

Bluetooth DALI Control unit

HCD038/BT ECO

DALI Dimmer

HYTRONIK®



Product Description

HCD038/BT ECO is a mini-sized DALI dimming Bluetooth converter for smart lighting. It supports DT6 and DT8 for dimming and tunable white, with all settings adjustable through the **Koolmesh®** app. Delivering a stable 10 mA DALI output, it fits easily inside luminaires or can be installed independently with the insulating cover, offering a simple and efficient way to add wireless functionality to modern lighting projects.



Hardware Features

-  15mA DALI broadcast output
-  Short-circuit Protection
-  Open-circuit Protection
-  Overload Protection
-  5-year warranty

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

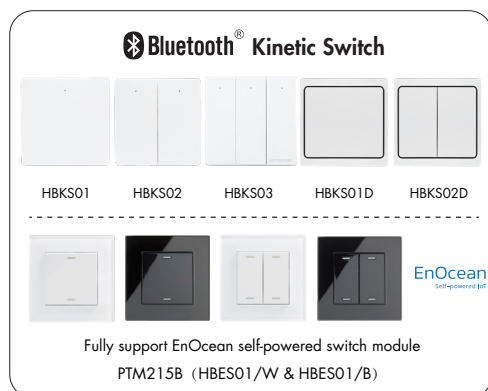
Input & Output Characteristics	
Operating voltage	220~240VAC 50/60Hz
Stand-by power	< 1W
DALI bus power supply	I max: 15mA U rated: 15VDC I guaranteed: 10mA
Warming-up	20s
Stand-by power	< 0.8W

Environment	
Operation temperature	Ta: -20°C ~ +50°C
Case temperature (Max.)	Tc: +75°C
Storage temperature	-40°C ~ +70°C
Relative humidity	10 ~ 90%
IP rating	IP20
Insulation	Class II

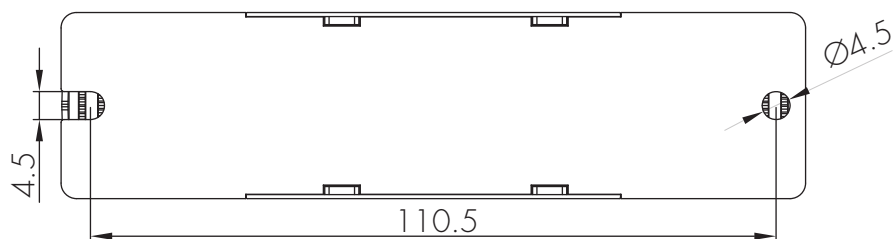
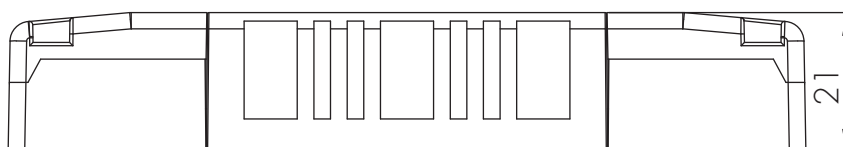
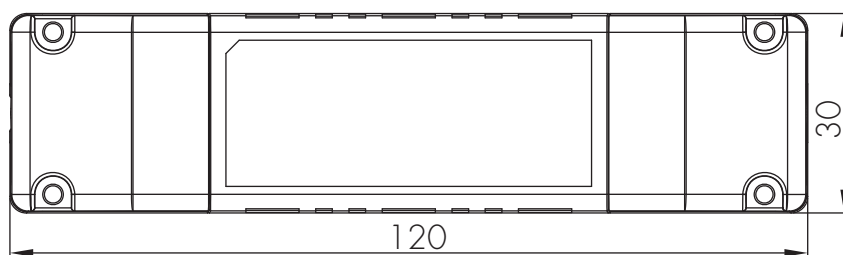
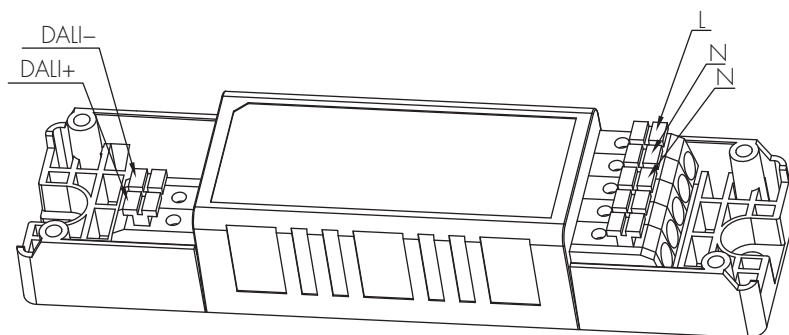
Safety & EMC	
EMC standard (EMC)	EN55015, EN61000, EN61547
Safety standard (LVD)	EN60669-1, EN60669-2-1
RED	EN300328, EN301489-1/-17
Certification	ENEC, CB, CE, RED, RCM

App Features

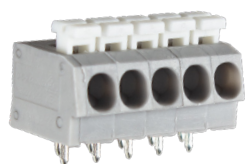
-  Emergency report generation and diagnosis
-  Quick setup mode & advanced setup mode
-  Web platform for project deployment & data analysis
-  Koolmesh Pro iPad for on-site configuration
-  Floorplan feature to simplify project planning
-  One-key device replacement
-  Device social relations check
-  Staircase function for quick setup
-  Remote control via Hytronik gateway
& touch screen HPAD-TSJASE1
-  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 HBLM01
-  Seamless integration with BMS via Hytronik BMS gateway
-  Test mesh network connection quality
-  Compatible with Shelly emergency metering
-  Continuous development in progress...



