

# DALI PROFESSIONAL

## Commissioning Guide

Software Version 2.2.X

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# 1. Introduction

This document provides step by step instructions for commissioning the DALI PROFESSIONAL system.

The OSRAM DALI PROFESSIONAL System is a lighting control based on standardized DALI Bus according to IEC 62386 -> see: <http://www.dali-ag.org/>

With this a flexible addressable digital lighting control can be built-up. The central component is the DALI PROFESSIONAL CONTROLLER with 4 DALI lines. These DALI lines can be equipped with DALI suitable ECG for lamp operation and DALI operation units / sensors.

The DALI PRO Windows PC software allows a comfortable setup and visualization of individual configurations for the DALI PRO system. Complete configurations can be shown and changed on the screen with mouse clicks.

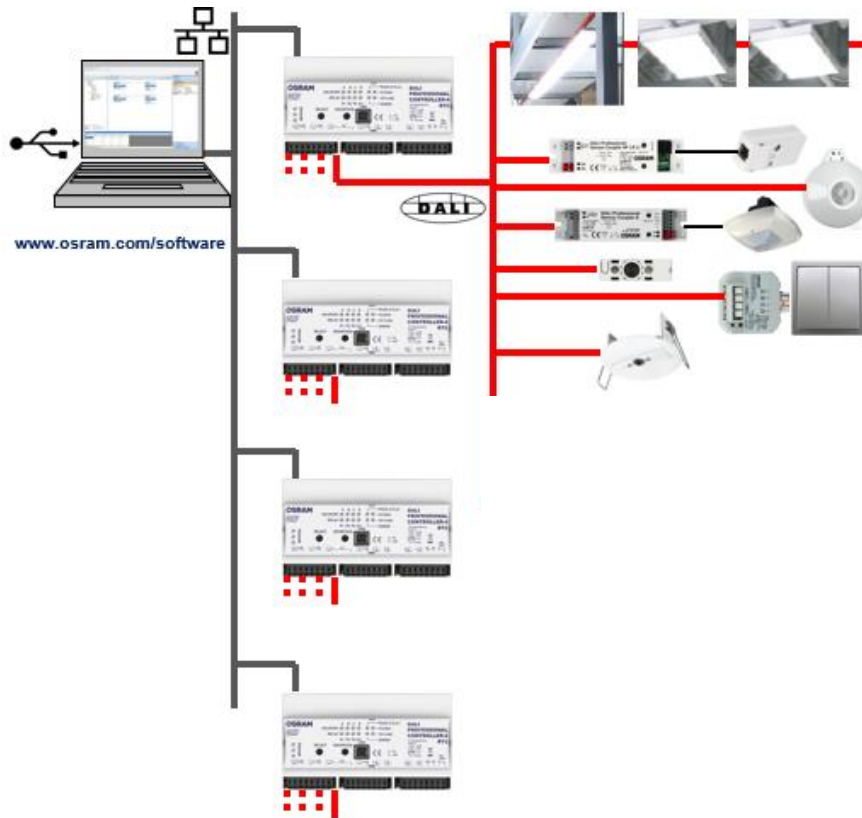
Changes on screen are transferred by upload from PC to the controller memory via USB or remotely by local LAN connection.

The PC software provides various possibilities which are all described in detail by software manual.

## DALI PRO Cont-4 RTC functionalities and limitations:

- 4x 16+ Groups, line overlapping allowed; '+' means additional 'virtual' groups possible by software, but uses addressed commands. Final max. number of groups only limited by controller memory
- 4x 16 scenes, line overlapping allowed, but then one scene used for each line
- 4x 8 active light regulation loops; more possible when noticeable delay accepted, limited by reaction times
- Full- and semi-automatic energy saver function with occupancy- and light-sensor
- Up to 10 light sensors / sensor couplers per regulation
- Corridor function with two reduction steps.
- PIR disable / enable function
- Sequences consisting of scenes, fade control, loops
- Visible resource status message
- Switch function
- Serial / parallel configuration of grouped switches
- Programmable internal relay to be used in action list
- test-function for all DALI devices
- Configuration check against physical available devices
- retrieve configuration by download from controller
- Full project documentation in HTML file
- up to 50 different timers can be configured

Up to 4 DALI PRO CONT-4 RTC can be interconnected by LAN.



#### Compatible products with DALI PRO Cont-4 RTC controller:

- Standard DALI ECG's
- DALI PRO Cont-4 RTC controllers
- DALI Sensor coupler + MULTI 3 sensors
- DALI sensor LS/PD
- DALI HIGHBAY Adapter
- DALI Pushbutton Coupler
- DALI coupler HF + Radar Sensor
- DALI coupler E + external analog sensors
- DALI Repeater
- DALI Switch

## 1.1 Software Installation

1. Download the software from [www.osram.com/software](http://www.osram.com/software)
2. Extract the .zip file
3. Install DALI Professional system software by starting  
'Setup OSRAM DALI Professional vx.x.x.x.exe'  
Default directory for the software: C:\Program Files (x86)\OSRAM\DALI Professional 2
4. Establish the USB connection Controller – PC
5. Start the program with the desktop icon  or over Start / Programs / OSRAM / DALI PRO / OSRAM DALI PRO

### Supported Windows Versions: Windows 7, Windows 8.1, Windows 10

The firmware is part of the PC tool 2.x (see part firmware update).

There is no longer need for additional firmware (\*.ofw) file.

## 1.2 Required Equipment

### 1.2.1 Standard Equipment

To commission a DALI PRO CONT-4 RTC controller the following equipment is needed:

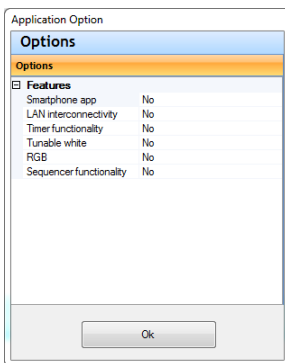
- Commissioning PC (Laptop)
- Commissioning cable (Type USB-A) between PC and DALI PRO CONT-4 RTC controller
- Light meter: the light meter should be able to measure the light values in Lux.
- Tape measure.
- Flash light
- Dali Professional Components (Controller, sensors, couplers, luminaires ...)
- Additional equipment for faster commissioning:
  - o Wireless router & CAT-5 connection cable to connect the router with the controller

## 2. First Steps

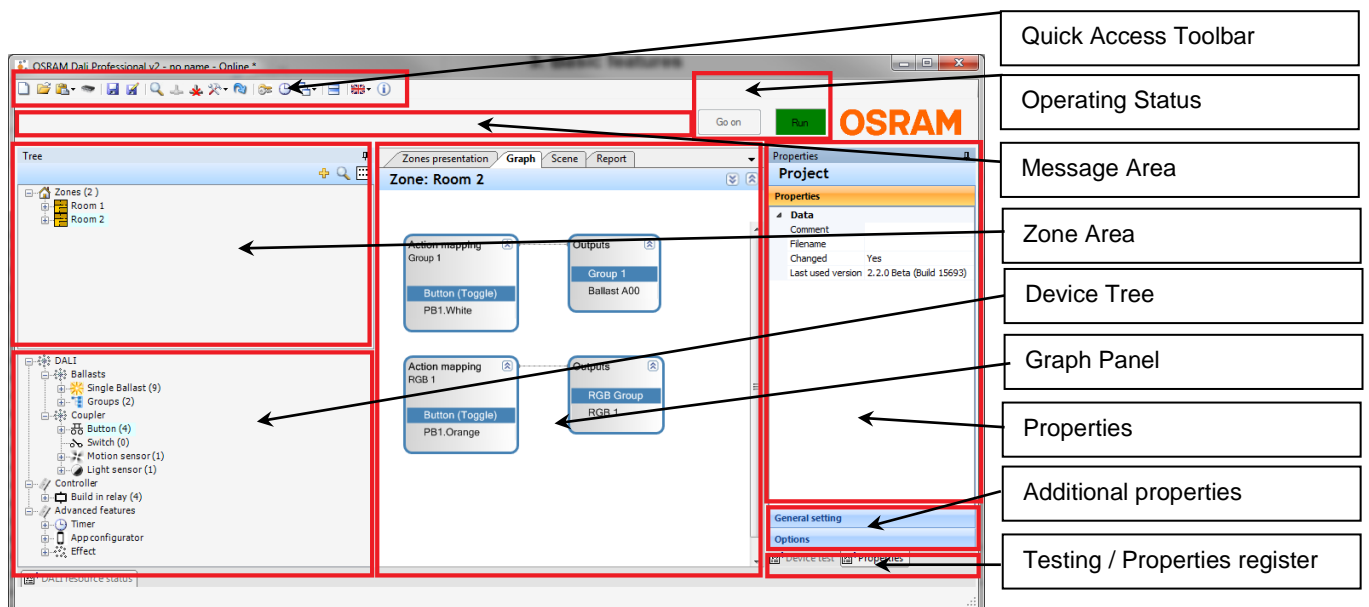
Additional features by manual activation:

| Feature                 | Description  |
|-------------------------|--|
| LAN interconnectivity   | Connection between up to 4 DALI Pro controllers to share coupler input events. |
| Timer functionality     | Real time clock and daylight simulation  |
| Sequencer functionality | Light control with relative time dependences (need user right "Expert-I")      |

With each project start the feature setup dialog will be open. The dialog can also be open with selection of "DALI" in the tree and the over the context menu.



### 2.1 Commissioning software overview





### 2.1.1 Quick Access Toolbar

The main features are already listed in the Quick Access Toolbar.

### 2.1.2 Operating Status

During Testing functions or Scan for devices the operating mode of the controller is on hold. With the Go On button the operating mode can be reactivated.

### 2.1.3 Message Area

Hints and error messages were displayed in this area.

### 2.1.4 Zone Area

The zone Area is for grouping functions. This allows a better overview in bigger projects or an easier pre-commissioning be copy paste rooms with the similar settings.

### 2.1.5 Properties

In the property window all available information of the selected device are displayed and can be changed.

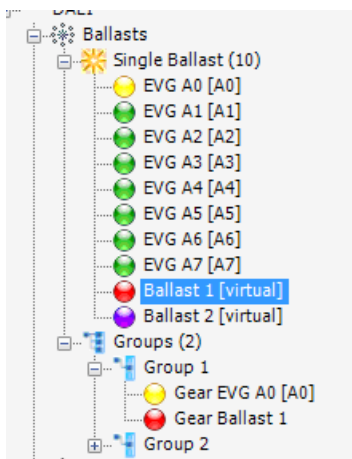
### 2.1.6 Device tree

#### 2.1.6.1 Ballasts (ECG)

In the device tree all ECG and ECG groups will be listed. The ECG groups will automatically generated with move of the ECG to the graph panel and generating of functions by connecting with inputs.

It is also possible to make groups manually (for example with the localization dialog). Existing groups can be reused und the title can be changed.

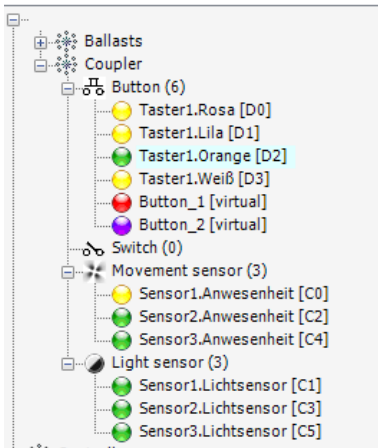
This groups are not equal to DALI groups and can contains ECG from different DALI ports (DALI groups will be assigned dynamically during the upload process).



| ECG color legend |  |
|------------------|--|
| Color            | State  |
|                  | Deactivated  |
|                  | Error (not real existing) und used e.g. virtual & used ECG           |
|                  | Virtual and not used   |
|                  | Real device and not used   |
|                  | Used device and ok   |
|                  | Deactivated and used in a light combination; Can't use as single ECG |
|                  | Used in light combination; Can't use as single ECG                   |

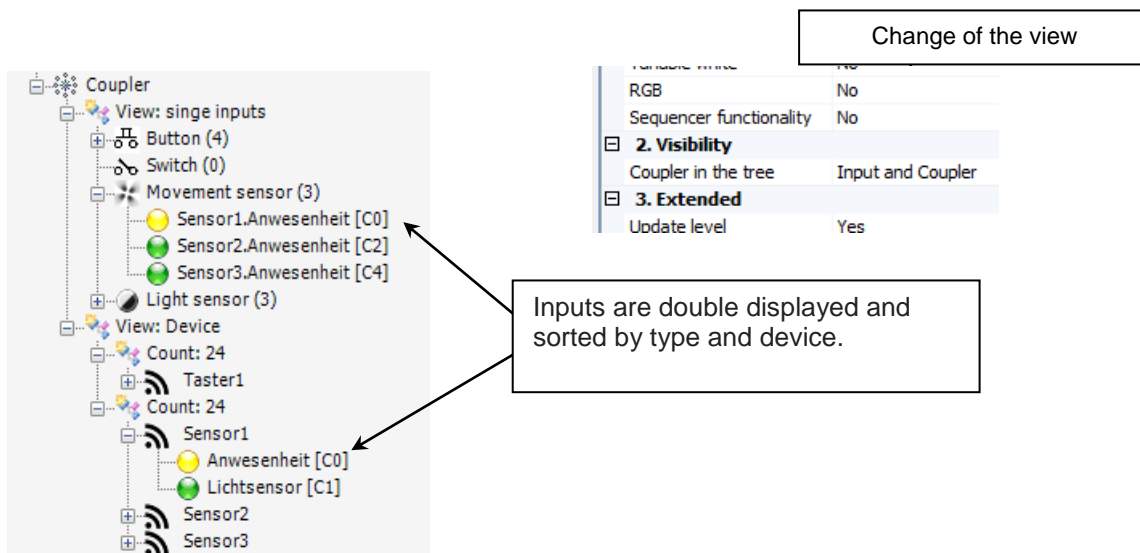
### 2.1.6.2 Coupler

By default, coupler will be shown as single input in the tree, sorted by input type.




| Color of Input device status |   |
|------------------------------|---|
| Color                        | State   |
|                              | Deactivated   |
|                              | Error (not real existing) und used e.g. virtual and used input device |
|                              | Virtual and not used  |
|                              | Real input and not used   |
|                              | Used device and ok  |

Alternative can the view in the tree changed to show only coupler or to show both possible view, single input and coupler level. In this case each input is twice in the tree.



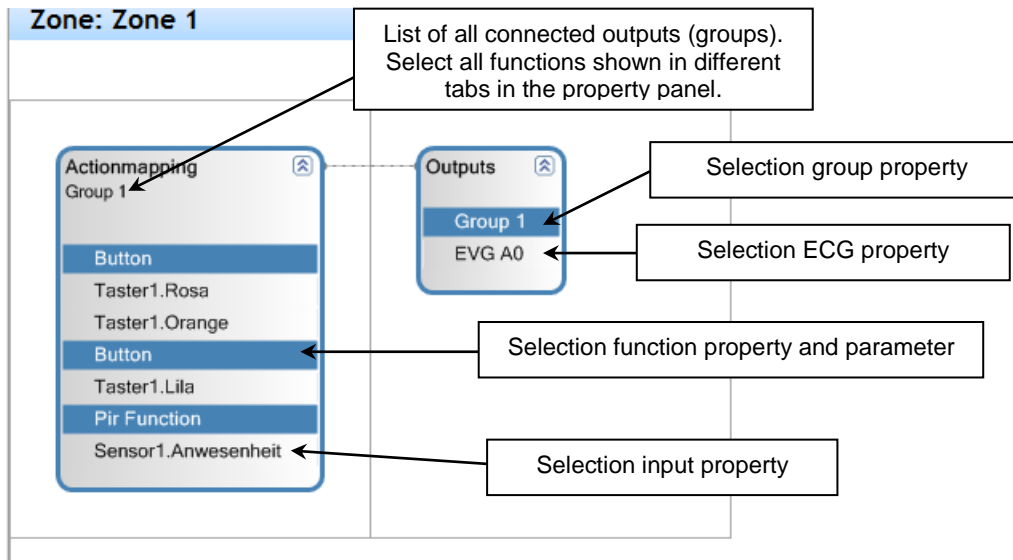
Inputs are double displayed and sorted by type and device.

### 2.1.7 Graph panel

Inputs and outputs can be connected in the graph panel by functions. If more than one functionality possible the functionality can be changed over the icon  from the actual function (for example between regulation and twilight function between light sensor and ECG).

In the graph view the function will be automatically combined in a box, called action mapping, that is controlling the same output.

Depending of the selection in the graph the properties of the different parts can be shown and edit in the property panel.



The property of each function will be shown in one tab of the property panel.

| Funktion                      |                          |
|-------------------------------|--------------------------|
| Button                        |                          |
| ✖                             |                          |
| 1. Data                       |                          |
| Fade Time                     | no fade                  |
| Short Push                    | Toogle (only last level) |
| Long Push                     | Dimming                  |
| Double Push                   | Nothing                  |
| 2. Extended                   |                          |
| Pir timer disabled            | No                       |
| Pir Connection with light off | Pir enabled in 30 s      |

|                        |                |
|------------------------|----------------|
| Button                 |                |
| Pir Function           |                |
| ✖                      |                |
| 1. Data                |                |
| Mode                   | Full automatic |
| Don't switch light off | No             |
| 2. Light On            |                |
| Fade Time              | Default        |
| Action                 | Go to level    |
| Level                  | 100 %          |
| 3. Light Off           |                |
| Time Delay             | 5 min          |
| Fade Time              | 16.0 s         |

### 3. DALI PRO network connection

There are different ways to do the commissioning of the system:


- Offline design (virtual)
- Online design. Direct connection to the control unit by USB cable.
- Remote PC connection with an external router.

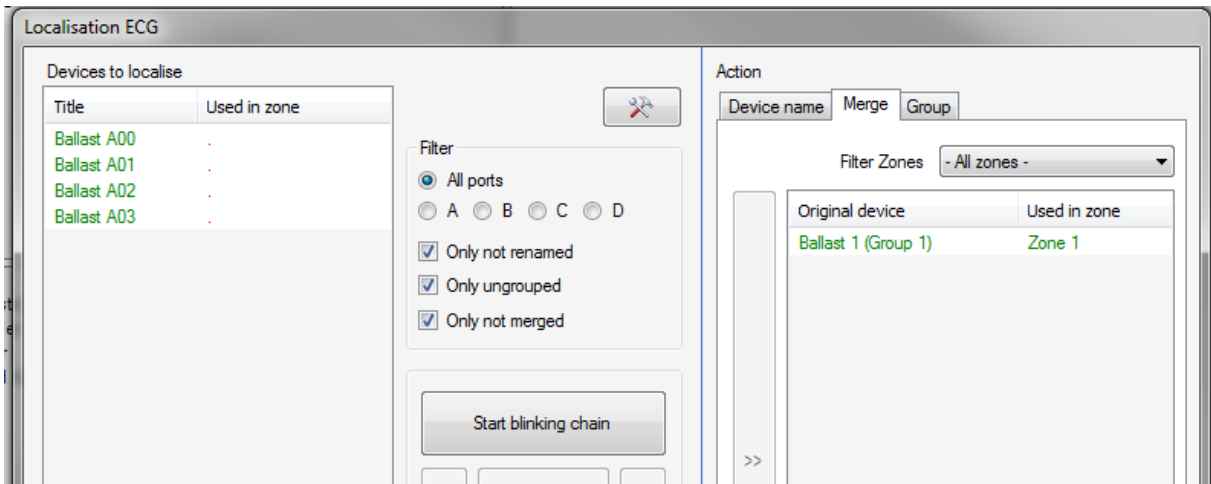
#### 3.1 Offline Connection

The work starts with generating of virtual devices (ECG, coupler for button and sensors). These devices will be connected to functions and the parameters will be adapted.

If the button coupler details (button to cable colour) or the combination of sensor (light sensor to movement sensor) unknown single virtual inputs can be used. In the other case already virtual coupler can be used.

In the real application, the virtual devices can be replaced by the real devices.

Select "Search DALI devices" in the shortcut bar  and open the merge register.

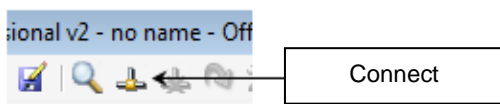


#### 3.2 Online USB- Connection to the controller

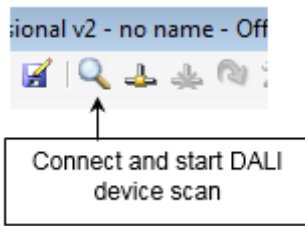
1. Connect your commissioning PC to the DALI Professional control unit via a USB cable. (USB Type A)
2. Open the DALI PROFESSIONAL software.
3. Create a new project.



4. Connect to control unit with the icon.



5. Start the search for DALI devices:



6. Identification of the devices and assignment of a unique name.

7. Creating functions in the system.

### 3.3 Online LAN-Connection

Recommendations for network parameters:

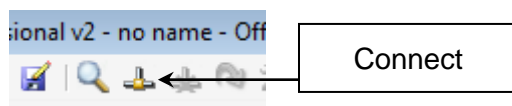
- OSRAM recommends to assign a static IP address for the DALI controller(s).
- The subnet must be: 255.255.255.0.
- The port 23 must not be blocked.
- UDP Messages must not be blocked.

From version 2.0 it is possible to use the Ethernet input of the DALI PRO controller. For commissioning you can use a LAN or WLAN connection.

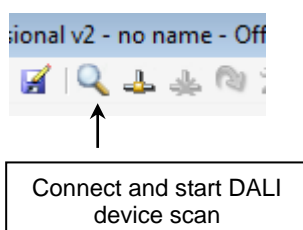
1. Start the DALI PRO software

2. Create a new project

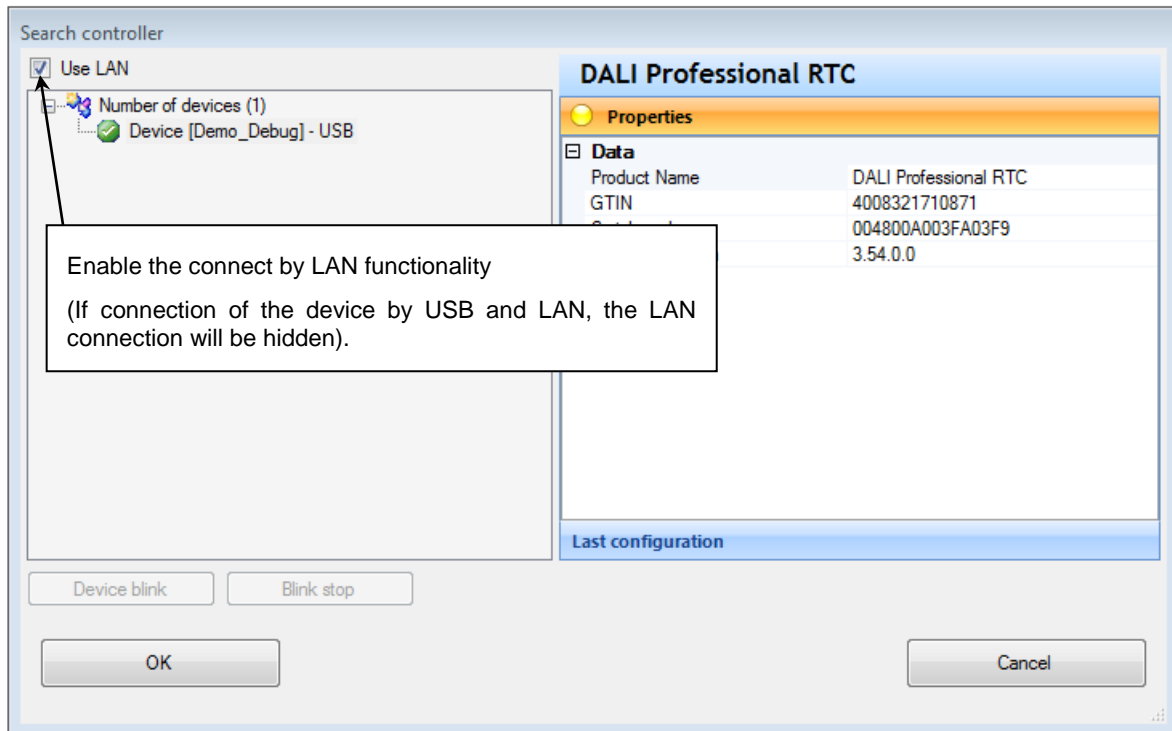
3. Connect to the controller through the icon:



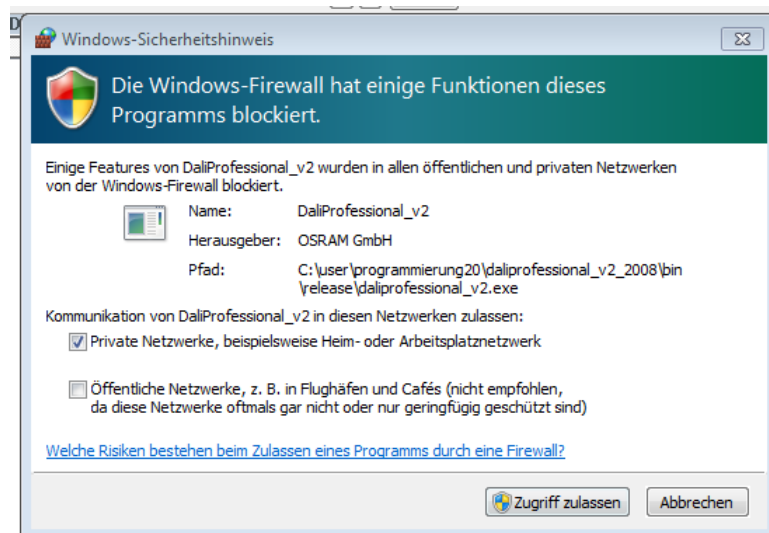
4. Start the DALI device search:




## 5. Enable the LAN functionality.

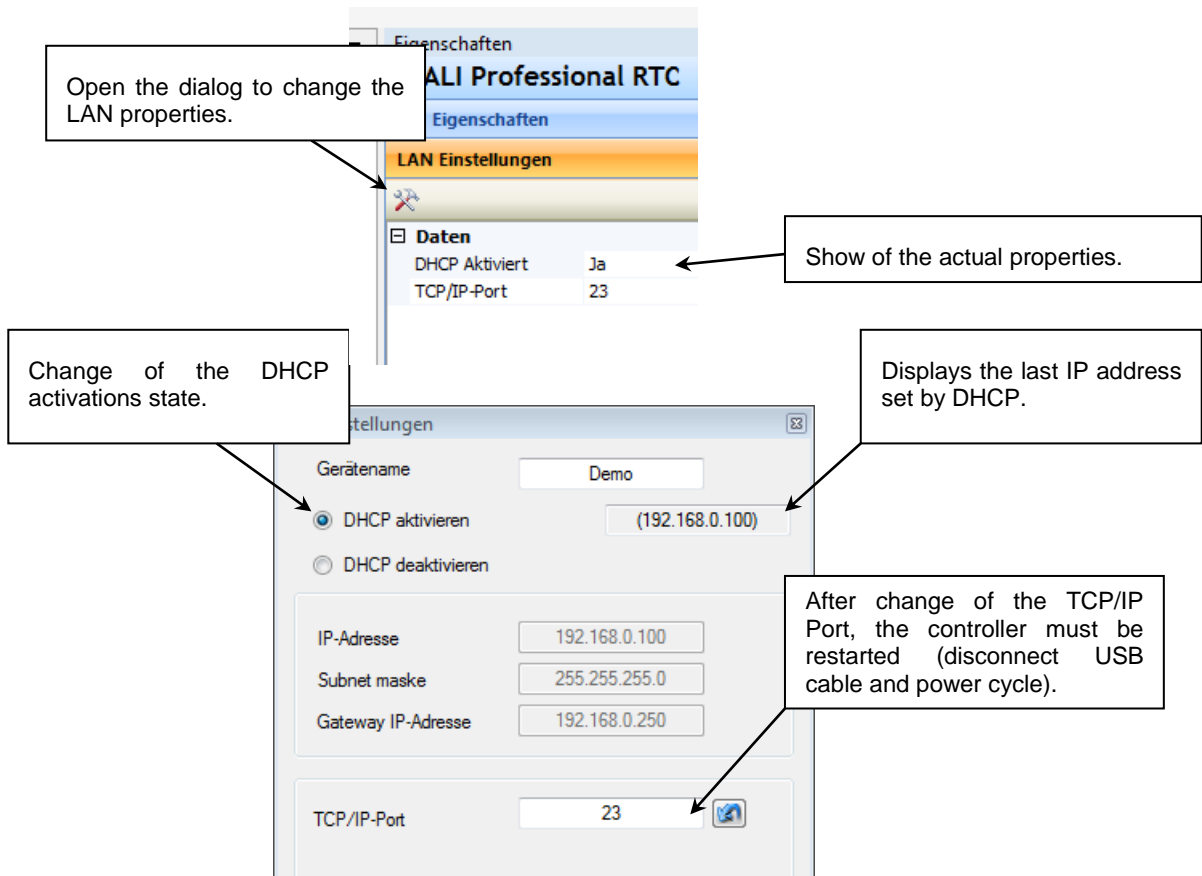


*Hint: In the first start of the DALI pro tool application the search for LAN devices will typically be blocked by the windows firewall. The access must be allowed and the tool must be restarted to use the now no longer blocked access.*



6. Setup of the LAN configuration of the controller

The LAN configuration of the DALI pro controller can only be changed by USB connection. After the connecting the LAN properties are visible by selection of “Controller” in the tree. Over the icon  can be open the dialog to change these properties.



