Detached Motion Sensor with **Bluetooth**[®] 5.0 SIG Mesh

HC038V 1-10V Output HCD038 DALI Output HCD038/P DALI Output

Product Description

HC038V is a 1-10V control base whereas HCD038 and HCD038/P are DALI control bases with different 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.



HYTRONIK ®

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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
- DALI-2 supported coming soon
- 승규 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
- Push switch configuration
- Detailed motion sensor settings
- 🛗 Schedule
- Astro timer (sunrise and sunset)
- Power-on status (memory against power loss)
- Offline commissioning
- **E** Bulk commissioning (copy and paste settings)
- P Different permission levels via authority management
- Network sharing via QR code or keycode
- Discrete Interoperability with Hytronik Bluetooth product portfolio

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

Hardware Features

- HC038V:1-10V output with 400VA (capacitive) & 800VV (resistive)
- DALI bus power supply: (HCD038/P)
 - l max:80mA U rated: 15VDC
 - l guaranteed:64mA
- 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 (HCO38V only)
- 5-year warranty



Technical Specifications

Input & Output Characteristics		Safety & EMC		
Operating voltage	220~240VAC 50/60Hz	EMC standard (EMC)	EN55015, EN61000, EN61547	
Stand-by power	<0.5W	Safety standard (LVD)	EN60669-1/-2-1, AS/NZS60669-1/-2-1	
Load ratings:		Radio Equipment (RED)	EN300440, EN301489-1/-3/-17	
HC038V	400VA (capacitive)	Kuulo Equipineni (KED)	EN62479, EN300328	
	800W (resistive)	Certification	Semko, CB, CE , EMC, RED, RCM	
HCD038	max.30mA			
HCD038/P	DALI bus power supply:	Environment		
	I max:80mA U rated:15VDC L auranteed:64mA	Operation temperature	Ta: -20°C ~ +55°C	
		Case temperature (Max.)	Tc: +75°C	
Warming-up	20s	IP rating	IP20	
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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.

1. 200 metres (total) max. for 1mm² CSA (Ta = 50°C)

2. 300 metres (total) max. for 1.5 mm² CSA (Ta = 50 °C)

Wiring Diagram



PIR Sensor Properties (HIR 13 & HIR 16 & HIR 62 & HIR 62 / R)Operation frequency2.4 GHz - 2.483 GHzSensor principlePIR detectionTransmission power4 dBmOperation voltage5VDCRange (Typical indoor)10~30mHIR 13Max installation height: 15m (forklift) 12m (single person)ProtocolBluetooth* 5.0 SIG MeshMax detection range (Ø): 24mEnvironmentTa: -20°C ~ +55°CHIR 16 20°C ~ +70°CHIR 16 Max installation height: 15m (forklift) 12m (single person)Relative humidity0 ~ 90%Detection range*Max detection range: 18m * 6m (L * W)
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Transmission power4 dBmOperation voltage5VDCRange (Typical indoor)10~30mHIR 13ProtocolBluetooth* 5.0 SIG MeshMax installation height: 15m (forklift) 12m (single person)Max detection range (Ø): 24mHIR 16Operation temperatureTa: -20°C ~ +55°CStorage temperature-20°C ~ +70°C 12m (single person)Relative humidity0 ~ 90%Detection range*
Range (Typical indoor) 10~30m Protocol Bluetooth* 5.0 SIG Mesh HIR 13 Max installation height: 15m (forklift) 12m (single person) Max detection range (Ø): 24m Environment HIR 16 Operation temperature Ta: -20°C ~ +55°C Storage temperature -20°C ~ +70°C Relative humidity 0 ~ 90% Detection range*
Protocol Bluetooth® 5.0 SIG Mesh Max installation height: 15m (forklift) 12m (single person) 12m (single person) Max detection range (Ø): 24m Image: Comparition temperature Ta: -20°C ~ +55°C Storage temperature -20°C ~ +70°C Relative humidity 0 ~ 90% Detection range* Max detection range: 18m * 6m (L * VV)
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Storage temperature -20°C ~ +70°C Ndx installation neight. Tom (tokin) Relative humidity 0 ~ 90% Detection range* Max detection range: 18m * 6m (L * VV)
Relative humidity 0 ~ 90% Detection range* Max detection range: 18m * 6m (L * W)
IP rating IP20
HIR62
HF Sensor Properties (HBTO1) Max installation height: 3m (single person)
Sensor principle High Frequency (microwave)
Operation frequency 5.8GHz +/- 75MHz HIR62/R
Transmission power <0.2mW Max installation height: 8m (single person)
Detection range* Max installation height: 3m Max installation height: 12m (forklift) Max detection range (Ø): 8m Max detection range (Ø): 14m
Detection angle 360°

