HBTD54S/N

Bluetooth Dimmer | 4 Wires 1 Circuits | ON/OFF Control

Benefits

Compact: Enabling plug-in Bluetooth On/Off control

Stable: Ensuring safe operation with zero-cross protection

Flexible: Allowing wireless setup and parameter adjustment 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 webside:

https://www.hytronik.com

Product Description

HBTD54S/N is a Bluetooth on/off dimmer for track lighting systems, enabling wireless switching control and upgrading conventional track luminaires to smart lighting. It features a built-in zero-crossing protection circuit to reduce inrush current, ensuring system stability and reliability. With simple plug-in track installation and no extra wiring, all parameters can be quickly and wirelessly configured through the Koolmesh app.

Functions and Features

See additional details at the end of datasheet

Koolmesh (See bluetooth contol below)

ON/OFF Control

Specifications

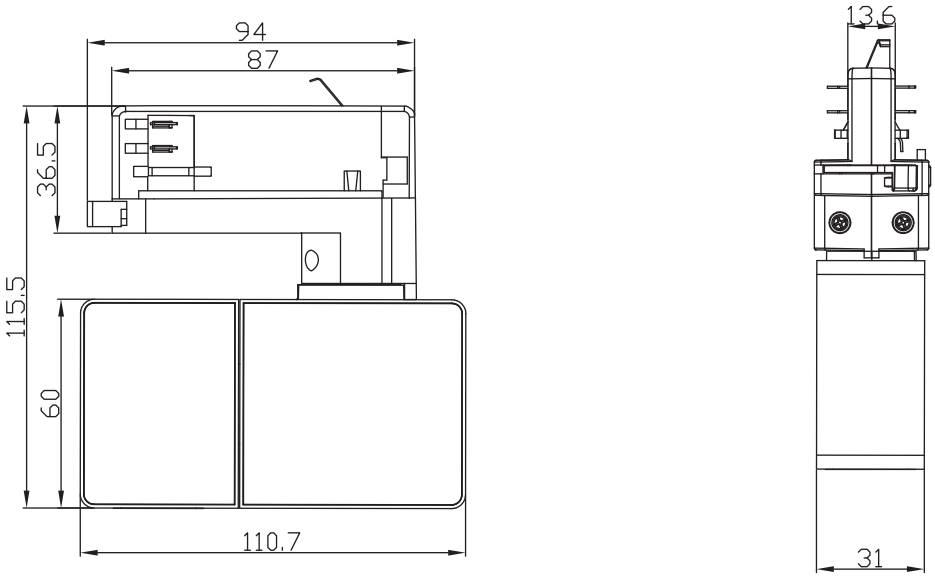
Main Capabilities	
Dimming (Output) Interface	Relay ON/OFF

Electrical Data	
Bluetooth frequency	2.4 GHz - 2.483 GHz
Bluetooth transmit power	4 dBm
Bluetooth range	10-30 m
Bluetooth system	Koolmesh
Operating voltage	220-240VAC 50/60Hz
Load ratings	400VA(Capacitive), 800W(Resistive)

Technical	
Operation temperature	Ta: -20°C ~ 45°C
Storage temperature	-20°C ~ +60°C
Relative humidity	20 ~ 90%
Case temperature (Max.)	Tc: +75°C
IP rating	IP20

Standards	
EMC	EN IEC 55015, EN IEC 61547, EN IEC 61000-3-3/-3-3
LVD	EN61347-1/-2-11, EN60570-1
RED	EN300 328, EN301489-1/-17, EN50663
Certification	CE , UKCA

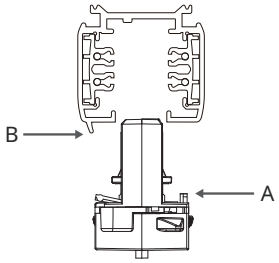
Technical Drawing



Picture Application Example

Installation Process

1



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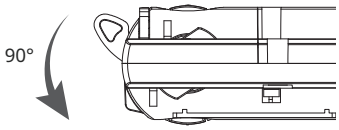