Please note following:

- After changing the LAN configuration of the PC (plug in network cable or activate W-LAN), the DALI PRO software must be restarted to adopt the new LAN settings.
- To use DHCP a DHCP server is required (this is usually a router function). If the LAN is only needed for picking or for the smartphone app then DHCP is preferred.
- A LAN-connection of different DALI PRO controllers requires a fixed IP address (disable DHCP).
- Modification of the TCP / IP connection is only necessary in certain cases (permanent firewall or in the case of conflicts of port duplication). After changing the TCP / IP port, the controller must be restarted (disconnect from the USB cable and power returns).

|                        | PC            | Dali Professional Controller 1 | Dali Professional Controller 2 | Dali Professional Controller 3 | Dali Professional Controller 4 |
|------------------------|---------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>IP address</b>      | 192.168.0.100 | 192.168.0.101                  | 192.168.0.102                  | 192.168.0.103                  | 192.168.0.104                  |
| <b>Subnet Mask</b>     | 255.255.255.0 | 255.255.255.0                  | 255.255.255.0                  | 255.255.255.0                  | 255.255.255.0                  |
| <b>Default Gateway</b> | 192.168.0.101 | 192.168.0.101                  | 192.168.0.101                  | 192.168.0.101                  | 192.168.0.101                  |

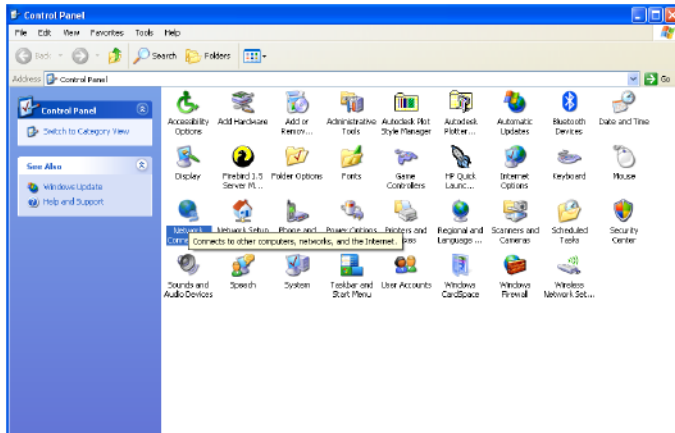
*Hint: each DALI PRO controller requires its own and fixed IP address!*

## Verifying TCP/IP Settings

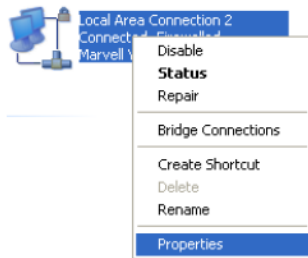
To connect the commissioning PC to the network either wirelessly or via wired network, the PC must be configured with the correct TCP/IP settings.

Perform steps 1. To 5. For the Windows XP operating system.

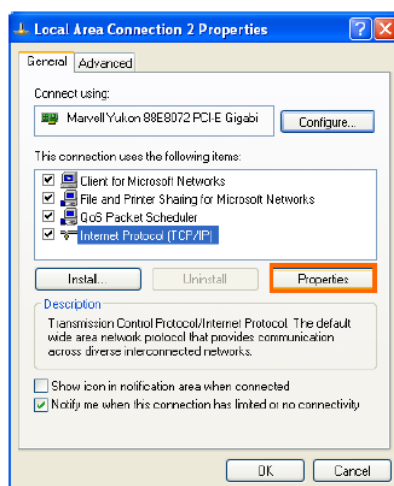
1. In the **Control Panel**, click **Network Connections**.



2. Right click on the **Local Area Connection** or **Wireless Network Connection** you are using and choose **Properties**.

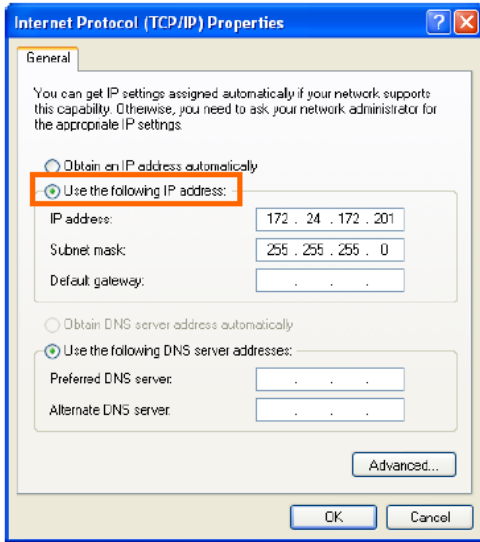


3. In the **Properties** dialog, select **Internet Protocol (TCP/IP)**, and click **Properties**.





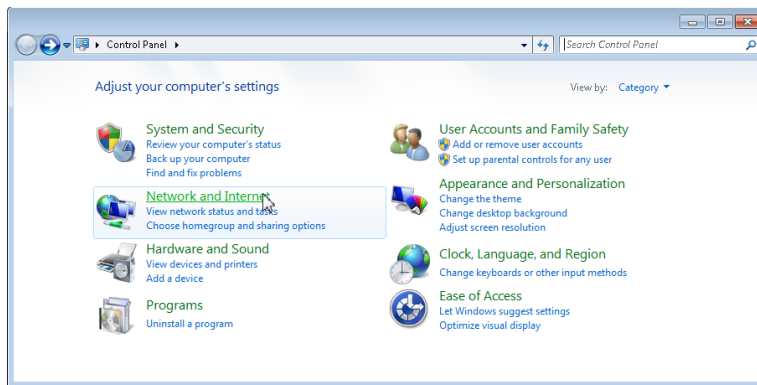
4. In the **TCP/IP Properties** dialog, select **Use the following IP address** option.



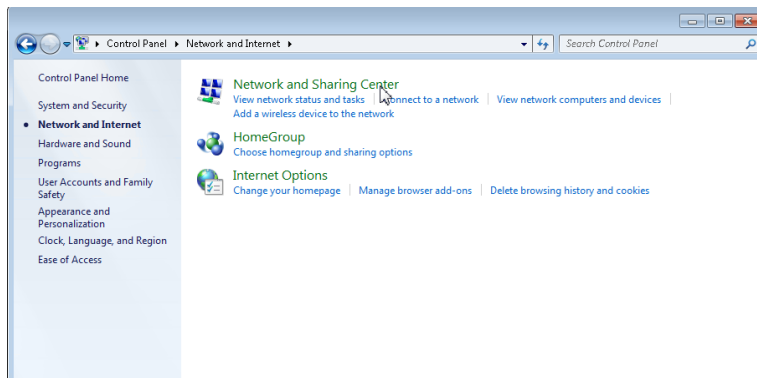
5. Verify the network settings and change as required.

### Changing TCP/IP settings in Windows 7

1. In **Control Panel** (in category view), click on **Network and Internet**.

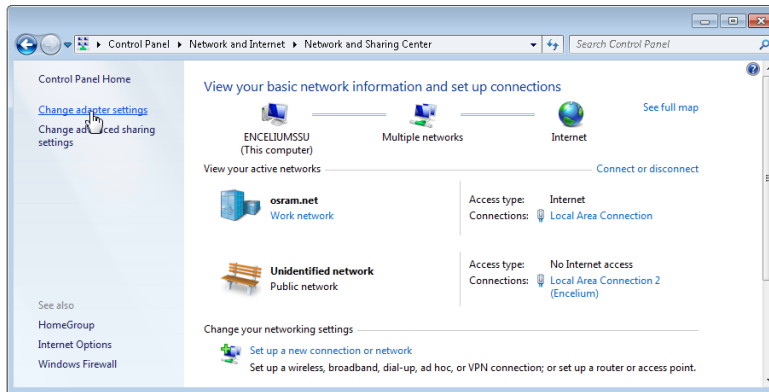


2. Click on **Network and Sharing Center**.

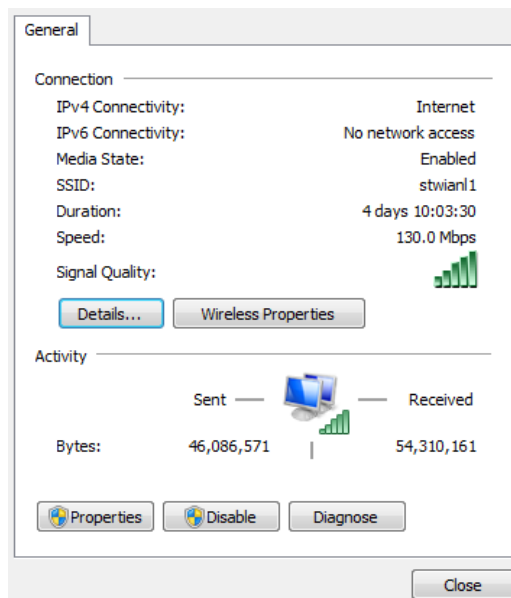


3. Click on **Change adapter settings**.

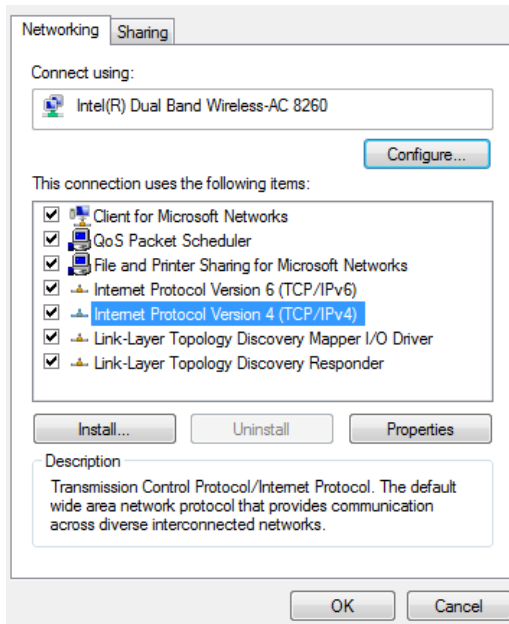
4.



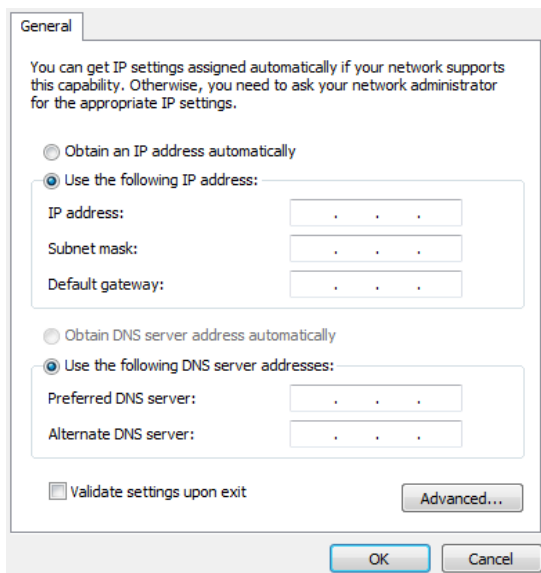
5. Right-click on the **Local Area Connection** or **Wireless Network Connection** you are using and choose **Properties**.



- In the **Properties** dialog, select **Internet Protocol Version 4 (TCP/IPv4)**, and click **Properties**.



- Choose **Use the following IP address**.



- Verify the typical network TCP/IP settings and change as required.

## 4. Search of DALI devices

### 4.1 General

Before the scan is started the firmware version will be checked. If the firmware version does not fit, the firmware update is necessary. The firmware is in the actual software included. No additional firmware file is necessary.

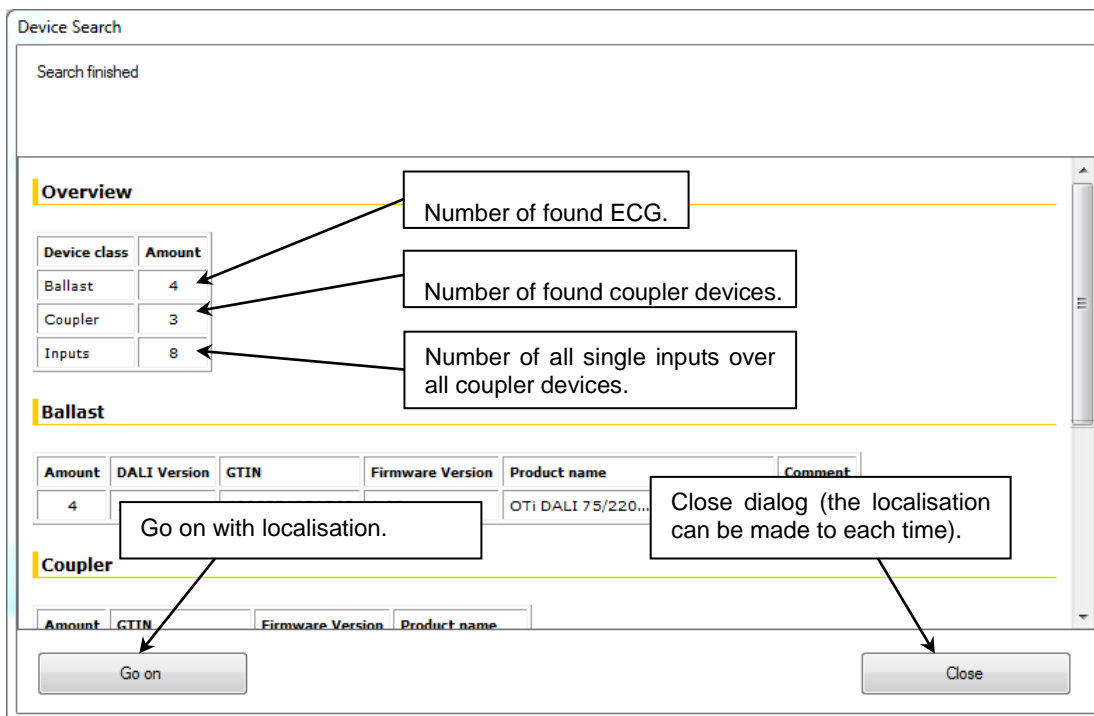
*If “Firmware update is needed”, please follow the instructions [Firmware update](#)*

The scan will be done for all four DALI ports (A, B, C, and D).

During the device scan the system is interrupted and go on if the scan is finished. In the interrupted state the DALI pro controller is blinking fast with the red "Plug and Play" LED. After using of test function, the system is also interrupted and must be manually restarted



After the scan a short report about the found devices will be shown.



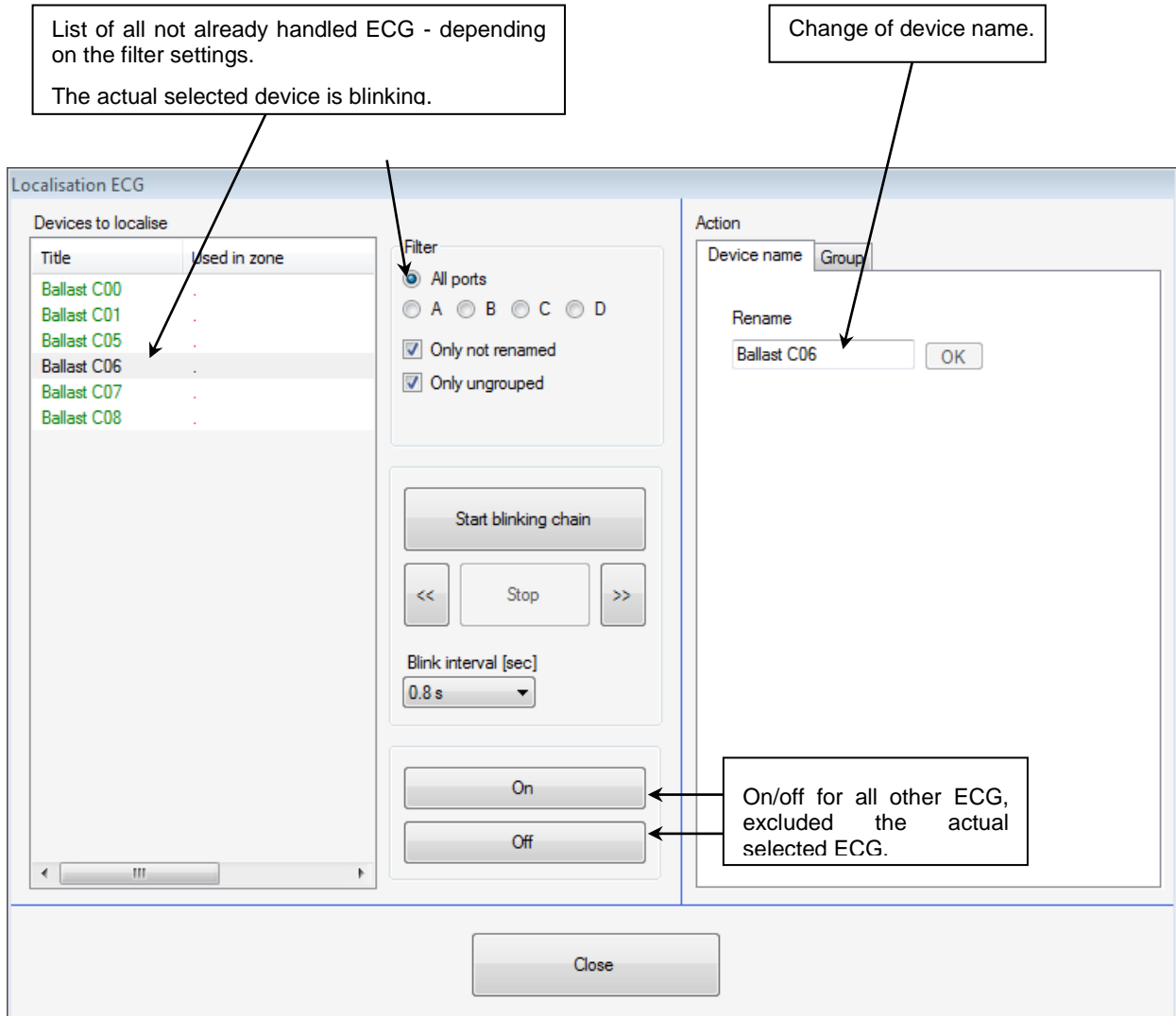
## 4.2 ECG Localization

A separate dialog is available for the ECG localization. Depending on the filter settings, a list of devices will be shown that shall be localized. From this devices the actual selected is blinking.

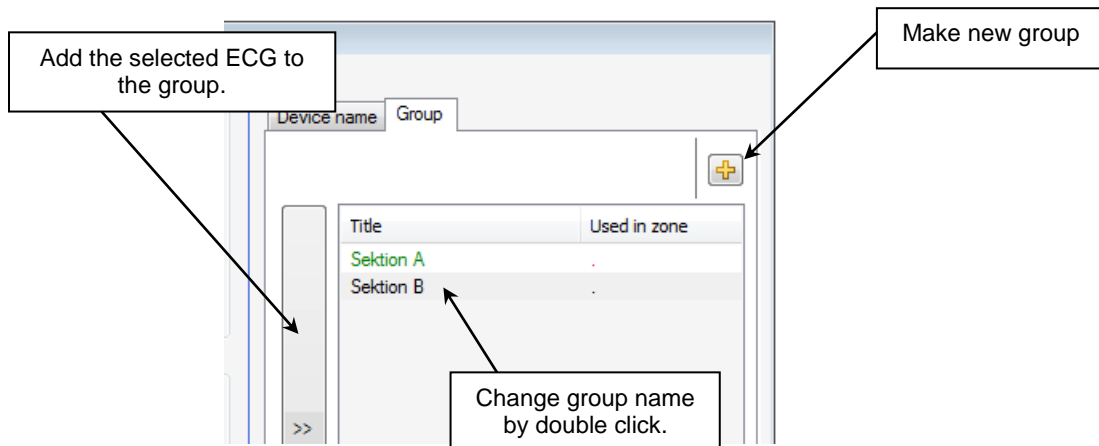
For the actual selected device can:

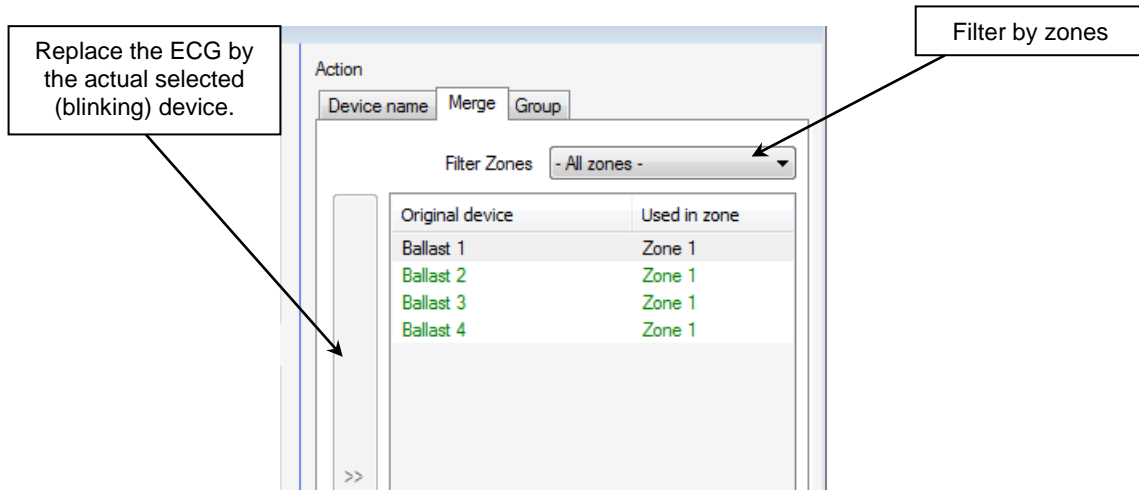
- Change the title
- Add to a group (or part of tunable white / RGB device). The group can also be generated from the dialog.
- Merge with virtual and used device. This feature is only visible if any virtual and used devices exist

After this handling the devices will be removed from the list (depending on the actual filter settings).

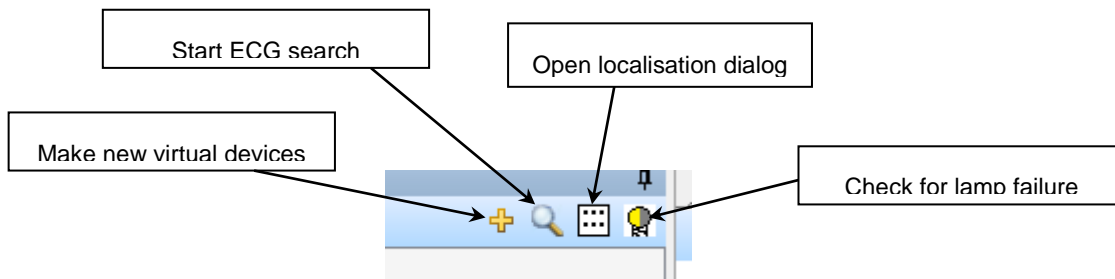


If virtual und used ECG existing the merge can be done. Depending on the filter settings the ECG will after merge be masked out.





The localization function are each time available over the tree context menu or icon if the ECG topic selected in the tree.



### 4.3 Coupler Localization

The localization is depending of the input type and different for buttons and sensors. Depending on the filter settings devices will be show in a list that has to be localized.

For the actual selected device can:

- Change the title
- Merge with virtual and used device. This feature is only visible if virtual and used devices existing.

The name of the input is combined from two parts, separated by a dot:

[Coupler name]. [Local input name]

And can be changed independent.

For button coupler the color of the cable will be the default local input name. For sensor coupler the name by function will be used as default name "Presence" and "Light sensor".

In the view "Single Input", the input name is unchanged as long the local input name is not changed (independent if the coupler name part changed).

For sensors the led on the selected device is on. Addition for sensors is the search by blinking chain possible.

Select device for localisation.  
 For sensors the led on the device is on for selected device.

Select the device type for localisation.

Name on the coupler level.

Start of auto selection by button press.

Name on the single input level.

In the coupler view only the complete coupler can be localized, renamed (for example for button independent which button was pressed).

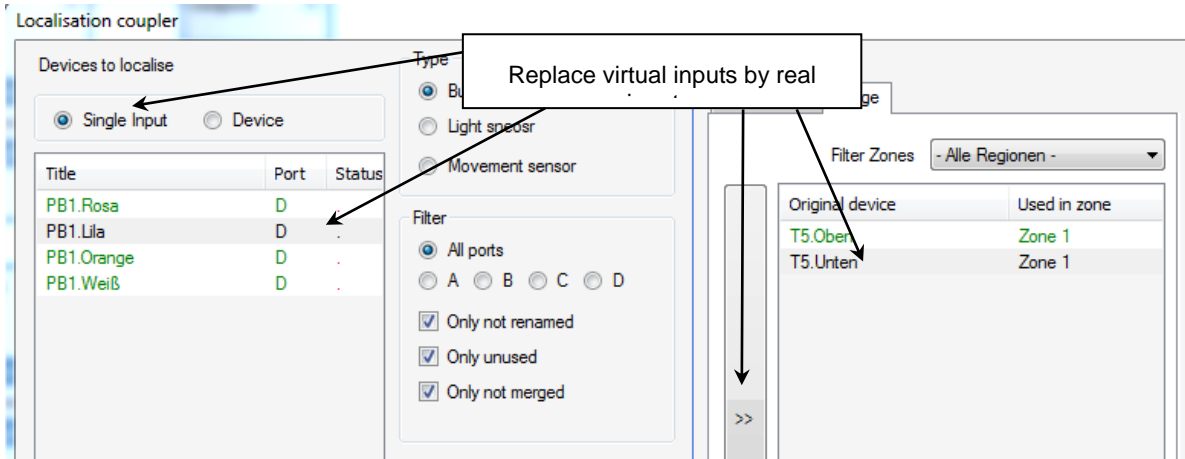
Name on coupler level



### 4.3.1 Coupler Merge

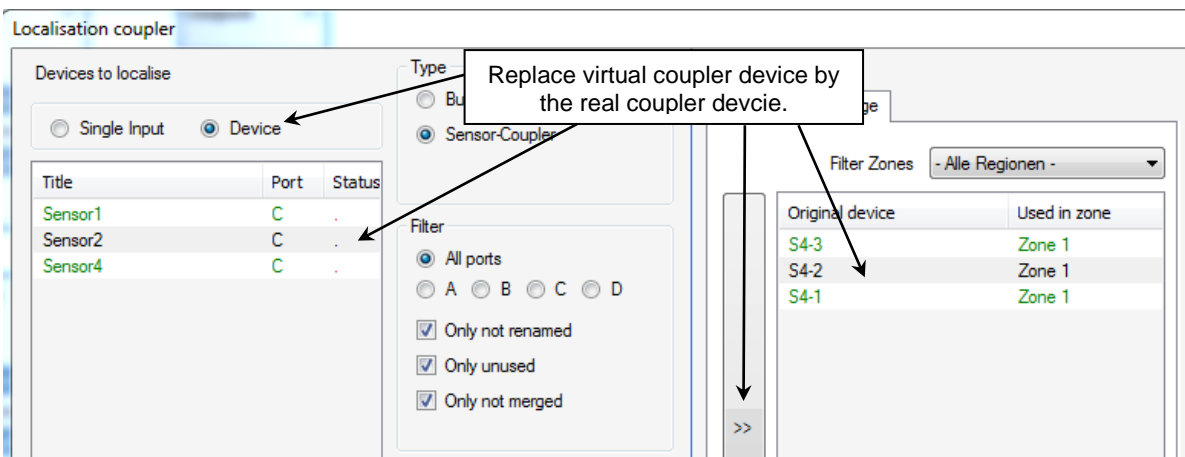
Virtual and used coupler can be replaced by unused and real coupler. This is possible on the levels of single input or couplers.

