IP65 On/off PIR Motion Sensor（High-bay）

HC049S

On/Off Bolt-on/Batten-fit PIR Sensor

HYTRONIK®

CE emc IP65

Product Description

HC049S is a high-bay PIR on/off motion sensor, with capability of up to 15m installation height. HC049S has a daylight sensor built-in, and is specifically designed for mounting onto a batten style luminaire. All sensor parameters can be programmed through remote controller HRC-11.

Features

- IP65
- Max withstandable in-rush current: 80A@160μs
- Black & White & Gray metal surface mount box option
- Fixing washers accessory
- High-bay (up to 15m height)
- Remote controllable
- 5-year warranty

Technical Specifications

Input Characteristics	
Operating voltage	220 ~ 240VAC 50/60Hz
Stand-by power	<0.5W
Load ratings	400VA (capacitive) 800W (resistive)
Max withstandable in-rush current	80A@160μs
Warming-up	30s
Sensitivity	10% / 30% / 50% / 75% / 100

Safety and EMC	
EMC standard (EMC)	EN55015, EN61547 EN61000-3-21-3-3
Safety standard (LVD)	EN61347-1, EN61347-2-11
Certification	ENEC, CE , EMC, LVD, RCM

Sensor Data	
Sensor principle	PIR detection
Detection range*	Max installation height: 12m Max detection range: 10m
Detection angle	360°

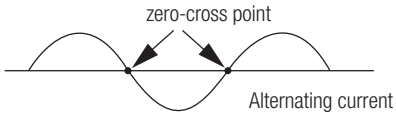
* The detection range is heavily influenced by sensor placement (angle) and different walking paces. It may be reduced under certain conditions.

Environment	
Operation temperature*	Ta: -20°C ~ +50°C
Storage temperature	-35°C ~ +55°C
Relative humidity	20 ~ 90%
IP rating	IP65
Insulation	Class II

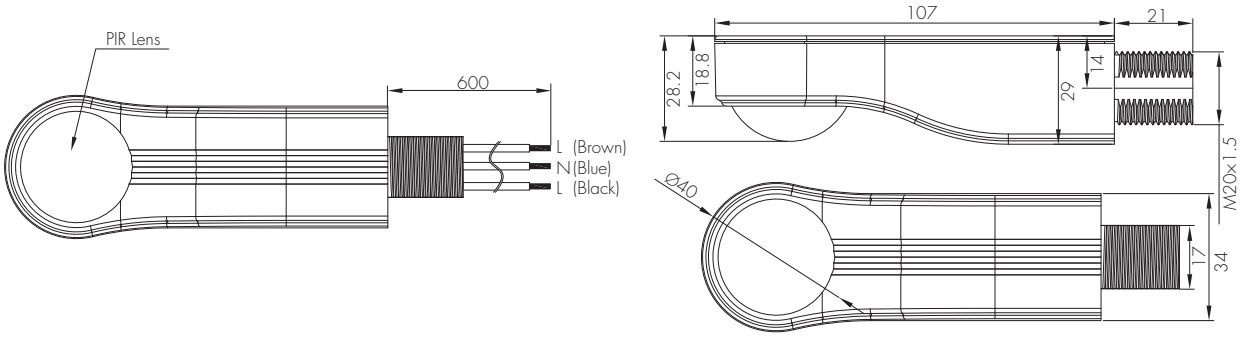
* When used in -35°C ~ -20°C environment, the sensor still functions but the detection range & life-span would be compromised. The optimal Ta would be -20°C ~ +50°C and we apply 5-year guarantee for such usage condition.

