

HIR32

Dual-Channel PIR Lowbay | Integrated 80mA PSU | IR Controller

HYTRONIK[®]
SENSORS & LIGHTING CONTROL



Benefits

Adaptable: Options of blind inserts and metal surface mount boxes

Integrated: Built-in 80mA DALI power supply simplifies installation

User-Friendly: 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/HIR32>



LVD



UK
CA

Product Description

HIR32 is a dual channel PIR motion sensor designed for commercial indoor DALI lighting applications, providing greater connection capacity and simpler system installation. It features two DALI broadcast channels with a built-in 80mA DALI power supply, supporting up to 50mA on Channel 1 and 30mA on Channel 2, eliminating the need for an additional DALI power supply. Configuration and commissioning can be completed quickly via remote control, while common settings can be applied to multiple sensors at the touch of a button to improve deployment efficiency.

Functions and Features

See additional details at the end of datasheet



Built-in DALI PSU



DALI Broadcast
Output



Daylight Harvest



Push-Button
Input



Tri-level Dimming



Tunable White
Control

HIR32

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Specifications

Main Capabilities

Dimming (Output) Interface	DALI
Push Button Input	3

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)	<0.5W
Warming-up	20 s
DALI bus nominal current (I guaranteed)	80 mA
DALI Bus Current Consumption	2.0 mA

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Specifications

Technical	
Product weight	87.0 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

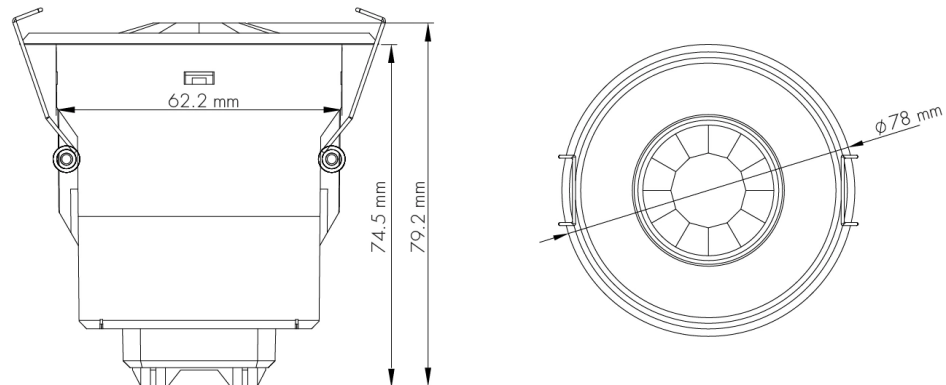
Standard	
EMC	EN 55015, EN 61000
LVD	AS/NZS 60669, EN60669

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Technical Drawing

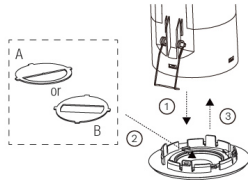


Application Example

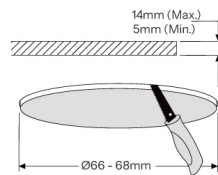


Installation Process

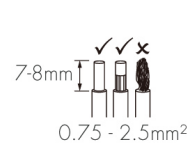
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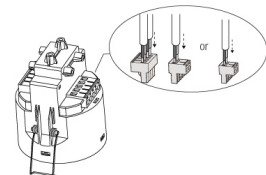
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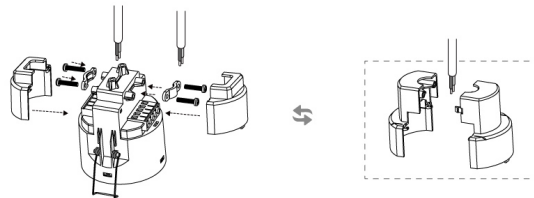
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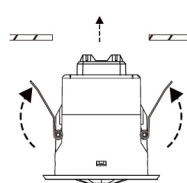
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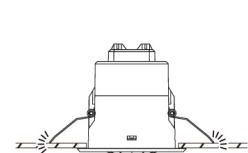
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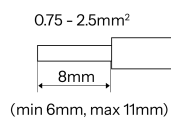
Detailed Installation Instructions

