

Detached Motion Sensor with  Bluetooth® 5.0 SIG Mesh

HC038V

1-10V Output

HCD038

DALI Output

HCD038/P

HYTRONIK®

      CB CE emc RED IP20

Product Description

HC038V is a 1-10V control base whereas HCD038 and HCD038/P are DALI control bases with 30mA DALI power supply built in. They work with a wide range of microwave and PIR sensor heads. They are ideal for metal luminaire designs because the Bluetooth module is placed inside the sensor heads instead of control base, so that the Bluetooth signal transmission is viable. 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.

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 and HCD038/P)
- Advanced circadian rhythm with daylight sensor (HCD038 and HCD038/P)
- Time-based Scene

 Push switch configuration

 Detailed motion sensor settings

Hardware Features


 HC038V: 1-10V output with 400VA (capacitive) & 800W (resistive)

 HCD038 & HCD038/P: 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 and HCD038/P)

 2 Push inputs for flexible manual control (HCD038/P only)

 Zero crossing detection circuit to reduce in-rush current and prolong relay lifetime (HC038V only)

 Loop-in and loop-out terminals for efficient installation (HC038V only)

 5-year warranty




 Schedule to run scenes based on time and date

 Astro timer (sunrise and sunset)

 Floorplan feature to simplify project planning

 Staircase function (master & slave)

 Status after re-powered on (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 range of wireless switches

 Device firmware update over-the-air (OTA)

 Continuous development in progress...

 Bluetooth 5.0 SIG mesh



 iOS 10.0 or later

 Android 5.0 or later



EnOcean
Self-powered IoT

Fully support
EnOcean switch

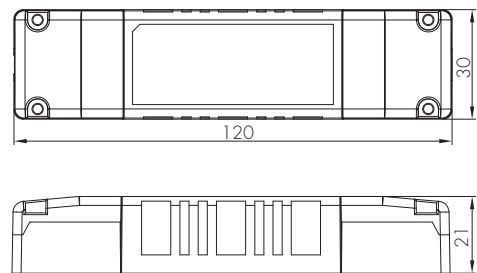
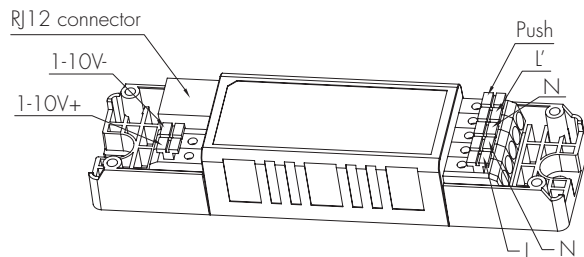
Technical Specifications

Input & Output Characteristics	
Operating voltage	220~240VAC 50/60Hz
Stand-by power	<0.5W
Load ratings:	
HC038V	400VA (capacitive) 800W (resistive)
HCD038 HCD038/P	30mA (max. 15 devices)
Warming-up	20s

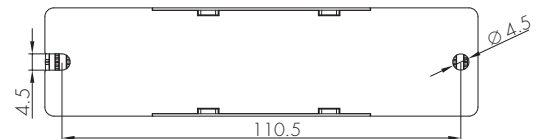
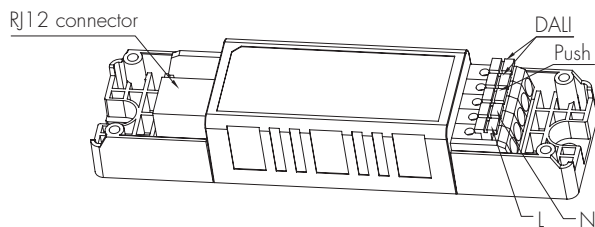
Safety & EMC	
EMC standard (EMC)	EN55015, EN61000, EN61547
Safety standard (LVD)	EN60669-1/-2-1, AS/NZS60669-1/-2-1
Radio Equipment (RED)	EN300440, EN301489-1/-3/-17 EN62479, EN300328
Certification	Semko, CB, CE, EMC, RED, RCM
Environment	
Operation temperature	T _a : -20°C ~ +55°C
Case temperature (Max.)	T _c : +75°C
IP rating	IP20

