

Installation and Instruction Manual

GST type 6-pole Quick Connection Box for Dimming Application Super Connection Box | DALI Dimming & Switching | Multi-channel Control

HYTRONIK®
SCB02 / BLE

1. Technical Specifications

Dimming (Output) Interface	DALI / Switch
Bluetooth frequency	2.4 GHz ~ 2.483 GHz
Bluetooth transmit power	4 dBm
Bluetooth range	10-30 m
Protocol	Bluetooth®
Operating voltage	220-240VAC 50/60Hz
Push Interface voltage	15VDC
P/EM Interface voltage	15VDC
RJ45 Interface supply voltage	12VDC
RJ45 Interface supply current	250 mA (Max.)
DALI I guaranteed	40 mA
DALI I max	60 mA
DALI U rated	14-16 VDC
Rated load(Max.)	Total interface load: 12A Without relay switch: 10A capacitance, 10A resistance With relay switch: 3A capacitance, 6A resistance EM interface load: 3A capacitance, 6A resistance VFC load: 2A capacitance, 4A resistance
Stand-by power	< 3W
Ambient temperature	-10°C ~ +40°C
Storage temperature	-40°C ~ +70°C
humidity	10%~ 90%
IP rate	IP20
Insulation	Class II

2. Download the App

Free App for set-up and commissioning

Bluetooth®

Koolmesh

for iOS

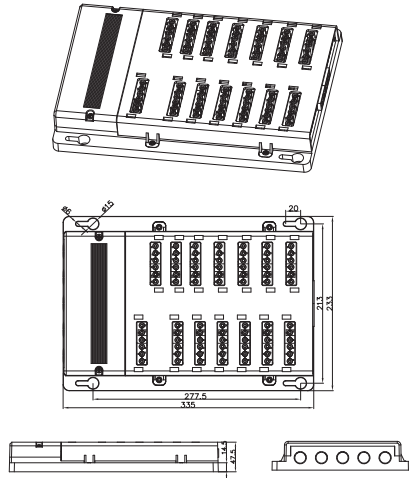
for Android

Smartphone app for both iOS & Android platform

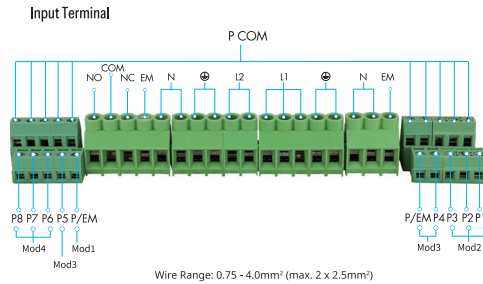
Koolmesh Pro app for iPad

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

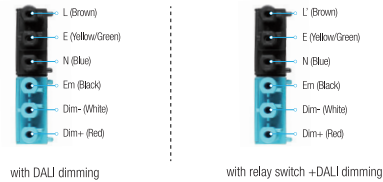
3. Mechanical Structure & Dimensions



4. Input & Output Terminal Function



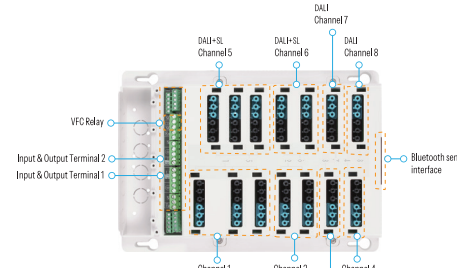
Luminaire outlet



Bluetooth sensor interface



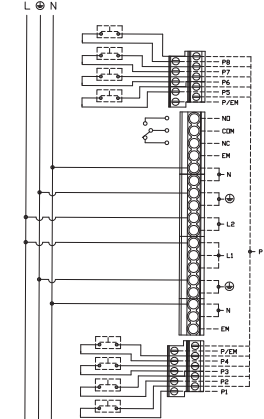
5. Channel Configuration & Control Mode



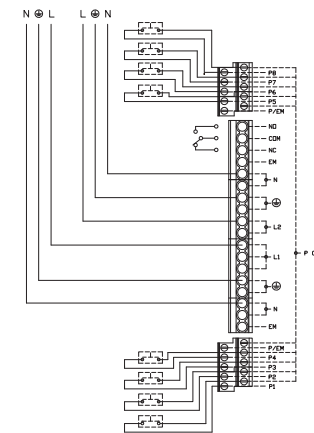
6. Wiring Diagram

—This product should be installed by a qualified electrician.

