

# HIR62/TKN

PIR Lowbay | Bluetooth Transceiver | 4 Wires 3 Circuits

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



## Benefits

Adjustable: Max. 180° vertical tilt + 360° horizontal rotation

Flexible: Supports grouping, scenes, and signal coordination

Simple: Allowing fast wireless commissioning via app

## Applications

Compatible with Global, Powergear, and equivalent standard track systems

Offices, Retail stores, Warehouse

Museums, Galleries

Check Out the Complete System Solution on the Website:

<https://www.hytronik.com/product/HIR62-TKN>



## Product Description

HIR62/TKN is a Bluetooth node integrated with PIR motion and lighting detection, designed to enable signal exchange and coordination between devices through Bluetooth communication. As a functional node within a Bluetooth Mesh network, it supports wireless grouping, scene triggering, and inter-device signaling without additional wiring. Featuring plug-and-play installation into the track, all parameters can be configured wirelessly via the Koolmesh app. Its compact, integrated track-mounted design makes it suitable for both commercial and residential track lighting applications.

## Functions and Features

See additional details at the end of datasheet



Adjustable  
Detection Angle



DT6/DT8 Lighting  
Control



Daylight Harvest



Human Centric  
Lighting (HCL)



Koolmesh - See  
bluetooth control  
below



Lux Off



Magnetic Reset  
switch



Tri-level Dimming

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## Specifications

### Main Capabilities

|                            |                   |
|----------------------------|-------------------|
| Dimming (Output) Interface | Bluetooth dimming |
|----------------------------|-------------------|

### 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 <sup>2</sup> |

### Electrical Data

|                                   |                      |
|-----------------------------------|----------------------|
| 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           | 220-240 VAC 50/60 Hz |
| Stand-by power (Psb)              | <1W                  |

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## Specifications

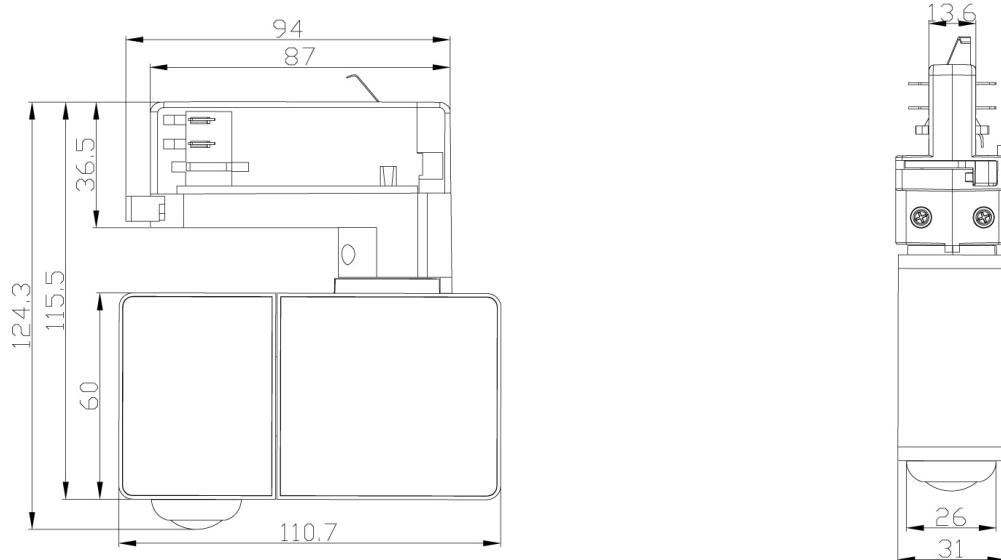
| Technical           |              |
|---------------------|--------------|
| Product height      | 124.3 mm     |
| Product length      | 110.7 mm     |
| Product width       | 31.0 mm      |
| Ambient temperature | -20 ~ +50 °C |
| Storage temperature | -25 ~ +70 °C |
| Humidity max        | 10 ~ 90%     |
| IP Rate             | IP20         |

| Standard |                                                       |
|----------|-------------------------------------------------------|
| EMC      | EN 61000-3-2, EN61000-3-3, EN IEC 55015, EN IEC 61547 |
| LVD      | EN 60570-1, EN 61347-1/-2-11                          |
| RED      | EN 300328, EN 301489-1/-17, EN 50663                  |