Mechanical Structure & Dimensions

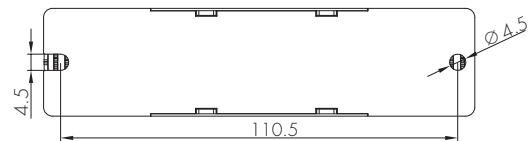
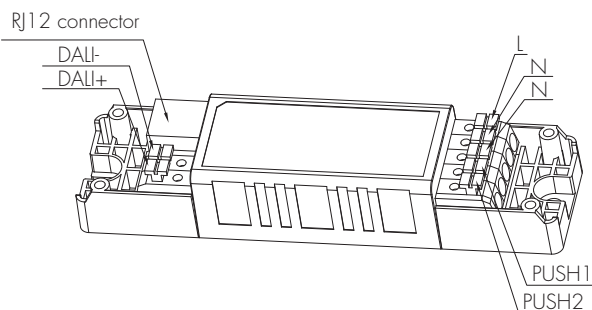
HC038V (1-10V output with 1 push)



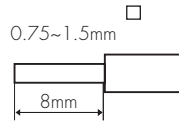
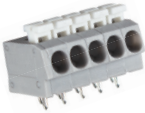
HCD038 (DALI output with 1 push)



HCD038/P (DALI output with 2 push)

