

DALI-2 ROT-P

rotary switch

Datasheet

Control Device



Rotary knob for controlling switching, brightness and colour temperature in DALI, DALI-2-systems

factory default setting: **input device** activated

DALI bus power supply : 150mA

DALI-2 ROT-P Control Device

Overview

- DALI-2 rotary and push button with DALI output for fast and precise control of switching, brightness, or colour temperature.
- Multiple operating modes for dimming and switching.
- ROT-P can work in '**input device**' or '**application controller**' mode:
 - **Input device:** generate event messages that are interpreted and processed by higher-level control units (support IEC62386-103), higher-level control units (support IEC62386-103) gives direct DALI control commands that are immediately executed by the DALI drivers.
 - **application controller:** gives direct DALI control commands that are immediately executed by the DALI drivers.
- Individual DALI Commands and operating modes can be assigned to the push and rotary button.
- Multi-master capable, multiple modules can be installed on one DALI-line.
- When the 'L' and 'N' of the ROT-P is inactive, The DALI-2 ROT-P module is connected and supplied directly by the DALI-line (typ. current consumption: 2 mA). A DALI bus power supply (e.g. DALI PS) is required.
- When 'L' and 'N' connected to AC mains, 150mA integrated DALI bus power can supply on the DALI-line.
- easy configuration via CORSL DALI USB interface and DALI-Config Software Tool.
- standards: IEC62386-101, IEC62386-102, IEC62386-103, IEC62386-301, IEC62386-302.



Specification, Characteristics

Model No	ROT-P
article number	8980020321120
factory default setting	input device

active operation(connect L, N to the AC mains; connect DA+,DA- to DALI-line)

input type	supply, main-voltage,50/60Hz, 100mA
markings	L, N
input voltage range	100~240Vac
max. input supply current	100mA
Input supply frequency	50Hz / 60Hz
output DA+,DA-	DA+, DA-
output type	DALI
markings	DA+, DA-
output voltage range	9,5V ... 22,5Vdc according to IEC62386
guaranteed DALI supply current	150 mA
number of addresses for DALI control gear	none
number of addresses for DALI control devices	1

passive operation(inactive 'L' and 'N'; only connect DA+,DA- to DALI-line)

input type	DALI, supply
marking	DA+,DA-
input voltage range	9,5V ... 22,5Vdc according to IEC62386
typ. current consumption DALI (at 16,5V)	2 mA
number of addresses for DALI control gear	0
number of addresses for DALI control devices	1

environmental conditions:

storing and transportation temperature	-20°C ... +75°C
operational ambient temperature(connect 'L' and 'N')	-20°C ... +55°C
operational ambient temperature(inactive 'L' and 'N')	-20°C ... +75°C
rel. humidity, none condensing	15% ... 90%

general data:

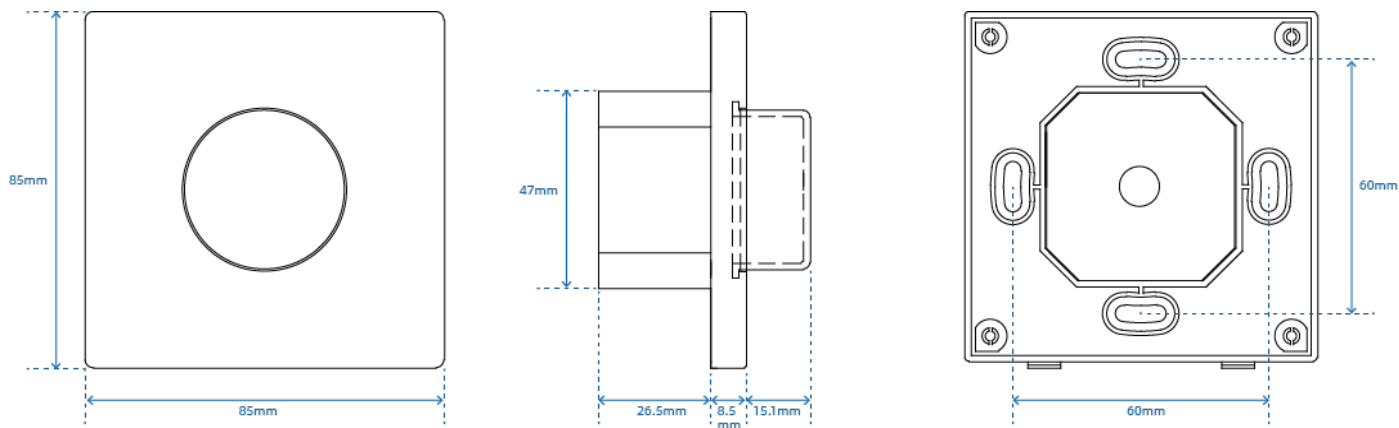
dimensions	85mm x 85mm x 52mm
mounting	back box
protection class	II in intended use
protection degree housing	IP40
protection degree terminals	IP20
manual control	rotary knob with integrated push button function

