

HIR15/D2

PIR Highbay | DALI-2 input device | Zhaga Book 18 Standard

HYTRONIK[®]
SENSORS & LIGHTING CONTROL



Benefits

Standardized: Zhaga Book 18 interface with IP65 for reliable integration

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

Standardized: DALI-2 protocol certified as D4i Type B

Applications

For highbay luminaire up to 15m height

Warehouse/ Logistic

Outdoor/Street lights

Check Out the Complete System Solution on the Website:

<https://www.hytronik.com/product/HIR15-D2>



RoHS

UK
CA

Product Description

HIR15/D2 is a DALI-2 input device high-bay PIR motion sensor with IP65 protection and a typical mounting height of up to 15 m, designed for industrial and outdoor applications. Compliant with Zhaga Book 18, it enables tool-free integration into luminaires, while D4i certification ensures seamless compatibility within DALI-2 systems. A removable shielding cap allows easy adjustment of the detection area to suit different installation needs.

Functions and Features

See additional details at the end of datasheet



D4i Certified



DALI-2 Certified

IP65

IP65 Protection



Zhaga Book 18
Standard

HIR15/D2

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Specifications

Main Capabilities

Dimming (Output) Interface	DALI/DALI-2
Connector Type	Zhaga book 18

Sensor Data

Detection angle	360°
Lux range	0~1023 lux
Max. Detection range (Diameter)	24.0 m
Maximum Mounting Height	15.0 m
Detection area	452 m ²
Sensitivity	10% / 50% / 75% / 100%

Electrical Data

Operating voltage range	12-36 VDC
Stand-by power (Psb)	<0.5W
Required DALI Current	10.0 mA

HIR15/D2

PIR Highbay | DALI-2 input device | Zhaga Book 18 Standard

Specifications

Technical	
Product weight	45.0 g
Product height	43.8 mm
Product length	50.4 mm
Product width	50.4 mm
Ambient temperature	-20 ~ +50 °C
Storage temperature	-40 ~ +70 °C
Humidity max	10 ~ 90%
IP Rate	IP65

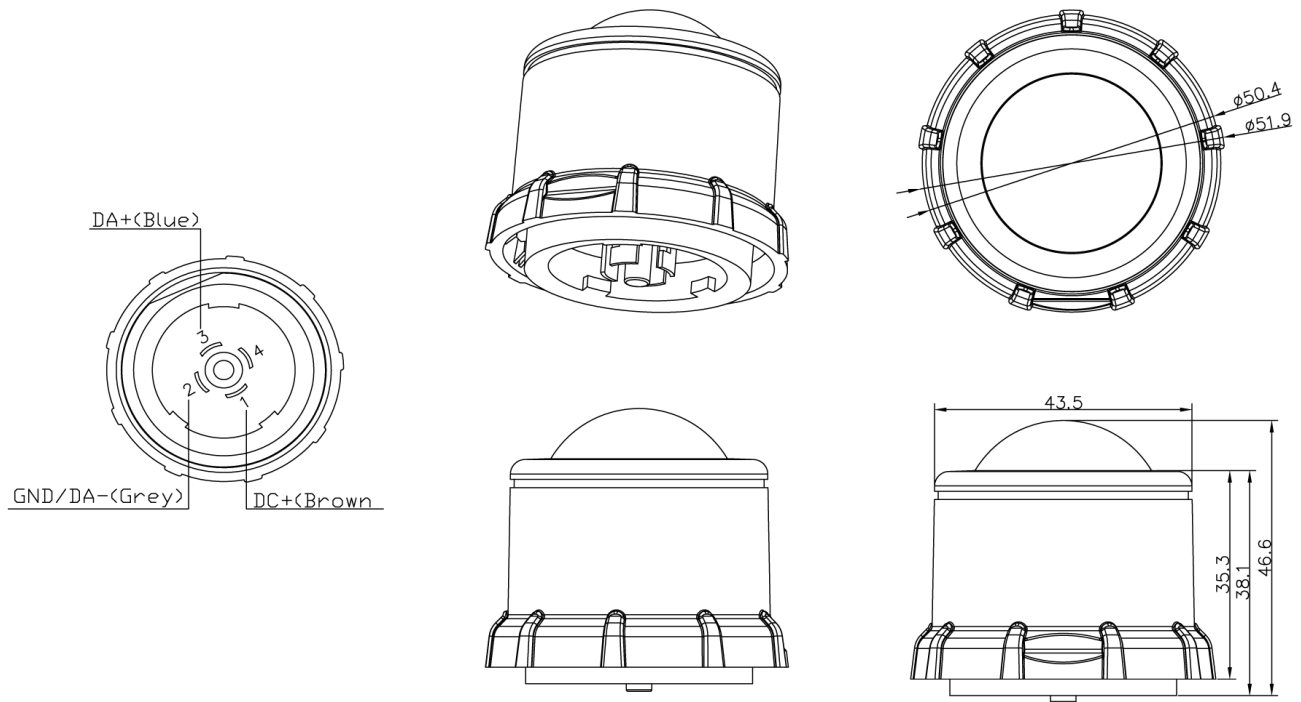
Standard	
EMC	EN 55015, EN 61547
LVD	EN 61347-1, EN 61347-2-11
Compliance	Reach

