

# Installation and Instruction Manual

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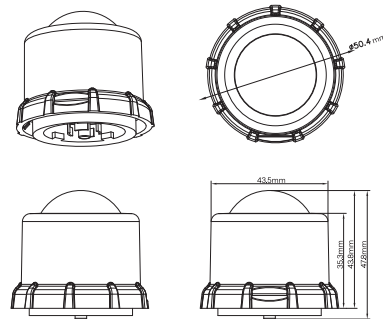
**IP65 DALI-2 PIR Zhaga Book 18 Standard Motion Sensor**  
**DALI-2 Broadcast Output, High-Bay**

**HIR15**

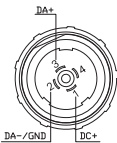
## 1. Technical Specifications

Operating voltage	24VDC
Stand-by power	<0.5W
Output	I guaranteed: 30mA I max: 50 mA U rated: 16VDC
Sensor principle	PIR
Detection range*	Max installation height: 15m (forklift) 12m (person) Max diameter(Ø): 24m (forklift) 20m (person)
Detection angle	360°
Lux range	0-1000Lux
Sensitivity	10% / 50% / 75% / 100%
Operation temperature	Ta: -20°C ~ +50°C
Storage temperature	-25°C ~ +70°C
Relative humidity	10 ~ 90%
IP rating	IP65
Insulation	Class II

## 2. Mechanical Structure & Dimensions



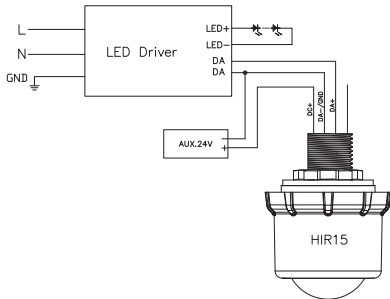
## 3. Wiring Diagram



- The total current on the DALI bus must not exceed 250mA.
- When using D4i drivers, if the total current exceeds this limit, a third-party DALI controller can shut down the DALI bus power supply via command.
- Multiple master devices should not be connected in parallel.
- Terminal block 4 is left unpopulated by default. No wiring required.

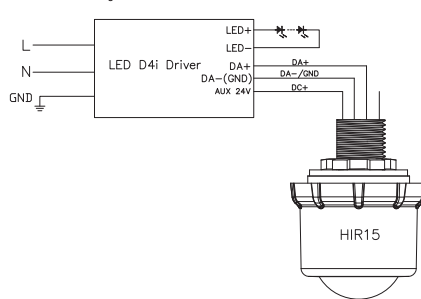
### Wiring Diagram 1

Standard Driver with External AUX Power



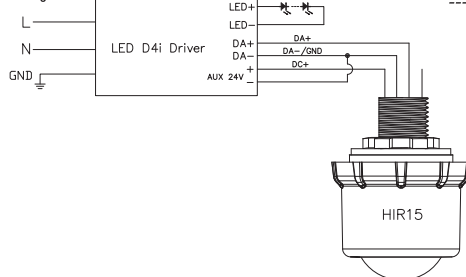
### Wiring Diagram 2

D4i Driver with Common Negative



### Wiring Diagram 3

D4i Driver with Isolated Negative



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

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## 4. Detection Range

\*The sensor detection area shown in this table is relevant for an empty space.

In areas with hard surfaces such as metal racking and/or glass corridors then the detection range can be extended from these internal reflections by up to 30%.

The data below 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.

A: Tangential movement	B: Radial movement	Mount height	Tangential Movement (A)	Radial Movement (B)
		3m	max 50m <sup>2</sup> (Ø = 8m)	max 7m <sup>2</sup> (Ø = 3m)
		5m	max 79m <sup>2</sup> (Ø = 10m)	max 7m <sup>2</sup> (Ø = 3m)
		8m	max 154m <sup>2</sup> (Ø = 14m)	max 13m <sup>2</sup> (Ø = 4m)
		12m	max 314m <sup>2</sup> (Ø = 20m)	max 13m <sup>2</sup> (Ø = 4m)

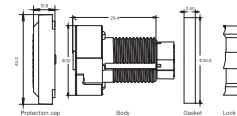
The data above is tested under following conditions:

- Forklift driving at a speed of 15km/h;
- Sensor not connected to any driver that may have soft on period;
- Testing temperature Ta = 20°C;

A: Tangential movement	B: Radial movement	Mount height	Tangential (A)	Radial (B)
		10m	max 380m <sup>2</sup> (Ø = 22m)	max 201m <sup>2</sup> (Ø = 16m)
		11m	max 452m <sup>2</sup> (Ø = 24m)	max 201m <sup>2</sup> (Ø = 16m)
		12m	max 452m <sup>2</sup> (Ø = 24m)	max 201m <sup>2</sup> (Ø = 16m)
		13m	max 452m <sup>2</sup> (Ø = 24m)	max 177m <sup>2</sup> (Ø = 15m)
		14m	max 452m <sup>2</sup> (Ø = 24m)	max 133m <sup>2</sup> (Ø = 13m)
		15m	max 452m <sup>2</sup> (Ø = 24m)	max 113m <sup>2</sup> (Ø = 12m)

## 5. Optional Accessories

Zhaga Book 18 standard interface (HA18SKT)

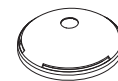


For more details, please refer to <https://hytronik.com/product/ha18skt>

Note: HA18SKT not included in the package.

