

RGBW PWM Controller with  Bluetooth® 5.0 SIG Mesh

HBTD8200PWM

4-Channel & Constant Voltage & Full Color



Product Description

HBTD8200PWM is a compact and versatile 4-channel RGBW Bluetooth dimmer designed for constant voltage lighting systems. Supporting 12–24V DC input, it delivers smooth PWM dimming and full-spectrum color control. Ideal for retrofit and wireless upgrade projects, it works with 12/24V drivers to divide the load into four MOSFET-controlled outputs for RGBW control, enhancing ambient lighting effects. Compatible with the **Koolmesh**® app, suitable for RGBW and tunable white applications.

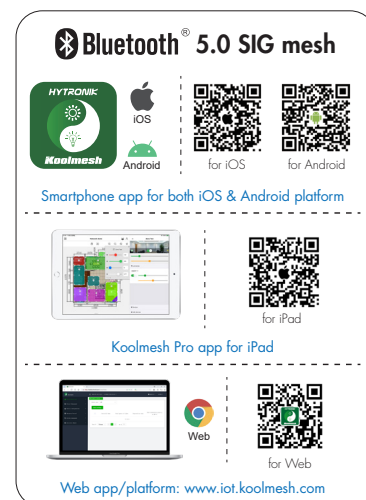
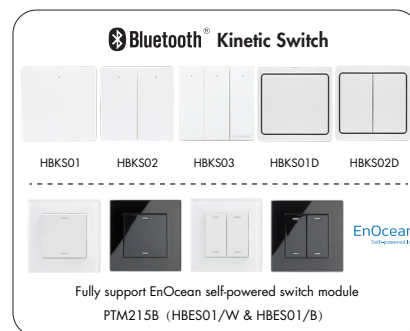


App Features

-  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-TS|ASE 1
-  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 HBLMO1
-  Seamless integration with BMS via Hytronik BMS gateway
-  Test mesh network connection quality
-  **Shelly** Compatible with Shelly emergency metering
-  Continuous development in progress...

Hardware Features

-  PWM 1KHz (1-100%)
-  Insulated terminal cover with cord restraint
-  Short-circuit Protection
-  Open-circuit Protection
-  5-year warranty



Technical Specifications

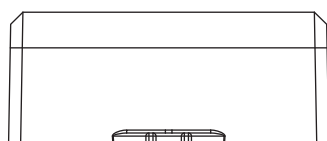
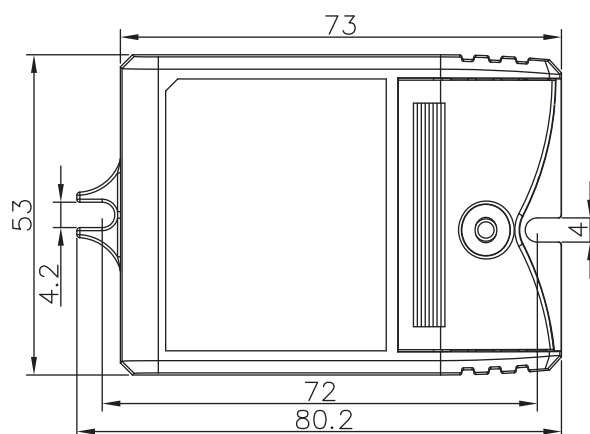
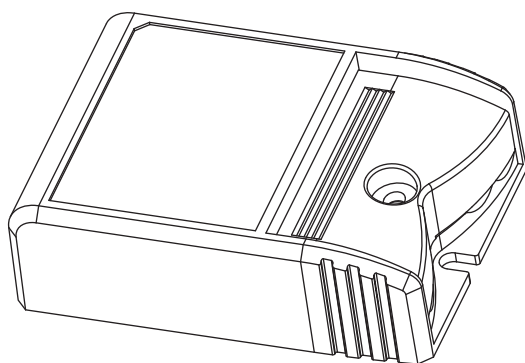
Bluetooth Transceiver	
Operation frequency	2.4 GHz - 2.483 GHz
Transmission power	8 dBm
Range (Typical indoor)	10~30m
Protocol	Bluetooth® 5.0 SIG Mesh

