HBEW8040
Constant Current & Full Color

HYTRONIK®

🟦® CB CE 🔺 UK CA emc

Product Description

The HBEW8040 is a full sunlight spectrum (blackbody) and chromaticity (DUV) tuning LED driver with a maximum output of 45W. Its modular design offers flexibility with optional motion detection for lighting manufacturers, enabling adjustments to various color temperatures while maintaining consistent brightness. Bluetooth wireless mesh networking allows seamless communication between luminaires without labor-intensive hardwiring, ultimately reducing project costs. Additionally, device setup and commissioning can be easily done via **Koolmesh**® app.
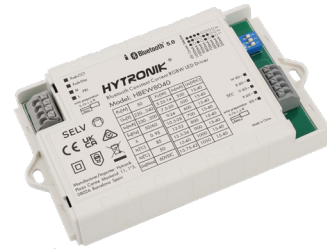
App Features

- Quick setup mode & advanced setup mode
- Floorplan feature to simplify project planning
- Web app/platform for dedicated project management
- Koolmesh Pro iPad version for on-site configuration
- Grouping luminaires via mesh network
- Scenes
- Detailed motion sensor settings
- Displays Luminaire Status & Energy Consumption Data
- Troubleshooting & Diagnosis
- Push switch configuration
- Schedule to run scenes based on time and date
- Astro timer (sunrise and sunset)
- Staircase function (primary & secondary)
- Internet-of-Things (IoT) featured
- Device firmware update over-the-air (OTA)
- Device social relations check
- Bulk commissioning (copy and paste settings)
- Power-on status (memory against power loss)
- Offline commissioning
- Different permission levels via authority management
- Network sharing via QR code or keycode
- Remote control via gateway support HBGW01
- Interoperability with Hytronik Bluetooth product portfolio
- Compatible with EnOcean switch EWSSB/EWSDB
- Continuous development in progress…

Hardware Features

- PWM 1KHz (1-100%)
- Insulated terminal cover with cord restraint
- Active PFC design
- Configurable constant current (CC) output via DIP switches
- Permanent setting memory, protected against loss of power
- Short-circuit Protection
- Open-circuit Protection
- Overload Protection
- 5-year warranty

🟦 **Bluetooth** Kinetic Switch

HBKS01 HBKS02 HBKS03 HBKS01D HBKS02D

EnOcean Self-powered kit

Fully support EnOcean self-powered switch module
PTM215B（HBES01/W & HBES01/B）

🟦 **Bluetooth**® 5.0 SIG mesh

Koolmesh iOS Android

for iOS for Android

Smartphone app for both iOS & Android platform

Koolmesh Pro app for iPad

for iPad

Web for Web

Web app/platform: www.iot.koolmesh.com

Output Configuration

LED Current Selection

1050mA	● ● ●
1000mA	○ ● ●
900mA	● ○ ●
800mA	○ ○ ●
700mA	● ● ○
600mA	○ ● ○
500mA	● ○ ○
350mA	○ ○ ○
	1 2 3

⚠ Warning: Please make sure the correct current is selected before starting the driver!

Technical Specifications

Input	
Mains Voltage	220~240VAC 50/60Hz
Mains Current	210~190mA
Mains Power	45W
Max. Efficiency	88%

Environment	
Operation Temp.	-20℃ ~ 50℃
Storage Temp.	-40℃~70℃
Case Temp. (Max.)	80℃
IP Rating	IP20

| Output	
Output voltage	15~40V
Output Power	5~42W
Uout Max.	60V
Stand-by power	<0.5W
Dimming Interface	Bluetooth

Safety and EMC	
EMC Standard	EN55015, EM61547, EN61000-3-2, EN61000-3-3
Safety Standard	EN61347-1, EN61347-2-13, EN62493
ROHS	ROHS compliance

