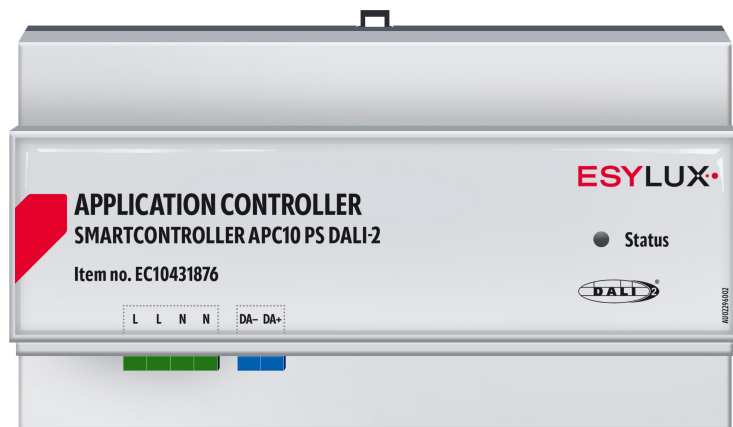




SMARTCONTROLLER APC10 PS DALI-2

Control unit for serial mounting
for DALI-2 devices

User manual

MA02313500 | 1.00 | EN

PERFORMANCE FOR SIMPLICITY

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1 Introduction

1.1 Manufacturer/Contact

If you have questions about the product, need help with the app or are planning extensions, do not hesitate to get in touch with us:

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E-mail: info@esylux.com
Internet: www.esylux.com

1.2 Product identification

This document applies to the following product:

Item name	Item number
SMARTCONTROLLER APC10 PS DALI-2	EC10431876

The name of the item contains important information about the product:

Element of the item name	Meaning
SMARTCONTROLLER	Control unit for serial mounting
APC10	Application Controller Variant
PS	Including power supply
DALI-2	DALI-2 control system

1.3 Content and meaning of the document

This document contains detailed information about the installation, configuration and complex functions of the product.

The current document is available for download as a PDF at www.esylux.com. It can be printed out if required.

- Read the document before using the product.
- Pay particular attention to the safety and warning instructions.
- If you have any questions, contact the manufacturer.

- Keep the document in a safe place.
- If other people use the product, give this document to them.

1.4 Typographical conventions

The following typographical conventions are used in this document:

Typographical depiction	Meaning
<Factory settings>	Menu, screen, button
[Fully automatic]	Condition, parameters
"Connection established"	Message, input
see 2 <i>Safety</i>	Cross-reference to chapter or section
1. ... 2. ... 3. ...	Binding sequence of actions
» ...	Action result

The warnings in this document have the following meanings:

WARNING

... warns of a hazard with a medium degree of risk.

Failure to observe may result in death or serious injury.

CAUTION

... warns of a hazard with a low degree of risk.

Failure to observe may result in moderate or minor injury.

NOTICE

... warns of possible property damage.

Failure to observe may result in damage to equipment or the environment.

In addition:

Information

Important or useful additional information

2 Safety

2.1 Intended use

This product is a control unit for DALI-2 devices for multi-room light control of a maximum of 16 groups. Configuration is done via an app.

The product may only be used as follows:

- The product is intended exclusively for indoor use and installation in a control cabinet on a DIN rail.
- The product is designed for the use DALI-2 components in the DALI-2 bus.
- The maximum number of DALI-2 components that can be connected and the operating conditions must be observed. For details see *3.2 Technical data*.
- The use of unsuitable components, modifications to the product and unauthorised repairs are not permitted.
- The product may only be used if it is in technically fault-free condition.

In the event of improper use, the manufacturer generally excludes any resulting personal injury or property damage.

2.2 Staff qualifications

Installation, commissioning and other work on the 230 V mains may only be carried out by electricians or electrical specialists in keeping with the country-specific regulations.

Configuration and operation can also be performed by individuals with no electrical engineering qualification.

- If you need assistance with the configuration, contact an electrical fitter or a qualified electrician.

2.3 Safety instructions

Installation, commissioning and other work on the 230 V mains may only be carried out by electricians or electrical specialists in keeping with the country-specific regulations.

The connection must be protected with a 10 A circuit breaker.

Nevertheless, there are the following residual risks:

 WARNING

Risk of fatal injury from electric shock.

Working on the 230 V mains can result in death or serious injury.

- Always observe the 5 safety rules:
 1. Switch off.
 2. Secure against being switched on again.
 3. Make sure that no voltage is present.
 4. Earth and short-circuit.
 5. Cover adjacent live parts.

 WARNING

Risk of fatal injury from interfering with the device.

Opening and modifying the device can result in death or serious injury – also for any others working on the system.

- Never open the device.

NOTICE

Risk of damage due to faulty connection.

Reversed polarity or short circuit of the bus line can result in malfunctions or damage to the components.

- Observe the DALI-2 specifications (IEC 62386).
- Only use bus cables (not included) for all DALI-2 connections in accordance with DALI-2 specifications.

3 Overview

3.1 Scope of delivery

The product scope of delivery comprises:

- Device
- Brief instructions for installation and commissioning

3.2 Technical data

General

Device category	DALI-2 control unit with power supply for serial mounting
Control system	DALI-2 bus
Status signaling	Multicolour LED
User interface	ESY-App
User interface	Bluetooth (BLE)
Bluetooth range approx.	10 m
Ambient temperature	-25 - 50 °C
Relative humidity	5 - 93 %, non-condensing
Conformity	CE, EAC, RoHS, WEEE

Mounting / Connection

Mounting type	Serial mounting on DIN rail
Mounting location	Control cabinet/switch box
Connection type	Plug-in terminal
Connectable conductor cross-section	0.5 - 2.5 mm ²
Bus cable length max.	300 m (conductor cross-section ≥ 1.5 mm ²)

Housing

Dimensions (W x H x D)	157 mm × 86 mm × 59 mm
Weight	208 g
Protection class	IP20

Electrical layout

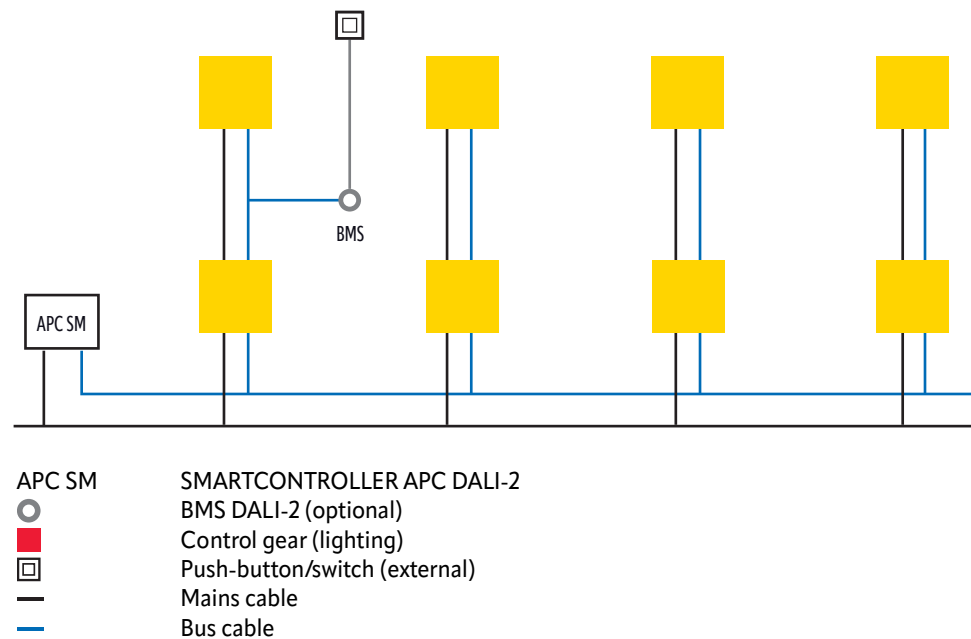
Mains voltage	230 V AC $\pm$ 10 %
Mains frequency	50 - 60 Hz
Starting current	20 A / 110 μ s
Power consumption	5.0 W
Power consumption max. DALI load	3.7 W
Standby consumption	<0.4 W
Protection class	II
Control system/bus system	DALI-2 (IEC 62386)
DALI output voltage	16 V DC
External power supply possible	9.5 - 22.5 V DC
DALI guaranteed output current	240 mA
DALI maximum output current	250 mA
DALI no-load current	2 mA
DALI quiescent current input	1.9 mA
DALI start-up time	600 ms

Functionality

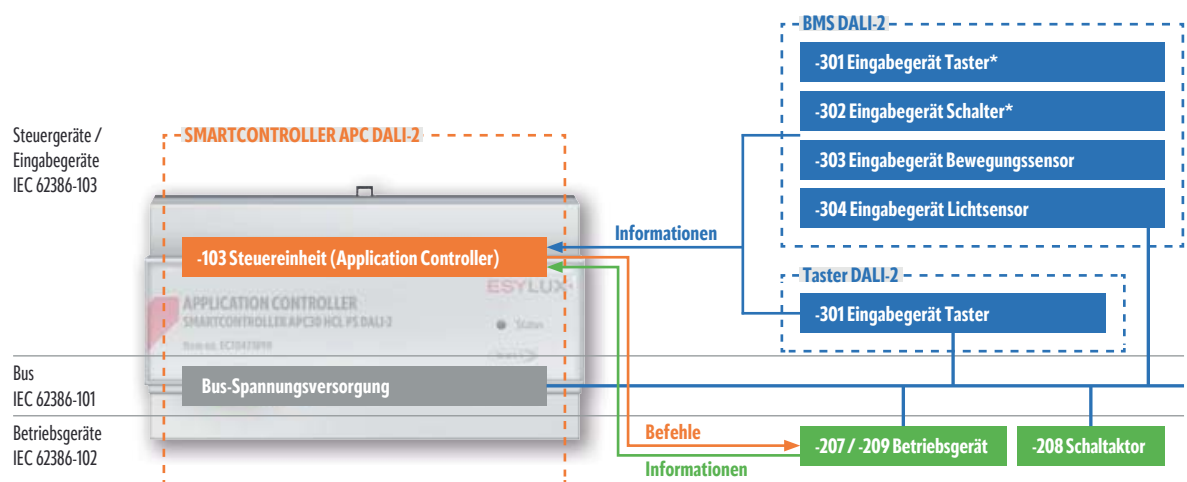
Configurable control gear (-102) max.	64
Configurable sensors (-103) max.	24
Configurable groups max.	16
Configurable scenes max.	16
Operating mode	Fully automatic, semi-automatic, manual operation
Constant light control	+
Group offset	+
Manual adjustment of brightness setpoint	+
Afterglow	+
Orientation light	+
Flexible group switching	+
Switching of external lighting and HVAC	+
Standby switch-off	–
Swarm function	–
Central function	–
Timer function	–
HCL/ SymbiLogic	–
Night operation	–
Alarm operation	–

3.3 System overview

Example connection diagram for an APC application with a BMS:



DALI-2 bus participants and bus communication between APC and BMS:



* Im COMPACT MINI BMS DALI-2 Melder nicht enthalten.

-101 ... -304 Standards part of IEC 62386

3.4 Features and advantages of the APC

The SMARTCONTROLLER offers the following features and applications:

- DALI-2-certified DALI-2 control unit and power supply
- Presence and daylight-dependent constant light control for maximum energy efficiency
- Room-wide light control of up to 16 groups
- Wide range of manual override options and up to 16 scenes
- Easy adaptation to individual and complex room situations
- Automatic switching of groups when room use changes
- Fast start-up with factory settings in broadcast mode
- Individual groups immediately ready for operation with factory settings
- Status signaling via multicolour LED for all operating states

3.5 Features and advantages of the ESY-App

The ESY-App offers the following features and applications:

- Simple and comprehensive configuration of the APC via the bidirectional Bluetooth interface
- No internet access required for all relevant configuration steps
- Clear menu with self-explanatory structure and easy-to-understand operating elements
- Setup Wizard and practical user guidance through the entire configuration process
- Context-dependent information texts and explanatory diagrams for most menu items
- Situation-dependent feedback for missing information or impossible combinations
- Simple administration and documentation of configured projects as PDF reports
- Free download and regular updates via your app store

3.6 Declaration of conformity

We, the company ESYLUX GmbH, hereby declare that the product complies with the following requirements:

- Directive 2014/53/EU (Radio Equipment Directive)
- Directive 2011/65/EU (RoHS Directive)

The complete document is available for download as a PDF file:

https://www.esylux.com/ce/esylux_ce_pd-c_dali-2_apc_ce01994400.pdf

In the event of modification or extension of the product not agreed with us, this declaration shall lose its validity.

3.7 Accessories

The following accessories are available for this product:

Item name	Description	Item number
Push Button x2 DALI-2 WH	2-way Push Button for DALI-2	EP10431609
Push Button x4 DALI-2 WH	4-way Push Button for DALI-2	EP10431616
Push Button x6 DALI-2 WH	6-way Push Button for DALI-2	EP10431623
Push Button x8 DALI-2 WH	8-way Push Button for DALI-2	EP10431630

4 Installation

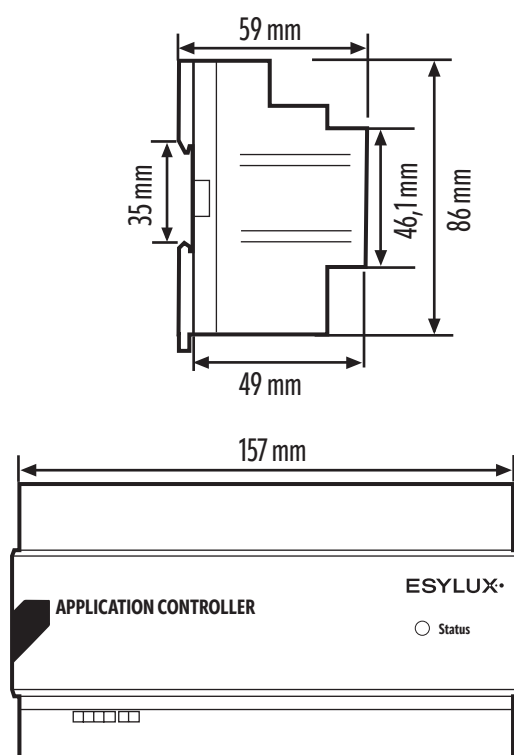
4.1 Installing the device

Description

The device is designed for installation in a control cabinet on a DIN rail.

Requirements

- The mains cable and the DALI-2 bus cable have been prepared.
- A width of 157 mm is available on the DIN rail.