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

PIR & microwave sensor heads

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 luminaires design. This approach to luminaire design reduces space requirements and component costs whilst simplifying production.



Technical Specifications for Sensor Heads

C. HIR13/S

Surface mounting For highbay application IP65 (facia / lens part) The cable length is around 30cm.

D. HIR13/F

Flush mounting For highbay application IP65 (facia / lens part) The cable length is around 30cm.





E.HIR13/C

Screw to the luminaire by conduit For highbay application IP65 (facia / lens part) The cable length is around 30cm.

F. HIR13/AA

PIR sensor head Adjustable angle The cable length is around 30cm.

Accessories

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Installation hole

G.HIR16

PIR sensor head Keep real time for up to 2 weeks against power failure For highbay application IP65 (facia / lens part) The cable length is around 30cm.

*HIR16 has RTC function:

RTC retains timekeeping for about 10 days during power loss (For optimal performance, install the device facing down and at around 25°C. Prolonged exposure to direct outdoor sunlight may reduce RTC time to 2 days.)

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RJ 1 2

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RJ1<u>2 conne</u>cto

Functions and Features



The Real-Time Clock (RTC) is a critical component in many of our BLE (Bluetooth Low Energy) products, particularly those designed to support circadian rhythm systems. The primary function of the RTC is to maintain accurate time and date information, even when the device is powered off or experiences a power failure. This is crucial for ensuring that the device can resume its correct operation and provide timely data or functionality once power is restored.



Note: When HIR62 or HIR62/R plug with HCD038/P, only one push terminal can be activated for configuration.

Detection Pattern

HIR13 (High-bay)					
		: High-bay lens detection pattern for <u>forklift</u> @ Ta = 20°C (Recommended installation height 10m-15m)			
				,	
A: langential movement	B: Kadial movement	Mount height			
		10m	$\max 380m^2 (\emptyset = 22m)$	$\max 201 \mathrm{m^2}(\emptyset = 16 \mathrm{m})$	
h = max.15m	h = max.15m	llm	$\max 452 \mathrm{m}^2 (\varnothing = 24 \mathrm{m})$	$max 201m^2 (\emptyset = 16m)$	
A		12m	max 452m² (Ø = 24m)	max 201m²(Ø = 16m)	
widt not 24m		13m	max 452m² (Ø = 24m)	max 177m²(Ø = 15m)	
100 S		14m	max 452m² (Ø = 24m)	max 133m²(Ø = 13m)	
insensitive sensitive	insensitive sensitive	1 <i>5</i> m	max 452m² (Ø = 24m)	max 113m²(Ø = 12m)	
		High-bay lens detect (Recommended	ion pattern for <u>single</u> installation height <u>2.5</u>	person @ Ta = 20°C 5 m-12m)	
A: Tangential movement	B: Radial movement	Mount height	Tangential (A)	Radial (B)	
h = max.12m	h = max. 12m	2.5m	$\max 50 \mathrm{m}^2 (\varnothing = 8 \mathrm{m})$	$\max 7m^2 (\emptyset = 3m)$	
		бm	max 104m²(Ø = 11.5m)	$\max 7m^2 (\emptyset = 3m)$	
		8m	max 154m²(Ø = 14m)	$\max 7m^2 (\emptyset = 3m)$	
		1 Om	max 227m² (Ø = 17m)	$\max 7m^2 (\emptyset = 3m)$	
		llm	max 269m² (Ø = 18.5m)	$\max 7m^2 (\emptyset = 3m)$	
insensitive sensitive	insensitive sensitive	12m	max 314m² (Ø = 20m)	$\max 7m^2 (\emptyset = 3m)$	

