HIR60
PIR Lowbay | Bluetooth/ DALI | Zhaga Book 20 Standard

HYTRONIK ®
SENSORS & LIGHTING CONTROL

Benefits

Compact: Super small size Zhaga Book 20 sensor

All-in-one: Occupancy, Daylight and Circadiam Rhythm

Easy configuration: Wireless Bluetooth 5.0 SIG-Mesh

Applications

For linear luminaires up to 3m height

Office rooms

School

Check Out the Complete System Solution on the Website:
https://www.hytronik.com/product/HIR60

CE RED UKCA

Product Description

It is a Bluetooth PIR motion sensor with 9.5-22.5 VDC operation and approx. 30mA input current. They comply with Zhaga Book 20 (Support D4i drivers) for easy integration with LED drivers. Featuring a Bluetooth module, PIR, and daylight sensors, they enable wireless communication between luminaires. Setup is simple with the Koolmesh app, ideal for upgrading old buildings without extra wiring.

Hardware Features

See additional details at the end of datasheet

5-year warranty	DALI broadcast output	Optional accessories	Zhaga Book 20 connection standard

Functions and Features

See additional details at the end of datasheet

Daylight Harvest	Tri-level (Corridor Function)	Tunable White Control / HCL	Koolmesh (See bluetooth contol below)

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Specifications

Main Capabilities	
Dimming (Output) Interface	DALI
Connector Type	Zhaga book 20

Sensor Data	
Detection angle	360°
Lux range	<1000 lux
Max. Detection range (DxH)	12 m
Maximum Mounting Height	3 m
Detection area	113 m²

Electrical Data	
Bluetooth frequency	2.4 GHz
Bluetooth range	10-30m
Bluetooth transmit power	4 dBm
Bluetooth system	Koolmesh
Warming-up	20 s
Operating Voltage	9.5-22.5 VDC
Required DALI Current	30.0 mA

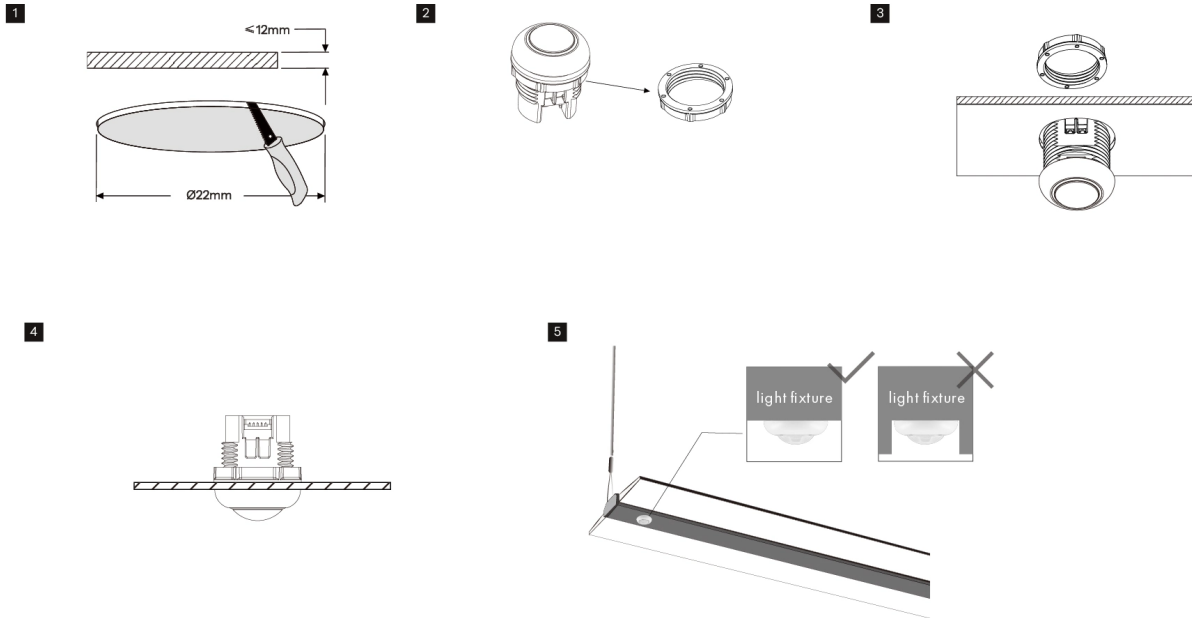| Technical	
Product weight	20.0 g
Product height	31.8 mm
Product length	21.7 mm
Product width	26.0 mm
Mounting hole	22.23 mm
Ambient temperature	-20 ~ +50 °C
Storage temperature	-40 ~ +70 °C
Humidity max	10 ~ 90%
IP Rate	IP20

