

# HIR66

PIR Lowbay | Bluetooth/DALI/DALI-2 | Mini design

**HYTRONIK**<sup>®</sup>  
SENSORS & LIGHTING CONTROL



## Benefits

Compact: Standard rectangular

3 in 1: Daylight harvest + Tri-level + Human Centric Lighting

Easy configuration: Wireless Bluetooth 5.0 SIG-Mesh

## Applications

Master luminaire with sensor

Classrooms

Offices

Check Out the Complete System Solution on the Website:  
<https://www.hytronik.com/product/HIR66>



## Product Description

HIR66 is a super-mini Bluetooth DALI/DALI-2 PIR motion sensor with power consumption <10 mA and inrush current <30 mA, ensuring efficient and reliable operation. It features dimming, tunable white, and daylight control. The advanced dual-photodiode design distinguishes natural light from artificial light and supports a 3 m installation height. Bluetooth mesh networking enables wireless communication between luminaires without hardwiring, reducing project costs and adding value to fixtures. Device setup and commissioning are easily completed via the Koolmesh app.

## Hardware Features

See additional details at the end of datasheet



DALI-2 Certified



Magnetic Reset  
Switch



Photocell  
Advance



Support D4i  
Driver



Support the  
DALI-2 & DT6 &  
DT8 drivers



Tunable White

## Functions and Features

See additional details at the end of datasheet



Daylight Harvest



Tri-level (Corridor  
Function)



Koolmesh (See  
bluetooth control  
below)

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## Specifications

### Main Capabilities

Dimming (Output) Interface	DALI/DALI-2
Stand-by power	< 0.5 W

### Sensor Data

Detection angle	360°
Max. Detection range (DxH)	8 m
Maximum Mounting Height	3 m
Detection area	50 m <sup>2</sup>

### Electrical Data

Bluetooth frequency	2.4 GHz - 2.483 GHz
Bluetooth range	10-30m
Bluetooth transmit power	4 dBm
Bluetooth system	Koolmesh
Warming-up	20 s
Operating Voltage	9.5-22.5 VDC

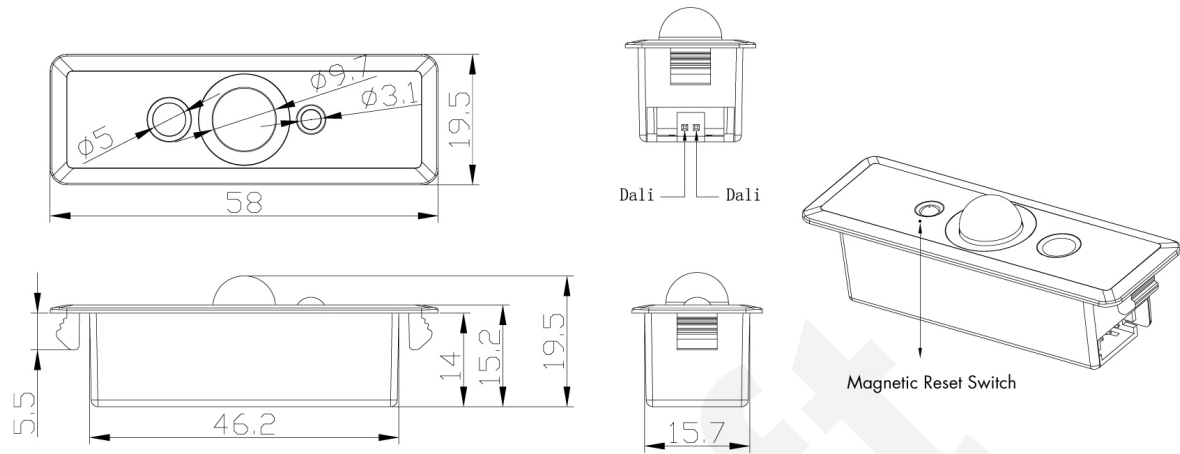
### Technical

Product weight	10.0 g
Product height	19.5 mm
Product length	58.0 mm
Product width	19.5 mm
Cable length	3.5 cm
Ambient temperature	-20 ~ +50 °C
Storage temperature	-25 ~ +70 °C
Humidity max	10 ~ 90%
IP Rate	IP20

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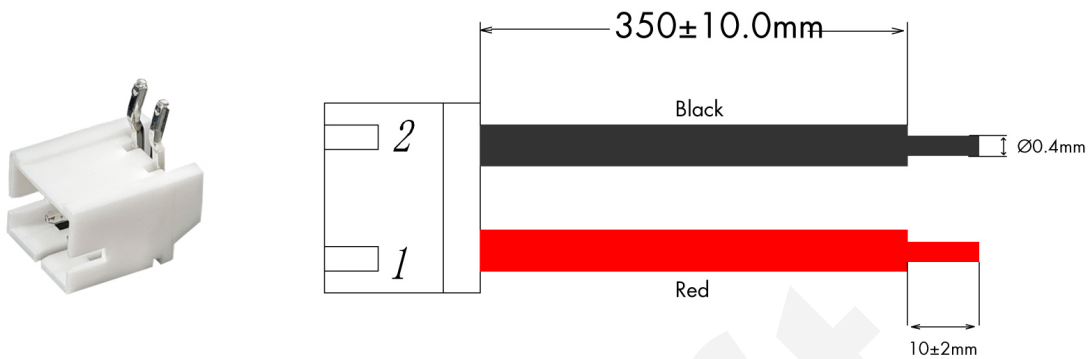
## Technical Drawing



