

HIR61/R

PIR Midbay | DALI-2 D4i | Zhaga Book 20 Standard



Benefits

Compact: Super small size Zhaga Book 20 sensor

DALI-2 feature: Occupancy (part 303) Daylight (part 304)

Standardized: DALI-2 protocol certified as D4i Type B

Applications

For linear luminaires up to 8/12m height

Warehouse/ Logistic

Production

Check Out the Complete System Solution on the Website:
<https://www.hytronik.com/product/HIR61-R>



LVD

Product Description

HIR61/R is a compact DALI-2 PIR motion sensor designed in compliance with the Zhaga Book 20 standard, enabling easy and standardized integration with compatible luminaires. Equipped with a mid-bay lens, it provides a wider detection range for applications requiring broader coverage at medium mounting heights. It integrates a DALI-2 module, PIR motion sensor, and daylight sensor to deliver reliable sensing input for smart lighting control. The ultra-compact design allows seamless luminaire integration while maintaining a clean and flexible fixture design.

Functions and Features

See additional details at the end of datasheet



D4i Certified



DALI-2 Certified



Zhaga Book 20
Standard

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Specifications

Main Capabilities

Dimming (Output) Interface	DALI/DALI-2
Connector Type	Zhaga book 20

Sensor Data

Detection angle	360°
Lux range	<1000 lux
Max. Detection range (Diameter)	20.0 m
Maximum Mounting Height	12.0 m
Detection area	314 m ²
Detection Methods	Passive Infrared (PIR)

Electrical Data

Operating voltage range	9.5-22.5 VDC
In-rush current	20.0 mA
Current Consumption	Max. 8 mA (no LED)

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Specifications

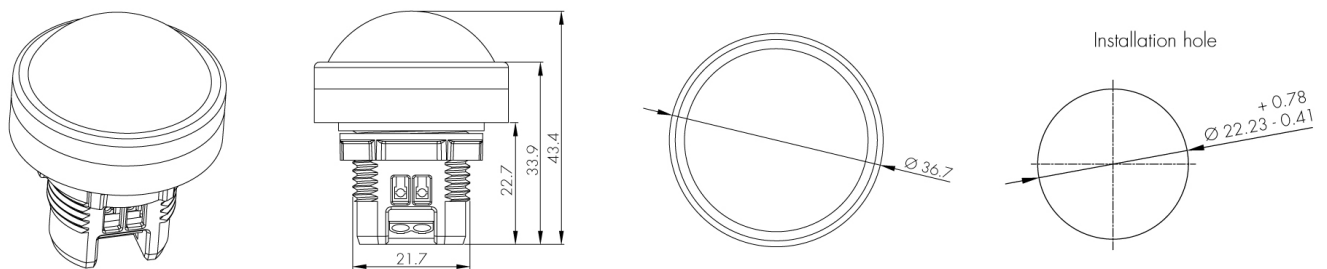
Technical	
Product weight	22.0 g
Product height	43.4 mm
Product length	36.7 mm
Product width	21.7 mm
Mounting hole	22.23 mm
Ambient temperature	-20 ~ +50 °C
Storage temperature	-40 ~ +70 °C
Humidity max	10 ~ 90%
IP Rate	IP20
IP Rate (facial part)	IP54

Standard	
EMC	EN 61547, EN IEC 55015
LVD	EN 61347-1, EN 61347-2-11, EN 62493
DALI-2 D4i type	Typ B
DALI-2 Standard	IEC62386-101, 103, IEC62386-303, 304

