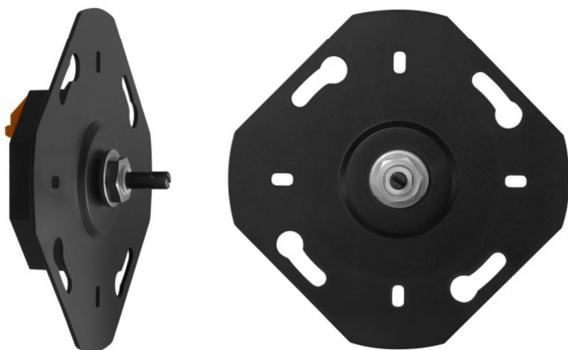# Lunatone

DALI ROT
rotary switch

Datasheet
Control Module

Rotary knob for controlling light level, colour and colour temperature in DALI-systems

Art. Nr. 86459822
Art. Nr. 86459822-TW
Art. Nr. 86459822-RGB
Art. Nr. 86459822-RGBW
Art. Nr. 86459822-CH
Art. Nr. 86459822-TW-CH
Art. Nr. 86459822-RGB-CH
Art. Nr. 86459822-RGBW-CH

cover and rotary knob:
Art. Nr. 86459822-Z01 (white)
Art. Nr. 86459822-Z02 (black)

DALI ROT Control Module

Overview

- DALI control module
- Type for intensity control (switching and dimming)
- control of light level and colour temperature of DT8 tunable white luminaires (TW version)

- control of light level and colour of DT8 RGB-luminaires (RGB and RGBW version)

- balance&dim or colour&dim mode for control intensity and colour via 2 separate DALI addresses (supported by Lunatone dimmer)
- multimaster capable, multiple modules can be installed on one DALI-line and/or DALI group

- factory settings allow easy to use application
- easy configuration via DALI USB interferace and DALI-Cockpit software tool
- the module is supplied directly by the DALI-line, no additional supply required
- double DALI terminals for easy looping of the bus connection
- simple installation, even with power supply, in a standard back box
- suitable to be used with cover and knob of most common manufacturers, but also available as accessory
- DALI-2 certificated versions available: check datasheet of DALI ROT NFC

CE

Specification, Characteristics

type	DALI ROT	DALI ROT TW	DALI ROT RGB	DALI ROT RGB
article number	86459822 86459822-CH	86459822-TW 86459822-TW-CH	86459822-RGB 86459822-RGB-CH	86459822-RGBW 86459822-RGBW-CH

DALI-inteface, supply:

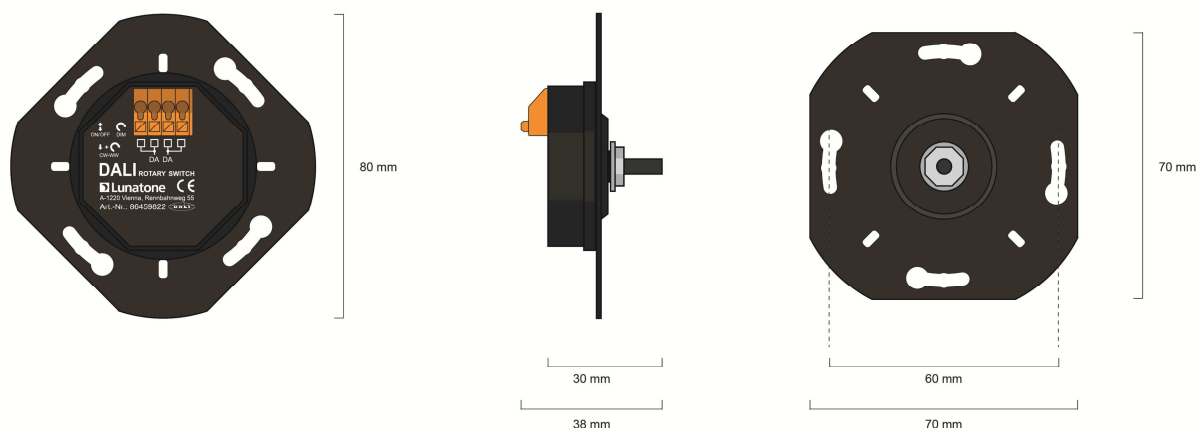|	
input type	DALI, supply
Marking	DA, DA
input voltage range	9,5V … 22,5Vdc according to IEC62386
typ. current consumption DALI	1.6 mA
addresses for control gear	0
addresses for control devices	1
output	DALI

environmental conditions:

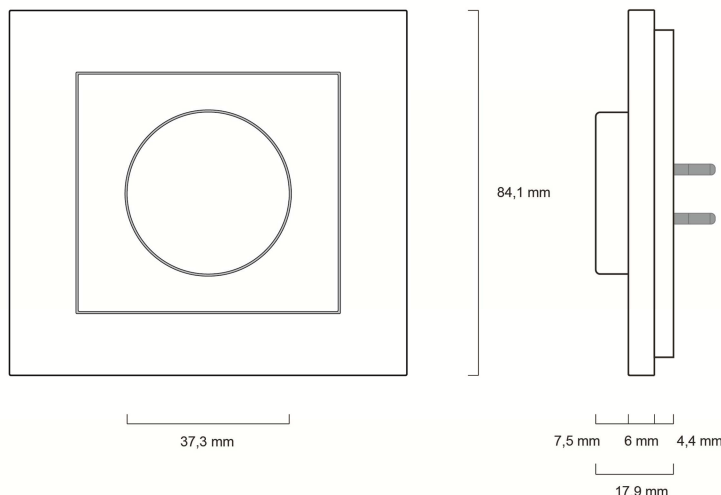|	
storing and transportation temperature	-20°C … +75°C
operational ambient temperature	-20°C … +75°C
rel. humidity, none condensing	15% … 90%

general data:

dimensions	70mm x 70mm x 45mm			
shaft diameter	4mm, adapter with 6mm			
mounting / intended use	back box			
protection class	II in intended use			
protection degree	IP40			
protection degree	IP20			
manual control	rotary knob with integrated pushbutton function			
function & operating modes	Intensity	Intensity & Tunable White	Intensity & RGB	Intensity & RGBW

terminals:

connection type	spring terminal connector
wire size solid core	0,5 … 1,5 mm^2 (AWG20 … AWG16)
wire size fine core	0,5 … 1,5 mm^2 (AWG20 …AWG16)
wire size using wire end ferrule	0,25 … 1 mm^2
stripping length	8,5 … 9,5 mm / 0,33 … 0,37 inch

standards:

DALI	IEC62386-101:2014 IEC62386-103:2014
EMC	EN 61547 EN 50015 / IEC CISPR15
safety	EN 61347-2-11 EN 61347-1
markings	CE

dimensions DALI ROT

dimensions cover & rotary knob (assessory: Art.Nr. 86459822-Z01/Z02)

Installation

The DALI ROT module is connected and supplied directly by the DALI-line (typ. current consumption: 1.6 mA).

Multiple DALI ROT modules and DALI luminaires can be connected to a DALI-line, in total up to 64 pcs each. DALI ROT modules controlling the same group are synchronized automatically. A changeover switch, cross or step relay circuit is not required.

The device is available with, but also without, knob and cover. It can be easily combined with covers of common manufacturers. The module can be mounted on a back-box (installation depth at least 25mm). The shaft diameter is 4 mm or 6mm with adapter.

Application and Function

The DALI ROT rotary switch is used to control the light level and/or colour temperature respectively colour of DALI-compatible luminaires. The function is type dependent.

With the help of the DALI Cockpit software tool (PC) the commissioning and addressing as well as the setup of the destination address and, if required, the minimum and the maximum level can be performed.

For simple installations (broadcast) the basic setting is usually sufficient. Device localization and DALI address assignment is done during addressing by pressing order of rotary knobs or even by the serial number shown on the housing.

In default mode (delivery state) the light is controlled broadcast, dimming and colour temperature adjustment are supported.
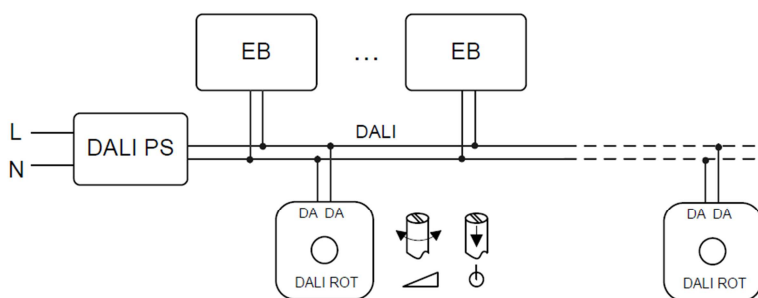
👉 **Recommendation**: for optimal dimming behaviour and adequate response time a fade-rate of 63.3 steps per second is recommended for a dimming range for 0.1-100% (or 44.7 steps/s for 1%-100%).
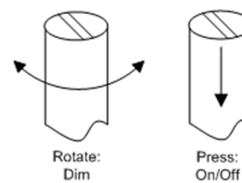
Type Overview:

