

True Occupancy Sensor with Bluetooth[®] 5.0 SIG Mesh

HBMW28/PRO

Low-bay

HYTRONIK[®]



Product Description

HBMW28/PRO is a Bluetooth Microwave standalone motion sensor which integrated with Hytronik True occupancy detection technology. The Hytronik True occupancy detection technology works to detect human breathing rather than the mirror movements. No matter if the person sit/stand statically or turns their back to the sensor. The sensor can accurately recognize occupancy and keeps the lights on all the time. It is ideal for typical indoor applications such as classroom, office, 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 **Koolmesh[®]** app.



App Features

- Adjustable motion & static sensitivity
- Quick setup mode & advanced setup mode
- Tri-level control
- Daylight harvest
- Floorplan feature to simplify project planning
- Web app/platform for dedicated project management
- Koolmesh Pro iPad version for on-site configuration
- Grouping luminaires via mesh network
- Scenes
- Detailed motion sensor settings
- Dusk/Dawn photocell (Twilight function)
- Push switch configuration
- Schedule to run scenes based on time and date
- Astro timer (sunrise and sunset)
- Staircase function (primary & secondary)
- Internet-of-Things (IoT) featured
- Device firmware update over-the-air (OTA)
- Device social relations check
- Bulk commissioning (copy and paste settings)
- Dynamic daylight harvest auto-adaptation

- Power-on status (memory against power loss)
- Offline commissioning
- Different permission levels via authority management
- Network sharing via QR code or keycode
- Remote control via gateway support HBGW01
- Interoperability with Hytronik Bluetooth product portfolio
- Compatible with EnOcean BLE switches
- Continuous development in progress...

Hardware Features

- Intelligent photocell - lights and sensors only operate when needed, natural light has priority.
- Zero crossing detection circuit reduces in-rush current and prolongs relay life
- Black & White & Gray metal surface mount box option
- User-friendly design for installation
- 5 Year warranty

EnOcean
Self-powered IoT



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

Bluetooth[®] 5.0 SIG mesh

HYTRONIK
Koolmesh

iOS

Android

for iOS

for Android

Smartphone app for both iOS & Android platform

for iPad


Koolmesh Pro app for iPad

Web

for Web

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	 Bluetooth® 5.0 SIG Mesh

Input & Output Characteristics	
Operating voltage	220~240VAC 50/60Hz
Stand-by power	<0.3W
Warming-up	20s

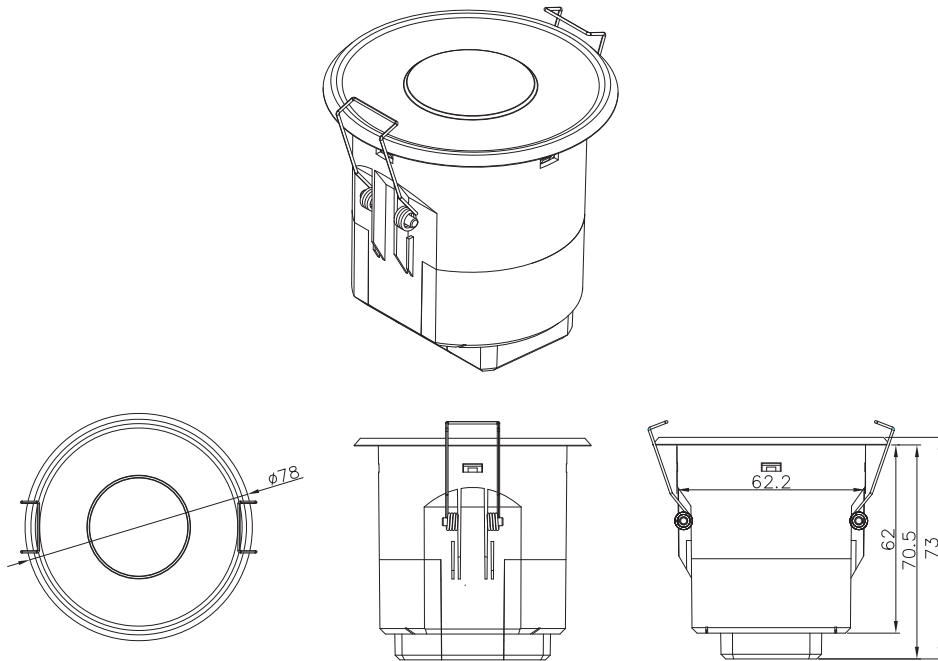
Sensor Data	
Sensor Model	Occupancy Motion detection
Ceiling-mounted Detection range (Max.)*	Installation Height : 3m Diameter(Ø) :10m
Wall-mounted Detection range (Max.)*	Installation Height : 3m Detection Range (Ø) :6m
Detection angle	360°

