

HIR27/WM

DALI-2 PIR Lowbay wide range | minor movement detection | Integrated 60 mA PSU

HYTRONIK[®]
POWERED BY **Koolmesh**[®]



Benefits

Discreet: Recessed design integrates neatly into the ceiling

Sensitive: PIR and micro-motion sensing improves presence detection

Efficient: One-key commissioning with IR controller

Applications

Offices

Meeting Rooms

Quiet Public Spaces (Libraries, Galleries)

Check Out the Complete System Solution on the Website:

<https://www.hytronik.com/product/HIR27-WM>



CE

emc

LVD RED

UK
CA

Product Description

HIR27/WM integrates a high-sensitivity PIR occupancy sensor and a light sensor, delivering reliable sensing input for DALI luminaires. Designed for offices and quiet public spaces, it features an integrated 60 mA DALI power supply, eliminating the need for external power devices to simplify installation and enhance system stability. All parameters—including sensitivity, hold time, lux threshold, and brightness levels—can be configured via the HRC-11 handheld remote, enabling fast setup and one-key commissioning for multiple devices.

Functions and Features

See additional details at the end of datasheet



Built-in DALI PSU



DALI Broadcast
Output



Daylight Harvest



One-key
Commissioning



Sensor
Synchronization

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Specifications

Main Capabilities

Dimming (Output) Interface	DALI/DALI-2
Connector Type	Standard 2 cables
Push Button Input	1

Sensor Data

Detection angle	360°
Max. Detection range (Diameter)	20.0 m
Maximum Mounting Height	5.0 m
Detection area	314 m ²
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 maximum rated current (I _n max)	90 mA
DALI bus nominal DC voltage range (Un)	16 V
DALI bus nominal current (I guaranteed)	60 mA

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Specifications

Technical	
Product height	66.3 mm
Product length	102.0 mm
Product width	102.0 mm
Insulation class	Class II
Ambient temperature	-20 ~ +50 °C
Storage temperature	-40 ~ +70 °C
Humidity max	10 ~ 90%
IP Rate	IP54

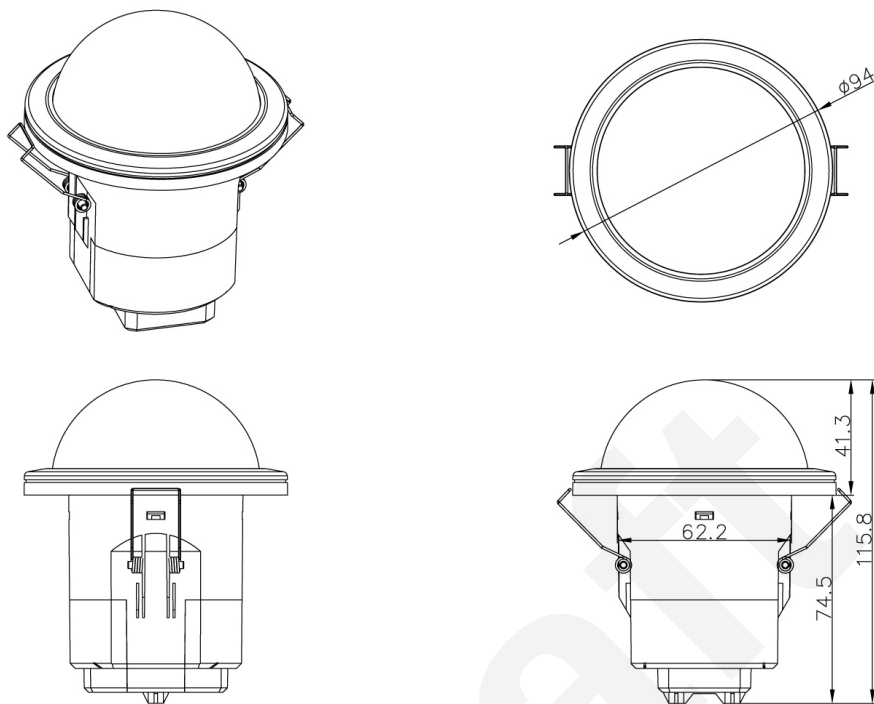
Standard	
EMC	EN 55015, EN61000-3-2/-3-3, EN 61547
LVD	AS/NZS 60669-1/-2-1, EN 60669-1, EN 60669-2-1

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Technical Drawing



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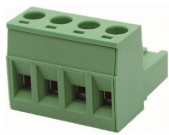
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⚠ Wiring Guidelines

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.

