



#### Benefits

Adaptable: Lens variants for different detection ranges

Autonomous: On/off occupancy control for up to 800W

User-Friendly: With one-key commissioning with IR controller

#### Applications

Standalone installation for ceiling up to 20m

Warehouse/Logistic

production

Check out the complete system solution on the website: https://www.hytronik.com/product/HIR28-UH



## **Product description**

It is a low-profile sensor designed for aesthetically demanding architectural projects. It offers high-quality, simple On/Off occupancy control or semi-automatic absence detection. An intelligent photocell prevents light switching when natural daylight is available. Setup is easy with a remote control handset, allowing one-key commissioning for multiple devices.

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## **Hardware features**

See additional details at the end of datasheet



5-year warranty



Intelligent Photocell



Manual Override





One key commissioning

Semi-auto Mode

## **Functions and Features**

See additional details at the end of datasheet



Daylight Harvest



# Specifications

Main Capabilities				
Dimming (Output) Interface	Relay On/Off			
Connector Type	Standard 2 cables			
Stand-by power	< 0.3 W			

Sensor Data	
Detection angle	360°
Max. Detection range (DxH)	28 m
Maximum Mounting Height	21 m
Detection area	615 m <sup>2</sup>

Electrical Data					
Warming-up	20 s				
Operating Voltage	220-240 VAC 50/60 Hz				
Max withstandable in-rush current	120A@160µs				

Technical					
Product height	97.0 mm				
Product width	79.0 mm				
Mounting hole	66.0 mm				
Ambient temperature	-20 ~ +50 °C				
Humidity max	10 ~ 90%				
IP Rate	IP20				
IP Rate (facial part)	IP54				

HIR28/UH
PIR Ultra-Highbay | ON/OFF and IR Controller | Ceiling mounting



# **Technical Drawing**





HIR28/UH PIR Ultra-Highbay | ON/OFF and IR Controller | Ceiling mounting



# **Installation Process**



## **Detailed Installation Instructions**

- 1. Ceiling (drill hole Ø 66~68mm).
- 2. Carefully prise off the Back Caps.
- 3. Install the cable correctly.
- 4. Make connections to the pluggable terminal blocks.
- 5. Secure the cables with screws for better stability.
- 6. Buckle the shielding accessory onto the lens (if require).
- 7. Clip fascia to body.
- 8. Bend back springs and Insert into ceiling.



**Wire Preparation** 





Pluggable screw terminal. It is recommended to make connections to the terminal before fitting to the sensor.

# Wiring Diagram





## **Commissioning Instructions and Precautions**

1. This product should be installed by a qualifed electrician.

2. The device retains its last operational state after a power interruption, ensuring that all settings remain unchanged when power is restored.

3. The device stores the last command applied, regardless of the input method, with the most recent setting overriding any previous ones and being saved in the MCU memory. For example, if the hold-time is set to 5s via dip-switch, then changed to 10s with the remote controller, the 10S setting will be stored in memory.

**Warning:** For additional important documents, including installation precautions, product guidelines, and guarantee conditions, please refer to the official downloads. https://hytronik.com/service/downloads



## **Detection Range**

### Person

Mounting Height: 3 m - 21 m



Tangential							
H[m]	3	6	9	12	15	18	21
Ø[m]	4	8	12	16	20	24	28

Radial							
H[m]	3	6	9	12	15	18	21
Ø[m]	4	6	8	10	12	12	12

The data is tested under following conditions:

Single person walking

 Sensor not connected to any driver that may have soft-on period
 The testing is conducted in an open and spacious indoor field, without noticeable obstacles or influences that may affect PIR performances.



# Commissioning via Remote Control - Page 1

Settings (Remote Control HRC-11)



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", all settings go back to default. The default settings are: Auton mode; Detection range 100%; Hold-time 5min; Daylight thresh old disable; Lux off activated;
Shift	Press button "Shiff", 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	<ol> <li>Press button "Shift", the red LED on.</li> <li>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.</li> </ol>
Power 100% 80%	This key is not appliable on this product.
Sensor off Twilight	This key is not appliable on this product.
<b>ب</b>	This key is not appliable on this product.
CCT+ CCT-	This key is not appliable on this product.
Start Memory Apply	<ol> <li>Press button "Start" to program.</li> <li>Select the buttons in "Detection range", "Daylight threshold", "Hold-time", "Stand-by time", to set all parameters.</li> <li>Press button "Memory" to save all the settings programmed in the remote control.</li> <li>Press button "Apply" to set the settings to each sensor unit(s).</li> <li>For example, to set detection range 100%, daylight threshold Disable, hold-time 5min, stand-by time +∞, the steps should be:</li> <li>Press button "Start", button "100%", "Disable", "Shift", "5min", "Shift", "+∞", "Memory".</li> <li>By pointing to the sensor unit(s) and pressing "Apply", all settings are passed on the sensor(s).</li> </ol>
Lux off	The "Lux off" function is activated as default. When the ambient lux level exceeds the target level continuously for more than 5 minutes, the lights will be turned off. In AUTO /SEMI-AUTO/Twilight modes, to disable "Lux off": 1. Press "Shift" button first, the red LED on. 2. Press "Lux off" button, the "Lux Off" function will be deactivated. The lights will not turn off even when the ambient lux level exceeds the target lux level but will dim down the brightness to the stand-by time level. For Sensor LED indicator references: 1.Fast flash 1s, "Lux off" function activated. 2. Remains on 2s. "Lux off" function deactivated.
Exp 1 Exp 2	"Exp" refer to Expansion, these two buttons are reserved functions and pending future development.