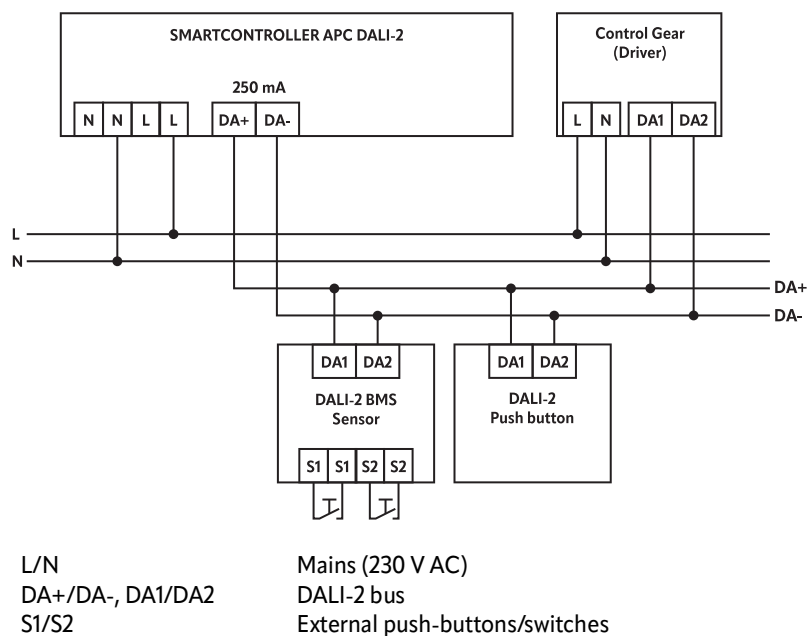


Procedure

1. Write down the PIN code on the sticker on the device. You will need the PIN code later to register the device in the ESY-App. You can also remove the sticker and affix it to your project documents.
2. Hook the SMARTCONTROLLER onto the DIN rail from below.
3. Use a screwdriver to pull the tab at the top of the SMARTCONTROLLER upwards and snap it into place on the DIN rail.

4.2 Circuit diagram

Example circuit diagram for an application:



4.3 Electrical work

WARNING

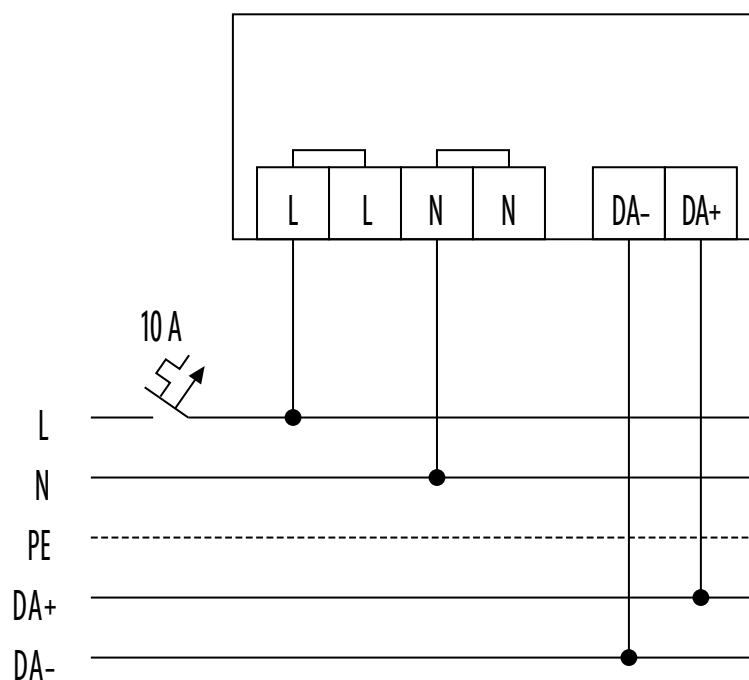
Risk of fatal injury from electric shock.

Working on the 230 V mains can result in death or serious injury.

- Always observe the 5 safety rules:
 1. Switch off.
 2. Secure against being switched on again.
 3. Make sure that no voltage is present.
 4. Earth and short-circuit.
 5. Cover adjacent live parts.

Procedure

1. Remove the insulation on each of the sheathed cables and the individual wires.
2. Take note of the order in which they are connected:
 - **A:** Connect the DALI-2 bus cable (to DA+/DA-).
 - **B:** Connect the mains cable (to L/N).



4.4 Installing the ESY-App

Description

To use the ESY-App, you need a Bluetooth-enabled mobile device (smart-phone or tablet) with Android or iOS. You can download the ESY-App from the Google Play Store or the Apple App Store.

PRIVACY NOTICE: The data used by the ESY-App are not stored outside the mobile device or used for any other purpose.

NOTE: The exact name of the settings below may differ depending on the Android or iOS version.

Requirements

Android

- Version: Android 8.0 or later
- Activate/allow system settings:
 - Bluetooth
 - Wi-Fi or mobile data
- Grant app permissions:
 - Place of Installation
 - Memory

Apple iOS

- Version: iOS 12.5.5 or later

- Activate/allow system settings:
 - Bluetooth
 - Wi-Fi or mobile data

Procedure

- Install the ESY-App.
- Open the ESY-App.

NOTE: The ESY-App is being continuously improved, meaning that new versions (updates) will be available in future.

- On Android mobile devices, you can set whether updates are automatically applied when the ESY-App is started or whether you have to update the ESY-App manually in the Play Store.
- On Apple iOS mobile devices, you can set how the ESY-App is updated in the App Store settings. Check the App Store to see if the latest version is installed.

4.5 Initial commissioning

Description

After completion of the mechanical and electrical work, initial commissioning should be carried out as a functional test.

Requirements

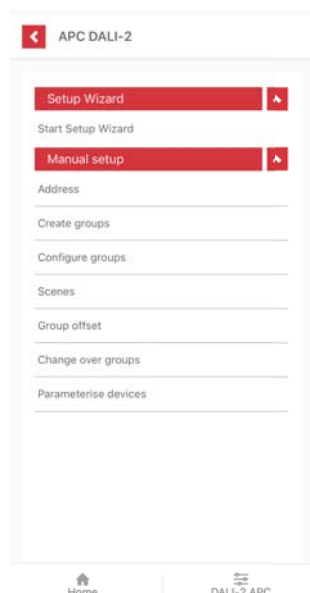
- Connecting the mains voltage poses no risk.
- The current version of the ESY-App is installed.
For details see *4.4 Installing the ESY-App*.
- Bluetooth is turned on on the smartphone.
- The ESY-App has been started.

Procedure

- Switch on the mains voltage for this circuit.
- Wait approx. 30 s until the APC is ready for operation.
- Connect the ESY-App and the APC via Bluetooth.
For details see *5.2.3 Bluetooth connection*.

If the connection works:

- The Setup Wizard shows the options for configuring the APC.



Next steps

- You can now configure the APC.
For details see *6.2 Setup Wizard*.
- If you exit the Setup Wizard at this time, the APC will remain in broadcast mode.
For details see *5.1.1 Broadcast mode*.

4.6 Setup Wizard

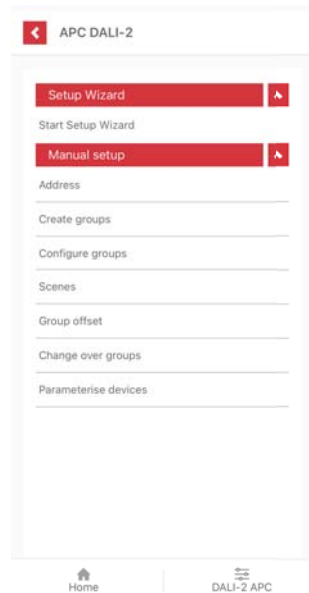
Description

The <Setup Wizard> function is a handy tool. It can be used to safely carry out the first configuration during initial commissioning - or following a factory reset.

- If the APC has already been set up, the Setup Wizard is cancelled to prevent the existing configuration from being unintentionally overwritten.
- If you want to completely reconfigure the APC in any case, first perform a factory reset in the <Settings> menu.

App

The <Setup Wizard> function can be found at the top of the Setup Wizard screen.

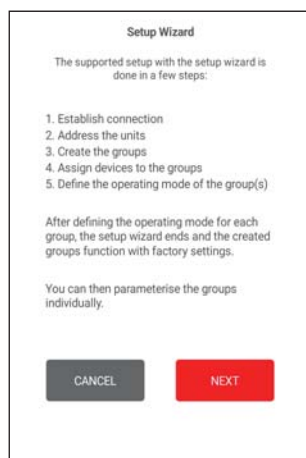


The Setup Wizard goes through the following steps:

1. Connect
2. Address the units
3. Create the groups
4. Assign devices to groups
5. Define the operating mode of the group(s)

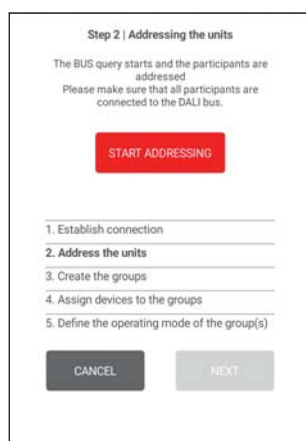
1. Connect

After starting the Setup Wizard, the ESY-App and APC first connect via Bluetooth.



2. Address the units

In this step, the DALI-2 bus is queried and the connected bus participants (devices) are addressed.



The participants identified on the DALI-2 bus and provided with an address are listed by category:

- APC DALI-2
- Control gear
- Input devices
- Actuators

Step 2 | Addressing the units

The participants have been identified on the DALI bus and provided with an address, 2.

APC DALI-2	1
Control gear	2
Input devices	2
Actuators	0

REPEAT ADDRESSING

1. Establish connection
- 2. Address the units**
3. Create the groups
4. Assign devices to the groups
5. Define the operating mode of the group(s)

CANCEL **NEXT**

- If you want to repeat the addressing process, first perform a factory reset in the <Settings> menu.

3. Create the groups

Create groups for participants to act in the same way within the group.

Step 3 | Create the groups

Create groups for equal behaviour of the participants within the group.
Choose speaking and differentiating designations as group names to facilitate later differentiation.

Group 0: Group name 0 

1. Establish connection
2. Address the units
- 3. Create the groups**
4. Assign devices to the groups
5. Define the operating mode of the group(s)

CANCEL **NEXT**

BACK

- Use the  button to create additional groups.
- Enter a meaningful name for the group name to make it easier to tell them apart later on.
A maximum of 16 characters can be used for a group name.

Step 3 | Create the groups

Create groups for equal behaviour of the participants within the group.
Choose speaking and differentiating designations as group names to facilitate later differentiation.

Group 0: 

Group 1: 



1. Establish connection
2. Address the units
3. Create the groups
4. Assign devices to the groups
5. Define the operating mode of the group(s)

4. Assign devices to groups

Assign at least one group to each participant.

Step 4 | Assign participants to groups

Please assign at least one group to each participant.

Choose device type All

Device information

Device name:

Floor: Room:

1. Establish connection
2. Address the units
3. Create the groups
4. Assign devices to the groups
5. Define the operating mode of the group(s)

Step 4 | Assign participants to groups

Please assign at least one group to each participant.

Choose device type All

Device information

Device name:

Floor: Room:

1. Establish connection
2. Address the units
3. Create the groups
4. Assign devices to the groups
5. Define the operating mode of the group(s)

- Select device, here: Control gear
- Assign group, here: Group 1

- Use the    buttons to select the device type and the respective participant – recognisable by the flashing icon.
- From the groups offered, select at least one group the device is to be assigned to.
- Enter a meaningful name for the device and enter the installation location of the device (floor and room).
Numerical values from -9 to 200 can be entered for floor and room.

5. Selecting the operating mode of the group

Select an operating mode for each group created:

- Fully automatic (default setting)
- Semi-automatic
- Manual operation

The screenshot shows a software window titled "Step 5 | Selecting the operating mode of the group". Below the title, it says "Select an operating mode for each group created." There are two group entries: "Group 0: Group name 0" and "Group 1: Group name 1". Each entry has a dropdown menu currently set to "Fully automatic". At the bottom, there is a progress bar with five steps: "1. Establish connection", "2. Address the units", "3. Create the groups", "4. Assign devices to the groups", and "5. Define the operating mode of the group(s)". Step 5 is currently selected and highlighted. Below the progress bar are two buttons: "CANCEL" and "EXIT".

For details see *6.6.1 Operating mode*.

After setting the operating mode for each group, the Setup Wizard ends.

NOTE: With the Setup Wizard, all devices together with their instances (e.g. a presence detector with its motion and light sensors) are addressed and assigned to groups. This allows quick, basic configuration. Subsequently, individual instances can be configured specifically.

- Changes and additions to the configuration are made with the <Manual setup> function. For details see *6.3 Manual setup*.

5 Configuration

5.1 APC basics

5.1.1 Broadcast mode

Description

Broadcast mode is the default operating mode. This enables the quick commissioning of a simple lighting system without having to address bus participants or divide them into groups.

- The lighting is controlled fully automatically by presence detection. It can also be switched on or off using push-buttons.
- All input devices have the same rights. Each presence detector instance and each button instance switches on the lighting.
- Light sensors do not work. There is no light control.
- All control gear (lighting) are controlled in the same way.
- Creating a group ends broadcast mode.

App

There are two ways to use broadcast mode.

a.: Non-addressed operation (during initial commissioning and after resetting to factory settings)

- It is not necessary to address the bus participants.
- Individual configuration of individual bus participants is not possible.
- The follow-up time is 5 minutes. Five minutes after the last presence detection or after the last keystroke, the device returns to the initial state of automatic light control.
- The standard button functions apply to connected push-buttons:

Short keystroke	Switch light on/off
Long keystroke	Dim light up/down
Double keystroke	Return to automatic light control

b.: Addressed mode (for quick set-up)

- After addressing, the input devices can be set up individually.
- External light sensors (e.g. in a BMS) must be explicitly set up for each device, otherwise they are ignored.
- For connected push buttons, the standard button functions (see above) can be changed by configuration.

Ending broadcast mode:

- Creating a group automatically ends broadcast mode.

Restoring broadcast mode:

- Deleting the last configured group automatically restores broadcast mode.

The last configuration saved for broadcast mode is used.

Adjustable parameters

Separate parameter settings are possible for broadcast mode.

Parameter	Setting values	Default value
Brightness setpoint (for light control)	100-2000 lx	500 lx
Brightness switching value (without light control)	5-2000 lx	500 lx
Light output min.	0..100 %	0 %
Light output max.	0..100 %	100 %
Light output at start	10..100 % (in 10% steps)	50 %
Follow-up time	00:01 ... 24:00	00:05

5.1.2 Group operation

Description

Group operating mode allows the individual grouping of lights in a room zone. The room zones and their groups can be located in one room, but they can also be set up over several rooms.