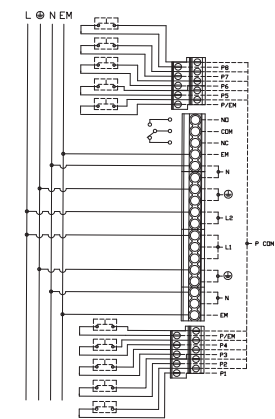
Single Power Input No Emergency Test Switch



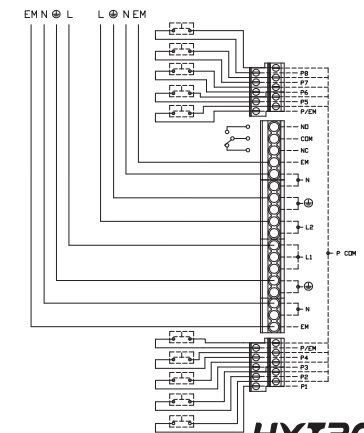
Dual Power Input No emergency control switch



Single Power Input With Emergency Test Switch



Dual Power Input With emergency control switch



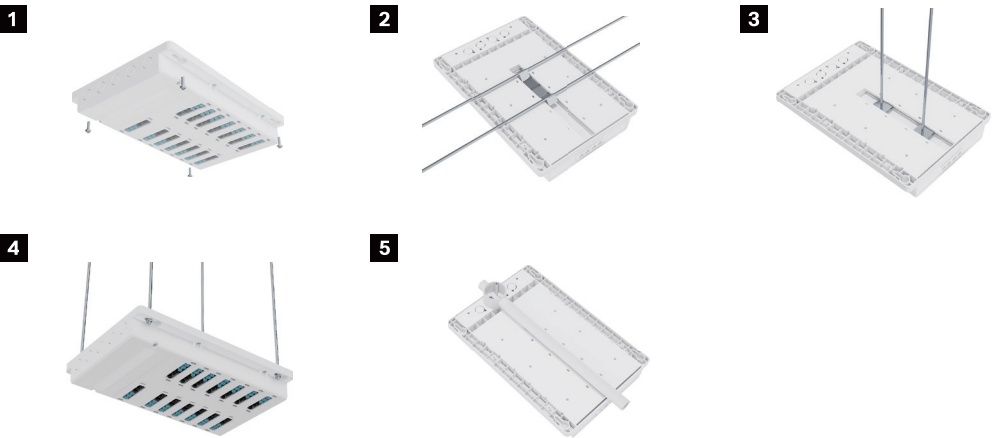
SCB02/BLE is a Bluetooth intelligent control fast junction box, through Bluetooth APP or PUSH, turn DALI signal and relay for dimming and color, or switch control. According to different lamp types, it can be selected with relay switch + DALI channel (channel 1/2/5/6), or simple DALI control channel (channel 3/4/7/8), and provides emergency control interface, dry contact interface, 8 PUSH interfaces, 2 emergency control switch interface, 4 RJ45 Bluetooth sensor interface.

SCB02/BLE built-in 4 Bluetooth control modules, divided into 4 devices:

*SL = Switch Line (Relay Output)

BT module	Channel	Outputs	Sockets	Inputs
1	CH1	DALI, SL	3	Push PIEM
	CH2	DALI, SL	2	
	VFC	VFC		
2	CH3	DALI	1	Push 1, Push 2, Push 3
	CH4	DALI	1	
3	CH5	DALI, SL	3	Push 4, Push 5, Push PIEM
	CH6	DALI, SL	2	
4	CH7	DALI	1	Push 6, Push 7, Push 8
	CH8	DALI	1	

7. Installation Process



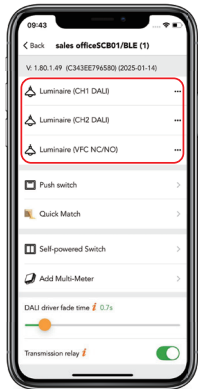
Detailed Installation Instructions

This product supports a variety of installation methods and can be flexibly selected according to the on-site environment.

