SpaceLogic C-Bus
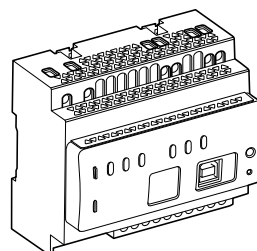
DALI-2 Gateway

GDE74699

5502CDGP230

For your safety

⚡⚠⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- This product must be installed and serviced by appropriately qualified and/or licensed electrical personnel.
- Isolate the electrical supply before doing any work on the product.
- Ensure that the product has been correctly installed and tested for safe operation before reconnecting the electrical supply.
- Do not attempt to open the product casing or perform any action on the internal components of the product.

Failure to follow these instructions will result in death or serious injury.

⚡⚠⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Treat DALI circuits as Low Voltage (LV).
- Isolate mains power to the devices on the DALI circuit before starting work on this product.

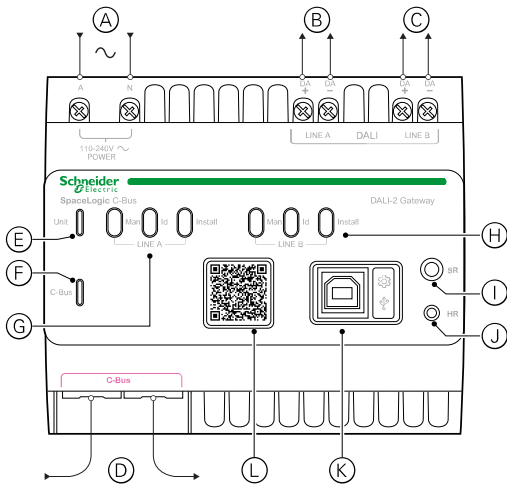**Failure to follow these instructions will result in death or serious injury.**

⚠ CAUTION

EQUIPMENT DAMAGE HAZARD

- Install the device according to instructions in this document.
- Pay attention to the specifications and wiring diagrams related to the installation.
- Do not use this product for any other purpose than specified in this instruction.

Failure to follow these instructions can result in injury or equipment damage.

Schneider Electric

About the gateway

A	Mains power input, 2x screw terminals
B	DALI Line A, 2x screw terminals
C	DALI Line B, 2x screw terminals
D	C-Bus connectors, 2x RJ-45
E	Unit indicator (See *Unit indications* below)
F	C-Bus indicator (See *C-Bus indications* below)
G	DALI Line A Indicator button (See *DALI line fault and status indications* below)
H	DALI Line B Indicator button (See *DALI line fault and status indications* below)
I	Soft Reset button
J	Hard Reset button
K	USB type B connector for firmware update
L	QR code (Scan with a mobile device for general product information.)

Unit indicator (E): basic indications	
Solid GREEN	Normal operation
Flashing GREEN	Local override enabled (Long press **Man** to exit local override)
Solid YELLOW	Internal communication problem
Off	No power to gateway

C-Bus indicator (F): basic indications	
GREEN	C-Bus clock okay
RED	No C-Bus clock detected
Flashing	C-Bus voltage low (<20 V DC)
Not flashing	C-Bus voltage good (>20 V DC)
Off	No C-Bus voltage or no power to gateway

The gateway can display many indications beyond the basic ones shown above and the DALI line fault and status indications shown in the *Important DALI information* section below. See the product user guide for a full list of possible indications and their meaning.

Important DALI information

The C-Bus DALI–2 Gateway is equipped with dual integrated advanced bus power supplies.

Each power supply provides 230 mA guaranteed supply current and 250 mA maximum supply current to its respective DALI line.

> **IMPORTANT:** To comply with the DALI standard, a DALI line must not exceed 250 mA of supply current. Do not connect additional power supplies to the DALI lines.

The dual power supply configuration provides separation between the two DALI lines. If a problem occurs on one DALI line, the other line should be unaffected.

Each power supply supports up to 64 DALI devices on a DALI line that can be up to 300 m in length. (The product therefore supports up to 128 DALI devices over a maximum of 600 m, distributed across two DALI lines.)

C-Bus DALI–2 Gateway DALI power supply shut down mechanism.

