HIR62

Bluetooth PIR Lowbay Sensor Head | RJ12 connector | Conduit Screws



Benefits

Flexible: Easy upgrade or extension of sensing functions

Wireless: Adds Bluetooth control to conventional lighting systems

Plug-and-play: Enabling fast installation and replacement

Applications

Conduit thread: M 22x1.5mm

Smart Office Lighting

Commercial Indoor Lighting

Check Out the Complete System Solution on the Website:
https://www.hytronik.com/product/HIR62

Product Description

HIR62 is a plug-and-play Bluetooth infrared sensor head for standard low-bay applications with a typical mounting height of 2.5 m, designed to work with non-Bluetooth control bases and drivers such as HCD038/P, HCD038, and HCD438. This solution enables conventional lighting systems to be upgraded to Bluetooth wireless control without replacing existing drivers or additional wiring, allowing dimming and daylight-based lighting control. The modular design allows easy extension or upgrading of sensing functions according to project requirements while maintaining system flexibility and simplifying installation.

Functions and Features

See additional details at the end of datasheet

Daylight Harvest

Human Centric Lighting (HCL)

Koolmesh - See Bluetooth control below

Magnetic Reset switch

RJ12 Connection

Tri-level Dimming

Specifications

Main Capabilities	
Dimming (Output) Interface	DALI
Connector Type	RJ12
Push Button Input	1

Sensor Data	
Detection angle	360°
Lux range	<1000 lux
Max. Detection range (Diameter)	12.0 m
Maximum Mounting Height	3.0 m
Detection area	113 m^2
Detection Methods	Passive Infrared (PIR)

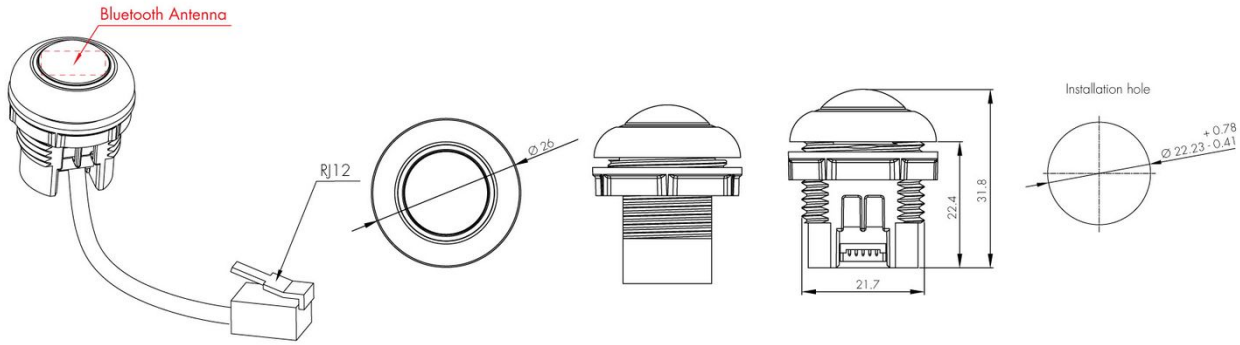
Electrical Data	
Bluetooth Platform	Nordic nRF52832
Bluetooth frequency	2.4 GHz - 2.483 GHz
Bluetooth range (Phone to Device)	10-30m
Bluetooth transmit power	4 dBm
Bluetooth system	Koolmesh
Operating voltage range	5 VDC
Warming-up	20 s

Specifications

Technical	
Product height	31.8 mm
Product length	26.0 mm
Product width	21.7 mm
Mounting hole	22.0 mm
Cable length	30.0 cm
Ambient temperature	-20 ~ +50 °C
Storage temperature	-40 ~ +70 °C
Humidity max	10 ~ 90%
IP Rate	IP20