- To create groups, all bus devices are addressed and assigned to their respective groups.
- Up to 16 groups can be set up. Each group has its own operating mode. For details see *6.6.1 Operating mode*.
- Group operation and broadcast mode are mutually exclusive. For details see *5.1.1 Broadcast mode*.
- Depending on the desired operating mode of a group, certain components must or can be present and configured in the corresponding group. For details see *5.1.4 Minimum constellations*.
- Group functions can be supplemented by the <Group offset> function, in which the illuminance of individual groups of lights is differentiated

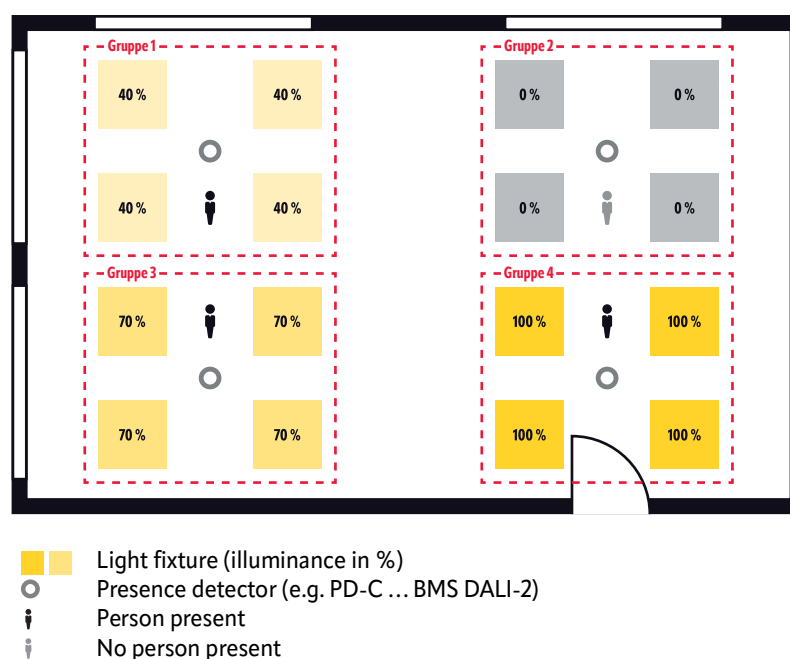
using offsets when there is only one light sensor.

For details see 6.8 *Group offset*.

- Group functions can be supplemented by the <Change over groups> function, which allows light control to be adapted to changing room situations.

For details see 6.9 *Change over groups*.

Application example: Groups for room zones



Explanation: Each presence detector provides individual, presence- and day-light-dependent light control in its room zone. If no one is present, as in group 2, the lighting remains switched off.

5.1.3 Light control

Description

Basically, there are two ways the APC control can influence the lighting:

- **Open-loop control** (the standard case)
 How it works: Lighting is regulated to a constant brightness level depending on the amount of daylight.
 Relevant parameter: Brightness setpoint
 Technical implementation: Brightness is continuously measured and compared to the brightness setpoint. Light output is continuously adjusted so that the difference between the measured brightness value and the brightness setpoint is minimised.

- If the measured brightness level falls permanently below the brightness setpoint when presence is continuously detected (plus follow-up time), the light is switched on and light output is continuously controlled.
- If the measured brightness level is permanently above the brightness setpoint, the light is switched off.
- **Without light control** (the exception)
How it works: Lighting is switched with a preset, adjustable light output.
Relevant parameter: Brightness switching value
Technical implementation: When open-loop light control is deactivated, the light is controlled to a defined light output.
 - If the measured brightness level falls permanently below the brightness switching value when presence is continuously detected (plus follow-up time), the light is switched on and controlled to the defined light output.
 - If the measured brightness level permanently rises above the brightness switching value when the light is switched on and presence is still detected (plus follow-up time), the light is not switched off.
 - If the measured brightness level is permanently above the brightness switching value when the light is switched off, the light is not switched on when presence is detected.

If there are several light sensors in a group, the average level of the measured brightness is used.

App

Light control is switched on and off in the <Light> menu. For details see *6.6.2 Light*.

Adjustable parameters

The parameters being set depend on whether light control is switched on. For details see *6.6.2 Light*.

5.1.4 Minimum constellations

Depending on the operating mode of a group, the following devices/instances must or can be present and configured in this group:

operating mode	Presence detector	Light sensor	Push-buttons	Control gear (lighting)
Fully automatic	●	●	–	●
Semi-automatic	●	●	●	●

operating mode	Presence detector	Light sensor	Push-buttons	Control gear (lighting)
Manual operation	–	–	●	●
● Absolutely necessary – Without effect				

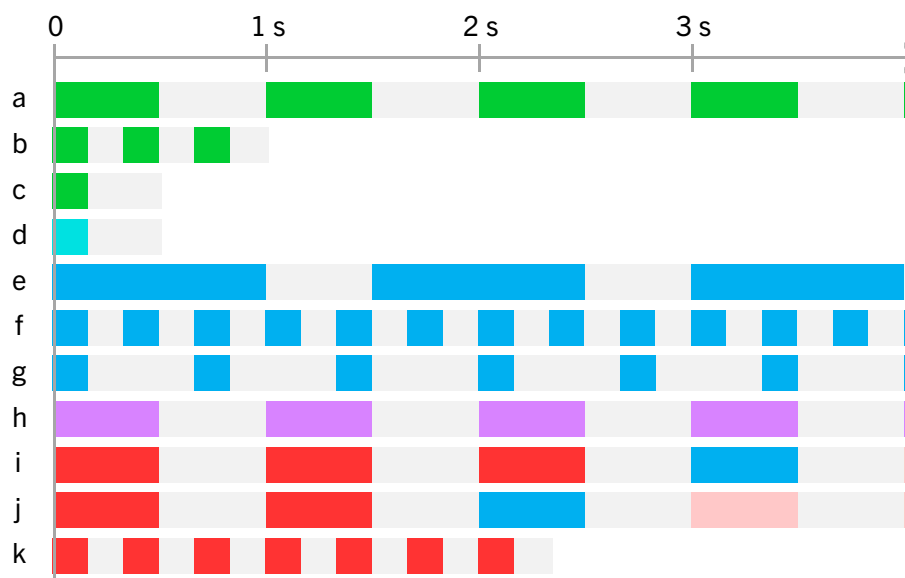
For details see *6.6.1 Operating mode*.

Explanations

- When planning an operating mode, the required devices/instances must be physically installed and addressed in the bus. The device or one of its required instances must be assigned to the group.
- If a group is not assigned a light sensor, e.g. in an interior room, the lighting is controlled regardless of the brightness.
- If the requirements for semi-automatic operation are met, you can also implement fully automatic or manual operating mode. The reverse is not true.
- If the requirements for an operating mode are not satisfied, not all parameter fields are available in parameter dialogues. This is an indication of missing devices/instances.
- If you change the operating mode, the parameters irrelevant to the new operating mode are retained. They become active again when you switch back.
- **IMPORTANT:** If you remove a required participant (device/instance) from the group, this group changes to the next possible operating mode.

5.1.5 APC LED indicators

Various states and situations of the configuration can be identified by the colour and the flashing behaviour of the integrated LED.



	Colour	Meaning
a	green	System starting (approx. 20 s)
b	green	Operation starting
c	green	Motion detected
d	Turquoise	Motion detected, but motion sensor not assigned to a group
e	Blue	Device in configuration mode. In this mode, the device does not respond to input devices. All operating devices are controlled at 100%.
f	Blue	Software upload activated
g	Blue	Bluetooth connection activated
h	Purple	DALI-2 identification
i	red – blue	Error 0x31: RecoveryMode activated, software and Bluetooth deactivated Briefly disconnect APC from the mains, then pair it with the mobile device (Bluetooth) and update the software.
j	red – blue	Error 0x21: Bus voltage missing or short circuit in the bus cable Check voltage supply in the bus.
k	Red	Reset to factory settings activated (approx. 2 s)

5.2 ESY-App basics

5.2.1 Requirements for using the app

Communication between the ESY-App and APC requires a stable Bluetooth connection for the duration of the configuration.

Some functions such as manual downloads and software updates require an internet connection.

5.2.2 Identifying devices

Devices can be identified in the ESY-App via the following icons:

Icon	Comment
 / 	Tap on the icon. The control gear or the actuator switches on and off alternately. At the same time, the colour of the icon changes between grey and red.
 / 	Tap on the icon. The presence detector flashes. At the same time, the colour of the icon changes between grey and red.
	Button instance not pressed or switch instance open
	Button instance pressed or switch instance closed

5.2.3 Bluetooth connection

Description

Configuration of the APC requires a Bluetooth connection between the ESY-App on your mobile device (smartphone or tablet) and the APC.

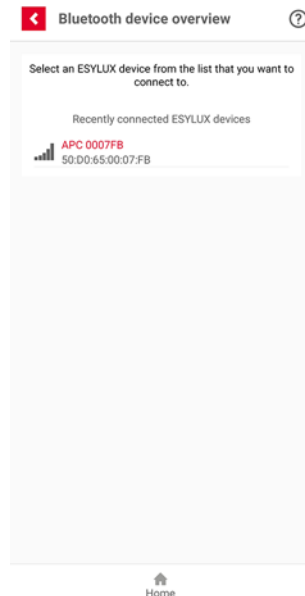
Requirements

- Bluetooth is activated on the mobile device.
- The APC is supplied with mains voltage and is ready for operation.
- The maximum distance between the mobile device and the APC is 10 m. Depending on the obstacles between the mobile device and the APC, the distance may be shorter.
- For the first connection – during initial commissioning or after reinstalling the ESY-App: Have the PIN code of the APC ready. The PIN code can be found on the sticker of the APC.

IMPORTANT: Do not leave the Bluetooth range of max. 10 m while connecting. This also applies whenever configuring the APC.

App

- Tap the  button ("No connection" shown).
- If a location permission notice appears, grant the appropriate permission.
- The <Bluetooth device overview> screen shows the devices within range via Bluetooth.



- Tap the line [APC]. If several APCs are displayed in an installation, select the line [APC] with the highest signal strength.
- When the <Bluetooth pairing request> window appears, enter the PIN code of the APC.
- The LED indicator on the APC flashes blue.
- Wait until all instructions have run their course.

If the connection is successful, a check is made to see whether updated software is available for the APC. Always install the latest software. The Setup wizard then appears. For details see *6.2 Setup Wizard*.

If there is no connection, open the Bluetooth settings of your smartphone and delete all APCs from known devices. Now try connecting to the ESY-App again. Do not use the system functions of your smartphone for the connection, only use the ESY-App.

6 Settings menu

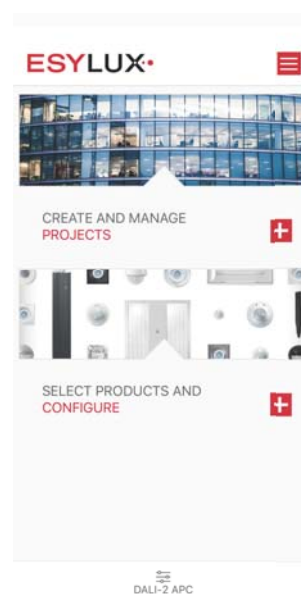
6.1 Overview

Description

Two options are available when the  button is pressed:



– Screen without Bluetooth connection



– Screen with active Bluetooth connection

- If the ESY-App and APC are not yet connected via Bluetooth ("No connection" shown), go to the Bluetooth device overview, select a product and connect via the Bluetooth. For details see *5.2.3 Bluetooth connection*.
- If the ESY-App and APC are already connected via Bluetooth (device name is displayed), you will be taken to the <Settings> menu.

App

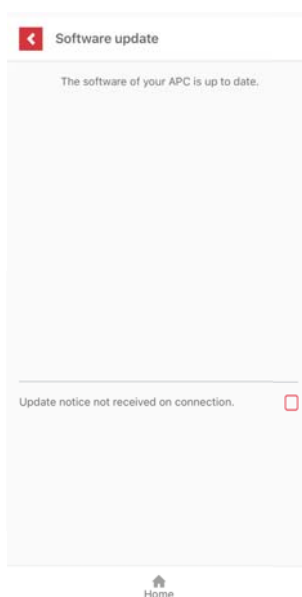


The <Configure>  button takes you to the Setup Wizard screen. For details see *6.2 Setup Wizard*.

The following information and settings are available in the <Settings> section:

- **Device information, location, name**
 - The APC's GTIN and UID is shown.
 - Entry of floor and room, if desired.
 - Change the device name, if desired.
- **DALI power supply**
 - Switch between internal or external power supply.
IMPORTANT: This requires special knowledge and measures for the power supply in the DALI-2 bus.
 - Status of the power supply shown.
 - Error check of the power supply shown.
- **APC LED indicators**
 - Activate or deactivate LED feedback on presence detection.
 - Set LED brightness, if desired.

- **APC software version**
 - Software version of the APC shown.
 - Check the software version and update if necessary.
This requires internet access.
In addition, you can choose whether or not you want to receive an update notice in the future when connecting via Bluetooth.



- **User Manual**
 - Download and view the current User Manual.
This requires internet access.
- **Change PIN**
 - Enter a new PIN code for the APC, if desired.
Make a note of the new PIN code in your project documents.
- **Reset PIN to factory default**
 - Reset the PIN code for the APC to the PIN code printed on the sticker.
- **Device restarts**
 - The APC software is restarted.
All custom settings are retained.
The connection via Bluetooth will then need to be re-established. For details see 5.2.3 *Bluetooth connection*.
- **Reset to factory settings**
 - The software of the APC is reset to factory settings.
ATTENTION: All custom settings (parameters, groups, scenes, etc.) will be deleted.
The connection via Bluetooth will then need to be re-established. For details see 5.2.3 *Bluetooth connection*.

- **Disconnect**
 - The ESY-App and APC disconnect from Bluetooth.
The connection via Bluetooth will then need to be re-established. For details see *5.2.3 Bluetooth connection*.

