

HIR28

PIR Lowbay | Remote controller and ON/OFF | Ceiling mounting

HYTRONIK[®]
SENSORS & LIGHTING CONTROL



Benefits

Compact: Enabling independent lighting control

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

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

Applications

Ceiling or surface mounting (with accessory)

Offices & Classrooms

Corridors & Staircases

Check Out the Complete System Solution on the Website:
<https://www.hytronik.com/product/HIR28>



Product Description

HIR28 is a PIR stand-alone motion sensor designed for independent lighting control with relay ON/OFF output. It is suitable for retrofit and small-scale applications where simple, reliable switching control is required. The sensor provides occupancy-based switching and optional absence detection, while an integrated photocell prevents unnecessary light activation when sufficient natural daylight is available. Configuration and commissioning are handled via a handheld remote control, enabling quick setup and one-key commissioning for multiple devices.

Functions and Features

See additional details at the end of datasheet



Manual Override



NO Contact



ON/OFF Control



One-key
Commissioning



Semi-Automatic
Mode (Absence
Detection)



Zero-Cross Relay
Operation

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Specifications

Main Capabilities

Dimming (Output) Interface	Relay On/Off
Push Button Input	1

Sensor Data

Detection angle	360°
Max. Detection range (Diameter)	9.0 m
Maximum Mounting Height	6.0 m
Detection area	64 m ²
Sensitivity	10% / 50% / 75% / 100%
Detection Methods	Passive Infrared (PIR)

Electrical Data

Operating voltage range	220-240 VAC 50/60 Hz
Stand-by power (Psb)	<0.3W
Warming-up	20 s
Max withstandable in-rush current	120A@160µs
Load capacitive	400.0 VA
Load resistive	800.0 W

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Specifications

Technical	
Product weight	125.0 g
Product height	79.2 mm
Product length	78.0 mm
Product width	78.0 mm
Mounting hole	66.0 mm
Ambient temperature	-20 ~ +50 °C
Storage temperature	-40 ~ +70 °C
Humidity max	10 ~ 90%
IP Rate	IP20
IP Rate (facial part)	IP54

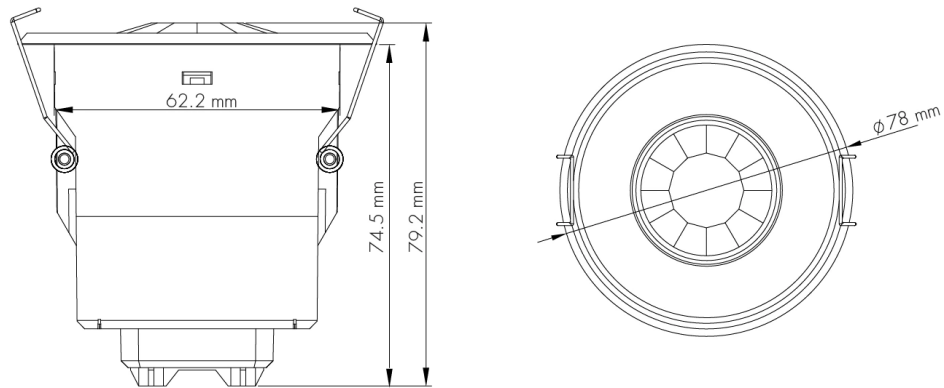
Standard	
EMC	EN 55015, EN61000-3-2/-3-3, EN 61547
LVD	EN 60669-1, EN 60669-2-1

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Technical Drawing

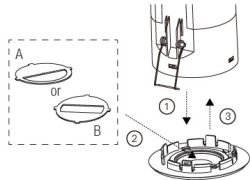


Application Example

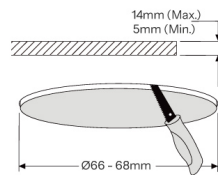


Installation Process

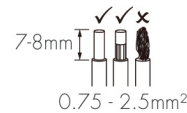
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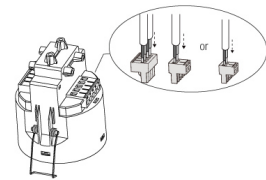
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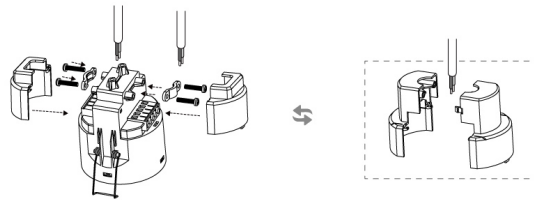
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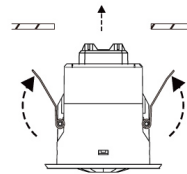
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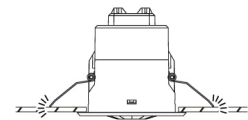
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6



