Constant Current LED Driver for Track System with Bluetooth® 5.0 SIG Mesh

HED5040/BT

Dimming & Constant Current

HYTRONIK®

Product Description

HED5040/BT is a Bluetooth LED driver, with 3-phase dial and maximum power output of 40W. The installation only requires simple insertion into the track. HED5040/BT has a Bluetooth dimming interface, is ideal for both direct track light projects and new luminaires designed 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, all simple device setup and commissioning can be done via Koolmesh® app.

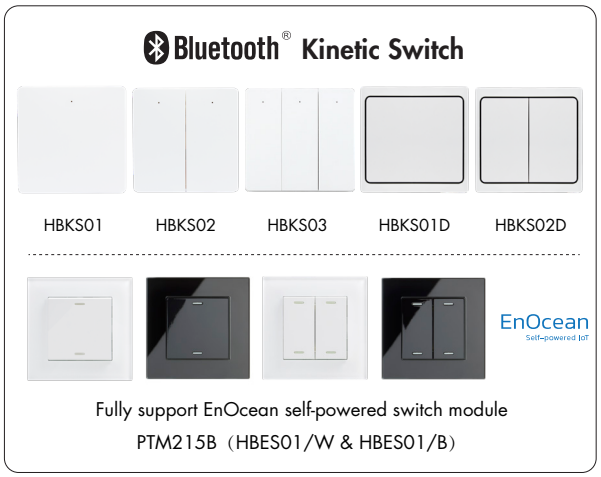
App Features

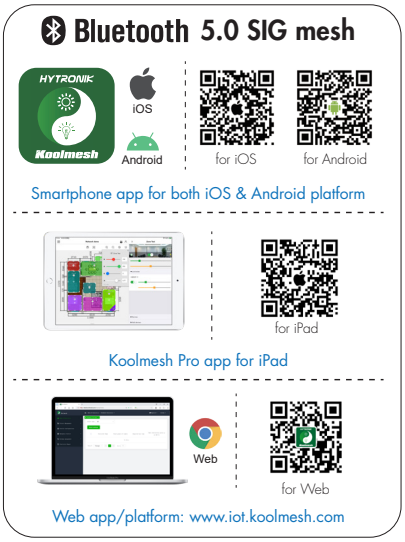
- Quick setup mode & advanced setup mode
- Floorplan feature to simplify project planning
- Web app/platform for dedicated project management
- Koolmesh Pro iPad version for on-site configuration
- Grouping luminaires via mesh network
- Scenes
- Push switch configuration
- Schedule to run scenes based 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 HBES01/W & HBES01/B
- Continuous development in progress…

Hardware Features

- Flicker free (1-100%)
- 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
- Open-circuit Protection
- Short-circuit Protection
- Overload Protection
- 5-year warranty

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





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

Input	
Mains Voltage	220~240VAC 50/60Hz
Mains Current	0.215~0.195A
Power Factor	0.95
Max. Efficiency	88%
Psb/Pno	<0.5W

Output	
Output Current	350mA~1050mA
Output Voltage	6~42V
Uout Max.	60VDC
Turn-on Time	<0.5s

Environment	
Operation Temp.	-10 ~ +35℃
Case Temp. (Max.)	85℃
IP Rating	IP20

Safety and EMC	
EMC Standard	EN55015, EN61547, EN61000-3-2/-3-3
Safety Standard	EN62493, EN61347-1, EN61347-2-13
Dielectric strength	Input→output: 3000VAC / 5mA / 1min
Radio Equipment (RED)	EN300 328, EN301489-1/-17, EN62479
Certification	CE , RED, RCM, UKCA
Abnormal protection	Output short-circuit protection Overload Protection Open-circuit Protection