The DALI power supplies in the C-Bus DALI-2 Gateway incorporate independent shutdown mechanisms according to IEC 62386–101 v2.1 + A1, section 6.6.2. If a short circuit or overload condition is detected on a DALI line for longer than 600 ms, the bus power for that line may be shut down for a period of up to 15 seconds, after which retries for at least 600 ms will be attempted at least every 15 seconds. If an overvoltage condition (e.g. short to mains) is detected, the bus power for that line will be shut down. In either case, after the fault is removed, recovery is automatic within 15 seconds.

The C-Bus DALI–2 Gateway is not designed to indicate all unsafe conditions on the DALI line.

While the AC overvoltage across the DALI line can be detected by the product, other hazards of similar significance could occur on the DALI lines that the product may not detect, nor provide any indication.
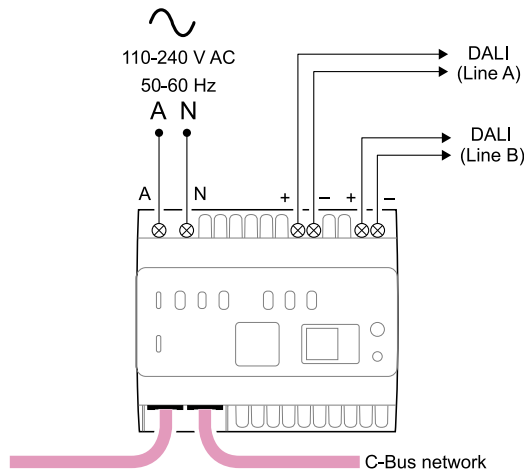
DALI line fault and status indications	
	Install solid **GREEN**: DALI line OK. (Flickering GREEN indicates network traffic on the DALI line.)
	Id slow flash **GREEN**: Flashing of DALI lights..
	Manual solid **YELLOW**: High priority override On. (Extra long press **Man** to exit high priority override.)
	Id solid **YELLOW**: New devices found during scan.
	Install solid **YELLOW**: Fault with DALI devices. (Refer to Troubleshooting section in product user guide.)
	Manual solid **RED**: Device fault indication. (Refer to Troubleshooting section in product user guide.)
	Id solid **RED**: Duplicate device found during scan. (Resolve address conflicts between DALI devices— refer to product user guide.)
	Install solid **RED**: Major fault. (Refer to Troubleshooting section in product user guide.)
	All fast flash **RED**: **CRITICAL INSTALLATION FAULT**. (For example: overvoltage such as mains power detected across DALI line.)

Installing the gateway

Wiring diagram and required connections

IMPORTANT:

- This product is not provided with an all-pole mains switch. Therefore, an all-pole mains switch in accordance with Annex L of IEC 62368-1 shall be incorporated in the electrical installation of the building.

- The wiring used for both mains and DALI connections must comply with IEC 60332-1-2 and IEC 60332-1-3, or UL 2556 VW-1.
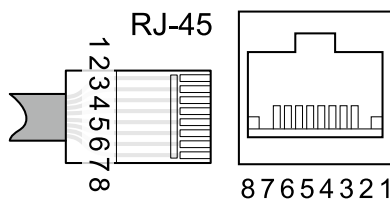

DALI cable length and size requirements

Total cable length per DALI line	Minimum cable size
Up to 100 m	0.5 mm^2
100 to 150 m	0.75 mm^2
150 to 300 m (Max. length = 300 m)	1.5 mm^2 (Recommended for all cable lengths)

C-Bus Cable

CAT-5e polarised 15–36 V twisted pair:
Cat. No. 5005C305B (solid)
Cat. No. 5005C305BST (stranded)

NOTE: All C-Bus cabling should be certified for C-Bus, which is identifiable by its pink sheath.

Pin	Wire Colour	Signal
1	Green & White	Remote ON
2	Green	Remote ON
3	Orange & White	C-Bus negative (−)
4	Blue	C-Bus positive (+)
5	Blue & White	C-Bus negative (−)
6	Orange	C-Bus positive (+)
7	Brown & White	Remote OFF
8	Brown	Remote OFF

Operating environment

NOTICE

HAZARD OF EXCEEDING OPERATING TEMPERATURE

Provide sufficient ventilation in the enclosure where the product is installed so that the ambient temperature within the enclosure does not exceed +45 °C when the product is operating. (See heat load values in *Technical specifications*.)