HIR16



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



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

HBTO1



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

It may be reduced to 2m(diameter) & 3m(height) under certain conditions (walking across).

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	
	Short press (<1 second) * Short press has to be longer than 0.1s, or it will be invalid.	- Turn on/off - Recall a scene - Turn on only - Quit manual mode - Turn off only - Do nothing	
Push switch	Double push	- Turn on only - Quit manual mode - Turn off only - Do nothing - Recall a scene	
	Long press (≥1 second)	- Dimming - Colour tuning - Do nothing	
Sensor-link	/	 Upgrade a normal on/off motion sensor to a Bluetooth controlled motion sensor 	
Emorgono / Solt-Tast Eurotion	Short press (<1 second) * Short press has to be longer than 0.1s, or it will be invalid.	- Start Self test (Monthly) - Start Self test (Annually) - Stop Self test - Invalid	
	Long press (≥1 second)	- Start Self test (Monthly) - Start Self test (Annually) - Stop Self test - Invalid	
Fire Alarm (VFC signal only)	Refer to Koolmesh [®] App User Manual V2.1	 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. 	

Additional Information / Documents

- To learn more about detailed product features/functions, please kindly refer to https://hytronik.com/product/hbir29
- Regarding precautions for Bluetooth product installation and operation, please kindly refer to https://hytronik.com/service/downloads (Bluetooth Products Precautions for Product linstallation 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)
- Regarding precautions for Microwave sensor installation and operation, please kindly refer to: https://hytronik.com/service/downloads (Microwave Sensors Precautions for Product Installation and Operation)
- 5. Data sheet is subject to change without notice. Please always refer to the most recent release on https://hytronik.com/products/motion-daylight-sensors
- 6. Regarding Hytronik standard guarantee policy, please kindly refer to https://hytronik.com/service/downloads (Guarantee Conditions document)

Tri-level Control Sensor

HC038V HCD038

Detached Linear Version with Remote Control

Applications

Occupancy detector with tri-level dimming control suitable for indoor use:

- Office / Commercial Lighting
- Classroom
- Meeting Room

Use for new luminaire designs and installations

Features

- 24 hour daylight monitoring dawn/dusk sensor
- Special photocell to measure and differentiate natural light from LED light
- Lux off function, daylight threshold prior to motion detection
- Fri-level dimming control based upon occupancy (also known as corridor function)
- Deptional 1-10V or DALI dimming control method
- Cne-touch daylight learning via remote control
- Zero crossing detection circuit reduces in-rush current and prolongs relay life (HC038V)
- Loop-in and loop-out terminal for efficient installation (HC038V)
- (3) 5-year warranty

Technical Data

Input Characteristics Sensor Data Mains voltage 220~240VAC 50/60Hz Stand-by power <0.5W Sensor principle: Load ratings: SAM7 SAM7/I High Frequency (microwave) SAM7/FM SAM7/AA 400VA (capacitive) HC038V 800W (resistive) HIRO2 HIRO4 HIR19 HCD038 30mA, 16VDC (max. 15 devices) Ор Warming-up Tra 20s Det SA Environment SA Ta: -20°C ~ +55°C Operation temperature Mc Case temperature (Max.) Tc: +80°C Mc IP rating IP20 HIR Mc Safety and EMC Mc HIR EMC standard (EMC) EN55015, EN61000-3-2/-3-3