terminals:

connection type	screw connector
wire size solid core	0,5 ... 2,0 mm ² (21 ... 14AWG)
wire size fine core	0,5 ... 2,0 mm ² (21 ... 14AWG)
wire size using wire end ferrule	0,3 ... 1.5 mm ²
stripping length	6 ~ 7mm

standards

DALI	IEC62386-101, IEC62386-102, IEC62386-103, IEC62386-301, IEC62386-302
markings	DALI-2



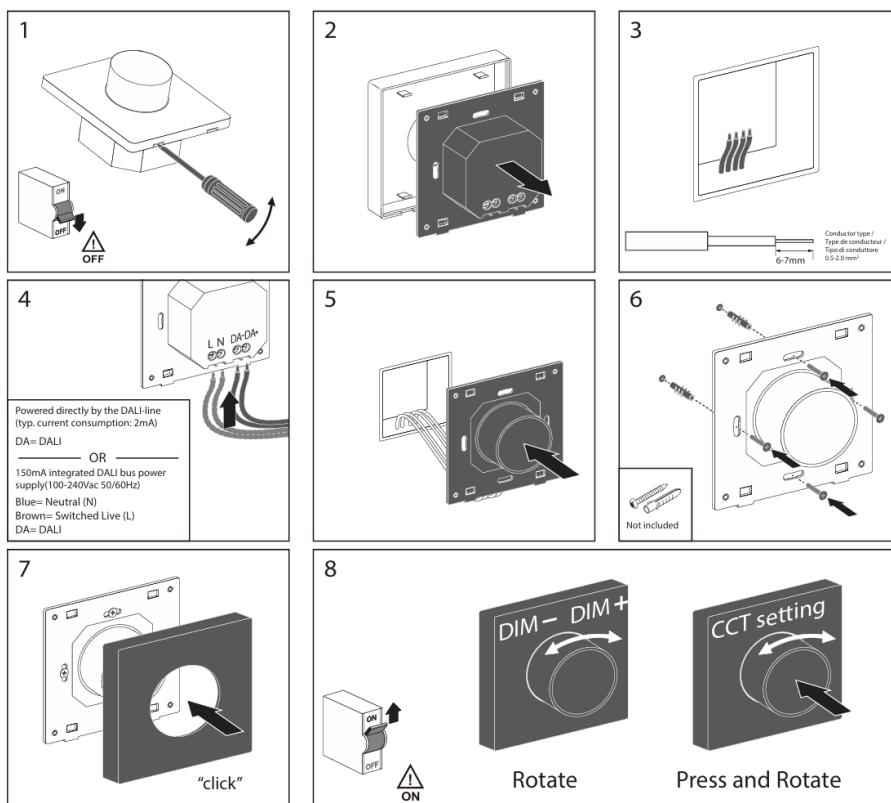
dimensions

Installation

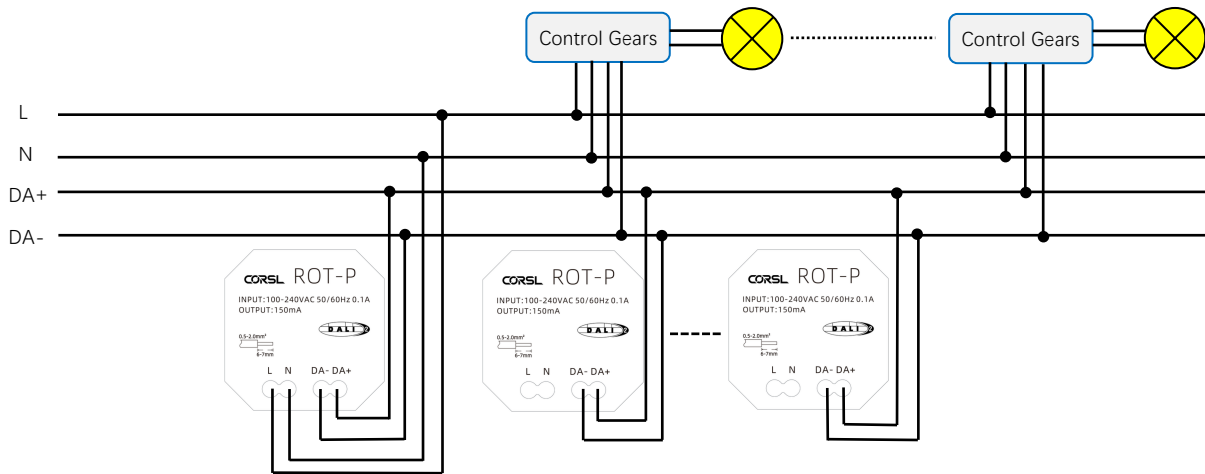
- The DALI-2 ROT-P is intended for mounting on a flush mounted box or on a cavity wall
- When the 'L' and 'N' of the ROT-P is inactive, The DALI-2 ROT-P module is connected and supplied directly by the DALI-line (typ. current consumption: 2 mA), A DALI bus power supply (e.g. DALI PS) is required.
- When 'L' and 'N' connected to AC mains, 150mA integrated DALI bus power can supply on the DALI-line.