# Commissioning via Remote Control - Page 2

Settings (Remote Control HRC-11)



HRC-11

Sensitivit	/ & 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	This key is not appliable on this product.
Master	This key is not appliable on this product.
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.
谷 🍥 Ambient	<ol> <li>Press button "Shift", the red LED on.</li> <li>Press button "Ambient", the surrounding lux level is sampled and set as daylight threshold / target Lux level.</li> </ol>
Hold-time	e mode
Test 30 s 2 s	In AUTO /SEMHAUTO modes, press buttons in zone "hold-time" to set the hold-time at 2s / 30s / 1min / 5min / 10min / 15min / 20min / 30min.
1 min 5 min 10 min 15 min 20 min 30 min	<ul> <li>Note: 1. To set hold-time at 30s / 5min / 15min / 30min, press "Shift" button first.</li> <li>2. 2s is for testing purpose only, stand-by period and daylight sensor settings are disabled in this mode.</li> <li>*To exit from Test mode, press button "RESET" or any button in "Hold-time".</li> </ul>
Stand-by	time mode
0s 10s 1 min 5 min 10 min 30 min +∞ 1h	Press buttons in zone "stand-by time", the stand-by period time can be extended by overlaying the time in the "hold-time" zone with the time in"stand-by time" zone. For example, press button "5 min" in "hold-time" zone + button "30 min" in "stand-by time" zone, the stand-by period time is total of 35 minutes. Note: 1. To set stand-by time at 10s/ 5min / 30min / 1h, press "Shift" button first. 2. When "Lux off" is activated as default, press button"+∞", the product is a daylight sensor and will be turned off when the ambient lux level exceeds the target lux level, no longer motion detected. When "Lux off" function be deactivated, "+∞" means the fixture will remains 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	n & RF mode
Learn Erase	This key is not appliable on this product.
Transmit	This key is not appliable on this product.
HF PIR HF+PIR HF/PIR	This key is not appliable on this product.



# Options

### **Included Accessories**



High Back Caps HA08 and HA08/S

### **Compatible Products**

	Metal Mount Box   Surface Mounting   Gray Color	HA09/G	www.hytronik.com/product/HA09-G
	Metal Mount Box   Surface Mounting   Black Color	HA09/B	www.hytronik.com/product/HA09-B
•	Metal Mount Box   Surface Mounting   White Color	HA09/W	www.hytronik.com/product/HA09-W



## **Functions and Features**



### 5-year Warranty

All Hytronik products are supplied with a 5-year warranty against defect in design or manufacture. The warranty applies to all electronic control gears supplied by Hytronik and is applicable to the party to which the sale was made. The warranty is not transferable to a 3rd party and compatibility with external components are the responsibility of the finished goods manufacturer. With today's multi-national sourcing strategies, we offer an unrivalled universal warranty with support available in regions where Hytronik has its own of ce or authorized representation, regardless of where the Hytronik product was purchased. Furthermore, we operate a 24-hour response policy to any claim. The full warranty policy is available upon request or from our website.



#### **Intelligent Photocell**

The built-in photocell will also automatically turn off the light when the ambient natural light exceeds the programmed lux level for more than 5min, regardless of whether motion is detected or not.



### Manual Override

With the help of push-switch, this sensor can be over-ridden by the end-user to manually switch on/off the light, which makes the product more user-friendly and offers more options to fit some extra-ordinary demands:



#### **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.



#### **One-key Commissioning**

It simplifies complex processes with a single click for users to complete the commissioning. Saves time and effort, operates systems or devices smoothly, boosts productivity and user experience.



#### Semi-auto Mode

Absence detector: motion sensor is employed, but only activated on the manual press of the push-switch, the light keeps being ON in the presence, and switches off in the long absence.



### **Zero-cross Relay Operation**

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.



### **Daylight Harvest**

Right time, right place and the right amount of light! Daylight harvest (Also known as daylight regulating or daylight interaction) is a must in the future lighting norms. The daylight sensor measures the available surrounding natural light and calculates how much artificial light is needed to reach the target lux level. The control output is passed to the drivers by DALI or 0/1-10V signals which then deliver the needed amount of light.

## Check out for further explanation of features

https://www.hytronik.com