The HA18SKT receptacle is designed to be compatible with the SAM15 and HIR15 series products. It provides a Zhaga Book 18 standard interface, suitable for roadway lighting, area lighting, and occupancy lighting applications.

Shielding Accessory ( HAS15 included in the package.)



### Installation Instruction



#### Step 1: Installation

Align the HAS15 cover with the HIR15 series sensor and press down evenly with two fingers. Once an audible sound is heard, the cover is securely installed.

#### Step 2: Removal

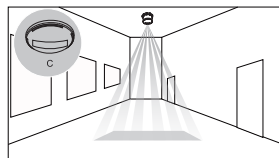
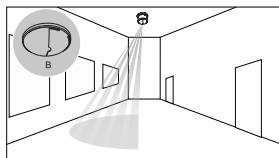
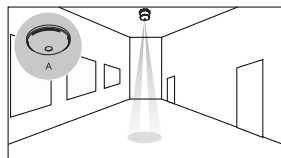
To detach the HAS15 cover, locate the release notch on the edge. Gently lift the cover upward from the notch to remove it.

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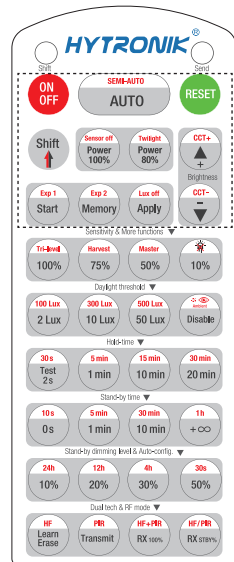
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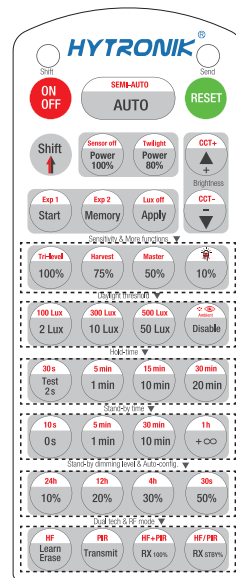


## 6. Settings (Remote Control HRC-11)



HRC-11

<b>ON OFF</b>	Press button "ON/OFF" to enter the ON/OFF mode or SENSOR OFF mode to control the light. Press button "AUTO" / "RESET" / "Sensor OFF" / "Twilight" or restart to exit this mode.
<b>RESET</b>	Press button "RESET", perform the latest DIP Switch/Rotary Switch settings. The default settings are: Auto mode; Detection range 100%; Daylight sensor disable; Stand-by time 0min; Stand-by dimming level 20%; Maximum Brightness & White color; LED indication off; Lux off activated; PIR detection mode.
<b>Shift</b>	Press button "Shift", the LED on the top left corner is on to indicate mode selection. All values / settings in RED are valid for 20 seconds.
<b>AUTO</b>	Press button "AUTO" to initiate automatic mode. The sensor starts working and all settings remain as before the light is switched ON/OFF.
<b>SEMI-AUTO</b>	This key is not applicable on this product.
<b>Power 100% 80%</b>	Press buttons in zone "Power out" to select the light output at 80% (at initial 10,000 hours) or 100%.
<b>Sensor off</b>	1. Press button "Shift", the red LED on. 2. Press button "Sensor off", the function of movement detection is disabled, the function of photocell is also disabled. OR Press button "Twilight", the function of movement detection is disabled, but the function of photocell is still working, and the product becomes a pure dusk/ dawn daylight sensor. To exit from "Sensor off" / "Twilight" mode, press button "AUTO" / "SEMI-AUTO" / "RESET".
<b>Twilight</b>	Press these two buttons to adjust the light output brightness and set a new target lux level. The daylight sensor can measure ambient daylight level and ignore the LED light, so as to calculate how much artificial light is needed to maintain the target lux level.
<b>CCT+ CCT-</b>	1. Press button "Shift", the red LED on. 2. Press "CCT+" or "CCT-" button to adjust colour turning.
<b>Start Memory Apply</b>	1. Press button "Start" to program. 2. Select the buttons in "Detection range", "Daylight threshold", "Hold-time", "Stand-by time", "Stand-by dimming level" to set all parameters. 3. Press button "Memory" to save all the settings programmed in the remote control. 4. Press button "Apply" to set the settings to each sensor unit(s). For example, to set detection range 100%, daylight threshold Disable, hold-time 5min, stand-by time +∞, stand-by dimming level 30%, the steps should be: Press button "Start", button "100%", "Disable", "Shift", "5min", "Shift", "+∞", "30%", "Memory". By pointing to the sensor unit(s) and pressing "Apply", all settings are passed on the sensor(s).
<b>Lux off</b>	The "Lux off" function is activated as default. When the ambient lux level exceeds the target level continuously for more than 5 minutes, the lights will be turned off.  In AUTO /SEMI-AUTO/Twilight modes, to disable "Lux off": 1. Press "Shift" button first, the red LED on. 2. Press "Lux off" button, the "Lux Off" function will be deactivated. The lights will not turn off even when the ambient lux level exceeds the target lux level but will dim down the brightness to the stand-by time level.  For Sensor LED indicator references: 1.Fast flash 1s, "Lux off" function activated. 2.Remains on 2s, "Lux off" function deactivated.
<b>Exp 1 Exp 2</b>	"Exp" refer to Expansion, these two buttons are reserved functions and pending future development.



