

Detached Motion Sensor with  Bluetooth® 5.0 SIG Mesh

HC038V/BT
0/1-10V Output

HCD038/BT
DALI Output

HYTRONIK®



Product Description

HC038V/BT is a Bluetooth 0/1-10V control base whereas HCD038/BT is a Bluetooth DALI control base with 30mA DALI power supply built in. They work with a wide range of microwave and PIR sensor heads. They are ideal for plastic luminaires as compared to metal luminaires because Bluetooth signal can transmit through plastic. They are suitable for any typical indoor applications such as office, classroom, car park, warehouse and other commercial/industrial areas. With Bluetooth wireless mesh networking, it makes communication much easier without any hardwiring, which eventually adds values to luminaires and saves costs for projects. Meanwhile, simple device setup and commissioning can be done via **Koolmesh™** app.



















HC038V/BT











HCD038/BT

App Features

-  Grouping luminaires via mesh network
 - Two levels: room & group
 - Synchronization control
-  7 types of scene options to set up:
 - Generic Scenes
 - Lux ON/OFF Scenes
 - Daylight Harvest (Open loop)
 - Daylight Harvest (Closed loop)
 - Simple circadian rhythm without daylight sensor (HCD038/BT)
 - Advanced circadian rhythm with daylight sensor (HCD038/BT)
 - Time-based Scene
-  Push switch configuration
-  Detailed motion sensor settings
-  Schedule to run scenes based on time and date
-  Astro timer (sunrise and sunset)
-  Floorplan feature to simplify project planning
-  Staircase function (master & slave)
-  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 range of wireless switches
-  Device firmware update over-the-air (OTA)
-  Continuous development in progress...

Hardware Features

-  HC038V/BT: 0/1-10V output :
 - 400VA (capacitive)
 - 800W (resistive)
-  HCD038/BT: 30mA DALI broadcast output for up to 15 LED drivers
-  Plug'n'Play for flexible installation and cost saving assemble
-  Support to control DT8 LED drivers (HCD038/BT)
-  2 Push inputs for flexible manual control(HCD038/BT)
-  Zero crossing detection circuit to reduce in-rush current and prolong relay lifetime (HC038V/BT)
-  Loop-in and loop-out terminals for efficient installation (HC038V/BT only)
-  5-year warranty

Bluetooth 5.0 SIG mesh




iOS 10.0 or later



Android 5.0 or later



EnOcean
Self-powered IoT

Fully support
EnOcean switch

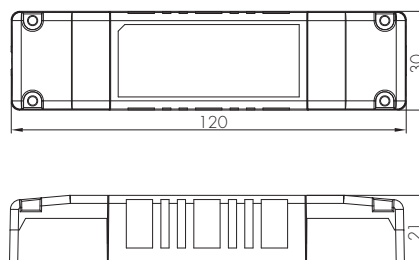
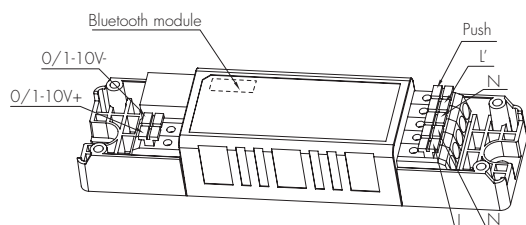
Technical Specifications (HC038V/BT HCD038/BT)

Bluetooth Transceiver	
Operation frequency	2.4 GHz - 2.483 GHz
Transmission power	7 dBm
Range (Typical indoor)	10~30m
Protocol	 Bluetooth® 5.0 SIG Mesh
Safety & EMC	
EMC standard (EMC)	EN55015, EN61000, EN61547
Safety standard (LVD)	EN60669-1, EN60669-2-1
RED	EN300328, EN301489-1/-17
Certification	Semko, CB, CE, EMC, RED, RCM

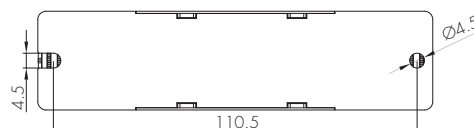
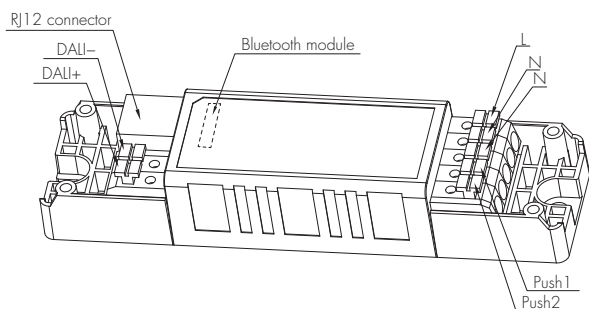
Input & Output Characteristics	
Operating voltage	220~240VAC 50/60Hz
Stand-by power	<1W
Load ratings: HC038V/BT HCD038/BT	Capacitive: 400W; Resistive: 800W 30mA (max. 15 devices)
Warming-up	20s
Environment	
Operation temperature	T _a : -20°C ~ +50°C
Case temperature (Max.)	T _c : +75°C
IP rating	IP20