#### Single input level



#### Coupler level

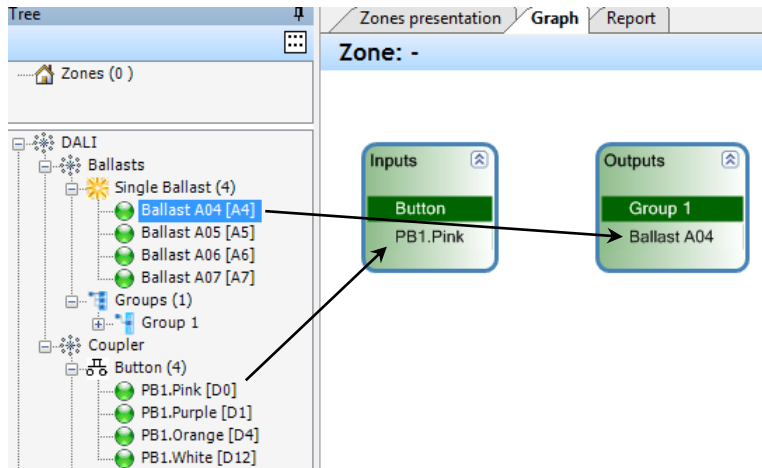
- Only possible if not already a single input of the coupler merged.
- The real coupler replace the virtual coupler completely (the then needless coupler will be deleted)



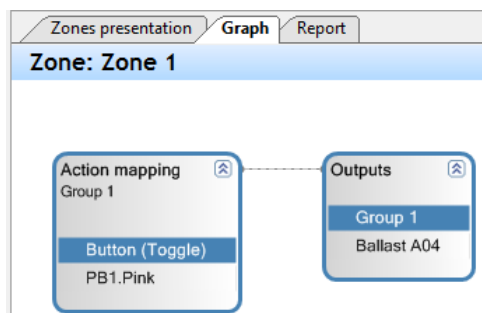
## 5. Create a configuration

### 5.1 Creating connections and function shortcuts

To generate functions move the input (for example button) and output (for example ECG) by drag and drop into the graph panel.



After this the two boxes can be connected by the mouse (click on one box and move the arising line to the other box). (Alternatively, it is also possible to move the input from tree to the output already lie on the graph panel.)

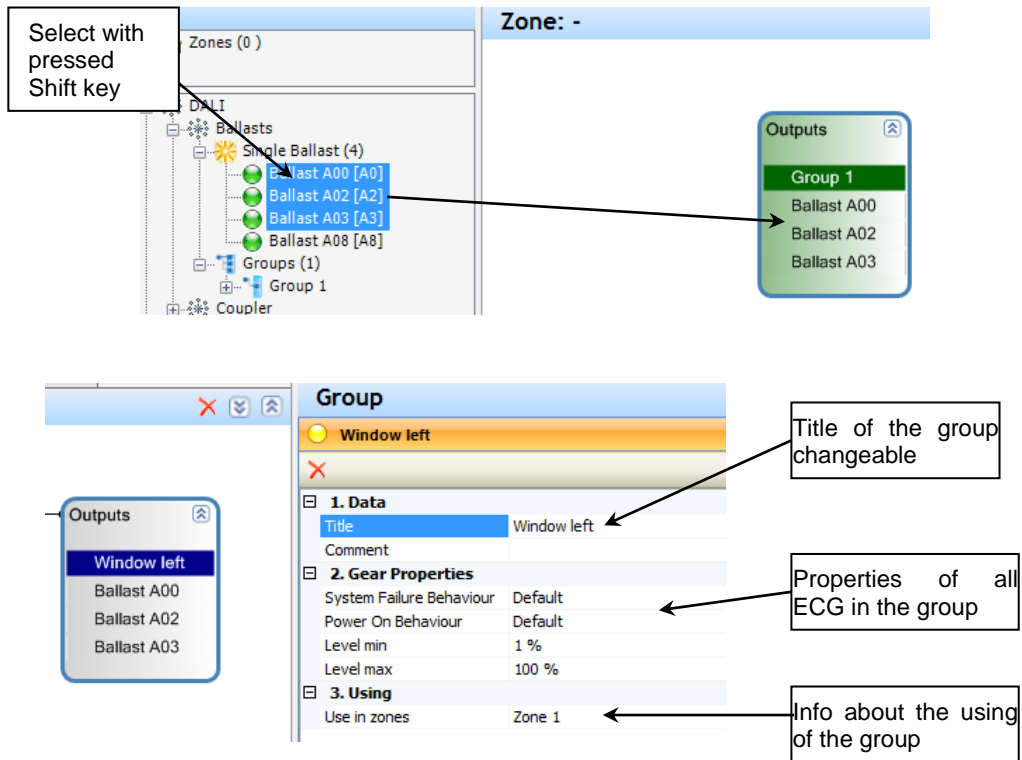


With the connection the devices will be fixated in the actual zone (if no zone existing a new zone will be generated).

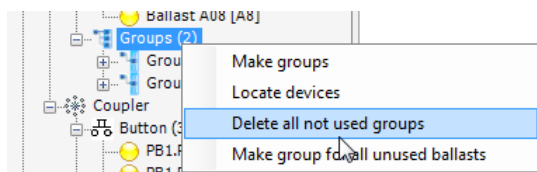
As long the devices on the graph panel are not connected (and shown in green) the device belongs to no zone and will be shown, even is the actual selected zone changed, until the device is used. From this reason it is useful to move only this devices on the graph panel that will be used to make the next connection.

For ECG multi selection is also possible with Shift or Ctrl keys pressed (Shift - range, Ctrl - add).

In the groups properties can the group title be changed or the parameters from all ECG in the group be changed.

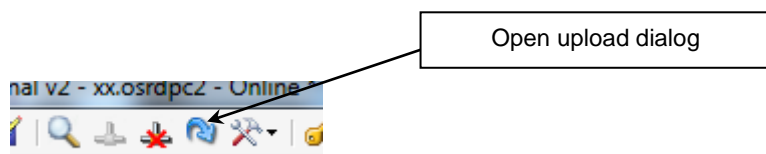


For easy clean-up it is possible to delete all unused groups by the context menu.

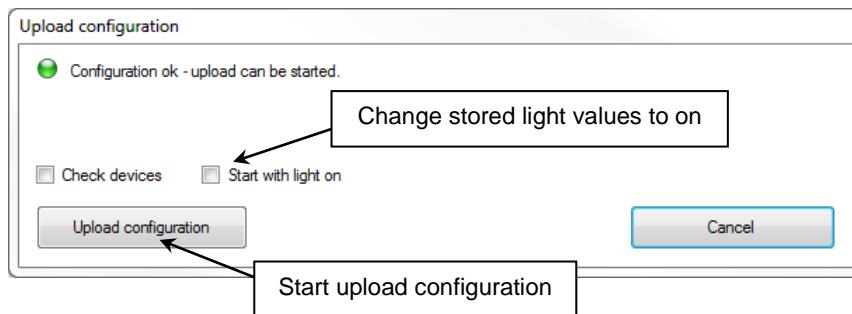


## 5.2 Upload configuration

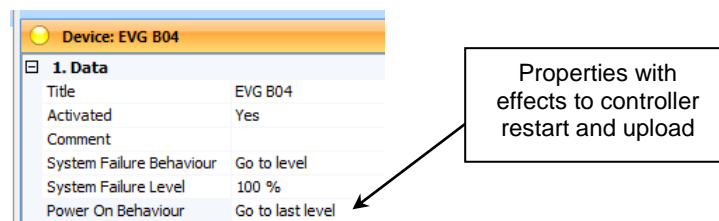
Before the upload the configuration must be saved. The upload dialog can be open over the icon.



At first the configuration will be checked for errors. If there no error the upload procedure to the device can be started.



After the upload the ECG with the property "Power On Behavior" set "Go to last level" will go to the state before the upload was started. Optional can the stored light state for these ECG set to on. If set the property to "Go to level" the ECG will apply this level.



With each upload a copy of the project file will be stored with the extension of day and time:

[Project file name][date + time].osrdpc2u

In the path (details depending of the language of windows):

C:\Benutzer\[Benutzername]\Eigene Dokumente\OSRAM\Professional\_v2\Upload

Project files with the extension "\* osrdpc2u" can be open but not stored with this extension. A copy can be stored with the normal extension "\*.osrdpc2" over the icon "save as".

## 6. Basic features

### 6.1 Button functions

#### 6.1.1 Direct Actions

For the button function the behavior for the short, long and double push are independent changeable. The fade time are valid for all actions that is changing the light level. With the value "Default" the value set in the project "General Setting" will be used. The fade time values according to the DALI standard.

The screenshot displays the configuration interface for a button function in the DALI Professional software. It is divided into several panels:

- Zone: Zone 1**: The main workspace area.
- Action mapping**: Shows 'Group 1' with a selected 'Button (Toggle) PB1.Purple'.
- Outputs**: Lists available ballasts: 'Group 1', 'Ballast B00', 'Ballast B01', 'Ballast C00', and 'Ballast C01'.
- Function**: Configures the selected button. It shows:
  - 1. Data**:
 

|             |                     |
|-------------|---------------------|
| Fade Time   | Default             |
| Short Push  | Toggle (last level) |
| Long Push   | Dimming             |
| Double Push | Nothing             |
  - 2. Extended**:
 

|                              |    |
|------------------------------|----|
| Delayed action (short press) | No |
|------------------------------|----|
- Properties**: Shows project-wide settings. The 'General setting' tab is active, displaying:
 

|                              |                  |
|------------------------------|------------------|
| <b>Data</b>                  |                  |
| Fade Time                    | 0.7 s            |
| Fade out time after presence | 16.0 s           |
| System failure behaviour     | Go to level      |
| System Failure Level         | 100 %            |
| Power on behaviour           | Go to last level |

 An arrow points from the 'Default' value in the 'Function' window to the 'General setting' window, indicating that the 'Default' value refers to the 'General setting' configuration.

For the "Fade Time" the time value from the list can be selected (equal to the DALI fade time) or "default" for using of the value from the "General settings" (after selection of DALI in the tree).

The possible action for short press:

| Short press action  | Description  |
|---------------------|--|
| Off                 | Switch light off   |
| Go to level         | Light on to the value off the additional parameter level.                                |
| Go to last level    | Light on to the values from the situation before the last light off.                     |
| Go to scene         | Light on to the scene, selected by name. The scene must be generated in the scene panel. |
| Toggle (level)      | Toggle between off and the light value from the additional parameter level.              |
| Toggle (last level) | Toggle between off and the level value from the last on situation.                       |
| Toggle (scene)      | Toggle between off and the scene, selected by name.                                      |

The possible action for long push:

| Long press action | Description   |
|-------------------|---|
| Dimming           | Continuous change of the level. With each press the dimming direction is changed. |
| Dimming Up        | Continuous change to more light (for button with label up).                       |
| Dimming Down      | Continuous change to less light (for button with label down).                     |

The possible action for double push:

| Double press action | Description  |
|---------------------|--|
| Off                 | Switch light off   |
| Go to level         | Light on to the value off the additional parameter level.                                |
| Go to scene         | Light on to the scene, selected by name. The scene must be generated in the scene panel. |

### 6.1.2 Additional delayed actions

Additional to the normal direct actions after button push up to 2 delayed actions are possible (for more complex time depending behavior can the sequencer functionality be used).

The screenshot shows the configuration for a button with the following settings:

- 1. Data:** Fade Time: Default; Short Push: Go to level; Level: 20 %; Long Push: Nothing; Double Push: Nothing.
- 2. Extended:** Delayed action (short press): 2.
- 3. Step 1:** Time Delay: 00:03; Fade Time: Default; Action: Go to level; Level: 100 %.
- 4. Step 2:** Time Delay: 00:05; Fade Time: Default; Action: Off.

Callouts in the image point to:
 

- '2' in the 'Delayed action (short press)' field: Enable delayed actions
- '00:03' in the 'Time Delay' field of Step 1: Delay time until the first delayed action
- '00:05' in the 'Time Delay' field of Step 2: Delay time between the first and second delayed action

Actions supported:

| Short press action | Description   |
|--------------------|---|
| Off                | Switch light off  |
| Go to level        | Light on to the value off the additional parameter level. |

### 6.1.3 Create a Light Scene

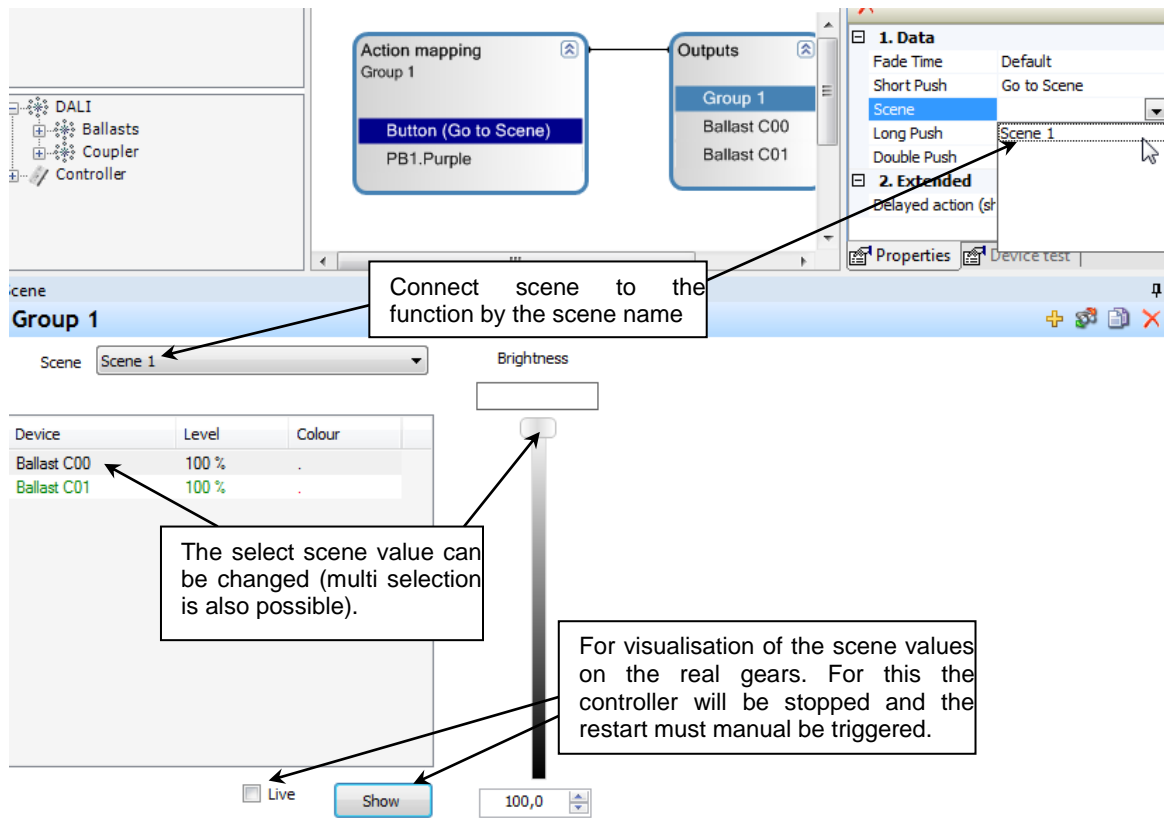
A light scene is a dedicated light level for each single ECG in a group. Typical used when you have multiple requirements to lighting in a room. (e.g. application meeting room; Scene presentation → Wall washer off, Main light reduced; Scene Meeting → Wall washer on, Main light to 80%; Scene cleaning → all lights 100%)

The screenshot shows the software interface for creating a light scene. In the 'Zones presentation' window, the 'Action mapping' block for 'Group 1' contains a 'Button (Go to Scene)' with 'PB1.Purple'. An arrow points from this button to the 'Function' properties window, which shows the configuration for 'Button (PB1.Purple)'. The 'Function' window has the following settings:

- 1. Data:** Fade Time: Default; Short Push: Go to Scene; Scene: (empty); Long Push: Dimming; Double Push: Nothing.
- 2. Extended:** Delayed action (sr No): (empty).

A callout box says: 'Select function or group to create new Scene.' with an arrow pointing to the '+' icon in the bottom right of the 'Function' window.

After creating of the scene, the scene can be connected to the function by the scene name and the different light values for the individual ECG can be changed.



## 6.2 Motion detection - functions

### 6.2.1 Sensor overview

Following sensors are existing:

| Sensor            | Description  |
|-------------------|--|
| Sensor coupler    | Coupler, powered from the DALI line, that can combined with different sensor heads from the Multi-Eco system   |
| Sensor LS/PD-LI   | Small sensor powered from DALI line  |
| High bay adapter  | The base module contains the light sensor and is powered from the DALI line. It can combined with the high bay motion sensor (powered from mains voltage). |
| Sensor coupler HF | Coupler to the DALI Eco HF (radar) sensor, powered from mains voltage.   |



|                  |  |
|------------------|--|
| Sensor coupler E | Coupler, powered from mains voltage, to connect 0-10 V input signal for light level and potential-free contact or main voltage input for motion detection. |
|------------------|--|

## 6.2.2 Hints to HF Sensor

With the DALI Eco remote control the vibration sensitivity and detection range parameter can be changed. If vibration detection enabled, after change of the position of the sensor, all detected motion will be ignored and interpreted as vibration. This state is reset by power cycle of the sensor.

Information the setup procedure by the DALI eco remote control can be found in the "Operating instructions" of the "HF LS LI" sensor.

The green led on the sensor shows motion detection. The red led shows motion detected but ignored because detection of vibration.

## 6.2.3 Functionality

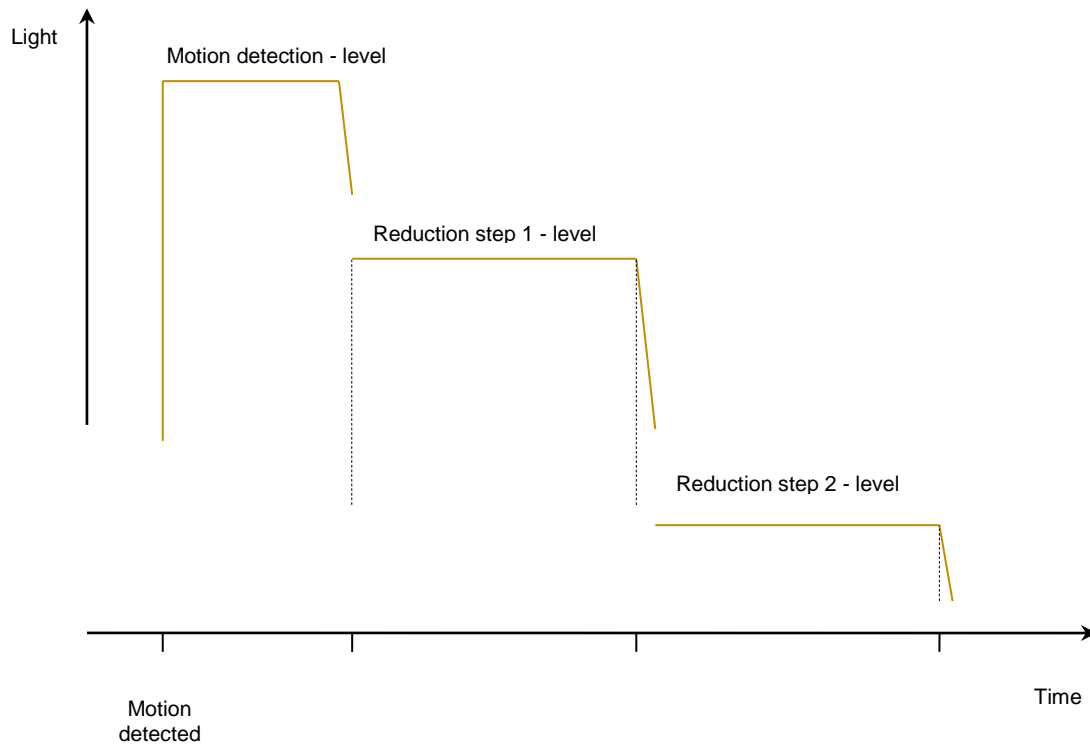
For motion detection, different behavior is possible for:

- Automatically light on or not with motion detection.
- Time delayed reduction (for up to 2 steps).
- Switch light off or not after delay time.

The first two points are selected by the "Mode" parameter:

| Mode                           | Description  |
|--------------------------------|--|
| Full automatic                 | Light on with motion detection, auto light off after delay time.   |
| Full automatic, one reduction  | Light on with motion detection, reduction to standby level after delay time. After second delay time auto light off.   |
| Full automatic, two reductions | Light on with motion detection, reduction to standby level after delay time in two steps (with additional delay time). After second delay time auto light off. |
| Half automatic                 | No light on with motion detection but the motion detection can extend the light on time after manual light on. Auto light off after delay time.                |

|                                |  |
|--------------------------------|--|
| Half automatic, one reduction  | No light on with motion detection but the motion detection can extend the light on time after manual light on. Reduction to standby level after delay time without motion detection. Auto light of after second delay time.  |
| Half automatic, two reductions | No light on with motion detection but the motion detection can extend the light on time after manual light on. Reduction to standby level after delay time without motion detection in two steps (with additional delay time). Auto light of after third delay time. |



Example of the light behavior after one single motion detection in full automatic mode with two reductions. In the half automatic mode the light will only go on with manual light on function (for example button). The motion detection will not switch the light on, but will extend the light on time by restart of the light on time with each motion detection.

Optional the light off function can be disabled and the light can be stay on the reduction level endless.

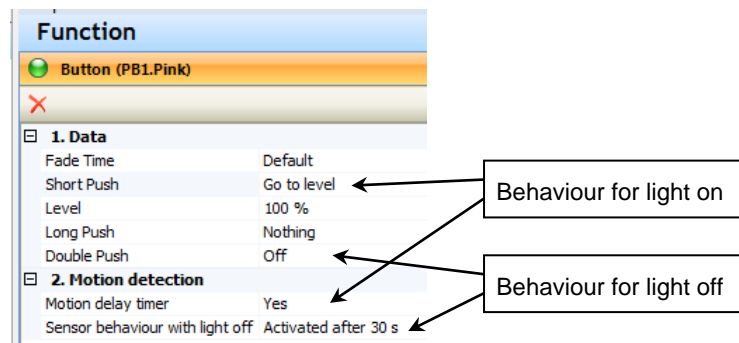
### 6.2.4 Button and motion detection

With each button light on functionality the auto switch off by the motion off-timer can be enabled or disabled. If it disabled, the light will never be automatically switched off. In this case, may be optional to enable a special mode that with the next motion detection the light can be changed to the value set in the motion detection function (in normal case is this function suppressed is light already on). For this special feature service mode “Expert I” is necessary.

Will the light be switches off by the button functions, 3 different motion detection behaviors are possible:

| Selection            | Description   |
|----------------------|---|
| Blocked              | Motion detection is blocked. No automatically light on.   |
| Activated            | The motion detection is enabled as soon as possible.  |
| Activated after 30 s | The motion detection will enabled in 30 s. If in this time motion detected the time will extend by additional 30 s from each motion detected. |

For each button is independent on using by short or double press only one behavior to the motion detection possible.



For all other light functions, connected to switch, RTC timer, sequencer the functionality to the motion detection is equal.

## 6.3 Light Regulation functions

### 6.3.1 Parameter

For the regulation 3 parameters are important.

| Parameter        | Description  | Change by   |
|------------------|--|---|
| Regulation value | Light target level relative to the installed light output. For example 80 %, to have always the minimum light intensity equivalent to the situation without natural light and the EVG are on 80 % light level. | Commissioning:<br>- Property direct<br>- Single regulation dialog<br>(interactive by up and down) |

|                          |  |   |
|--------------------------|--|---|
|                          |  | <p>Application:</p> <ul style="list-style-type: none"> <li>- Interactive by button control</li> <li>- Direct by button/switch (recall Stored values)</li> <li>- Remote by tool</li> </ul>   |
| Sensor calibration value | The absolute change in the sensor value by the own light in the regulation loop.   | <p>Commissioning:</p> <ul style="list-style-type: none"> <li>- Property direct (Expert I)</li> <li>- Calibration dialog</li> <li>- Single regulation dialog</li> </ul> <p>Application:</p> <ul style="list-style-type: none"> <li>- With interactive change of the regulation value by button</li> <li>- Start calibration by button</li> </ul> |
| Geometry factor          | Influence of the room geometry and sensor position. Factor between different sensors values with the same light intensity on the target place illuminated only by artificial light to the situation illuminated only by the daylight with own light off. | <p>Commissioning:</p> <ul style="list-style-type: none"> <li>- Property direct</li> <li>- Single regulation dialog as optimal feature</li> </ul>  |

Open v1.x regulation dialog to set up interactive regulation value and calibration value to the same time

Adaptation to the real situation by measurement in the interactive calibration dialog.

Target light value relative to the installed light output.

Adaptation to the room geometry and sensor position

| Function Properties               |        |
|-----------------------------------|--------|
| Regulation (Sensor1.Light sensor) |        |
| <b>1. Data</b>                    |        |
| Regulation value                  | 80 %   |
| Light can go off                  | No     |
| Geometry factor                   | 2,8    |
| <b>2. Calibration</b>             |        |
| Sensor calibration value          | 10,3 % |

Hints to the regulation setup:

- Calibration of the sensors without daylight to avoid sensor signal overload.

- Setup of the regulation value with measurement of the target level without daylight.
- Typical value range for the geometry factor 2 – 3. For ideal situation (no difference for the sensor if the target illuminated by the daylight or artificial light) is 1.
- If the light with daylight on the target to less increase geometry factor (in steps of 0.25 or 0.5). If the light with daylight on the target to high decrease geometry factor.

### 6.3.2 Auto light off and on

Optional the light can be switched off with enough daylight. Optional it is also possible that goes than the daylight down the light will be automatically switched on again. This function should be used with caution to avoid unexpected light on states.



If "Light can go off" enabled, after dimming down to min level the light will for the "Light off delay" time in this situation and then go off.

If the motion sensor used the light will only inside the motion sensor delay times go on again.

### 6.3.3 Regulation start

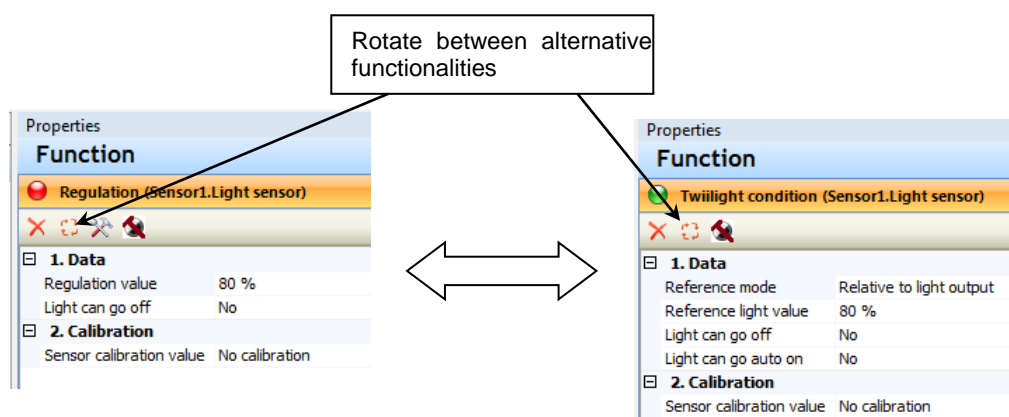
For each regulation on function must exist with the functionality "Regulation".

Application without any manual light control are possible with following boundary conditions:

- The "Power on behavior" and "System failure behavior" for all gears must set to "Go to level".
- Either property "Light can go off" is set to "No" or both properties "Light can go off" and "Light can go auto on" are set to "Yes".

### 6.3.4 Twilight function

Besides the using of the light level sensor for regulation the twilight function is also possible. After connection of light level sensor with light outputs the regulation function will be automatically generated. From this can be switched to the twilight function.

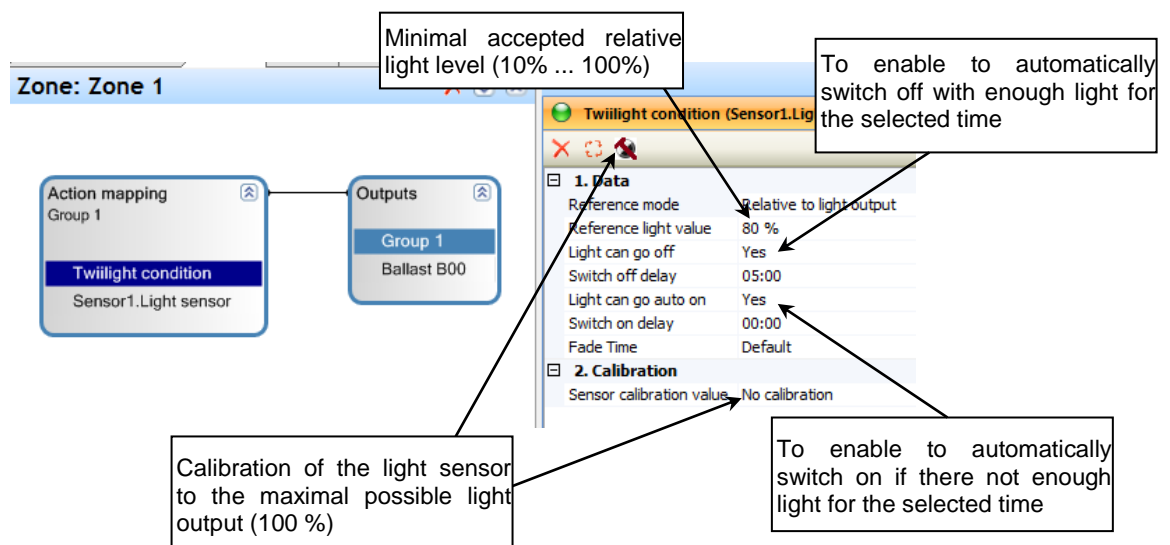


The twilight function can switch on/off the light depending on the actual light situation. Together with the motion detection it is also possible to switch on the light after motion detection only if the actual light situation is dark.