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## Technical Drawing



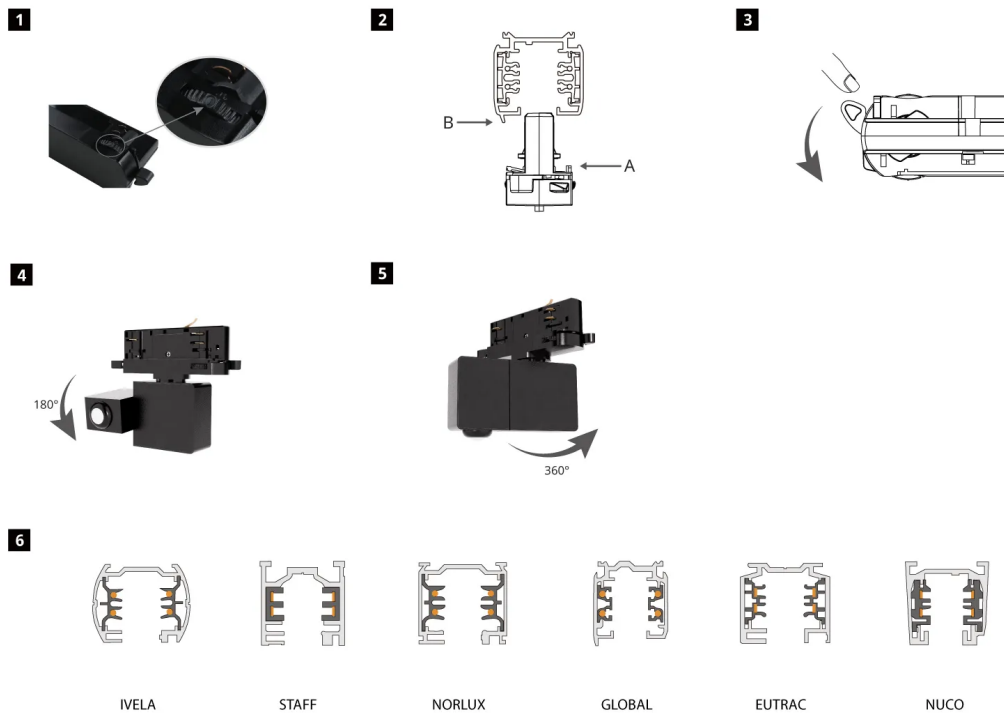
## Application Example



# HIR62/TKN

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## Installation Process



## Detailed Installation Instructions

### A. Set Track Adapter Phase

1. Before inserting into the track, rotate the integrated 3-phase dial to set the phase to L1, L2, or L3 for single luminaire distribution in the track system.

### B. Insert into Track

2. Align the track adapter with the track rail, ensuring A and B are correctly offset, then insert the device vertically into the track slot.

### C. Lock the Device

3. Rotate the cam lever until it reaches the locking position and the device is firmly secured in the track.

### Adjustments & Compatibility

#### D. Sensor head adjustment

4. The sensor head can be rotated vertically up to 180° to achieve optimal detection coverage.

#### E. Body adjustment

5. The main body supports up to 360° horizontal rotation with a mechanical stop, preventing continuous rotation and protecting internal connections, while ensuring stable and precise orientation.

