HBTD8200D/RGBW

Bluetooth DALI Converter | RGBW Control | Integrated 100 mA PSU

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SENSORS & LIGHTING CONTROL

Benefits

Compact: Enabling direct Bluetooth-to-DALI conversion for modern luminaires

Versatile: Supporting DALI RGBW for precise tuning

Efficient: Enabling quick setup via Koolmesh app

Applications

DALI Application

Bluetooth receiver node

Lounge, Entertainment Venues

Check out the complete system solution on the webside:

https://www.hytronik.com

Product Description

HBTD8200D/RGBW is a Bluetooth and DALI broadcast converter designed specifically to enable wireless Bluetooth control of DALI RGBW drivers, making it an ideal core module for smart RGBW lighting solutions. In addition to supporting DT6 and DT8 dimming and tunable-white functions, it features two freely configurable push-button inputs for on/off, dimming, and scene recall. The device delivers a stable DALI output current of up to 100 mA and installs easily in junction boxes for fast deployment. All parameters can be conveniently commissioned through the Koolmesh app.

Hardware Features

See additional details at the end of datasheet

| 5-year Warranty | 2 Push inputs | Designed for junction Box | Shortcircuit Protection | Overload Protection | Support the control of DT6/DT8 and D4i drivers |

Functions and Features

See additional details at the end of datasheet

| Tunable White / HCL | Koolmesh (See bluetooth contol features below) |

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Specifications

Main Capabilities	
Dimming (Output) Interface	DALI
Voltage Type	AC

Bluetooth Transceiver	
Blutehooth frequency	2.4 GHz - 2.483 GHz
Bluetooth transmit power	4 dBm
Bluetooth range	10~30m
Bluetooth system	Koolmesh

Electrical Data	
Operating voltage	220~240VAC 50/60Hz
DALI I guaranteed	80mA
DALI I max	100mA
DALI U rated	15VDC
Stand-by power	<0.5W

Technical	
Ambient temperature	Ta: -20°C - +45°C
Storage temperature	-20°C - +60°C
Case temperature (Max.)	Tc: +75°C
Humidity	20% - 90%
IP rate	IP20
Insulation	Class Ⅱ

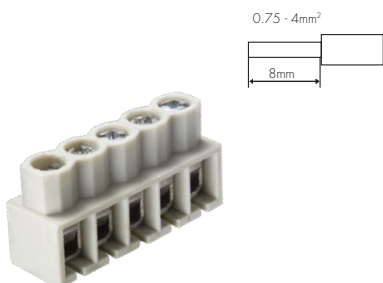| Standards	
EMC	EN55015, EN61547,EN61000-3-2, EN61000-3-3
LVD	EN IEC61347-1, EN IEC61347-2-11
RED	EN300328, EN301489-1/-17, EN50663