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

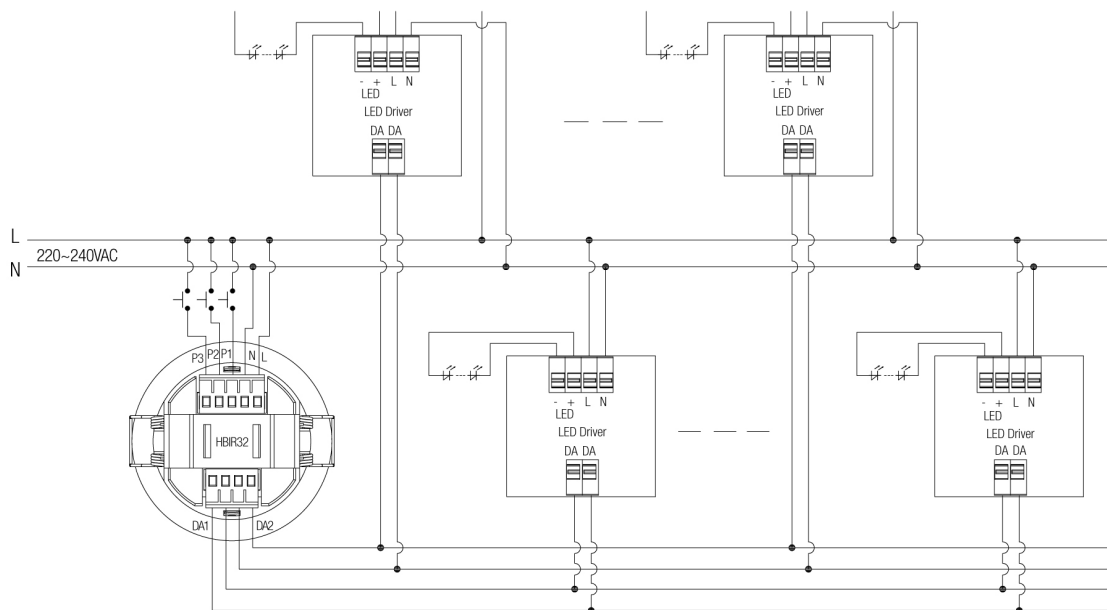
1. Installation by a qualified electrician only and in accordance with local electrical regulations.
2. Disconnect mains power before installation, wiring, maintenance or replacement.
3. Failure to follow the wiring diagram may result in product damage and malfunction.
4. Refer to the Wire Preparation section for recommended wire diameter and strip length.
5. Push inputs are mains-voltage inputs and must only be connected to mains-rated switches.
6. Do not connect mains voltage (L/N) to the DALI terminals.
7. For polarity-marked DALI terminals (DA+/DA-), observe correct DALI polarity.
8. For non-polarity-marked DALI terminals (DA/DAL), DALI wiring is polarity-free.

Wire Preparation



Pluggable screw terminal. It is recommended to make connections to the terminal before fitting to the sensor 1. 200 metres (total) max. for 1mm² CSA (Ta = 50°C) 2. 300 metres (total) max. for 1.5mm² CSA (Ta = 50°C)

Wiring Diagram



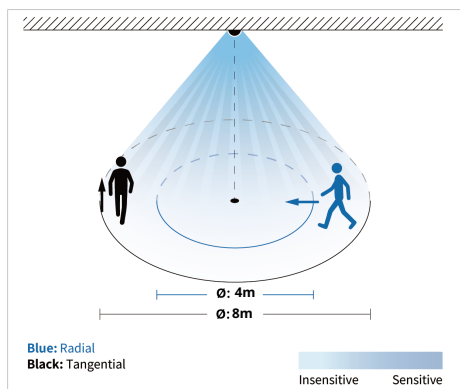
Detection Range

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 $T_a = 20^{\circ}\text{C}$
- The testing is conducted in an open and spacious indoor field, without noticeable obstacles or influences that may affect PIR performances.