/-2-1

Safety standard (LVD)	EN60669-1/-2-1, AS/NZS60669-1
Radio Equipment (RED)	EN300440, EN301489-1/-3 EN62479
Certification	CB, CE , EMC, LVD, RCM



HC038V

HYTRONIK

C € ¼ RED ▲ IP20

Operation frequency	5.8GHz +/- 75MHz		
Transmission power	<0.2mW		
Detection range:			
SAM7 SAM7/I SAM7/FM SAM7/AA			
Max installation height Max Detection range (Ø)	6m 12m (Diameter)		
HIRO2 HIRO4			
Max installation height Max Detection range (Ø)	3m 6m (Diameter)		
HIR19			
Max installation height Max Detection range (Ø)	15m (forklift) 12m (single person) 24m (forklift) 20m (single person)		
Detection angle	30° ~ 150°		

PIR Detection



There are eight different sensor antenna modules to choose from:









8 sensor antennas and 2 control units offer 16 combinations in total:

- Microwave antenna SAM7 + DALI control HCD038
- Microwave antenna SAM7/I + 1-10V control HC038V
- Microwave antenna SAM7/AA + DALI control HCD038
- Microwave antenna SAM7/FM + DALI control HCD038
- PIR antenna HIRO2 + DALI control HCDO38
- PIR antenna HIRO4 + DALI control HCDO38
- PIR antenna HIR19/S + DALI control HCD038
- PIR antenna HIR19/F + DALI control HCD038
- PIR antenna HIR19/C + DALI control HCD038

- B Microwave antenna SAM7 + 1-10V control HC038V
- € Microwave antenna SAM7/AA + 1-10V control HC038V
- PIR antenna HIRO2 + 1-10V control HCO38V
- IR antenna HIRO4 + 1-10V control HCO38V
- Ø PIR antenna HIR19/S + 1-10V control HC038V
- PIR antenna HIR19/F + 1-10V control HC038V
- PIR antenna HIR19/C + 1-10V control HC038V





Note:We recommend the mounting distance between sensor to sensor should be more than 2m to prevent sensors from false-triggering.

1 Tri-level Control (Corridor Function)

Hytronik builds this function inside the motion sensor to achieve tri-level control, for some areas which require a light change notice before switch-off. The sensor offers 3 levels of light: 100%-->dimmed light (natural light is insufficient) -->off; and 2 periods of selectable waiting time: motion hold-time and stand-by period; Selectable daylight threshold and freedom of detection area.





With sufficient natural light, the light does not switch on when presence is detected.

With insufficient natural light, the sensor switches on the light automatically when presence is detected.



After hold-time, the light dims to stand-by level if the surrounding natural light is below the daylight threshold.



Light switches off automatically after the stand-by period elapses.

2 24h Daylight Monitoring Function (SAM7)

Our innovative and patented software enables our antenna with built-in daylight sensor to provide a "smart photocell" function. This function is activated when stand-by period is set to " $+\infty$ ".



The light switches on at 100% when there is movement detected.





The light dims to stand-by level after the hold-time.



The light turns off completely when natural light lux exceeds daylight threshold pre-set.



The light remains in dimming level at night.



The light automatically turns on at 10% when natural light is insufficient (no motion).



Settings on this demonstration:

Hold-time: 10min

Daylight threshold: 50lux Stand-by dimming level: 10%

3 Photocell Advance[™] Function (SAM7/I, HIRO4)

It's well known that LED lights have a totally different spectrum to natural light. Hytronik uses this principle and comes up with special photocell and sophisticated software algorithm to measure and differentiate natural light from LED light, so that this photocell can ignore the LED light and only respond to the natural light.

Our technology has no infringement to the existing patents in the market.

4 Lux Off Function (SAM7/I, HIR02, HIR04)

The light turns off automatically whenever surrounding natural light lux level exceeds the daylight threshold for more than 5min, even there is motion detected. For HIRO2 and HIRO4, please pay attention that if the stand-by period is pre-set to infinity "+ ∞ ", the fixture never switches off but stays at dimming level, even when natural light is sufficient.