- The wiring should be carried out as a permanent installation in a dry and clean environment.
- Installation may only be carried out in a voltage-free state of the system and by qualified specialists.
- National regulations for setting up electrical systems must be followed
- The DALI wiring can be realised with standard low-voltage installation material. No special cables are required
- Only 1 wire may be connected to each terminal. When using double wire end ferrules, the connection capacity of the terminal must be considered.
- Multiple DALI ROT-P modules and DALI luminaires can be connected to a DALI-line.



The voltage drop on the DALI line must not exceed 2V at maximum length (300m) and maximum bus load (250mA).

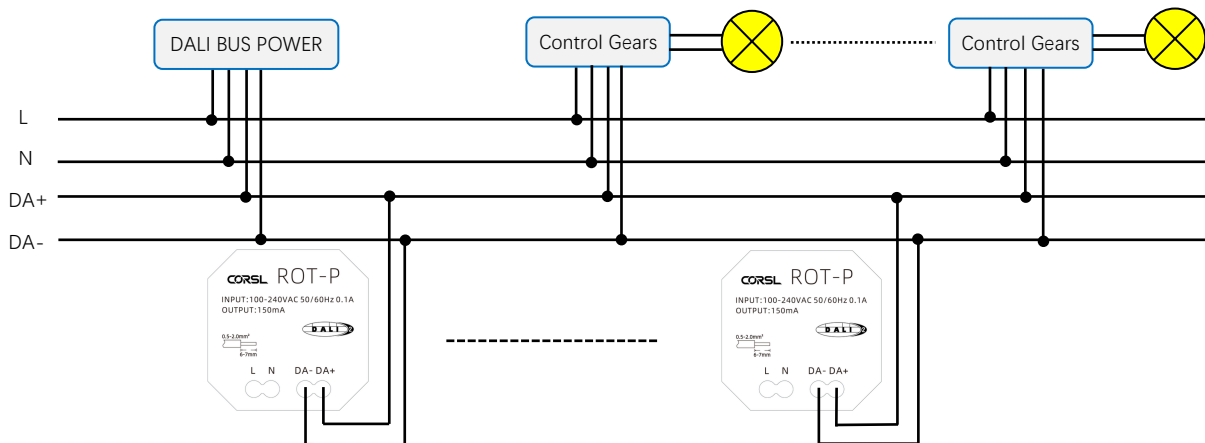


Typical application 1(DALI Bus Power supplied by ROT-P)



Only one DALI bus power can supply on one DALI-line.