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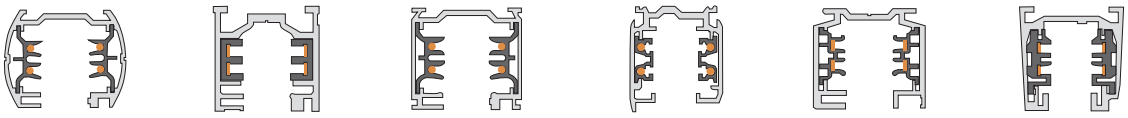


IVELA STAFF NORLUX GLOBAL EUTRAC NUCO

Detailed Installation Instruction

A. Insert into Track

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

B. Lock the Device

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

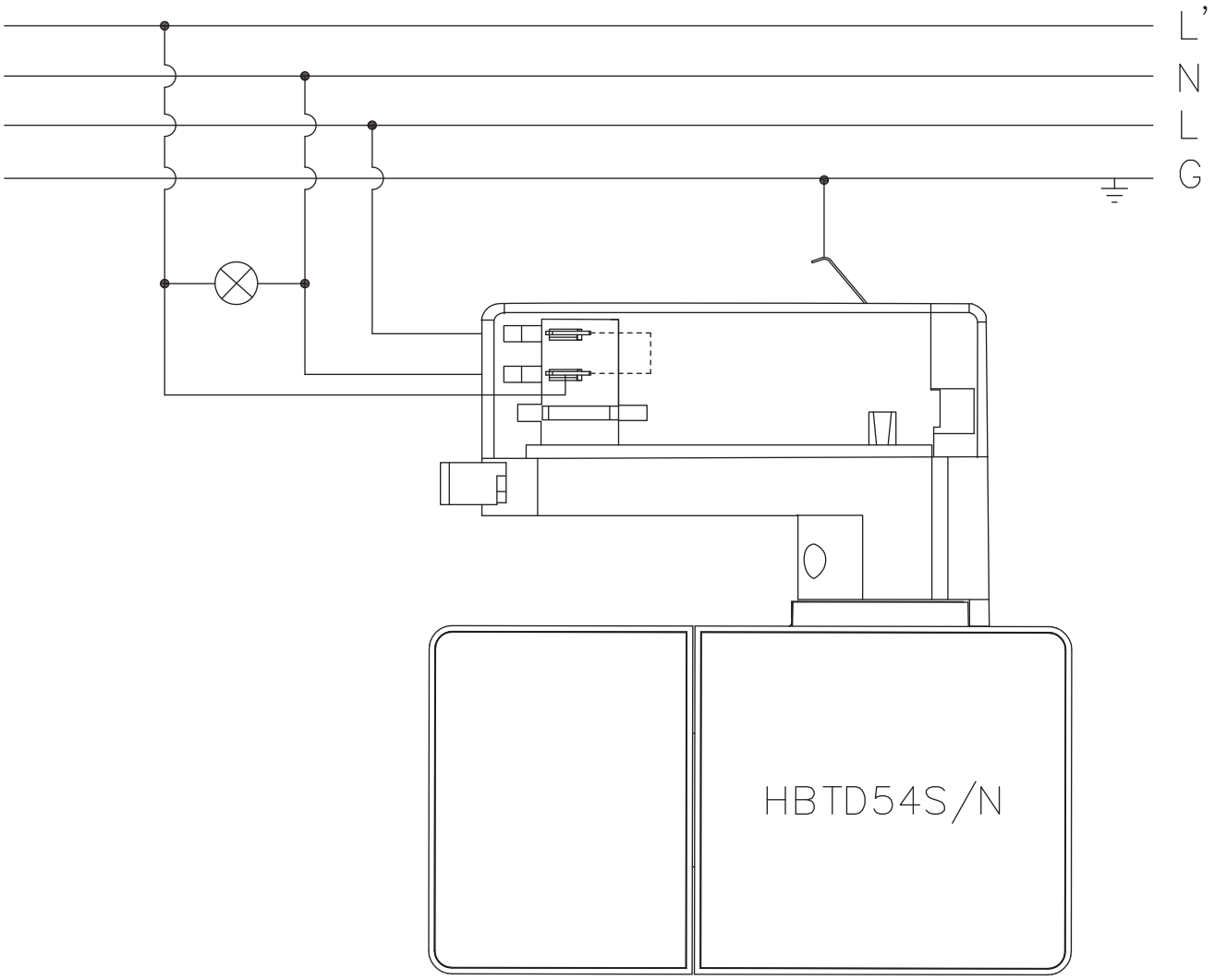
C. 4 Wires Track System Compatibility

3. 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.