6.2 Setup Wizard

Description

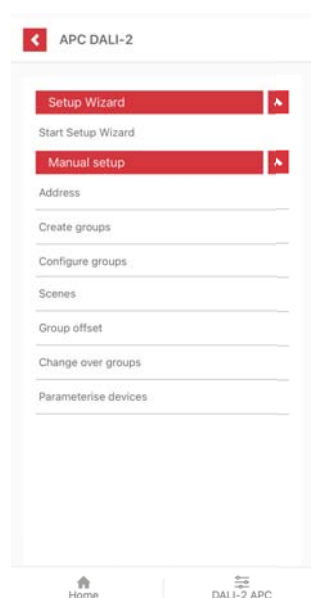
Two functions are available for setting up the APC:

- Setup Wizard
- Manual setup

App

You can access the Setup Wizard automatically during initial commissioning – or following a factory reset – as well as via the <Settings> menu.

The Setup Wizard screen is the main place to set up the APC.



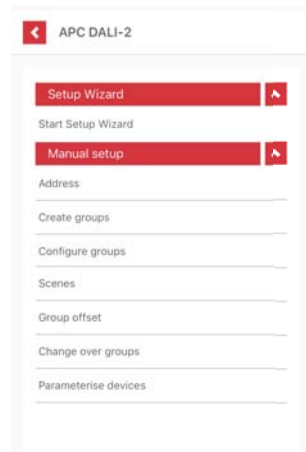
6.3 Manual setup

Description

The <Manual setup> function is a flexible tool. With this tool – in addition to the Setup Wizard – special functions can be selected, activated or deactivated and settings can be made.

App

The <Manual setup> function can be found in the Setup screen below the Setup Wizard.



The following options are available with this function:

- Address
- Create groups
- Configure groups
- Scenes
- Group offset
- Change over groups
- Parameterise devices

6.4 Address

Description

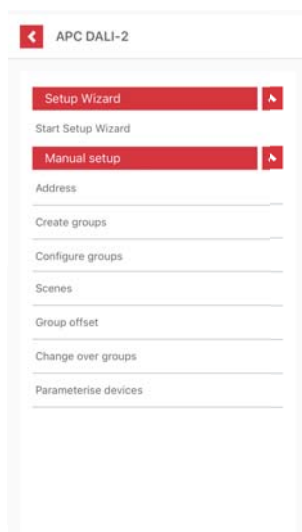
Addressing all of the bus participants is a requirement for a complete and successful configuration.

When addressing, each bus participant (device/instance) receives a unique identifier in the DALI-2 bus.

App

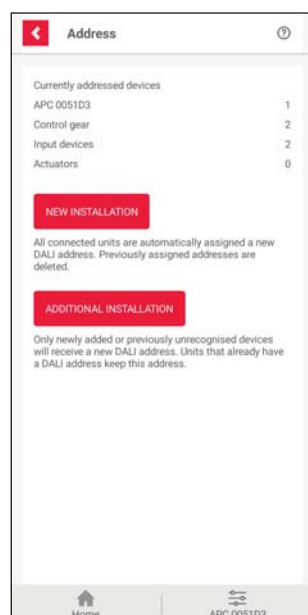
Two ways are available for addressing:

- Via the <Setup Wizard> function, e.g. after the initial commissioning or after a factory reset. For details see *4.6 Setup Wizard*.
- Via the <Manual setup> function, e.g. after connecting new bus devices or if the entire Setup Wizard does not need to be run through.



During addressing, the devices being addressed are listed:

- APC DALI-2
- Control gear
- Input devices
- Actuators



There are two options for addressing manually:

- New installation
All participants receive a new DALI-2 address. All previous addresses are deleted.
- Subsequent installation
Only newly added or previously unrecognised participants receive a new DALI-2 address. All other participants retain their address.

The address range can be defined for this purpose:

- Entire DALI-2 bus
- All control gear
- All input devices

At the end of addressing, the control gear switches to 100% light output, actuators (relays) switch on.

All addressed devices can then be configured.

- Check whether all installed devices have been found in the DALI-2 bus.
- If any devices are missing, check the electrical installation and carry out a subsequent installation.

If the addressing is incorrect, the control gear switches to 0% light output, actuators (relays) switch off.

6.5 Create groups

Description

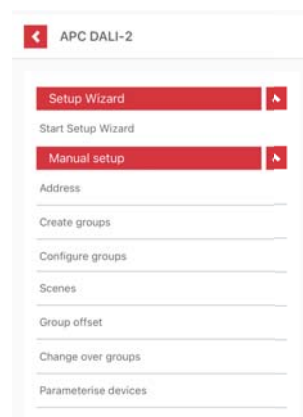
The individual grouping of lights in a room zone permits group operation. For details see *5.1.2 Group operation*.

If no groups are created, the system is in broadcast mode. For details see *5.1.1 Broadcast mode*.

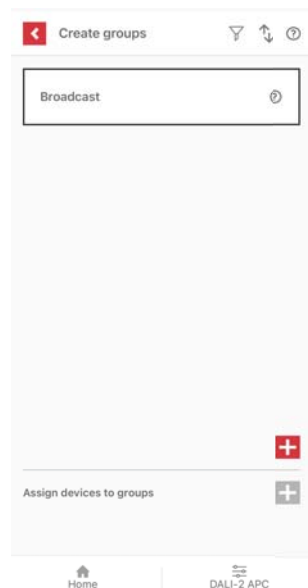
App

There are two ways to create groups:

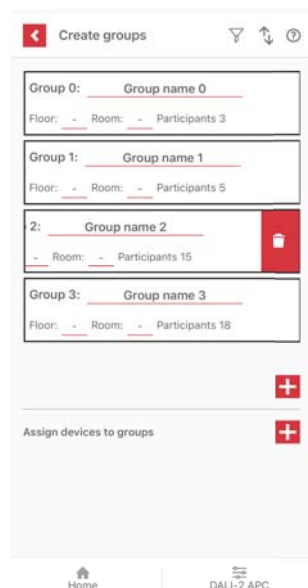
- Via the <Setup Wizard> function, e.g. after the initial commissioning or after a factory reset. For details see *4.6 Setup Wizard*.
- Via the <Manual setup> function, e.g. after connecting new bus devices or if the entire Setup Wizard does not need to be run through.



After accessing the <Create groups> menu, the following options are available:



- Use the  button to create a new group.
For details see *3. Create the groups.*
- With the function <Assign devices to groups>  you then assign each device at least one group.
For details see *4. Assign devices to groups.*



- By swiping left, you can use the  button to delete a group.

6.6 Configure groups

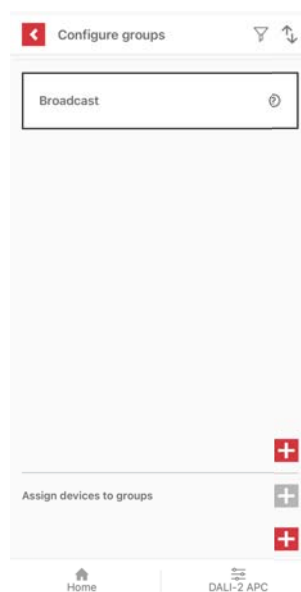
Description

All group-related settings can be made with the <Configure groups> function.

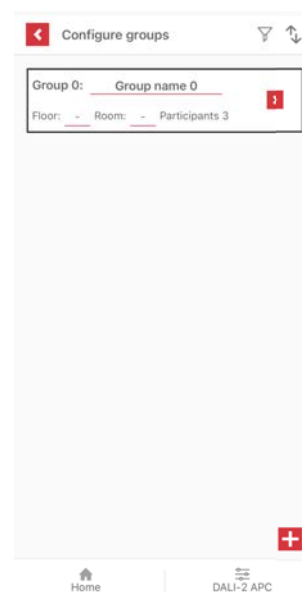
App

You get to the <Configure groups> menu from the <Manual setup> menu.

When accessing the menu, the following situations may occur:

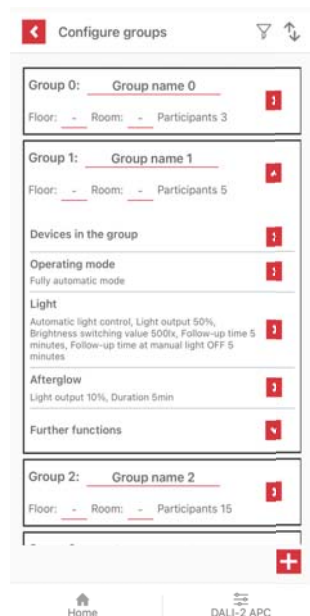


– If no group is set up



– If a group has already been set up

- If no group is set up: Use the  button to create at least one group. Enter a meaningful name for the group name to make it easier to tell them apart later on. A maximum of 16 characters can be used for a group name.
- If a group is already set up: tap the  button and configure the group.

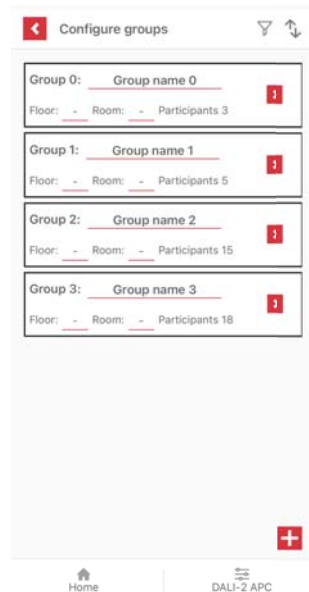


The following options are available for each of the groups:

- Configure devices in the group
For details see *6.10 Parameterise devices*.
- Configure light
- Afterglow
- Orientation light

NOTE: Depending on the operating mode of a group, certain devices/ instances must be present and configured in this group. For details see *5.1.4 Minimum constellations*.

- If more groups are desired: Use the  button to create additional groups.



6.6.1 Operating mode

Description

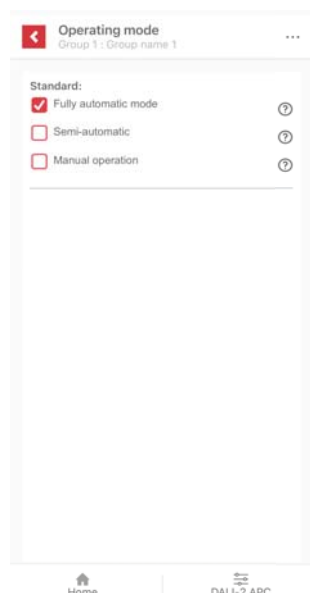
- The operating mode is used to determine whether light control is to be fully automatic, started manually or manually alone.
- In broadcast mode, fully automatic operating mode applies to all bus participants.
- In group operation, an operating mode only applies to one group. This means that each group has its own operating mode.

Requirements

- Depending on the operating mode of a group, certain devices/instances must be present and configured in this group. For details see *5.1.4 Minimum constellations*.

App

The operating mode is set under <Configure groups>.



Adjustable operating modes

Information

Specific parameters apply to each operating mode. Some parameters are not available in all operating modes.

- Check each time you change the operating mode whether the parameters set meet your requirements.

Operating mode	Comment
Fully automatic	Lighting is automatically started by presence detection.
Semi-automatic	The lighting is switched on by a keystroke and switched off again automatically or by keystroke.
Manual operation	The lighting is switched on and off by a keystroke.

Fully automatic

- Devices/instances required in the group:
 - Presence detector
 - Light sensor
- Lighting is automatically started by presence detection.
- As long as presence is detected, this state remains. Afterwards, follow-up time begins.
- Each presence detection restarts follow-up time.
- Important parameters:

Parameter	Unit	Comment
Brightness setpoint	lx (Lux)	for light control
Brightness switching value	lx (Lux)	without light control
Light output level	%	
Follow-up time	hh:mm	

For details on light control, see *6.6.2 Light*.

Semi-automatic

- Devices/instances required in the group:
 - Presence detector
 - Light sensor
 - Push-buttons
- The lighting is switched on by a keystroke.
- As long as presence is detected, this state remains. Afterwards, follow-up time begins.
- Depending on the current brightness, the keystroke does the following:
 - measured brightness < brightness setpoint/brightness threshold: Manual override starts. For details see *5.1.3 Light control*.
 - measured brightness > brightness setpoint: Manual override starts. For details see *6.6.2 Light*.

NOTE: Rapid changes in brightness may produce different results.

- Any presence detection or another keystroke restarts the follow-up time.
- Important parameters:

Parameter	Unit	Comment
Brightness setpoint	lx (Lux)	for light control
Brightness switching value	lx (Lux)	without light control
Light output level	%	
Follow-up time	hh:mm	

Manual operation

- Devices/instances required in the group:
 - Push-buttons
- The lighting is switched on and off by a keystroke.
- The lighting remains in the selected state until the push-button is pressed again.
- Important parameters:

Parameter	Unit	Comment
Light output level	%	

6.6.2 Light

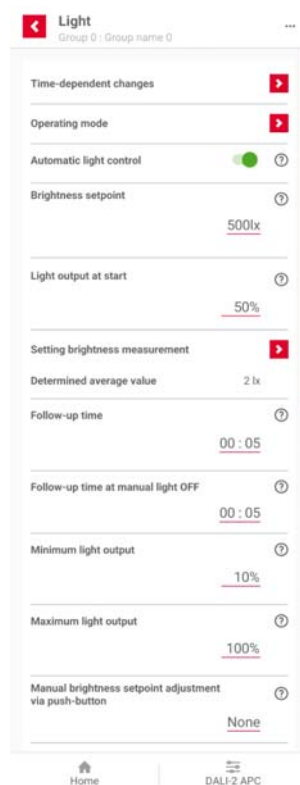
Description

In the <Light> menu, all group-related settings for operating mode, light values and light outputs can be made:

- Automatic light control On/Off
- Brightness setpoint/brightness switching value
- Light output/Light output at start
- Setting brightness measurement
- Minimum light output, maximum light output
- Follow-up time
- Manual brightness setpoint adjustment

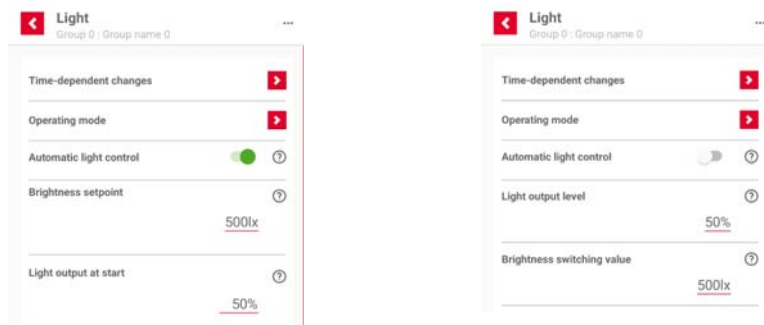
App

You get to the <Light> menu from the <Configure groups> menu.



Light control

Automatic light control can be activated or deactivated.