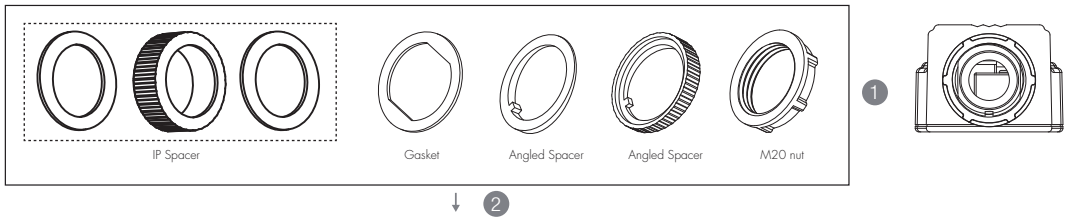
Zero-cross Relay Operation

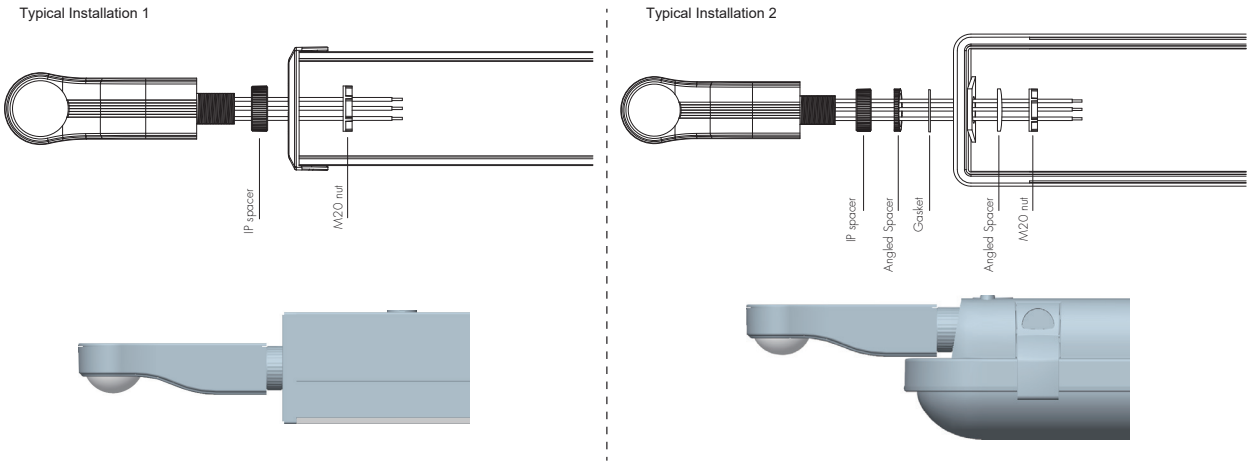
The sensor switches on/off the load right at the zero-cross point, to ensure that the in-rush current is minimised, enabling the maximum lifetime of the relay.



