legrand®

2-output DALI controller

Catalogue number(s): 0 488 51
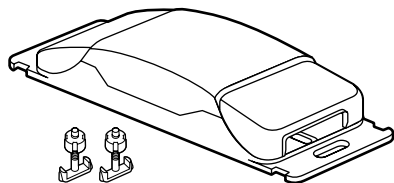
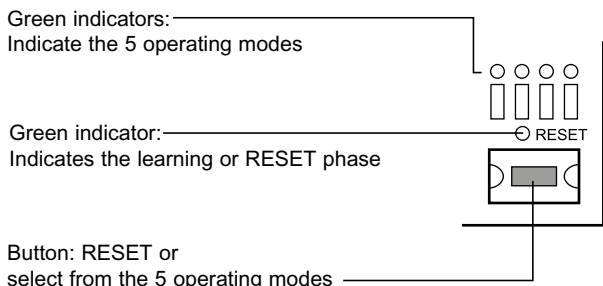## CONTENTS   Page

1. USE

This device is a power unit used for managing DALI/DSI lighting and ventilation loads.

It must be connected to one or more detectors and/or "pushbutton type" diverted auxiliary controls in order to operate.

It has 3 main operating modes:
- "Corridor side/window side": 3 modes ➤ details on page 4
- "Surrounding area": 1 mode ➤ details on page 4
- "Synchronised": 1 mode (used in public buildings) ➤ details on page 4

2. TECHNICAL FEATURES

Green indicators:
Indicate the 5 operating modes

Green indicator:
Indicates the learning or RESET phase

○ RESET

Button: RESET or
select from the 5 operating modes

+ 45°C / - 5°C	N/⏚/L1 DALI/DSI (16x2) max/out		NO/C/NC	
230 V~	1000 VA	4,3 A	1 x 500 VA	2.1 A
110 V~			1 x 250 VA	

2. TECHNICAL FEATURES *(continued)*

Voltage: 100-240 V~
Frequency: 50/60 Hz
No load power consumption: 1.5 W

Wiring:
- Power:
  N ⏚ L: 2 x 2.5 mm² (screw terminals)
  N ⏚ ⌇: 2 x 2.5 mm² via bistable relay (screw terminals)
  NO C NC: 2 x 1.5 mm² via bistable relay (screw terminals)

- Control:
  Pushbuttons: 1 x 1.5 mm² (screw terminals)
              (100 m max. between the controller and the pushbutton)
  DALI/DSI ballast: 1 x 1.5 mm² (screw terminals)
              (16 ballasts max. per channel) the distance depends on the type of cable used.
              The product is specifically for DALI or DSI, which is selected automatically.
  Connection between detector and controller: RJ 45 cord or cable or BUS/SCS cable to be fitted with RJ 45 connector (150 m max. between the controller and the furthest detector)

Product installation: in a suspended ceiling or on a suitable cable tray

BUS detectors:
- Infrared or ultrasound technology or dual technology
- Max. 6 detectors at 110/230 V~

Pushbutton: - Via normally open contact
            - Can be used with an indicator: voltage, 27 V⎓ to display the state of the load in synchronised mode
            Note: It is advisable not to exceed 5 pushbuttons per channel (consumption of indicators)
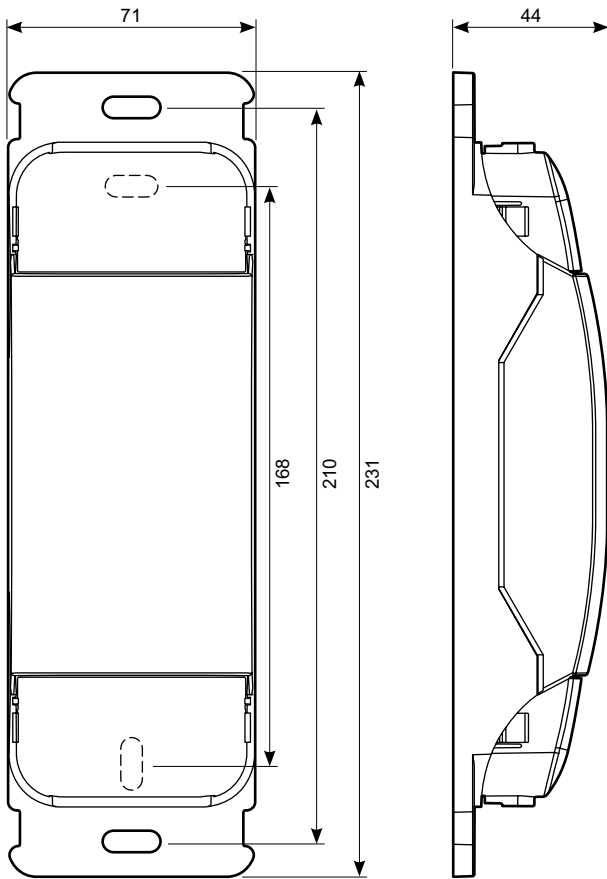
Usage temperature: -5°C to +45°C
Storage temperature: -20°C to +70°C
Weight: 256 g
Impact resistance: IK04
Penetration by solid and liquid matter: IP20