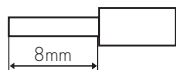
Mechanical Structure & Dimensions



Wire Preparation



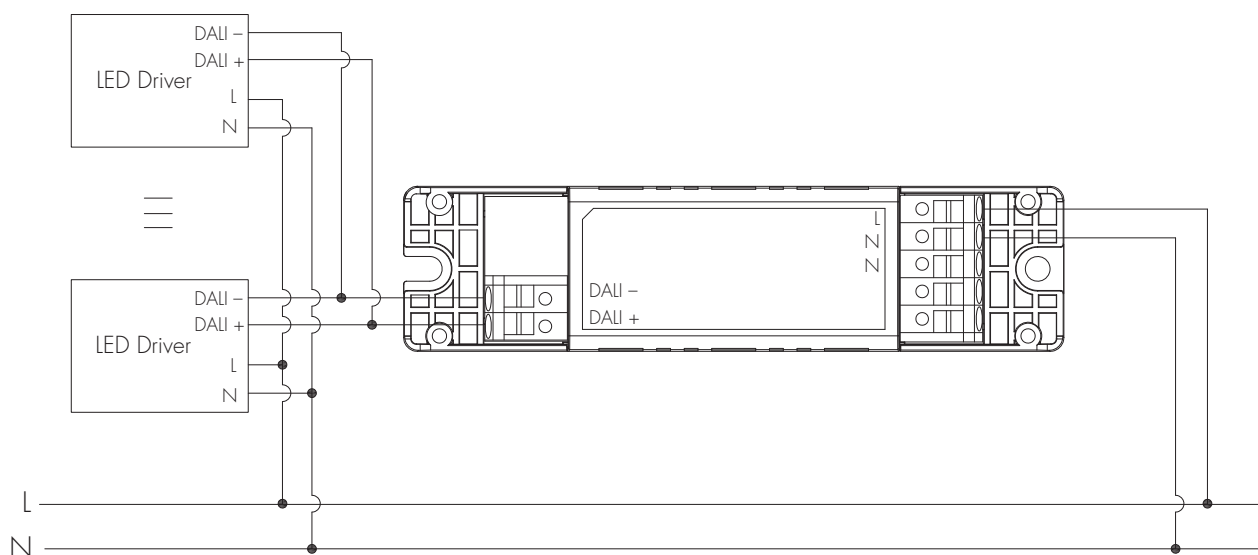
0.75~1.5mm²



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

Wiring Diagram

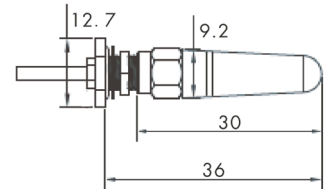
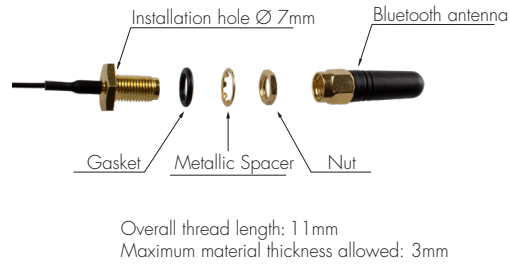


Optional Accessory: Reinforced Bluetooth Antenna

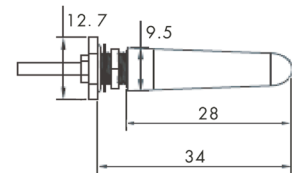
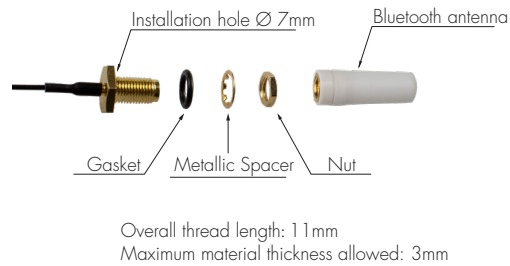
For some special applications, customers may need a larger Bluetooth transmission for both smartphone to device and device to device. Thanks to the reinforced Bluetooth antenna (optional black or white color to choose from), with it being added to the control base HCD038/BT ECO, the transmission distance (smartphone to device) enlarges to 20m, the distance of device to device is around 50m.



HA01B



HA01W



Installation Method



Solder the antenna to the Bluetooth module



Drill a 7mm hole in the fixture
Assemble the antenna parts in turn



Make sure the antenna head is outside the fixture

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. 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 - 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
Emergency Self-Test Function	Short press (<1 second) * Short press has to be longer than 0.1s, or it will be invalid.	- Start Self test (Monthly) - Stop Self test - Start Self test (Annually) - Invalid
	Long press (≥ 1 second)	- Start Self test (Monthly) - Stop Self test - Start Self test (Annually) - Invalid
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 luminaries 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 luminaries controlled by this Push Switch will revert back to normal status.

Additional Information / Documents

1. To learn more about detailed product features/functions, please kindly refer to <https://hytronik.com/product/hcd038-bt-eco>
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/motion-daylight-sensors>
4. Regarding Hytronik standard guarantee policy, please refer to <https://hytronik.com/service/downloads> (Guarantee Conditions document)