- Automatic light control activated
- Automatic light control deactivated
- Automatic light control activated:
Lighting is controlled to a constant brightness level – depending on the amount of daylight.
- Automatic light control deactivated:
Lighting is switched with a predefined, adjustable light output level.
For details see 5.1.3 *Light control*.

Adjustable parameters for light control:

Parameter	Setting values	Default value
Brightness setpoint	100 - 2000 lx (in 10-lx steps)	500 lx
Light output at start	0 ... 100 % (in 10 % steps)	50 %
Follow-up time	00:01 ... 24:00	00:05
Minimum light output	0 ... 100 %	0 %
Maximum light output	0 ... 100 %	100 %
Manual brightness setpoint adjustment via push-button	None, Temporary, Permanent	None

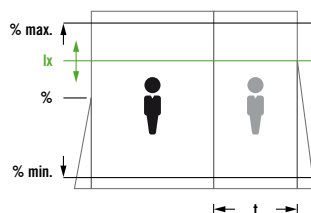
Adjustable parameters without automatic light control:

Parameter	Setting values	Default value
Brightness switching value	10 - 2000 lx (in 10-lx steps)	500 lx
Light output level	0 ... 100 %	50 %
Follow-up time	00:01 ... 24:00	00:05

Brightness setpoint

The brightness setpoint is the target value of light control.

Brightness is continuously measured via light sensors and compared with the brightness setpoint. Light output is constantly adjusted so that the difference between the measured brightness and the brightness setpoint is minimised.



If required, the brightness measurement can be adapted to individual conditions. For details see *Setting brightness measurement*.

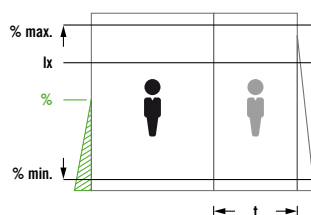
Brightness switching value

The brightness switching value is the value below which the lighting is switched on and above which the lighting is switched off.

If required, the brightness measurement can be adapted to individual conditions. For details see *Setting brightness measurement*.

Light output at start

Initial value of light output at the beginning of automatic light control. The system regulates up or down from this value after the light measurement has been completed.



NOTE: If <Light output at start> is set to [0%], the light output starts with an adaptively determined value.

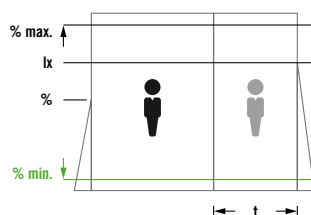
Light output level

<Light output> is used to set the light output if automatic light control is switched off.

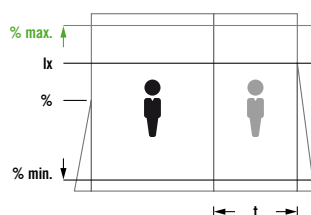
NOTE: A value of [0%] is not accepted. The light output is then reset to the last set value.

Minimum light output, maximum light output

With <Minimum light output>, light output in automatic light control is limited downwards. Automatic light control will not fall below this minimum light output.



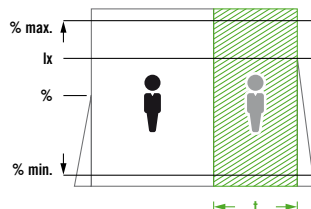
With <Maximum light output>, light output in automatic light control is limited upwards. Automatic light control will not exceed this maximum light output.



NOTE: Due to the limitation of light output, the actual brightness value in the room may fall below the legally prescribed values. If in doubt, verify compliance with these values by measuring the brightness.

Follow-up time

Time after the last presence detection during which the light remains switched on.



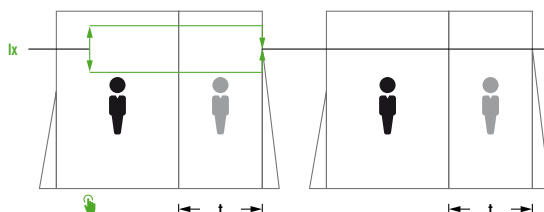
Subsequently, an afterglow can be defined.

Manual brightness setpoint adjustment via push-button

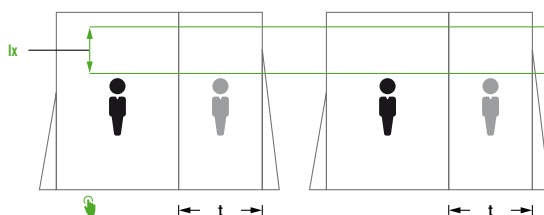
If the light is dimmed up or down manually during automatic light control, the new brightness value can be saved in the room as the new brightness setpoint.

Prerequisite: A push-button for dimming UP/DOWN has been defined.

With the [Temporary] setting, the new brightness setpoint is in effect until the end of current automatic light control. With a new presence detection, automatic light control starts again with the old brightness setpoint.



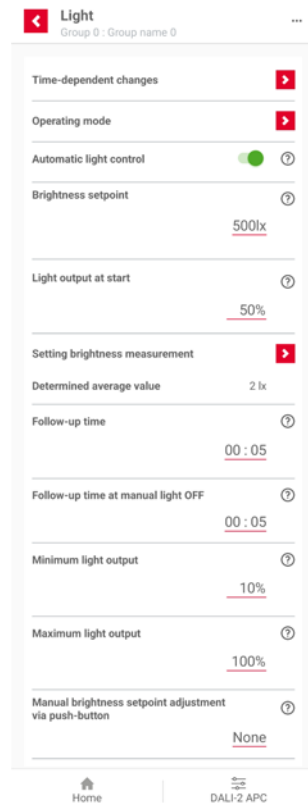
If set to [Permanent], the new brightness setpoint is in effect for all future automatic light controls.



In operating mode [Manual operation], the parameter <Manual setpoint adjustment via push-button> has a different function:

- With the [Permanent] setting, the light output dimmed with a push-button is saved permanently.
- With the [None] or [Temporary] settings, the light output set in the ESY-App is used again after switching off and on again.

Setting brightness measurement



This allows you to determine the optimal lighting at the intended workplace and ensure efficient light control.

Requirements:

- For the measurements you need a suitable illuminance measuring device ("luxmeter").
- The room must be completely darkened to obtain error-free measurements and optimal results.

Behaviour of the control system:

- In order to be able to optimally set the parameters for brightness measurement, the entire control system is stopped.
- The lights of the group to be set are switched to 100%. The remaining lights are switched to the minimum light value.
- As long as brightness measurement is active, the control system does not react to presence detection or manual push-button/switch commands.

Step 1: <Setting light sensors>

Setting brightness measurement
 Group 1: Group name 1

Step 1: Setting light sensors

The setting of the light sensors will determine the reflection of the work surface to the respective light sensor via the correction factor.

Input device, Instance 3

Measured illuminance 282 lx

Correction factor for brightness measurement

Assumed illuminance 2545 lx

Step 2: Weighting light sensors

Step 3: Measurement of illuminance

Calculated brightness value of the group:

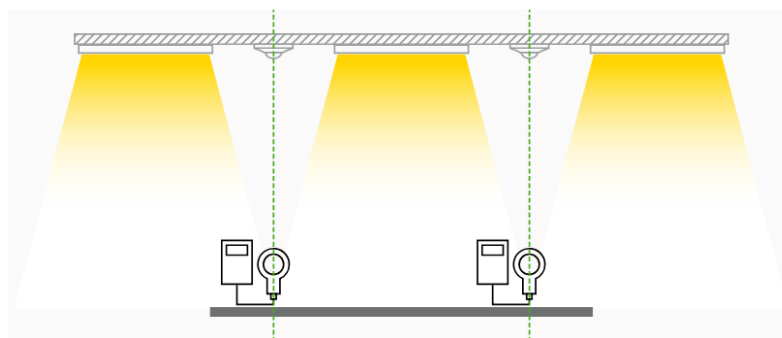
2545 lx

Home

DALI-2 APC

With a correction factor for each light sensor, the measured value of the light sensor can be corrected to take into account the actual light reflections where the sensor is mounted.

- Measure the illuminance below the light sensor.



- Enter the measured value at the <Correction factor for brightness measurement> parameter.
This can be used to change the value for the assumed illuminance: Measured value x correction factor = assumed illuminance.
This value should be as close as possible to the measured illuminance.

Step 2: <Weighting light sensors>

The light sensors of the group can be freely weighted to prioritise the brightness values at different measuring points.

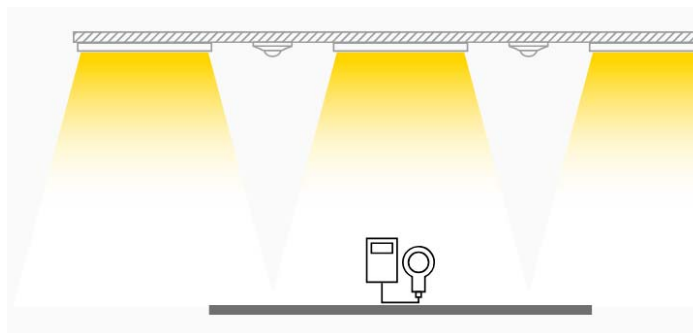
- It is recommended to weight measuring points in darker areas higher than light sensors in areas with more natural light.

NOTE: A maximum of four light sensors can be assigned to each group.

Step 3: <Measurement of illuminance>

The illuminance of the group must be determined in order to determine the external light component (e.g. incident sunlight).

- Measure the illuminance at the intended workstation (e.g. at the height of the desk surface).



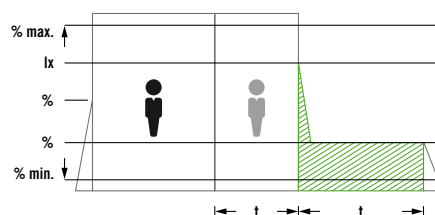
- Enter the measured value in the parameter <Illuminance at workstation>.
- Enter the average ambient light exposure the light sensors in the group are exposed to in the <Amount of ambient light exposure> parameter. The amount depends on the room arrangement and the window areas. The higher the amount, the more the measured brightness value is corrected to ensure optimum light control at all times.

Room situation	Ambient light amount	Setting value
South side, many large windows	high	65 ... 85 %
East/West side, normal window areas	medium	35 ... 65 %
North side, a few small windows	low	>0 ... 35 %
no windows, inside, e.g. hallway	–	0 %

6.6.3 Afterglow

Description

- Afterglow is not available in operating mode [Manual operation].
- Afterglow starts after the follow-up time of light control has elapsed.
- For the duration of afterglow, light output is controlled to an adjustable level.
- The duration of afterglow is controlled by a separate follow-up time.



- If light output before afterglow is set below the value set for afterglow, afterglow does not occur.
- In case of presence detection during afterglow, the previously used function is reactivated.

Requirements

- The group is in [Fully automatic] or [Semi-automatic] operating mode.
- Afterglow must be activated. Afterglow is deactivated in the factory setting.

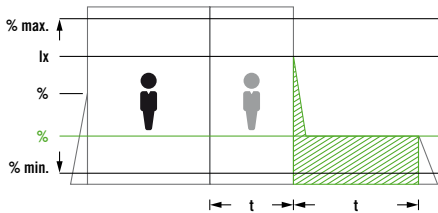
App



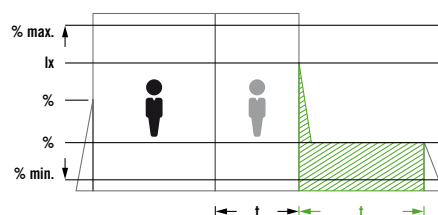
Adjustable parameters

Parameter	Setting values	Default value
Activate/deactivate afterglow	ON, OFF	OFF
Light output level	10-100% (in 10% steps)	10%
Follow-up time (afterglow duration)	00:01 - 24:00	00:05

- The light output of afterglow is usually below the standard light output.



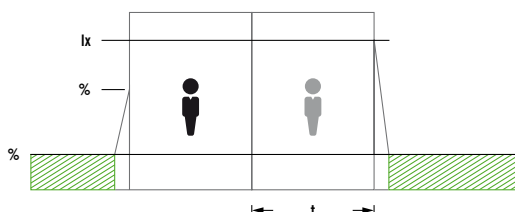
- Afterglow duration determines how long – after the follow-up time – afterglow is activated.



6.6.4 Orientation light

Description

- The orientation light function is not available in operating mode [Manual operation].
- Orientation light is used as minimum lighting in a room when no presence is detected.
- Depending on operating mode, normal lighting is switched on as soon as presence is detected or a push-button is pressed.

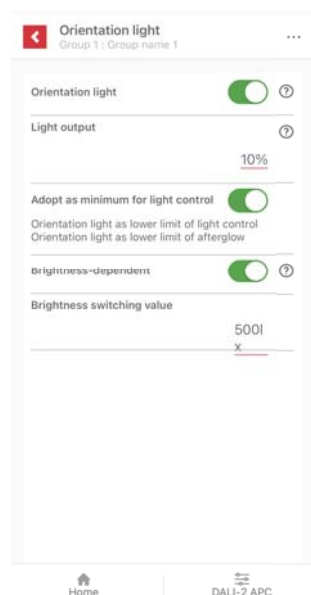


- Orientation light can be switched on regardless of the brightness or switched on as required when there is not much light (setting [Brightness-dependent]). In the [Brightness-dependent] setting, orientation light is switched off if an adjustable brightness switching value is exceeded.

Requirements

- Orientation light must be activated. Orientation light is deactivated in the factory setting.
- The control system is in [Fully automatic] or [Semi-automatic] operating mode.

App



Adjustable parameters

Parameter	Setting values	Default value
Activate/deactivate orientation light	ON, OFF	OFF
Light output level	5-50% (in 5% steps)	10%
Adopt as minimum for light control	ON, OFF	OFF
Brightness-dependent	ON, OFF	OFF
Brightness switching value (brightness-dependent)	100-2000 lx	100 lx

- Light output level: Light output defined for orientation light.



- Adopt as minimum for light control: Activates or deactivates the use of the light output of orientation light as the lower limit of light control and afterglow (if afterglow is activated).

- Brightness-dependent: Activates or deactivates brightness-dependent switching of orientation light.
- Brightness switching value: Brightness threshold at which the orientation light is switched on or off (if [Brightness-dependent] is activated).