5 Manual Override

This sensor reserves the access of manual override function for end-user to switch on/off, or adjust the brightness by push-switch, which makes the product more user-friendly and offers more options to fit some extra-ordinary demands:

- * Short Push (<1s): on/off function;
- On → Off: the light turns off immediately and cannot be triggered ON by motion until the expiration of pre-set hold-time. After this period, the sensor goes back to normal sensor mode.

Off → On: the light turns on and goes to sensor mode, no matter if ambient Lux level exceeds the daylight threshold or not. * Long Push (>1s): adjust the hold-time brightness level between 10% and 100%.

Note: if end-user do not want this manual override function, just leave the "push" terminal unconnected to any wire.

6 Semi-auto Mode (Absence Detection)

It is easy to forget to switch off the light, in office, corridor, even at home. And in many other cases, people do not want to have a sensor to switch on the light automatically, for example, when people just quickly pass-by, there is no need to have the light on. The solution is to apply this "absence detector": motion sensor is employed, but only activated on the maunal press of the push switch, the light keeps being ON in the presence, and dims down in the absence, and eventually switches off in the long absence. This is a good combination of sensor automation and maunal override control, to have the maximum energy saving, and at the same time, to keep efficient and comfortable lighting.



The light does not switch on when there is presence being detected.



Short push to activate the sensor and switch on the light



The light turns on full, and the sensor stays in sensor mode.



The light keeps being ON during the presence.



People left, the light dims to stand-by level after the hold-time.



The light switches off automatically after the stand-by period elapses.

Note: end-user can choose either function 5 or function 6 for application. Default function is manual override.

7 Zero-cross Relay Operation (HC038V)

Designed in the software, sensor switches on/off the load right at the zero-cross point, to ensure that the in-rush current is minimised, enabling the maximum lifetime of the relay.



8 Loop-in and Loop-out Terminal (HC038V)

Double LN terminal makes it easy for wire loop-in and loop-out, and saves the cost of terminal block and assembly time.



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Detection Pattern (Ceiling mounted)
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Model HIRO2 & HIRO4



Model SAM7/AA

Sensitivity set to maximum, Sensor head angle set to maximum



Model SAM7/FM

Sensitivity set to maximum, Sensor head angle set to maximum



HIR19 (High-bay)



HIR19: High-bay lens detection pattern for forklift @ Ta = 20°C (Recommended installation height 10m-15m)

A: Tangential movement	angential movement B: Radial movement		Tangential (A)	Radial (B)
h = max. 15m h = max. 15m h = max. 15m h = max. 15m	h = max.15m	1 Om	max 380m² (Ø = 22m)	max 201m² (Ø = 16m)
		llm	$\max 452 \mathrm{m}^2 (\varnothing = 24 \mathrm{m})$	max 201m²(Ø = 16m)
		12m	max 452m² (Ø = 24m)	max 201m²(Ø = 16m)
		13m	$\max 452 \mathrm{m}^2 (\varnothing = 24 \mathrm{m})$	max 177m²(Ø = 15m)
		14m	$\max 452 \mathrm{m}^2 (\varnothing = 24 \mathrm{m})$	max 133m²(Ø = 13m)
		15m	$\max 452 \mathrm{m}^2 (\varnothing = 24 \mathrm{m})$	max 113m²(Ø = 12m)



HIR19: High-bay lens detection pattern for single person @ Ta = 20°C

(Recommended installation height 2.5m-12m)

A: Tangential movement B: Radial movement		Mount height	Tangential (A)	Radial (B)
h = max.12m	h = max. 12m	2.5m	$\max 50 \mathrm{m}^2 (\varnothing = 8 \mathrm{m})$	$\max 7m^2 (\varnothing = 3m)$
		бm	max 104m²(Ø = 11.5m)	$\max 7m^2 (\emptyset = 3m)$
		8m	max 154m²(Ø = 14m)	$\max 7m^2 (\emptyset = 3m)$
		1 Om	$max 227m^2 (\emptyset = 17m)$	$\max 7m^2 (\emptyset = 3m)$
		11m	max 269m²(Ø = 18.5m)	$\max 7m^2 (\emptyset = 3m)$
insensitive sensitive	insensitive sensitive	12m	max 314m² (Ø = 20m)	$\max 7m^2 (\emptyset = 3m)$