Technical Drawing

DA+
DA−

LↃↃ LↃ N S1 S2

46
46
18
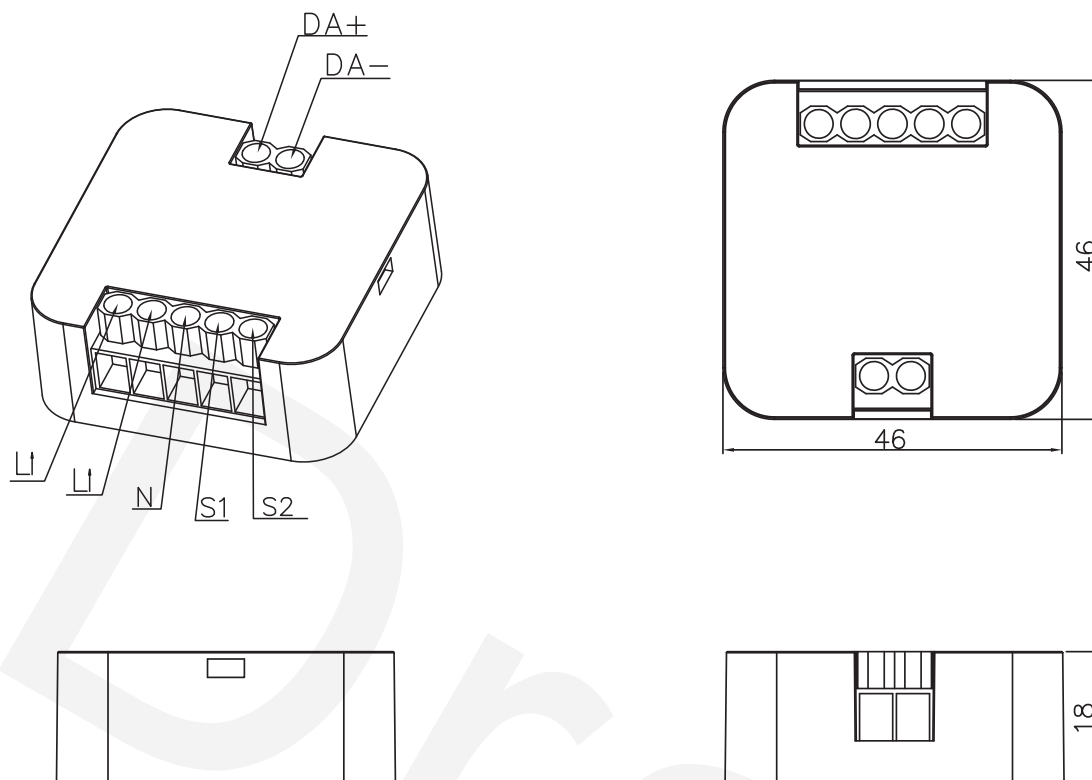
Picture Application Example

HBTD8200D/RGBW

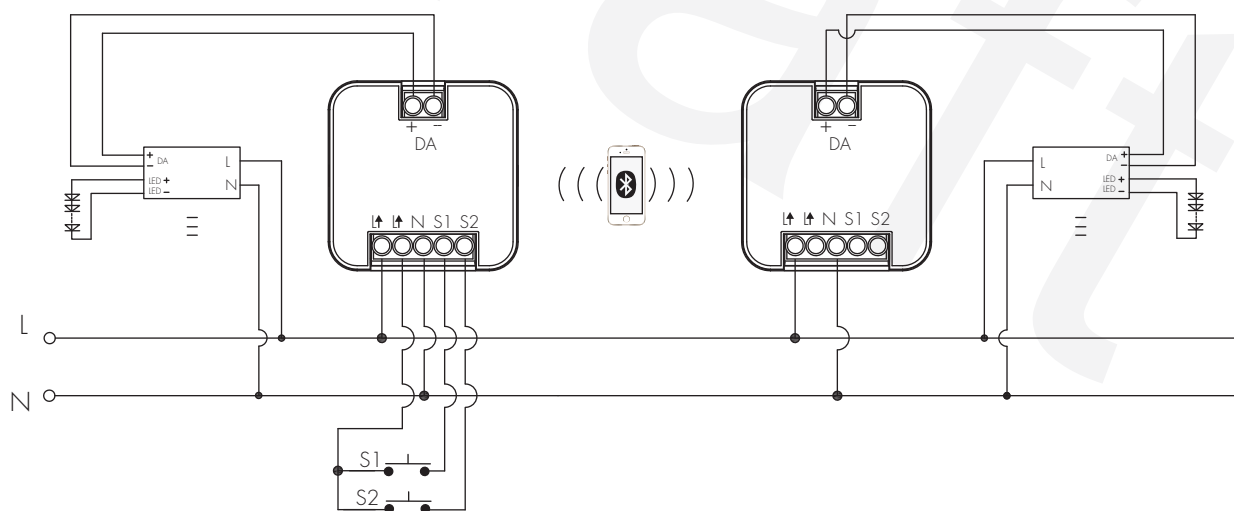Bluetooth DALI Converter | RGBW Control | Integrated 100 mA PSU

Wire Preparation

0.75 - 4mm²

8mm

To make or release the wire from the terminal, use a screwdriver to push down the button.

1. 200 metres (total) max. for 1mm² CSA (Ta = 50℃)

2. 300 metres (total) max. for 1.5mm² CSA (Ta = 50℃)

Wiring Diagram

Subject to technical modifications without prior notice.
11.12.2025

Commissioning Instructions and Precautions

A. Installation Preparations

1. This product should be installed by a qualifed 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

RGBW Color light Settings via Koolmesh app

RGBW

You can adjust the color of the luminaire by dragging the RGBW slider or moving the position on the color wheel.

In addition to adjusting the color, you can also fine-tune the saturation of the luminaire as needed. This can usually be done by dragging the saturation bar.
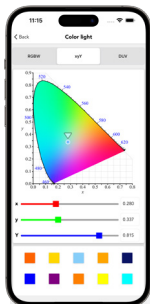
xyY

x-coordinate and y-coordinate: These two values define the position of the luminaire on the CIE 1931 chromaticity diagram, thus determining the color of the luminaire. You can adjust the color by dragging the color slider or by sliding directly on the coordinate axis.

Y value: This value represents the brightness of the luminaire. You can adjust it by dragging the brightness slider.
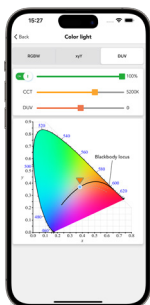
DUV

You can adjust the brightness and color temperature of the luminaire by dragging the brightness and color temperature sliders.

You can adjust the color by dragging the sliders or adjusting the DUV curve. Positive values usually mean the luminaire hue tends to be warmer, while negative values tend to be cooler.

Application Reference:

1. Art Galleries: Adjusting DUV ensures accurate color reproduction of exhibits, avoiding distortions caused by light color deviation.