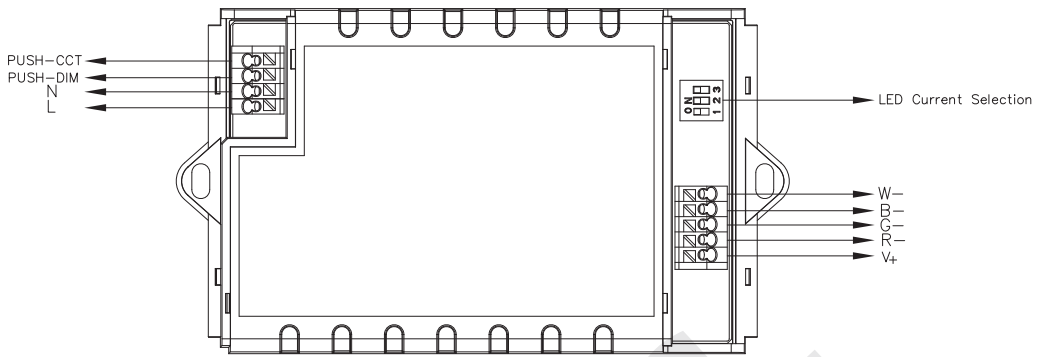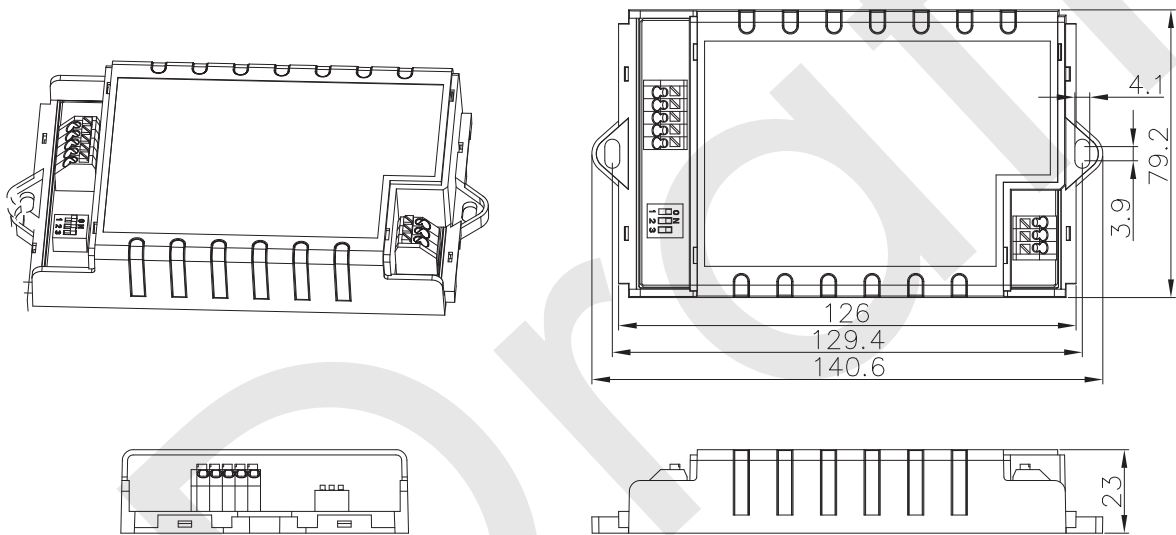| Max. output power/current/voltage range	
HBEW8040	5.25-14W/350mA /15-40V 7.5-20W/ 500mA /15-40V 9-24W/ 600mA /15-40V 10.5-28W/ 700mA /15-40V 12-32W/ 800mA /15-40V 13.5-36W/ 900mA /15-40V 15-40W/ 1000mA /15-40V 15.75-42W/ 1050mA /15-40V

Wire Preparation

0.5 - 1.5mm

8mm
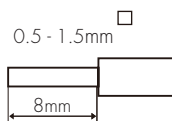
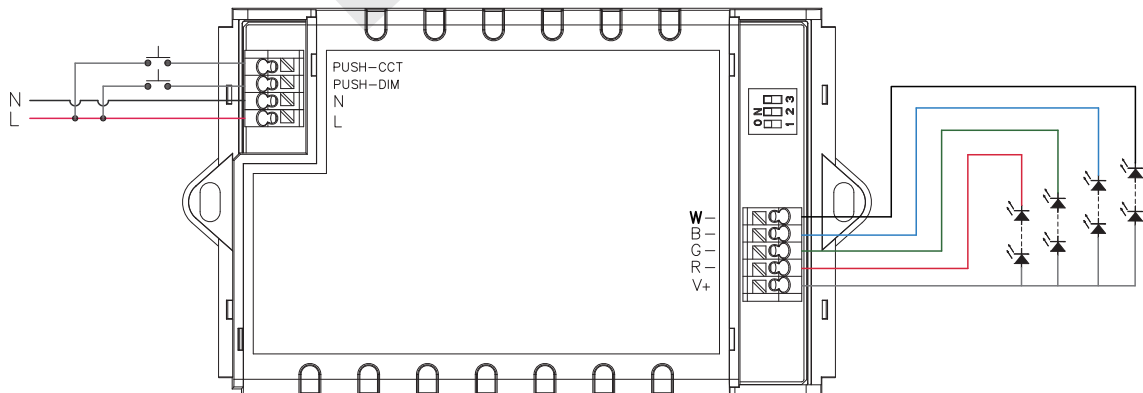To make or release the wire from the terminal, use a screwdriver to push down the button.