For the light level setup there are two types possible depending if the own light visible by the light sensor or not.

### 6.3.5 Light setup: Automatic setup

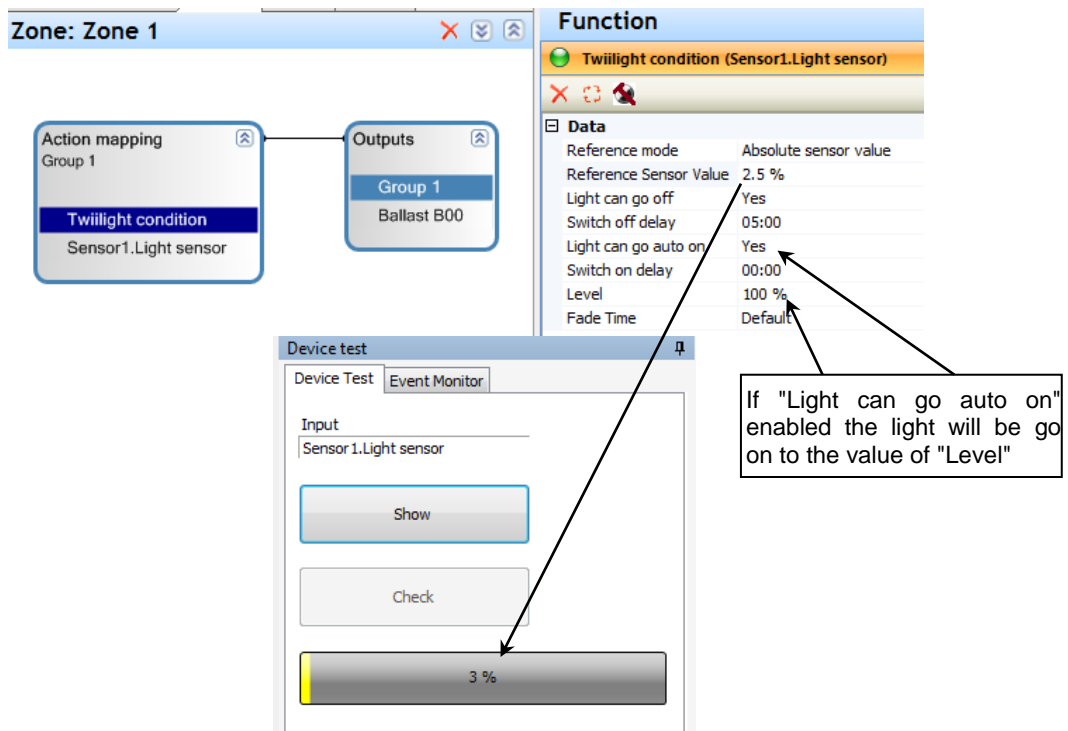
If the light sensor can see the own light, the sensor must be calibrated to this light. For calibration the same procedure like for the light regulation will be used. Relative to the maximal possible light output (100 %) the reference light value can be set. The system is then to provide this light level as minimal light level.



If the feature "Light can go auto on" as light on level the "Reference light value" will be used.

### 6.3.6 Light setup: Manual setup

The "Absolute sensor value" mode is for the case, that the light sensor is not seeing the own light. To get the useful "Reference sensor value" can be used the test function for the light sensor in the ambient situation with the minimal accepted light level for the switch on point.

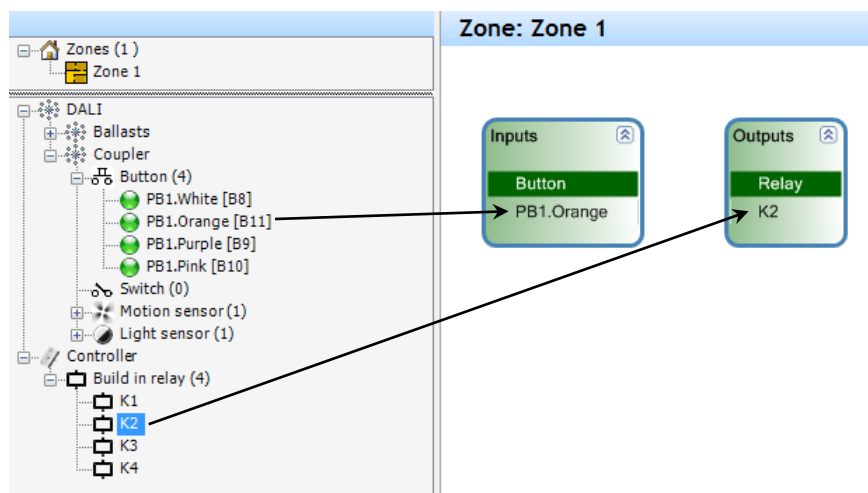


## 6.4 Relay function

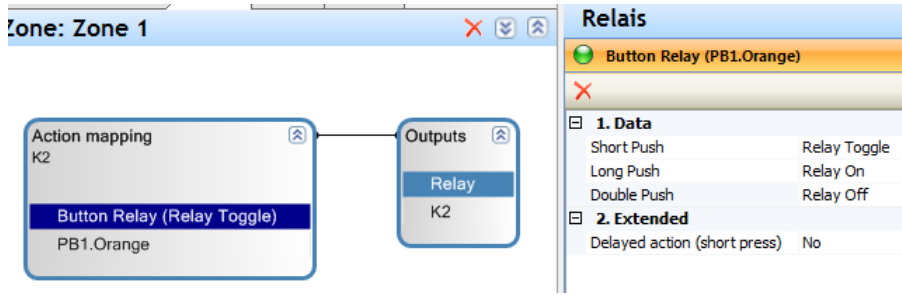
The four internal relays are in the three below the "Controller" node.

### 6.4.1 Relay and button

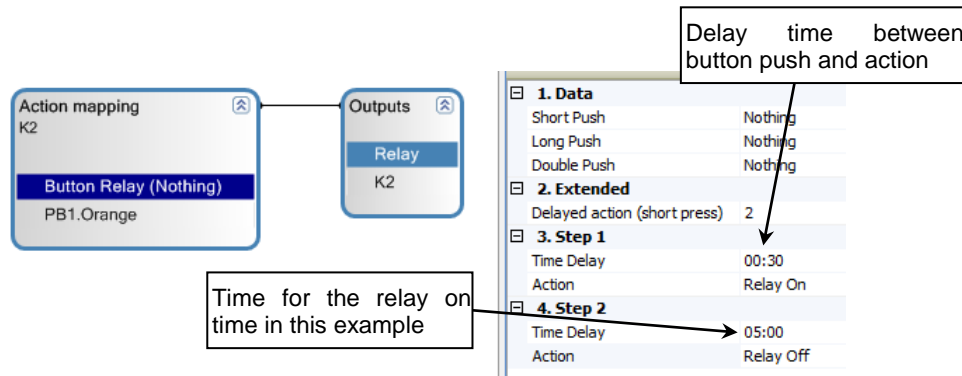
Move the button and relay to the graph view and make the connection by the line.



For the relay switch function the short push, long push and double push can be used.

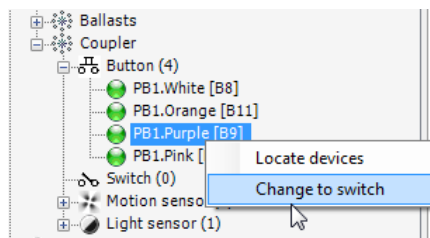


Additional up to 2 delayed actions are possible.

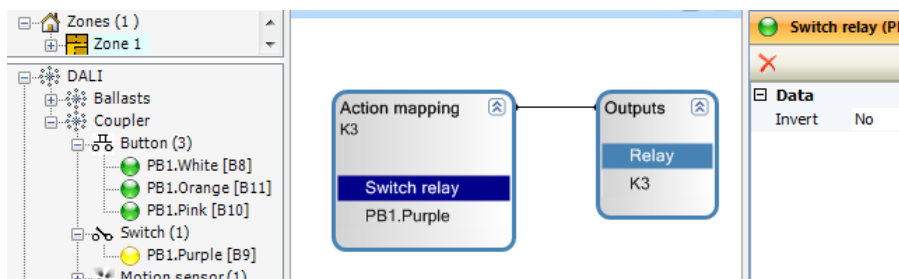


### 6.4.2 Relay and switch

The input on the push button coupler can be transformed into switch behavior in the tree.



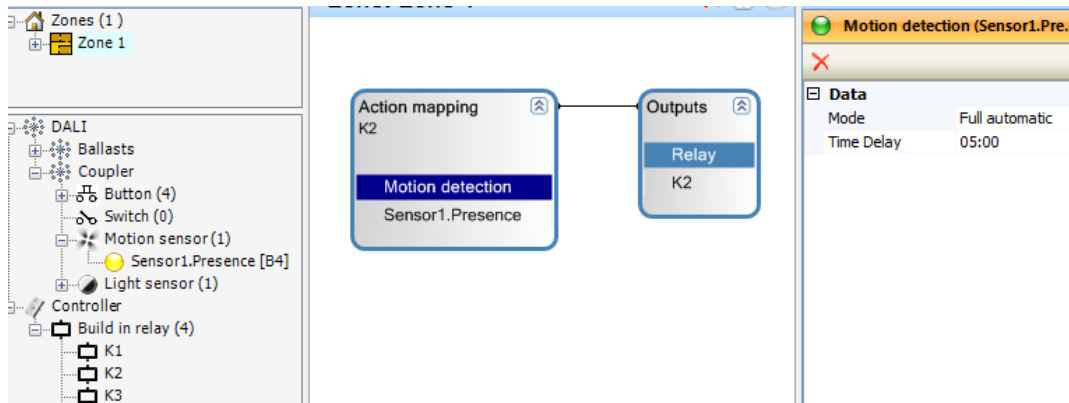
The single parameter for the switch to the relay is invert behavior. The normal case (invert = No) is, if switch on the relay is closed and if the switch off the relay is open. The other case is inverted.





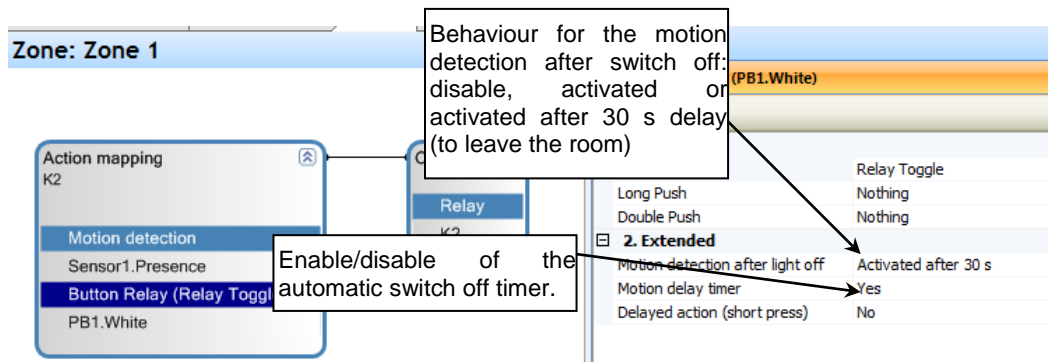
### 6.4.3 Relay and motion detection

With motion detection the relay will be switched on (only in mode: "Full automatic") and switched off after the selected delay time (15 s until 24 hour).



If also the button connected can the mode "Half automatic" be use. The relay can only be switched on manually and will be switched off after the delay time. Motion detection in this time will restart the delay time.

The detailed behavior to enable the motion detection with switch off and start of the delay time with switch on can be set up for each connected button function.



### 6.4.4 Relay and light sensor

The light sensor can be used to switch on/off the relay depending on the actual light situation. Together with the motion detection it is also possible to switch on the relay after motion detection only if the actual light situation to dark.

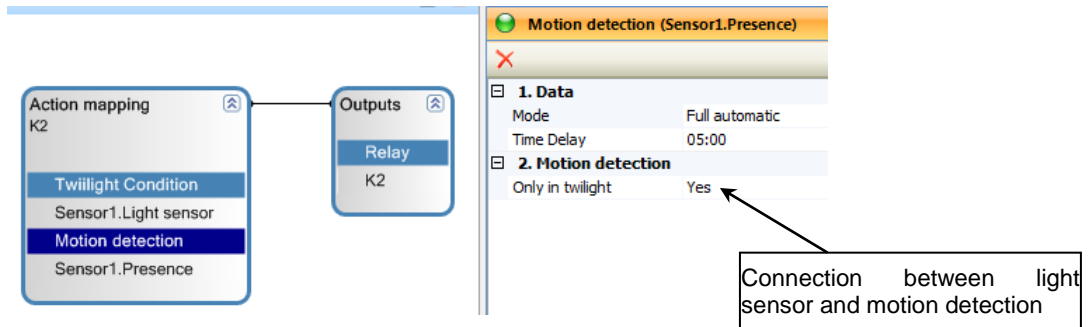
For the light level setup there are two types possible.

#### 6.3.5 Light setup: Automatic setup

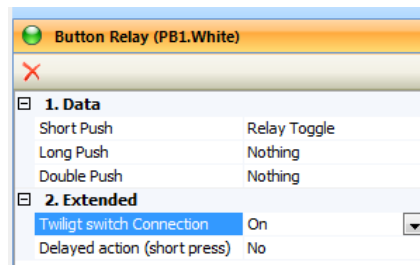
#### 6.3.6 Light setup: Manual setup

### 6.4.5 Dependences to other input controls

If the motion detection and light sensor used together, the light switch on functionality with motion detection can be limited to the situation with not enough light.



If the button input used with button press optional the twilight function can be enabled, disabled, or let unchanged.

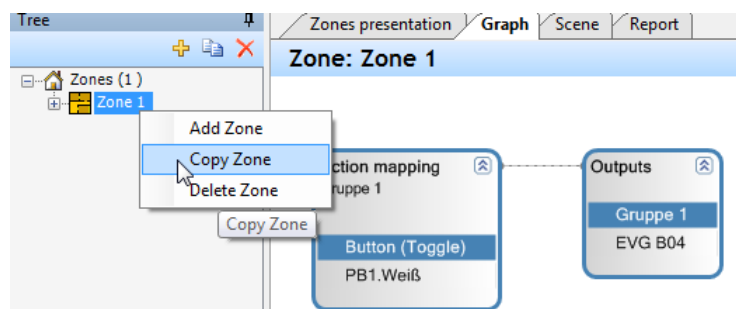


## 7. Advanced features

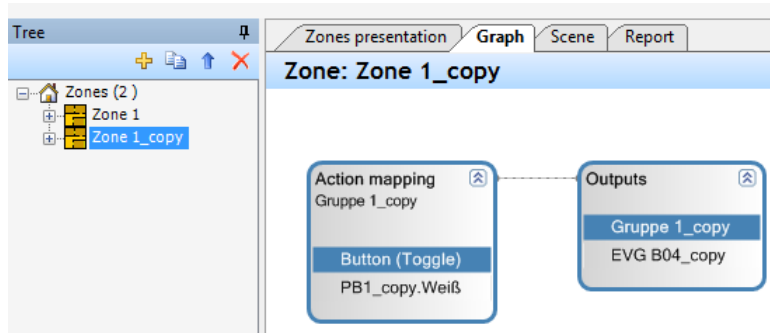
### 7.1 Operational Hints

#### 7.1.1 Zone copy

From the context menu in the zone tree from single zones can be make a copy.



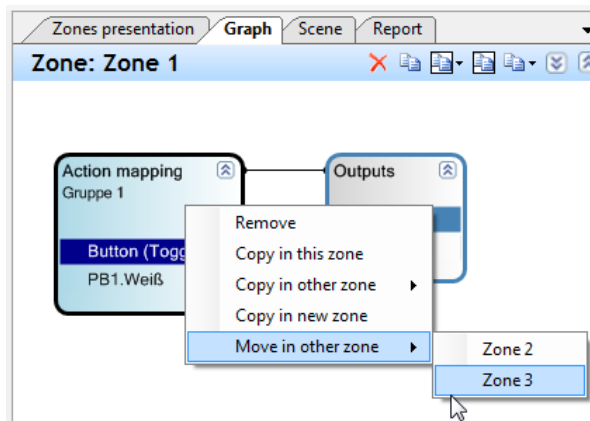
For the copy will also be generated copy version of the devices as virtual device. All original names will be extended with "\_copy". The virtual devices can then be merged with real devices.



### 7.1.2 Functions copy and move

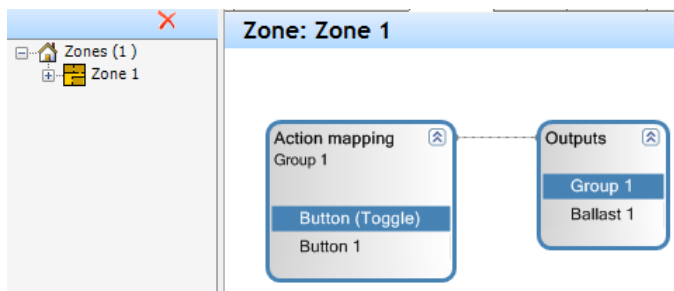
The context menu on the action mapping provides different functionality to copy the action mapping with all functions and parameter inclusive the generation of all necessary virtual inputs and outputs.

Also it is possible to move the action mapping into any other zone.

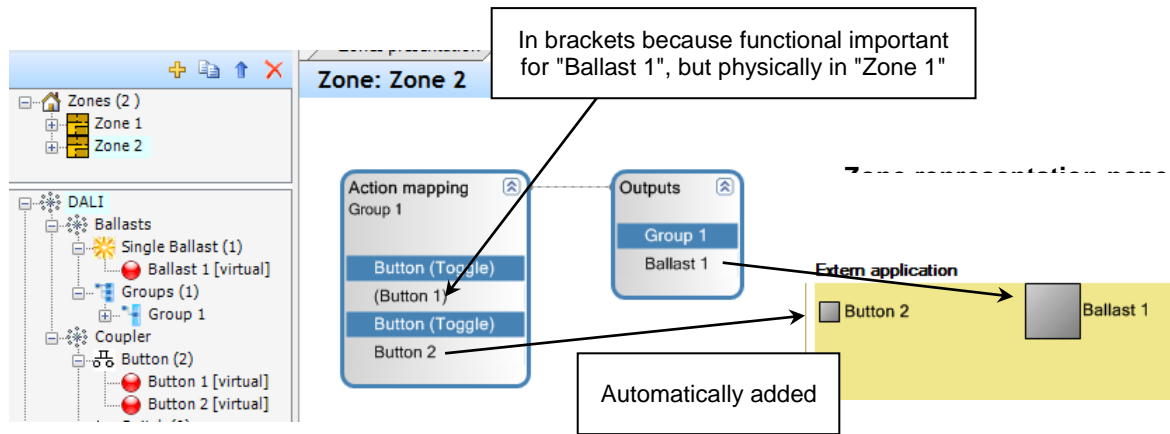


### 7.1.3 Auto – order functionality

In on zone is a button function to a single ECG "Ballast 1" in "Group 1":



If the ECG "Ballast 1" also moved into the new "Zone 2" the new group "Group 2" will be generated automatically (optional "Group 1" can be used be shift of "Group 2" into the graph panel).



After connection with the second button "Button 2" in "Zone 2", also the function to "Button 1" will be shown, because the rule for action mapping is to combine in a box all functions that are connected to the same output. From this reason the new "Group 2" is automatically replaced by "Group 1" because there contains the same ECG and "Group 2" was destroyed.

With the connection the Devices "Button 2" and "Ballast 1" are automatically added to the zone representation panel. "Button 1" is shown in brackets because its physical existing is in "Zone 1" and is only shown also in "Zone 2" in the graph panel because the action mapping rules.

For "Zone 1" the "Button 2" is also in the graph panel visible, but than in brackets because it is physically located in "Zone 1".

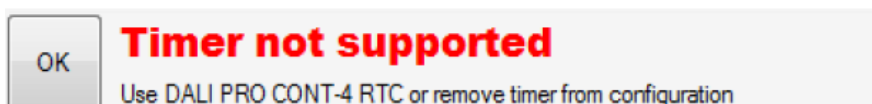
Will the function to "Button 2" be deleted again, than the devices will also be removed from the zone representation panel for "Zone 2" (as long there are not manually added) because there no longer use of this devices.

## 7.2 Timer & RTC Control

The timer functionality will only be supported with following hardware:

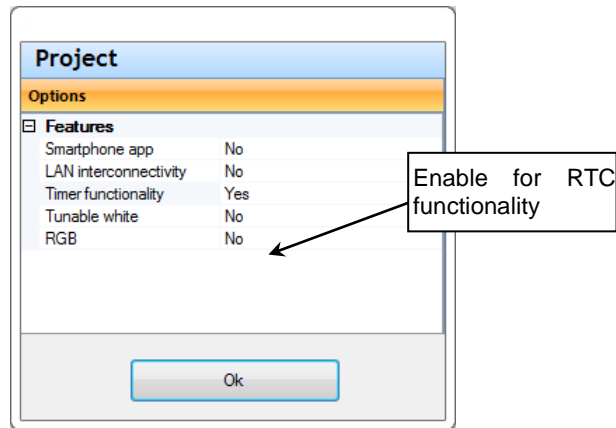
DALI PROFESSIONAL CONT-4 RTC ( EAN10: 4008321 710871)

If the previous DALI PROFESSIONAL Hardware (EAN10: 4008321478948) is used, an error message will be displayed when uploading a configuration containing timers.



Configurations without timers still can be uploaded to the controller.

The RTC functions must be enabled for the visibility in the tree.



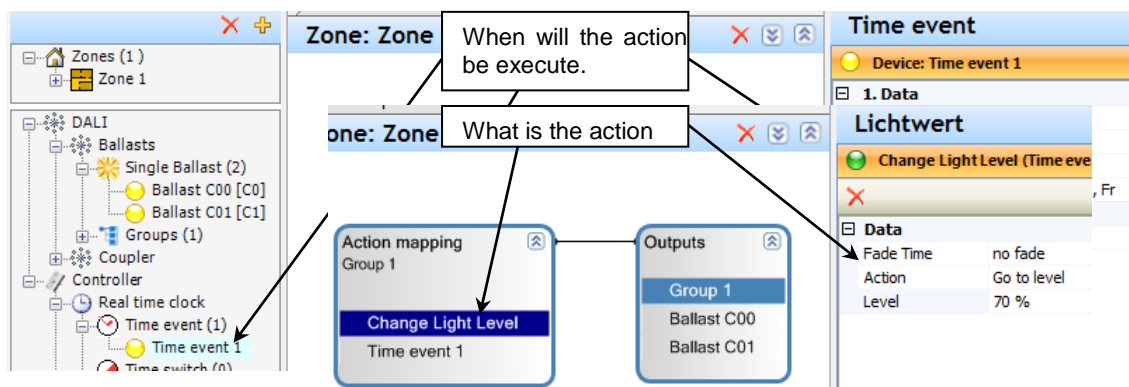
Scheduler values are:

- Single Weekdays (Mo,Tu,We,Th,Fr,Sa,Su)
- Daytime in hour / minute resolution.
- National holidays are not supported

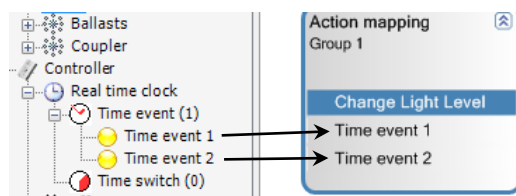
*Hint: The default value is Mo,Tu,We,Th,Fr at 08:00.*

### 7.2.1 Time event

For time event functions can be set the time and day of week when the action is to execute.



More than on time events can be combined to execute the same action to different times on the day or to different times on the different days of week.



### 7.2.2 Time switch

The time switch has like a normal switch two states: On and Off. For each days, can be set up to one on switch time and one off switch time. With this it can be on only on some days of the week or the on state can be longer as one day.

**Switchpoints overview**

|    |       |     |
|----|-------|-----|
| Mo | 08:00 | On  |
| Mo | 18:00 | Off |
| We | 08:00 | On  |
| We | 18:00 | Off |
| Th | 08:00 | On  |
| Th | 18:00 | Off |
| Fr | 08:00 | On  |
| Fr | 18:00 | Off |

**Time switch Properties**

Device: Time switch 1

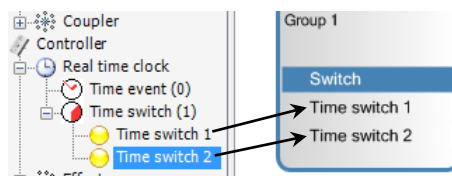
- 1. Data**
  - Title: Time switch 1
  - Comment:
- 2. Switch On**
  - Time: 08:00
  - Week days: Mo, We, Th, Fr
- 3. Switch Off**
  - Time: 18:00
  - Week days: Mo, We, Th, Fr
- 4. Using**
  - Use in zones: Zone\_1

**Function: Switch (Time switch 1)**

- 1. Data**
  - Fade Time: no fade
- 2. Switch On**
  - Action: Go to level
  - Level: 100 %
- 3. Switch Off**
  - Action: Off

The dynamical behavior of the time switch is similar to two time events actions for on and off. Only if the time point reached the function will execute. In the time between the light can be changed by any other functionality (button, motion sensor...). The main difference is the power on behavior. For the time switch it will be checked was the last action before the actual time the on or off action.

To get more than on one time interval on the day more than one time switch can be combined with one function.



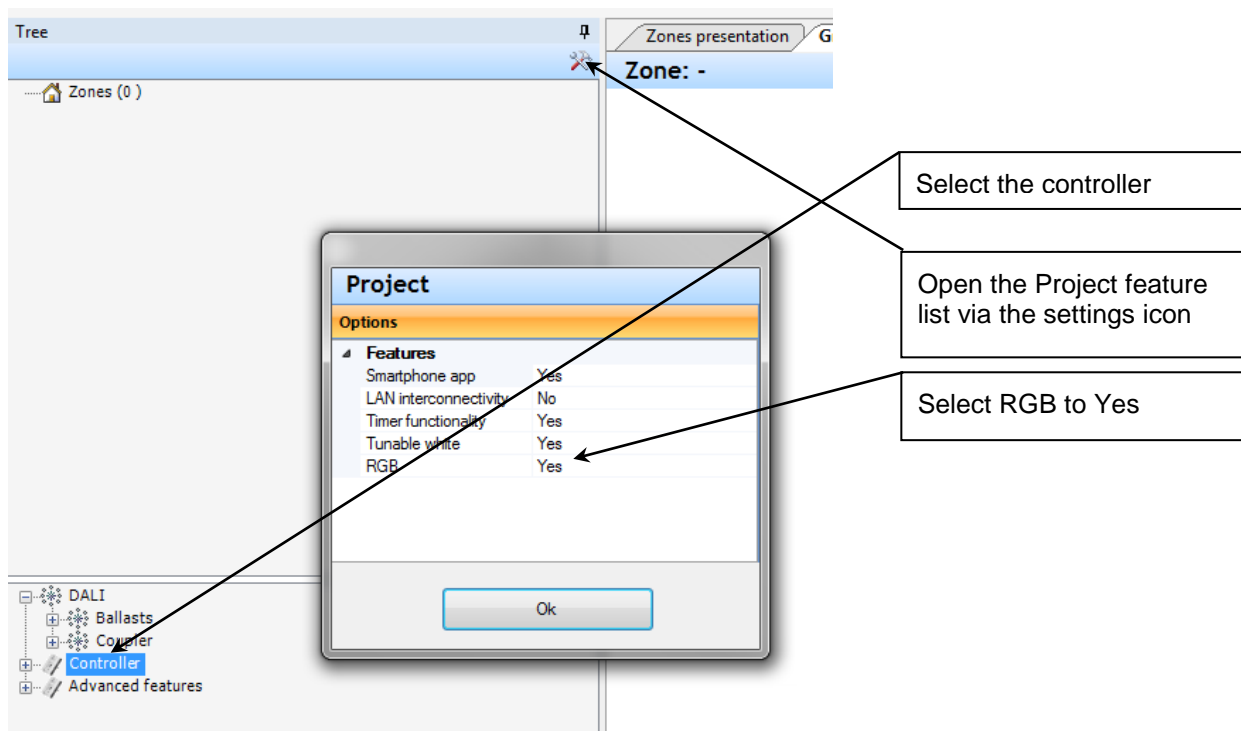
## 7.3 Color Control (RGB)

### 7.3.1 General

Colored light can be generated by combining three DALI ECG with red, green and blue light.

To enable the RGB functions, enable RGB in the Project Feature-list.

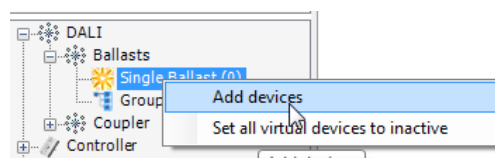
Attention: The DALI device type 8 (RGB) is not supported by the DALI PRO-Cont4 RTC controller.



