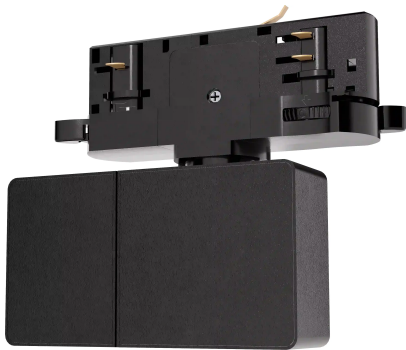


HBTD54V/N

Bluetooth Dimmer | 6 Wires 3 Circuits | 0/1-10V

HYTRONIK[®]
SENSORS & LIGHTING CONTROL



Benefits

Compact: Enabling plug-in Bluetooth dimming for track systems
Smart: Providing wireless 0/1–10V dimming for lighting upgrades
Flexible: Allowing wireless setup and parameter adjustment via app

Applications

Designed for Global, and Powergear track systems
Offices, Retail stores, Warehouse
Museums, Galleries

Check Out the Complete System Solution on the Website:
<https://www.hytronik.com/product/HBTD54V-N>



RED



Product Description

HBTD54V/N is a Bluetooth 0/1–10V dimmer for track lighting systems, enabling wireless dimming control and smart lighting upgrades. It is compatible with tracks system and supports independent or grouped control of three circuits, with simple plug-in installation and no additional wiring required. With Bluetooth Mesh technology, luminaires can communicate wirelessly, and all parameters can be easily configured via the Koolmesh app for fast and intuitive commissioning.

Functions and Features

See additional details at the end of datasheet



0/1-10V Dimming



Koolmesh - See
bluetooth control
below



Short-circuit
Protection

HBTD54V/N

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Specifications

Main Capabilities

Dimming (Output) Interface	0/1-10V
----------------------------	---------

Electrical Data

Bluetooth frequency	2.4 GHz - 2.483 GHz
Bluetooth range	10-30m
Bluetooth transmit power	4 dBm
Bluetooth system	Koolmesh
Operating voltage range	220-240 VAC 50/60 Hz
Sink Current	0/1-10V: Max. 50mA
Source Current	0/1-10V: Max. 10mA
Stand-by power (Psb)	<0.5W

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Specifications

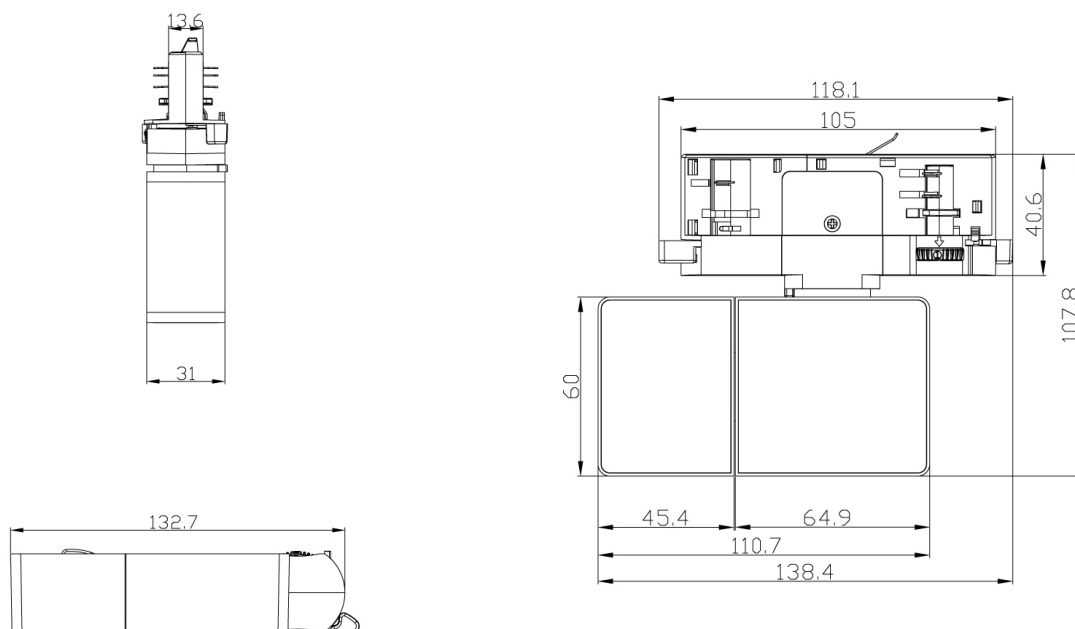
Technical	
Product height	116.6 mm
Product length	138.4 mm
Product width	31.0 mm
Ambient temperature	-20 ~ +45 °C
Storage temperature	-20 ~ +60 °C
Humidity max	20 ~ 90%
Case Temp.max	75.0 °C
IP Rate	IP20