Failure to follow these instructions can result in equipment damage.

Installation procedure

IMPORTANT: To protect against unauthorised tampering, the product and associated C-Bus and DALI wiring should be installed in a secure location not accessible by unauthorised people.

1. **MOUNTING**

   Mount gateway on DIN rail, type DIN EN60715.

2. **CONNECTIONS**

   Connect gateway (see wiring diagram and required connections).

⚡⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

If all 3 buttons are fast flashing RED, isolate power to all DALI devices and C-Bus DALI–2 Gateway immediately, investigate the cause of overvoltage / mains power across the DALI lines and rectify the problem.

Failure to follow these instructions will result in death or serious injury.

3. **VERIFY INSTALLATION**

   On each DALI line, check that the **Install** button displays solid **GREEN**.

   NOTE: Indicator may flicker due to network traffic —this is normal.

4. **FLASH DALI LIGHTS**

   Check operation of DALI lights from the **Id** button.

   SHORT PRESS 'Id': Button flashing GREEN (DALI lights flash). Short press button again to stop the DALI lights flashing.

OPTIONAL STEPS: (Perform only if instructed to do so)

1. Refresh DALI line status.

   SHORT PRESS 'Install': LED flash GREEN (Progress)

2. Auto-address DALI lights.

   LONG PRESS 'Install': LED flash GREEN (Progress)

3. Flash addressed lights.

   LONG PRESS 'Id': Addressed DALI lights flash

NOTE:
SHORT PRESS = Press <0.5 s
LONG PRESS = Press 1–2 s
EXTRA LONG PRESS = Press 10–12 s

Technical specifications

Parameter		Value
Power requirements and outputs	Power supply input	110–240 V AC, 50–60 Hz, 13 W max.
	C-Bus power input	15–36 V DC, 20 mA
	DALI power supply outputs	12–20.5 V DC Guaranteed supply current: 230 mA per line Maximum supply current: 250 mA per line (No other power supplies allowed) Independent power supply shut down on fault detection
Connectors	Mains power	2x screw terminals (A, N) accommodating up to 2x twisted 1.5 mm² cables
	DALI	2x screw terminals per line (+, –) accommodating up to 2x twisted 1.5 mm² cables
	C-Bus	2x RJ-45
Environmental	Storage temperature	–20 °C to +80 °C
	Storage humidity	10% to 93% RH, non-condensing
	Operating temperature	–5 °C to +45 °C
	Operating humidity	10% to 93% RH, non-condensing
	Operating calorific values (heat load)	Max: 24 BTU/h Min: 7 BTU/h
General	Mounting type	DIN rail, type DIN EN60715
	Dimensions (W x D x H)	108 x 63 x 93 mm (6M width on DIN rail)
Safety	AU/NZ	AS/NZS 62368-1
	EU	EN 62368-1
	International	IEC 62368-1
EMC	AU/NZ	AS/NZS CISPR 32 (Emission)
	EU	EN 55032 (Emission), EN 55035 (Immunity)
	International	CISPR 32 (Emission), CISPR 35 (Immunity)
DALI-2	International	IEC 62386-101, IEC 62386-103 DALI-2 MultiMaster
	Supported device limits	Max. 64 DALI devices per line (128 devices total)
Electrical	EU	Low Voltage Directive (LVD) 2014/35/EU
RoHS / REACh	RoHS regulation	2011/65/EU, (EU)2015/863
	REACh regulation	(EC) No 1907/2006

More information is available:

DALI-2 Gateway User Guide
https://download.schneider-electric.com/files?p_Doc_Ref=MFR8715002

SpaceLogic C-Bus

C-Bus   DALI 2   CE

Warranty

For Warranty information and service, visit **se.com/contact**.

Schneider Electric reserves the right to change specifications, modify designs and discontinue items without incurring obligation and whilst every effort is made to ensure that descriptions, specifications and other information in this catalogue are correct, no warranty is given in respect thereof and the company shall not be liable for any error therein.