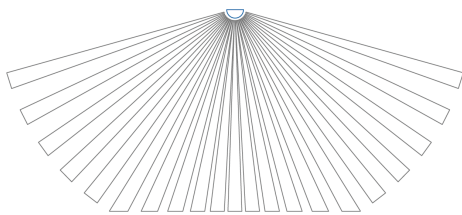
Detection example 2.5m mounting height:



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. Push Notes

1. HIR32 features three independent PUSH inputs: Push1 controls Channel 1, Push2 controls Channel 2, and Push3 adjusts the color temperature of both channels.

B. Load Current Notes

1. Channel 1 supports up to 50mA, and Channel 2 up to 30mA. Please ensure the connected load current does not exceed these limits to avoid permanent damage to the sensor.

C. DALI Bus Current Notes

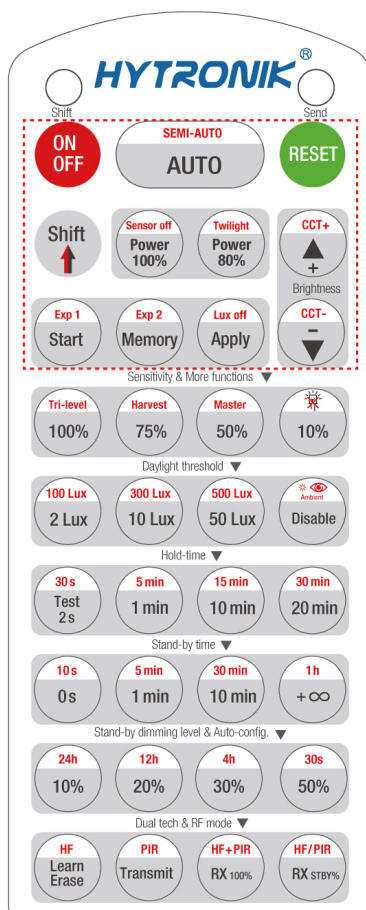
1. Typical DALI bus current consumption per driver is approximately 2 mA. Before installation, calculate the total bus current consumption of all devices connected to the same DALI bus. Ensure that the total current consumption does not exceed the guaranteed supply current of the DALI bus power supply, and allow sufficient system margin.

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

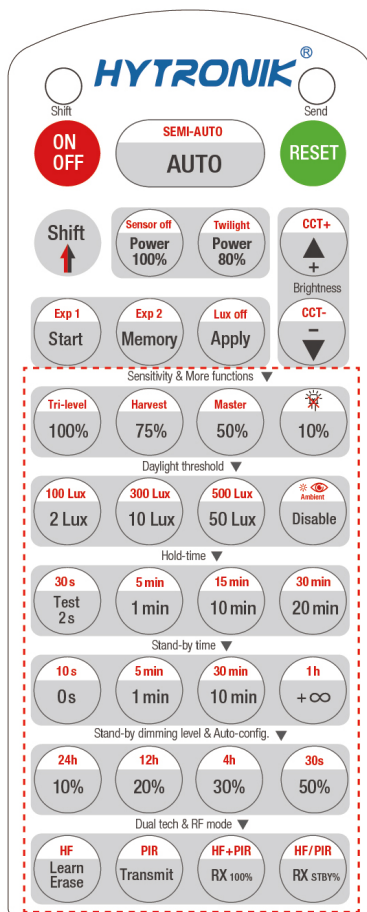
Settings (Remote Control HRC-11)