Technical Drawing
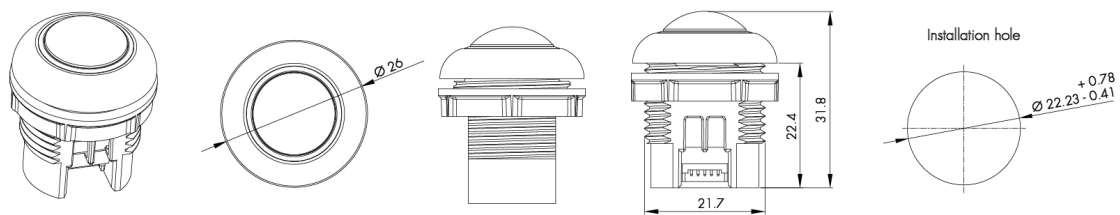
Picture Application Example

Installation Process

Detailed Installation Instructions

1. Drilling hole in the light fixture (Ø22mm).

2. Remove the plastic nut accessories by turning the knob.

3. Pass the sensor head & cable through the hole. Use plastic nut to secure the light fixture and sensor tightly.

4. Complete.

5. Keep the sensor lens part beyond the light fixture surface for better detection.

Wire Preparation

0.2~0.75mm²

6~7mm
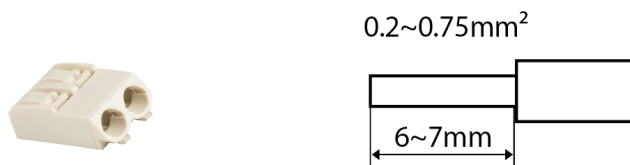
To make or release the wire from the terminal, use a screwdriver to push down the button. 1. 100 metres (total) max. for 0.5mm² CSA (Ta = 50°C) 2. 150 metres (total) max. for 0.75mm² CSA (Ta = 50°C)

Wiring Diagram

Connective with DALI Driver

L
N

DALI power supply

DALI Driver

DALI Driver

DALI   DALI

DALI bus
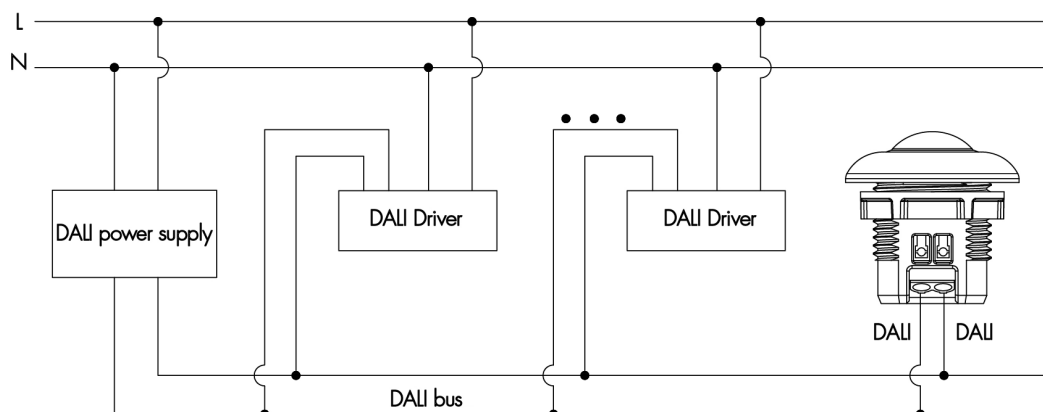
Connective with D4i Driver

L

N

D4i Driver

Bluetooth

DALI   DALI

DALI

DALI
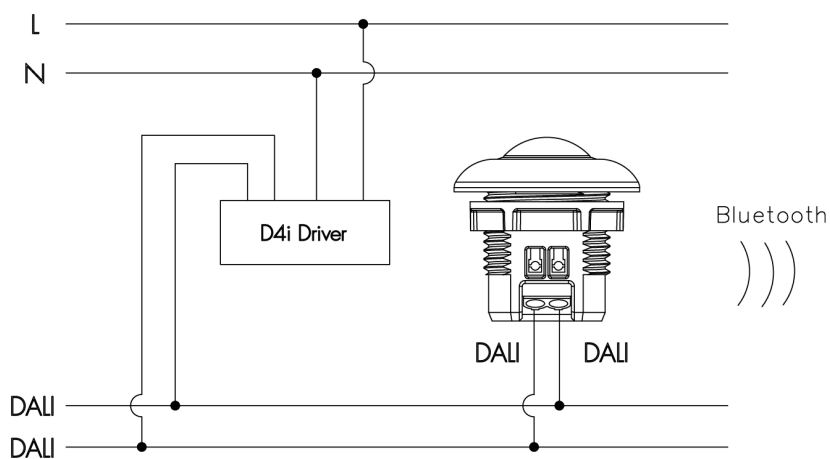
Commissioning Instructions and Precautions

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

2. To ensure better Bluetooth transmission, keep the sensor lens part beyond the surface of the light fixture.

3. 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.