HIR15/D2

PIR Highbay | DALI-2 input device | Zhaga Book 18 Standard

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Technical Drawing



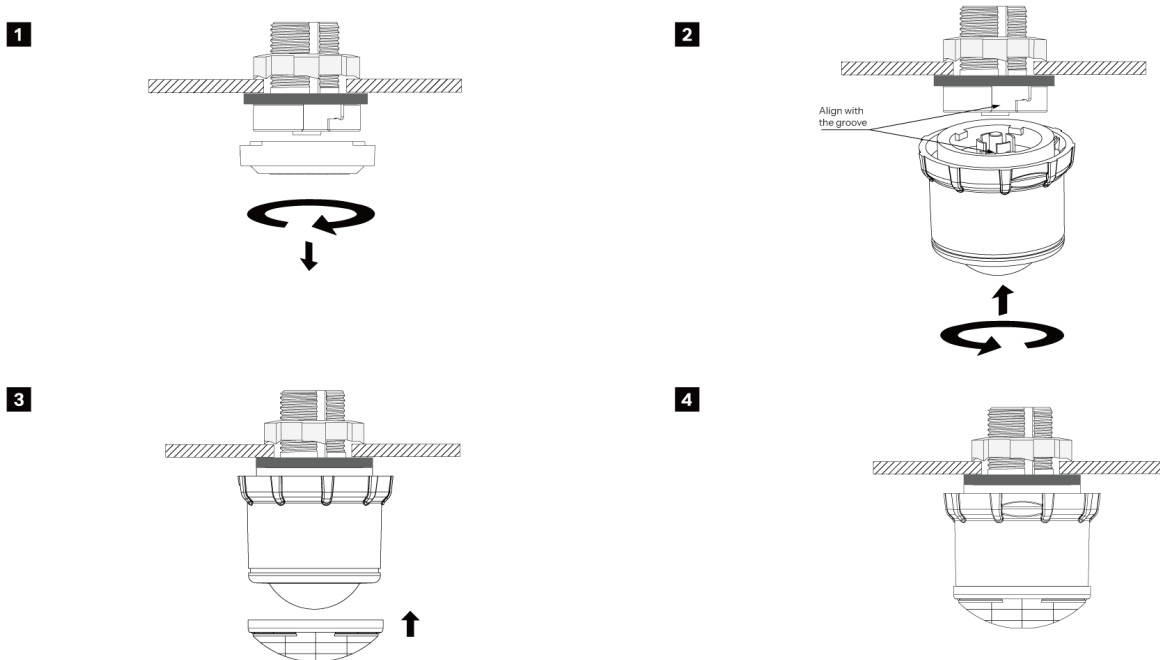
Application Example



HIR15/D2

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Installation Process



Detailed Installation Instructions

1. Remove the receptacle cap

Unscrew and remove the protective cap from the receptacle before installation.

2. Install the sensor

Align the large groove on the receptacle with the corresponding large protrusion on the sensor. Push the sensor upward firmly until fully seated, then rotate counterclockwise until a clear click is heard. Ensure the sensor cannot be pulled out to confirm it is securely locked.

3. Install the HAS15 cover

Cut the cover to the required shape before installation. Refer to the last page for cutting examples.

Align the HAS15 cover with the HIR15 series sensor. Press down evenly until a clear sound is heard, indicating the cover is securely fitted.

*If you want to remove the cover, locate the release notch on the edge of the cover. Lift gently from the notch to detach the cover.