Mechanical Structure & Dimensions

HC038V/BT (0/1-10V output)



HCD038/BT (DALI output)

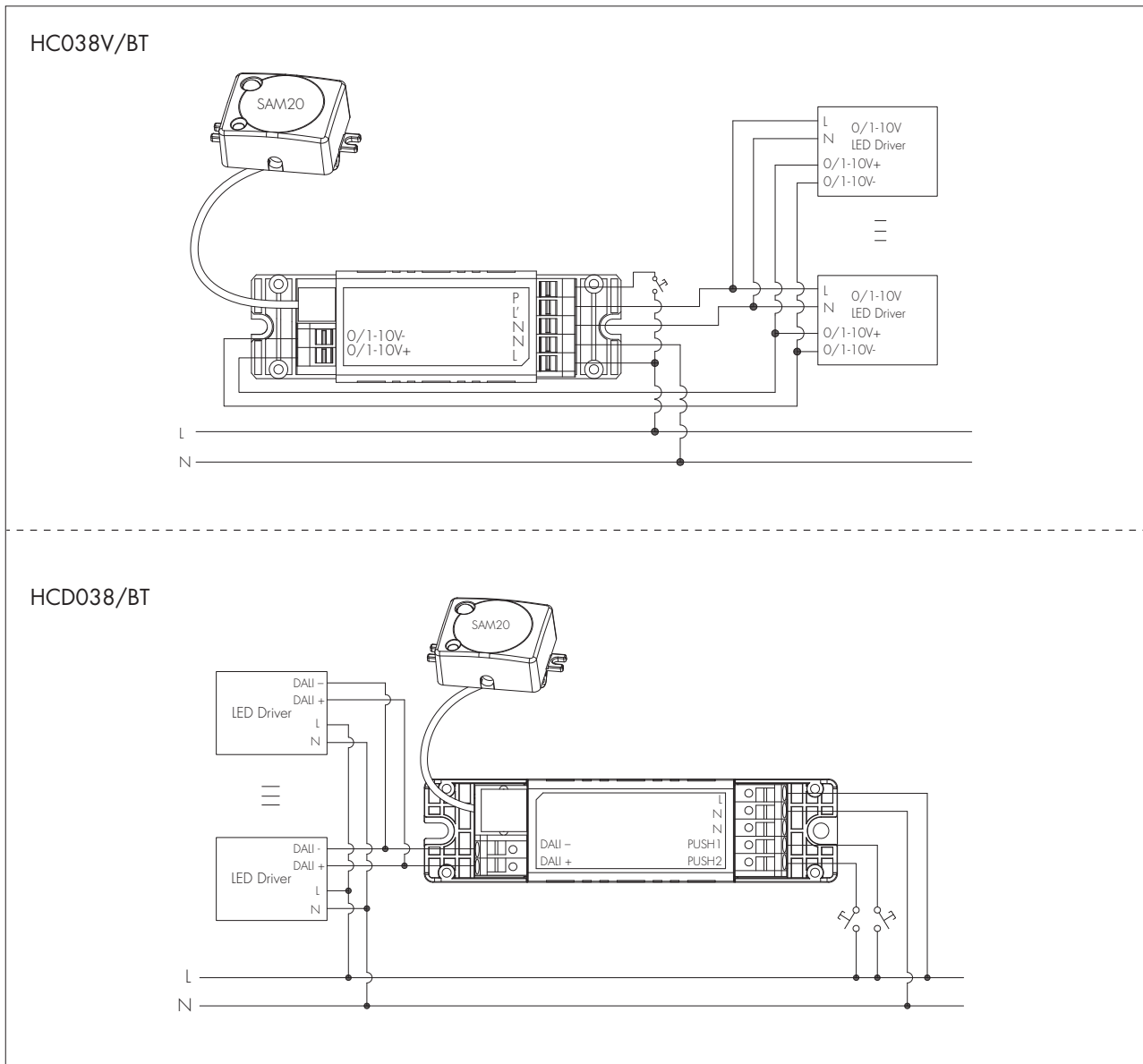


Wire Preparation



To make or release the wire from the terminal, use a screwdriver to push down the button.