Settings (Remote Control HRC-11, for SAM7/I, HIRO4 and HIR19)



Permanent ON/OFF function

Press button "ON/OFF" to select permanent ON or permanent OFF mode. * Press button "AUTO", "RESET" or "Ambient" to quit this mode. The mode will change to AUTO Mode after power failure.



Reset Settings

Press button "RESET", all settings go back to default values. Detection range: 100%; Hold-time: 5min; Stand-by period: 10min; Stand-by dinmming level: 10%; Lux disabled



Shift Button

Press button "Shift", the LED on the top left corner is on to indicate mode selection. All values / settings in RED are valid for 20 seconds.



AUTO mode

Press button "AUTO" to initiate automatic mode. The sensor starts working and all settings remain as before the light is switched ON/OFF.



SEMI-AUTO mode

1. Press button "Shift", the red LED flashes for indication.

2. Press button "SEMI-AUTO/AUTO" to initiate semi-auto mode. The fixture is manually turned on by pressing the push-switch, and goes off automatically after stand-by time. (Absence detection mode)



Power output

Press the buttons to select light output at 80% (at initial 10,000 hours) or 100%. Note: "Sensor off" and "Twilight" functions are disabled.



Brightness +/-

Press these two buttons to adjust the light output brightness during hold-time.

(Start) (Memory (Apply) Scene program - 1-key commissioning

1. Press button "Start" to program.

2. Select the buttons in "Detection range", "Daylight threshold", "Hold-time", "Stand-by time", "Stand-by dimming level" to set all parameters.

- 3. Press button "Memory" to save all the settings programmed in the remote control.
- 4. Press button "Apply" to set the settings to each sensor unit(s).

For example, to set detection range 100%, daylight threshold Disable, hold-time 5min, stand-by time +∞, stand-by dimming level 30%, the steps should be: Press button "Start", button "100%", "Disable", "Shift", "5min", "Shift", "+∞", "30%", "Memory". By pointing to the sensor unit(s) and pressing "Apply", all settings are passed on the sensor(s).



HRC-11

Detection range

All buttons in this zone are disabled for HIRO4.

Daylight threshold

Press buttons in zone "Daylight threshold" to set daylight sensor at 2Lux/10Lux/50Lux/100Lux/300Lux/500Lux/Disable. Note: To set daylight sensor at 100Lux/300Lux/500Lux, press "Shift" button first.

Ambient daylight threshold

1. Press button "Shift", the red LED starts to flash.

2. Press button "Ambient", the surrounding lux level is sampled and set as the new daylight threshold.

Hold-time

Press buttons in zone "hold-time" to set the hold-time at 2s / 30s / 1min / 5min / 10min / 15min / 20min / 30min. Note: 1. To set hold-time at 30s / 5min / 15min / 30min, press "Shift" button first.

2. 2s is for testing purpose only, stand-by period and daylight sensor settings are disabled in this mode.

*To exit from Test mode, press button "RESET" or any button in "Hold-time".

Stand-by time (corridor function)

Press buttons in zone "stand-by time" to set the stand-by period at 0s / 10s / 1min / 5min / 10min / 30min / 1h / + ∞ . Note: "0s" means on/off control; "+ ∞ " means the stand-by time is infinite and the fixture never switches off.

Stand-by dimming level

Press the button in zone "stand-by dimming level" to set the stand-by dimming level at 10% / 20% / 30% / 50%.

Auto-configuration function

All buttons in this zone are disabled.

Dual tech & RF mode

All buttons in this zone are disabled.