2-output DALI controller

3. OVERALL DIMENSIONS

4. CONNECTION

The NC C NO (⊘⊘⊘ NC C NO) output on the controller is always associated with the presence information on the detectors. At the 1st detection, the relay closes and opens at the end of the time delay set on the detector.

This output can be used to activate a socket unit, a ventilation unit and any other system via a contactor or for emergency lighting (see diagram on p.3).

If one of the phases is cut off in an installation with two separate phases, the other phase will continue to supply its associated lighting circuit in mode 4.

In the event of a connection fault between the detector(s) and controller, the lights will automatically come back on at 100% after 10 minutes.
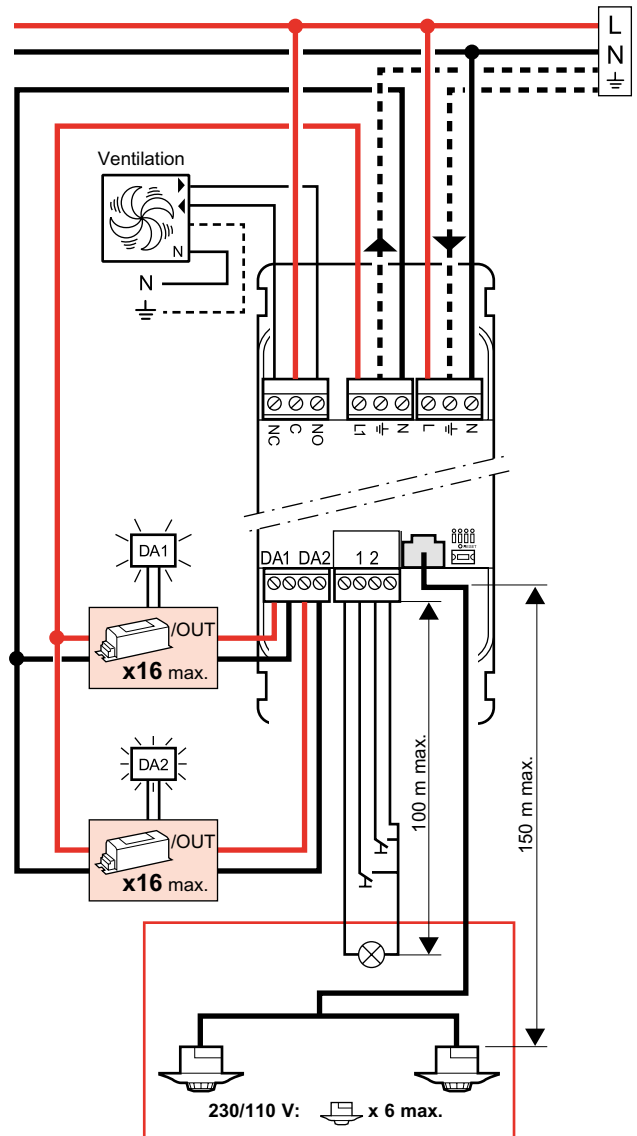
If the controller fails, the level of the DALI ballasts will be maintained.

