HIR23/D2/R

PIR Midbay | DALI-2 Input Device | Ceiling Mounting

Benefits

Standard: DALI-2 input device for standardized system integration

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

Flexible: DALI-2 compatibility for easy system integration

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/HIR23-D2-R

Product Description

HIR23/D2/R is a stand-alone PIR and daylight sensor certified as a DALI-2 input device, designed for reinforced mid-bay applications with a typical mounting height of 6 m. It is intended to work with DALI-2 application controllers or masters, providing reliable occupancy and daylight sensing signals for DALI-2 lighting control systems. The sensor is suitable for typical indoor applications such as offices, classrooms, healthcare facilities, and other commercial environments.

Functions and Features

See additional details at the end of datasheet

DALI-2 Certified

Specifications

Main Capabilities	
Dimming (Output) Interface	DALI/DALI-2

Sensor Data	
Detection angle	360°
Lux range	0~1023 lux
Max. Detection range (Diameter)	10.0 m
Maximum Mounting Height	6.0 m
Detection area	78 m^2
Detection Methods	Passive Infrared (PIR)

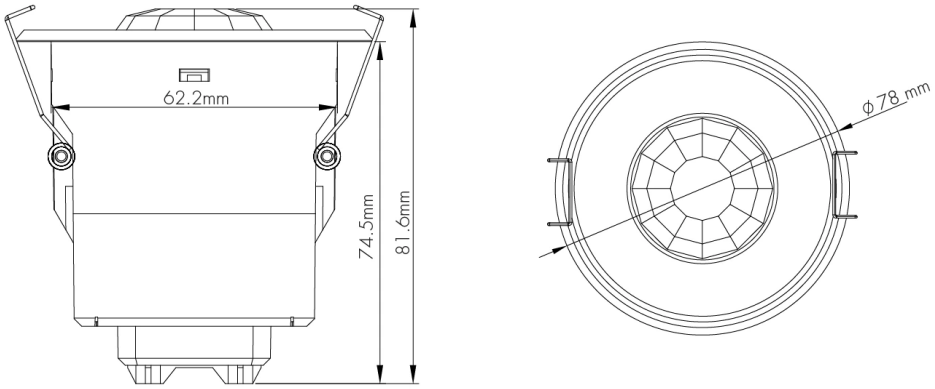
Electrical Data	
Operating voltage range	9.5-22.5 VDC
Warming-up	5 s
DALI Bus Current Consumption (no LED)	Max. 10 mA
DALI Bus Current Consumption (with LED)	Max. 11 mA

Specifications

Technical	
Product weight	130.0 g
Product height	81.6 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

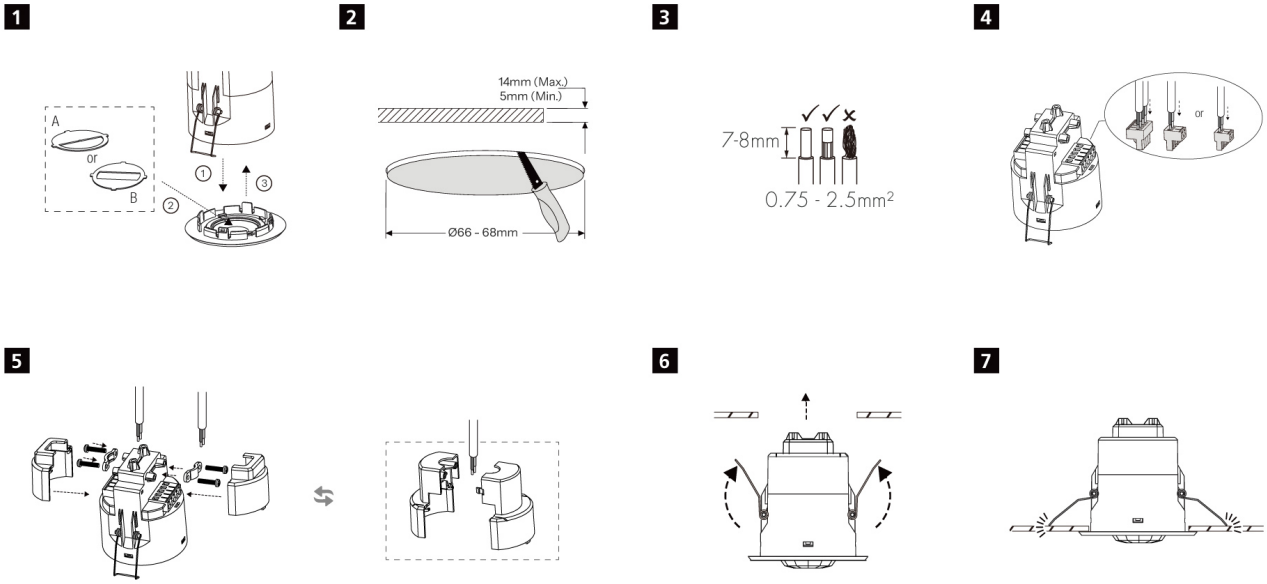
Standard	
EMC	EN 55015, EN 61547
LVD	EN 61347-1/-2-11
DALI-2 Standard	IEC62386-101, 103, IEC62386-303, 304