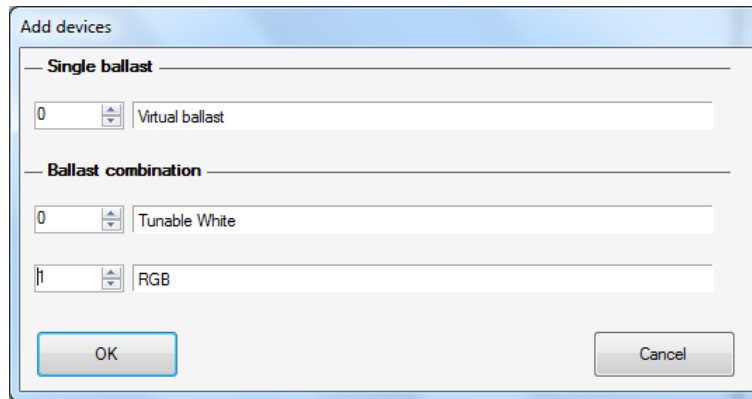
### 7.3.2 Generating a RGB device

#### 7.3.2.1 RGB device generation via the tree structure

Generate a new RGB device in the section Ballasts (ECG) by opening the menu via right click on the "Single Ballast" and pressing "Add devices".

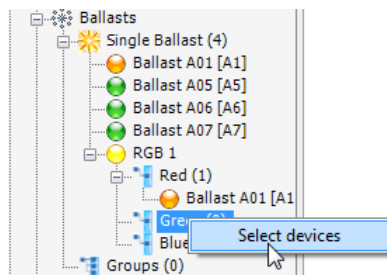


Choose the number of RGB devices and press ok.

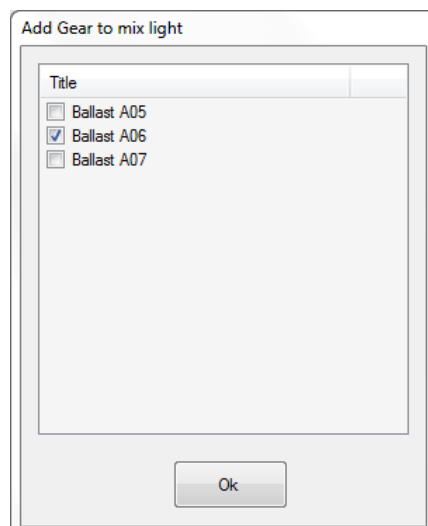


The single coloured ECG's can be put direct into the red, green or blue group by drag and drop.

Optional: Open a dialog window for the colour group to select the available devices.





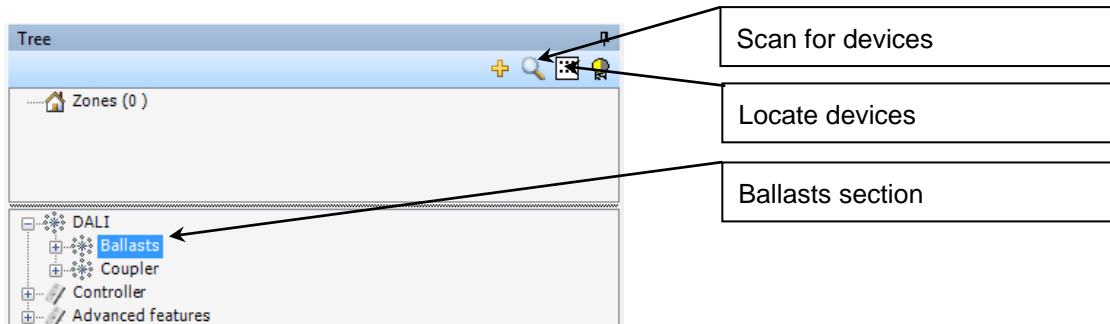
The ECG which are not already used in other groups, or ECG used in this group will be shown in the list.



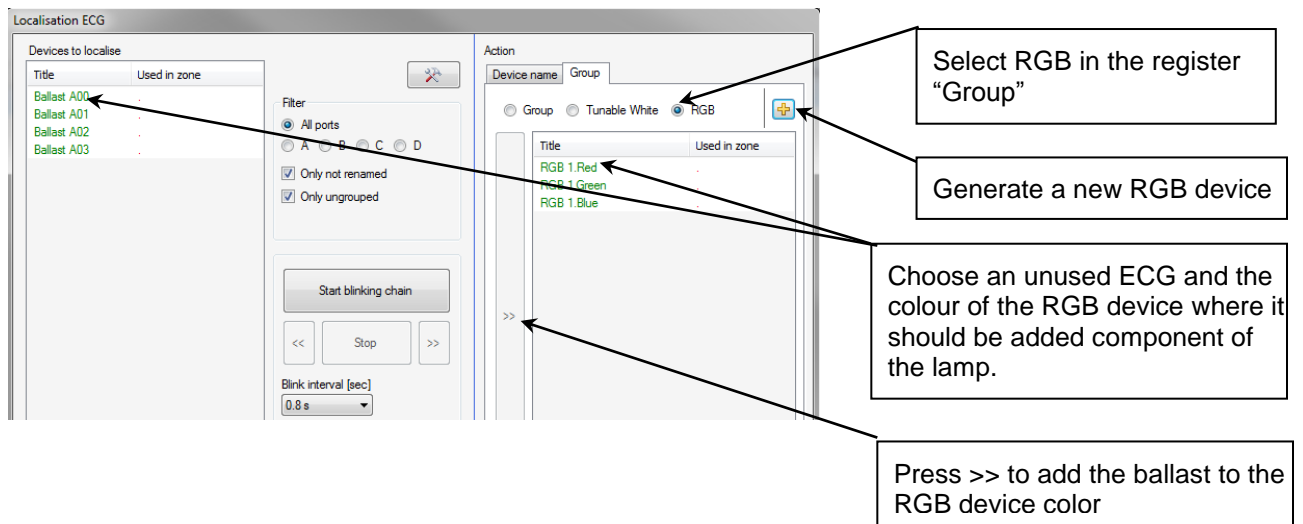


### 7.3.2.2 Optional: RGB device generation from the localisation dialog

The localisation dialog is only visible when connected to the DALI PRO Cont-4 RTC controller. To open the localisation dialog press “Scan for devices”  in the ballasts section. If you have already scanned for devices you can directly open the dialog via the “Locate devices” icon .



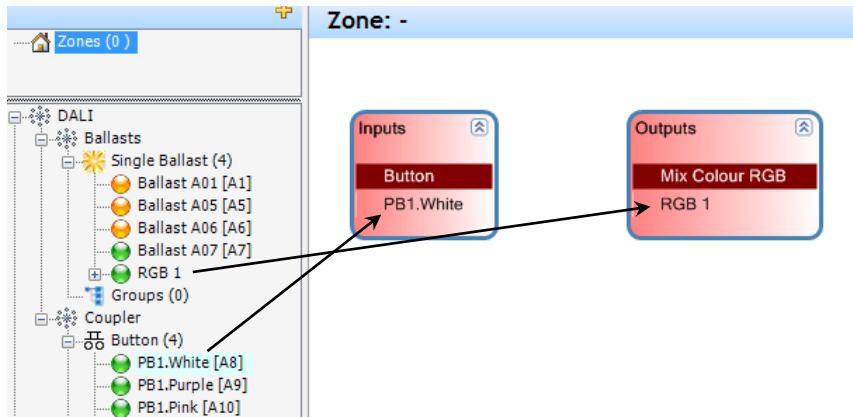
Open the Group register and choose the RGB mode



The connected DALI ECG's can be easily selected by blinking and then added to the RGB device colour.

### 7.3.3 Using in Application

In application only the combined device will be used. The single ECG is shown in orange and not longer directly usable.



#### 7.3.3.1 Change dimming curve to linear

By using of ECG with device type LED the linear dimming mode can be activated. With this can be avoided a change in the intensity while colour level dynamically changed.

| Device               |        |
|----------------------|--------|
| Device: RGB 1        |        |
| 1. Data              |        |
| Title                | RGB 1  |
| Comment              |        |
| Linear dimming curve | Yes    |
| 2. Using             |        |
| Use in zones         | Zone 1 |

Enable linear dimming curve.

### 7.3.4 Change light level and colour by button controls

#### 7.3.4.1 Using of button short push

The short push can change only the level, only the colour or both together.

Action mapping RGB 1

**Button (Go to Colour and Level)**

PB1.White

Outputs

Mix Colour RGB

RGB 1

Button (PB1.White)

1. Data

Fade Time: Default

Short Push: Go to Colour and Level

Level: 100 %

Colour: (255; 0; 0)

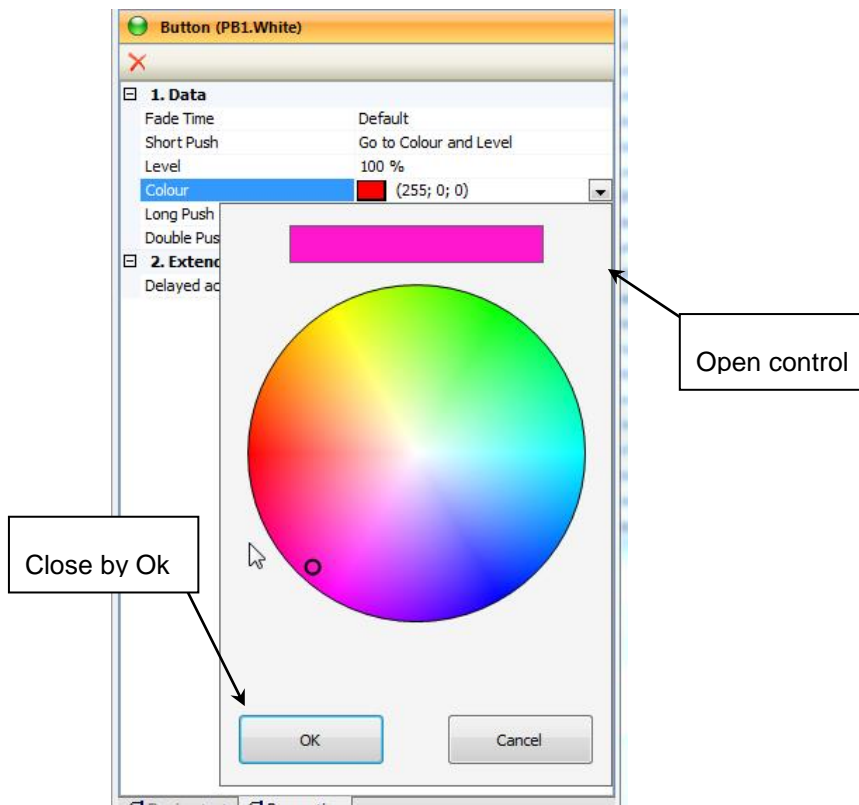
Long Push: Dimming

Double Push: Disabled

2. Extended

Delayed action (short press): No

The colour can be changed by the control from the input line.



The value can also be set by direct input of the colour RGB value. The intensity part will in this case be split up into the level parameter. The colour is then stored for maximum intensity (minimum one part is 255).

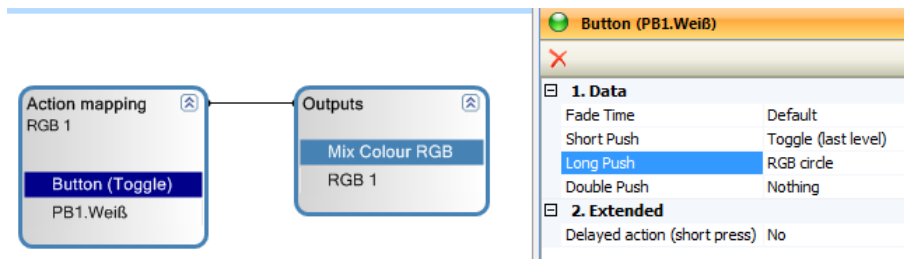
For example the input of the RGB colour (1;2;3)

|            |                        |
|------------|------------------------|
| Short Push | Go to Colour and Level |
| Level      | 100 %                  |
| Colour     | 1;2;3                  |
| Long Push  | Dimming                |

will be transformed to the colour (85;170;255) and the level 1.2 %

|            |                        |
|------------|------------------------|
| Short Push | Go to Colour and Level |
| Level      | 1.2 %                  |
| Colour     | (85; 170; 255)         |
| Long Push  | Dimming                |

With long press is it also be possible to change the colour by a RBC circle (over 32 different colours).



For tree buttons with up and down direction the long push functions "Red increase", "Red decrease" and so on can be used.

### 7.3.5 Create a coloured scene

For RGB outputs will be shown in the scene panel an additional control for colour.

RGB and normal ECG can be mixed in the scene.

| Device      | Level  | Colour  |
|-------------|--------|---------|
| RGB 2       | 100 %  | 0:255:4 |
| RGB 1       | 51.4 % | 0:0:255 |
| Ballast A03 | 6.5 %  | ...     |
| Ballast A07 | 5.3 %  | ...     |

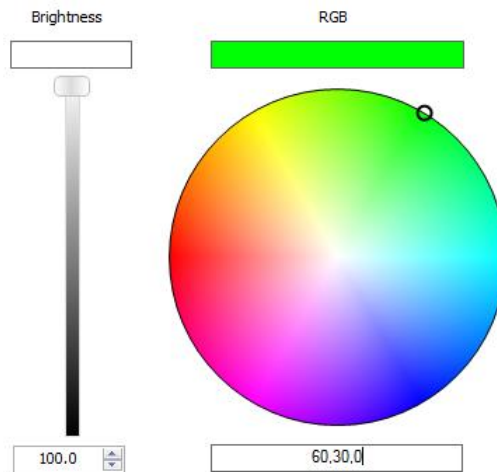
If connected to the controller the actual values can be visualizes.

For visualisation the actual configuration is stopped and must be manual restarted.

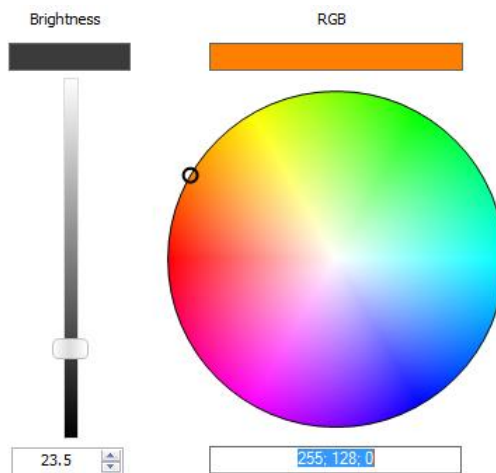
Go on Stop OSRAM

### 7.3.5.1 Input of manual RGB values

RGB values not at maximal intensity (at least one component is 255) after manual input,

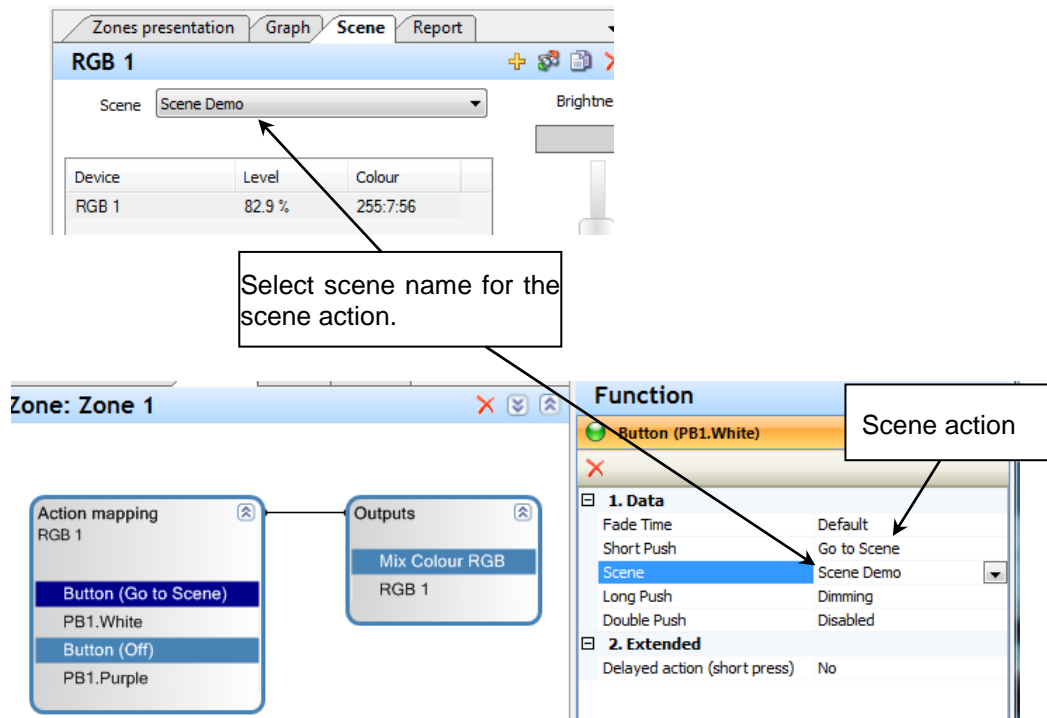


will be recalculated to an equal RGB value for maximal intensity and the intensity component will be split up in the brightness value.

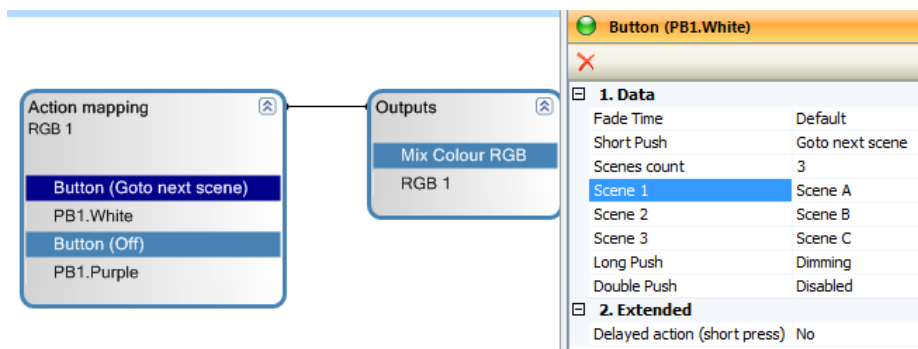


### 7.3.5.2 Using of Scenes

In the scene panel will be only connected the different scene values to a scene name. In the function parameter from the button for example will this name than use to connect the scene function to the scene values.

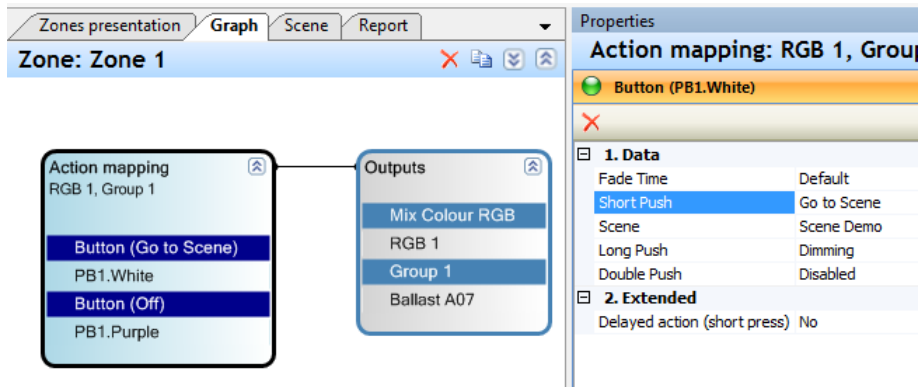


It is also possible to select with one button different scenes (up to 5), with the short action "Goto next scene".

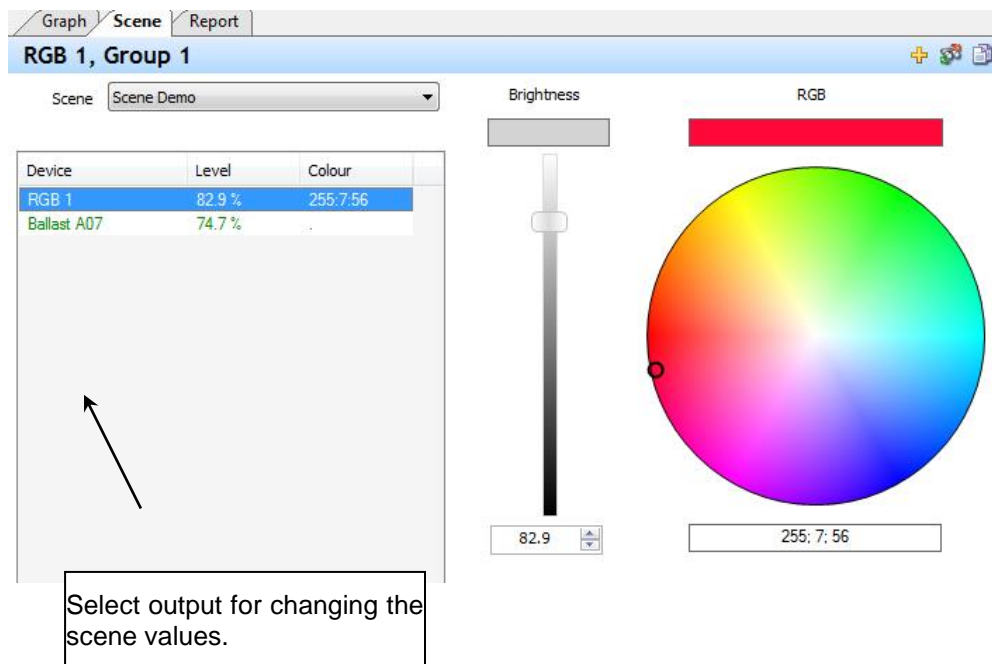


### 7.3.6 Combination of RGB and normal outputs in scenes

The light scenes can also combine normal (white) light and RGB.



By selecting of the action mapping or output box in the graph view, the scene values for all outputs can be edit together.

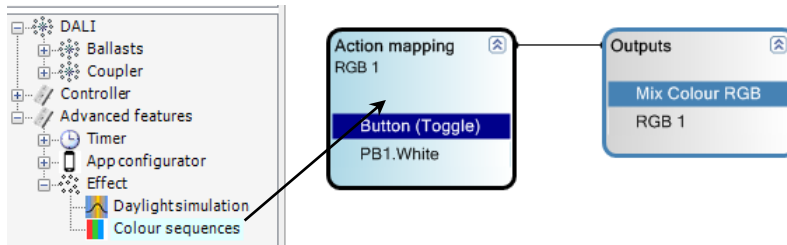


### 7.3.7 Colour Sequences

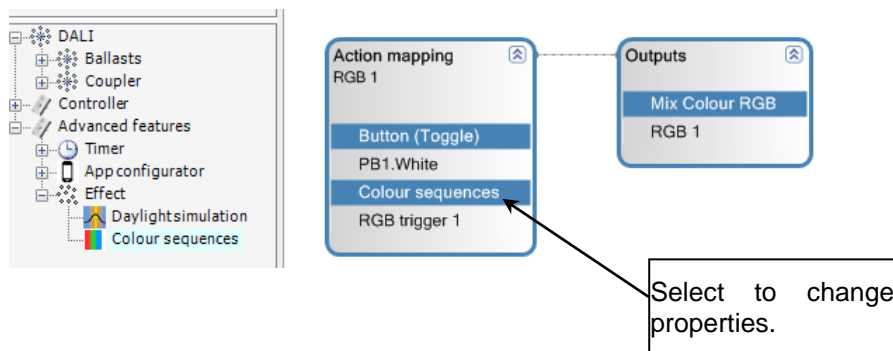
The colour effect can play a colour sequence or can provide an easy continuous colour change.

#### 7.3.7.1 Add effect action

From the tree part "Advanced features" and "Effect", "colour sequence" item must be shifted into the action mapping:

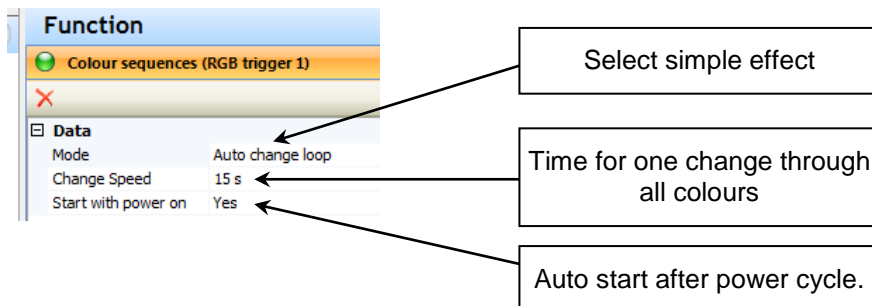


the new colour effect is generated.



#### 7.3.7.2 Configuration for simple colour change effect

After selection of the effect action the properties can be changed.

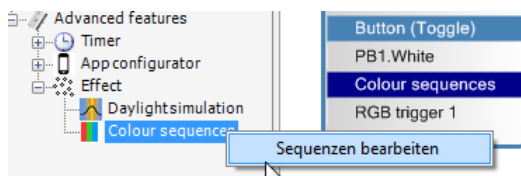




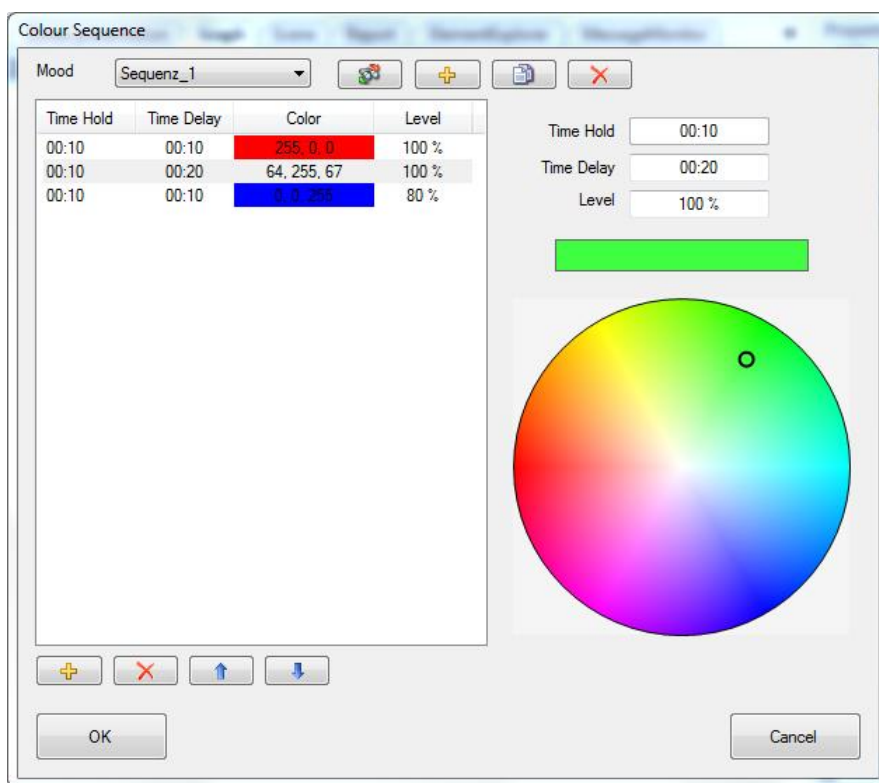
### 7.3.8 Effect colour sequences

#### 7.3.8.1 Managing of colour sequences

The colour sequences dialog can be open from the context menu in the tree

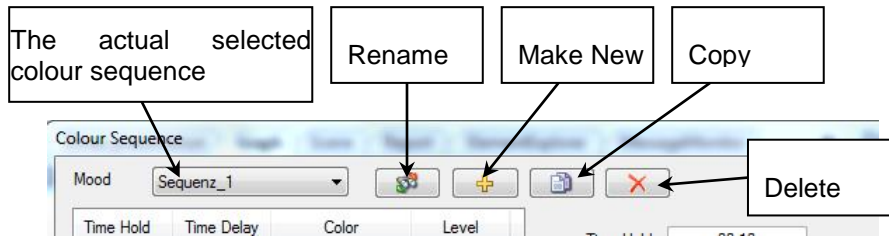


or from the effect properties.

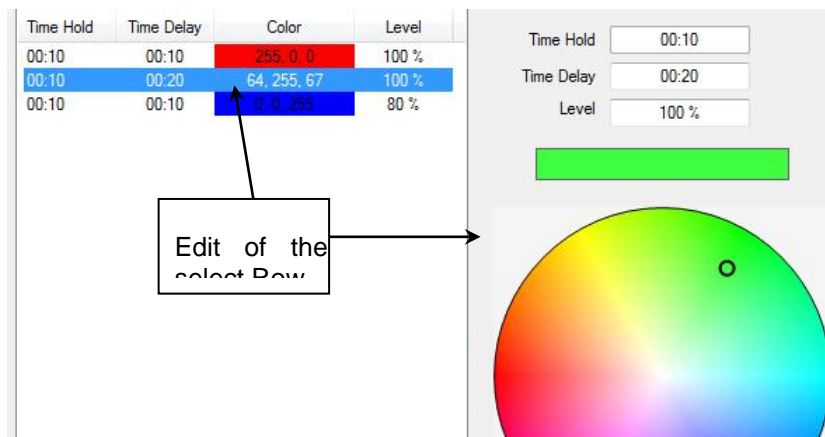


In the colour sequences dialog can be edit the different colour sequences for different moods, with separated names. This names will be used in the effect properties to connect the effect with the colour sequences. For each RGB output can be connected up to 4 different moods, changed over buttons.