2. Photo Studios: Adjusting DUV helps ensure the true color rendering of exhibits or photographed objects.

3. Office Spaces: Adjusting DUV provides a comfortable lighting environment, enhancing employee productivity.

Dimming Interface Operation Notes

The provided Switch-Dim interface allows for a simple dimming method using commercially available non-latching (momentary) wall switches. Detailed Push switch configurations can be set on Koolmesh app.

Switch Function	Action	Descriptions
Fire Alarm (VFC signal only)	Refer to http://faq.koolmesh.com/docu/en/	- Able to connect the Fire Alarm system - Once the fire alarm system is triggered, all the luminaires controlled by the Push Switch will enter the preset scene (normally it's full on), after the fire alarm system gives the ending signal, all the luminaires controlled by this Push Switch will revert back to normal status.
Push switch	Short press (<1 second)* Short press has to be longer than 0.1s, or it will be invalid.	- Turn on/off - Turn on only - Turn off only - Recall a scene - Quit manual mode - Do nothing
	Double push	- Turn on only - Turn off only - Recall a scene - Quit manual mode - Do nothing
	Long press (≥1 second)	- Dimming - Colour tuning - Do nothing
Sensor-link	/	- Upgrade a normal on/off motion sensor to a Bluetooth-controlled motion sensor

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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

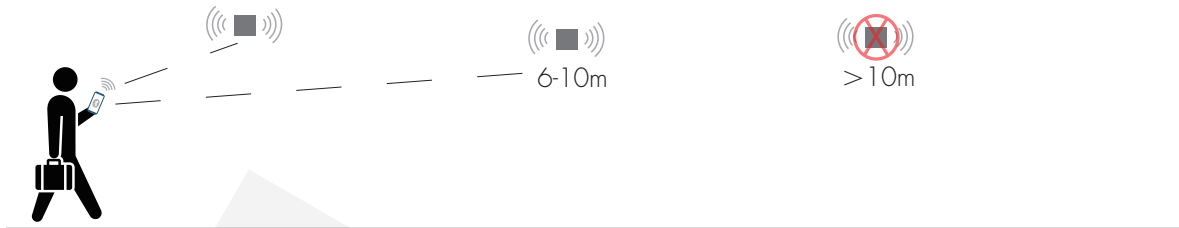|	
Quick setup mode & advanced setup mode	Power-on status (memory against power loss)
Web platform for project deployment & data analysis	Offline commissioning
Koolmesh Pro iPad for on-site configuration	Bulk commissioning (copy and paste settings)
Floorplan feature to simplify project planning	Different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

Device-specific Koolmesh App features

DALI-2 and D4i supported

Push switch configuration

Compatible with EnOcean kinetic switches

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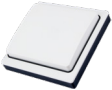
Smart Phone to Device Range

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.**

6-10m   >10m

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

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Functions and Features

5-year Warranty

All Hytronik products are supplied with a 5-year warranty against defect in design or manufacture. The warranty applies to all electronic control gears supplied by Hytronik and is applicable to the party to which the sale was made. The warranty is not transferable to a 3rd party and compatibility with external components are the responsibility of the finished goods manufacturer. With today's multi-national sourcing strategies, we offer an unrivalled universal warranty with support available in regions where Hytronik has its own of ce or authorized representation, regardless of where the Hytronik product was purchased. Furthermore, we operate a 24-hour response policy to any claim. The full warranty policy is available upon request or from our website.

Tunable White / HCL

Lighting can reduce energy bills, it also can boost productivity and promote the wellbeing of humans in artificially lit environment. Hytronik has added to its de-centralised tunable white LED driver range with a new concept of time keeping for the most cost effective Circadian Rhythm Lighting. Different from other complex lighting systems, Hytronik circadian rhythm system offers a simple de-centralized human centric lightingl solution for offices, schools and hospitals with the tunable white feature.

2 Push inputs

This product integrates 2 push inputs, allowing external switches or buttons to trigger basic lighting control functions. Each push input can be configured for actions such as on/off control, dimming, or scene recall, offering flexibility for manual override and user interaction in a smart lighting system. The push inputs operate independently from the sensor's automatic functions, enabling seamless integration of both manual and sensor-based control.

Support the control of DT6/DT8 and D4i drivers

The product supports control of DT6 (single-channel), DT8 (tunable white/RGB), and D4i drivers, ensuring wide compatibility with DALI-2 lighting systems. Supports reading luminaire, energy, and diagnostics data provided by the connected D4i drivers. This allows the sensor to be integrated into various luminaire types, providing flexible control options for different lighting applications.

Designed for junction Box

This product is designed for junction box installation, offering a clean and integrated mounting solution for various lighting applications. Its compact structure allows easy wiring and quick installation inside standard junction boxes, ensuring stable connections and efficient on-site deployment.

Shortcircuit Protection

This product includes short-circuit protection, automatically shutting down output when abnormal current is detected. The protection restores after the fault is removed, ensuring system safety and preventing damage.

Overload Protection

This product supports overload protection, limiting or disabling output if the load exceeds the rated capacity. The protection mechanism helps avoid overheating, component stress, and operational instability.

Check out for further explanation of features

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