Typical application 2(DALI Bus Power supplied by external DALI BUS POWER)



Addressing and Configuration

- After installation, the device can already be used with DALI-2 'input device'(default factory settings), the device can be operated by higher-level central control units (support IEC62386-103). you can use the central control units(support IEC62386-103) to address and set the function of the device.
- If no higher-level central control units or central control unit doesn't support IEC62386-103 on the DALI Bus, with the help of DALI-Config software and DMUmini, you can address the device first and activate the device to 'application controller' mode, then configuration or location.

DALI Device Localisation

Whether ROT-P is working in 'input device' mode or 'application controller' mode, after it has an address, you can use DMUmini to locate the device. The "Physical Selection List" can be used for the control devices and contains the order in which the inputs/buttons are triggered. This should make locating of control devices after addressing easier. To create a "Physical Selection List", first you need to active 'Localiza', then you need to trigger inputs/buttons on the control device. The address of the control device will show up in the "Physical Selection List" according to the order you physically trigger them. So you can know the address of the device.

When the device work in 'application controller' mode, If you left click the address to choose in the "Physical Selection List", then click "Goto->"-button, it will goto the control device's interface then you can configuration the control device.

You can click "Clear List"-button in the "Physical Selection List" to clear the list. After localization,you must inactive 'Localiza' to exit.

Operation and function

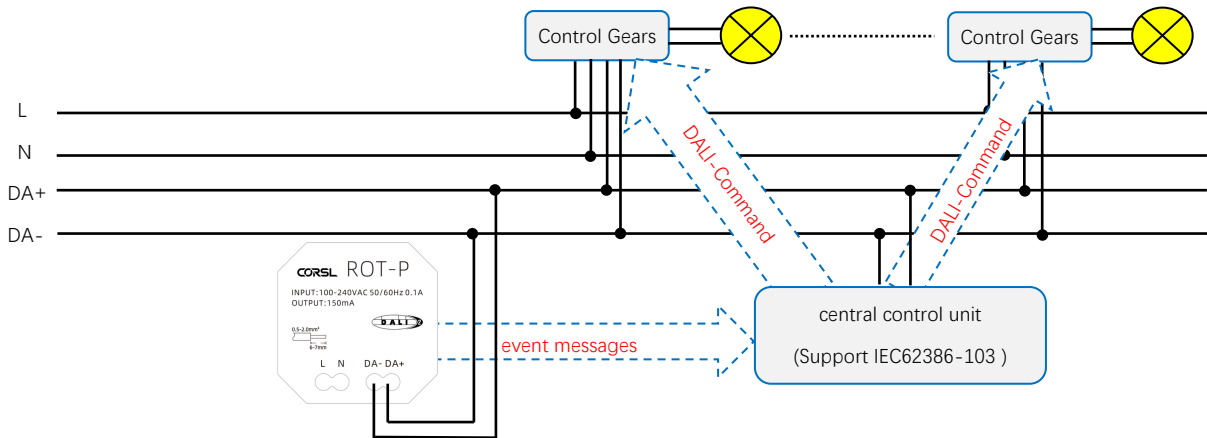
ROT-P can work in 'application controller' or 'input device' mode. It is necessary to distinguish between 'application controller' and 'input device'.

- **input device:** generates input notifications (event messages) that are interpreted and processed by central control units (support IEC62386-103).
- **application controller:** gives direct DALI control commands that are immediately executed by the DALI drivers.

Mode 1: input device(factory default settings)

In this mode, luminaires are not controlled directly by ROT-P. ROT-P serves as an input device and sends input notifications(event messages) when the rotary is used. These event messages can be evaluated by a DALI-2 compatible central control units(support IEC62386-103). Addressing and device configurations can be made with the central control units(support IEC62386-103).