The controller has a status memory, which means that when the mains power returns, it will return to the status it was in before the break for both DALI channels. The state of the NC C NO (⊘⊘⊘ NC C NO) relay is not memorised as all that is necessary to trigger it is a detection. (If the controller has a detector and there is no-one present after the mains power returns, the system will switch off at the end of the time delay set on the detector).

To save more energy, the power relay $L1 \doteq L$ (⊘⊘⊘ L1 ⊥ N) supplying the DALI ballast(s) opens 5 minutes after the end of the time delay set on the detector (apart from in public building mode).

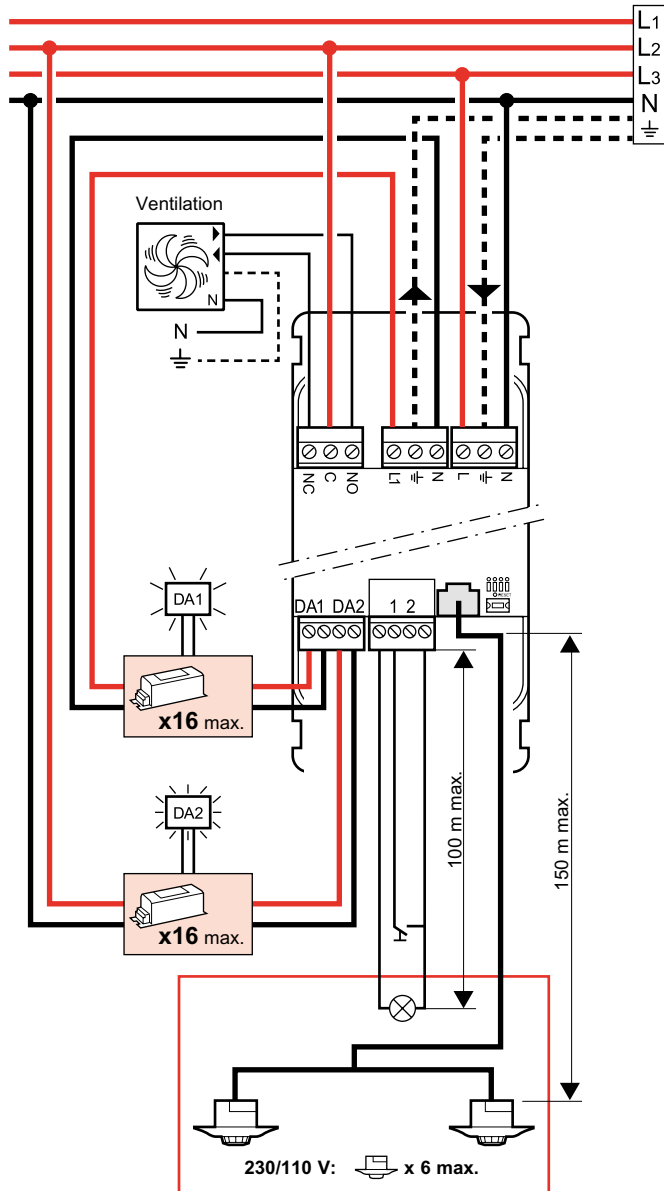## 4. CONNECTION *(continued)*

4.1 Wiring 1 (on a single phase)

Technical data sheet: S000067167EN-3   Updated on: 24/08/2015   Created on: 10/01/2012   **L1 legrand**
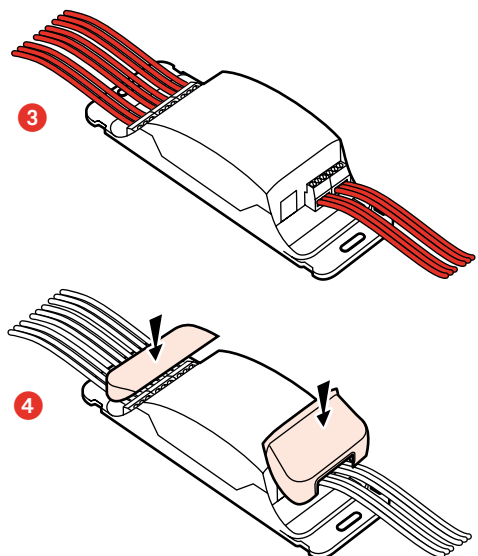
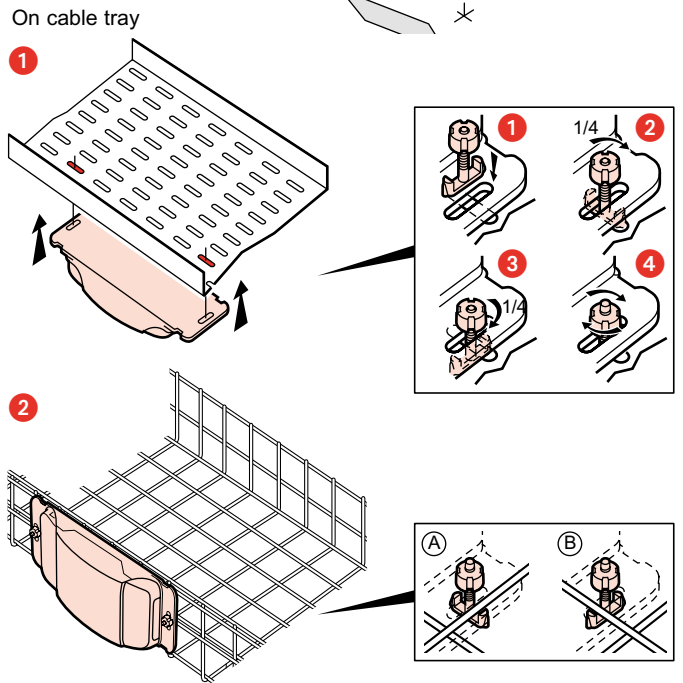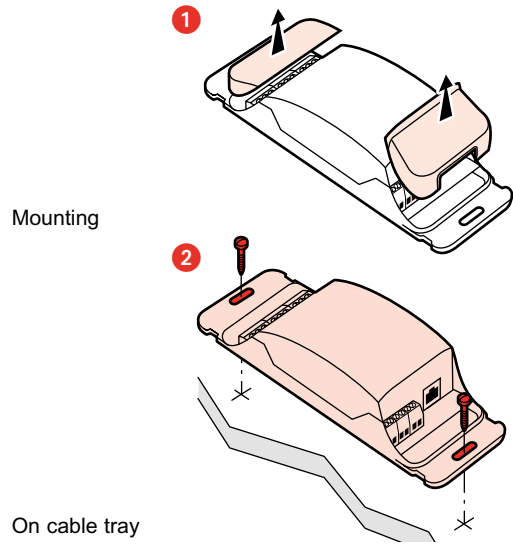# 2-output DALI controller

4. CONNECTION *(continued)*

4.2 Wiring 2 (on 2 phases)

The two channels are synchronised, which enables the luminaires to be placed in staggered rows with one ballast supply phase on each channel.

5. INSTALLATION

Mounting

On cable tray

Technical data sheet: S000067167EN-3   Updated on: 24/08/2015   Created on: 10/01/2012   **L1 legrand**