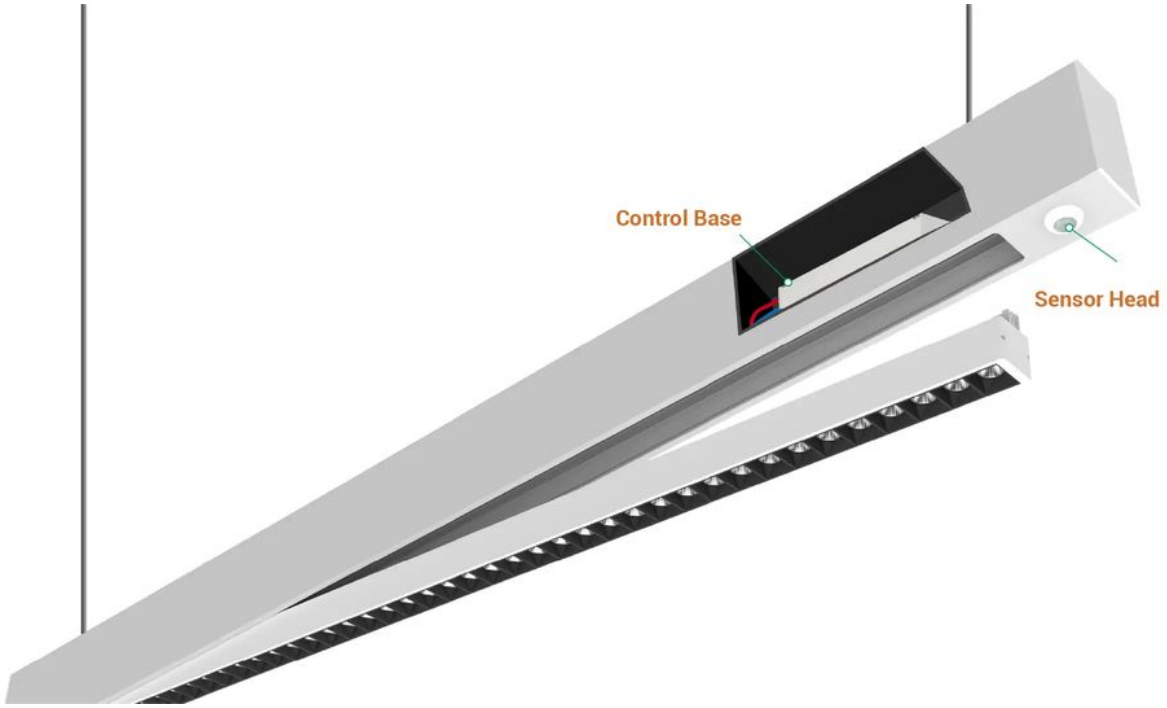
Standard	
EMC	EN 55015, EN 61547
LVD	EN 61347-1/-2-11
RED	EN 300328, EN 301489-1/-17, EN 50663

Technical Drawing



The Bluetooth antenna is located at the marked end of the device.
· Keep the antenna area clear of metal or conductive materials.
· Maintain at least 10 mm clearance around the antenna whenever possible for optimal wireless performance.
· Avoid installing the antenna section inside a metal enclosure or behind large metal structures.

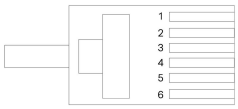
Application Example



⚠ Wiring Guidelines

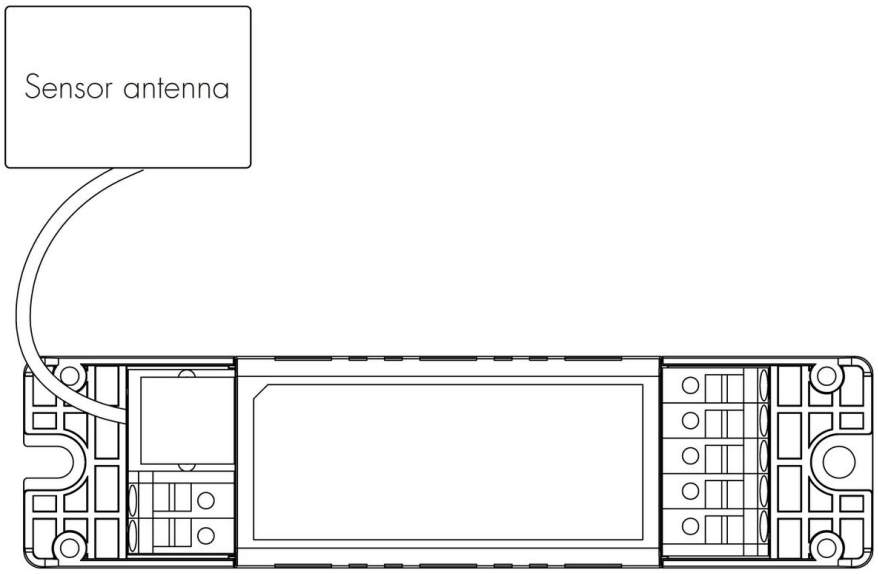
1. Installation by a qualified electrician only and in accordance with local electrical regulations.
2. Disconnect mains power before installation, wiring, maintenance or replacement.
3. Failure to follow the wiring diagram may result in product damage and malfunction.
4. Refer to the Wire Preparation section for recommended wire diameter and strip length.

Wire Preparation



The connector is an RJ12 6P6C plug, with pin assignment as follows: Pin 1 is DALIR, Pin 2 is +5V, Pin 3 is PUSH, Pin 4 is GND, Pin 5 is DALI, and Pin 6 is not connected (NC).