Wiring Diagram



Technical Specifications for Sensor Heads

PIR Sensor Properties	
Sensor principle	PIR detection
Operating voltage	5VDC
Detection range *	HIR05 / HIR07 (Ø x H) : 6m x 3m HIR11 (Ø x H) : 16m x 12m HIR12 (L x W x H) : 18m x 6m x 15m

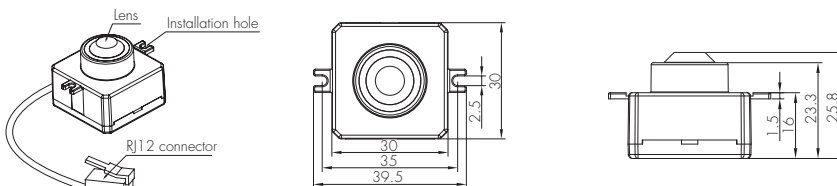
HF Sensor Properties	
Sensor principle	High Frequency (microwave)
Operating voltage	5VDC
Operation frequency	5.8GHz +/- 75MHz
Transmission power	<0.2mW
Detection range *	SAM20 / SAM21 / SAM22 (Ø x H) : 12m x 3m SAM23 (Ø x H) : 16m x 12m

* The detection range is heavily influenced by sensor placement (angle) and different walking paces. It may be reduced under certain conditions.

The range of PIR and microwave sensor heads below offers powerful number of Plug 'n Play feature options to expand the flexibility of luminaire design. This approach to luminaire design reduces space requirements and component costs whilst simplifying production.

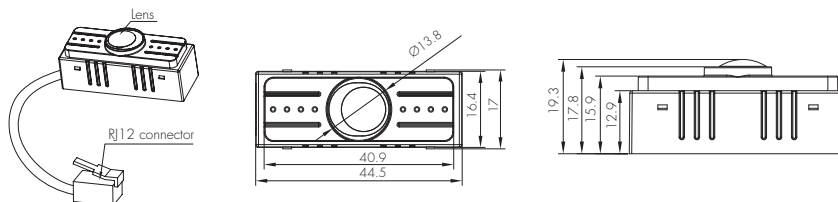
A. HIR05

PIR sensor head
The cable length is around 65cm.



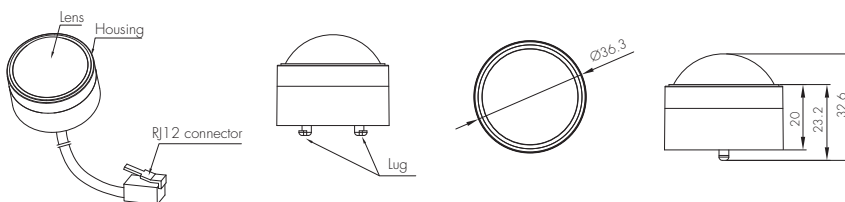
B. HIR07

PIR sensor head
Photocell Advance™
The cable length is around 30cm.



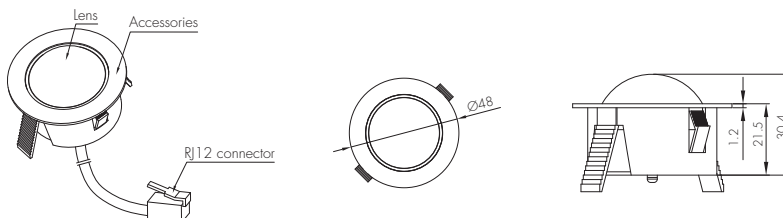
C. HIR11/S

PIR sensor head
Surface mounting
For highbay application
Lens part IP42 (IP64 can be made upon request)
The cable length is around 65cm.



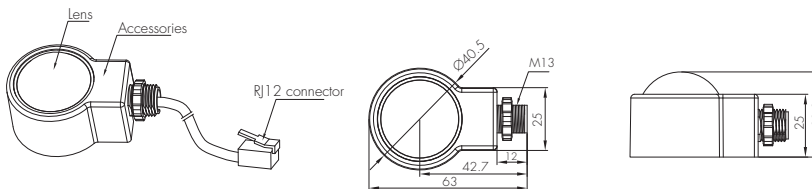
D. HIR11/F

PIR sensor head
Flush mounting
For highbay application
Lens part IP42 (IP64 can be made upon request)
The cable length is around 65cm.



