

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
Stand-by power	<1W
CH1:	400VA
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/IP54
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

2. Download the App

Free App for set-up and commissioning

Bluetooth 5.0 SIG mesh



Smartphone app for both iOS & Android platform



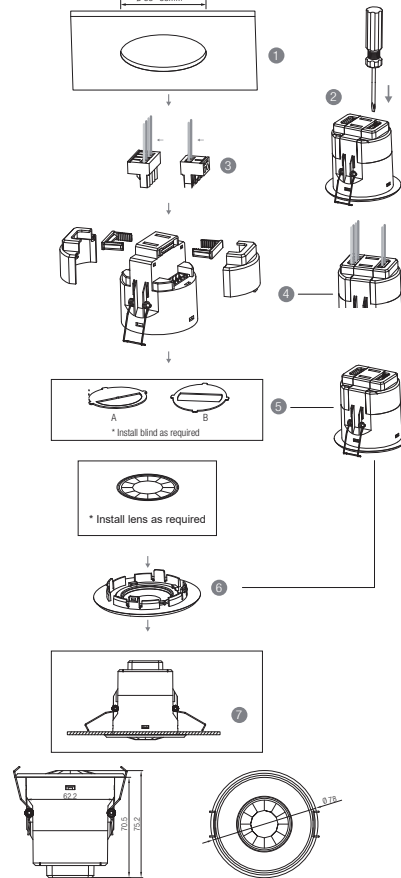
Koolmesh Pro app for iPad



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

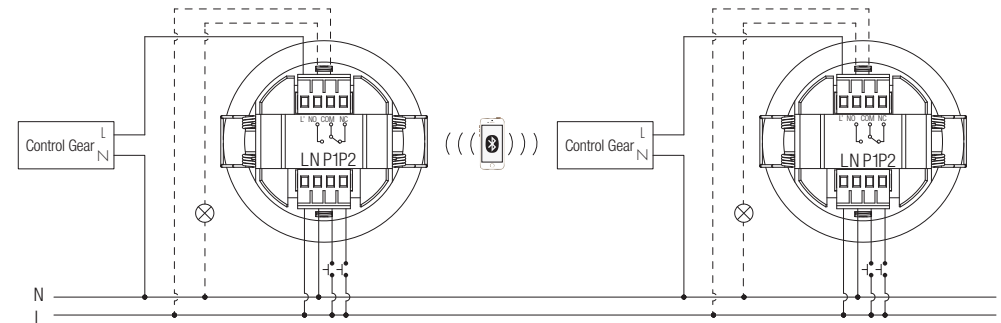
3. Installation

Mechanical Structure & Dimensions

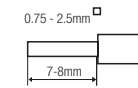


1. Ceiling (drill hole $\phi 66-68\text{mm}$)
2. Carefully prise off the cable clamps.
3. Make connections to the pluggable terminal blocks.
4. Insert plug connectors and secure using the provided cable clamps, then clip terminal covers to the base.
5. Fit detection blind (if required) and desired lens.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

Wiring Diagram



Wire Preparation

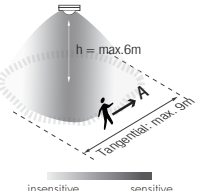
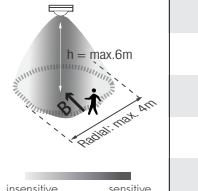


Pluggable screw terminal. It is recommended to make connections to the terminal before fitting to the sensor.



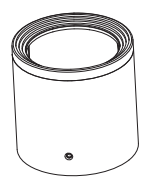
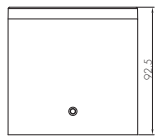
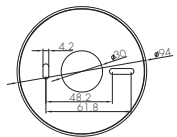
5. Detection Pattern & Optional Accessories

HBIR28/2CH (Low-bay)

HBIR28/2CH: Low-bay flat lens detection pattern for **single person** @ Ta = 20°C
(Recommended ceiling mount installation height **2.5m-6m**)

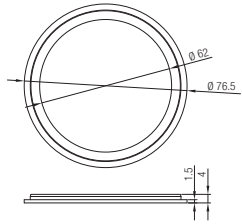
A: Tangential movement	B: Radial movement	Mount height	Tangential (A)	Radial (B)
		2.5m	max 50m ² (Ø = 8m)	max 13m ² (Ø = 4m)
		3m	max 64m ² (Ø = 9m)	max 13m ² (Ø = 4m)
		4m	max 38m ² (Ø = 7m)	max 13m ² (Ø = 4m)
		5m	max 38m ² (Ø = 7m)	max 13m ² (Ø = 4m)
		6m	max 38m ² (Ø = 7m)	max 13m ² (Ø = 4m)

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

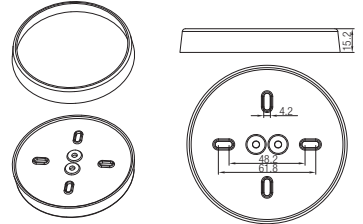






Big and small silicon gasket used to make IP54 degree protection when HBIR28/2CH series device mounted into HA09 housing for ceiling mount

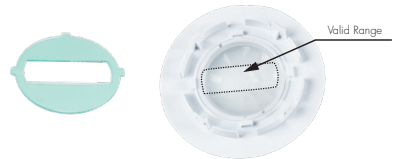
Small silicon water-proof gasket dimension(size:mm)




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



Optional Accessory -- Blind Insert for Blocking Certain Detection Angles



Blind Option 1 --- Aisle Detection



Blind Option 2 --- 180° Detection

5. 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.	<ul style="list-style-type: none"> <li style="width: 50%;">- Turn on/off <li style="width: 50%;">- Recall a scene <li style="width: 50%;">- Turn on only <li style="width: 50%;">- Quit manual mode <li style="width: 50%;">- Turn off only <li style="width: 50%;">- Do nothing
	Double push	<ul style="list-style-type: none"> <li style="width: 50%;">- Turn on only <li style="width: 50%;">- Quit manual mode <li style="width: 50%;">- Turn off only <li style="width: 50%;">- Do nothing <li style="width: 50%;">- Recall a scene
	Long press (≥1 second)	<ul style="list-style-type: none"> - Dimming - Colour tuning - Do nothing
Sensor-link (VFC signal only)	/	<ul style="list-style-type: none"> - Upgrade a normal on/off motion sensor to a Bluetooth controlled motion sensor
Emergency Self-Test Function	Short press (<1 second) * Short press has to be longer than 0.1s, or it will be invalid.	<ul style="list-style-type: none"> <li style="width: 50%;">- Start Self test (Monthly) <li style="width: 50%;">- Start Self test (Annually) <li style="width: 50%;">- Stop Self test <li style="width: 50%;">- Invalid
	Long press (≥1 second)	<ul style="list-style-type: none"> <li style="width: 50%;">- Start Self test (Monthly) <li style="width: 50%;">- Start Self test (Annually) <li style="width: 50%;">- Stop Self test <li style="width: 50%;">- Invalid
Fire Alarm (VFC signal only)	Refer to Koolmesh™ App User Manual V2.1	<ul style="list-style-type: none"> - Able to connect the Fire Alarm system - Once the fire alarm system is triggered, all the luminaries controlled by the Push Switch will enter the preset scene (normally it's full on), after the fire alarm system gives the ending signal, all the luminaries controlled by this Push Switch will revert back to normal status.

6. 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
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
3. 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
4. Regarding Hytronik standard guarantee policy, please refer to www.hytronik.com/download ->knowledge ->Hytronik Standard Guarantee Policy