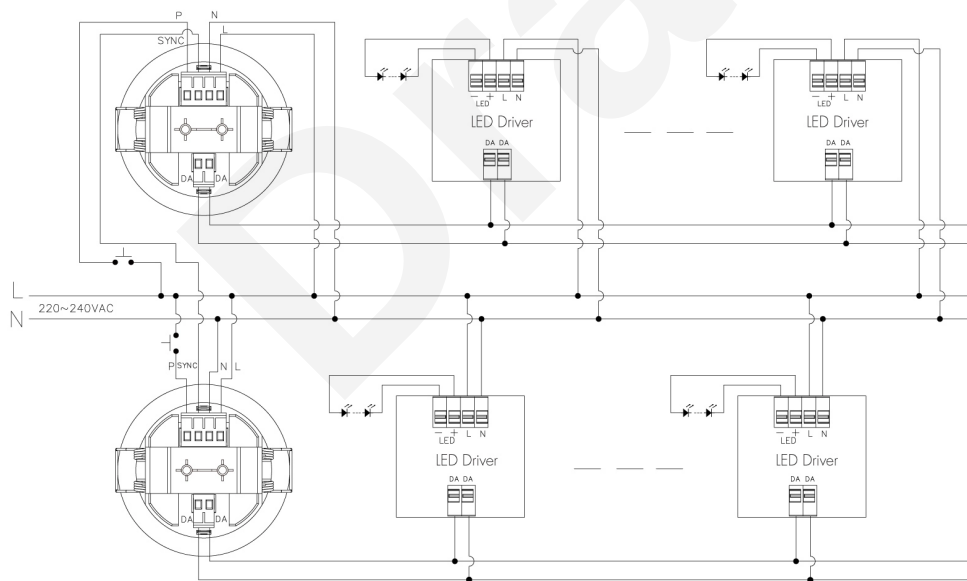
Wire Preparation



0.75 - 2.5mm²
8mm
(min 6mm, max 11mm)

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



HIR27/WMM

DALI-2 PIR Lowbay wide range | minor movement detection | Integrated 60 mA PSU

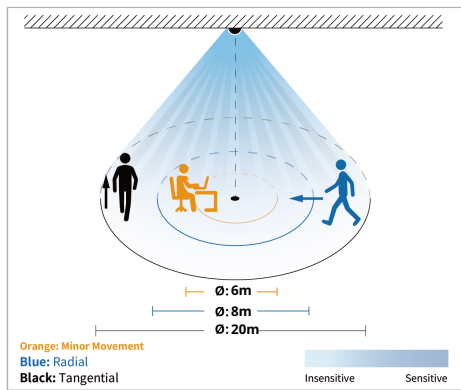
Detection Range

Single Person Walk & Small Movement (Ceiling mount)

The data below 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 eld, without noticeable obstacles or inuences that may affect PIR performances

Detection example 2.5m mounting height:

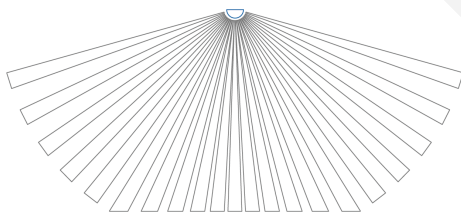


Minor Movement				
H[m]	2.5	3	4	5
Ø[m]	6	6	none	none

Tangential movement				
H[m]	2.5	3	4	5
Ø[m]	20	20	20	20

Radial movement				
H[m]	2.5	3	4	5
Ø[m]	8	8	8	8

Detection schematic diagram



Commissioning Instructions and Precautions

A. Installation Notes

1. Ensure the luminaire power is disconnected before installation or removal of the device.
2. Avoid installing the sensor near air vents, heat sources, or moving objects that may cause false triggering.
3. Do not cover the PIR lens or light sensor, as this may affect detection accuracy.

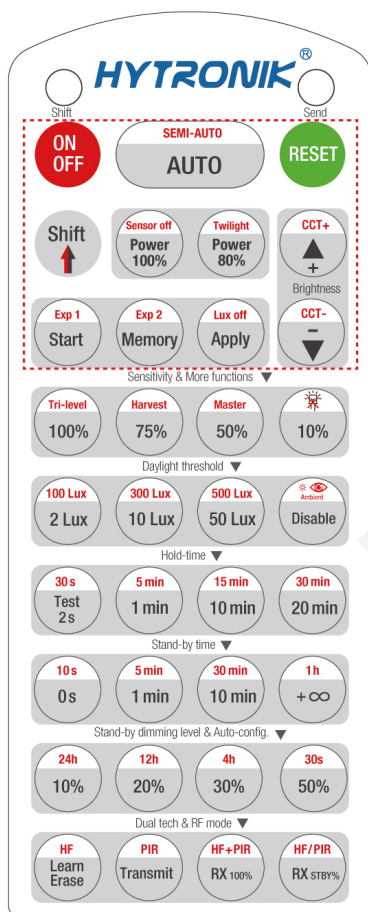
Warning: For additional important documents, including installation precautions, product guidelines, and guarantee conditions, please refer to the official downloads.