Technical Drawing



Application Example

Installation Process



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 diametre if necessary).

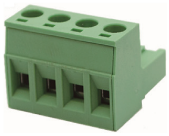
6. Bend the spring clips upwards and fit the sensor into the ceiling cut-out.

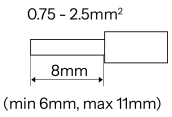
7. Spring clips will release and secure the sensor in the ceiling.

⚠ 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/DA), DALI wiring is polarity-free.

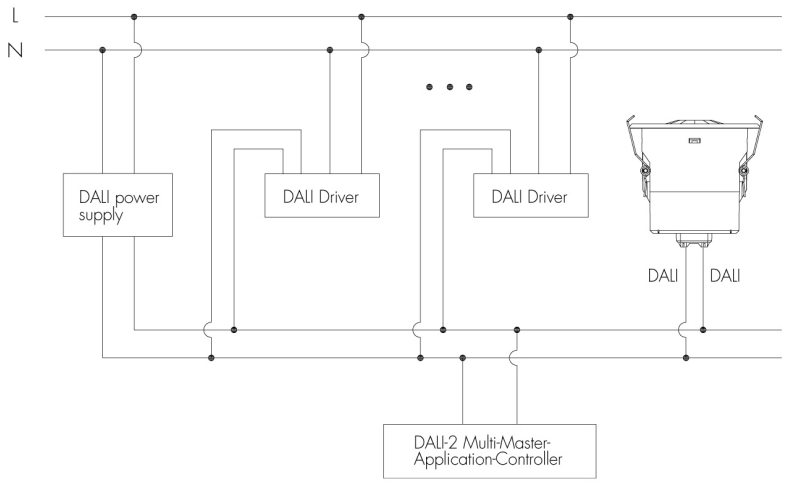
Wire Preparation





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

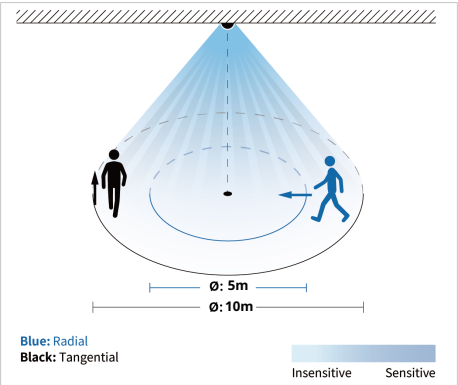


Detection Range

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 Ta = 20°C
- The testing is conducted in an open and spacious indoor field, without noticeable obstacles or influences that may affect PIR performances.

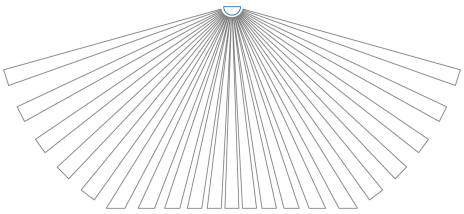
Detection example 2.5m mounting height:



Tangential movement					
H[m]	2.5	3	4	5	6
Ø[m]	10	10	9	8	8

Radial movement					
H[m]	2.5	3	4	5	6
Ø[m]	5	5	5	5	5

Detection schematic diagram



Commissioning Instructions and Precautions

A. Functional Overview

1. The product serves as a 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.

B. DALI Bus Current Notes

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.

C. DALI-2 Compliance

1. 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). 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.

D. DALI-2 Instances & Functional Behavior

1. For comprehensive technical descriptions, configuration commands, and detailed information regarding the instances, please refer to the complete official PDF document at the following link:
https://hytronik.com/media/a1/7b/cd/1767775493/DALI_2_Instances_and_Functional_Behavior.pdf?ts=1767775493

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

https://hytronik.com/service/downloads

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

Functions and Features

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.

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.

Additional Diagram