7



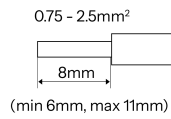
Detailed Installation Instructions

1. Optional: If a detection blind is required, detach the lens cover, select the suitable detection blind and place it above the lens, then refit the lens cover onto the sensor body.
2. Ceiling cut-out (hole Ø 66~68mm).
3. Prepare the cables correctly.
4. Connect the cables to the pluggable terminal blocks according to the wiring diagram.
5. Secure the cables with screws and cable clips for better stability. Install the standard back caps (or replace with the high back cap HA08 for larger wire diameter if necessary).
6. Bend the spring clips upwards and fit the sensor into the ceiling cut-out.
7. Spring clips will release and secure the sensor in the ceiling.

⚠ Wiring Guidelines

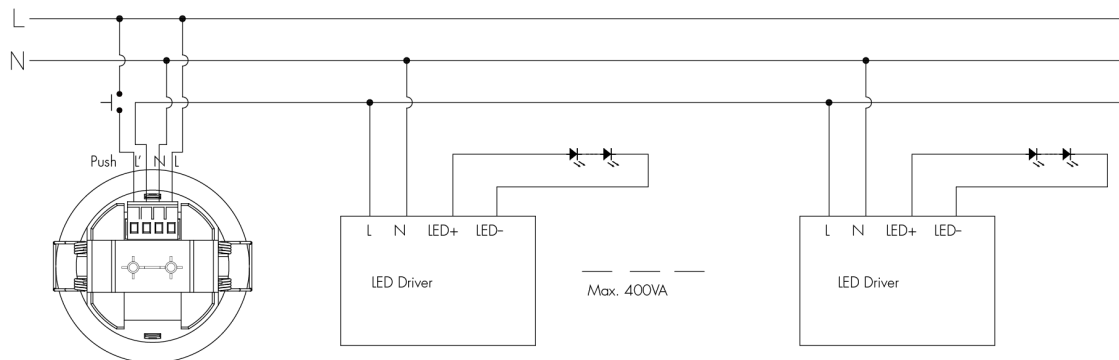
1. Installation by a qualified electrician only and in accordance with local electrical regulations.
2. Disconnect mains power before installation, wiring, maintenance or replacement.
3. Failure to follow the wiring diagram may result in product damage and malfunction.
4. Refer to the Wire Preparation section for recommended wire diameter and strip length.
5. Push inputs are mains-voltage inputs and must only be connected to mains-rated switches.

Wire Preparation



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

Wiring Diagram

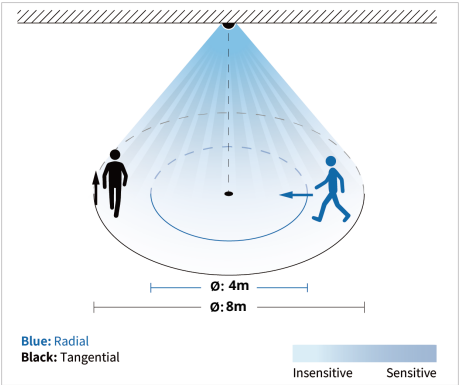


Detection Range

Single Person Walk (Ceiling mount)

- The data is tested under following conditions:
- Single person walking
 - Sensor not connected to any driver that may have soft-on period
 - Testing temperature Ta = 20°C
 - The testing is conducted in an open and spacious indoor field, without noticeable obstacles or influences that may affect PIR performances.