6.7 Scenes

Description

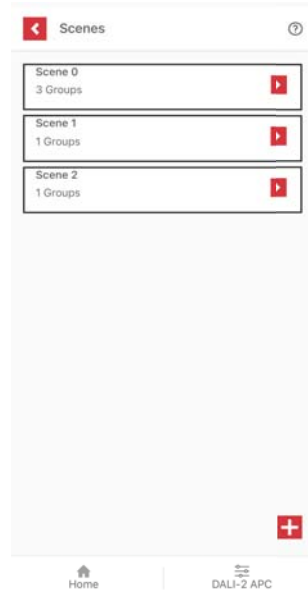
- A scene is activated via a push-button and accesses a predefined illumination level and actuator function.
- The control gear of the group is controlled with constant, adjustable light output.
- A scene can be used for several groups. Each group can be given individual parameters.
- No other functions are possible during the scene – except for manual override.
- A scene is ended by manual override, the [Automatic mode] button function or after the adjustable follow-up time has elapsed.

Requirements

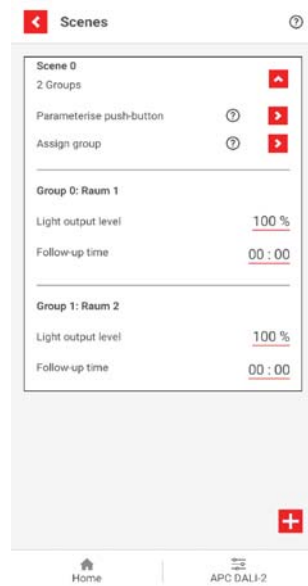
- The button instance that accesses the scene must be assigned to the relevant groups of this scene in order to start the scene in these groups. For details see 6.10.4 Push-buttons.
- To use the actuator: An actuator with the relay function [Switch HVAC] must be assigned to the group.

App

You can get to the <Scenes> function from the Setup Wizard.



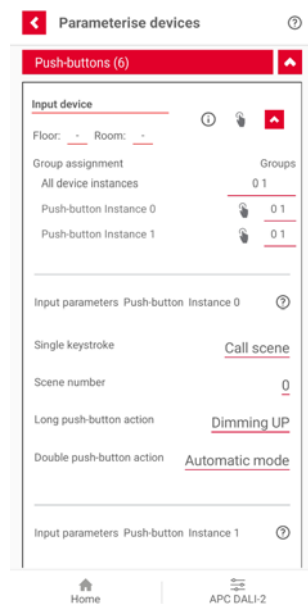
- Use the  button to create a new scene.
- Use the  button to access a scene in order to edit it.



Settings to be made

Parameterise push-button:

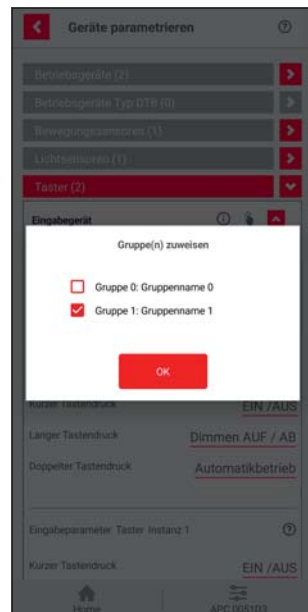
To be able to start a scene, the function [Access scene] must be selected on the desired push-button for the single keystroke and the appropriate scene number must be set.



- Press the desired push-button to identify the appropriate instance. To identify the button instance the icon flashes 🖐️🖐️🖐️🖐️.
- You can use the ⓘ icon to access further information.

Assign group:

A scene can be used for several groups. The groups relevant for the scene can be selected under <Assign group>.



Set light output and follow-up time:

The light output can be set for each group assigned to the scene. Optionally, [Follow-up time] can be used to set how long the group should remain switched on after the start of the scene. When set to [00:00], the lighting remains on until the scene is ended with a push-button.

Adjustable parameters

Parameter	Setting values	Default value
Light output level	0..100 %	100 %
Follow-up time	00:00...24:00	00:00
Actuator	ON, OFF	ON

6.8 Group offset

Description

- For automated lighting control, one presence detector with light sensor is usually installed per area.
- For optimal energy efficiency, it may be necessary, even with only one measuring point (light sensor), to step down the illuminance of individual light groups by means of offsets.
- Lights near and far from windows are divided into groups and a control offset between the groups is set up using the <Group offset> function.

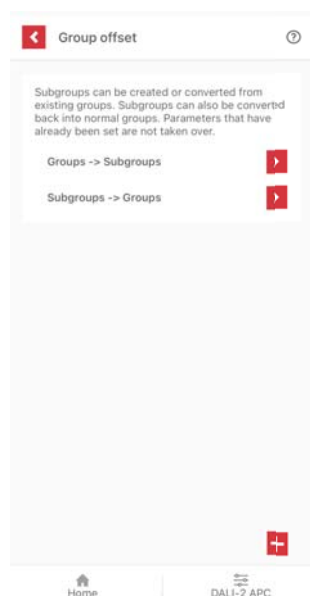
- The main group determines light control. The subgroups follow the main group and adopt the parameters of the main group.
- In daylight, the light output of the lights near the window is reduced more than the light output of the lights far from the window.

Requirements

- The main group has a light sensor instance.
- At least one other group is configured as a subgroup.

App

You can get to the <Group offset> function from the Setup Wizard.

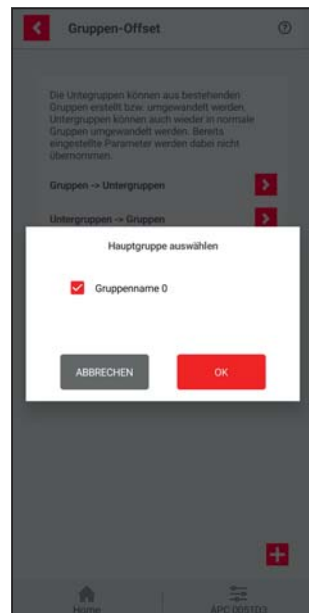


The following options are available here:

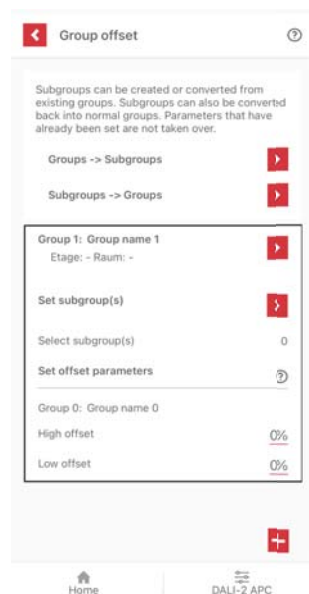
- Groups -> Subgroups:
Existing groups can be converted into subgroups. Subgroups lose their set parameters and adopt the parameters of the main group.
- Subgroups -> Groups:
Subgroups can be converted back into normal groups. Parameters that have already been set are not adopted.

NOTE: The sum of all main groups and subgroups can be a maximum of 16.

IMPORTANT: A group with a light sensor instance must be selected as the main group.



The offset parameters must be set for these groups.

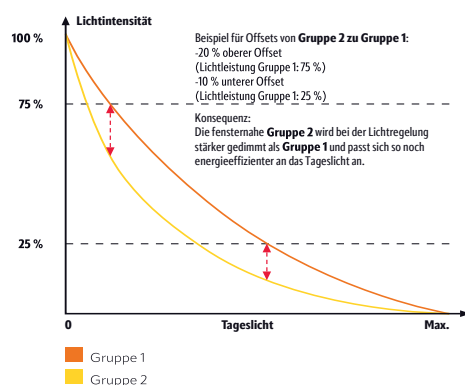


Adjustable parameters

Parameter	for main group light output	Setting values	Default value
High offset	75 %	-50...+20 %	0 %
Low offset	25 %	-20...+50 %	0 %

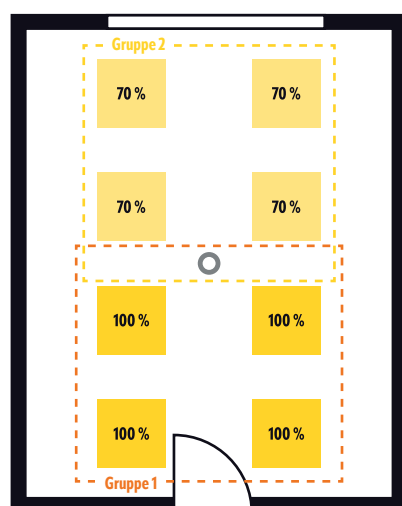
With the default values (high offset 0%, low offset 0%), the light outputs of the main group and subgroups are identical.

Resulting light control depending on the incidence of daylight:



- Light output of main group (lights far from window)
- Light output subgroups (lights near window), example:
 - high offset -20%
 - low offset -10%

Application example: Group offset near the window



- Light (light output in %)
- Presence detector (e.g. an APC DALI-2)

Explanation: Due to the offset between the groups, light output of the lights near the window is reduced more than the light output of the lights far from the window in daylight.

NOTE: The <Group offset> function can be combined with the <Change over groups> function. For details see *6.9 Change over groups*.

6.9 Change over groups

Description

- If an area is used in different ways, the <Change over groups> function can be used to flexibly switch the division into groups depending on the respective application scenario.
- A switch is used to activate and deactivate groups. Up to three switches can also be combined.
- A manually operated light switch or the contact switch of a partition wall, for example, can be used as a switch. For details see *6.10.5 Switch*.

Requirements

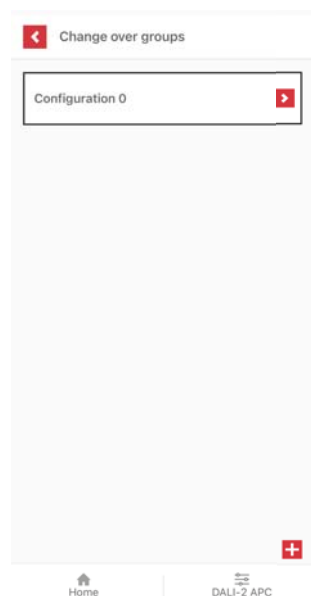
- The button instance for the input the switch is connected to is deactivated, i.e. **all three** button functions (<Single keystroke>, <Long push-button action> and <Double push-button action>) are set to [No function]. The switch instance for this push-button input is set to [Change over groups ON] or [Change over groups OFF]. For details see *6.10.4 Push-buttons*.



- All groups that are to be used in an application scenario are created. For details see 6.5 *Create groups*.

App

You can get to the <Change over groups> function from the Setup Wizard.

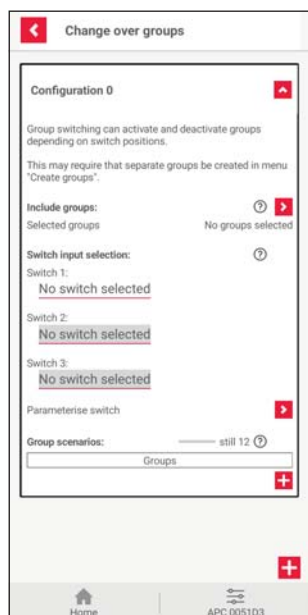


Create group switch:

- Use the  button to add a new configuration.

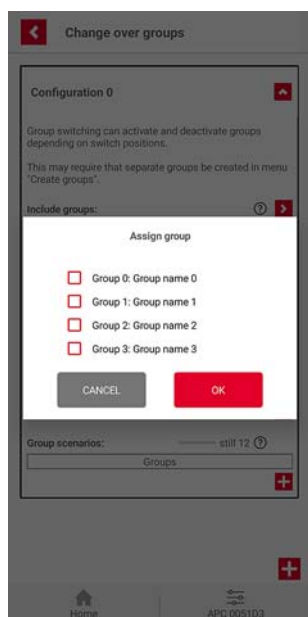
Edit group switch:

- Use the  button to access a configuration for editing.



Include groups:

This is used to assign all groups that can be activated or deactivated in this configuration.

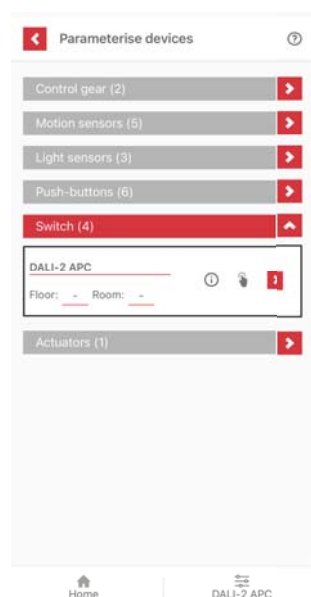


Switch selection:

This selects the switches to be used to activate or deactivate groups in this configuration. A maximum of three switches can be used in one configuration.

To activate and deactivate, the switch function must be changed in the settings of the switches.

Configure switch:

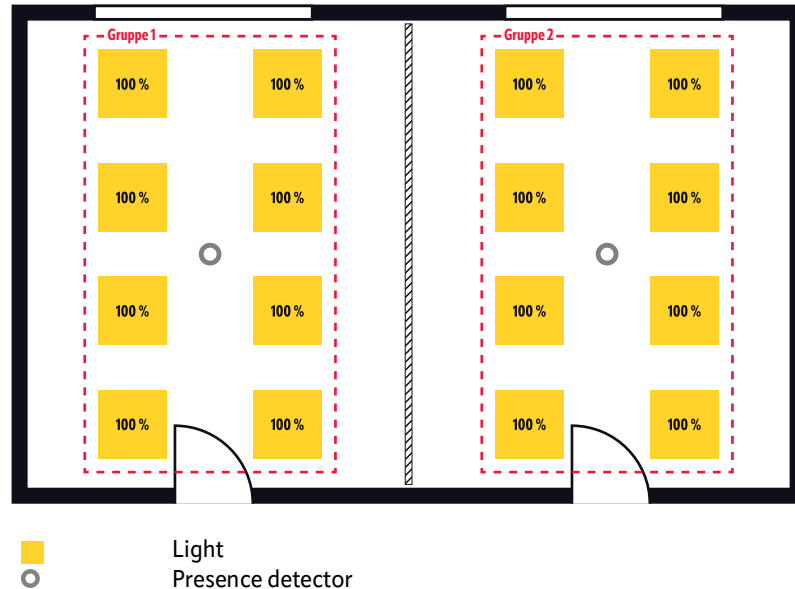


Group scenarios:

The possible number of group scenarios depends on the number of assigned switch instances.

Number of switch instances	Number of switch positions	Number of group scenarios
1	2 (1 open + 1 closed)	2
2	2 x 2	4
3	2 x 2 x 2	8

NOTE: When a switch instance is removed from the switch selection, the associated group scenarios are removed.

Application example: Group switching**Situation 1: Conference room with closed partition wall**

Explanation: A closed partition divides a room into two halves. The lights and presence detectors in the two halves of the room are assigned to group 1 or group 2 accordingly. In each group there is individual light control.