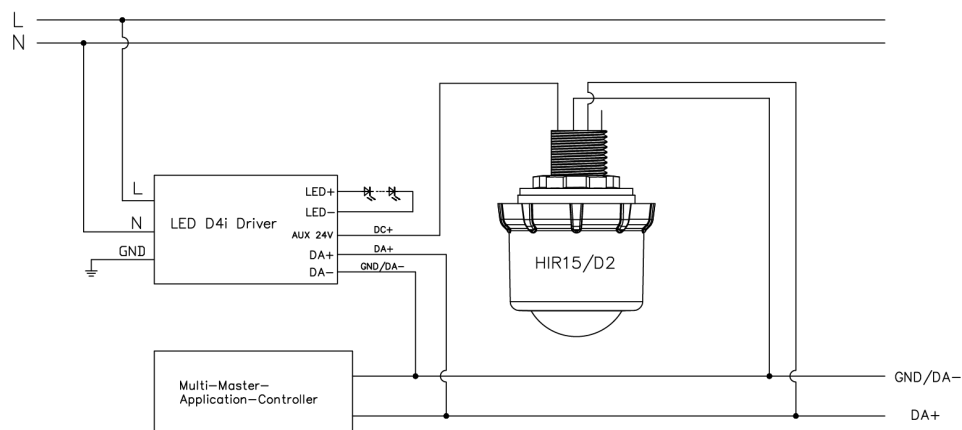
4. Installation complete

HIR15/D2

PIR Highbay | DALI-2 input device | Zhaga Book 18 Standard

Wiring Diagram

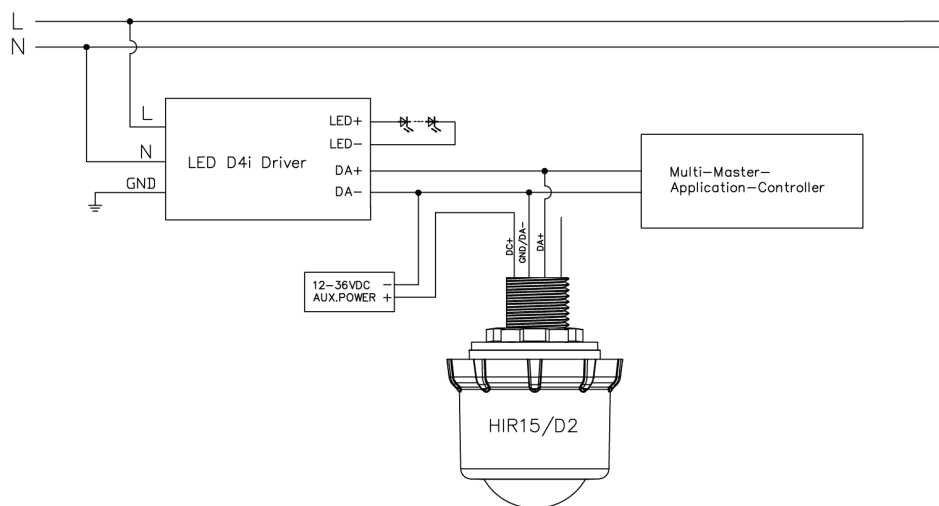
D4i Driver with Built-in AUX



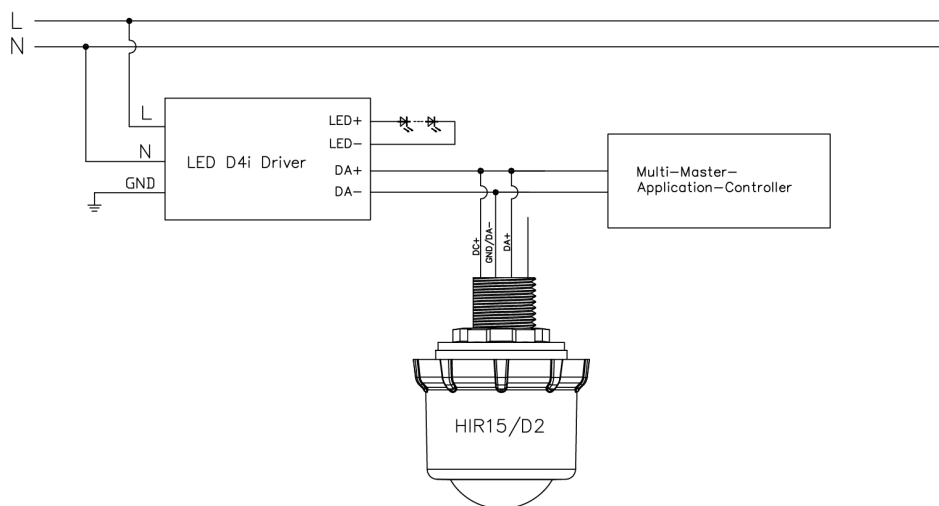
HIR15/D2

PIR Highbay | DALI-2 input device | Zhaga Book 18 Standard

D4i Driver with External AUX



Reference Only: D4i Driver Powering Bus & Device Separately

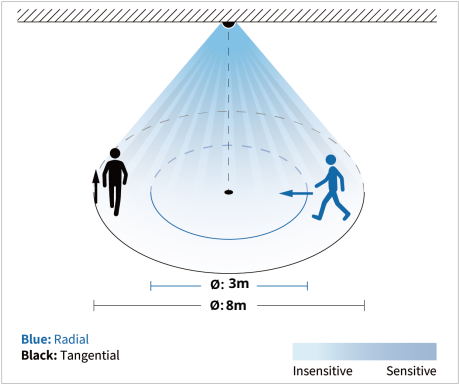


Detection Range

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
 - The testing is conducted in an open and spacious indoor field, without noticeable obstacles or influences that may affect PIR performances.
- The sensor detection area shown in this table is based on an open space. In environments with hard surfaces such as metal racking or glass corridors, the detection range may be extended by up to 30% due to reections or signal penetration.