Detection example 2.5m mounting height:



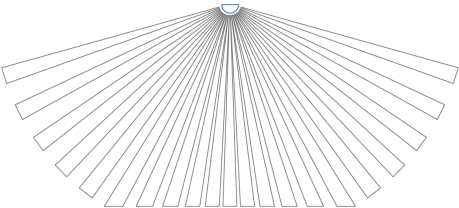
Tangential movement

H[m]	2.5	3	4	5	6
Ø[m]	8	9	7	7	7

Radial movement

H[m]	2.5	3	4	5	6
Ø[m]	4	4	4	4	4

Detection schematic diagram



Commissioning Instructions and Precautions

A. Installation Notes

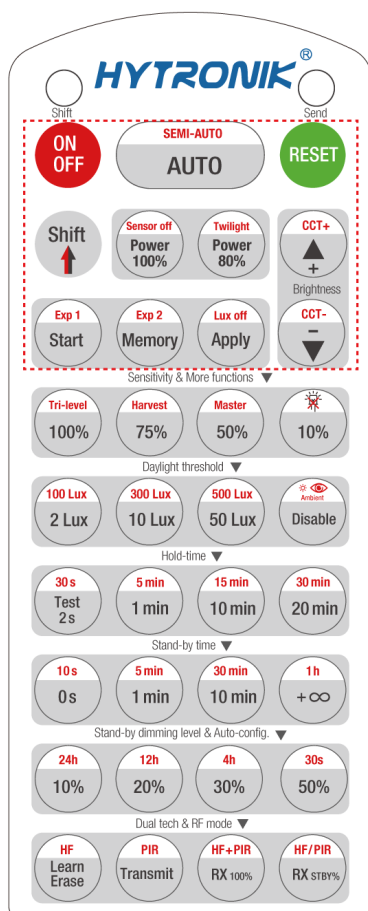
1. Ensure the sensor is installed within the recommended mounting height and detection range.
2. Avoid installing the sensor close to heat sources, air outlets, moving objects or strong vibration areas, as these may affect PIR detection performance.

Warning: For additional important documents, including installation precautions, product guidelines, and guarantee conditions, please refer to the official downloads.

<https://hytronik.com/service/downloads>

Commissioning via Remote Control - Page 1

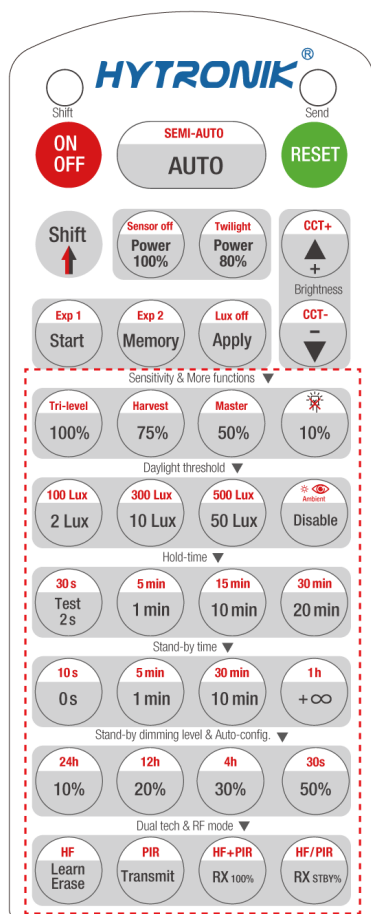
Settings (Remote Control HRC-11)



