LED Drivers with Bluetooth® 5.0 SIG Mesh

HED8040/BT

Constant Current

Product Description

HED8040/BT are Bluetooth dimming and tunable white LED drivers, with maximum power output ranging from 25W to 40W. They all come with Switch-Dim interface by using Push switch (retractive switch) and of course Bluetooth dimming interface. It is ideal for direct projects or new luminaires design for lighting manufacturers. With Bluetooth wireless mesh networking, it makes communication between luminaires much easier without time-consuming hardwiring, which eventually saves costs for projects. Meanwhile, simple device setup and commissioning can be done via Koolmesh®app.

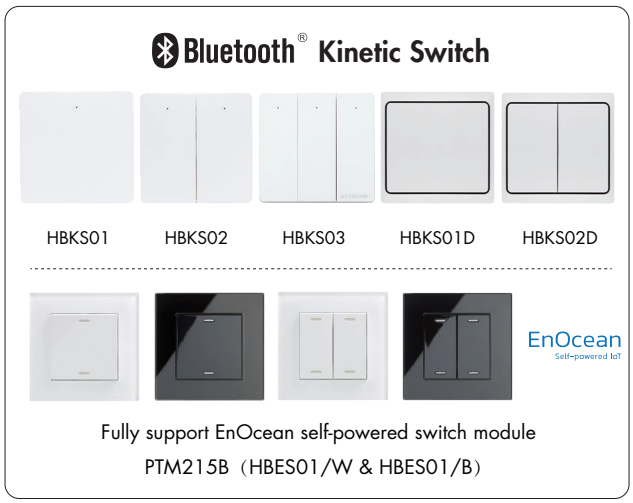
App Features

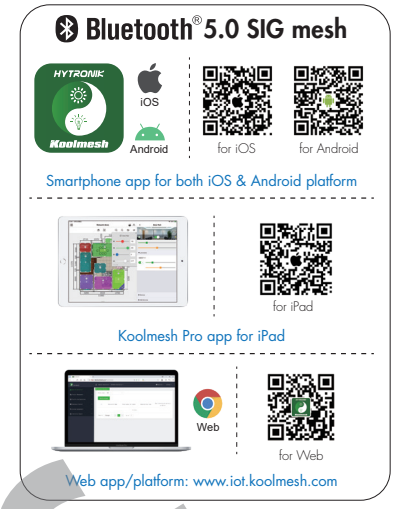
- Quick setup mode & advanced setup mode
- Floorplan feature to simplify project planning
- Web app/platform for dedicated project management
- Koolmesh Pro iPad version for on-site configuration
- Grouping luminaires via mesh network
- Scenes
- Detailed motion sensor settings
- Push switch configuration
- 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

- Switch-Dim with two Push inputs
- PWM 1KHz (1-100%)
- Tunable white
- Insulated terminal cover with cord restraint
- Active PFC design
- Logarithmic Dimming
- Linear Dimming
- Configurable constant current (CC) output via DIP switch
- Loop-in and loop-out terminals for efficient installation
- Short-circuit Protection
- Overload Protection
- Open-circuit Protection
- 5-year warranty, designed for long lifetime up to 50,000 hours

* Certain scenes which require external photocell can be achieved by using together with Hytronik Bluetooth sensors,such as HBIR29, HCD038/BT + sensor head etc.





