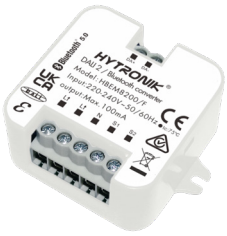
Built-in DALI-to Bluetooth Converter/Translator Module

HBEM8200/F

DALI Emergency

Product Description

HBEM8200/F is a wireless DALI/Bluetooth converter designed for professional applications. Its primary function is to monitor and assess the status of DALI/DALI2 emergency drivers. In the meantime, it enables users to manage and customize monthly functional and annual duration tests based on the Koolmesh Emergency system. The high-end Koolmesh platform provides powerful and convenient features, for users, they can effortlessly view, edit, and oversee the entire emergency system; for features, scheduling a monthly self-test or annual self-test in the app, checking the DALI/DALI2 emergency drivers' status, including automatic email notification upon detecting the fault, automatic monthly/annually (functional/duration test) emergency report generation, etc. All the settings and parameters can be set in Koolmesh app, all the information such as reports can be viewed and downloaded from Koolmesh IoT platform.



In addition, HBEM8200/F can work as a normal Bluetooth dimmer with 100mA DALI PSU integrated, it can control serval DALI/DALI2 DT6 or DT8 drivers at the same time.

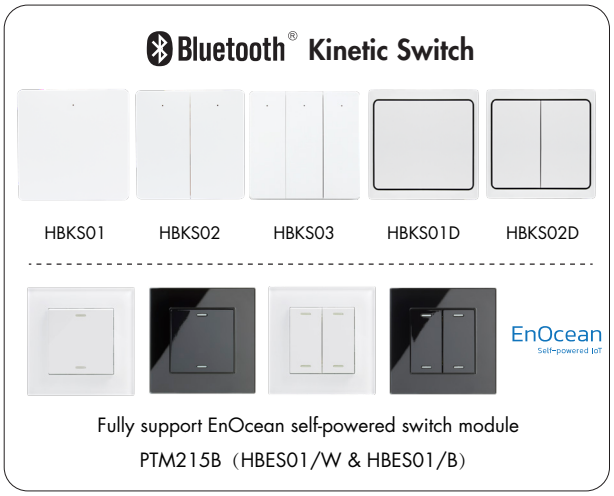
App Features

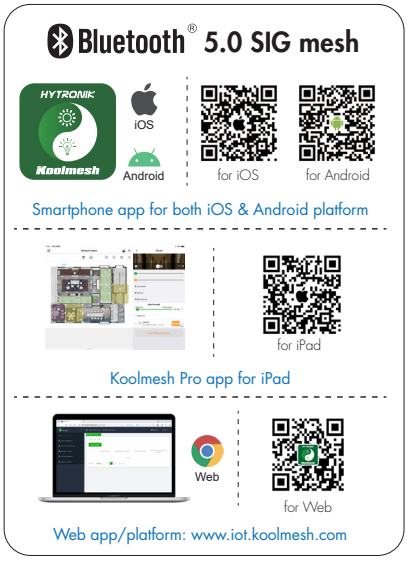
- Floorplan feature to simplify project planning
- Grouping luminaires via mesh network
- Scenes
- Push switch configuration
- Schedule to run scenes based on time and date
- Astro timer (sunrise and sunset)
- Device firmware update over-the-air (OTA)
- Power-on status (memory against power loss)
- Offline 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 BLE switches
- Continuous development in progress…

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

Hardware Features

- 100mA DALI broadcast output for up to 50 LED drivers
- Compact design
- 2 Push inputs for flexible manual control
- Short-circuit protection
- Overload protection
- 5-year warranty





Note:

1. 1pc HBEM8200/F convertor for 1pc 3rd party DALI/DALI2 emergency driver.
2. 1pc HBEM8200/F convertor can control serval DALI/DALI2 DT6 or DT8 drivers at the same time.
3. With Bluetooth gateway HBGW01, users can remotely control and monitor emergency system via Koolmesh mobile/tablet app & web app platform.
4. HBEM8200/F & 3rd Party standard DALI/DALI2 emergency driver does not need to connect to central DALI PSU.
5. HBEM8200/F provides power supply to the 3rd party standard DALI/DALI2 emergency driver and DT6 or DT8 drivers.