Type	Function	brief description
DALI ROT 86459822 86459822-CH	⏻ ◿	Press: On/Off Rotate: Dim
DALI ROT TW 86459822-TW 86459822-TW-CH	⏻ , Mode Mode1: ◿ Mode2: ▭	Short Press: On; Change Mode Long Press: Off Mode 1 - Rotate: Dim Mode 2 - Rotate: Colour Temperature
DALI ROT RGB 86459822-RGB 86459822-RGB-CH	⏻ , Mode Mode1: ◿ Mode2: ▭	Short Press: On; Change Mode Long Press: Off Mode 1 - Rotate: Dim Mode 2 - Rotate: Colour (RGB)
DALI ROT RGBW 86459822-RGBW 86459822-RGBW-CH	⏻ , Mode Mode1: ◿ Mode2: ▭ Mode3: ▭	Short Press: On; Change Mode Long Press: Off Mode 1 - Rotate: Dim Mode 2 - Rotate: Colour Temperature Mode 3 - Rotate: White

DALI ROT: Intensity - Switch / Dim   ⏻ ◿

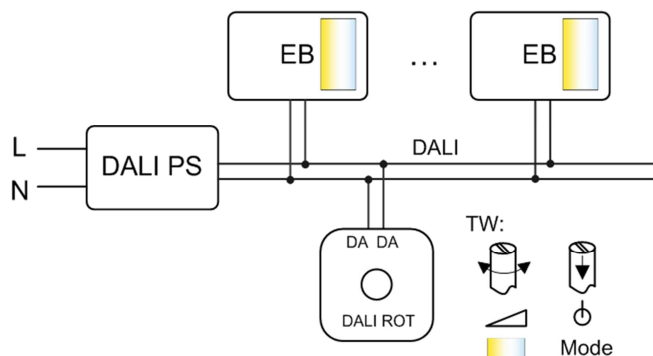application: switch and dim with DALI ROT module   operator actions
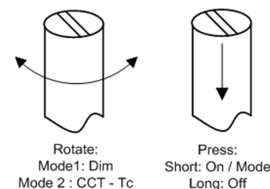
Function:

Turn clockwise to dim up or counter-clockwise to dim down the light using the UP and DOWN commands. The respective luminaires can be switched on and off by pushing the knob.

DALI ROT TW: Intensity & Tunable White

application: tuneable white control

operator actions

Rotate:
Mode1: Dim
Mode 2 : CCT - Tc

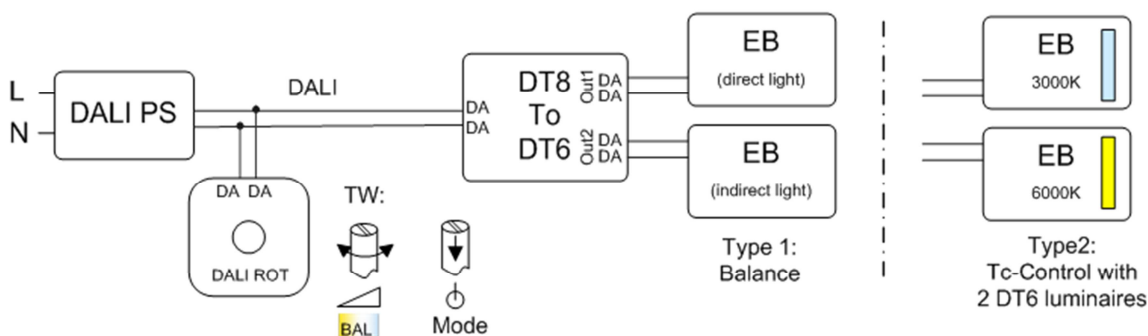Press:
Short: On / Mode
Long: Off

Function:

If the light is off, it can be switched on by pressing the button. Turn clockwise to dim up or counter-clockwise to dim down the light by using UP and DOWN commands.