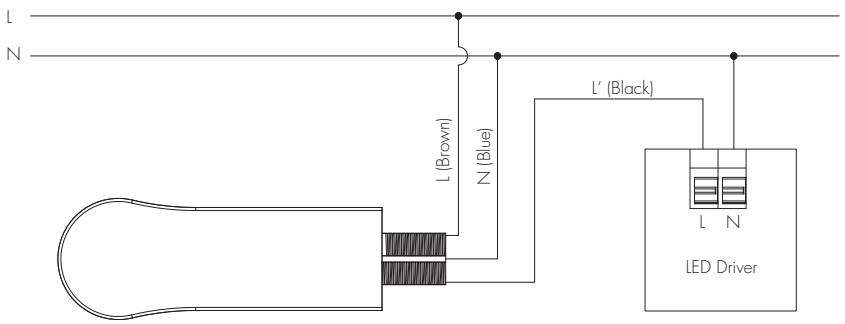
Mechanical Structure & Dimensions





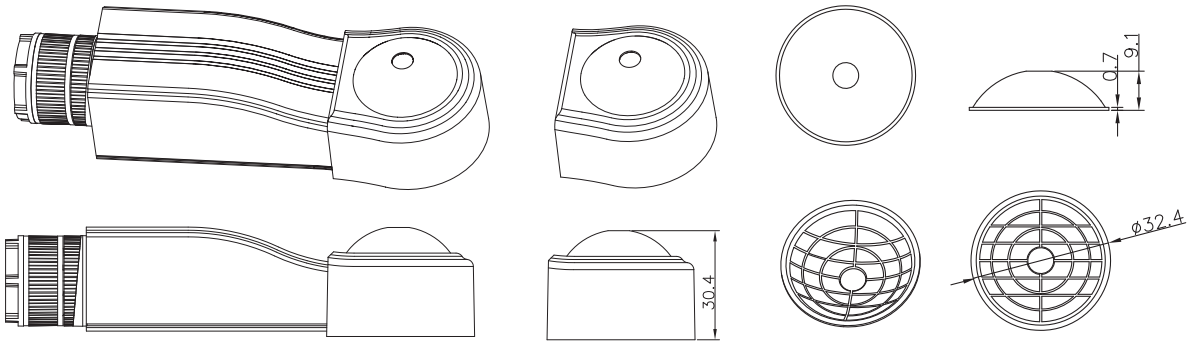


Wiring Diagram

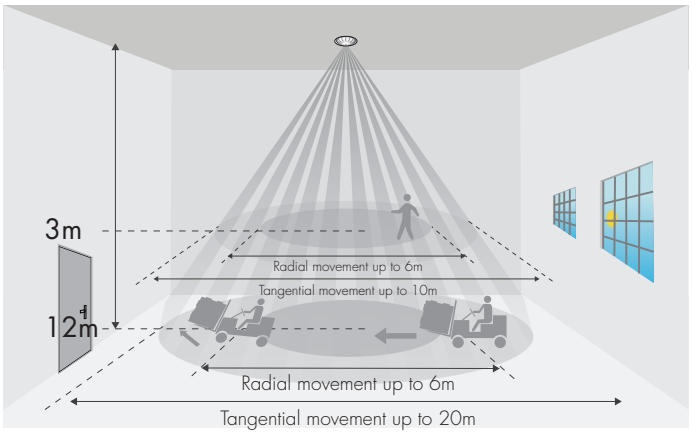


Shielding Accessory

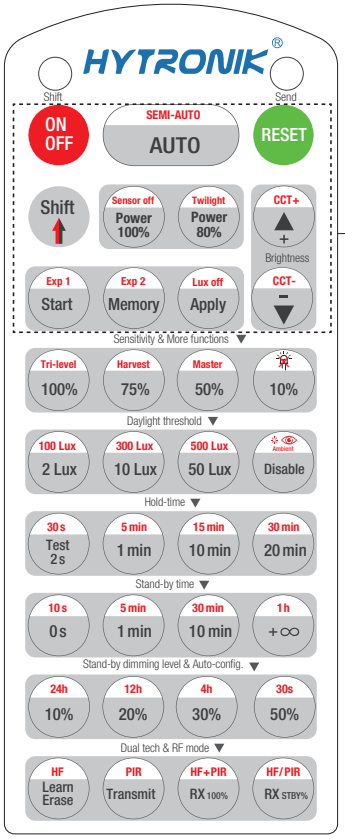
For the application of limited coverage areas (hallways), the line pattern of the shielding accessory can be freely removed by cutting to achieve a different range of shielding induction, for example, rectangular detection and semi-sphere detection. The portable design also provides an easy installation,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



Detection Pattern

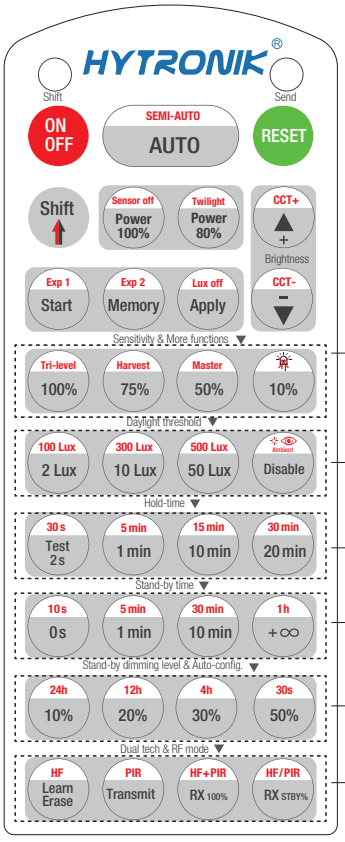


*The detection patterns are based upon 5km/h movement speed.



HRC-11

ON OFF	Press button “ON/OFF” to select permanent ON or permanent OFF mode. * Press button “AUTO”/ “RESET” to exit this mode.
RESET	Press button “RESET”, perform the latest DIP Switch/Rotary Switch settings. The default settings are: Auto mode; DALI Master mode; Detection range 100%; Hold-time 5min; Daylight sensor disable.
Shift	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	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	1. Press button “Shift” ,the red LED on. 2. Press button "SEMI-AUTO" to initiate Semi-auto mode. The sensor is only activated with the manual press of push switch. To exit this mode, simply press button "AUTO". For Sensor LED indicator references: Remains on 2s, initiate "Semi-auto" mode from "Auto" mode.
Power 100% 80%	This key is not appliable on this product.
Sensor off	This key is not appliable on this product.
Twilight	1. Press button “Shift”, the red LED on. Press button “Twilight”, the function of movement detection is disabled, but the function of photocell is still working, and the product becomes a pure dusk/ dawn daylight sensor. To exit from “Twilight” mode, press button “AUTO”/”SEMI-AUTO”/”RESET”.
▲ ▼	Press these two buttons to adjust the light output brightness and set a new target lux level. The daylight sensor can measure ambient daylight level and ignore the LED light, so as to calculate how much artificial light is needed to maintain the target lux level.
CCT+ CCT-	1. Press button “Shift”, tthe red LED on. 2. Press “CCT+” or “CCT-” button to adjust colour turning.
Start Memory Apply	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).
Lux off	This key is not appliable on this product.
Exp 1 Exp 2	"Exp" refer to Expansion, these two buttons are reserved functions and pending future development.