Technical Specifications

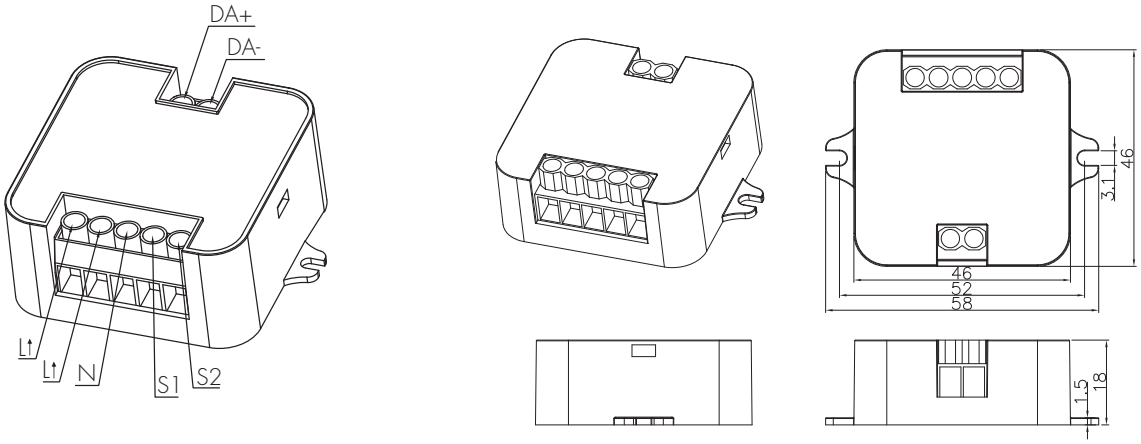
Bluetooth Transceiver	
Operation frequency	2.4 GHz - 2.483 GHz
Transmission power	4 dBm
Range (Typical indoor)	10~30m
Protocol	Bluetooth® 5.0 SIG Mesh

Environment	
Operation temperature	Ta: -20°C ~ +50°C
Case temperature (Max.)	Tc: +75°C
Storage temperature	-20°C ~ 60°C
Relative humidity	20 ~ 90%
IP rating	IP20
Insulation	Class II

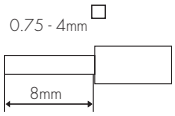
Input & Output Characteristics	
Operating voltage	220~240VAC 50/60Hz
Load rating	100mA, 16VDC (max. 50 devices)

Safety & EMC	
EMC standard (EMC)	EN55015, EN61547 EN62479, EN61000
Safety standard (LVD)	IEC/EN 61058, AS/NZS 61058
Radio Equipment (RED)	EN300 328, EN301489-1/-17, EN62479
Certification	Semko, CB, CE , EMC, RED, RCM