Wiring Diagram

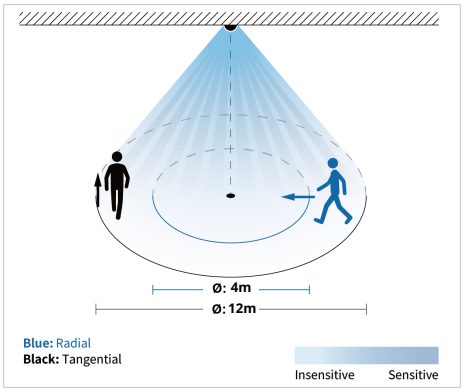


Detection Range

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.

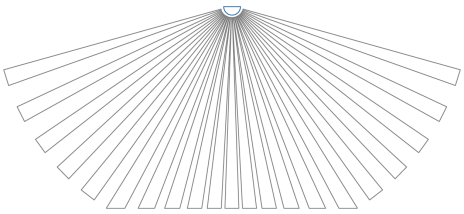
Detection example 2.5m mounting height:



Tangential Movement	
H[m]	2.5
Ø[m]	12

Radial Movement	
H[m]	2.5
Ø[m]	4

Detection schematic diagram



Commissioning Instructions and Precautions

A. Bluetooth Antenna Note

1. This product is equipped with a built-in Bluetooth antenna. When the device is installed in a ceiling or recessed environment, ensure that the sensor head remains exposed and is not covered by metal structures or dense building materials, as this may affect Bluetooth communication performance. For optimal signal reliability, avoid installing the device inside fully enclosed metal housings or areas with strong signal interference.

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

https://hytronik.com/service/downloads

Switch Input Function Configuration

PUSH functionality varies by model and may include physical PUSH, virtual PUSH, or both. Available functions can be configured via the Koolmesh App.

Physical PUSH: Supports momentary (non-latching) or latching wall switches connected via dedicated PUSH input terminals.

Virtual PUSH: Provides software-based PUSH control without requiring a physical wall switch or dedicated PUSH input terminals.

Normal PUSH mode: Single press, double press and press and hold can each be assigned a separate function. Each action triggers only its assigned function.

Switch function	Action	Description
Fire Alarm Function	Refer to https://support.koolmesh.com/	• Can be connected to a fire alarm system. • Once the fire alarm system is triggered, all luminaires controlled by the Push Switch will enter the preset scene (normally full ON). When the fire alarm system sends the end signal, all luminaires controlled by the Push Switch will return to normal operation.
ON/OFF Switch (Latching Switch)	/	• Upgrade a standard on/off control to Bluetooth control, enabling one latching switch to control multiple luminaires or zones while reducing wiring and the number of switches required.
Normal PUSH (Retractive Switch)	Single press (> 0.1s) Double press Press and hold (>= 1s)	• ON/OFF • ON only • OFF only • Recall this scene • Sensor take over • Not in use * Application Notes: 1. ON/OFF:The PUSH ON/OFF function follows an alternating command sequence (ON - OFF - ON - OFF) based on the previous PUSH command, rather than the current luminaire state. Changes made by other controls, such as sensors or the App, do not reset this PUSH command sequence. Therefore, if the luminaire state has been changed by another control, two presses may sometimes be required to achieve the desired ON/OFF state. Where supported, separate ON only and OFF only commands can be used to avoid this behaviour. 2. Brightness dimming: With Cumulative Adjustment, luminaires that are already OFF within the group remain off during Dim- operation. This function is supported on nRF52832 V55 or later and all nRF52840 versions.
Sensor-Link	/	•Hold time/scene •Stand-by time/scene •Upgrade a normal on/off motion sensor to a Bluetooth-controlled motion sensor

Options

Accessories

	Sensor fixation accessory | Rectangular mounting hole	HA04	www.hytronik.com/product/HA04
	Sensor fixation accessory | Rectangular mounting hole	HA05	www.hytronik.com/product/HA05

Compatible products (for full functionality)

HA04

Sensor fixation accessory | Rectangular mounting hole
www.hytronik.com/product/HA04

HA05

Sensor fixation accessory | Rectangular mounting hole
www.hytronik.com/product/HA05



HC038V

Control unit | 1-10V | Attachable sensor heads
www.hytronik.com/product/HC038V



HC438V

Control unit | 1-10V Dimming | Attachable sensor heads | US Certified
www.hytronik.com/product/HC438V



HCD038

Control unit | DALI with PSU | Attachable sensor heads
www.hytronik.com/product/HCD038



HCD038/P

Control unit | DALI with PSU | Attachable sensor heads
www.hytronik.com/product/HCD038-P



HCD438

Control body | DALI with PSU | Attachable sensor heads | US Certified
www.hytronik.com/product/HCD438