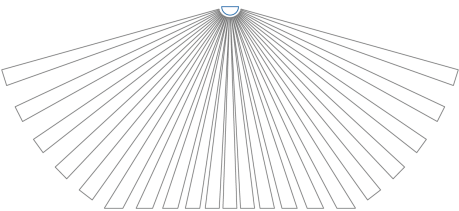
Detection example 3m mounting height:



Tangential Movement				
H[m]	3	5	8	12
Ø[m]	8	10	14	20

Radial Movement				
H[m]	3	5	8	12
Ø[m]	3	3	4	4

Detection schematic diagram

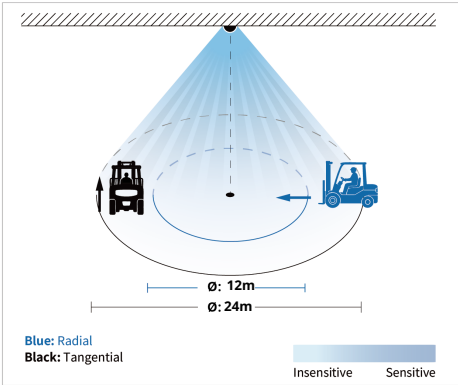


Detection Range

Forklift (Ceiling mount)

- The data 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 15m mounting height:



Tangential Movement

H[m]	10	11	12	13	14	15
Ø[m]	22	24	24	24	24	24

Radial Movement

H[m]	10	11	12	13	14	15
Ø[m]	16	16	16	15	13	12

Commissioning Instructions and Precautions

A. Installation Notes

1. This product should be installed by a qualified electrician.

B. Wiring Diagram Notes

1. The total current on the DALI bus must not exceed 250mA.
2. Terminal block 4 is left unpopulated by default. No wiring required.
3. HIR15/D2 has been used as DALI-2 input device to only report DALI instancelight 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.

C. PIR Application Note

1. PIR sensors operate based on infrared detection and are sensitive to ambient temperature and surrounding heat sources. In outdoor or high-temperature environments (above 50°C), elevated ambient temperature and thermal interference may reduce detection sensitivity and accuracy. For applications exposed to strong sunlight or significant heat sources, it is recommended to evaluate the installation environment carefully and consider selecting a more suitable sensing technology, such as microwave sensors, to ensure stable and reliable operation.

D. DALI-2 Compliance

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 2.4.0.0), 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.

E. DALI-2 Sensor Detection Sensitivity Adjustment

Please refer to: https://hytronik.com/media/1b/a1/05/1767775483/DALI_Sensor_Sensitivity_Adjustment.pdf?ts=1767775483

F. DALI-2 Instances & Functional Behavior

Please refer to: 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>

HIR15/D2

PIR Highbay | DALI-2 input device | Zhaga Book 18 Standard

Options

Included Accessories



Shielding Accessory-HAS15

Compatible products (for full functionality)



HA18SKT

Receptacle | Zhaga Book 18 Standard | Black Color
www.hytronik.com/product/HA18SKT

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.



IP65 Protection

This product features an IP65-rated enclosure, providing complete protection against dust ingress and low-pressure water jets to ensure reliable operation in demanding indoor and outdoor environments. The robust environmental sealing supports long-term stability and consistent performance in applications such as warehouses, parking areas and industrial facilities.



Zhaga Book 18 Standard

This product complies with the Zhaga Book 18 standard, providing a standardised mechanical, electrical and digital interface for indoor and outdoor luminaires, including high-bay and exterior applications. It enables plug-and-play interchangeability of sensor and connectivity modules, ensuring interoperability, future-ready upgrades and reliable operation in demanding installation environments.

Check out for further explanation of features

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

Additional Notes

Shielding accessory (HAS15) detail expiation

Achieve precise adjustment of the detection range, block interference sources (such as moving machines and elevators) to prevent triggering the sensor. the line pattern of the shielding accessory can be freely removed by cutting to achieve a different range of shielding induction, for example, rectangular detection and semi-sphere detection. The portable design also provides an easy installation, which only needs to buckle the shielding accessory onto the lens.

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.

HIR15/D2

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Additional Diagram

