to a Bluetooth controlled motion sensor

Big and small silicon gasket used to make IP54 degree protection when HBR29/2CH 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)



5. Detection Pattern & Optional Accessories

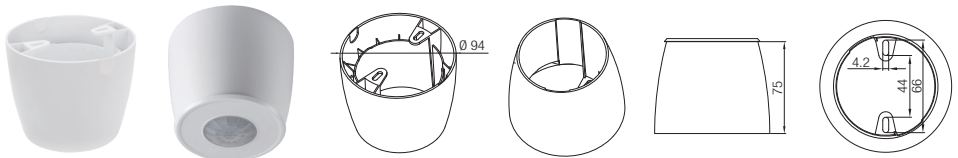
HBR29/2CH (Low-bay)



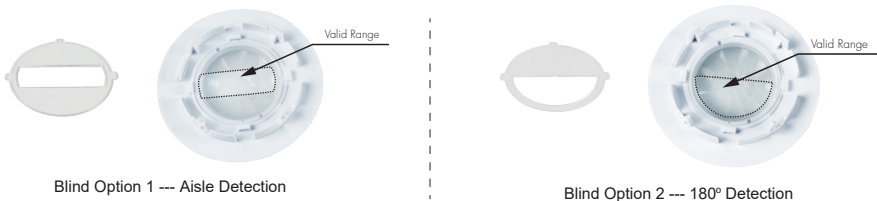
HBR29/2CH: Low-bay flat lens detection pattern for **single person** @ Ta = 20°C
(Recommended ceiling mount installation height **2.5m-6m**)

A: Tangential movement	B: Radial movement	Mount height	Tangential (A)	Radial (B)
		2.5m	max 50m ² (Ø = 9m)	max 13m ² (Ø = 4m)
		3m	max 64m ² (Ø = 10m)	max 13m ² (Ø = 4m)
		4m	max 38m ² (Ø = 8m)	max 13m ² (Ø = 4m)
		5m	max 38m ² (Ø = 8m)	max 13m ² (Ø = 4m)
		6m	max 38m ² (Ø = 8m)	max 13m ² (Ø = 4m)

Ceiling/Surface Mount Accessory HA03: Default IP20, IP65 can be request with extra big & small water-proof gaskets



Optional Accessory -- Blind Insert for Blocking Certain Detection Angles



6. Additional Information / Documents

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