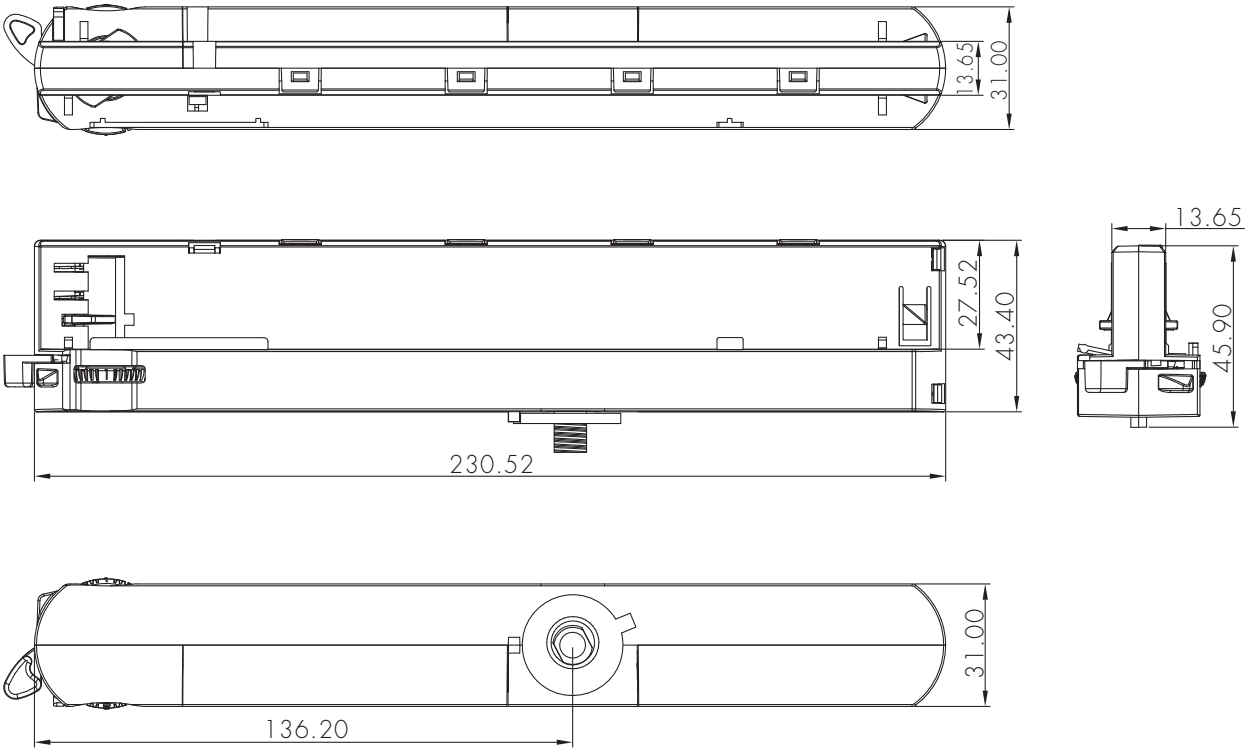
Max. output power/current/voltage range	
HED5040/BT	2-15W/ 350mA /6-42VDC 2.5-17W/400mA/6-42VDC 2.5-19W/450mA/6-42VDC 3-21W/500mA/6-42VDC 3-23W/550mA/6-42VDC 3.5-25W/600mA/6-42VDC 4-27W/650mA/6-42VDC 4-29W/700mA/6-42VDC 4.5-32W/750mA/6-42VDC 5-34W/800mA/6-42VDC 5-36W/850mA/6-42VDC 5.5-38W/900mA/6-42VDC 6-40W/950mA/6-42VDC 6-40W/1000mA/6-40VDC 6-41W/1050mA/6-39VDC

Output Configuration

	1	2	3	4
1050mA	●	●	●	●
1000mA	●	●	●	○
950mA	●	●	○	●
900mA	●	●	○	○
850mA	●	○	●	●
800mA	●	○	●	○
750mA	●	○	○	●
700mA	●	○	○	○
650mA	○	●	●	●
600mA	○	●	●	○
550mA	○	●	○	●
500mA	○	●	○	○
450mA	○	○	●	●
400mA	○	○	○	●
350mA	○	○	○	○

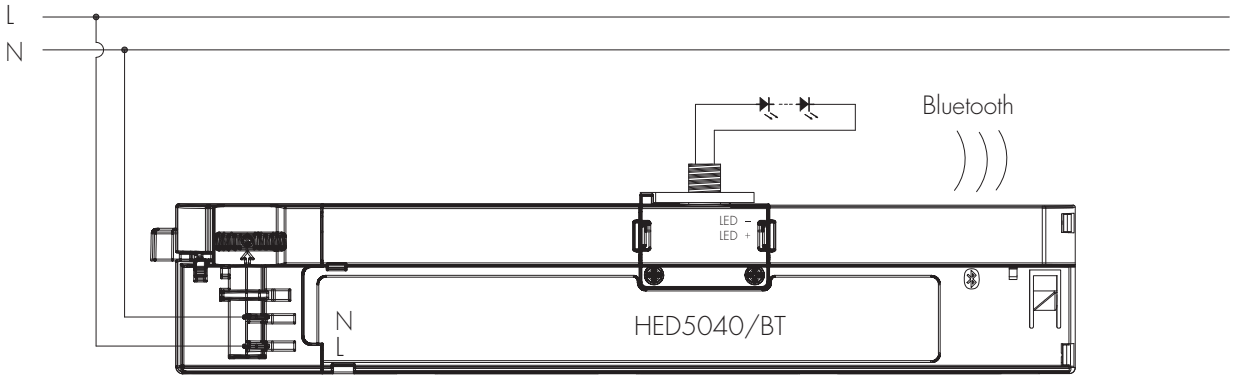
⚠ Warning: Please make sure the correct current is selected before the driver is powered!