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

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Commissioning via Remote Control - Page 1

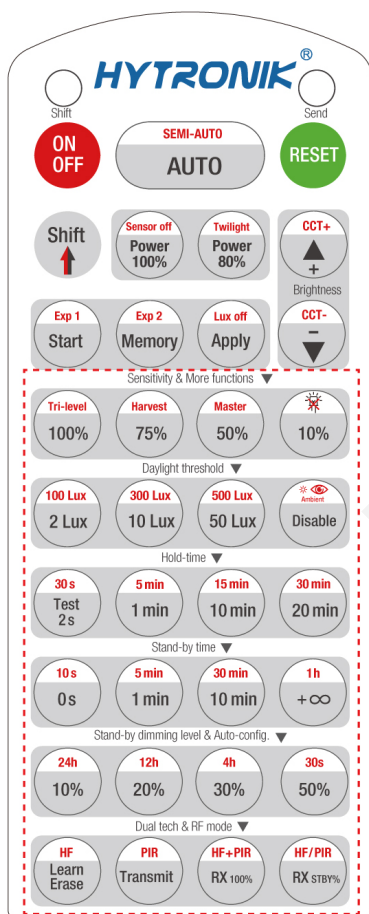
Settings (Remote Control HRC-11)



ON OFF	Press "ON/OFF" to set the luminaire to permanent ON or permanent OFF mode. Press "AUTO" or "RESET" to exit this mode and resume normal sensor operation. * Note: After a mains power interruption, the sensor automatically returns to AUTO mode.
RESET	Press "RESET" in any state to restore the sensor to its factory default settings and return it to AUTO mode. Restored parameters: operating mode, brightness, sensitivity, hold-time, stand-by time and daylight threshold. *Factory defaults: AUTO mode; hold-time 5 min; daylight threshold 100 lux; stand-by time 10 min; stand-by dimming level 20%; "Lux off" enabled. Note: on models with DIP or rotary switches, after reset the parameters follow the current DIP/rotary settings instead of the factory defaults. Remote control and DIP/rotary settings override each other — the most recent setting always takes priority.
Shift	Press "Shift" to activate the auxiliary function layer. The top-left indicator will light up for 20 s, 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. The "Lux ON" function is disabled in SEMI-AUTO mode. 2. The sensor indicator will light up for 2 s to confirm 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	Press "Shift" first. After the red indicator lights up, press "Twilight". In this mode, motion detection is disabled and only daylight control remains active. The device works as a daylight sensor only. Press "AUTO", "SEMI-AUTO" or "RESET" to exit this mode.
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 either 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 6-10 s. The dimming range is 1%-100% 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-	This key is not applicable on this product.
Start Memory Apply	Press "Start" to enter programming mode. Select the required parameters in the corresponding areas (Sensitivity, Daylight threshold, Hold-time, Stand-by time and Stand-by dimming level). Press "Memory" to store the parameters, then press "Apply" to send them 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 the red indicator lights up, press "Lux off" to enable or disable this function (LED indicator: fast flash 1 s = enabled; steady 2 s = disabled). "Lux off" is enabled by default: if, during hold-time or stand-by time, the ambient light remains above the preset threshold for more than 5 min, the luminaire switches OFF. When stand-by time is set to +∞, the luminaire turns on automatically at the stand-by dimming level ("Lux on") once the ambient light meets the preset Lux condition for 10 s. When "Lux off" is disabled, the luminaire will not switch off due to excessive ambient light and operates only according to the 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 the "Shift" button first until the red indicator lights up, then press the "Ambient" button. The sensor will sample the current ambient light level and set it as the switch-on illuminance / target lux level. After the button is pressed, the load will turn off for approximately 5 seconds and the indicator will flash during the learning process. Once learning is completed, the luminaire will turn on for 5 seconds and then turn off. After that, the luminaire will only turn on again when motion is detected. If the learned value exceeds the saturation level, the indicator will flash rapidly 5 times, and the daylight threshold will be automatically set to Disable.
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 when motion is detected and dims to the stand-by dimming level after the hold time, remaining there indefinitely. The "Lux off" function is disabled in this mode, and the luminaire turns on automatically at the stand-by dimming level only when the 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 period. During the test, the luminaire remains at 100% brightness and will not switch off, while the sensor continuously measures the ambient light and sets the lowest value as the target Lux level. After completion, the sensor enters AUTO mode with all other parameters unchanged. Note: The self-testing period must include night-time. This function is only available on 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.

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.



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.



Sensor Synchronization

SYNC enables coordinated lighting control across multiple Hytronik sensors covering large or irregular areas, such as long corridors, open-plan offices, warehouses and retail spaces. By wiring the SYNC terminals in parallel, the units operate as a linked group in which one sensor acts as the primary trigger and the others follow: when any sensor detects motion, all luminaires across the group respond simultaneously, ensuring uniform lighting behaviour throughout the space.

Brightness and push-switch control remain independent per sensor, allowing zone-level daylight adjustment and local manual override. A robust, wired solution that needs no gateways, app or licensed software.

For more details please refer to: <https://hytronik.com/solutions/lighting-control/features/synchronization-control>

Check out for further explanation of features

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