In the upper part of the dialog the different moods can be managed.



In the middle part the properties of each step can be changed.



From the lower parts new steps can be add, steps can be deleted or the order can be changed.



By close over OK, the changes will be stored.

In the online modus, the actual colour values can be visualized with the real outputs.

### 7.3.8.2 Using of colour sequences from in the effect

The screenshot shows the configuration window for 'Colour sequences (RGB trigger 1)'. It has a 'Data' section with the following parameters:

|                     |             |
|---------------------|-------------|
| Mode                | Color Table |
| Change Level        | No          |
| Mood size           | 2           |
| Colour sequence A   | Sequenz_1   |
| Colour sequence B   | Sequenz_2   |
| Start with power on | No          |

Callouts point to the following elements:

- 'Select mode colour sequence' points to the 'Mode' field.
- 'Number of moods for this effect (up to 4)' points to the 'Mood size' field.
- 'Connecting to the colour sequences' points to the 'Colour sequence A' and 'Colour sequence B' fields.

- Depending of the selected size for different moods, there is a slot for colour sequences for mood A until D (for maximum 4 different moods).
- Start/toggle effect functions can change the selected actual mood.
- From other functions with additional effect parameter can only enable (start) the actual selected effect mood.

### 7.3.8.3 Start and stop of colour effect

With short push only the effect can be started or stopped,

The screenshot shows the configuration window for 'Button (Net button 1)'. It has two sections: '1. Data' and '2. Extended'.

**1. Data**

|            |              |
|------------|--------------|
| Fade Time  | Default      |
| Short Push | Start effect |

**2. Extended**

|                              |     |
|------------------------------|-----|
| Effect mood                  | B   |
| Show state                   | Yes |
| Delayed action (short press) | No  |

Callouts point to the following elements:

- 'Only start/stop/toggle of the effect with short push' points to the 'Short Push' field in the 'Data' section.
- 'For more the one mood, the actual selected mood.' points to the 'Effect mood' dropdown menu.
- 'For App control, to show the actual effect play state.' points to the 'Show state' field.

or the short push is a combination of light change and change of the effect state (run, stop or unchanged).

The screenshot shows the configuration window for 'Button (PB1.Weiß)'. It has two sections: '1. Data' and '2. Extended'.

**1. Data**

|             |             |
|-------------|-------------|
| Fade Time   | Default     |
| Short Push  | Go to level |
| Level       | 80 %        |
| Long Push   | Nothing     |
| Double Push | Nothing     |

**2. Extended**

|                              |        |
|------------------------------|--------|
| Effect                       | Enable |
| Delayed action (short press) | No     |

Callouts point to the following elements:

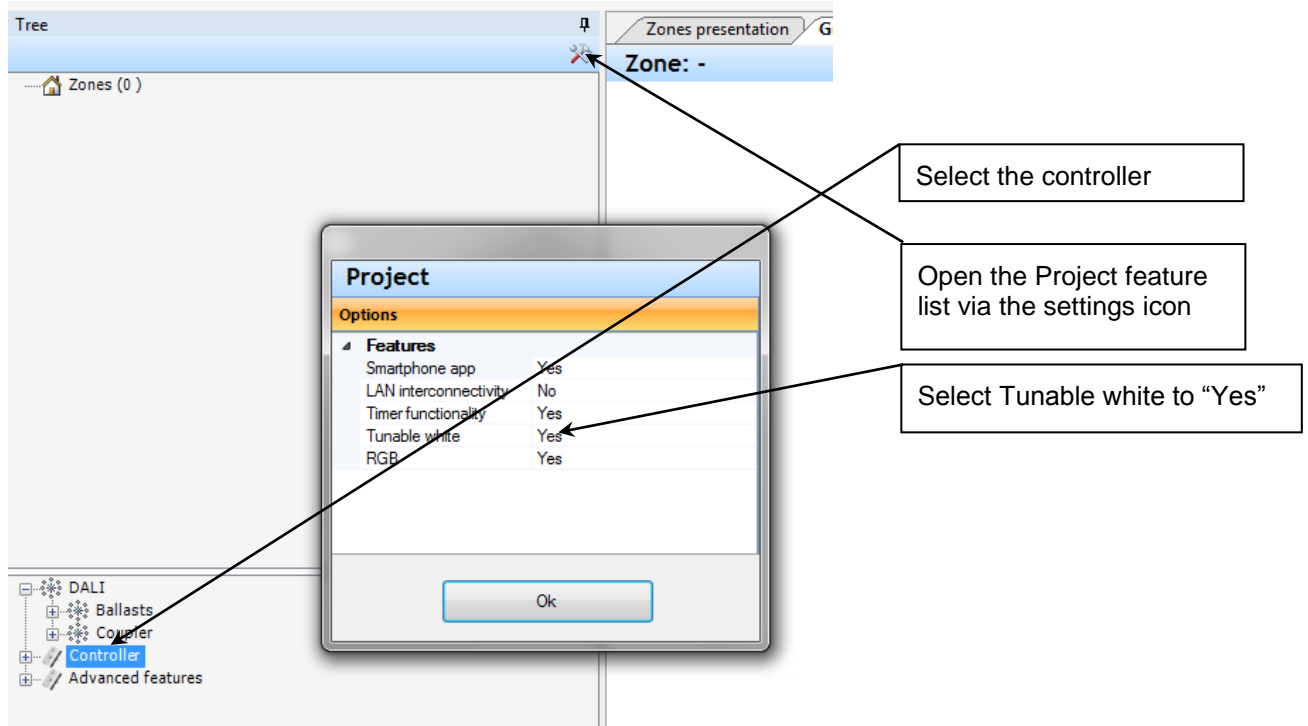
- 'Level change command' points to the 'Short Push' field.
- 'Start/stop of the effect' points to the 'Effect' field.

## 7.4 Tunable White Control (TW)

### 7.4.1 Functionality

Tunable White light can be generated by combining two DALI ECG with warm white and cold white light or by using The DALI color device type.

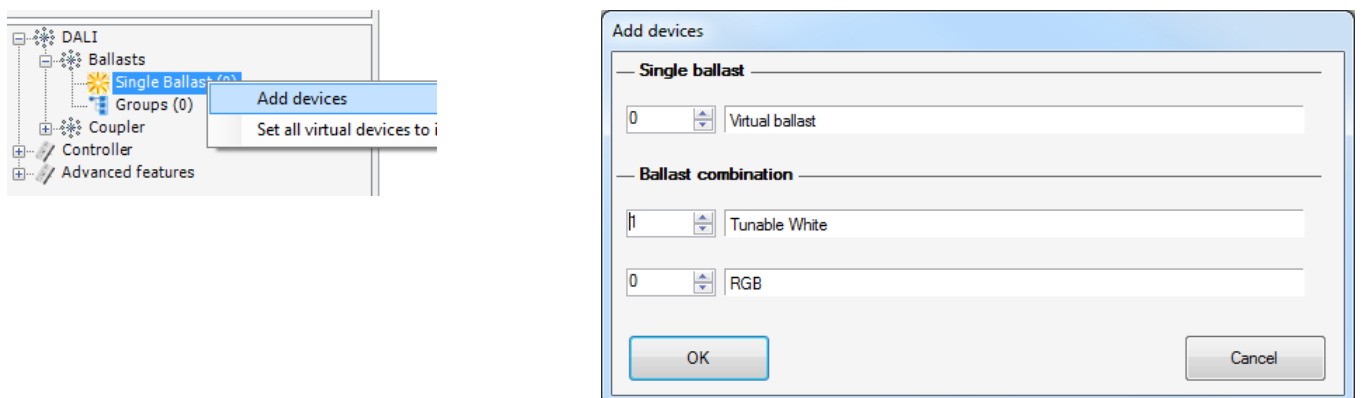
To enable the TW function, enable Tunable white in the Project Feature-list.



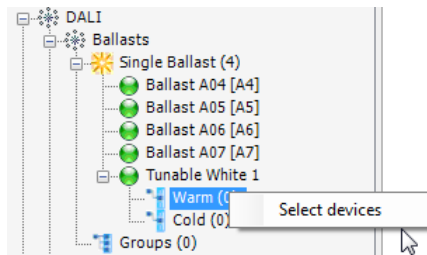
### 7.4.2 Generating a Tunable white device

#### 7.4.2.1 TW device generation via the tree structure

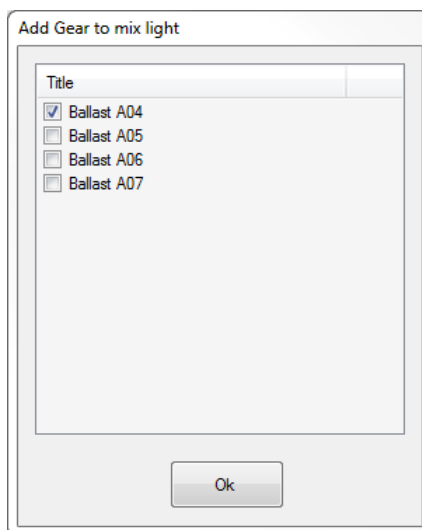
Generate new Tunable white device in the section for ECG combined devices.



The ECG can be put into the warm and could white group by drag and drop or by the dialog, open over the context menu.

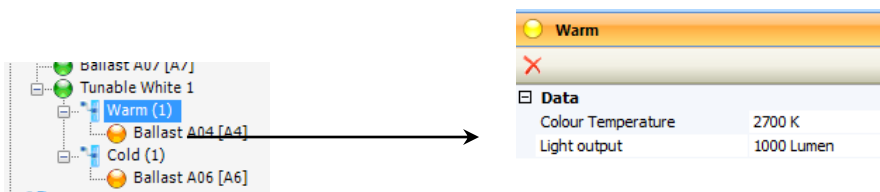


All not already used ECG or ECG used in this group will be shown in the list.

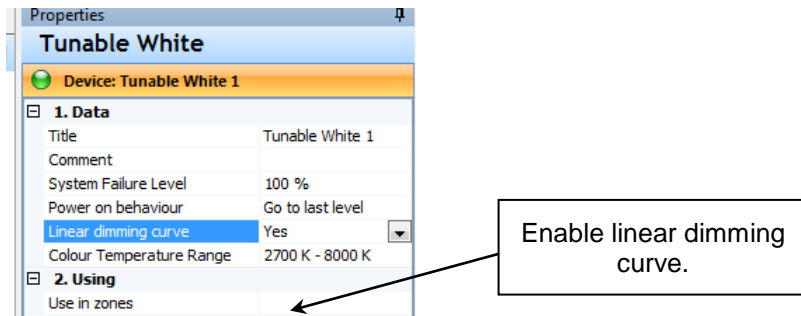


The devices can also be moved to the warm/cold group by drag and drop in the tree.


Whit selection of the warm or could group the colour temperature or intensity are changeable in the properties.

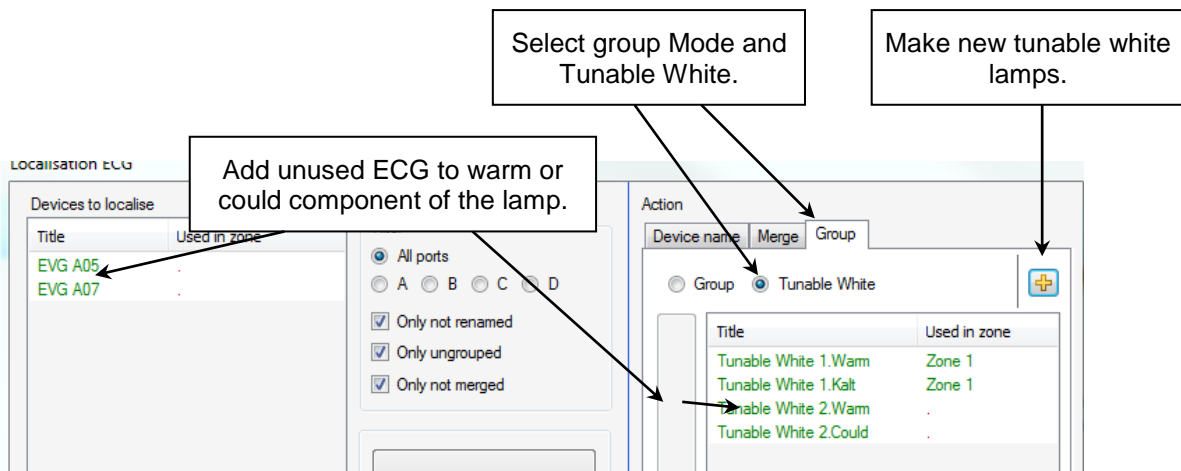


By using of ECG with device type LED the linear dimming mode can be activated. With this can be avoided a change in the intensity while colour level change.



### 7.4.2.2 From the localisation dialog

Open the localisation dialog by the icon  in the tree. Use in the dialog the group functionality.



The real ECG can be interactive selected by blinking and then add to the warm or could component of the lamp.

### 7.4.3 DALI device type colour (8-TW)

ECG with device type colour (8) und support of subtype tunable white will be detected and the colour temperature limits will be shown in the properties.

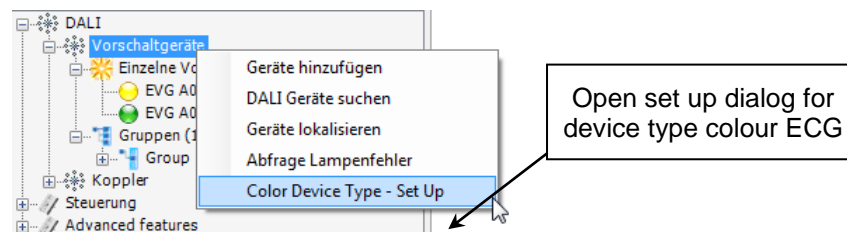
|                                  |            |
|----------------------------------|------------|
| Zufällige Adresse                | 188-130-31 |
| Port                             | A          |
| Kurzadresse                      | 0          |
| <b>3. Farb-Gerät</b>             |            |
| Physical maximale Farbtemperatur | 5495 K     |
| Physical minimale Farbtemperatur | 2801 K     |
| Maximale Farbtemperatur          | 5000 K     |
| Minimale Farbtemperatur          | 3000 K     |
| <b>4. Verwendung</b>             |            |
| Gruppen                          | Group 1    |
| Zonen                            | Zone 1     |

Devices already used in the Lab:

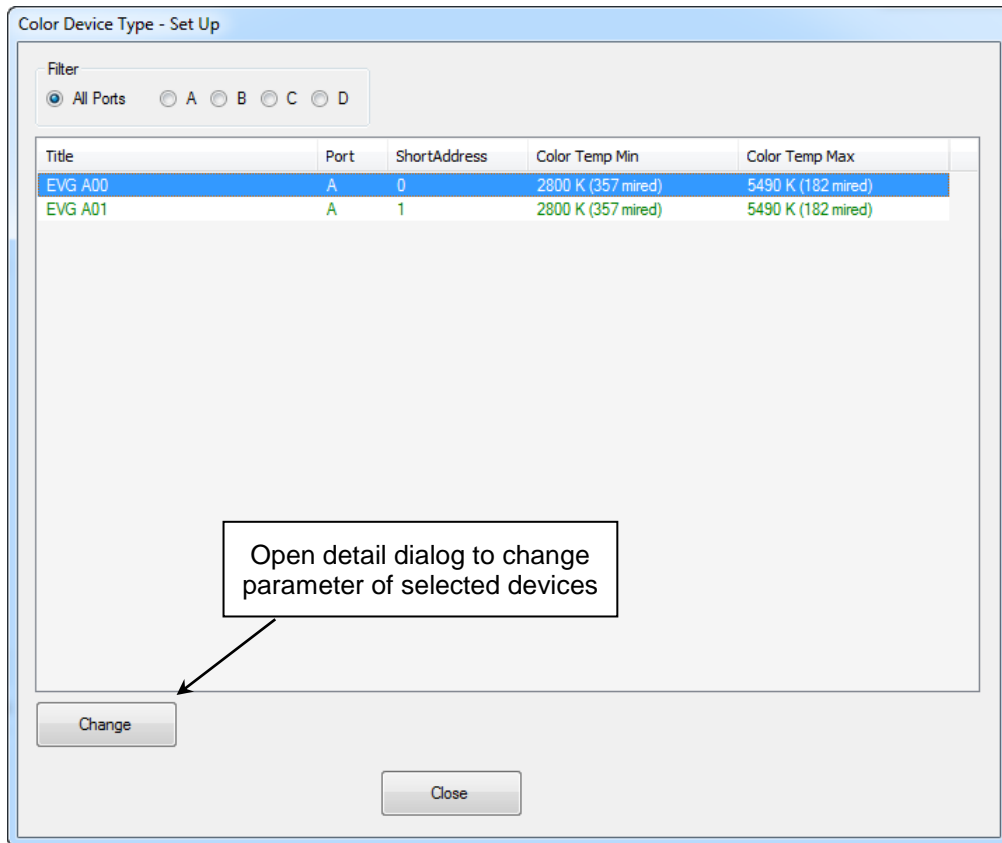
- OSRAM, "OTi DALI 50/220-240/24 TW", 24 constant voltage PWM, GTIN 4052899490772
- Tridonic, "LCAI 38W 125mA TW Ip", 100mA-125mA Constant Current, Art. No. 86459553, GTIN 9120044946186
- Helvar, "LL 60 /2-E-DA-iC", I-out 350mA - 700 mA, GTIN 6418488553309, Version 14.06

#### 7.4.3.1 Set up to connected led (OSRAM ECG)

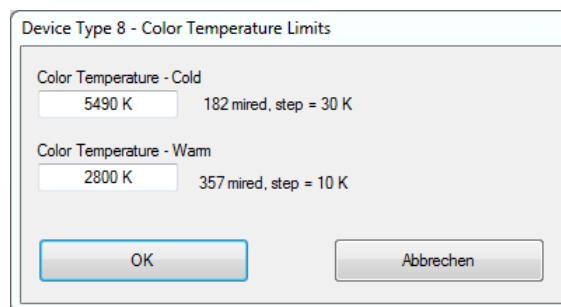
The set up to the colour temperature of the connected led can be done by change of physical minimal and maximal colour temperature. This can be done after the device search in a special dialog window. This data are not part of the project and will change only the connected ECG.



In the dialog will be show all connected colour device type ECG.



For the selected ECG (multi selection with Shift or Ctr-key is possible) can be open with the button "Change" the detail information.



In the ECG the colour temperature values will be stored in the unit mired (or mirek) with the calculation to the unit Kelvin:

$$\text{Colour temperature in mired} = 10^6 / \text{Colour temperature in Kelvin}$$

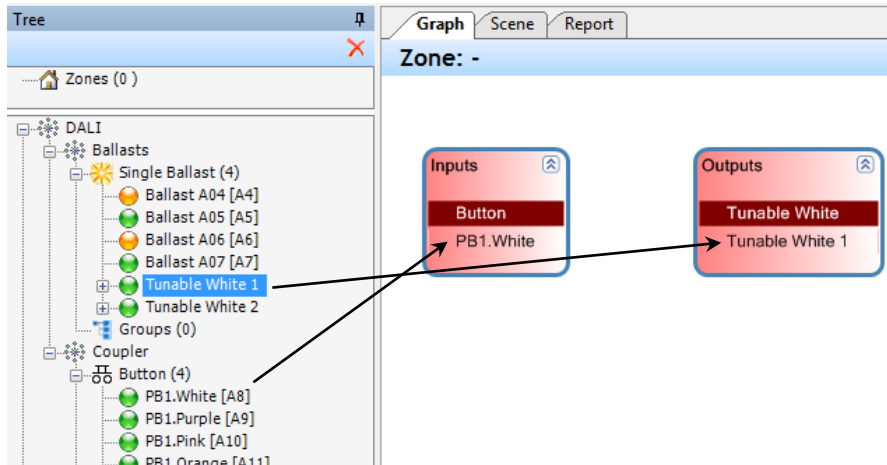
the change by one mired is depending of the actual value in the range of 10 K to 30 K. The dialog gives the mired value and step size as information to the actual input values in Kelvin.



## 7.4.4 Using in Application

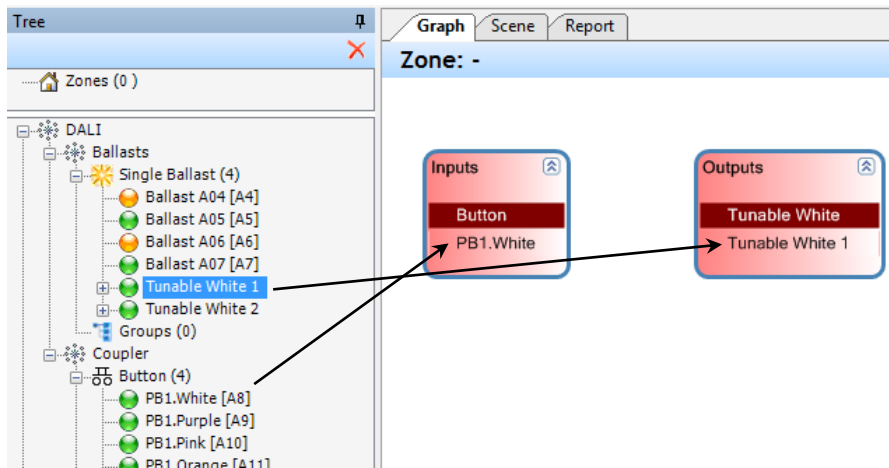
### 7.4.4.1 Tunable white by device combination

In application only the combined device will be used. The single ECG are shown in orange and not longer directly usable.



### 7.4.4.2 Tunable white by device type colour (8-TW)

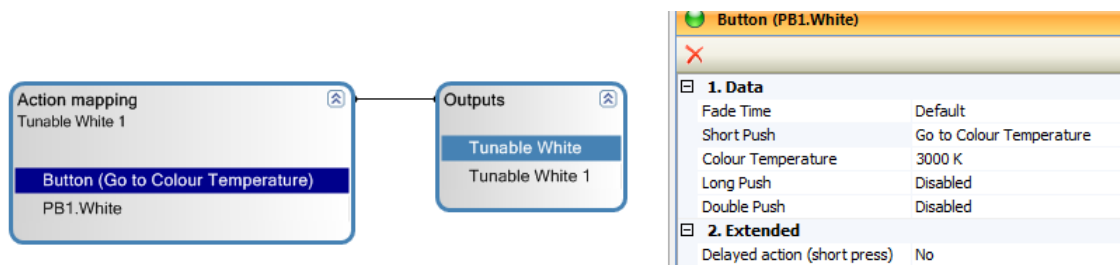
The ECG with device type colour (8-TW) will be in the tree together with the normal ECG.



## 7.4.5 Change level and colour temperature by button controls

### 7.4.5.1 Using of button short push

In extension to the level change actions, also the colour temperature can be changed.



The colour temperature can be changed together with the level.

| Button (PB1.White)           |                                    |
|------------------------------|------------------------------------|
| <b>1. Data</b>               |                                    |
| Fade Time                    | Default                            |
| Short Push                   | Go to Colour Temperature and Level |
| Level                        | 80 %                               |
| Colour Temperature           | 3000 K                             |
| Long Push                    | Disabled                           |
| Double Push                  | Disabled                           |
| <b>2. Extended</b>           |                                    |
| Delayed action (short press) | No                                 |

### 7.4.5.2 Using of button long push

With long press is it also be possible to change the colour temperature.

| Button (PB1.White)           |                                    |
|------------------------------|------------------------------------|
| <b>1. Data</b>               |                                    |
| Fade Time                    | Default                            |
| Short Push                   | Go to Colour Temperature and Level |
| Level                        | 80 %                               |
| Colour Temperature           | 3000 K                             |
| Long Push                    | Change Colour                      |
| Double Push                  | Disabled                           |
| <b>2. Extended</b>           |                                    |
| Delayed action (short press) | No                                 |

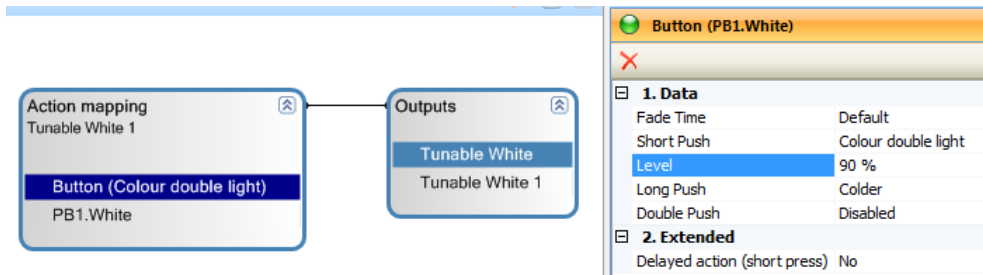
For two buttons with up and down direction, the long push functions "Warmer" and "Colder" can be used.

| Button (PB1.White)           |                          |
|------------------------------|--------------------------|
| <b>1. Data</b>               |                          |
| Fade Time                    | Default                  |
| Short Push                   | Go to Colour Temperature |
| Colour Temperature           | 3000 K                   |
| Long Push                    | Warmer                   |
| Double Push                  | Disabled                 |
| <b>2. Extended</b>           |                          |
| Delayed action (short press) | No                       |

| Button (PB1.Purple)          |          |
|------------------------------|----------|
| <b>1. Data</b>               |          |
| Fade Time                    | Default  |
| Short Push                   | Off      |
| Long Push                    | Colder   |
| Double Push                  | Disabled |
| <b>2. Extended</b>           |          |
| Delayed action (short press) | No       |

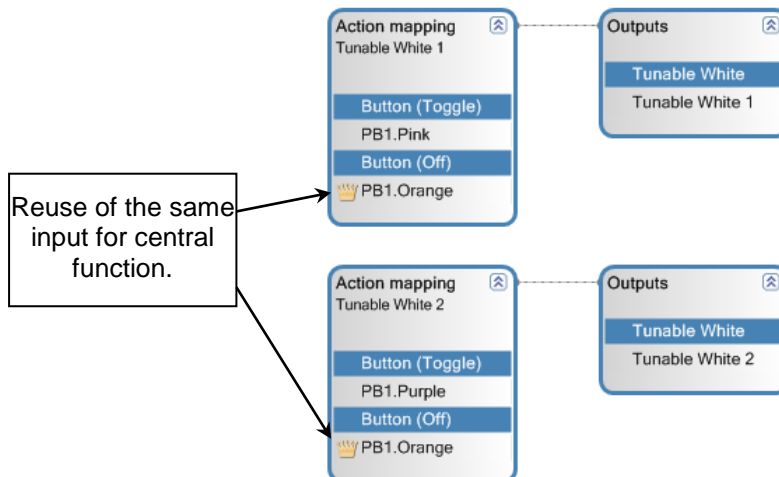
### 7.4.5.3 Special function double light

By generating of tunable white with two ECG it is possible to leave temporary this mode and use both channel to get the maximal light output.

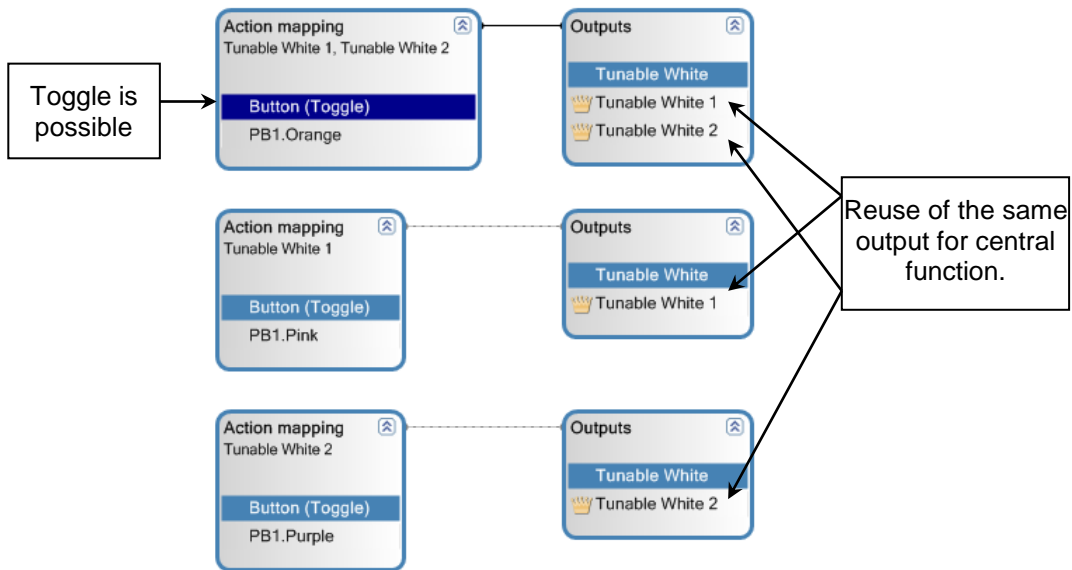


### 7.4.5.4 Central control function

The easiest way to central function is to reuse the same button in different action mappings by using of clear on/off functions. In this case the detail parameter for each action mapping can be different. The disadvantage is that the toggle function can make no synchronisation between the different lamps (for example with one button press one lamp go on and the other goes off).