Output Configuration

HED8040/BT, 1x40W

	1	2	3	4
900mA	○	○	○	○
850mA	●	○	○	○
800mA	○	●	○	○
750mA	○	○	●	○
700mA	●	○	●	○
650mA	○	●	●	○
600mA	●	●	●	○
550mA	○	●	○	●
500mA	●	●	○	●
450mA	●	○	●	●
400mA	○	●	●	●
350mA	●	●	●	●

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

Technical Specifications

Bluetooth Transceiver	
Operation frequency	2.4 GHz - 2.483 GHz
Transmission power	4 dBm
Range (Typical indoor)	10~30m
Protocol	Bluetooth® 5.0 SIG Mesh

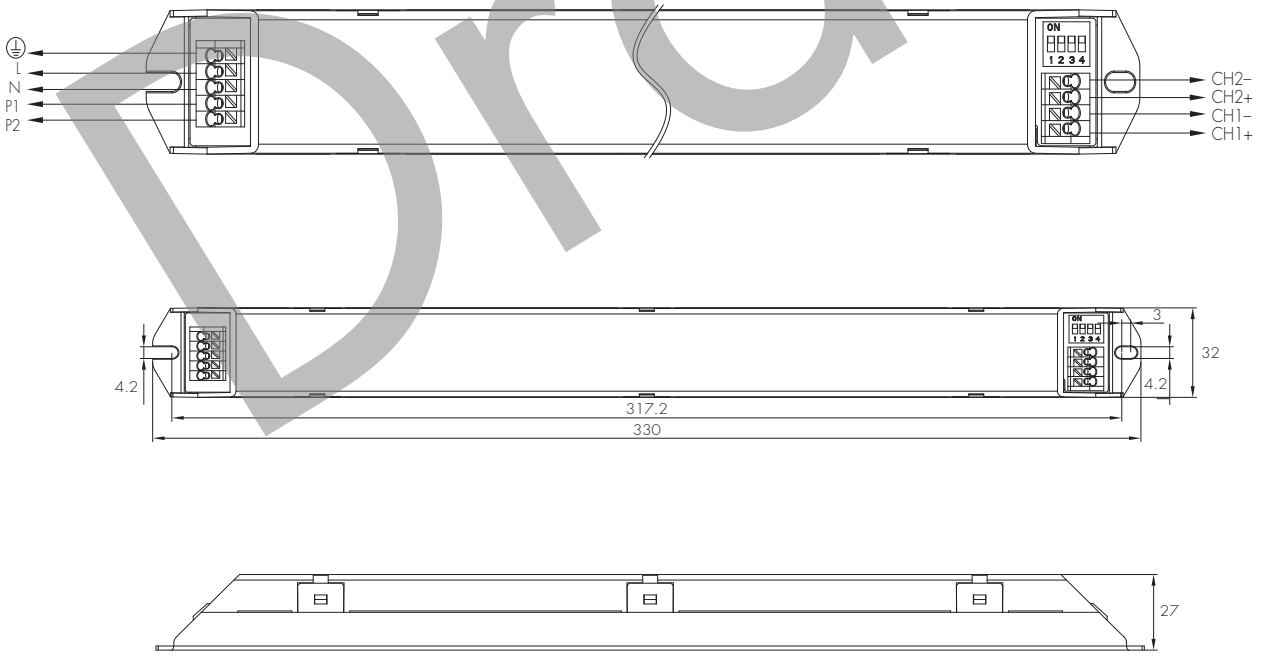
	Model No.	HED8040/BT
Input	Mains Voltage	220~240VAC 50/60Hz
	Mains Current	0.21~0.20A
	Power Factor	0.95
	Max. Efficiency	88%
Output	Ripple Current	<3%
	Uout Max.	65V
	Turn-on Time	<0.5s
	Dimming Interface	Switch-Dim
Environment	Operation Temp.	-20 ~ +50℃
	Case Temp. (Max.)	85℃
	IP Rating	IP20

	Model No.	HED8025/BT	HED8040/BT
Safety and EMC	EMC Standard	EN55015, EN61547, EN61000-3-2/-3-3, EN300328,EN301489-1/-17,EN62479	
	Safety Standard	EN61347-1, EN61347-2-13	
	Dielectric strength	Input→output: 3000VAC / 5mA / 1min	
	Abnormal protection	Output short-circuit protection, Overload Protection, Open-circuit Protection	