Settings (Remote Control HRC-05, for SAM7 & HIR07/FM & HIR02)



Permanent ON/OFF function

Press the "ON/OFF" button, the light goes to permanent on or permanent off mode, and the sensor is disabled.

* Press "Auto Mode", "RESET" or "Scene mode" buttons to quit this mode. The mode will change to AUTO Mode after power failure.



Sensor mode

Press "Auto Mode" button, the sensor starts to function and all settings remain the same as the latest status before the light is switched on/off.



Reset function

Press "RESET" button, all settings go back to default settings. Detection range: 100%; Hold-time: 5min; Stand-by period: 10min; Stand-by dinmming level: 10%; Lux disabled



Long press "Dim +" or "Dim -" to adjust the light brightness during hold-time. " + " means dimming up, "-" means dimming down.



This button is for testing purpose only. The sensor goes to test mode (hold-time is 2s) after commissoning, meanwhile the stand-by period and daylight sensor are disabled. * This mode can be ended by pressing "reset", or any button of "scene mode" and

"hold-time". The sensor settings are changed accordingly.



HRC-05

Note: the buzzer beeps one time when RC receives signal successfully.

Power output

By pressing these two buttons, the output shifts between 80% (at initial 10,000 hours) and 100%, for energy saving purpose.



Ambient daylight threshold

Press this button, the latest surrounding lux value overwrites the previous lux value learned, and it is set as the daylight threshold. This feature enables the fixture to function well in any real application circumstances.



Lux disable

Press this button, the built-in daylight sensor stops working, and all motion detected could turn on the lighting fixture, no matter how bright the natural light is.



Auto mode / Semi-auto mode (absence detection)

By pressing this button, the sensor goes to Auto mode or Semi-auto mode (absence detection) function.

* For SAM7, the buzzer beeps once if it's Auto mode function, and beeps twice if it shifts to Semi-auto mode (absence detection). For HIRO2, the LED indicator flashes if it's Auto mode function, and is on for 2 seconds if it shifts to Semi-auto mode (absence detection).

Scene mode

There are 4 scene modes fixed program built in the remote control to choose for different applications:

Scene options	Detection range	Hold-time	Stand-by period	Stand-by dimming level	Daylight sensor
SC 1	100%	lmin	1 Omin	10%	2Lux
SC2	100%	5min	1 Omin	10%	2Lux
SC3	100%	1 Omin	30min	10%	1 OLux
SC4	100%	1 Omin	+∞	10%	50Lux

* End-user can adjust the settings by pressing buttons of detection range/hold-time/stand-by period/stand-by dimming level/daylight sensor. The last setting stays in validity.

Detection range

Press the buttons of "detection range" to set detection range at 10% / 50% / 100%. Note: these buttons are invalid for antenna module HIRO2.

Hold-time

Press the buttons of "hold-time" to set hold-time at 30s / 1 min / 5 min / 10 min / 30 min.

Daylight sensor

Press the buttons of "daylight sensor" to set daylight threshold at 2Lux / 10Lux / 50Lux.

Stand-by period (corridor function)

Press the buttons of "stand-by period" to set stand-by period at Os / 10s / 1min / 10min / 30min / +∞.

* "Os" means on/off control; "+∞" means bi-level dimming control, the fixture never switches off when daylight sensor is disabled.

Stand-by dimming level

Press the buttons of "stand-by dimming level" to set the stand-by dimming level at 10% / 20% / 30%.

Additional Information / Documents

- 1. For full explanation of Hytronik Photocell Advance[™] technology, please kindly refer to www.hytronik.com/download ->knowledge ->Introduction of Photocell Advance
- 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. Regarding precautions for PIR sensor installation and operation, please kindly refer to www.hytronik.com/download ->knowledge ->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 www.hytronik.com/products/Motion Sensors ->Built-in HF Sensor
- 5. Regarding Hytronik standard guarantee policy, please refer to www.hytronik.com/download ->knowledge ->Hytronik Standard Guarantee Policy