If the toggle function needed than must be use for the central functionality on function by reuse of outputs in different action mappings.



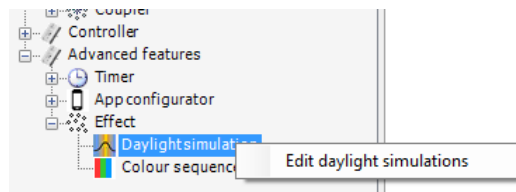
### 7.4.6 Daylight simulation

This function is only available for the DALI Pro RTC version.

#### 7.4.6.1 Time table

The daylight simulation is using a table of time (including of sunrise or sundown), colour temperature and light level.

The editor dialog for the time tables can be open from the tree:



The different time tables or sequences will be stored below the mood name. By this name the date can be reused in the daylight simulation effect function.

The actual selected colour sequence

Rename

Make New

Copy

Delete

Daylight Simulation

Mood: Sequenz\_1

| Time  | Colour temperature | Level |
|-------|--------------------|-------|
| 08:00 | 3000 K             | 10 %  |
| 12:00 | 6000 K             | 10 %  |
| 18:00 | 3000 K             | 10 %  |

Normal

Time: 08:00

Level: 10 %

Colour temperature: 3000 K

Set up of the location for the astro function

Preview of sunrise and sundown for the selected location

Location

City: Germany (Berlin)

Latitude (Nord): 52.52 [°]

Longitude (Ost): 13.41 [°]

Time zone: 1

Show

Cancel

Location Pr

Daylight saving time (04-09)

|       |       |       |
|-------|-------|-------|
| 01.01 | 08:16 | 16:03 |
| 02.01 | 08:16 | 16:05 |
| 03.01 | 08:15 | 16:06 |
| 04.01 | 08:15 | 16:07 |
| 05.01 | 08:14 | 16:08 |
| 06.01 | 08:14 | 16:09 |
| 07.01 | 08:14 | 16:11 |
| 08.01 | 08:13 | 16:12 |
| 09.01 | 08:12 | 16:13 |
| 10.01 | 08:12 | 16:15 |
| 11.01 | 08:11 | 16:16 |
| 12.01 | 08:10 | 16:18 |

Add or remove time step

Edit of the select Row

Daylight Simulation

Mood: Sequenz\_1

| Time  | Colour temperature | Level |
|-------|--------------------|-------|
| 08:00 | 3000 K             | 10 %  |
| 12:00 | 6000 K             | 10 %  |
| 18:00 | 3000 K             | 10 %  |

Normal

Time: 08:00

Level: 10 %

Colour temperature: 3000 K

### 7.4.6.2 Astro function

Beside the normal time, relative time to sunrise and sundown can be used.

| Time          | Colour temperature | Level |
|---------------|--------------------|-------|
| Sunrise -1:00 | 3000 K             | 10 %  |
| 12:00         | 6000 K             | 10 %  |
| Sundown +1:00 | 3000 K             | 10 %  |

Select type

Sundown

Offset time  
+1:00

Level  
10 %

Colour temperature  
3000 K

Offset to sunrise/sundown in the range +/- 3 hour

The sunrise or sundown time (including offset) can be limited. If the time on the day outside of the limit, the time of the limit will be used.

| Time                  | Colour temperature | Level |
|-----------------------|--------------------|-------|
| (06:00) Sunrise -0:30 | 3000 K             | 10 %  |
| (08:00) 12:00         | 6000 K             | 10 %  |
| Sundown -3:00         | 3000 K             | 10 %  |

Normal

Time  
08:00

Only limit

This time value is only limit to sunrise/sundown without own parameter

### 7.4.6.3 Add daylight simulation action

After enable the RTC timer functionality in the general feature settings, the item "Daylight simulation" is visible. After move of this object to the action mapping:

DALI

- Ballasts
- Coupler
- Controller
- Advanced features
  - Timer
  - App configurator
  - Effect
    - Daylight simulation
    - Colour sequences

Action mapping Tunable White 1

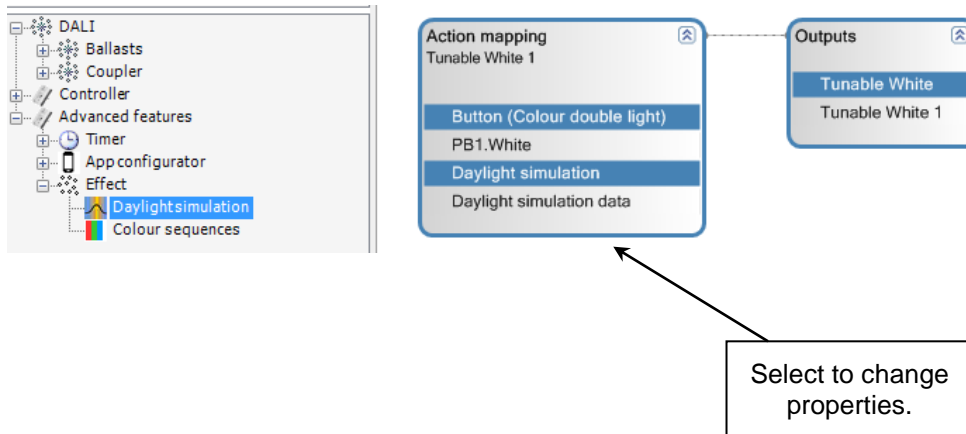
Button (Colour double light)

Tunable White

Outputs

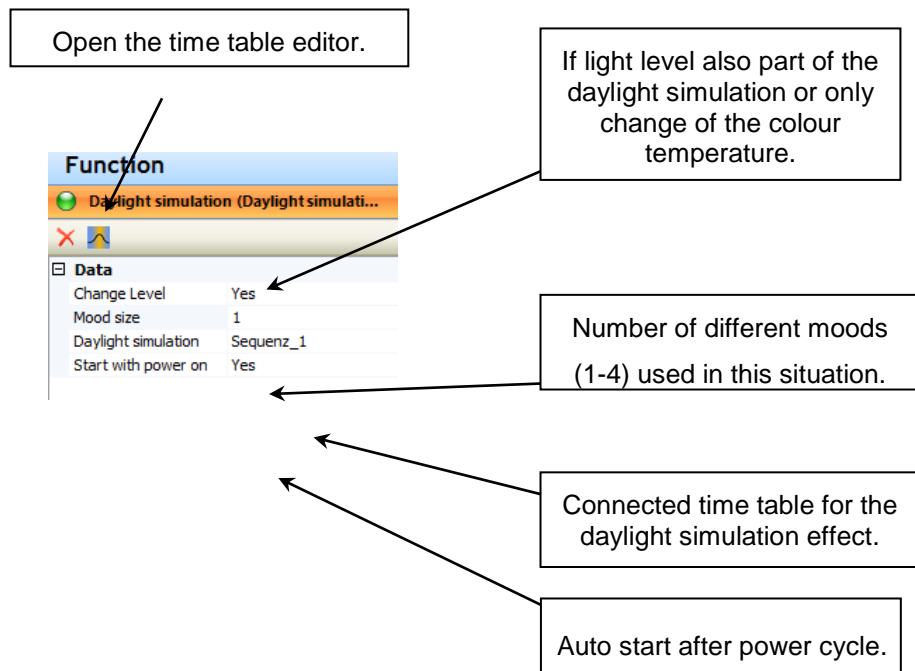
- Tunable White
- Tunable White 1

the new daylight simulation effect is generated.

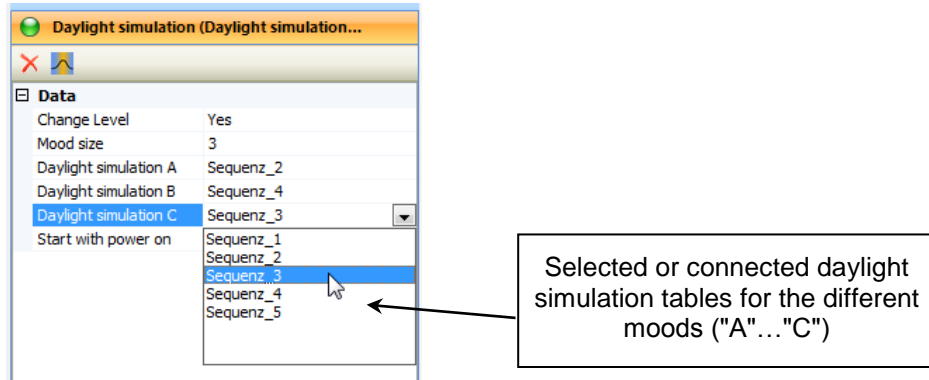


The show of the "Daylight simulation data" is necessary to have also in this case the common "input-action-output" structure.

After selection of the "Daylight simulation" action the properties can be changed.

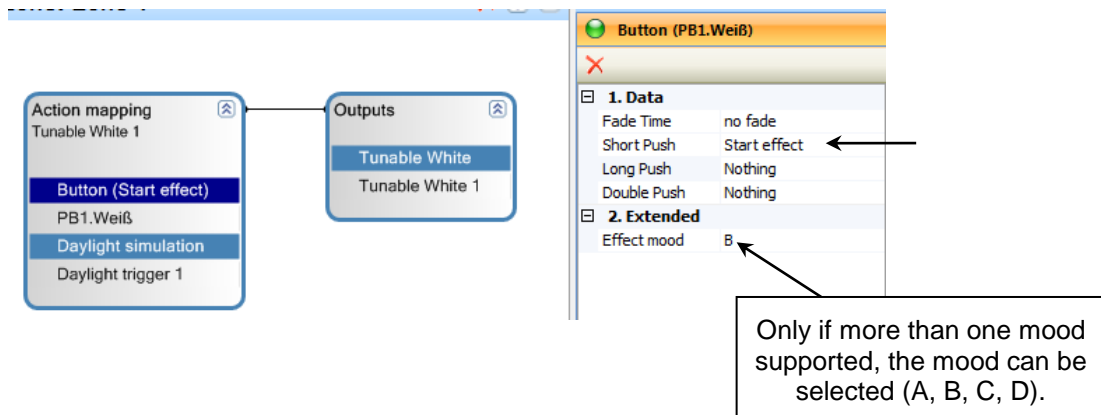


If more than one mood enabled, the actual mode can be change by button short press function (start effect). All other effect connected parameter than in relation to the actual active mood. Up to 4 different moods are supported by the effect and then called mood "A" until mood "D".

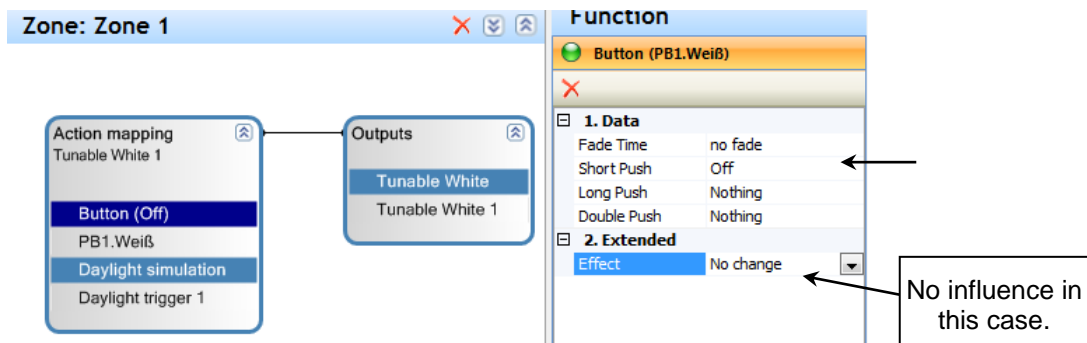


#### 7.4.6.4 Start and stop of daylight simulation

The actions "Start effect" is useful if the daylight simulation can change the light. With effect start the light levels goes on the light level from the table.

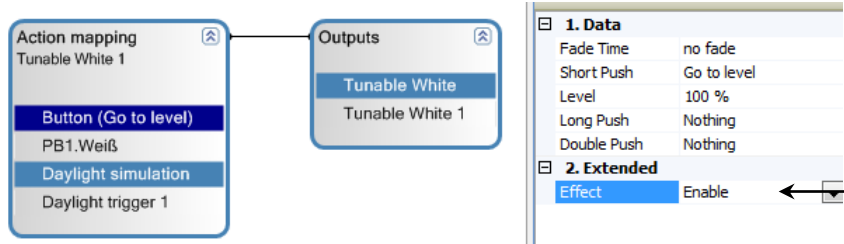


Can the daylight simulation change the level the light off action will in any case stop the effect, independent on the local configuration.





If the daylight simulation effect change only the colour temperature with each light on the effect can be started (enable), stopped (disable) or be unchanged.

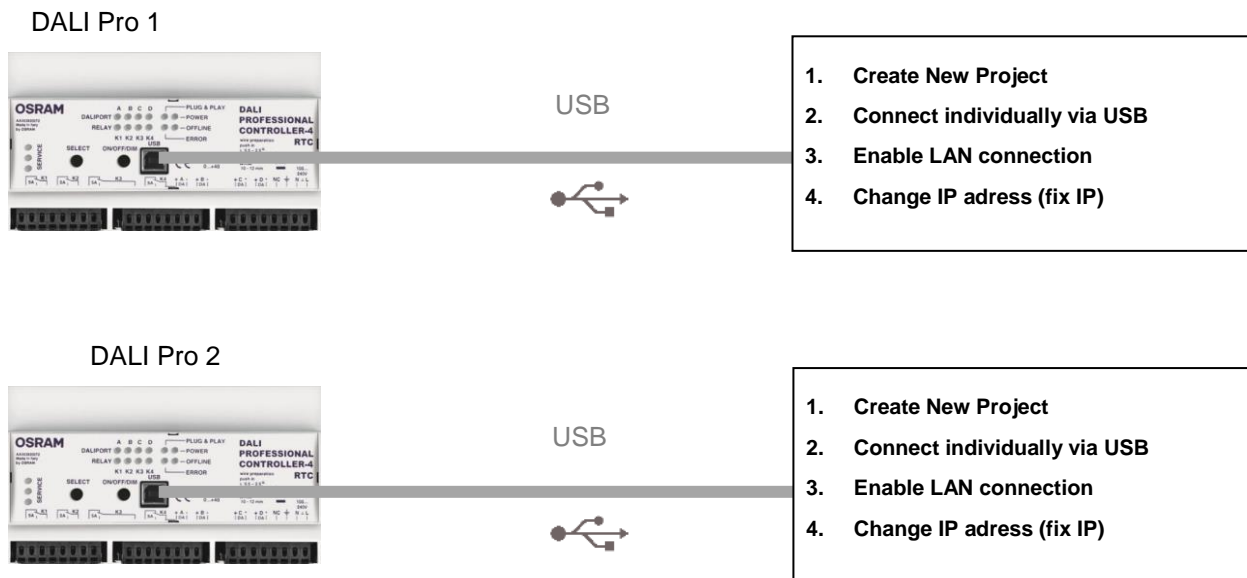


## 7.5 LAN Interconnectivity

Recommendations for network parameters:

- OSRAM recommends to assign a static IP address for the DALI controller(s).
- The subnet must be: 255.255.255.0.
- The port 23 must not be blocked.
- UDP Messages must not be blocked.

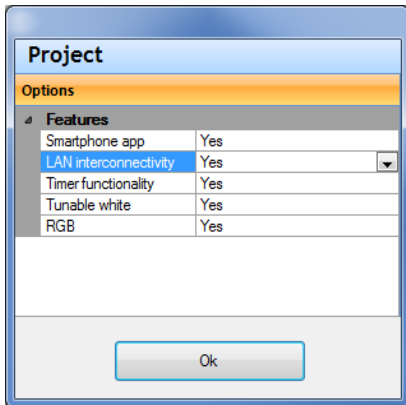
### 7.5.1 Functionality



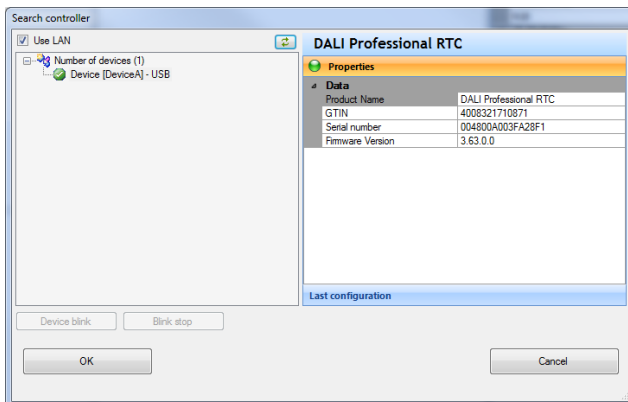
The LAN interconnection is used to share the DALI coupler input signals between different DALI Pro controllers for the implementation of central functions. The number of connected controller shall be limited to four to reduce the complexity.

The commissioning is for each controller locally. Only the connection information to the other controller will be added.

**1) Create a new Project in DALI Professional and Enable the LAN interconnectivity**



**2) Search for DALI Pro controllers**

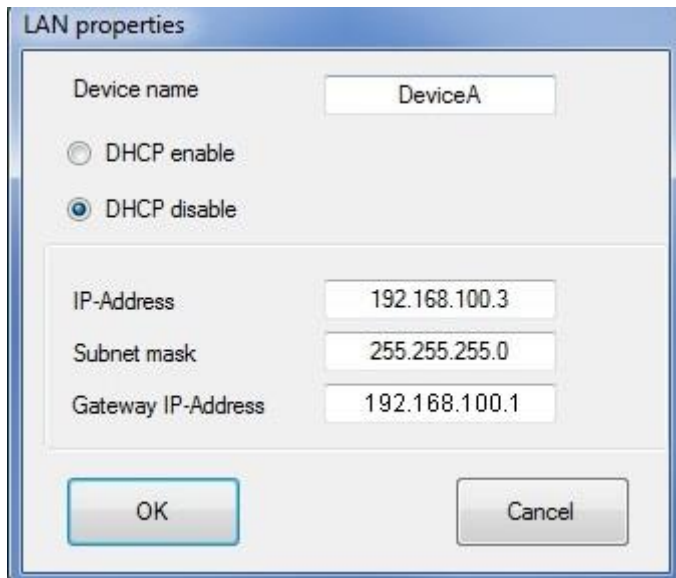


**3) Check LAN Properties (right site of the software) and click in the icon “Change LAN Parameters”**

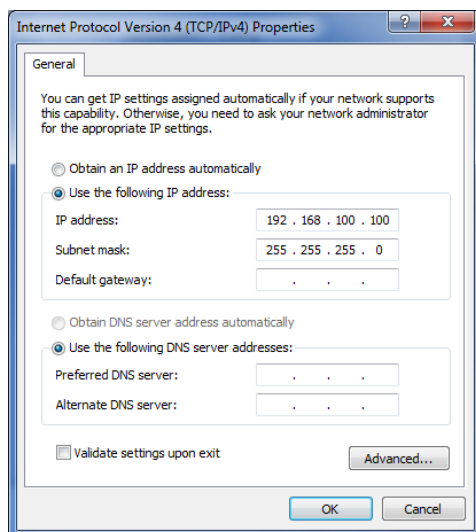


#### 4) Disable DHCP and change the IP address

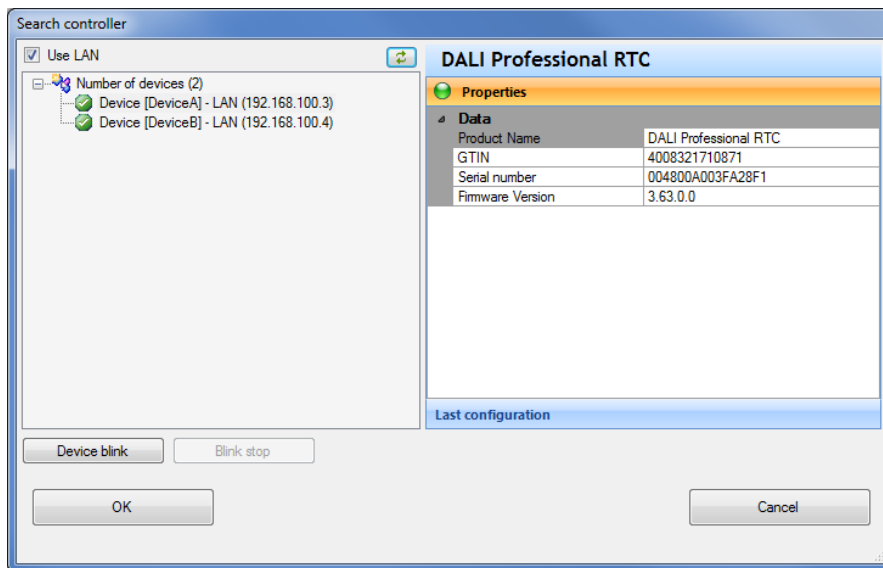
*Please remember all the DALI PRO, your computer and router (in case you use it), must be in the same subnet.*



#### 5) Change the IP address of your computer to bring it into your network. Remember the last number must be different, don't put exactly the same IP address



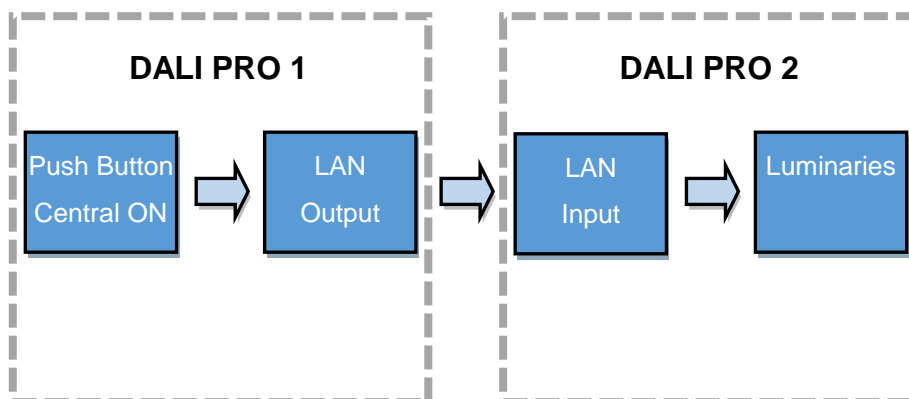
- 6) Open DALI PRO Software and connect again. In the tree will appear the number of DALI PRO that you have in your system and also the IP address.



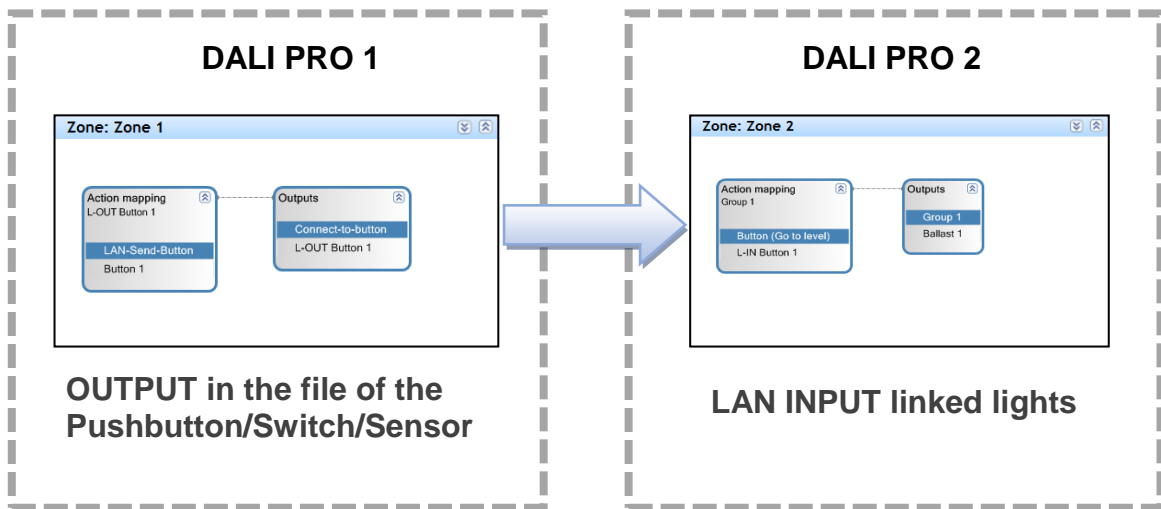
### 7.5.2 Create central ON/OFF button

Create a CENTRAL ON or OFF pushbutton to turn ON or OFF the luminaries from all the DALI PROFESSIONAL.