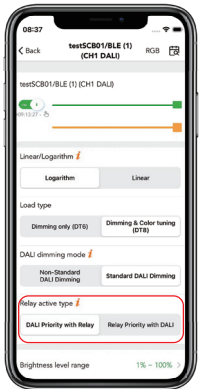
- 1. **Surface Mount:** Can be fixed onto walls or ceilings using 4 x M6 screws.
- 2. **Marco Tray Mount:** Can be used with Marco clips on steel wire cable tray systems.
- 3. **Channel Nut Mount:** Can be fastened to the back using channel nuts.
- 4. **Mounting Rods:** Can be fixed with mounting rods.
- 5. **BESA / Junction Box Connection:** Can be connected to a BESA or junction box.

8. APP Settings

The SCB02/BLE supports up to 14 luminaires. In the app, these outputs are organised into 8 + 1 channels, where the 9th channel is a VFC relay channel. Channels 1, 2, 5, and 6 allow multiple luminaires to be connected and controlled together. Taking Channel 1 as an example, it has three physical terminal outputs, allowing up to three luminaires to be connected, but it appears as one single channel in the app, and all connected luminaires are controlled simultaneously. The remaining channels provide independent DALI outputs for individual luminaires. The device supports both DALI mode and relay mode, but these two modes cannot operate at the same time. The simple setup can be done through the **Koolmesh**® app.



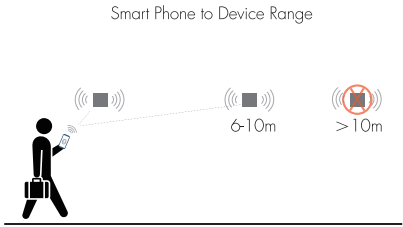
(Figure 1. Example for point 2)



(Figure 2. Example for point 3)

Note: When the relay is prioritized, the relay contact will open or close according to the light's state. When DALI is prioritized, the relay contact remains permanently closed.

Placement Guide and Typical Range



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.

9. Dimming Interface Operation Notes

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.

Note: Single press, double press, and press-and-hold actions can each be independently assigned to one function via the app. Once configured, each action triggers only its assigned function. Multiple functions cannot be activated by a single press action.

Switch Function	Action	Descriptions
Normal PUSH (Retractive Switch)	Single press (> 0.1s) Double press Press and hold (≥ 1s)	- ON/OFF - OFF only - Recall this scene - Sensor take over - Not in use
Sensor-Link	/	- Hold time/scene - Stand-by time/scene - Upgrade a normal on/off motion sensor to a Bluetooth-controlled motion sensor
ON OFF Switch (Latching Switch)	/	Upgrade a standard on/off control to Bluetooth control, enabling one latching switch to control multiple luminaires or zones, reducing wiring and switch count.
Emergency SL (Switch Emergency/Lighting)	Single press (> 0.1s)	ON/OFF emergency light, enter EM mode *Note: At present, this function cannot be displayed within the app and can only be controlled via the physical button.
Fire Alarm Function	Refer to https://support.koolmesh.com/	- Able to connect the Fire Alarm system - Once the fire alarm system is triggered, all the luminaires 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 luminaires controlled by this Push Switch will revert back to normal status.

10. Additional Information / Documents

- 1. To learn more about detailed product features/functions, please kindly refer to <https://hytronik.com/products/scb02-ble>
- 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/modular-wiring-systems>
- 4. Regarding Hytronik standard guarantee policy, please kindly refer to <https://hytronik.com/service/downloads> (Guarantee Conditions document)