Mechanical Structure & Dimensions

PUSH—CCT
PUSH—DIM
N
L

LED Current Selection

W—
B—
G—
R—
V+

Built-in installation

4.1
79.2
3.9

126
129.4
140.6

23

Wiring Diagram
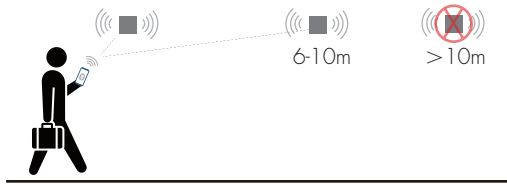

PUSH—CCT
PUSH—DIM
N
L

N
L

W—
B—
G—
R—
V+

Placement Guide and Typical Range

Smart Phone to Device Range

6-10m   >10m

The smart device with the App installed will have a typical range of 10m, but varies from device to device. During commissioning, the installer will need to be in range of the devices when searching for devices to add to the network.

Once the devices have been added to the network via the App, the devices will start communicating within the wireless mesh. This means that once the network is complete, all devices are accessible from the smart device when in a 20m range of a single point.
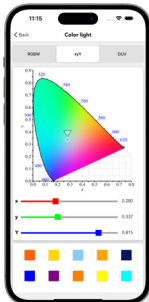
RGBW Color light Settings via Koolmesh app

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.
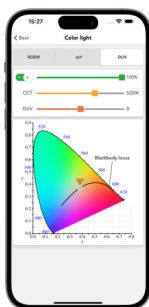
DUV

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.

Loading and In-rush Current

Model	HBEVV8040
In-rush Current (Imax.)	25A
Pulse Time	35 µs

Circuit Breaker Information

Automatic circuit breaker type	B16A	B10A	B13A	B20A	B25A
HBEVV8040	35	20	25	45	55

The data above is calculated according to the formula: Maximum Amount = 16/(Pn/230). In order to provide a more reliable reference in real application, the data have been revised to take 60% of the number calculated, i.e. 16/(Pn/230) x 60%. Please kindly take note that the calculation is based on ABB circuit breaker series S200. Actual values may differ due to different types of circuit breaker used and installation environment.

Performance Characteristics

* Typical Efficiency vs Load

* Typical Power Factor vs Load
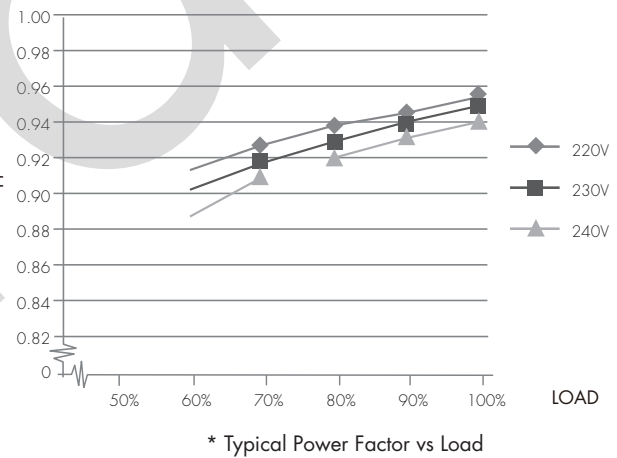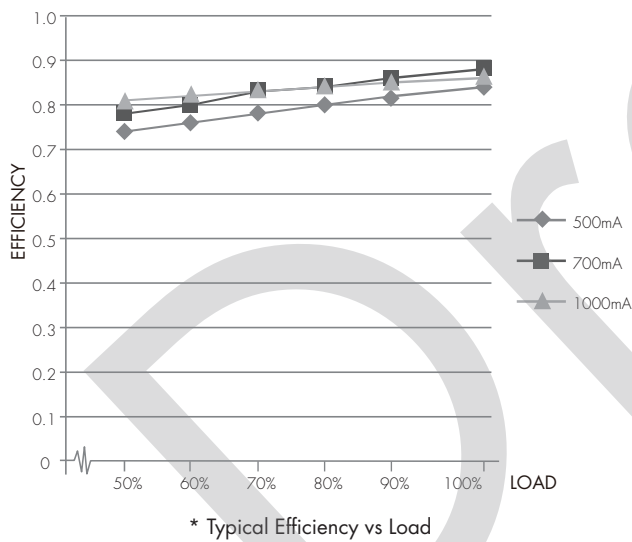
Dimming Characteristics