HEC7030/BF

DALI DT6 LED Driver (CC) 30W | Optional Bluetooth Sensor Head | Built-in version
www.hytronik.com/product/HEC7030-BF



HED1025

DALI LED Driver 25W (CC) | Dimmable | Built-in version
www.hytronik.com/product/HED1025



HED8045

DALI-2 DT8 LED Driver 45W (CC) | Tunable white | Built-in/Stand alone
www.hytronik.com/product/HED8045

Koolmesh - Operating guide

Bluetooth




Smartphone(ios)


Smartphone (Android)


iPad


Web

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

Shared Koolmesh App Features

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

Device-specific Koolmesh App features

- Adjustable motion & static sensitivity & adjustable sensing distance
- Detailed motion sensor settings
- Dusk/Dawn photocell (twilight function)
- Dynamic daylight harvest auto-configuration
- Motion sensor range test
- Motion sensor trigger diagnosis

Bluetooth Mesh Network Installation & Device Access Range

1. Phone/Pad to Device Range (Bluetooth Connection)

During commissioning, the installer must remain within Bluetooth range of the target device when adding it via the App.

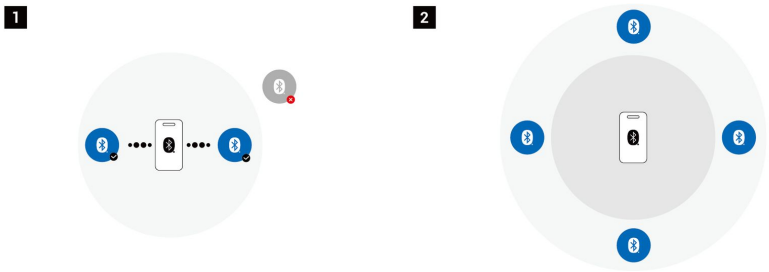
2. Device to Device Range (Mesh Network Communication)

Once commissioned, devices communicate through the wireless mesh network. Users can access and control all devices within the network when connected to any active mesh node.

Note:

a. Bluetooth range varies by product. Refer to the Specification section for details.

b. Actual communication range may vary depending on product type, obstacles, environmental conditions, and luminaire construction.



Bluetooth Network Components



HBGW02

Bluetooth Mesh Gateway | Ethernet or Wi-Fi 2.4GHz | wall/flat surface mounting
www.hytronik.com/product/HBGW02



HBGW02/D

Bluetooth Mesh Gateway | Dual-band Wi-Fi | wall/flat surface mounting
www.hytronik.com/product/HBGW02-D



HBGW03/R

BACnet Gateway | Dual-band Wi-Fi or Ethernet | DIN rail/wall/flat surface mounting
www.hytronik.com/product/HBGW03-R

HBKS01/W

Bluetooth Kinetic Switch | One-gang | Wireless Control
www.hytronik.com/product/HBKS01-W



HBKS01D/W

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

HBKS02/W

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



HBKS02D/W

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

HBKS03/W

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



HBLM01

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



HPAD-TS/APP

Bluetooth Touch Tablet | Switch Boxes | Smart Lighting Management
www.hytronik.com/product/HPAD-TS-APP

Functions and Features

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. It automatically measures available natural light and adjusts artificial lighting output to maintain the target illuminance level. Using daylight sensor feedback, control signals are transmitted to the LED drivers via DALI or 0–10V interfaces, ensuring the required light output is delivered only when needed, improving visual comfort and reducing energy consumption.

Human Centric Lighting (HCL)

Human Centric Lighting (HCL) helps reduce energy consumption while supporting human wellbeing and productivity in artificially lit environments. Through Hytronik's decentralised tunable white control with integrated time-based operation, HCL enables cost-effective circadian rhythm lighting without the complexity of centralised lighting systems.Designed as a simple and flexible solution, it is ideal for offices, schools, and healthcare applications requiring dynamic white light adjustment throughout the day.

Magnetic Reset Switch

The product features a magnetic reset function that restores factory default settings by applying a magnet (40 Gs) to the designated reset area within 10 mm for approximately 5 seconds. The omnipolar magnetic detection supports both north and south poles, enabling quick and convenient on-site reset and reconfiguration without physical access to switches or buttons.

RJ12 Sensor Connection

The product features an RJ12 plug-and-play connection interface, enabling quick, tool-free installation and easy maintenance. The standardized connector supports flexible integration between drivers, sensor bases and sensor heads, ensuring reliable communication and simplifying replacement or system expansion. This modular connection method enhances installation efficiency and reduces wiring complexity in both new and retrofit applications.

Tri-level Dimming



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.

Check out for further explanation of features

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