Input & Output Characteristics	
Operating voltage	12~24VDC
Input Mains Current	6A
Input power	150W
Output current	6A
Output voltage	12/24V
Output power	72/144W
Stand-by power	< 0.5W
Efficiency	Max. 90%
Dimming type	PWM

Environment	
Operation temperature	Ta: -20°C ~ +50°C
Case temperature (Max.)	Tc: +80°C
Storage temperature	-40°C ~ +70°C
Relative humidity	10 ~ 90%
IP rating	IP20
Insulation	Class II

Safety & EMC	
EMC standard (EMC)	EN55015, EN61547, EN61000-3-2/-3-3
Safety standard (LVD)	EN61058-1, EN61058-2
Radio Equipment (RED)	EN300 328, EN301489-1/-17, EN50663
Certification	CE, UKCA, RCM

Mechanical Structure & Dimensions (unit:mm)

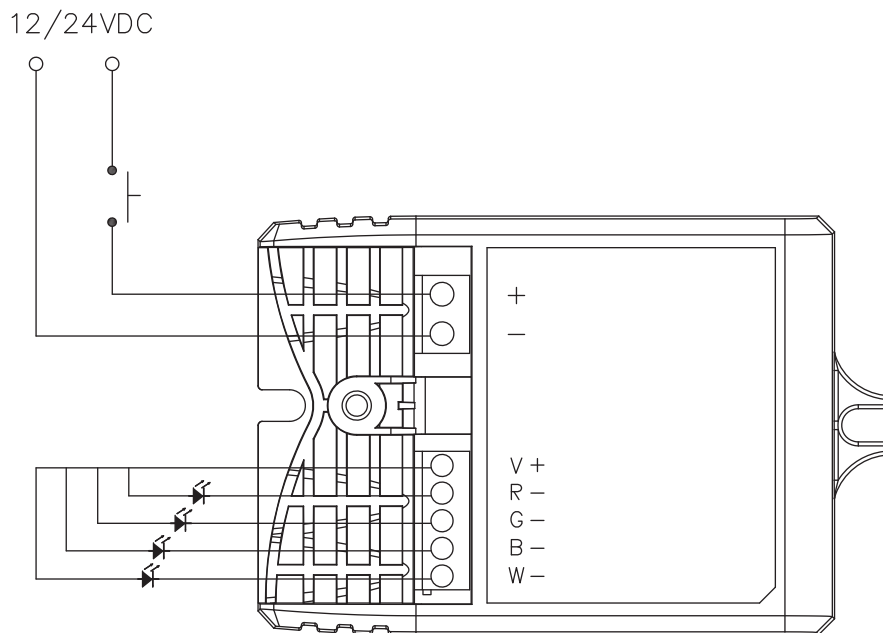


Wire Preparation



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

Wiring Diagram



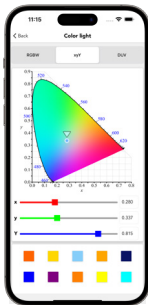
RGBW Color light Settings via Koolmesh app



RGBW

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

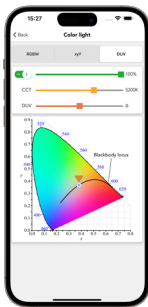
In addition to adjusting the color, you can also fine-tune the saturation of the luminaire as needed. This can usually be done by dragging the saturation bar.



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.

Additional Information / Documents

1. To learn more about detailed product features/functions, please kindly refer to
<https://hytronik.com/product/hbid8200pwm>
2. Regarding precautions for Bluetooth product installation and operation, please kindly refer to
<https://hytronik.com/service/downloads> (Bluetooth Products Precautions for Product Installation and Operation)
3. Data sheet is subject to change without notice. Please always refer to the most recent release on
<https://hytronik.com/products/controllers-dimmers>
4. Regarding Hytronik standard guarantee policy, please kindly refer to
<https://hytronik.com/service/downloads> (Guarantee Conditions document)