# HIR66

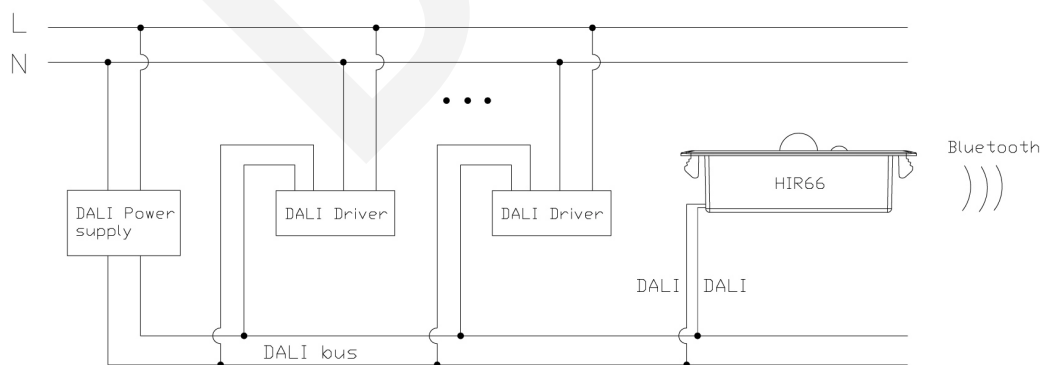
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## Wire Preparation



2.0mm \* 2p plug, UL1007, 80°C, 26AWG, wire length: 350mm

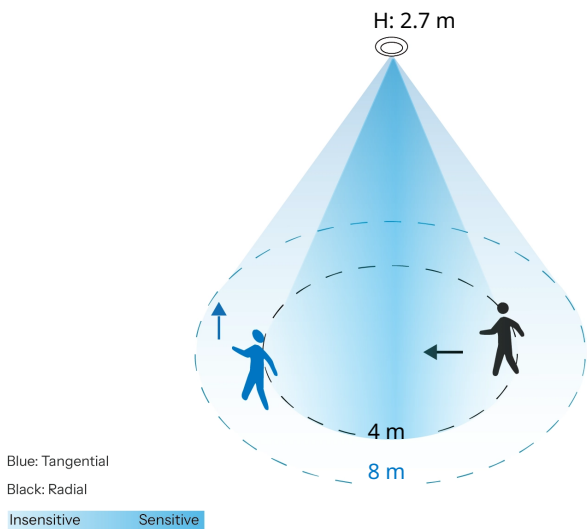
## Wiring Diagram



Detection Range

Person

Mounting Height: 3 m



Tangential	
H[m]	3
Ø[m]	8

Radial	
H[m]	3
Ø[m]	4

The data below is tested under following conditions:

- Single person walking
- 1.7 m (height)
- 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.

## Commissioning Instructions and Precautions

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

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

<https://hytronik.com/service/downloads>

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## Koolmesh - Operating guide

Bluetooth 5.0 SIG Mesh



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            |  Dynamic daylight harvest auto-configuration |
|  DALI-2 and D4i supported                            |  Motion sensor range test                    |
|  Detailed motion sensor settings                     |  Motion sensor trigger diagnosis             |
|  Displays Luminaire Status & Energy Consumption Data |  Push switch 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.



## Bluetooth Network Components



**HBGW01**

Gateway | Remote access/monitoring |  
[www.iot.koolmesh.com](http://www.iot.koolmesh.com)  
[www.hytronik.com/product/HBGW01](http://www.hytronik.com/product/HBGW01)



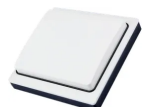
**HBGW02**

Gateway | Remote access/monitoring |  
[www.iot.koolmesh.com](http://www.iot.koolmesh.com)  
[www.hytronik.com/product/HBGW02](http://www.hytronik.com/product/HBGW02)



**HBKS01/W**

Bluetooth Kinetic Switch | One-gang | White Color  
[www.hytronik.com/product/HBKS01-W](http://www.hytronik.com/product/HBKS01-W)



**HBKS01D/W**

Bluetooth Kinetic Switch | Single Rocker | White Color  
[www.hytronik.com/product/HBKS01D-W](http://www.hytronik.com/product/HBKS01D-W)



**HBKS02/W**

Bluetooth Kinetic Switch | Two-gang | White Color  
[www.hytronik.com/product/HBKS02-W](http://www.hytronik.com/product/HBKS02-W)



**HBKS02D/W**

Bluetooth Kinetic Switch | Double Rocker | White Color  
[www.hytronik.com/product/HBKS02D-W](http://www.hytronik.com/product/HBKS02D-W)



**HBKS03/W**

Bluetooth Kinetic Switch | Three-gang | White Color  
[www.hytronik.com/product/HBKS03-W](http://www.hytronik.com/product/HBKS03-W)



**HBLM01**

Multi-meter | Bluetooth & NFC | Lux Measurements  
[www.hytronik.com/product/HBLM01](http://www.hytronik.com/product/HBLM01)



**HPAD-TSJASE1**

Bluetooth Touch Tablet | Gateway Integrated | Switch Boxes  
[www.hytronik.com/product/HPAD-TSJASE1](http://www.hytronik.com/product/HPAD-TSJASE1)



**Switch (EnOcean) - HBES01/B**

Wireless Bluetooth switch | 2 push or 4 push | Black Color  
[www.hytronik.com/product/Switch--EnOcean----HBES01-B](http://www.hytronik.com/product/Switch--EnOcean----HBES01-B)



## 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. 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.

## Check out for further explanation of features

<https://www.hytronik.com>