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

https://hytronik.com/service/downloads

Detection Range

Person

Mounting Height: 3 m - 3 m

h: 3 m

4 m

12 m

Blue: Tangential

Black: Radial

Insensitive   Sensitive
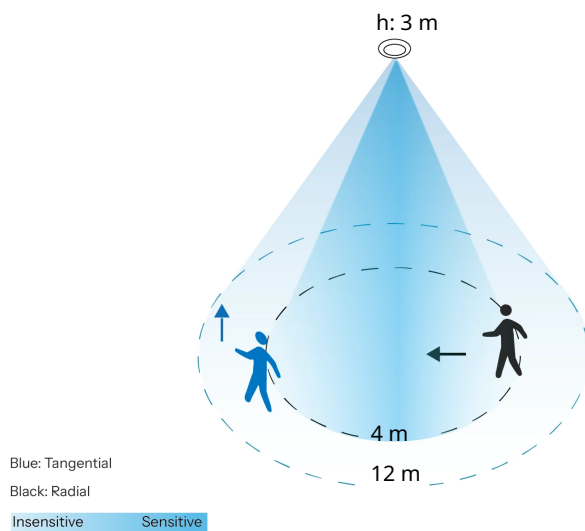
Tangential	
H[m]	3
Ø[m]	12

Radial	
H[m]	3
Ø[m]	4

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.

Dimming Interface Operation Notes

The provided Switch-Dim interface allows for a simple dimming method using commercially available non-latching (momentary) wall switches. Detailed Push switch configurations can be set on Koolmesh app.

Switch function	Action	Descriptions
Emergency Self-Test Function	Short press (<1 second)* Short press has to be longer than 0.1s, or it will be invalid.	- Start Self-test (Monthly) - Stop Self-test - Start Self- test (Annually) - Invalid
	Long press (≥1 second)	- Start Self-test (Monthly) - Stop Self-test - Start Self- test (Annually) - Invalid
Fire Alarm (VFC signal only)	Refer to Koolmesh App User Manual V2.1	- Able to connect the Fire Alarm system - Once the fire alarm system is triggered, all the luminaires controlled by the Push Switch will enter the preset scene (normally it's full on), after the fire alarm system gives the ending signal, all the luminaires controlled by this Push Switch will revert back to normal status.
Push switch	Short press (<1 second)* Short press has to be longer than 0.1s, or it will be invalid.	- Turn on/off - Turn on only - Turn off only - Recall a scene - Quit manual mode - Do nothing
	Double push	- Turn on only - Turn off only - Recall a scene - Quit manual mode - Do nothing
	Long press (≥1 second)	- Dimming - Colour tuning - Do nothing
Sensor-link	/	- Upgrade a normal on/off motion sensor to a Bluetooth-controlled motion sensor

Options

Accessories

	Sensor fixation accessory	Zhaga Book 20	White color	HA04	www.hytronik.com/product/HA04

| | Sensor fixation accessory | Zhaga Book 20 | White color | HA05 | www.hytronik.com/product/HA05 |

Koolmesh - Operating guide

Bluetooth 5.0 SIG Mesh

HYTRONIK Koolmesh	Smartphone(ios)	Smartphone (Android)	iPad	Web

For additional information, including project and network, device, and scenes, please refer to: http://faq.koolmesh.com/faq/en/index.html

Shared Koolmesh App Features

Alert for excess lux / temperature / humidity via multi-meter HBLM01	Koolmesh Pro iPad for on-site configuration
Astro timer (sunrise and sunset)	Network sharing via QR code or keycode
Bulk commissioning (copy and paste settings)	Offline commissioning
Compatible with Shelly energy metering	One-key device replacement
Continuous development in progress...	Power-on status (memory against power loss)
Device firmware update over-the-air (OTA)	Quick setup mode & advanced setup mode
Device social relations check	Remote control via Hytronik gateway & touch screen HPAD-TSJASE1
Different permission levels via authority management	Scenes
Floorplan feature to simplify project planning	Schedule
Grouping luminaires via mesh network	Seamless integration with BMS via Hytronik BMS gateway
Heat map	Staircase function for quick setup
Internet-of-Things (IoT) featured	Test mesh network connection quality
Interoperability with Hytronik Bluetooth product portfolio	Web platform for project deployment & data analysis

Device-specific Koolmesh App features

Compatible with EnOcean kinetic switches	Montion sensor range test
Detailed motion sensor settings	Motion sensor trigger diagnosis
Dusk/Dawn photocell (Twilight function)	Push switch configuration
Dynamic daylight harvest auto-configuration	

Smart Phone to Device Range

1. The smart device with the installed App typically has a range of 10m, which may vary between devices.

2. During the commissioning process, the installer must be within range of the devices while searching for them to add to the network.