Also you can use DMUmini with DALI-Config software to address and location.



In this operating mode, no DALI control commands are sent on the bus by ROT-P but DALI-2 input notifications (event messages) for DALI-2 compatible central control systems.

As defined in the standard, the following events are supported and placed on the DALI bus as INPUT NOTIFICATIONS. The DALI-2 ROT-P supports 2 instances:

- **Instance 0:** push button function instance type 1(IEC62386-301, Input Devices - Push Button), event information see table 1.
- **Instance 1:** rotary movement Instance type 2 (IEC62386-302, Input Devices - Absolute Input Devices) 5bit resolution, as an alternative evaluation of the rotary movement. , event information see table 2

Instance Type 1 – Pushbutton:

Event name	Event Information	Description
Button released	00 0000 0000b	The button is released
Button pressed	00 0000 0001b	The button is pressed
Short press	00 0000 0010b	The button is pressed and released, without being pressed quickly again (in case of double press enabled), or the button is pressed and quickly released (in case double press is disabled)
Double press	00 0000 0101b	The button is pressed and released, quickly followed by another button press
Long press start	00 0000 1001b	The button is pressed without releasing it
Long press repeat	00 0000 1011b	Following a long press start condition the button is still pressed, the event occurs at regular intervals as long as the condition holds
Long press stop	00 0000 1100b	Following a long press start condition, the button is released
Button free	00 0000 1110b	The button has been stuck and is now released
Button stuck	00 0000 1111b	The button has been pressed for a very long time and is assumed stuck.

Table.1

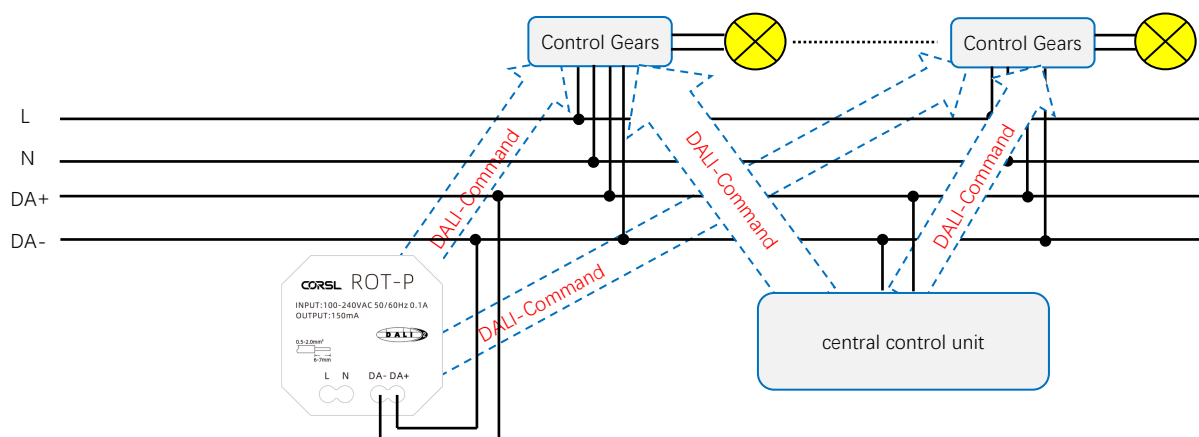
Instance Type 2– rotary movement:

Event name	Event Information	Description
Position report	position Event	A position report, passing the actual position along.

Table.2

Mode 2: application controller

If the central control unit doesn't support IEC62386-103 or no central control unit on the DALI BUS, with the help of DMUmini and DALI-Config software, you can address the device first. With the selection of the device in the component tree, the ROT-P settings page is split into two tabs: one for 'General' settings and one for 'Application' settings. Activate 'Application Controller Enable' in 'General' tab first then configuration it in the 'Application' tab.



➤ Configuration by DMUmini

select an unoccupied address from the drop-down menu then click the 'SET'-button to save.