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Technical Drawing



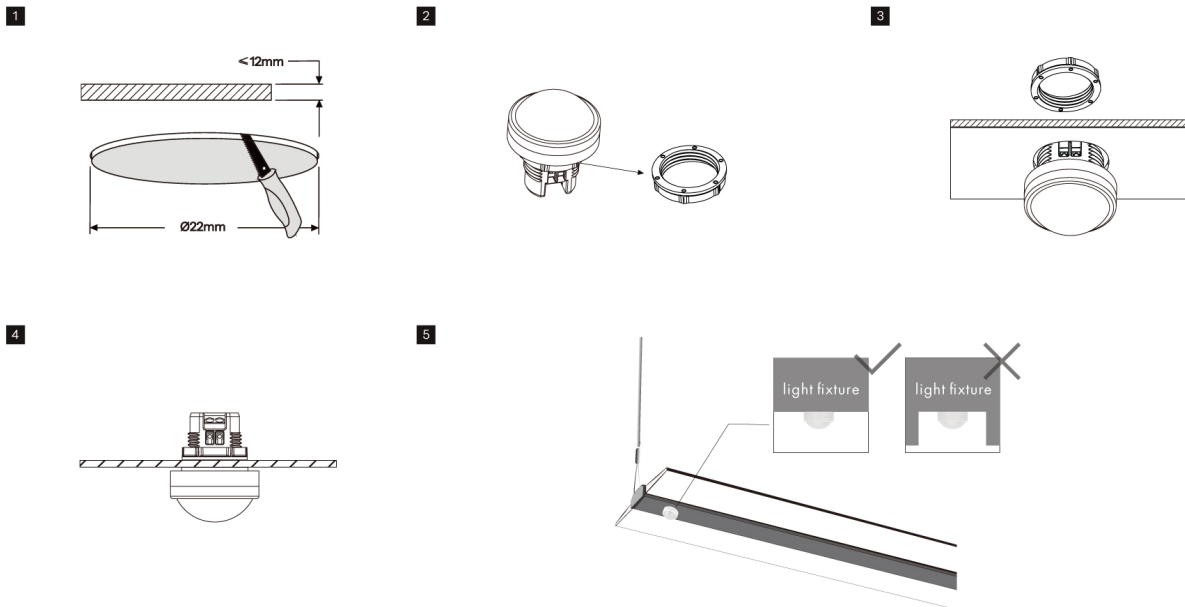
Application Example



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Installation Process



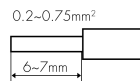
Detailed Installation Instructions

1. Make a hole with a diameter of Ø22mm at a suitable place of the light.
2. Remove the plastic nut of the sensor head by turning it.
3. Pass the sensor head and the cable through the hole. Secure the sensor in the light with the plastic nut.
4. Connect the RJ12 cable to the control unit.
5. To ensure better detection, install the sensor head outside the surface of the light.

⚠ Wiring Guidelines

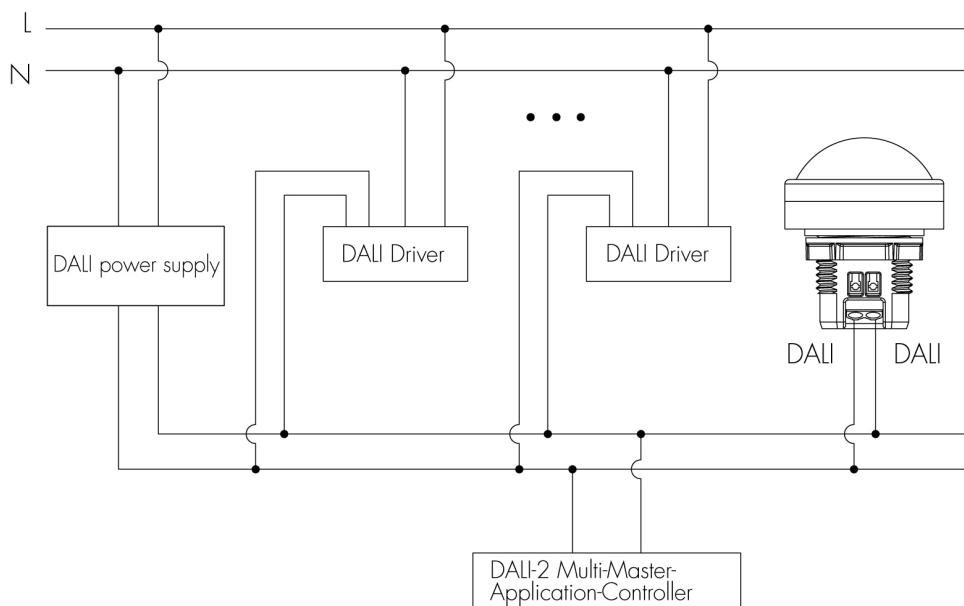
1. Installation by a qualified electrician only and in accordance with local electrical regulations.
2. Disconnect mains power before installation, wiring, maintenance or replacement.
3. Failure to follow the wiring diagram may result in product damage and malfunction.
4. Refer to the Wire Preparation 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/DA), DALI wiring is polarity-free.