Model No.	Max. output power/current/voltage range			
HED8025/BT	2-13W/ 250mA /10-52V	3-16W/ 300mA /10-52V	4-18W/ 350mA /10-52V	5-25W/ 500mA /10-50V
	6-25W/ 600mA /10-42V	7-25W/ 700mA /10-35V	8-23W/ 750mA /10-30V	
HED8040/BT	2-18W/350mA /6-50V	2-20W/ 400mA /6-50V	2-23W/ 450mA /6-50V	3-25W/ 500mA / 6-50V
	3-28W/550mA /6-50V	3-30W/ 600mA /6-50V	4-33W/ 650mA /6-50V	4-35W/ 700mA /6-50V
	4-38W/750mA /6-50V	5-40W/ 800mA /6-50V	5-40W/ 850mA /6-47V	5-38W/ 900mA /6-42V

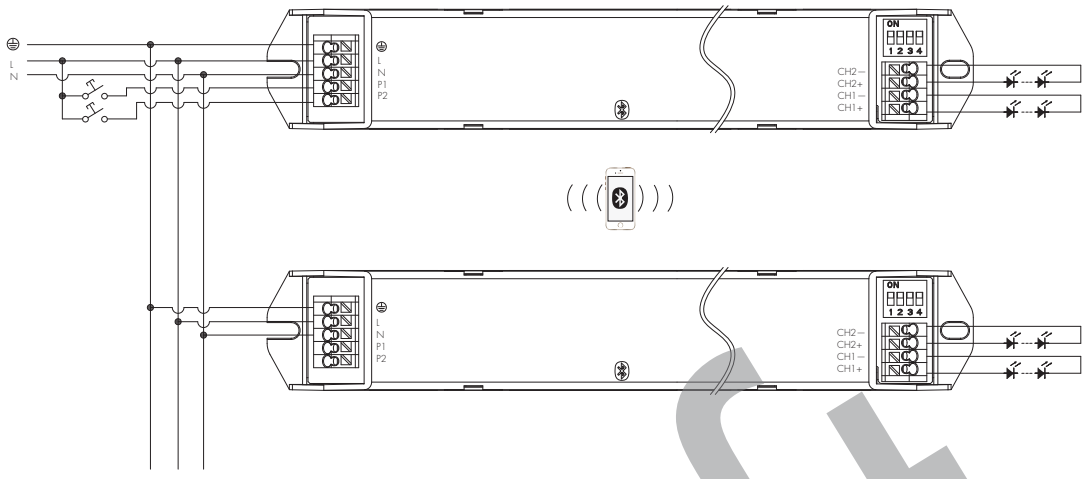
Mechanical Structure & Dimensions

HED8040/BT, 1x40W



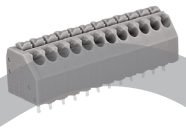
Wiring Diagram

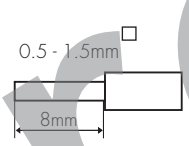
Model: HED8040/BT



Note: CH1 & CH2 are working independently, meaning that they cannot be used with luminaires that share "+".
There is no need for any hardwirings on "push" terminal between one driver to another. The installer only needs to connect the push switches to the nearest driver to save labor and cost. The push switches can be assigned to control any Bluetooth driver through the app commissioning.