Situation 2: Conference room with open partition wall

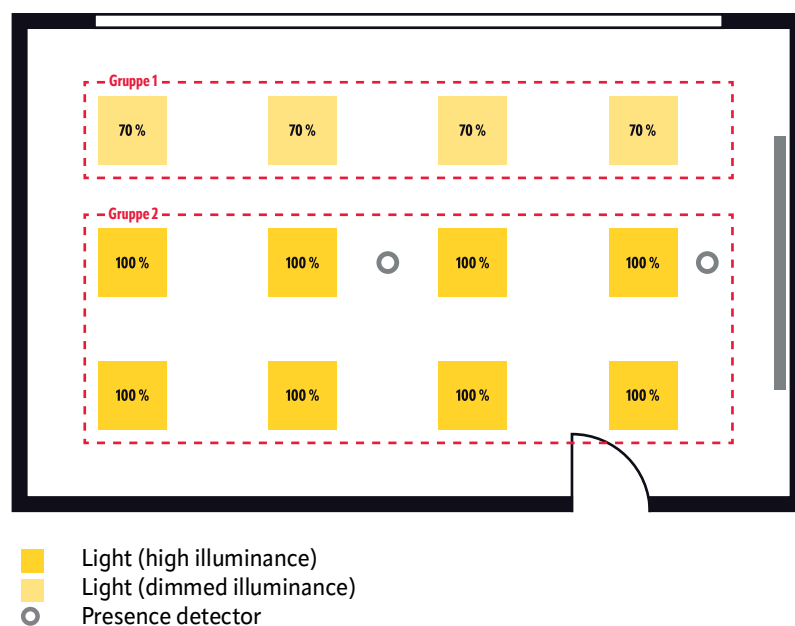
Explanation: All lights and presence detectors of the room are additionally assigned to a group 3. When the partition wall is opened, groups 1 and 2 are deactivated and group 3 is activated at the same time via the push-button

input of the presence detector (external push-button). Uniform light control takes place in the entire room.

NOTE: The <Change over groups> function can be combined with the <Group offset> function. For details see 6.8 *Group offset*.

Application example: Group switching with group offset

Situation 1: Classroom during teaching



Explanation: In a classroom, groups 1 and 2 are active during normal teaching. A group offset is set between the two groups because the lights near the windows require less illuminance.

Situation 2: Classroom during a presentation



- Light (high illuminance)
- Light (dimmed illuminance)
- Light (dimmed to 0%)
- Presence detector

Explanation: When the light switch (external push-button) is pressed at the beginning of a presentation, groups 1 and 2 are deactivated and groups 3, 4 and 5 are activated at the same time. The illuminance of group 3 in the presentation area is dimmed to 0%. Groups 4 and 5 continue to work with group offset, but with a lower setpoint and thus with dimmed illuminance for the presentation.

6.10 Parameterise devices

Description

- In the <Parameterise devices> menu, devices/instances can be parameterised and assigned to the previously set up groups.
- Instances are partial components of a device that fulfil an independent function, e.g. presence detection, brightness measurement or push-button input.
- Instances do not have their own DALI-2 address, but use the address of the respective device.
- Instances are handled separately and can be assigned to different groups and functions.

App

From the <Parameterise devices> menu, you can edit the following devices/instances:

- Control gear
- Motion sensors
- Light sensors
- Push-buttons
- Switch
- Actuators



The number of devices/instances currently addressed in the DALI-2 bus is shown in brackets.

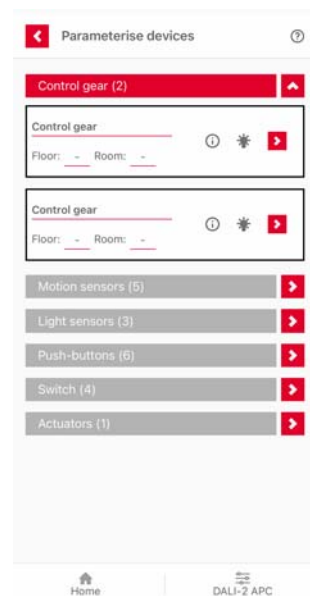
6.10.1 Control gear (lighting)

Description

- Control gear is the DALI designation for a light fitting, in particular for the electronic control gear (ECG) that acts as a bus device.
- A control gear is addressed in the DALI-2 bus as a single device. There are no instances.

App

You can get to the <Control gear> screen from the <Configure devices> menu.



- When a control gear is identified, the  icon flashes.
- You can use the  icon to access the device information of the ECG for each control gear:
 - Short address
 - Manufacturer
 - GTIN
 - UID
- The  and  buttons can be used to access or hide other settings.

6.10.2 Motion sensors

Description

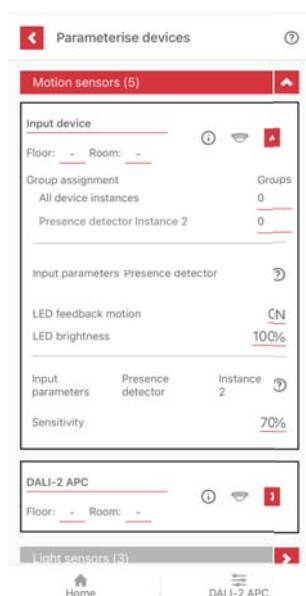
- Motion sensors detect the presence and movement of people in the room. They perform presence detection.

- The response behaviour, i.e. the sensitivity of the motion sensors, can be individually adjusted.
- Presence detectors have an LED indicating presence detection. The brightness of the LED can be set. The presence detection LED can also be deactivated.

The assignment of the instances on the sides of a presence detector can be found in the respective user manual.

App

You can get to the <Motion sensors> screen from the <Configure devices> menu.



- When a presence detector instance is identified the  icon flashes.
- You can use the  icon to access further information.
- The  and  buttons can be used to access or hide other settings.

Adjustable parameters

The following settings can be made for each presence detector instance:

Parameter	Comment	Setting values	Default value
Movement LED response	This allows you to set the extent to which presence detection triggers an LED response from the APC.	ON, OFF	ON
LED brightness	This allows you to set the brightness the LED uses in responses.	10 ... 100 % (in 10 % steps)	50 %
Sensitivity	If external disturbances (radiators, air conditioning, etc.) produce faulty switching, the sensitivity of the sensors should be reduced.	10 ... 100 % (in 10 % steps)	100 %

6.10.3 Light sensors

Description

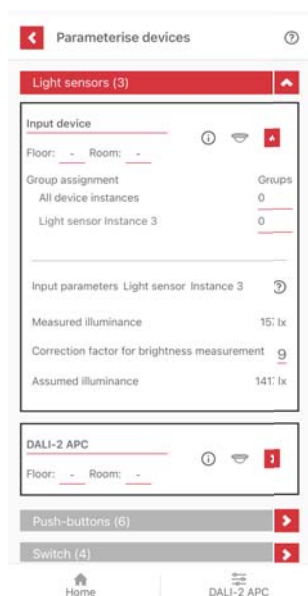
- The light sensors detect direct incident light and light reflected from the room where at the installation site.
- The actual illuminance measured at the installation site can deviate from the assumed target illuminance at the intended workplace.
- To compensate for this, the measured value of the light sensors can be adjusted with the help of a correction factor.
- If a suitable illuminance measuring device ("luxmeter") is available, you can also carry out an exact brightness measurement at the workplace.
For details see *Setting brightness measurement*.

The assignment of the instances on the sides of a presence detector can be found in the respective user manual.

NOTE: A maximum of four light sensors can be assigned to each group.

App

You can get to the <Light sensors> screen from the <Configure devices> menu.



- When identifying a light sensor instance, the  icon flashes.
- You can use the  icon to access further information.
- The  and  buttons can be used to access or hide other settings.

Adjustable parameters

The correction factor for brightness measurement can be adjusted for each light sensor instance. Reduce the correction factor if it is too bright at the light sensor. Increase the correction factor if it is too dark at the light sensor.

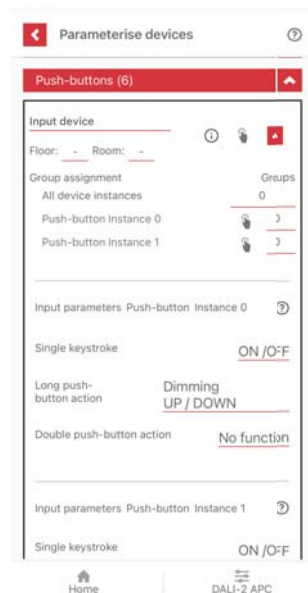
6.10.4 Push-buttons

Description

- Buttons are used, for example, to switch lights on or off, to dim lights and to access scenes.
- The assignment of buttons or button inputs to button instances can be found in the relevant user manual.

App

You can get to the <Push-button> screen from the <Configure devices> menu.



- When a button instance is identified, the icon flashes 🖐️🖐️🖐️🖐️.
- You can use the ⓘ icon to access further information.
- The ➡️ and 🔼 buttons can be used to access or hide other settings.

Different commands can be executed with one push-button:

- Short keystroke
- Long keystroke
- Double keystroke

Adjustable parameters

Different functions can be set for each command:

Command	Default value	Setting values	Function
Short keystroke	ON/OFF	ON/OFF	Switch light on or off.
		ON	Switch light on.
		OFF	Switch light off.
		During the period ON	Switch on the light for a certain duration. The desired duration can be set, e.g. [1 hour]. The behaviour after the duration has elapsed depends on the operating mode. - Fully automatic: The light stays on when motion is detected. - Semi-automatic, manual operation: The light is switched off.
		During the period OFF	Switch off the light for a certain duration. The desired duration can be set, e.g. [1 hour]. NOTE: Presence detection and light control are deactivated during this period. The behaviour after the duration has elapsed depends on the operating mode. - Fully automatic: The light is switched on when motion is detected. - Semi-automatic: The light remains switched off. - Brightness automatic. Manual operation: The light is switched on.
		Start scene	Access the scene with the selected scene number. The scene ends when the push-button is used to switch back to [Automatic mode]. NOTE: For this function, at least one scene must be created in the <Scenes> menu. For details see 6.7 Scenes.
		Next scene	Access the scene with the next higher scene number. The desired range of scenes can be set, e.g. scene number [3 to 5]. The sequence of accessing them would then be: 3»4»5»3»4»5...
		Stop	The current lighting situation is maintained as long as presence is detected and until the follow-up time has elapsed or until you switch back to [Automatic mode] by pushing the button.
		Automatic mode	Return to the initial state of the current operating mode.
		No function	–

Command	Default value	Setting values	Function
Long keystroke	Dim UP/DOWN	Dim UP/DOWN	At the first keystroke: brighten the light up to the maximum value; when pressed again: dim the light down to the minimum value.
		Dim UP	Dim the light up to the maximum value.
		Dim DOWN	Dim the light down to the minimum value.
		ON/OFF	(see above)
		ON	(see above)
		OFF	(see above)
		During the period ON	(see above)
		During the period OFF	(see above)
		Next scene	(see above)
		Stop	(see above)
		Automatic mode	(see above)
		No function	–
Double keystroke	Automatic mode	Automatic mode	(see above)
		Next scene	(see above)
		No function	–

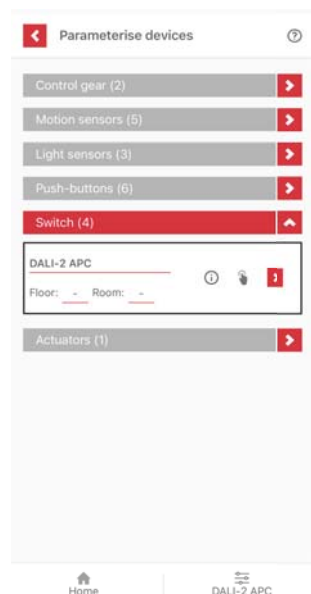
6.10.5 Switch

Description

- Switches can be used to switch between groups.
- If switches are connected to combined inputs for buttons and switches, **all three** keystroke functions (<Single keystroke>, <Long keystroke> and <Double keystroke>) must be set to [No function]. For details see *6.10.4 Push-buttons*.
- The assignment of switches or switch inputs to switch instances can be found in the respective user manual.

App

You can get to the <Switch> screen from the <Configure devices> menu.



- When a switch instance is identified, the 🖱️🔴🖱️🔴 icon flashes.
- You can use the ⓘ icon to access further information.
- The ➡️ and ⬆️ buttons can be used to access or hide other settings.

Adjustable parameters

The following situations can be set for the switch position at the push-button input:

Parameter	Setting value	Effect
closed	Change over group ON	A closed switch position is passed to the <Change over groups> function.
	Change over group OFF	An open switch position is passed to the <Change over groups> function.

6.10.6 Actuator

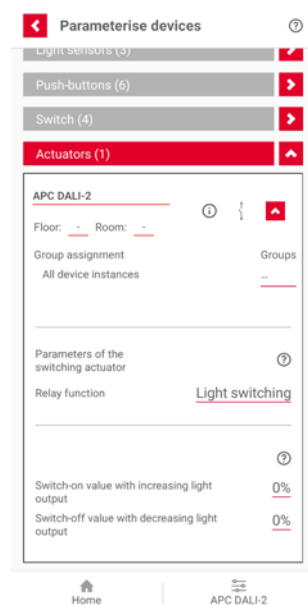
Description

- The [Actuators] function can be used for different tasks, depending on the type of component connected.
 - Relay function [Switch lighting]:
The actuator switches depending on the light output of the control gear. The actuator switches when the current light output of a group exceeds or falls below a switch-off value.
 - Relay function [Switch HVAC]:
The actuator switches depending on presence detection. The switch-on delay and the follow-up time after the last presence detection can be set. Room brightness and light output are not relevant.
- Depending on the function, the following number of actuators can be used.

Function	Interior lighting lighting	Switch HVAC
Maximum number of actuators per group	64	1
Maximum total number of actuators	64	8

App

You can get to the <Actuators> screen via the <Configure devices> menu.



- When the actuator is identified, the icon flashes * * * * .

- You can use the ⓘ icon to access further information.
- The ▶ and ▲ buttons can be used to access or hide other settings.

Adjustable parameters

Depending on the selected relay function, different parameters can be set:

Relay function	Connected	Parameter	Setting values	Default value
Switch lighting	230 V light or similar component	Switch-on value with increasing light output	0 ... 100 % (in 10 % steps)	0 %
		Switch-off value with decreasing light output	0 ... 100 % (in 10 % steps)	0 %
Switch HVAC	Components of heating, ventilation, air-conditioning and refrigeration	Switch-on delay	00:00 ... 24:00	00:02
		Follow-up time	00:01 ... 24:00	00:15

NOTE: When switching between relay functions, the manually set values are reset to the default values.

