

DALI PIR Motion Sensor with Bluetooth® 5.0 SIG Mesh

HBEM049 (High-bay)

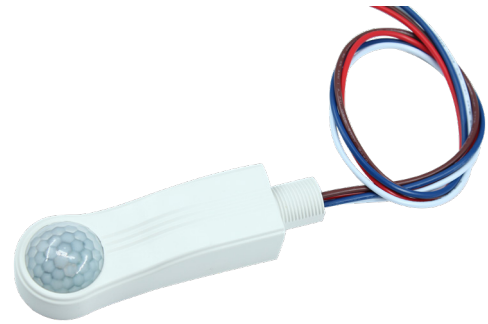
DALI/DALI-2 Bolt-on/Batten-fit PIR Sensor

HYTRONIK®

Bluetooth® CE IP65 5W

Product Description

HBEM049 is a Bluetooth DALI dimmer sensor, primarily utilized in conjunction with emergency drives. It converts the output of a standard DALI/DALI2 emergency driver to Bluetooth output, allowing users to manage and customize monthly functional and annual duration tests based on the Koolmesh Emergency System. For users, they can effortlessly view, edit, and supervise the entire emergency system. Regarding features, scheduling a monthly self-test or annual self-test within the app, checking the status of DALI/DALI2 emergency drivers, including automatic email notification upon fault detection, automatic monthly/annual (functional/duration test) emergency report generation, and so on. All the settings and parameters can be configured in the **Koolmesh®** app, and all information such as reports can be viewed and downloaded from the Koolmesh IoT platform.



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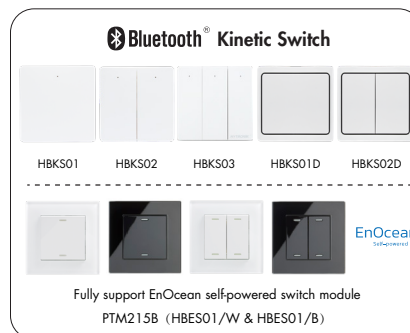
App Features

- 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
- 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)
- 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

- Compatible with EnOcean BLE switches
- Interoperability with Hytronik Bluetooth product portfolio
- Internet-of-Things (IoT) featured
- Device firmware update over-the-air (OTA)
- Continuous development in progress...

Hardware Features

- 30mA DALI Broadcast output
- Support the control of DALI-2 and DT8 drivers
- Support D4i driver and collect energy, fault & diagnostics data
- IP65
- Fixing washers accessory
- High-bay (up to 1.5m height)
- 5-year warranty



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	0.5W
Output	I guaranteed: 30mA
	I max: 50mA
	U rated: 16VDC
Warming-up	20s

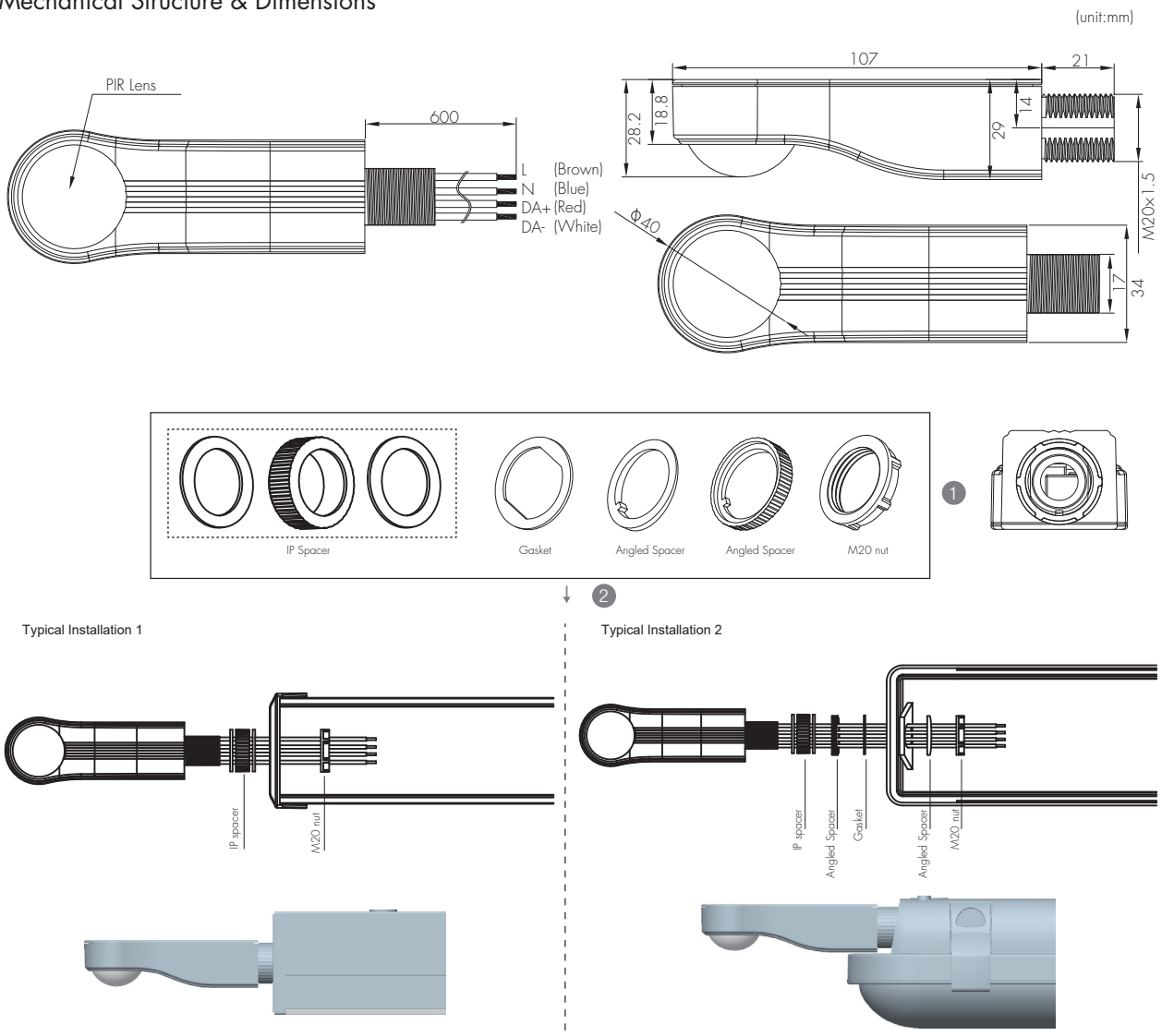
Environment	
Operation temperature	Ta: -20°C ~ +50°C
IP rating	IP65