ON/OFF	Press "ON/OFF" to set the luminaire to permanent ON or OFF mode. Press "AUTO" or "RESET" to exit this mode and resume normal sensor mode. * Note: After mains power is disconnected and restored, the sensor will automatically return to AUTO mode.
RESET	Press "RESET" in any state to resume the sensor to AUTO mode. For models with DIP or rotary switches, the parameters will follow the current DIP or rotary settings. For models without DIP or rotary switches, the parameters will restore the factory default settings. Resettable parameters: operating mode, brightness, sensitivity, hold-time, stand-by time and daylight threshold. *This product is set by default to: Auton mode; Detection range 100%; Hold-time 5min; Daylight threshold disable; Lux off activated
Shift	Press "Shift" to activate the auxiliary function layer. The top-left indicator will light up for 20sec, indicating the mode selection status. Each button will switch to the red-marked function shown on its upper half.
SEMI-AUTO	Press "Shift" first. After red indicator is on, press "SEMI-AUTO". In this mode, the load can only be switched ON manually via the PUSH switch. Each time the load is off, it must be activated again via the PUSH switch manually. Press "AUTO" or "RESET" to exit this mode and resume AUTO mode. * Note: 1. Lux ON function is disabled in SEMI-AUTO mode. 2. The sensor indicator will light up for 2sec, confirming the mode change from AUTO to SEMI-AUTO.
AUTO	Press "AUTO" to enter automatic sensing mode. The sensor will exit ON/OFF and SEMI-AUTO mode and resume automatic operation. All parameters will remain as previously set.
Sensor off	This key is not applicable on this product.
Twilight	This key is not applicable on this product.
Power 100% Power 80%	This key is not applicable on this product.
CCT+ CCT-	This key is not applicable on this product.
Start Memory Apply	Press "Start" to enter study mode. Select the required parameters in according area (Sensitivity, Daylight threshold, Hold time, Stand-by time and Stand-by dimming level). Press "Memory" to store the parameters, then press "Apply" to send the parameters to the sensor. The same parameter group can be applied to multiple sensors at the same time. "RESET" will not clear the parameters stored in "Memory".
Lux off	Press "Shift" first. After red indicator is on, press "Lux off" to enable or disable this function. Indicator flashes 1sec when enabled, 2sec when disabled. "Lux off" function is enabled by default. During hold time and stand-by time, if ambient light remains above the preset threshold for more than 5min, the luminaire will switch OFF. When "Lux off" function is disabled, the luminaire will not switch off automatically due to excessive ambient light and will operate only based on hold time and stand-by time settings. *Note: This product does not support an independent T2 function. Any configured T2 time is automatically added to the T1 time. No dimmed (micro-light) state will occur at the end of the T2 period.
Exp 1 Exp 2	"Exp" stands for "Expansion". These two buttons are reserved functions for future development.

Commissioning via Remote Control - Page 2

Settings (Remote Control HRC-11)



Sensitivity & More Functions	
100% 75% 50% 10%	In AUTO or SEMI-AUTO mode, press the buttons in "Sensitivity" area to set detection range as required. The setting overrides the DIP switch and is saved in memory.
Tri-level Harvest	This key is not applicable on this product.
Master	This key is not applicable on this product.
Daylight threshold	
2 Lux 100 Lux 10 Lux 300 Lux 50 Lux 500 Lux Disable	Press the buttons in "Daylight threshold" area to set starting Lux level as required. The setting will override the DIP switch settings and be stored in the sensor memory. Note: Red-marked options require pressing "Shift" first.
 Ambient	Press "Shift" first. After red indicator is on, press "Ambient". The load will switch off and the sensor will learn the current ambient Lux and set it as the starting / target threshold. During learning, the buzzer will beep 5 times and then 1 long beep when completed. The system will store the current brightness and enters "AUTO" mode - the luminaire turns on only when motion is detected. If the learned Lux exceeds the device's saturation, the buzzer will beep 10 times rapidly and the daylight threshold will be set to Disable. Note: if DIP switches equipped, its settings and remote settings override each other, and the latest setting takes priority.
Hold-time mode	
Test 2s 30s 1 min 5 min 10 min 15 min 20 min 30 min	In "AUTO" or "SEMI-AUTO" mode, press the buttons in "Hold-time" area to set hold time as required. The setting will override the DIP switch settings and be stored in the sensor memory. * Note: 1. Red-marked options require pressing "Shift" first. 2. The 2s button is for test mode only. In this mode, stand-by time and daylight control are disabled. Press "RESET" or any buttons in "Hold-time" area to exit this mode.
Stand-by time mode	
0s 10s 1 min 5 min 10 min 30 min +∞ 1h	Press the buttons in "Stand-by time" area to set stand-by time as required. *Note: This product does not support an independent T2 function. Any configured T2 time is automatically added to the T1 time. No dimmed (micro-light) state will occur at the end of the T2 period.
Stand-by dimming level & Auto-config.	
10% 20% 30% 50%	This key is not applicable on this product.
24h 12h 30s 4h	This key is not applicable on this product.
Dual tech & RF mode	
Learn Erase	This key is not applicable on this product.
Transmit	This key is not applicable on this product.
HF HF+PIR PIR HF/PIR	This key is not applicable on this product.