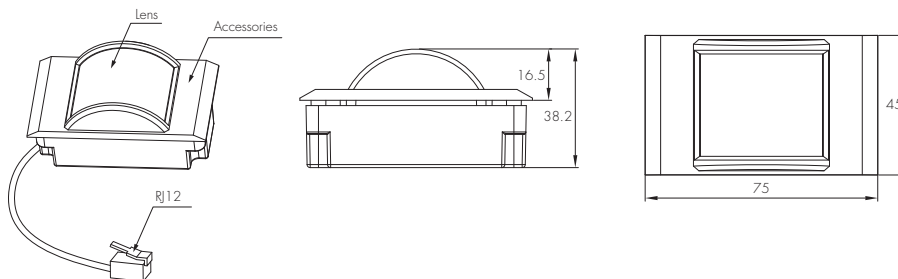
E. HIR11/C

PIR sensor head
Screw to the luminaire by conduit
For highbay application
Lens part IP42 (IP64 can be made upon request)
The cable length is around 65cm.



F. HIR12

PIR sensor head
For highbay application
IP65(lens part)
The cable length is around 65cm.



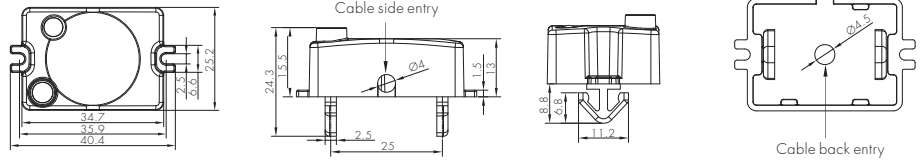
Installation for HIR12



We suggest that the metal plate thickness to be 0.8mm~1.6mm to ensure perfect focal length for the PIR lens.

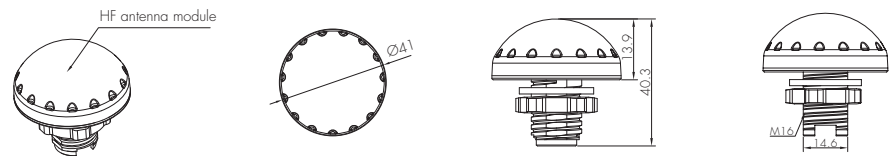
H. SAM20

HF sensor head
 Photocell Advance™
 The cable length is around 30cm.



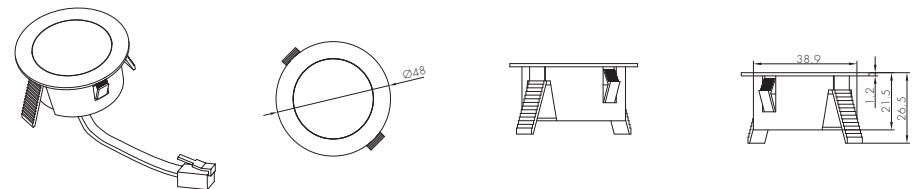
I. SAM21

HF sensor head
 Photocell Advance™
 IP65
 The cable length is around 65cm.



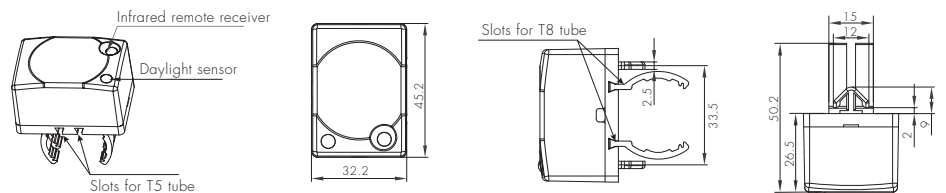
J. SAM22

HF sensor head
 Flush mount
 The cable length is around 65cm.



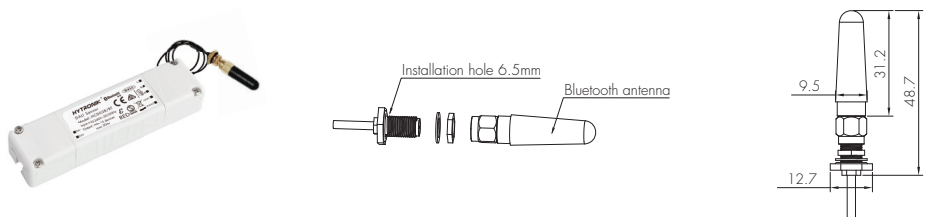
K. SAM23

HF sensor head
 Photocell advance™
 For highbay application
 The cable length is around 30cm.