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: Hold-time 5min, Daylight sensor 100Lux, Stand-by time: 10min, Stand-by dimming level: 20%
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%	Press "Power 100%" or "Power 80%" to set the maximum brightness accordingly. The selected brightness will be memorized by the sensor. In OFF mode, pressing this button will turn on the luminaire and set the maximum brightness at the same time.
▲ ▼	Press this button to adjust brightness. The transition from maximum to minimum brightness or vice versa takes 6-10sec. The dimming range is 100%-10% and limited by the Power 80% / 100% setting. For devices with daylight harvest function, this button is used to adjust the target Lux level.
CCT+ CCT-	Press "Shift" first. After red indicator is on, press "CCT+" or "CCT-" to adjust the colour temperature. The transition from lowest to highest CCT takes about 6sec.
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 stand-by time is set to ∞, the luminaire will turn on automatically after ambient light meets the preset Lux condition for 10sec, and meanwhile enter the stand-by dimming level (Lux on). 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.
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 30 s 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 10 s 1 min 5 min 10 min 30 min +∞ 1h	Press the buttons in "Stand-by time" area to set stand-by time as required. The setting will override the DIP switch settings and be stored in the sensor memory. Note: +∞ indicates bi-level control. In this mode, the luminaire turns on at 100% brightness if motion is detected, and switches to stand-by dimming level after the stand-by time. Meanwhile, the "Lux off" function is disabled. The luminaire will turn on and enter the stand-by dimming level only when ambient Lux is below the preset threshold.
Stand-by dimming level & Auto-config.	
10% 20% 30% 50%	Press the buttons in "Stand-by dimming level" area to set stand-by dimming level as required. The setting will override the DIP switch settings and be stored in the sensor memory.
24h 12h 30s 4h	Press Shift first, then select the required self-testing time. During the testing period, the luminaire stays at 100% brightness and will not switch off, and the sensor continuously measures ambient light to set the lowest value as the target lux level. After completion, the sensor will enter "AUTO" mode with all other parameters unchanged. Note: the self-testing period must include nighttime. This function is only available for daylight harvesting products.
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



Built-in DALI PSU

Built-in DALI PSU means the DALI bus power supply is integrated into the product, eliminating the need for an external DALI power unit.

This reduces wiring complexity, saves installation space, and simplifies commissioning, making the system more compact and efficient.



DALI Broadcast Output

This product supports DALI broadcast output, allowing control commands to be sent simultaneously to all devices on the DALI bus without individual addressing.

This enables simple group control, synchronized operation, and fast commissioning within a DALI lighting system.



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. It automatically measures available natural light and adjusts artificial lighting output to maintain the target illuminance level. Using daylight sensor feedback, control signals are transmitted to the LED drivers via DALI or 0–10V interfaces, ensuring the required light output is delivered only when needed, improving visual comfort and reducing energy consumption.



Push Button Input

This product integrates push-button (momentary switch) inputs, allowing external potential-free switches to trigger basic lighting control functions. Each input can be configured for actions such as on/off switching, dimming or scene recall, providing flexible manual control and user interaction within the lighting system. The push-button inputs operate independently of the sensor's automatic functions, enabling seamless coexistence of manual and sensor-based lighting control.



Tri-level Dimming

Hytronik's tri-level dimming products offer 3 levels of light control: 100% dimmed light off, with settable time periods between each phase, as well dimming level and daylight threshold.

*All Hytronik's tri-level dimming products can also be configured as bi-level control (by setting the stand-by period to infinity), so that the light always remains in the dimmed mode in absence for areas where there are safety, security or enhanced comfort requirements.



Tunable White Control

Tunable White Control allows smooth adjustment of light colour temperature to create comfortable and adaptable lighting environments. By enabling dynamic white light changes throughout the day, it supports visual comfort and user wellbeing while helping improve energy efficiency in artificially lit spaces. With a simple and decentralised control approach, it provides a flexible solution for applications such as offices, schools, and healthcare environments where adjustable white light is required.

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