Wire Preparation



To make or release the wire from the terminal, use a screwdriver to push down the button. 1. 100 metres (total) max. for 0.5mm² CSA (Ta = 50°C) 2. 150 metres (total) max. for 0.75mm² CSA (Ta = 50°C)

Wiring Diagram

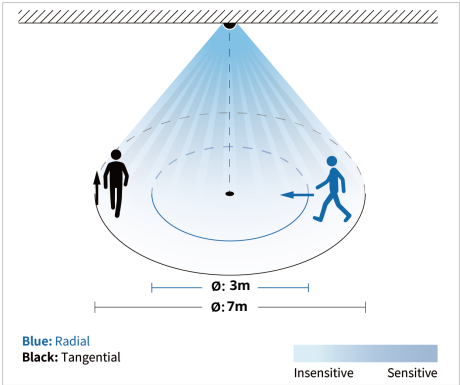


Detection Range

Single Person Walk (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 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 3m mounting height:



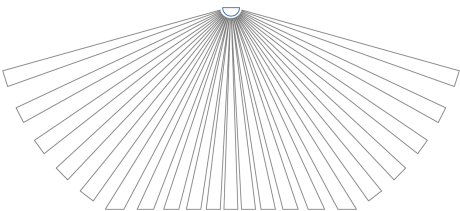
Tangential Movement

H[m]	3	4	5	6	7	8
Ø[m]	7	8	8	9	11	12

Radial Movement

H[m]	3	4	5	6	7	8
Ø[m]	3	3	3	4	4	4

Detection schematic diagram

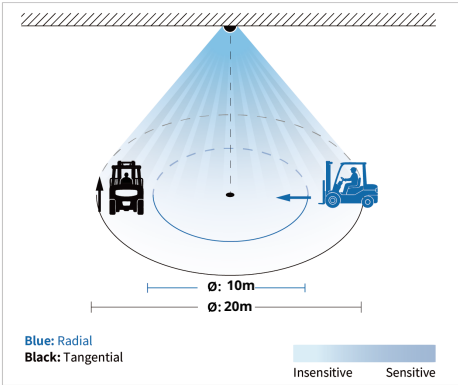


Detection Range

Forklift (Ceiling mount)

- The data below is tested under following conditions:
- Forklift driving at a speed of 5km/h
 - 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 12m mounting height:



Tangential Movement					
H[m]	8	9	10	11	12
Ø[m]	16	17	18	20	20

Radial Movement					
H[m]	8	9	10	11	12
Ø[m]	8	8	9	10	10

Commissioning Instructions and Precautions

A. Installation Preparations

1. To ensure better Bluetooth transmission, keep the sensor lens part beyond the surface of the light fixture.
2. After installed, please put the terminal seat back to the LED light source to avoid direct irradiation and ensure the accuracy of the daylight sensor.

B. DALI-2 Compliance

1. HIR61 has been used as DALI-2 input device to only report DALI instance(light sensor instance and motion sensor instance) to DALI-2 application controller, who is the "main brain" to process the data communication between input devices and the control gear and assign different function.
2. This product has been tested in accordance with IEC 62386 and complies with the relevant DALI-2 application parts. DALI-2 testing was performed using the official DALI test sequence software (version 2.2.0.0), covering the applicable IEC 62386 parts (e.g. Part 101, Part 103, Part 303, Part 304, Part 351). DALI-2 certification verifies compliance within the defined test scope.

However, certification does not eliminate the possibility of system-level compatibility issues arising from differences in device implementation or system design among manufacturers. Therefore, functional verification and on-site testing are required as part of the final system commissioning to ensure proper operation and compliance with project requirements.

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

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

Functions and Features



D4i Certified

This product is certified under the D4i specification by the DALI Alliance, ensuring compliance with the relevant DALI-2 and D4i requirements for interoperability, safety and performance. Certification guarantees that the device meets the standardized electrical, digital interface and device-type requirements defined for D4i ecosystems.



DALI-2 Certified

The product is DALI-2 certified, ensuring compatibility with DALI-2 control devices and compliance with relevant international lighting control standards. Certified product details can be verified via the DALI Alliance product database.



Zhaga Book 20 Standard

This product complies with the Zhaga Book 20 standard, defining a standardised mechanical, electrical and communication interface for sensor nodes used primarily in indoor smart lighting applications. It ensures interchangeability and interoperability within connected lighting systems, supporting flexible sensor integration and scalable system design.

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