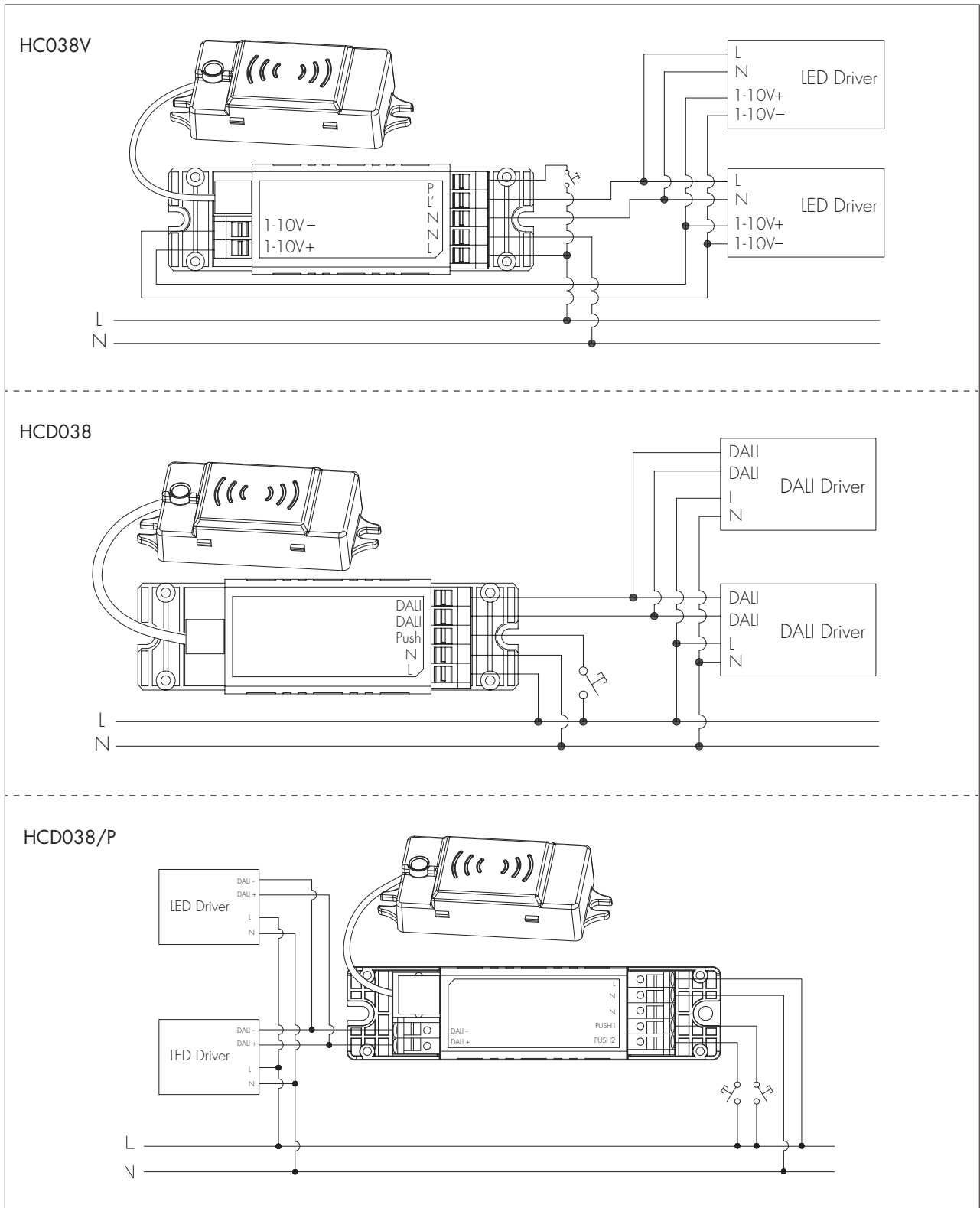


Wire Preparation




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

Wiring Diagram



Technical Specifications for Sensor Heads

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

Environment	
Operation temperature	-20°C ~ 55°C
Storage temperature	Ta: -20°C ~ +70°C
Relative humidity	0 ~ 90%
IP rating	IP20

HF Sensor Properties (HBT01)	
Sensor principle	High Frequency (microwave)
Operation frequency	5.8GHz +/- 75MHz
Transmission power	<0.2mW
Detection range*	Max. (Ø x H) 8m x 3m
Detection angle	30° ~ 150°

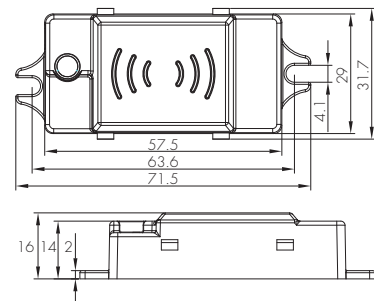
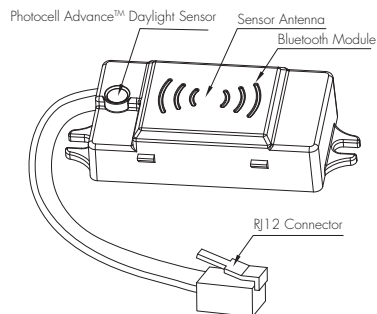
PIR Sensor Properties (HIR13 / HIR16)	
Sensor principle	PIR detection
Operation voltage	5VDC
Detection range *	HIR13x (Ø x H) 16m x 12m HIR16 (L x W x H) 18m x 6m x 15m
Detection angle	360°

* 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 with Bluetooth modules built in 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.

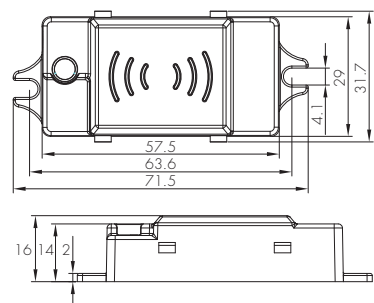
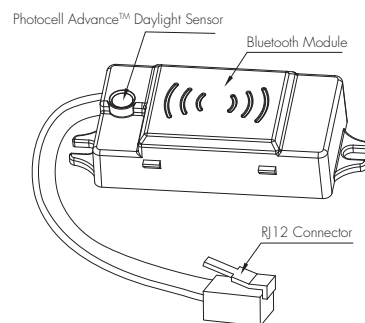
A. HBT01

Surface mounting
The cable length is around 30cm.



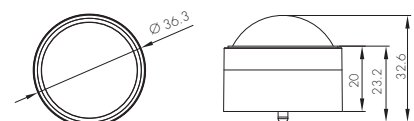
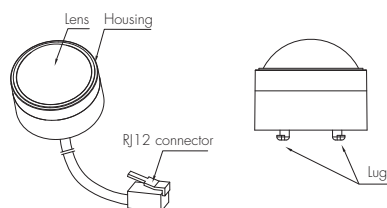
B. HBT02

Surface mounting
Without motion sensor
The cable length is around 30cm.



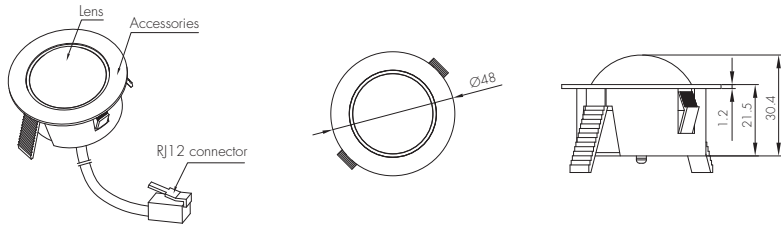
C. HIR13/S

Surface mounting
For highbay application
Lens part IP42 (IP64 can be made upon request)
The cable length is around 30cm.