If the light is on the mode can be changed with a short press, i.e. the operator can select if rotating the knob is used for dimming of for changing the colour temperature (CCT) of DALI-DT8 compatible luminaires (colour type Tc). After 10 seconds of operator inactivity the mode falls back to dimming automatically (mode 1).

The respective luminaires can be switched off by a long press.
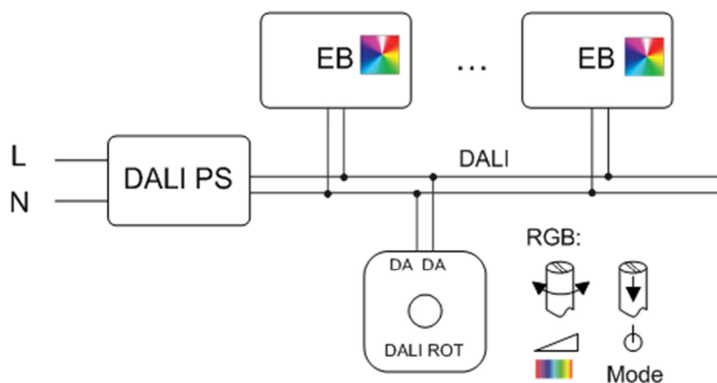
With the help of a DT8toDT6-converter the colour temperature (balance) on conventionally DALI-controlled single luminaires (DT6) can be adjusted. Even the balance between direct and indirect can be adapted.
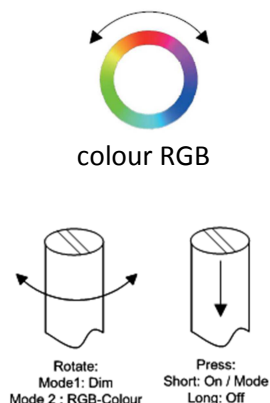

application: balance- and level control of direct and indirect lighting (type 1) or tunable white and level control of 2 conventional DT6-luminaires (type 2) with the help of a DT8toDT6 converter

In combination with Lunatone dimmers the operating mode balance&dim can be used, at which the info about colour temperature is submitted to a separate DALI-address (using DALI standard commands only).

DALI ROT RGB: Intensity & RGB

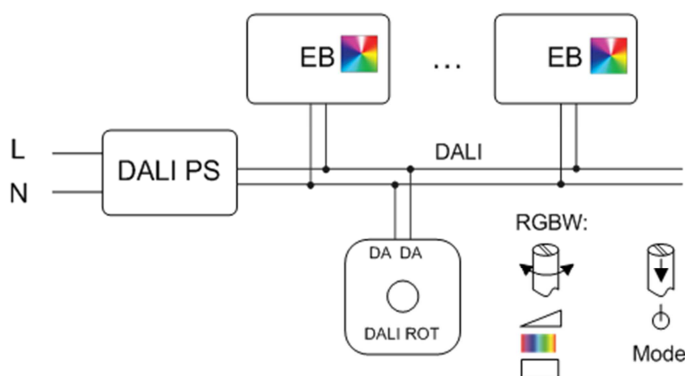application: colour control RGB + dimming

operator actions

Function:

If the light is off, it can be switched on by pressing the button. Turn clockwise to dim up or counter-clockwise to dim down the light by using UP and DOWN commands.

If the light is on the mode can be changed by a short press, i.e. the operator can select if rotating the knob is used for dimming or for changing the colour of DALI DT8 compliant RGB luminaires (colour type RGBWAF). After 10 seconds of operator inactivity there the mode falls back to dimming automatically (mode 1).
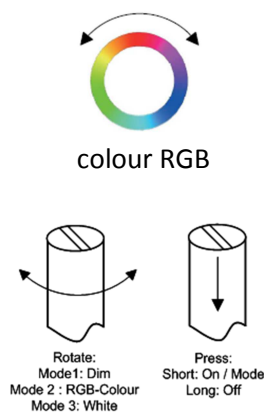
The respective luminaires can be switched off by a long press.

In combination with Lunatone dimmers the operating mode colour&dim can be used, at which the info about colour temperature is submitted to a separate DALI-address address (using DALI standard commands only).

DALI ROT RGBW: Intensity & RGBW

application: colour control RGB+W and dimming

operator actions

Lunatone

Function:

If the light is off, it can be switched on by pressing the button. Turn clockwise to dim up or counter-clockwise to dim down the light by using UP and DOWN commands.