HRC-11

<b>Sensitivity &amp; More functions</b>	
100% 75% 50% 10%	In AUTO /SEMI-AUTO modes, press buttons in zone "Detection range" to set detection range at 100%/75%/50%/10%.
<b>Tri-level Harvest</b>	1.Press button "Shift", the red LED on. 2. Press buttons "Tri-level" or "Daylight harvest" to shift between Tri-level control mode and Daylight harvest mode.
<b>Master</b>	1.Press button "Shift", the red LED on. 2. Press button "Master" to select a DALI sensor in a DALI line to be a "master", so that all other DALI sensors in the same DALI line will perform daylight harvesting/tri-level control based on the lux reading from this "master" sensor's daylight sensor.
<b>Daylight threshold</b>	
2 Lux 100 Lux 10 Lux 300 Lux 50 Lux 500 Lux Disable	Press buttons in zone "Daylight threshold" to set daylight sensor at 2Lux / 10Lux / 50Lux / 100Lux / 300Lux/500Lux / Disable. Note: To set daylight sensor at 100Lux / 300Lux/500Lux, press "Shift" button first.
<b>Ambient</b>	1. Press button "Shift", the red LED on. 2. Press button "Ambient", the surrounding lux level is sampled and set as daylight threshold / target Lux level.
<b>Hold-time mode</b>	
Test 2s 30s 1min 5min 10min 15min 20min 30min	In AUTO /SEMI-AUTO modes, press buttons in zone "hold-time" to set the hold-time at 2s / 30s / 1min / 5min / 10min / 15min / 20min / 30min. Note: 1. To set hold-time at 30s / 5min / 15min / 30min, press "Shift" button first. 2. 2s is for testing purpose only, stand-by period and daylight sensor settings are disabled in this mode. *To exit from Test mode, press button "RESET" or any button in "Hold-time".
<b>Stand-by time mode</b>	
0s 10s 1min 5min 10min 30min +∞ 1h	Press buttons in zone "stand-by time" to set the stand-by period at 0s / 10s / 1min / 5min / 10min / 30min / 1h / +∞. Note: 1. To set stand-by time at 10s / 5min / 30min / 1h, press "Shift" button first. 2. "0s" means on/off control. 3. "+∞" means bi-level control, the fixture is 100% on when there is motion detected, and remains at the stand-by dimming level when no presence after motion hold-time. Only when the stand-by time is set in "+∞" and the ambient lux level is below the target lux level, the lux will auto-on.
<b>Stand-by dimming level &amp; Auto-config.</b>	
10% 20% 30% 50%	Press the button in zone "stand-by dimming level" to set the stand-by dimming level at 10% / 20% / 30% / 50%.
<b>24h 12h 4h 30s</b>	
1.Press button "Shift", the red LED on. 2.Select a time period and the sensor will do light level measurement and determine/save the lowest light level (commission line) with 100% light on, so as to set the target lux level automatically. Note: 1.Make sure the light level measurement covers the night time. 2.The fixture will go into sensor mode after the measurement, all sensor setting remain unchanged.	
<b>Dual tech &amp; RF mode</b>	
<b>Learn Erase Transmit</b>	This key is not applicable on this product.
<b>RX 100% RX STEPS</b>	This key is not applicable on this product.
<b>HF PIR HF+PIR HF/PBR</b>	This key is not applicable on this product.

## 7. Additional Information / Documents

- To learn more about detailed product features/functions, please kindly refer to <https://hytronik.com/product/hir15>
- Regarding precautions for PIR Sensors installation and operation, please kindly refer to <https://hytronik.com/service/downloads> (PIR Sensors Precautions for Product Installation and Operation)
- Data sheet is subject to change without notice. Please always refer to the most recent release on <https://hytronik.com/products/motion-daylight-sensors>
- Regarding Hytronik standard guarantee policy, please kindly refer to <https://hytronik.com/service/downloads> (Guarantee Conditions document)