2-output DALI controller

6. OPERATION

### 6.1 Corridor side - window side operating mode:
Mode 1 - Mode 2 - Mode 3

This operating mode is used to:
- Switch the lighting on and off manually or automatically according to whether or not anyone is present
- Display the status of the lighting from a remote location
- Switch the lighting system off automatically as soon as there is sufficient natural light
- Control lighting points placed less than 5 m away from a window separately from the other lighting points
- Control a ventilation device associated with presence
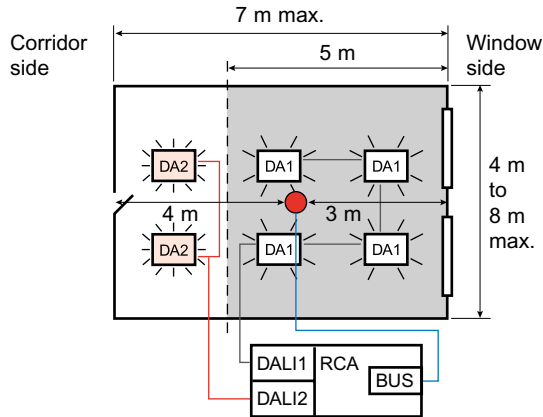
The area can be extended by adding one or more detectors.
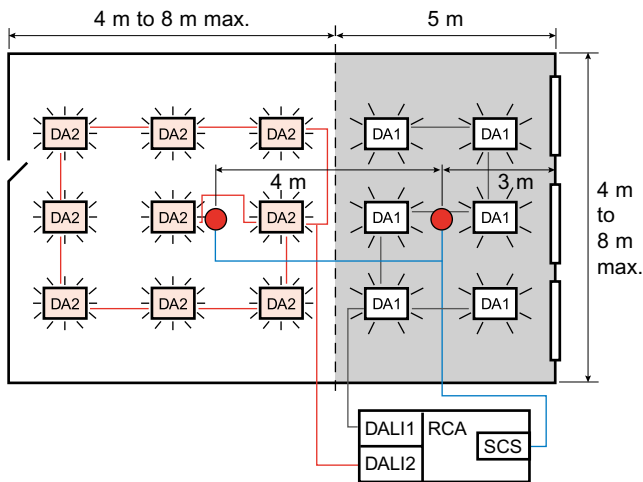
The BUS detector(s) are connected to the controller.
In these modes, the controller applies a dimming difference of + 30% (mode 1), + 50% (mode 2) and + 80% (mode 3) between channel DA1 (window side) and channel DA2 (corridor side).

| DA1	100	70	50	10	0		
DA2	100	100	80	40	30	+30%	Mode 1
	100	100	100	60	50	+50%	Mode 2
	100	100	100	90	80	+80%	Mode 3

Mode 1 = DA2 = DA1 + 30%
Mode 2 = DA2 = DA1 + 50%
Mode 3 = DA2 = DA1 + 80%

6. OPERATION *(continued)*

6.2 Surrounding area operating mode: Mode 5

In this mode, the controller applies a 2/3 difference in dimming between the channel controlling the working area (DA1) and the channel controlling the surrounding area (DA2).
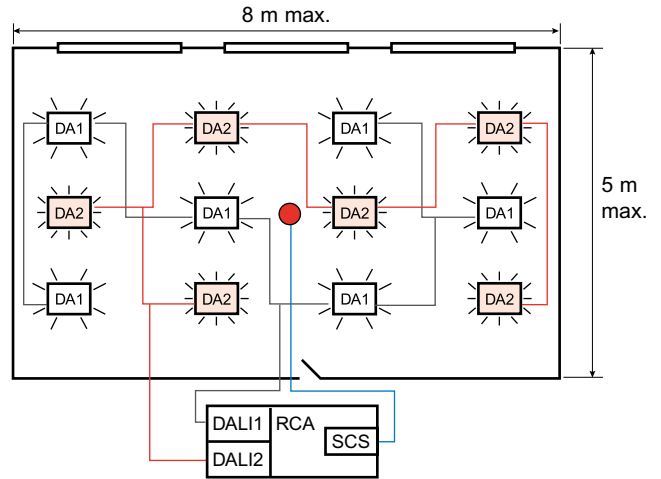This mode is optimised for lighting levels of 200 to 750 lux in the working area and complies with the specifications in standard 12464-1.
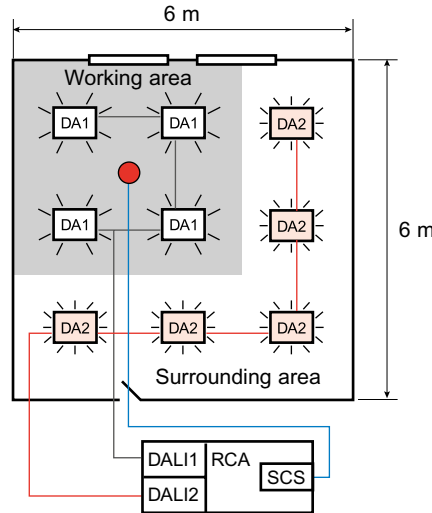
Mode 5 = DA2 = 2/3 DA1

6.2 Synchronised operating mode: Mode 4

This mode is optimised for public buildings.

Mode 4 = DA2 = DA1

The 2 channels are synchronised. This enables the luminaires to be placed in staggered rows.