Wiring Diagram



Commissioning Instructions and Precautions

A. Installation Preparations

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

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 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
Normal push (retractive switch)	Single press (> 0.1s) Double press Press and hold (⩾ 1s)	• ON/OFF • OFF only • Recall this scene • Sensor take over • Not in use
Emergency self-test function	Single press (> 0.1s) Double press	• Disable • Function test • Duration test • Terminated test

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

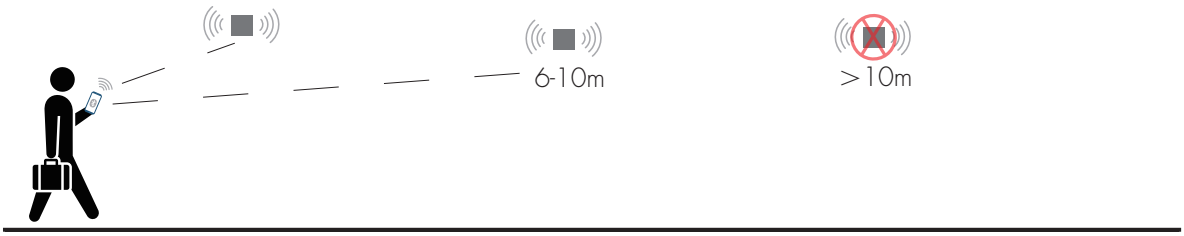
- Quick setup mode & advanced setup mode
- Web platform for project deployment & data analysis
- Koolmesh Pro iPad for on-site configuration
- Floorplan feature to simplify project planning
- One-key device replacement
- Device social relations check
- Staircase function for quick setup
- Remote control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

Device-specific Koolmesh App features

- Compatible with EnOcean kinetic switches

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

HBGW02

Bluetooth Mesh Gateway | Dual-band Wi-Fi | 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 | DIN rail/wall/flat surface mounting | Remote access/monitoring

www.hytronik.com/product/HBGW02

HBLM01

Multi-meter | Bluetooth & NFC | Lux Measurements

www.hytronik.com/product/HBLM01

HPAD-TSJASE1

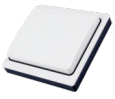
Bluetooth Touch Tablet | Gateway Integrated | Switch Boxes

www.hytronik.com/product/HPAD-TSJASE1

HBKS01/W

Bluetooth Kinetic Switch | One-gang | White Color

www.hytronik.com/product/HBKS01-W



HBKS01D/W

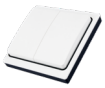
Bluetooth Kinetic Switch | Single Rocker | White Color

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

Switch (EnOcean) - HBESO1/B

Bluetooth Kinetic Switch | Single Rocker | White Color

www.hytronik.com/product/HBES01/B

Switch (EnOcean) - HBESO1/W

Bluetooth Kinetic Switch| Three-gang | White Color

www.hytronik.com/product/HBES01/W

Functions and Features

5-year Warranty

All Hytronik products are supplied with a 5-year warranty covering defects in materials and workmanship, applicable to electronic control gear manufactured and supplied by Hytronik and valid for the original purchaser only. The warranty is non-transferable, and compatibility with external components and system integration remain the responsibility of the luminaire or system manufacturer. A universal warranty policy is provided with support through Hytronik's regional offices or authorised partners worldwide, regardless of purchase location, with a 24-hour response policy for all warranty claims. The full warranty terms are available upon request or on our website.

ON/OFF Control

The product supports basic ON/OFF control of the connected luminaire, allowing the light to be switched fully on or off through the sensor’s detection logic or an external control input. This provides straightforward lighting control for applications that do not require dimming functionality.

Check out for further explanation of features

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