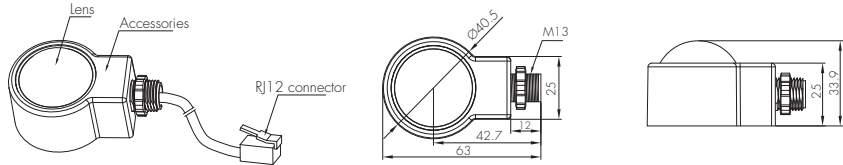
D. HIR13/F

Flush mounting
 For highbay application
 Lens part IP42 (IP64 can be made upon request)
 The cable length is around 30cm.



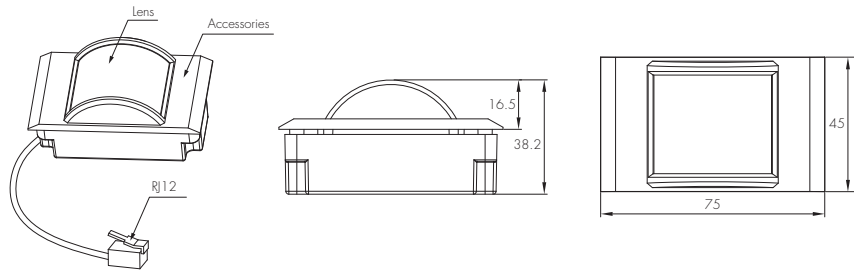
E. HIR13/C

Screw to the luminaire by conduit
 For highbay application
 Lens part IP42 (IP64 can be made upon request)
 The cable length is around 30cm.



F. HIR16

PIR sensor head
 For highbay application
 IP65(lens part)
 The cable length is around 30cm.



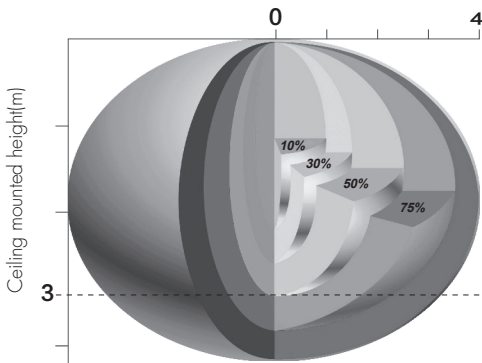
Installation for HIR16



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

Detection Pattern

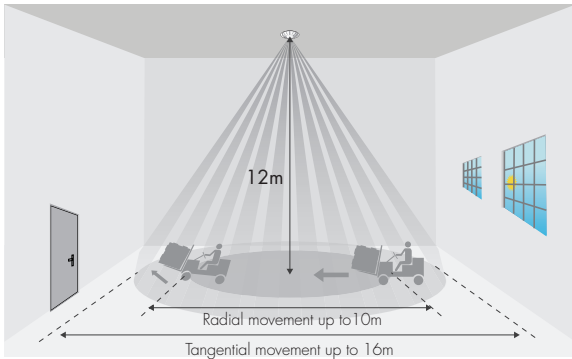
HBT01



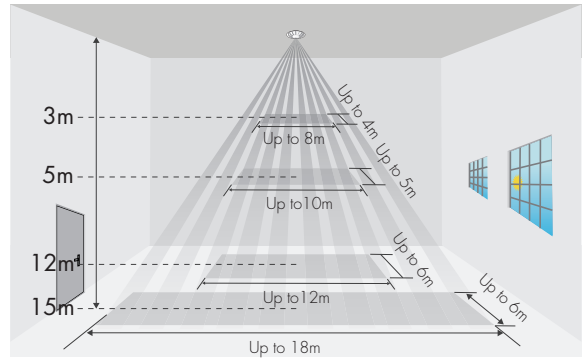
The detection range is heavily influenced by sensor placement (angle) and different walking paces.

It may be reduced to (Ø x H) of 2 x 3m under certain conditions (walking across).

HIR13x



HIR16



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

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 - 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 (>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