Pushbutton
Both pushbuttons have the same function:
Short press ➤ Both DALI/DSI channels are switched on or off
Long press ➤ Increasing or decreasing dimming of both channels. If the load is switched off, the dimming will be increasing after the 1st long press
Note: A short press is less than 400 ms
      A long press is more than 400 ms
The pushbuttons can be placed in a room that is not accessible to the public. They can have an indicator (Cat. No. 0 676 67) to indicate the state of the load.

Ll legrand

2-output DALI controller

6. OPERATION *(continued)*

Detector
This controls the switching on and off of the two lighting circuits and the change of state of the ventilation at the end of the time delay.
It regulates the two lighting channels automatically following a sufficient contribution from outside light.
When the contribution from outside light decreases, the two lighting circuits dim proportionally.

6.4 Choice of operating modes
The operating mode of the controller can be changed using the Reset button.

A long press (> 400 ms) on the Reset button is used to scroll through the operating modes. The modes are indicated using 3 LEDs, marked 1 to 3.
When the button has been pressed for 2 s, the LEDs start to flash, indicating that the controller is switching to parameter setting mode. Then a different mode is offered every 4 s. When you reach the mode you want, simply release the Reset button. When the LEDs stop flashing, the new mode has been selected.

LED no.					Operating mode
1	2	3	4	Mode 1	Corridor side = window side + 30%
1	**2**	3	4	Mode 2	Corridor side = window side + 50%
1	**2**	**3**	4	Mode 3	Corridor side = window side + 80%
1	**2**	3	4	Mode 4	Synchronised
1	2	**3**	4	Mode 5	Surrounding area

Mode 1 = DA2 = DA1 + 30%
Mode 2 = DA2 = DA1 + 50%
Mode 3 = DA2 = DA1 + 80%

Mode 4 = DA2 = DA1

Mode 5 = DA2 = 2/3 DA1

6.5 Override
It is possible to override the electronic control box linking the two channels by using the pushbuttons.
The resulting behaviour is given in the following table.

MODE	DA1 pushbutton	DA2 pushbutton
Mode 1 = DA2 = DA1 + 30%		
Mode 2 = DA2 = DA1 + 50%	DA1 DA2 ON/OFF	DA2 ON/OFF
Mode 3 = DA2 = DA1 + 80%		
Mode 4 = DA2 = DA1	DA1 DA2 ON/OFF	
Mode 5 = DA2 = 2/3 DA1	DA1 DA2 ON/OFF	DA2 ON/OFF

7. PARAMETER SETTING

When connecting the detector(s) to the controller it must be switched off.

Switching the controller on generates an automatic configuration between the detector(s) and the controller.

The controller carries out a Plug'n Go procedure, analyses the detectors on the BUS SCS then, if necessary, configures them.
It is still possible to reset the assembly, as follows:
- Short press on the Reset button on the controller: the RESET LED flashes slowly
- Long press on the Reset button: the RESET LED starts to flash after 10 seconds. The controller deletes all the detectors connected to it, then reconfigures itself and the detectors
- When the RESET LED goes off, the system is ready to operate

The detectors are configured in walk-through mode, with a 15 minute time delay and a light level of 500 lux.

The parameters of the detector can be set using the configuration tools Cat. No. 0 882 35 (simplified configuration tool) or Cat. No. 0 882 30 (advanced configuration tool).

Consult the relevant technical data sheets for detailed parameter setting of compatible digital detectors.

> **Note:** All technical information is available at
>
> **www.legrandoc.com**

8. MAINTENANCE

Do not use: acetone, tar-removing cleaning agents or trichloroethylene.
Maintenance with the following products: - Hexane (En 60669-1)
- Methylated spirit
- Soapy water
- Diluted ammonia
- Bleach diluted to 10%
- Window-cleaning products

> **ATTENTION:** An initial test is required for the use of other special maintenance products.

9. STANDARDS

Directive: CE

Installation standards: NFC 15-100

Product standards: NF EN 50428

Environmental standards:
- EU Directive 2002/96/EC:
  WEEE (Waste Electrical and Electronic Equipment)

- EU Directive 2002/95/EC:
  RoHS (Restriction of Hazardous Substances)

- Regulations: ERP (public buildings)
  ERT (workplace buildings)
  IGH (high-rise buildings)