Assignment of the device to the 32 control device groups (attention: these are not the luminaire/gear groups)

activate/deactivate the 'Application Controller Enable', It will automatically be saved.

- When activate the 'Application Controller Enable', it will work in 'application controller' mode.
- When deactivate the 'Application Controller Enable', it will work in 'input device' mode.

activate 'application controller enable' in 'General' tab first, then configuration the device in 'Application' tab. After configuration in 'Application' tab, you need to click the 'save'-button on the top right side to save.

activation of the notification after a PowerUp

DALI-Config

Localiza Scan

DALI BUS(COM3)

- (G02*) Devices
- [G00] Gears
 - {A01*} ROT
 - {A02*} SWITCH3A
 - {A03*} PIR2L-BLE
 - {A04*} SWITCH6A
 - {A05*} SWITCH4A
 - {A08*} SWITCH2A
 - {A12*} PIR2L
 - {A25*} SWITCH4T
- <A00> Colour control
- <A01> Colour control
- <A02> Colour control
- <A03> LED modules
- <A04> LED modules
- <A05> Colour control
- <A06> LED modules
- <A07> LED modules
- <A08> LED modules

Info

Reset: Reset the device, keep address.

Read: Read the parameters of the device.

Save: After configuration, click 'save' button to save.

Dali Version : 2.0

Short Address : {A01*} ROT SET DEL

Groups

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

General Application

Destination Addresses

1: Broadcast

2: None

Press Rotate PowerON

☒ ON / OFF

☐ Brightness / Color Temperature

Here you can set which devices are affected by the command on the right side, up to 2 different target address can be defined, when the rotary push button is pressed or rotated the target address 1 to 2 will be processed sequentially. Following options are available:

None, Broadcast, G00~G15, A00 ~ A63

<A20> LED modules

<A21> LED modules

<A22> LED modules

<A23> LED modules

<A24> LED modules

- select between 'ON/OFF' and 'Brightness/Color Temperature'.
- ON/OFF**: when the rotary push button is pressed, it will send the command "on" or "off" to the destination address. Rotate the rotary push button will adjust brightness. Press and rotate the rotary push button will adjust colour temperature.
- Brightness/Color Temperature**: short press the rotary push button will change the rotate action: rotate the rotary push button will 'adjust brightness' or 'adjust colour temperature'.

DALI-Config

Localiza Scan

DALI BUS(COM3)

- (G02*) Devices
- [G00] Gears
 - {A01*} ROT
 - {A02*} SWITCH3A
 - {A03*} PIR2L-BLE
 - {A04*} SWITCH6A
 - {A05*} SWITCH4A
 - {A08*} SWITCH2A
 - {A12*} PIR2L
 - {A25*} SWITCH4T
- <A00> Colour control
- <A01> Colour control
- <A02> Colour control
- <A03> LED modules
- <A04> LED modules
- <A05> Colour control
- <A06> LED modules
- <A07> LED modules
- <A08> LED modules
- <A09> LED modules
- <A10> Colour control
- <A11> LED modules
- <A12> LED modules
- <A13> LED modules
- <A14> LED modules
- <A15> LED modules
- <A16> LED modules
- <A17> LED modules
- <A18> LED modules
- <A19> LED modules
- <A20> LED modules
- <A21> LED modules
- <A22> LED modules
- <A23> LED modules
- <A24> LED modules

Info

Reset: Reset the device, keep address.

Read: read the parameters of the device.

Save: after configuration, click 'save' -button to save.