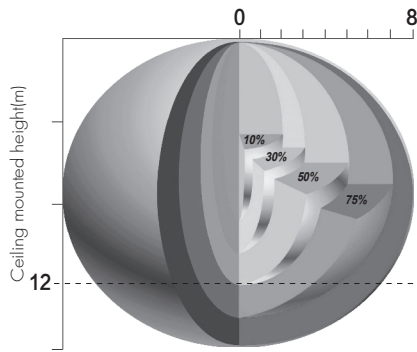
Optional Accessory: Reinforced Bluetooth Antenna

For some special applications, customers may need a larger Bluetooth transmission for both smartphone to device and device to device. Thanks to the reinforced Bluetooth antenna, with it being added to the control base HC038V/BT & HCDO38/BT, the transmission distance (smartphone to device) enlarges to 20m, the distance of device to device is around 50m.



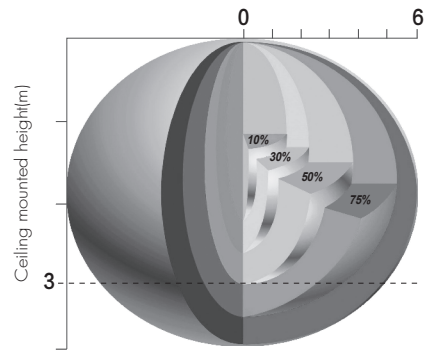
Detection Pattern

SAM23



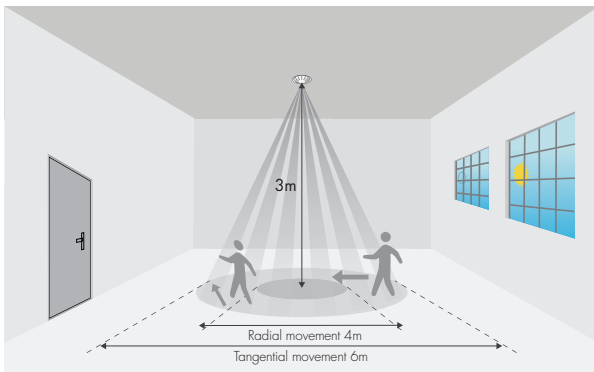
Ceiling mounted detection pattern (m)

SAM20 / SAM21 / SAM22

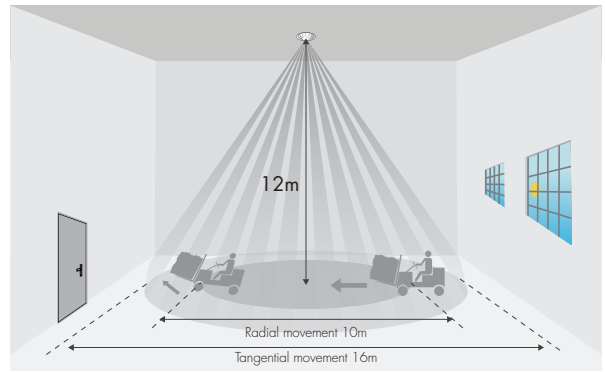


Ceiling mounted detection pattern (m)

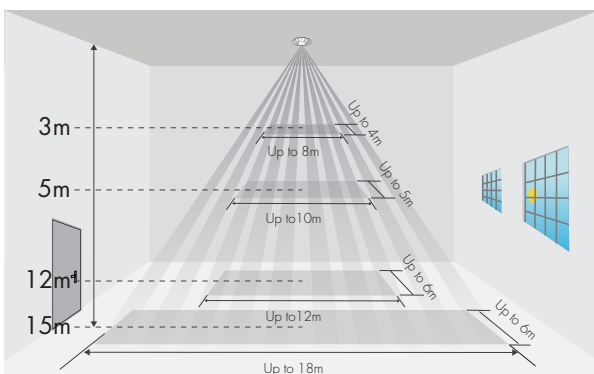
HIRO5 / HIRO7



HIR11



HIR12



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 (<0.4 second) * Short press has to be longer than 0.1s, or it will be invalid.	- Turn on/off - Turn on only - Turn off only - Recall a scene - Exit manual mode - Do nothing
	Double push	- Turn on only - Turn off only - Recall a scene - Exit manual mode - Do nothing
	Long press (>0.4 second)	- Dimming - Colour tuning - Do nothing
Simulate sensor	/	- Upgrade a normal on/off motion sensor to a Bluetooth controlled motion sensor

Additional Information / Documents

1. 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
2. Regarding precautions for microwave sensor installation and operation, please kindly refer to www.hytronik.com/download/knowledge ->Microwave Sensors - 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 Hytronik standard guarantee policy, please refer to www.hytronik.com/download/knowledge ->Hytronik Standard Guarantee Policy