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Options

Included Accessories



High Back Caps HA08 and HA08/S



Blind Insert Option 1 and Option 2

Accessories



Plastic Mount Box | Surface Mounting | white color

HA03

www.hytronik.com/product/HA03



Plastic Mount Box | Surface Mounting | IP54 Waterproof Gasket

HA03/IP54

www.hytronik.com/product/HA03-IP54



Metal Mount Box | Surface Mounting | Grey 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

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Options

Compatible products (for full functionality)



HRC-11

Sensor remote controller | Diverse function | White color

www.hytronik.com/product/HRC-11

Functions and Features



Manual Override

With the help of a push switch, the sensor can be manually overridden by the end user to switch the light on/off or adjust the target lux level, providing greater flexibility and improved user experience.

Short press (<1s): On/Off control

On Off: The light turns off immediately and cannot be re-triggered by motion until the preset hold-time expires, after which the sensor returns to normal operation.

Off On: The light turns on and enters sensor mode, regardless of the ambient light level.

Long press (>1s): Target lux adjustment

The target lux level can be adjusted by dimming the light up or down.

Adjustments via push switch and remote control can overwrite each other, with the last setting stored in memory.

Note: If manual override is not required, the "PUSH" terminal can be left unconnected.



NO Contact

This product provides a single switched live output (L'), corresponding to NO (Normally Open) logic. When the product is not powered, the load remains off.

In standby condition, the output is off; when triggered, the output switches on to power the load, achieving "light on when occupied".

This follows the standard definition: NO: open when idle, closed when triggered; NC: closed when idle, open when triggered.

This configuration is widely used for general switching and control applications requiring activation upon detection.



ON/OFF Control

The product supports basic ON/OFF control of the connected luminaire, allowing the light to be switched fully on or off through the sensor's detection logic or an external control input. This provides straightforward lighting control for applications that do not require dimming functionality.



One-key Commissioning

This feature allows commissioning to be completed with a single key operation on the remote controller. A predefined configuration sequence is executed automatically, enabling quick setup and reducing the time and effort required for on-site adjustments. One-key commissioning simplifies complex procedures and supports efficient, reliable deployment of lighting control systems.



Semi-Automatic Mode (Absence Detection)

In semi-automatic mode, the sensor operates as an absence detector, where the lighting must be switched on manually via a wall push switch and remains on while occupancy is detected.

Once the area is vacated, the sensor automatically switches off the lighting after the preset hold-time, improving energy efficiency and ensuring controlled operation.

Manual ON: The light will not turn on automatically and must be switched on manually via the wall switch. The sensor remains inactive while the light is off.

Auto OFF: After the light is switched on, the sensor becomes active and monitors occupancy. When no presence is detected, the light will automatically switch off after the defined delay time.

Note: The wall switch can be configured either for Manual Override or Semi-automatic Mode (Absence Detection), but not both simultaneously. The default setting is Manual Override.

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Functions and Features



Zero-Cross Relay Operation

The product operates its relay at the AC zero-cross point, reducing inrush current through the relay contacts when switching the load. By minimising electrical stress during each switching event, this method supports higher load capability and extends the operational lifetime of the relay in practical lighting applications.

Check out for further explanation of features

<https://hytronik.com/solutions/lighting-control-features>

Additional Notes

Detection Blind Insert Options and Detection Range Reference

Two fixed blind inserts are supplied to reduce or limit the detection area. The blind insert can be fitted directly into the lens cover. Select the suitable blind insert according to the required detection area and installation application.

Option 1 provides a rectangular detection area. Option 2 provides a half-circle detection area, suitable for applications where detection from one side needs to be limited.

For reference, the next page includes detection pattern and dimensional drawings to support actual installation and application. The detection diagram is based on the following test conditions:

Detection Range Test Conditions:

Single person walking or forklift driving at 5 km/h

Sensor not connected to a driver with soft-on period

Ambient temperature (Ta): 20 °C

Test conducted in a large open indoor area without obstacles affecting PIR performance

Note: Detection range may vary depending on installation angle, temperature, and humidity conditions.

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Additional Diagram