Mechanical Structure & Dimensions



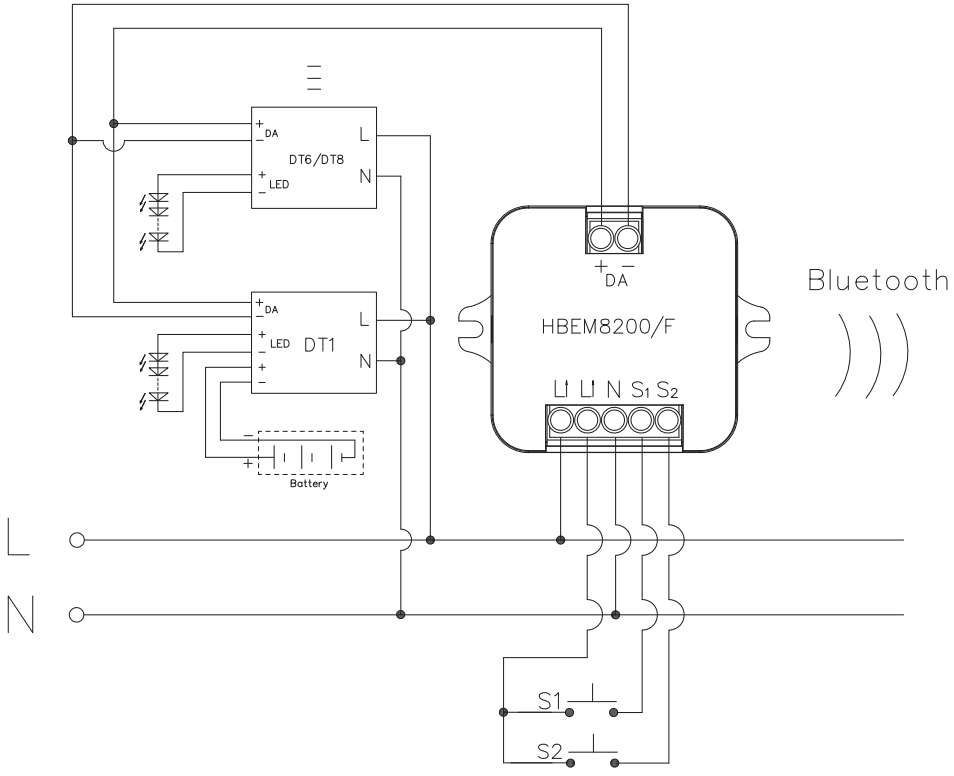
Wire Preparation



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

Wiring Diagram



Normal Mode

It is the mode in which mains supply is available, with the battery charged or charging. In this mode, HBEM8200/F is a standard Bluetooth dimmer with DALI broadcasting function, also with ability to create scenes and controllable by motion sensor, Push switch, schedules and app.

Emergency Mode

It is the mode in which mains supply has failed and whilst the control gear is powered by the battery until deep discharge point. In this mode, HBEM8200/F is unable to be controlled by motion sensor, Push switch, schedules and app. However, some emergency parameters can still be conjured via the app, such as time scheduled for self-test, duration for extended emergency mode etc.

Rest Mode

It's the mode in which the luminaires are intentionally off whilst the control gear is powered by the battery. To enter this mode, the prerequisite is that there is no mains supply. In this mode, the luminaires will be turned off automatically and HBEM8200/F is powered by the battery. If the luminaires are forced to turn on in this mode, HBEM8200/F will then be adjusted to emergency mode. When mains supply is recovered, HBEM8200/F will return to normal mode.

Inhibit Mode

It is the mode in which HBEM8200/F is powered from mains but prevented from going into emergency mode in the event mains failure. Please enter this mode only in special applications whereby emergency functions is not needed, such as when electricians need to cut off power supply when doing examinations and maintenance work of HBEM8200/F .

Extended Emergency Mode

It is the mode in which the control gear continues to operate the luminaires in the same way as in emergency mode for the programmed prolong time after the restorations of the mains supply. When this mode is enabled, HBEM8200/F will remain in emergency mode even when mains supply is recovered. In this mode, the user must set the time extended for emergency mode; when the time extended elapses, HBEM8200/F will return to normal mode.

Self test (Monthly)

HBEM8200/F carries out routine test on emergency lighting based on pre-programmed time via the app & web app platform or after receiving manual commands from the app & web app platform. During the self test process, tests for load connections (such as open circuit, short-circuit) and battery connections (such as open circuit, short-circuit, polarity reversal etc.) will be carried out.

All the DALI emergency drivers Self Test feedbacks, results and related Events (Such as the open circuit and short circuit of the load connection, open circuit and short circuit for battery connection) are generated by the driver itself, the HBEM8200/F convertor will only retrieve the data from the emergency driver and translate the DALI feedback into Bluetooth Mesh data correctly and accurately and display to the end user interface (App and Web app Platform). It will not contain any Emergency Self Test circuit in the products itself.

Self test (Annually)

The test is carried out mainly to check the battery level. The user must make sure that the battery for DALI emergency driver is fully charged before HBEM8200/F carries out annual test. Also, the battery lifetime statistics will be analysed and displayed on a chart basis.

Push switch function

Users can connect Push switch to HBEM8200/F to achieve multiple functions such as manually trigger monthly self test, annually self test, invalid and back to normal mode. Those options can be selected in Koolmesh app Push swich settings.

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 Koolmesh® App User Manual V2.1	- 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/hbem8200-f

2. Regarding precautions for Bluetooth product installation and operation, please kindly refer to https://hytronik.com/service/downloads (Bluetooth Products Precautions for Product linstallation and Operation)

3. Regarding precautions for Emergency LifePO4 Batteries, please kindly refer to https://hytronik.com/service/downloads (LiFePO4 Battery Precautions and Usage)

4. Regarding precautions for Emergency Ni-Cd & Ni-MH Batteries, please kindly refer to https://hytronik.com/service/downloads(PRECAUTIONS FOR EMERGENCY Ni-Cd & Ni-MH BATTERY USAGE)

5. Data sheet is subject to change without notice. Please always refer to the most recent release on https://hytronik.com/products/emergency-led-drivers-inverters

6. Regarding Hytronik standard guarantee policy, please kindly refer to https://hytronik.com/service/downloads (Guarantee Conditions document)