Standard	
EMC	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



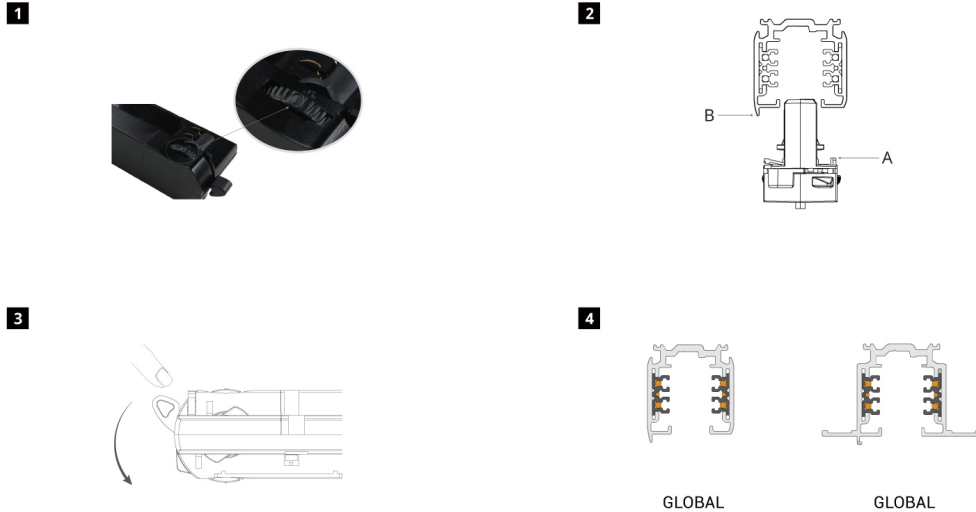
Application Example



HBTD54V/N

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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.

D. 6 Wires Track System Compatibility

4. 6 Wires 3 circuits track adaptor is universal compatible.

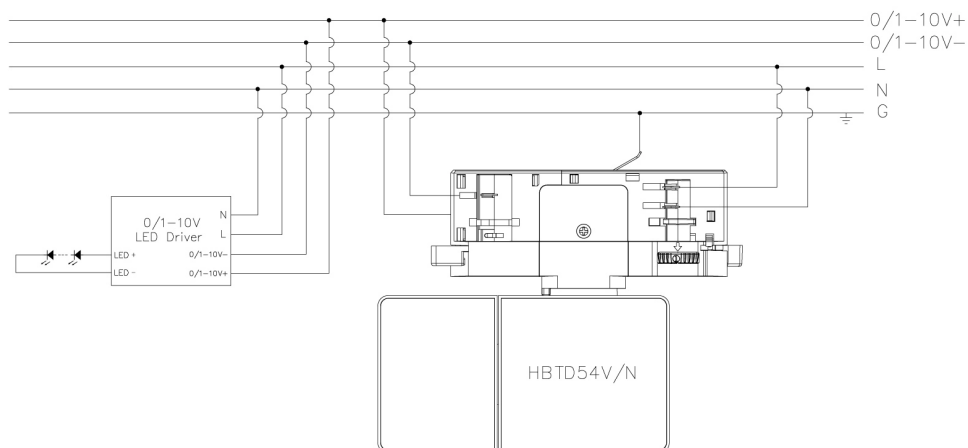
It works with the following brand tracks: GLOBAL

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.

HBTD54V/N

Bluetooth Dimmer | 6 Wires 3 Circuits | 0/1-10V

Wiring Diagram



HBTD54V/N

Bluetooth Dimmer | 6 Wires 3 Circuits | 0/1-10V



Commissioning Instructions and Precautions

A. Installation Preparations

1. This product should be installed by a qualified 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 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) Double press	• Disable • Function test • Duration test • Erminated test
Virtual-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

HBTD54V/N

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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... |  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

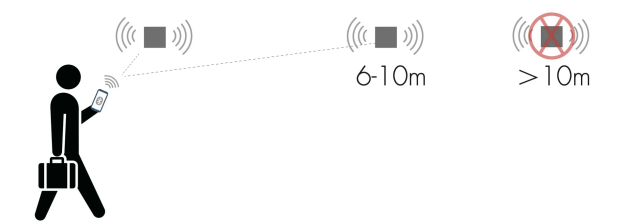
-  Compatible with EnOcean kinetic switches

HBTD54V/N

Bluetooth Dimmer | 6 Wires 3 Circuits | 0/1-10V

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 | 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

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Bluetooth Dimmer | 6 Wires 3 Circuits | 0/1-10V

Functions and Features



0/1-10V Dimming

The product provides a 0/1–10V analog dimming output compatible with both 0–10V and 1–10V dimmable LED drivers. It delivers smooth, proportional dimming control across the full usable range of each driver type, ensuring stable performance and broad system compatibility in commercial and industrial lighting applications.



Short-Circuit Protection

This product incorporates short-circuit protection that automatically disables the output in the event of a short circuit. Normal operation is restored automatically once the fault condition is removed, protecting the device and connected components from damage.

Check out for further explanation of features

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