Environment	
Operation temperature	Ta: -20°C ~ +50°C
Storage temperature	-40°C ~ +70°C
IP rating	IP20/IP54
Relative humidity	10 ~ 90%

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

Safety and EMC	
EMC standard (EMC)	EN55015, EN61000-3-2/-3-3, EN61547
Safety standard (LVD)	EN60669-1, EN60669-2-1
RED	EN300440, EN300328, EN301489-1/-3/-17, EN50663
Certification	CE, RCM, UKCA

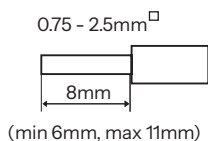
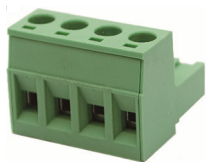
Mechanical Structure



Note:

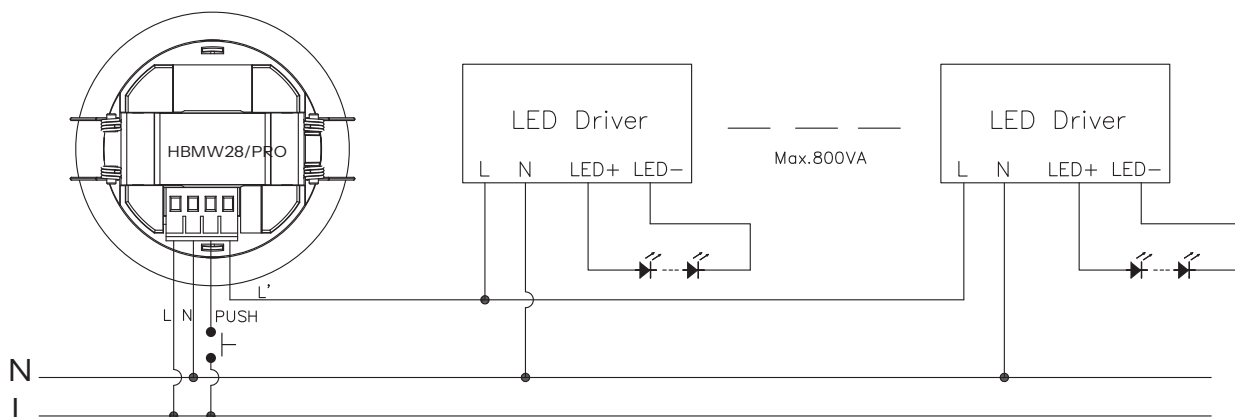
1. We recommend the mounting distance between sensor to sensor should be more than 2m to prevent sensors from false-triggering.
2. The face-to-face installation between sensors and sensors or other radio sources is not recommended, or false trigger issue will potentially behave.
 - a. Make sure the installed environment is free of any obvious vibration, strong air blows, curtain swing, water flow in pipe...
 - b. The recommended mounting distance between sensor to sensor is >3m to prevent sensors from false-triggering and furtherly adjust per actual environment.

Wire Preparation



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

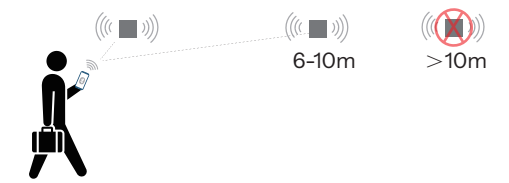
Wiring Diagram



—This product should be installed by a qualified electrician.

Placement Guide and Typical Range

Smart Phone to Device Range

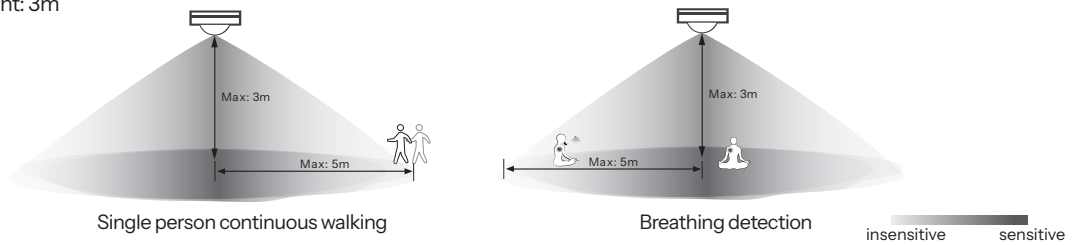


The smart device with the App installed will have a typical range of 10m, but varies from device to device. During commissioning, the installer will need to be in range of the devices when searching for devices to add to the network.

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.