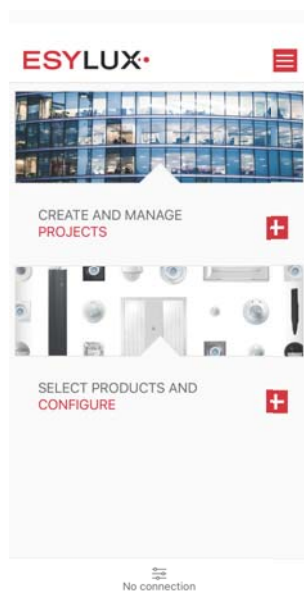
7 Products section

Description

The <Products> menu allows you to manage all customisable ESYLUX products and find related information and documents.

App

To get to the <Products> menu, tap the <Select products and configure>  button on the home screen. .

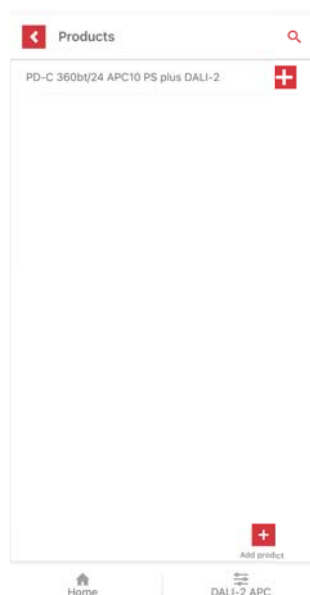


- Screen without Bluetooth connection

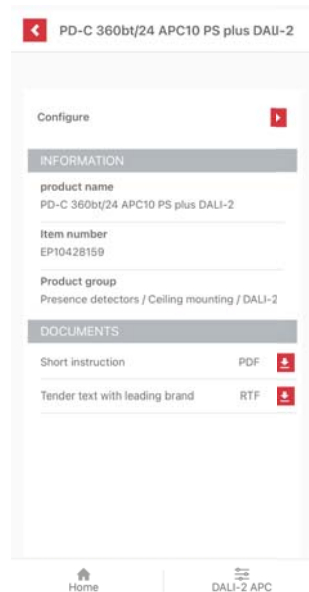


- Screen with active Bluetooth connection

The <Products> menu shows the products already stored in the ESY-App.



- An APC that has already been connected is automatically included in the list.
- You can use the <Add product>  button to add a configurable product that cannot be configured directly via Bluetooth. You can add a new product by barcode (on the product packaging) or search in the manufacturer database. This requires internet access.
- In the list of products, tap the product you would like more information about.



Do not use the <Configure>  button to configure an APC. Use the <Settings> menu for this. The <Configure>  button in the Products section is used to configure devices without Bluetooth using the ESY-Pen. An APC can only be configured here if the ESY-App is connected to it via Bluetooth. For details see *5.2.3 Bluetooth connection*.

The following documents are available on this screen:

- Information about the product
 - Documents about the product
- This requires internet access.

8 Projects section

8.1 Overview

About projects

In the <Projects> section, you can save the configuration of ESYLUX products in a building. You can export the saved configuration and restore it later if required. The configuration can also be exported as a PDF file for reference purposes.

You can access the <Projects> section by clicking on [CREATE AND MANAGE PROJECTS] on the start screen.

<Projects> screen



This screen displays a list of existing projects. You can import saved or exported projects and create a new project.

To delete a project, drag it to the left and tap the waste bin icon.

Icon	Comment
	Tap the magnifying glass to search for a project name.
	Tap on the icon or on the name of the project to open the project.
	Tap on the icon to import a saved or exported project.

Icon

Comment



Tap on the icon to create a new project.

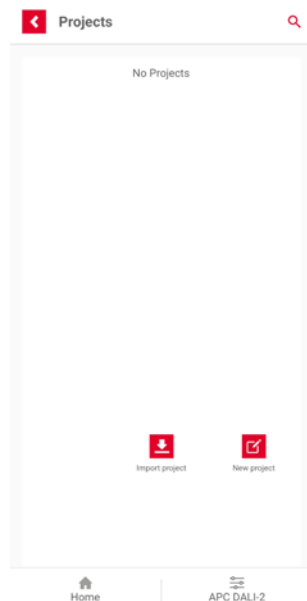
8.2 Create project

Requirement

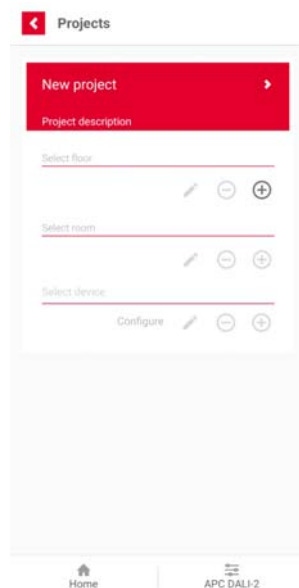
- The ESY-App is connected to the APC.

Procedure

1. Tap the [New project] icon on the <Projects> screen.



2. Tap on <New project> and enter a name for the project.



3. Enter an optional description for the project.
4. Tap on the [+] to add a floor. Enter a name or tap on the [+] behind <Pre-selection> to select a predefined name. Confirm with [OK].
5. Tap on the [+] to add a room on the selected floor. Enter a name. Confirm with [OK].
6. Tap on the [+] to add a device. Then tap on [New device]. Enter a name. Tap on the [+] behind <Select device> to select an ESYLUX product.

Select the device currently connected. The configuration of the presence detector synchronises with the project. Confirm with [OK].



» The project has now been created.

Options

- You can add more floors, rooms and devices. To do this, tap on the respective [+].
- To select an element for editing from several floors, rooms or devices, tap on the name.
- To change the name of a floor, room or device, tap the appropriate pencil icon.
- You can have the number of floors, rooms and appliances displayed for the project. You can also create, display and edit notes. To do this, tap on [>] next to the name of the project, then on [Details] or [Notes].
- To remove a floor, a room or a device from the project, tap on the appropriate [-].
- To add a device that is not configured via Bluetooth, select a favourite item on the <Products> selection screen or tap on [Add product]. You can now scan the barcode of your product or search for your product in the ESYLUX database.

8.3 Change device settings in the project

Synchronise device settings with the project

For ESYLUX devices configured via Bluetooth, the settings saved in the device can be synchronised with the project.

Requirement

- The ESY-App is connected to the device.

Procedure

1. Open the project in which the device is used.
 - » A prompt appears asking whether the project should be updated with the device settings.
2. Confirm the prompt.
 - » The project is now synchronised with the device settings.

Edit settings of a device configurable via Bluetooth in the project

Requirement

- The ESY-App is connected to the device.

Procedure

1. Open the project in which the device is used.
2. Select a floor, a room and the connected device.
3. Tap on [Configure].
 - » The <Settings> menu opens. For details see *6 Settings menu*.
 - » Once you have made the required settings, you can open the project again to synchronise it with the new settings.

Edit settings of a device configurable via infrared in the project

Requirement

- No device configurable via Bluetooth is connected to the ESY-App. "No connection" must appear under the button .

Procedure

1. Open the project in which the device is used.
2. Select a floor, a room and a device configurable via infrared.
3. Tap on [Configure].
4. Refer to the user manual for the specific product for further information.

8.4 Export and import project

Export project as PDF file

You can export your project as a PDF file to save it for reference or print it out. To do this, proceed as follows:

1. Open the project.
2. Tap on [>] next to the name of the project. A menu appears.
3. Select [PDF].
 - » A save dialogue opens on a mobile phone with Android. Select a file name and location to save the PDF file here. On an iPhone, the PDF file is saved on your iPhone in the ESY Control/ESY-Control_Exports folder without prompting you.
 - » You can then send or print the PDF file using the features of your mobile phone.

Export project as json file

You can export your project as a json file to save it in another location and import it again later if required. To do this, proceed as follows:

1. Open the project.
2. Tap on [>] next to the name of the project. A menu appears.
3. Select [Share].
 - » The share dialogue opens on your mobile phone. Send or save the json file as required.
 - » You can later import the json file on this or another mobile phone to restore the project.

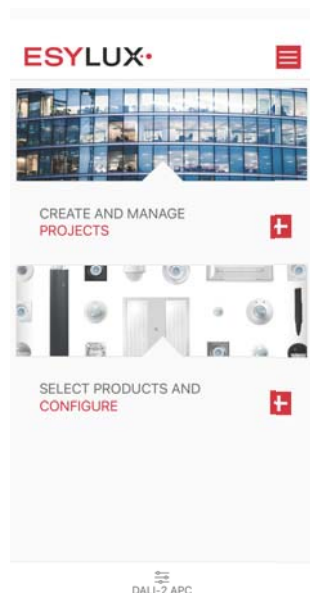
Import project as json file

You can import an exported project again. The json file must be saved in a location that can be accessed by your mobile phone's Files app. Proceed as follows to import:

1. Tap on the [Import project] icon on the <Projects> screen.
2. Tap on [SELECT PROJECT FILE].
3. Select the required json file.
4. Tap on [IMPORT].
 - » The project is imported and appears in the list of your projects.

9 Menu information

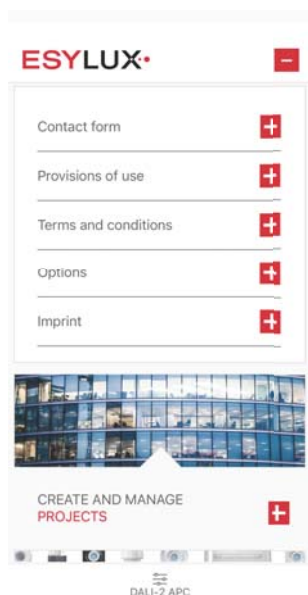
Description



Pressing the  button opens the Information menu.

- General information about the ESY-App is available in this menu.

App



The following information is available in this menu:

- **Contact form**
This requires internet access.
 - Contact
 - Newsletter registration
 - ESYLOCATOR
- **Provisions of use**
This requires internet access.
 - Privacy Policy
 - Disclaimer
- **General Terms & Conditions**
This requires internet access.
 - General Terms & Conditions
 - Terms of delivery and payment
- **Options**
 - "ESYLUX internal" section
 - The current version of the ESY-App
- **Imprint**
This requires internet access.
 - Imprint
 - Photo credits

10 FAQ

10.1 What does this APC indicator mean?

The LED indicators of the APC that light up occasionally provide useful information.

- Various states and situations of the configuration can be identified by the colour and the flashing behaviour of the integrated LED. For details see *5.1.5 APC LED indicators*.

10.2 What does this ESY-App indicator mean?

The ESY-App's indicators and messages that appear in special situations provide explanations and help.

Indicator/Notification	Meaning/ Remedy/ Comment
 "No connection"	– APC not paired with mobile device (Bluetooth). – APC out of Bluetooth range (10 m). – APC without voltage.
No entries on the <Bluetooth device overview> screen	– APC already paired with other mobile device. – APC out of Bluetooth range (10 m). – APC without voltage.
Window <Bluetooth pairing request>	– Enter the PIN code of the device.
"No connection"	– APC out of Bluetooth range (10 m). – APC without voltage.
"No ESYLUX devices"	– APC out of Bluetooth range (10 m). – APC without voltage.
"Bluetooth must be enabled to use the app"	– Bluetooth switched off on the mobile device. – APC without voltage.
"Connecting via Bluetooth"	– Please wait until connected.
"Retrieving data from the detector"	– Please wait until the data is synchronised (approx. 60 s).
"Checking the software version"	– Please wait until the software version has been checked.
"New APC software version available"	– The APC software can be updated.
"Do not receive update notice on connection" (checkbox)	– Tick the checkbox if the ESY-App is to be updated in the background.
"Restricted offline access"	– No internet connection. This only affects some special functions of the ESY-App, not communication with the device.

Indicator/Notification	Meaning/ Remedy/ Comment
"The device is already set up. [...] Exit Setup Wizard."	– If the device is to be completely reconfigured: Reset to factory settings.
"Software update ready for installation" (banner insertion)	– Notification of the mobile device operating system (Android or iOS), referred to as "software" here.

11 Decommissioning

11.1 Uninstallation

Work on the 230 V mains supply is required to uninstall the product. This may only be carried out by electrical fitters or qualified electricians.

After disconnecting from the 230 V mains, further work can also be carried out by persons without electrical engineering qualifications.

11.2 Disposal

This product must not be disposed of with unsorted residual waste. Owners and operators of the product are legally obliged to dispose of all parts of the product properly and according to type:

- Electrical and electronic parts as well as cables belong to the category of electrical waste.
- Packaging, cardboard boxes, moulded parts and foils belong to the respective material recycling category.

You can get further information from your city or municipal administration.

12 APPENDIX

12.1 Abbreviations

APC	Application controller
BLE	Bluetooth Low Energy: Bluetooth radio technology
BMS	Building Management System, the name given to a series of presence detectors at ESYLUX
bt	Bluetooth
DA+/DA-, DA1/DA2	DALI-2 bus connection
DALI	Digital Addressable Lighting Interface, a protocol for digital lighting control
ECG	Electronic control gear
FAQ	Frequently asked questions and the answers to them
GTIN	Global Trade Item Number: Identification number for trade items
HVAC	Heating, ventilation, air conditioning/refrigeration technology
K1/K2	Actuator connection (for external lighting, HVAC etc.)
LVK	Light distribution curve
lx	Lux: unit of illuminance
MD	Motion detector
OM	Operating mode
OTA	Over-the-air: Wireless interface for software updates
PD	Presence detector
PIR	Passive infrared, presence detector sensor technology
PS	Bus power supply
S1, S2, S3, S4	Push-button/switch connections
TS	Light sensor
UID	Unique Identifier: Identification number for data objects

12.2 Glossary

Address	Unique identifier of a bus participant (device/instance) in the DALI-2 bus
Control gear	DALI designation for devices that supply light with energy, e.g. the electronic power supply unit of a light
Bluetooth Low Energy (BLE)	Bluetooth technology with low power consumption
IEC 62386-xxx	Series of standards for the DALI concept and components
Instance	Sub-component of a device that fulfils its own function (e.g. presence detection or brightness measurement). Each instance in the DALI-2 bus can be uniquely addressed via the device and the instance number.
Light control	Lighting is controlled to a constant brightness level – depending on the amount of daylight.
Follow-up time	Time between the last presence detection and the next control state
Actuator	A switch controlled by APC for switching devices on and off
Scene	Function in which a keystroke switches on one or more groups with constant, adjustable light output.

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