#### F. 4 Wires Track System Compatibility

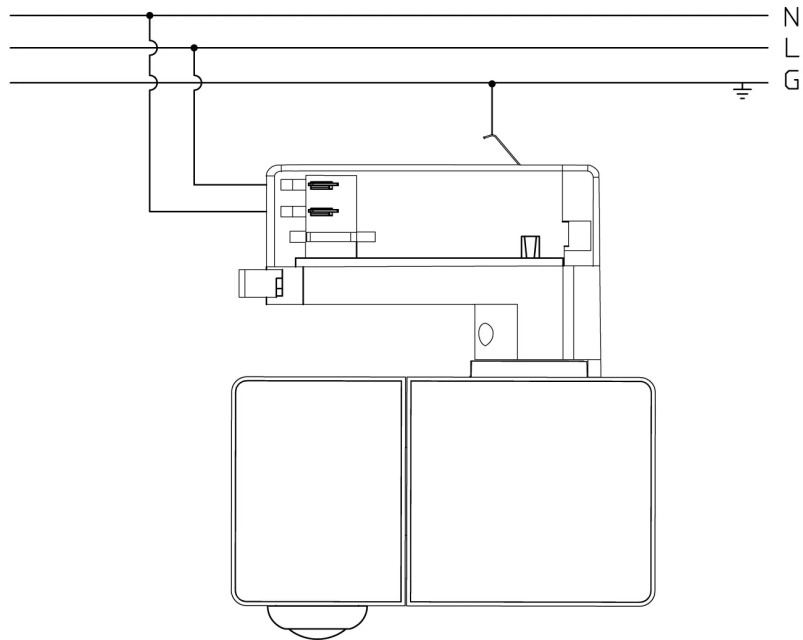
1. 4 Wires 1 circuits track adaptor is universal compatible.

It works with the following brand tracks: IVELA, STAFF, NORLUX, GLOBAL, EUTRAC, NUCO

Note: Compatibility means the track adaptor is designed to fit the current track specifications of these brands. However, compatibility cannot be guaranteed if the track manufacturers change their track dimensions or specifications in the future.

### PIR Lowbay | Bluetooth Transceiver | 4 Wires 3 Circuits

## Wiring Diagram

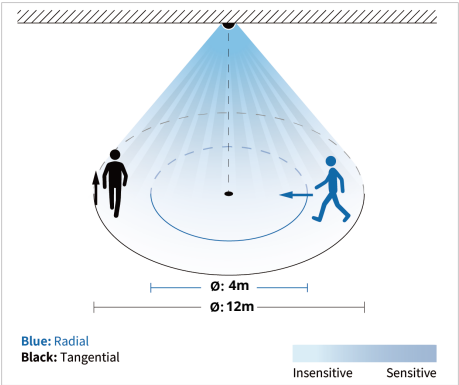


### Detection Range

#### 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:



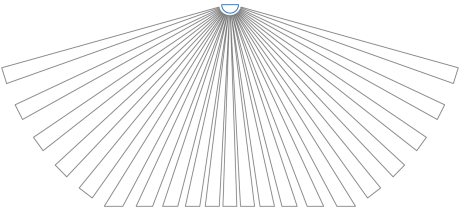
#### Tangential Movement

|      |     |
|------|-----|
| H[m] | 2.5 |
| Ø[m] | 12  |

#### Radial Movement

|      |     |
|------|-----|
| H[m] | 2.5 |
| Ø[m] | 4   |

#### Detection schematic diagram



## Commissioning Instructions and Precautions

### A. Installation Preparations

1. This product should be installed by a qualified electrician.
2. For optimal performance, install the sensor away from direct light sources to prevent light interference.

### B. Wiring Precautions

1. Ensure the track power is disconnected before installation or removal of the device.

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

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



## Dimming Interface Operation Notes

The Virtual Push interface provides a software-based dimming control method without the need for a physical wall switch. Push functions are simulated via the Koolmesh app, where detailed push behaviors and parameters can be flexibly configured.

Note: Single press, double press, and press-and-hold actions can each be independently assigned to one function via the app. Once configured, each action triggers only its assigned function. Multiple functions cannot be activated by a single press action.

| Switch function                         | Action                                                        | Descriptions                                                                                                                                            |
|-----------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Virtual- Emergency Self-Test Function   | Single press (>0.1s)<br>Double press                          | <ul style="list-style-type: none"><li>• Disable</li><li>• Function test</li><li>• Duration test</li><li>• Erminated test</li></ul>                      |
| Virtual-Normal PUSH (Retractive Switch) | Single press (>0.1s)<br>Double press<br>Press and hold (>=1s) | <ul style="list-style-type: none"><li>• ON/OFF</li><li>• OFF only</li><li>• Recall this scene</li><li>• Sensor take over</li><li>• Not in use</li></ul> |