If the light is on the mode can be changed by a short press, i.e. the operator can select if rotating the knob is used for dimming, for changing the colour or for changing the white component of DALI DT8 compliant RGBW luminaires (colour type RGBWAF). After 10 seconds of operator inactivity there the mode falls back to dimming automatically (mode 1).

The respective luminaires can be switched off by a long press.

Lunatone RGBW-LED-dimmer provide various output modes, hence intensity of RGB and white component can be controlled together or separated.

In combination with Lunatone dimmers the operating mode colour&dim can be used, at which the info about colour temperature is submitted to a separate DALI-address address (using DALI standard commands only).

Effective Range

Dependent on the device type up to 4 address entries for the effective range are supported. For each entry a short address, group address or broadcast can be selected. The commands are sent to the defined effective range.

Usage of address entries dependent on type and operating mode:

address entry	ROT	TW DT8	TW Bal&Dim	RGB DT8	RGB – Col&Dim	RGBW DT8	RGBW Col&Dim
1	Intensity	Intensity & Balance	Intensity	Intensity & Colour	Intensity	Intensity & Colour	Intensity
2	Intensity	Intensity & Balance	Balance	-	Colour	-	Colour RGB
3	Intensity	Intensity & Balance	-	-	-	-	Colour White
4	Intensity	Intensity & Balance	-	-	-	-	-

Settings

Factory Settings:

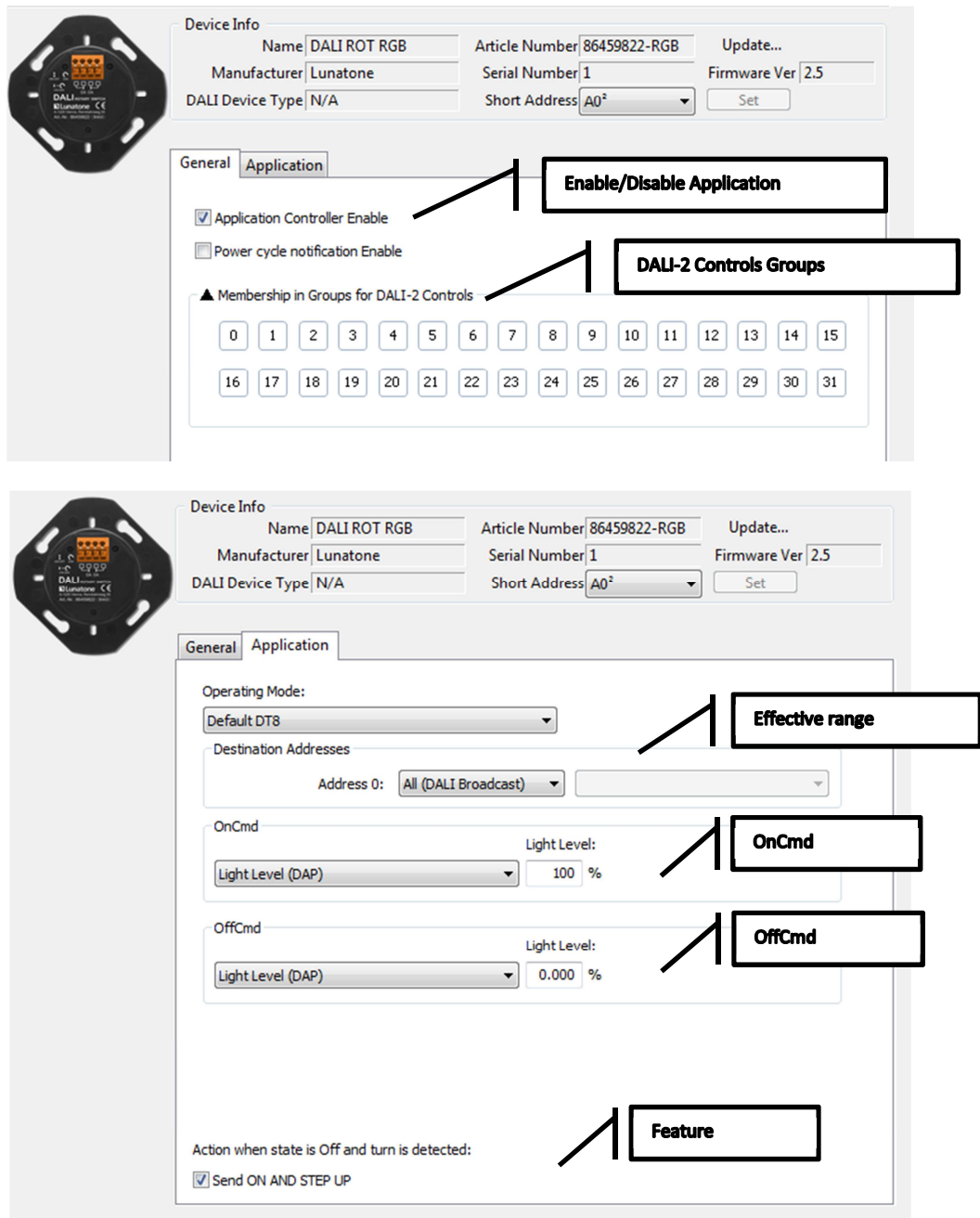The DALI ROT is delivered with these settings:

Destination: Broadcast
On-Command: DAP 100%
Off-Command: DAP 0%

DALI-Cockpit:

The settings can be made with the DALI-Cockpit software tool and a suitable interface to the DALI-line (e.g.: DALI USB, DALI SCI RS232 oder DALI4Net).

Delivery state:

Settings:

- addressing (Random Addressing for DALI-2 control devices (no luminaire address required)
- assignment to 32 control device groups (Attention: these are no luminaire / control grear groups)
- Activation/Deactivation of Device

- Application:
  - o Parameter: Effective Range, OnCmd and OffCmd:
  - o On-commands: DAP, RECALL MAX, RECALL MIN, GOTO SCENE X, GOTO LAST ACTIVE LEVEL
  - o Off-commands: DAP0, OFF and GOTO SCENE X
  - o Feature: Switch on by rotation (without pressing) if state of destination is Off (this behaviour can be deactivated)

DALI Instruction Set

The DALI Rotary Switch acts as control device and sends predefined DALI-commands when an operator action (turning or pushing knob) occurs.

The device is based on the standard for DALI control devices (IEC 62386-103). The module is multimaster capable and works as application controller, the function is described in this datasheet.

Purchase Order Information

Art.Nr. 86459822: DALI ROT, rotary switch insert for switching and dimming DALI systems

Art.Nr. 86459822-TW: DALI ROT TW, rotary switch insert for switching, dimming and colour temperature adjustment in DALI systems

Art.Nr. 86459822-RGB: DALI ROT RGB, rotary switch insert for switching, dimming and adjusting colour in DALI systems

Art.Nr. 86459822-RGBW: DALI ROT RGB, rotary switch insert for switching, dimming and adjusting colour and white in DALI systems

Art.Nr. 86459822-CH: DALI ROT, rotary switch insert for switching and dimming DALI systems, suitable for back boxes in Switzerland (Feller)

Art.Nr. 86459822-TW-CH: DALI ROT TW CH, rotary switch insert for switching, dimming and colour temperature adjustment in DALI systems, suitable for back boxes in Switzerland (Feller)

Art.Nr. 86459822-RGB-CH: DALI ROT RGB CH, rotary switch insert for switching, dimming and adjusting colour in DALI systems, suitable for back boxes in Switzerland (Feller)

Art.Nr. 86459822-RGBW-CH: DALI ROT RGBW CH, rotary switch insert for switching, dimming and adjusting colour and white in DALI systems, suitable for back boxes in Switzerland (Feller)

Art.Nr. 86459822-Z01: accessory – cover and rotary knob (white)

Art.Nr. 86459822-Z02: accessory – cover and rotary knob (black)

Art.Nr. 86459822-Z03: accessory – adapter for 6mm shaft

Additional Information and Equipment

DALI-Cockpit – free configuration tool from Lunatone for DALI systems
http://lunatone.at/en/downloads/Lunatone_DALI-Cockpit.zip

Lunatone DALI products
http://www.lunatone.at/en/

Lunatone datasheets and manuals
http://lunatone.at/en/downloads/

Contact

Technical Support: support@lunatone.com

Requests: sales@lunatone.com

www.lunatone.com

Disclaimer

Subject to change. Information provided without guarantee.
The datasheet refers to the current delivery.

The compatibility with other devices must be tested in advance to the installation.