Mechanical Structure & Dimensions

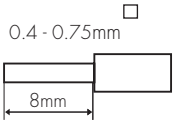


By rotation, the 3-phase dial can be able to select the phase LI, L2, and L3 to distribute the single luminaires in the track system.

Wiring Diagram



Wire Preparation



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

Loading and In-rush Current

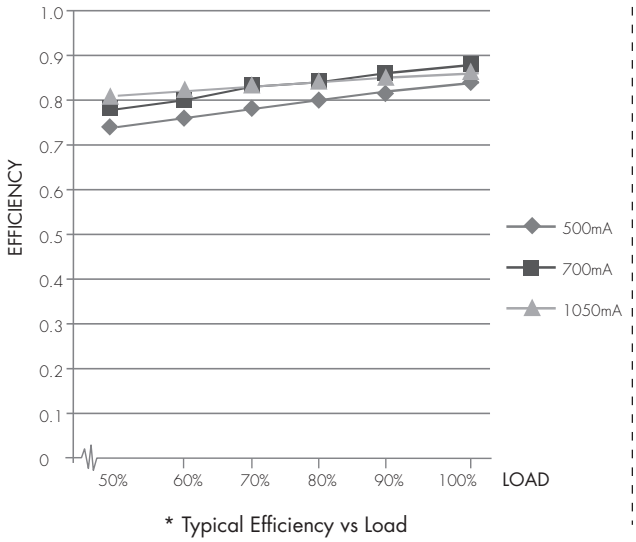
Model	HED5040/BT
In-rush Current (Imax.)	7.5A
Pulse Time	30 μs

Circuit Breaker Information

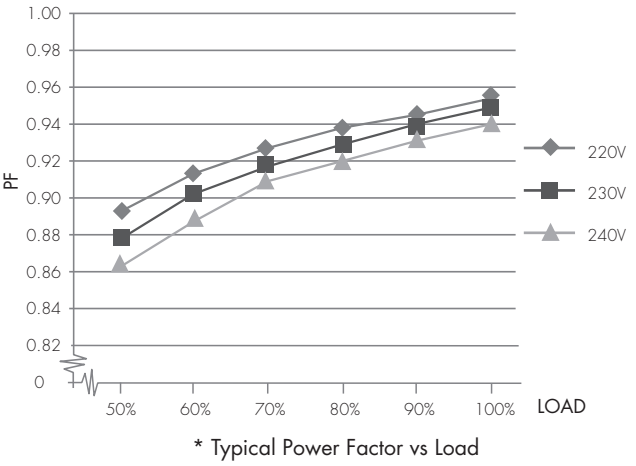
Automatic circuit breaker type	B16A	B10A	B13A	B20A	B25A
HED5040/BT	47	29	38	58	73

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

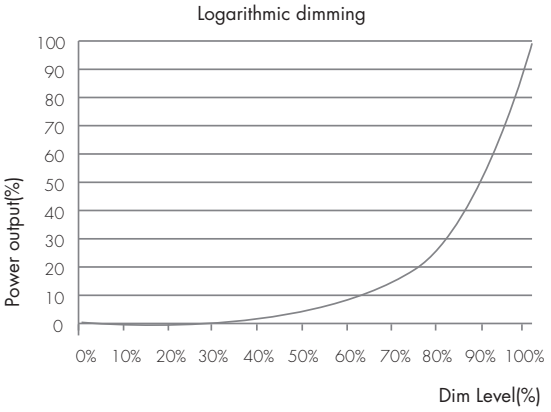


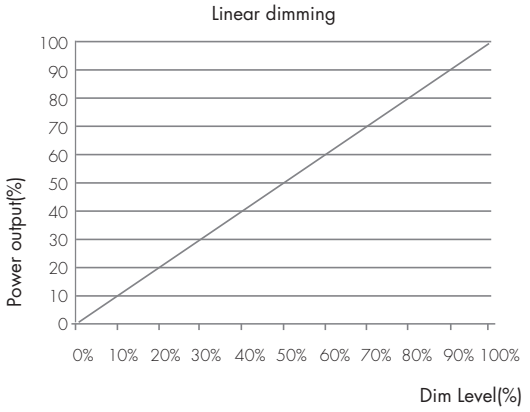
* Typical Efficiency vs Load



* Typical Power Factor vs Load

Dimming Characteristics





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