## 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/>

## 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...                              |  Quick setup mode & advanced setup mode                          |
|  Device firmware update over-the-air (OTA)                          |  Remote control via Hytronik gateway & touch screen HPAD-TSJASE1 |
|  Device social relations check                                      |  Scenes                                                          |
|  Different permission levels via authority management               |  Schedule                                                        |
|  Floorplan feature to simplify project planning                     |  Staircase function for quick setup                              |
|  Grouping luminaires via mesh network                               |  Test mesh network connection quality                            |
|  Internet-of-Things (IoT) featured                                  |  Web platform for project deployment & data analysis             |

## Device-specific Koolmesh App features

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

## Bluetooth Mesh Network Installation & Device Access Range

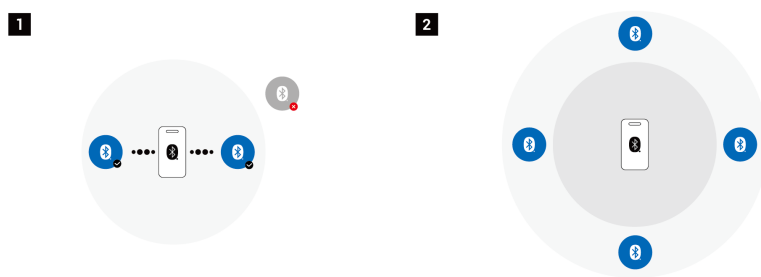
### 1. Phone/Pad to Device Range (Bluetooth Connection)

During installation and commissioning, the device is added via the App over Bluetooth. The installer must stay within the effective Bluetooth range of the target device to ensure successful addition. The Bluetooth transmission range varies by product — refer to the "Specification" section of this datasheet for details.

### 2. Device to Device Range (Mesh Network Communication)

Once devices have been successfully added via the App, they automatically communicate with each other through the wireless mesh network. After the mesh network is established, the user can access and control any device in the network as long as they are within the communication range of at least one mesh node.

Note: a. The Bluetooth transmission range for each product varies. Please proceed to the "Specification" section of this datasheet to view more details. b. Performance is based on testing with individual devices in open, unobstructed environments without wireless interference. Actual communication range may vary depending on product type, obstacles, environmental conditions, and luminaire structure.



## Bluetooth Network Components



### HBGW02

Bluetooth Mesh Gateway | Ethernet or Wi-Fi 2.4GHz | wall/flat surface mounting  
[www.hytronik.com/product/HBGW02](http://www.hytronik.com/product/HBGW02)



### HBKS02/W

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



### HBGW02/D

Bluetooth Mesh Gateway | Dual-band Wi-Fi | wall/flat surface mounting  
[www.hytronik.com/product/HBGW02-D](http://www.hytronik.com/product/HBGW02-D)



### HBKS02D/W

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



### HBGW03/R

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



### HBKS03/W

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



### HBKS01/W

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



### HBLM01

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



### HBKS01D/W

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



### HPAD-TS/APP

Bluetooth Touch Tablet | Switch Boxes | Smart Lighting Management  
[www.hytronik.com/product/HPAD-TS-APP](http://www.hytronik.com/product/HPAD-TS-APP)

## Functions and Features



### Adjustable Detection Angle

The product features an adjustable detection angle that allows both vertical and horizontal alignment of the sensor head. This enables installers to fine-tune the coverage area and optimize detection performance for different mounting heights, orientations and application environments.



### DT6 / DT8 Lighting Control

Supports DT6 (single-channel dimming) and/or DT8 (tunable white / colour) lighting control via DALI, enabling brightness and colour temperature adjustment based on control logic such as occupancy or daylight.



### 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.



### Lux Off

Lux Off disables lighting output when the measured ambient light level exceeds the preset lux threshold. In this condition, lighting remains off regardless of occupancy detection, ensuring artificial lighting is not activated when sufficient daylight is available, thereby reducing unnecessary energy consumption.



### 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.



### 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>