HRC-11

Sensitivity & More functions

100% 75% 50% 10%	In AUTO /SEMI-AUTO modes, press buttons in zone “Detection range” to set detection range at 100%/75%/50%/10%.
Tri-level Harvest	1.Press button “Shift”, the red LED on. 2. Press buttons “Tri-level” or “Daylight harvest” to shift between Tri-level control mode and Daylight harvest mode.
Master	1.Press button “Shift” ,the red LED on. 2. Press button ”Master” to select a DALI sensor in a DALI line to be a “master”, so that all other DALI sensors in the same DALI line will perform daylight harvesting/ tri-level control based on the lux reading from this “master” sensor’s daylight sensor.

Daylight threshold

2 Lux 100 Lux 10 Lux 300 Lux 50 Lux 500 Lux Disable	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	1. Press button “Shift”, the red LED on. 2. Press button “Ambient”, the surrounding lux level is sampled and set as daylight threshold / target Lux level.

Hold-time mode

Test 2s 30 s 1 min 5 min 10 min 15 min 20 min 30 min	In AUTO /SEMI-AUTO modes, 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 mode

0s 10 s 1 min 5 min 10 min 30 min +∞ 1h	Press buttons in zone “stand-by time” to set the stand-by period at 0s / 10s / 1min / 5min / 10min / 30min / 1h / +∞. Note: 1. To set stand-by-time at 10s/ 5min / 30min / 1h, press “Shift” button first. 2. “0s” means on/off control; 3. “+∞” means bi-level control, the fixture is 100% on when there is motion detected, and remains at the stand-by dimming level when no presence after motion hold-time. Only when the stand-by time is set in "+∞" and the ambient lux level is below the target lux level, the lux will auto-on.

Stand-by dimming level & Auto-config.

10% 20% 30% 50%	This key is not appliable on this product.
24h 12h 4h 30s	This key is not appliable on this product.

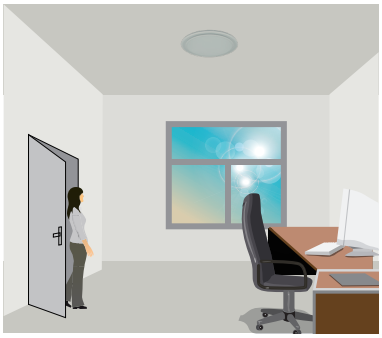
Dual tech & RF mode

Learn Erase Transmit	This key is not appliable on this product.
RX 100% RX STBY%	This key is not appliable on this product.
HF PIR HF+PIR HF/PIR	This key is not appliable on this product.

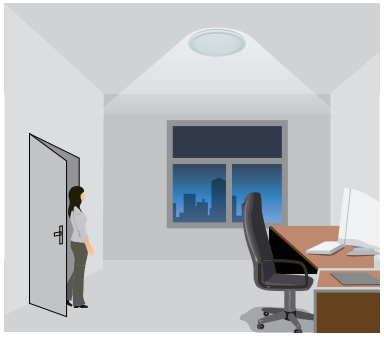
Functions and Features

On/Off Control

This sensor is a motion switch, which turns on the light upon detection of motion, and turns off after a pre-selected hold-time when there is no movement. A daylight sensor is also built in to prevent the light from switching on when there is sufficient natural light.



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.

The sensor switches off the light automatically after the hold-time when there is no motion detected.

Additional Information / Documents

1. 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

2. Data sheet is subject to change without notice. Please always refer to the most recent release on www.hytronik.com/products/Motion Sensors ->Stand-alone Sensor

3. Regarding Hytronik standard guarantee policy, please refer to www.hytronik.com/download->knowledge ->Hytronik Standard Guarantee Policy