Sensor Data	
Sensor principle	PIR detection
Detection range*	Max installation height: 15m (forklift)
	12m (single person)
	Max detection range: 16m (diameter)
Detection angle	360°
Sensitivity	10% / 30% / 50% / 75% / 100%

* The detection range may be significantly reduced under certain conditions due to factors such as sensor placement (angle) and variations in temperature and humidity levels.

Safety & EMC	
EMC standard (EMC)	EN55015, EN61547 EN61000-3-2/-3-3
Safety standard (LVD)	EN61347-1, EN61347-2-11
RED	EN300328, EN301489-1 EN301489-17
Certification	CE, RCM, UKCA

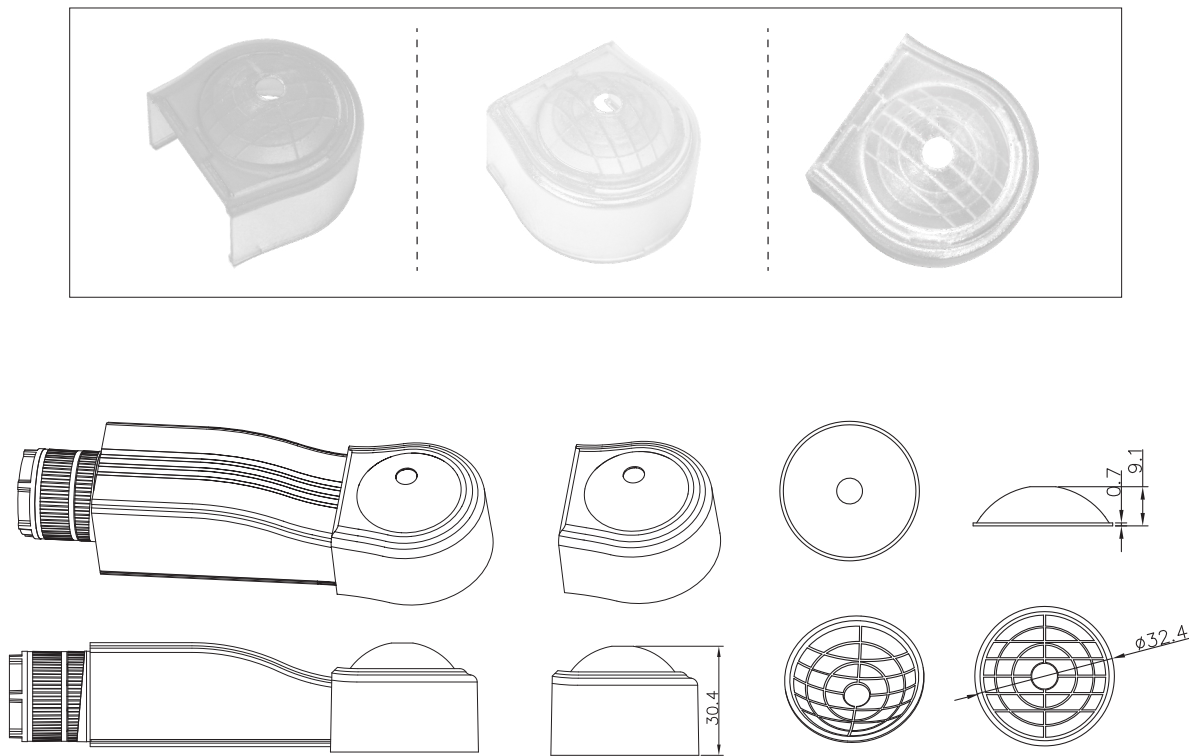
Mechanical Structure & Dimensions



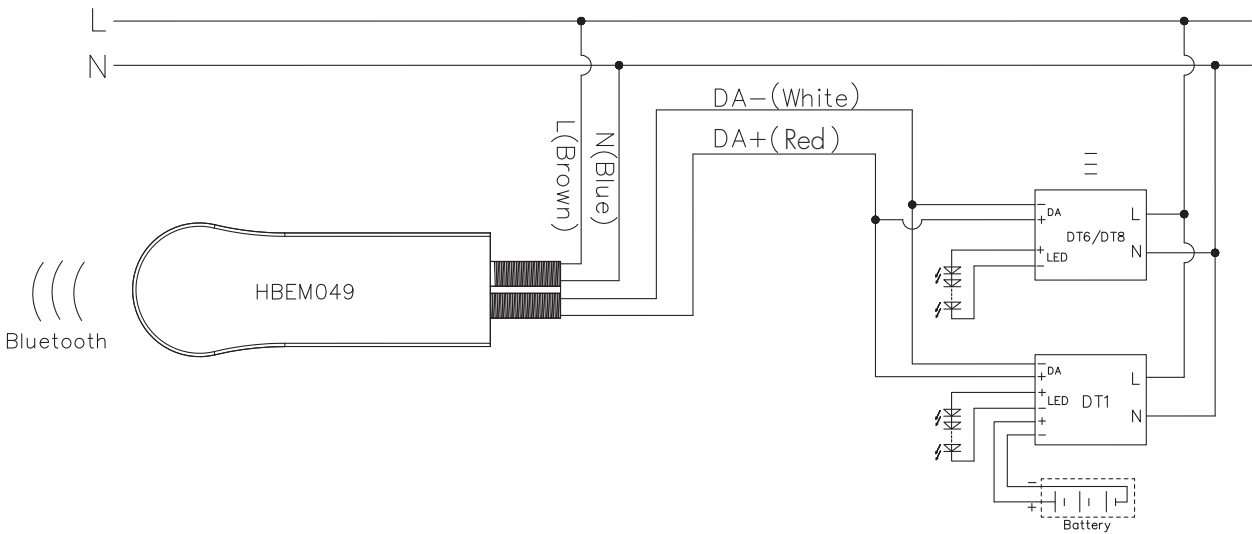
Shielding Accessory

For the application of limited coverage areas (hallways), the line pattern of the shielding accessory can be freely removed by cutting to achieve a different range of shielding induction, for example, rectangular detection and semi-sphere detection. The portable design also provides an easy installation, which only needs to buckle the shielding accessory onto the lens.

*Note: The sensor cover is attached to the product by default. Please remove it before normal use. If partial shielding of the detection area is required, the cover can be reattached as needed.