* Exponential Scale

* Linear Scale
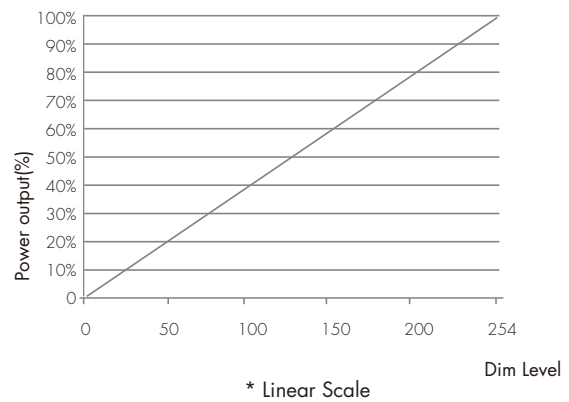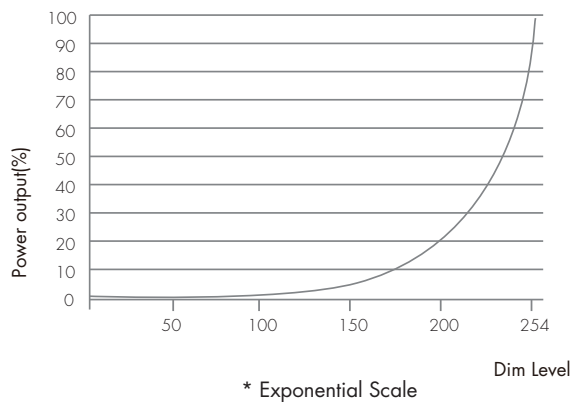
Dimming Interface Operation Notes

Switch-Dim

The provided Switch-Dim interface allows for a simple dimming method using commercially available non-latching (momentary) wall switches. Up to 64 LED drivers maybe connected to one switch. Detailed Push switch configurations can be set on Koolmesh app.

Switch Function	Action	Descriptions
Push switch	Short press (<1 second) * Short press has to be longer than 0.1s, or it will be invalid.	- Turn on/off - Recall a scene - Turn on only - Exit manual mode - Turn off only - Do nothing
	Double push	- Turn on only - Exit manual mode - Turn off only - Do nothing - Recall a scene
	Long press (≥1 second)	- Dimming - Colour tuning - Do nothing
Simulate sensor	/	- Upgrade a normal on/off motion sensor to a Bluetooth controlled motion sensor

Additional Information / Documents

1. For full explanation of Hytronik Photocell Advance™ technology, please kindly refer to
   www.hytronik.com/download ->knowledge ->Introduction of Photocell Advance

2. To learn more about detailed product features/functions, please refer to
   www.hytronik.com/download ->knowledge ->Introduction of App Scenes and Product Functions

3. Regarding precautions for Bluetooth product installation and operation, please kindly refer to
   www.hytronik.com/download ->knowledge ->Bluetooth Products - Precautions for Product Installation and Operation

4. Regarding precautions for microwave sensor installation and operation, please kindly refer to
   www.hytronik.com/download ->knowledge ->Microwave Sensors - Precautions for Product Installation and Operation

5. Regarding precautions for PIR Sensors installation and operation, please kindly refer to
   www.hytronik.com/download ->knowledge ->PIR Sensors - Precautions for Product Installation and Operation

6. Regarding precautions for LED driver installation and operation, please kindly refer to
   www.hytronik.com/download ->knowledge ->LED Drivers - Precautions for Product Installation and Operation

7. Data sheet is subject to change without notice. Please always refer to the most recent release on
   www.hytronik.com/products/bluetooth technology ->Bluetooth Drivers

8. Regarding Hytronik standard guarantee policy, please refer to
   www.hytronik.com/download ->knowledge ->Hytronik Standard Guarantee Policy