Dali Version : 2.0

Short Address : {A01*} ROT SET DEL

Groups

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

General Application

Destination Addresses

1: Broadcast

2: None

Press Rotate PowerON

Level Step : 5%

Min Level : 1%

Tc Step : 500K

Coollest : 6500K

Warmest : 2700K

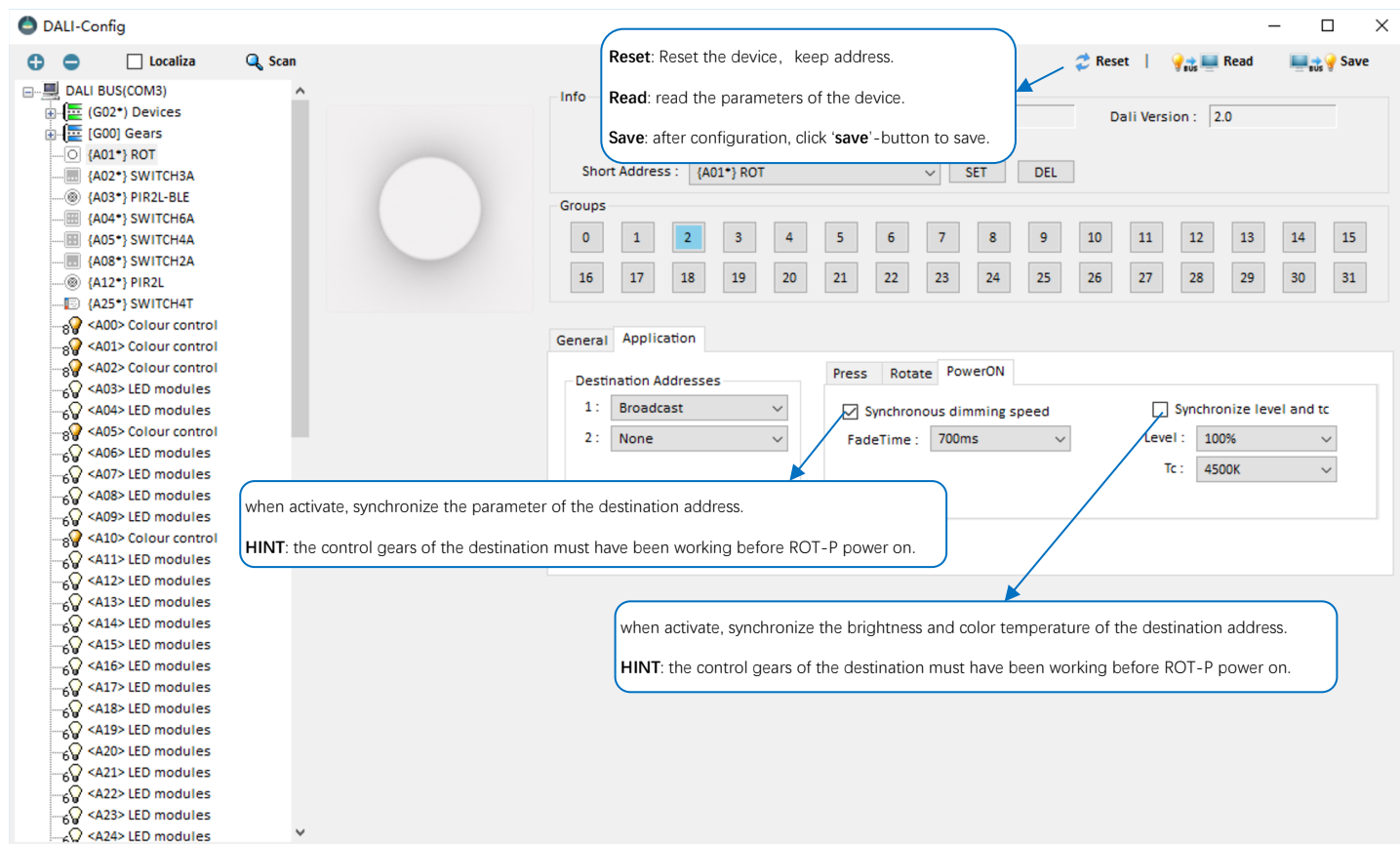
Level Step: brightness change value adjusted by each rotation step.

Min Level: configuration the minimum brightness that can be adjusted.

Tc Step: Color temperature change value adjusted by each rotation step.

Coollest: configuration the coldest color temperature that can be adjusted.

Warmest: configuration the warmest color temperature that can be adjusted.



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Disclaimer

Subject to change. Information provided without guarantee. The datasheet refers to the current delivery. The function in installations with other devices must be tested for compatibility in advance.