Wire Preparation





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

Loading and In-rush Current

Model	HED8040/BT
In-rush Current (Imax.)	25.8A
Pulse Time	70 μs

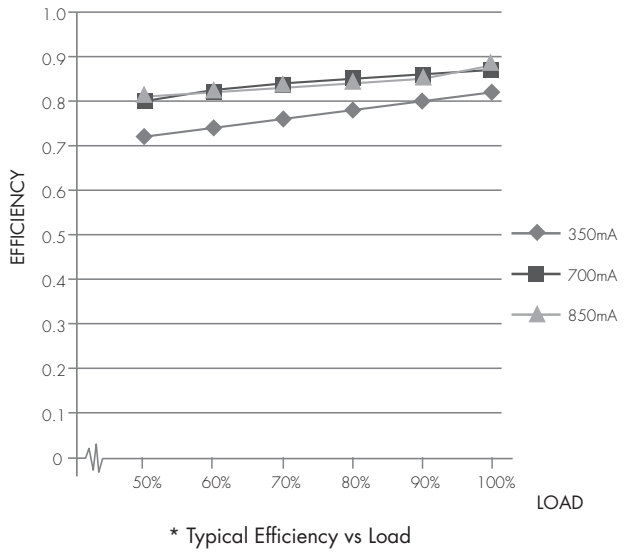
Circuit Breaker Information

Automatic circuit breaker type	B16A	B10A	B13A	B20A	B25A
HED8040/BT	46	29	38	58	73

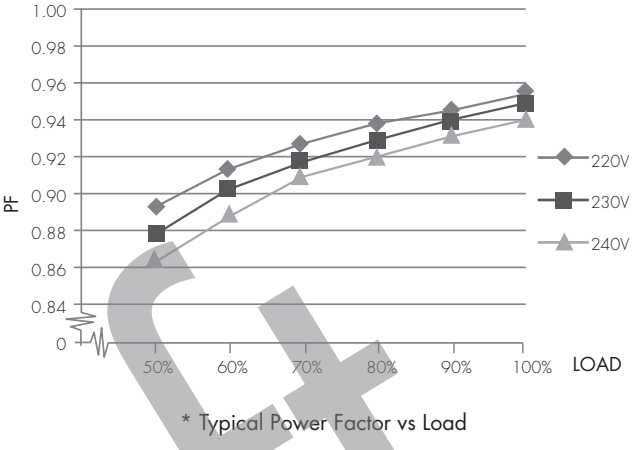
The data above is calculated according to the formula: Maximum Amount = 16/(Pn/230). In order to provide a more reliable reference in real application, the data have been revised to take 60% of the number calculated, i.e. 16/(Pn/230) x 60%. Please kindly take note that the calculation is based on ABB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

Performance Characteristics

HED8040/BT

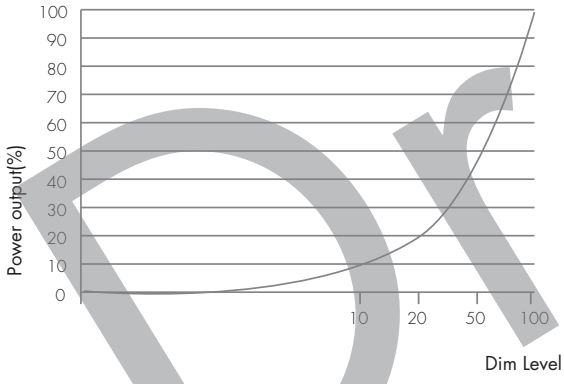


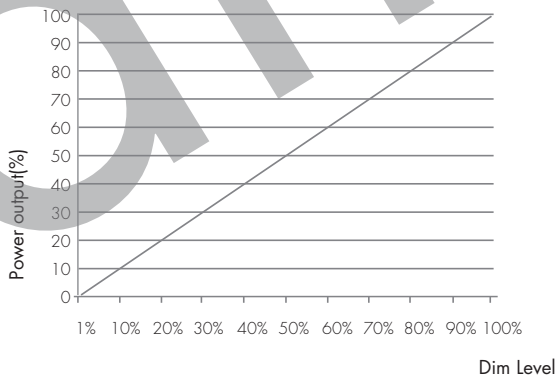
* Typical Efficiency vs Load



* Typical Power Factor vs Load

Dimming Characteristics





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 - Turn on only - Turn off only - Recall a scene - Exit manual mode - Do nothing
	Double push	- Turn on only - Turn off only - Recall a scene - Exit manual mode - Do nothing
	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. 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

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. 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

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