3. Once the devices are added to the network via the App, they will begin communicating within the wireless mesh.

4. After the network is complete, all devices can be accessed from the smart device within a 20m range of a single point.

6-10m   >10m
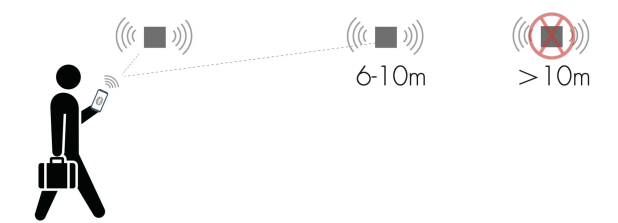
Bluetooth Network Components

HBGW01

Gateway | Remote access/monitoring | www.iot.koolmesh.com
www.hytronik.com/product/HBGW01

HBKS02D/W

Bluetooth Kinetic Switch | Double Rocker | White Color
www.hytronik.com/product/HBKS02D-W

HBGW02

Gateway | Remote access/monitoring | www.iot.koolmesh.com
www.hytronik.com/product/HBGW02

HBKS03/W

Bluetooth Kinetic Switch| Three-gang | White Color
www.hytronik.com/product/HBKS03-W

HBKS01/W

Bluetooth Kinetic Switch | One-gang | White Color
www.hytronik.com/product/HBKS01-W

HBLM01

Multi-meter | Bluetooth & NFC | Lux Measurements
www.hytronik.com/product/HBLM01
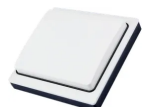
HBKS01D/W

Bluetooth Kinetic Switch | Single Rocker | White Color
www.hytronik.com/product/HBKS01D-W

HPAD-TSJASE1

Bluetooth Touch Tablet | Gateway Integrated | Switch Boxes
www.hytronik.com/product/HPAD-TSJASE1

HBKS02/W

Bluetooth Kinetic Switch | Two-gang | White Color
www.hytronik.com/product/HBKS02-W

Switch (EnOcean) - HBES01/B

Wireless Bluetooth switch | 2 push or 4 push | Black Color
www.hytronik.com/product/Switch--EnOcean----HBES01-B

Functions and Features

5-year Warranty

All Hytronik products are supplied with a 5-year warranty against defect in design or manufacture. The warranty applies to all electronic control gears supplied by Hytronik and is applicable to the party to which the sale was made. The warranty is not transferable to a 3rd party and compatibility with external components are the responsibility of the finished goods manufacturer. With today's multi-national sourcing strategies, we offer an unrivalled universal warranty with support available in regions where Hytronik has its own of ce or authorized representation, regardless of where the Hytronik product was purchased. Furthermore, we operate a 24-hour response policy to any claim. The full warranty policy is available upon request or from our website.

Zhaga Book 20 Standard

Our product's modular architecture and interface design adhere to Zhaga Book 20 technical guidelines, enabling streamlined compatibility with standardized lighting ecosystems. By prioritizing core specifications for interoperability, we deliver flexible solutions optimized for modern applications.

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. The daylight sensor measures the available surrounding natural light and calculates how much artificial light is needed to reach the target lux level. The control output is passed to the drivers by DALI or 0/1-10V signals which then deliver the needed amount of light .

Tri-level (Corridor Function)

Hytronik's tri-level dimming products offer 3 levels of light control: 100% dimmed light off, with settable time periods between each phase, as well dimming level and daylight threshold. *All Hytronik's tri-level dimming products can also be configured as bi-level control (by setting the stand-by period to infinity), so that the light always remains in the dimmed mode in absence for areas where there are safety, security or enhanced comfort requirements.

Tunable white control / HCL

Lighting can reduce energy bills, it also can boost productivity and promote the wellbeing of humans in artificially lit environment. Hytronik has added to its de-centralised tunable white LED driver range with a new concept of time keeping for the most cost effective Circadian Rhythm Lighting. Different from other complex lighting systems, Hytronik circadian rhythm system offers a simple de-centralized human centric lightingl solution for offices, schools and hospitals with the tunable white feature.

Check out for further explanation of features

https://www.hytronik.com