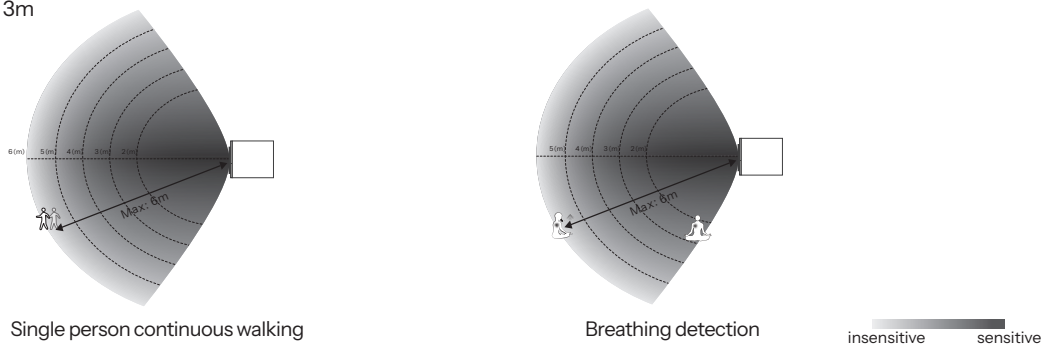
Detection Pattern

Ceiling-mounted application
Installation height: 3m



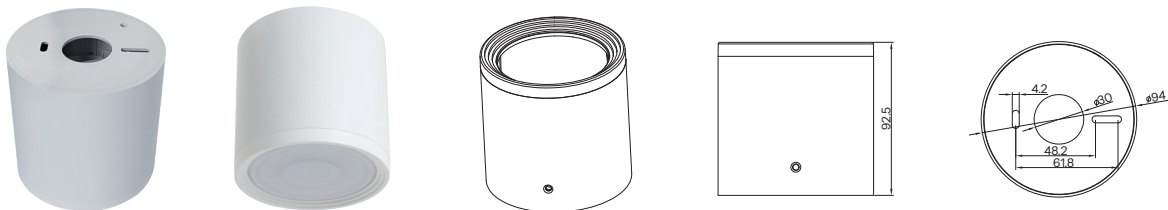
*When it's in breathing & true occupancy detection mode and in sitting situation, facing to sensor directly will have a better detection range than 90 degrees side facing to sensor.

Wall-mounted application
Installation height: 3m



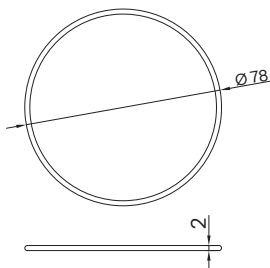
*When it's in breathing & true occupancy detection mode and in sitting situation, facing to sensor directly will have a better detection range than 90 degrees side facing to sensor.

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

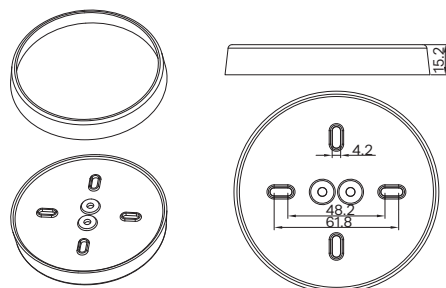


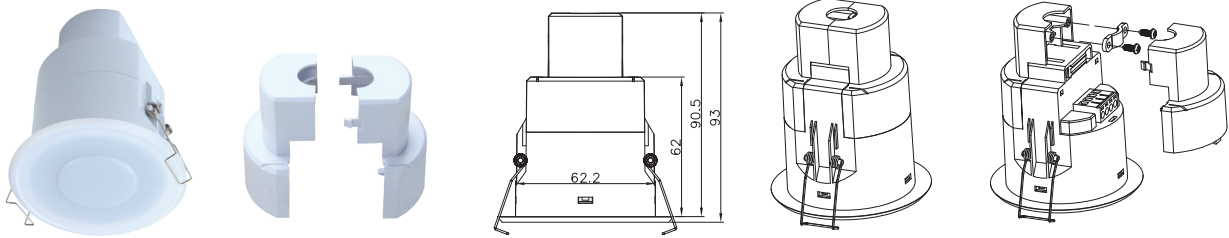
Big and small silicon gasket used to make IP54 degree protection (mounted into HA09 housing for ceiling mount)

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



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





*Note: Optional Accessory HA09 & HA08 can not be used together.

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](http://www.hytronik.com/products/bluetooth%20technology) →Bluetooth Sensors
4. Regarding precautions for HF sensor installation and operation, please kindly refer to www.hytronik.com/download →knowledge →Microwave Sensors - Precautions for Product Installation and Operation
5. Regarding Hytronik standard guarantee policy, please refer to www.hytronik.com/download →knowledge →Hytronik Standard Guarantee Policy