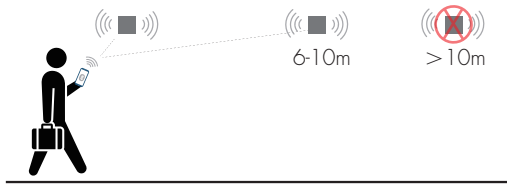


Wiring Diagram



Placement Guide and Typical Range

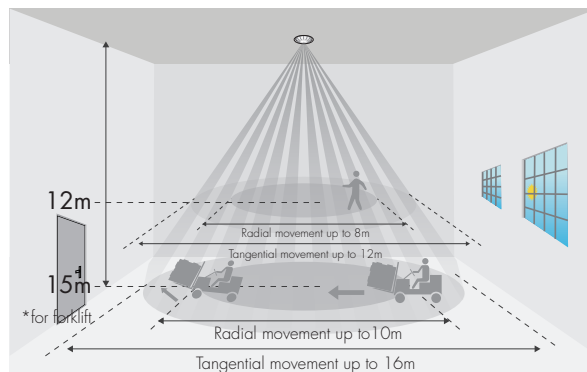
Smart Phone to Device Range



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



*The detection patterns are based upon 5km/h movement speed.

Additional Information / Documents

1. To learn more about detailed product features/functions, please kindly refer to <https://hytronik.com/product/hbem049>
2. Regarding precautions for Bluetooth product installation and operation, please kindly refer to <https://hytronik.com/service/downloads> (Bluetooth Products Precautions for Product Installation and Operation)
3. Regarding precautions for PIR Sensors installation and operation, please kindly refer to <https://hytronik.com/service/downloads> (PIR Sensors Precautions for Product Installation and Operation)
4. Data sheet is subject to change without notice. Please always refer to the most recent release on <https://hytronik.com/products/emergency-led-drivers-inverters>
5. Regarding Hytronik standard guarantee policy, please kindly refer to <https://hytronik.com/service/downloads> (Guarantee Conditions document)