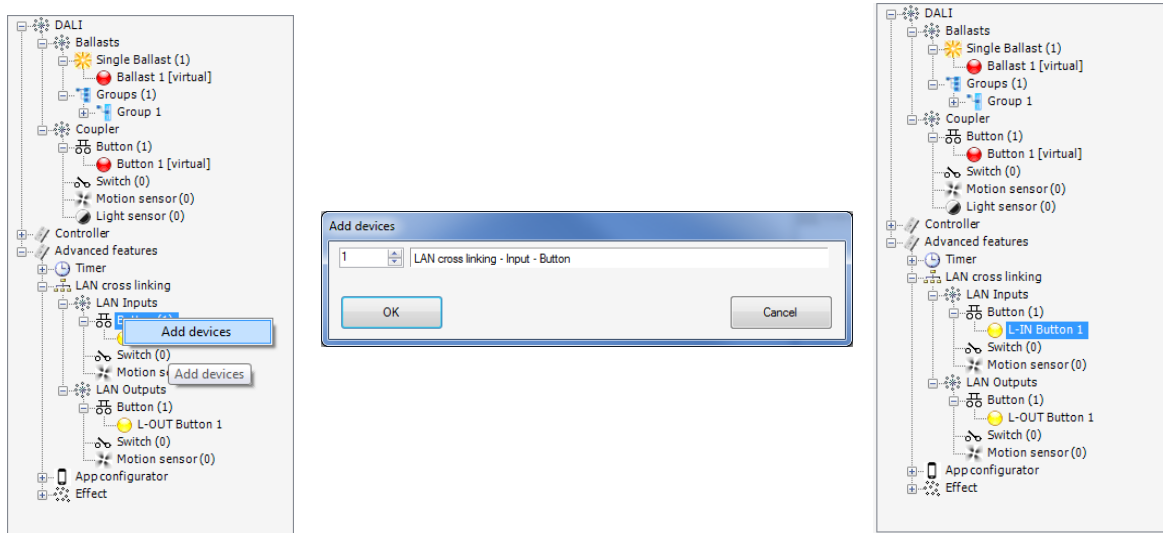
**Schematic view:**



**Project view:**

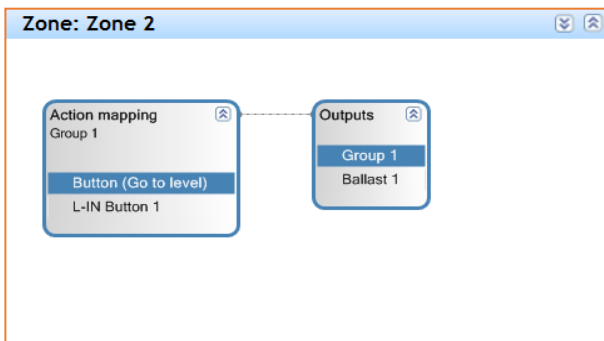


**1) Create a input LAN–device on DALI Pro 2**



*It is possible to change the name of the created LAN-button in the properties*

2) Connect the created button with a ballast

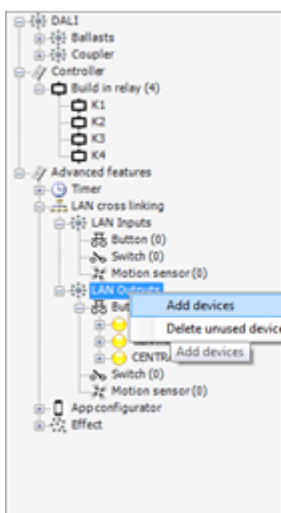


**Action mapping: Group 1**

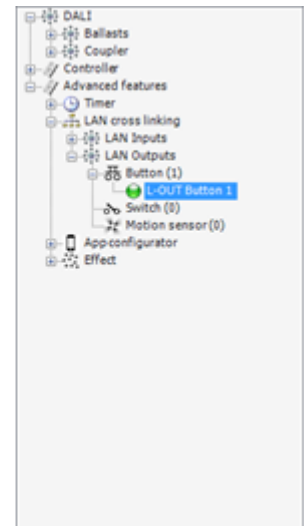
**Button (CENTRAL ON)**

|                              |             |
|------------------------------|-------------|
| <b>1. Data</b>               |             |
| Fade Time                    | Default     |
| Short Push                   | Go to level |
| Level                        | 100 %       |
| Long Push                    | Dimming     |
| <b>2. Extended</b>           |             |
| Show state                   | Yes         |
| Delayed action (short press) | No          |

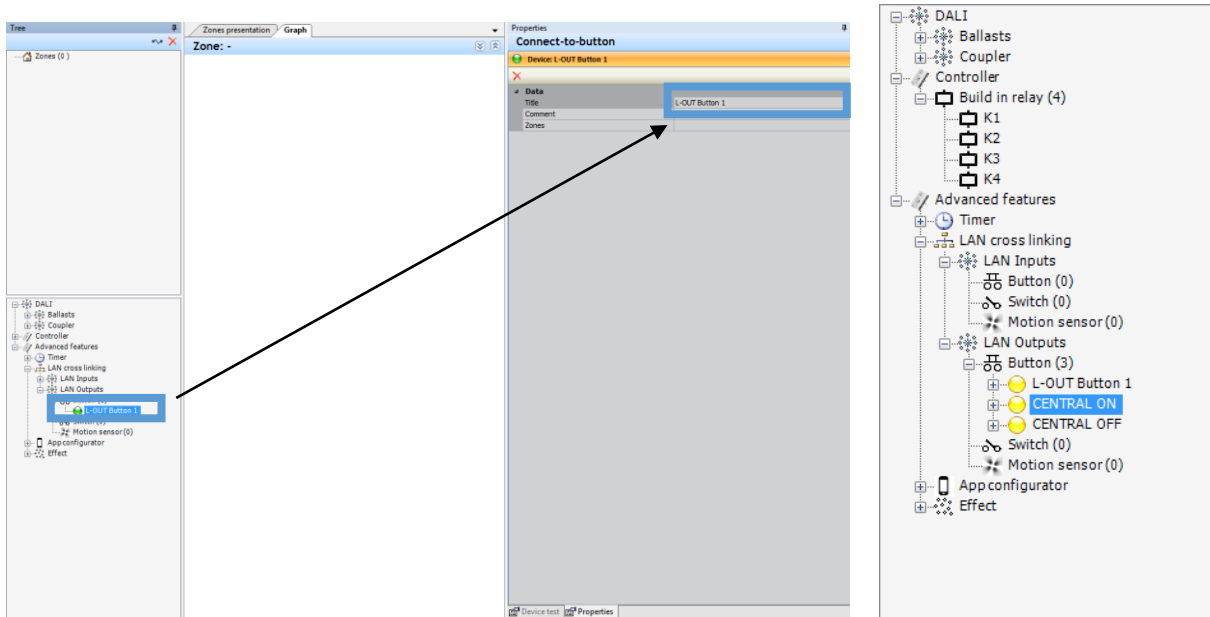
3) Create an output LAN-device on the DALI PRO 1



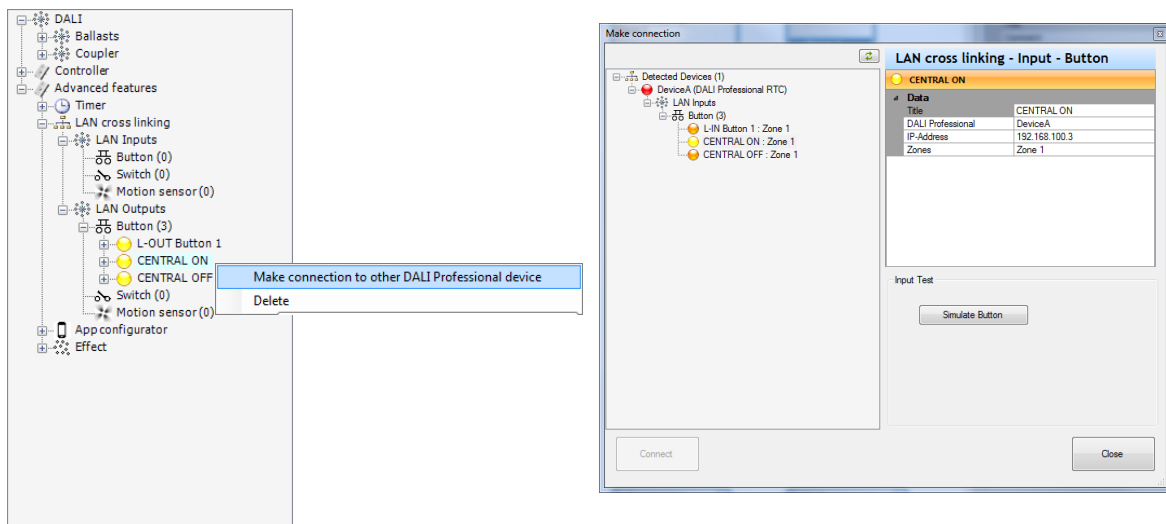
The screenshot shows the "Add devices" dialog box. Under the "Networking" section, the first option "LAN cross linking - Output - Button" is selected. There are also options for "LAN cross linking - Output - Switch" and "LAN cross linking - Output - Motion". Under the "Touch panel and networking" section, there is an option for "LAN cross linking - Output - Master light".



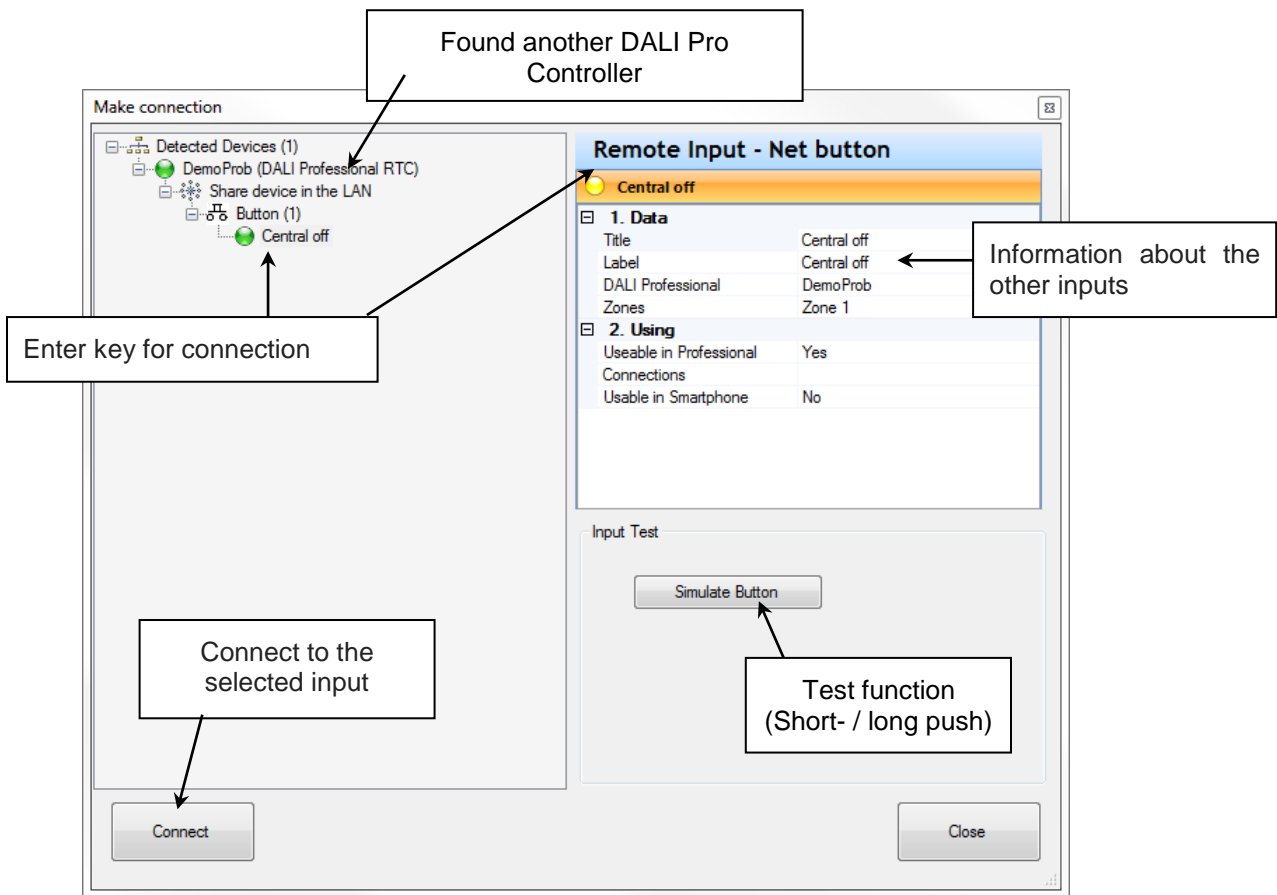
Changing the name is the same as for the input.



**4) Create connection between DALI PRO 1 and another DALI PROFESSIONAL device**



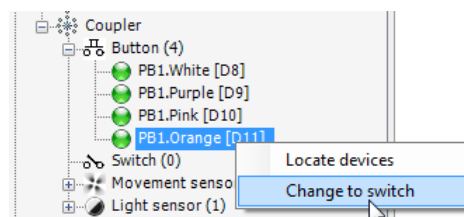
This action opens the dialog that searches other DALI Pro devices over LAN and then displays all the keyboard inputs that can be used for connection.



### 7.5.2.1 Use switch input

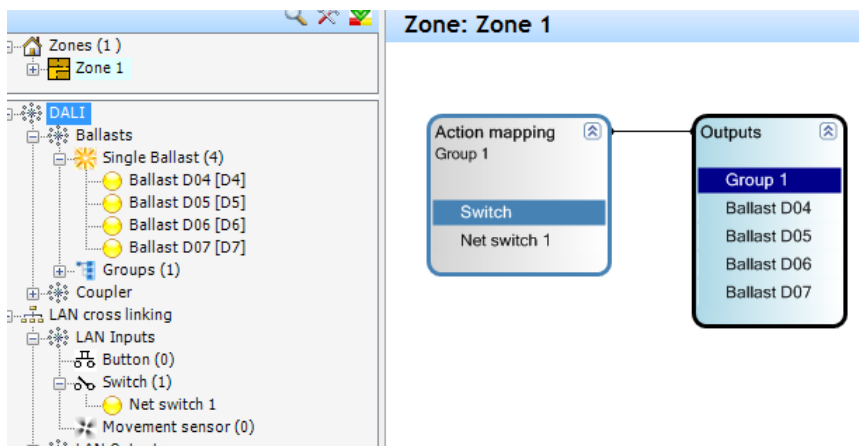
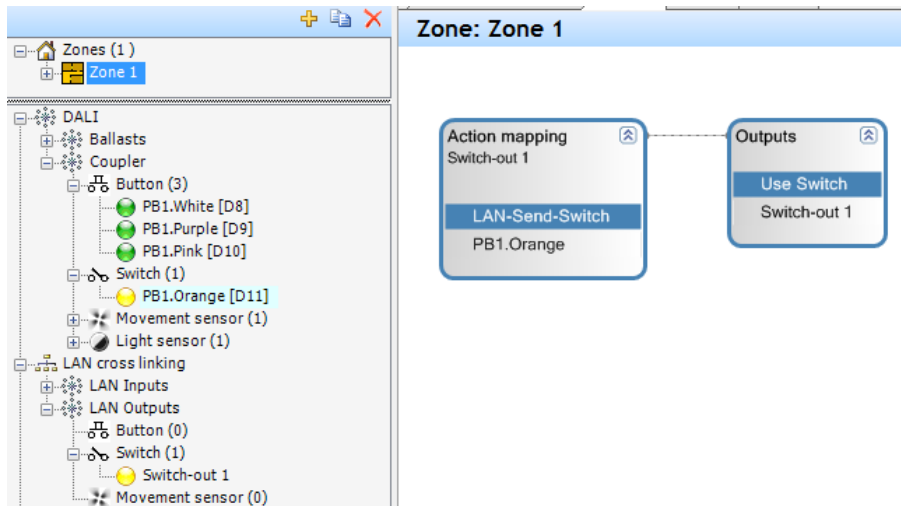
The switch remote inputs are a special case. Only on switch output shall be connected with one switch remote input to avoid unclear states if one input sends on and the other input off.

The button input can be changed to the switch mode by the context menu.





The other using is equal to the motion detection input and button input.



**7.5.2.2 Show of external connections**

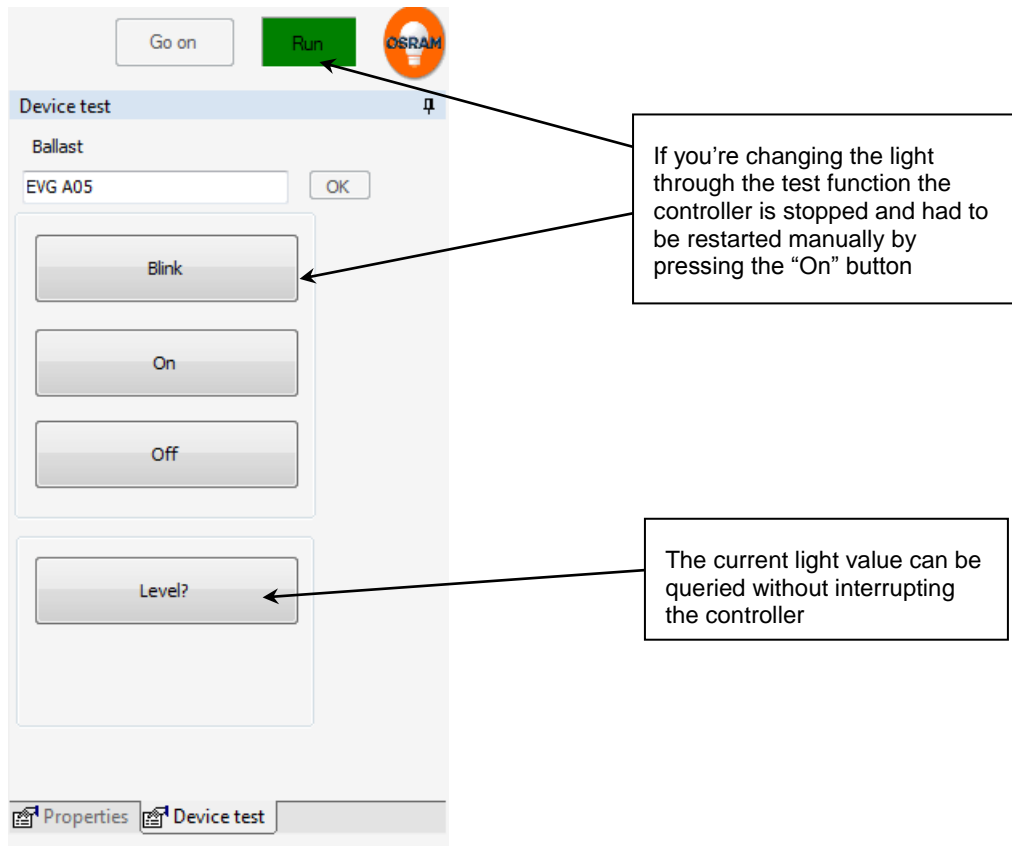
If connections exist from other controller, this connection will be detected with the search on the LAN and shown in the tree.

## 8. Test functions

### 8.1 ECG

To test the function of a luminaire select a single ECG and change to the register Device test.

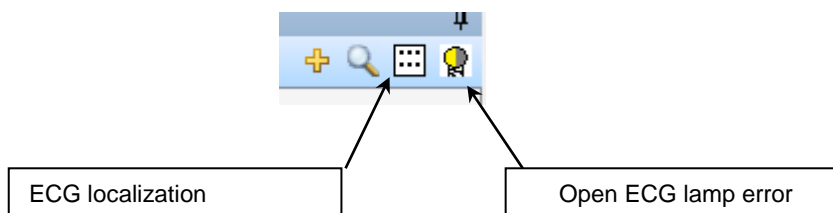
Basic testing functions are On / OFF and query the actual light level. Also flashing and renaming are possible functions. The testing functions stops when another device is selected or the operation mode of the system is continued by pressing on Go on.



By selecting an ECG groups all lights will flash when the blink test function is activated.

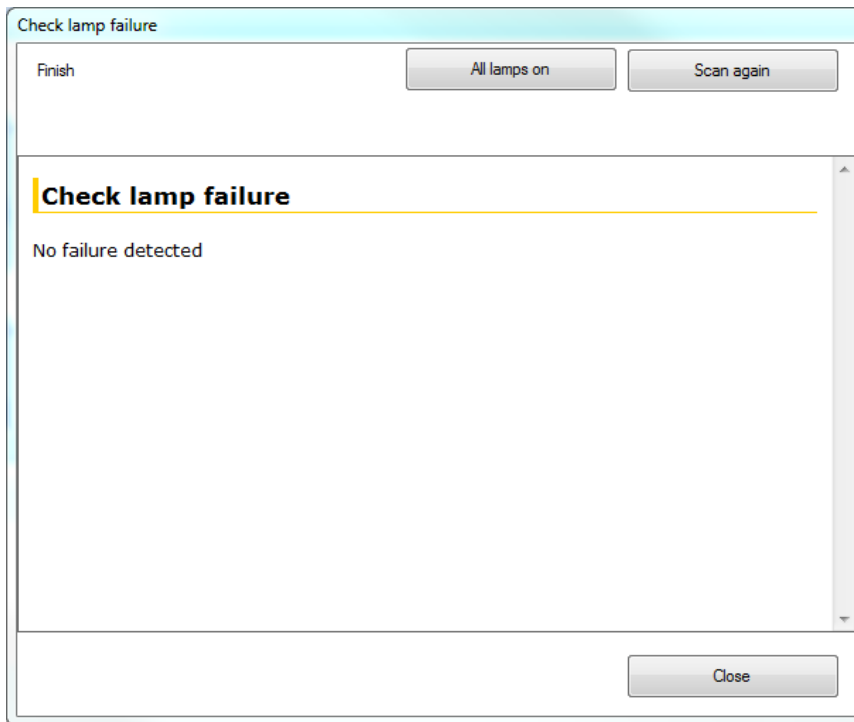
Selecting the main node for the ECG in the device tree, all ECG can be switched on or off together.

Also the following activities can be started:



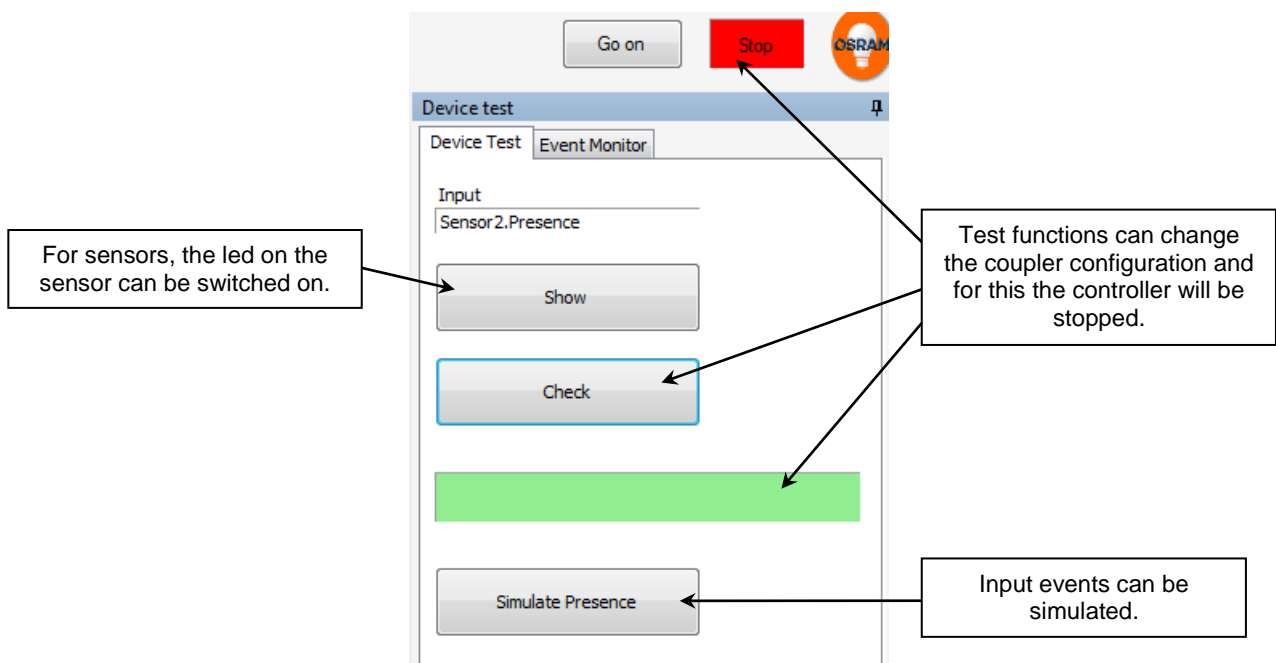
## 8.2 ECG lamp failure dialog EVG

With open of the ECG lamp failure dialog all ECG will be checked for lamp errors and the results will be shown. By a button the test can be repeated. Typical the ECG can only detect the lamp error if the lamp on. By a button all lamps can be switched on.




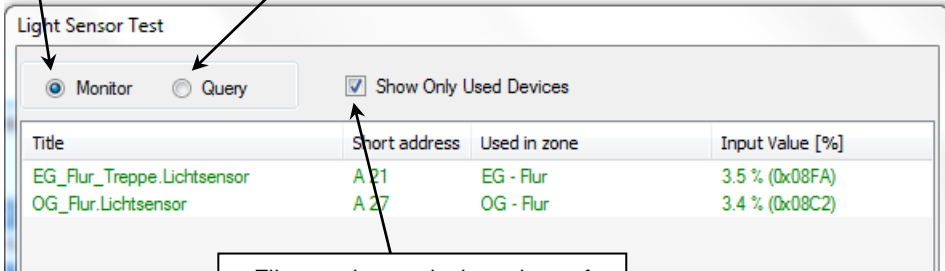
## 8.3 Coupler

With selecting of a single input in the tree device type dependent test functions are possible in the device test panel. The test will be finished with selecting of any other device.



### 8.4 Check of light sensors

The dialog for light sensor checking can be open over the icon . In this dialog will show all actual sensor light level values.



Passive monitoring of the light level sensor by using of the spy function

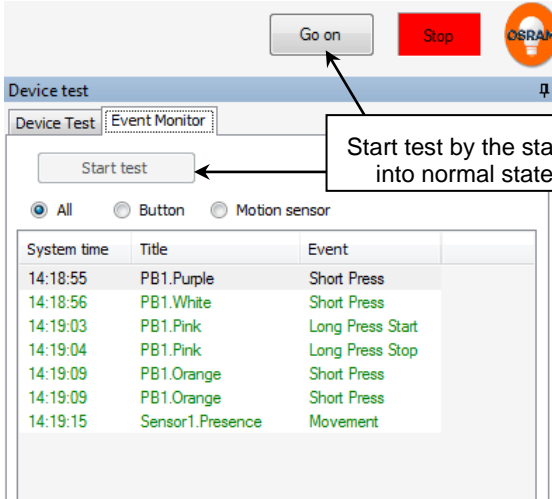
Active scan for actual light sensor values

Filter to show only the values of used light level sensors.

| Title                       | Short address | Used in zone | Input Value [%] |
|-----------------------------|---------------|--------------|-----------------|
| EG_Flur_Treppe.Lichtsens... | A 21          | EG - Flur    | 3.5 % (0x08FA)  |
| OG_Flur.Lichtsens...        | A 27          | OG - Flur    | 3.4 % (0x08C2)  |

### 8.5 Event Monitor

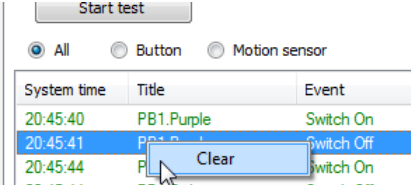
Messages from event generating inputs (button, motion sensors) can be visualized in the event monitor.



Start test by the start button and go back into normal state by "Go on Button"

| System time | Title            | Event            |
|-------------|------------------|------------------|
| 14:18:55    | PB1.Purple       | Short Press      |
| 14:18:56    | PB1.White        | Short Press      |
| 14:19:03    | PB1.Pink         | Long Press Start |
| 14:19:04    | PB1.Pink         | Long Press Stop  |
| 14:19:09    | PB1.Orange       | Short Press      |
| 14:19:09    | PB1.Orange       | Short Press      |
| 14:19:15    | Sensor1.Presence | Movement         |

The date in the list can be deleted by open the context menu in the list (by right mouse click) and select "Clear".



| System time | Title      | Event      |
|-------------|------------|------------|
| 20:45:40    | PB1.Purple | Switch On  |
| 20:45:41    | PB1.Purple | Switch Off |
| 20:45:44    | PB1.Purple | Switch On  |


## 9. Appendix

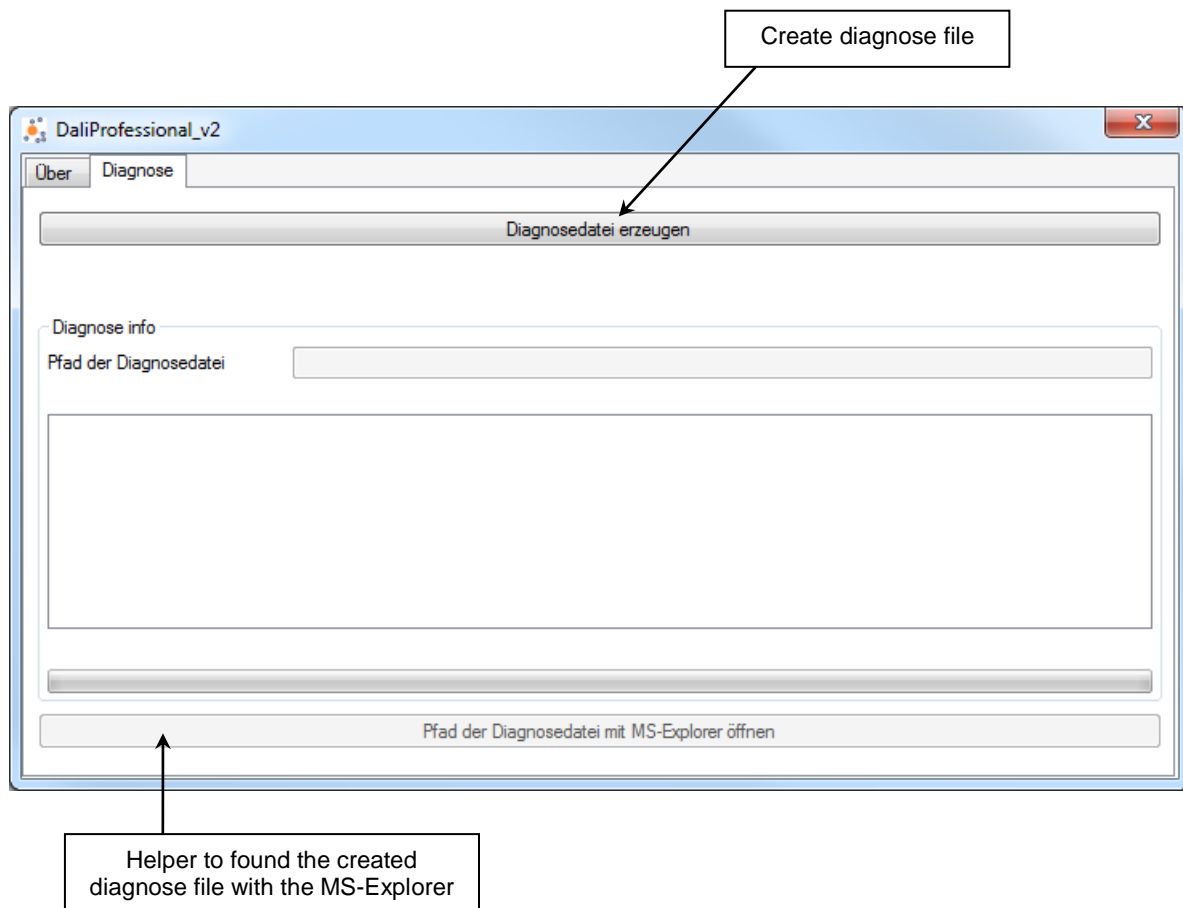
### 9.1 Create diagnose file

During the DALI pro tool is used log data will be generated in the background in the path:

C:\Users\[Benutzername]\Documents\OSRAM\DaliProfessional\_v2

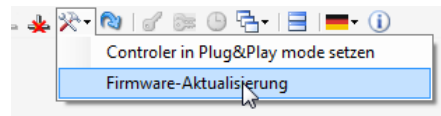
|             |  |
|-------------|--|
| <b>Path</b> |  |
| Log         | Log data files in *csv format.   |
| Spy         | DALI spy files from the upload or device search if the feature “Extended log function” enabled.  |
| Upload      | Copies of the project file as archive for each upload. The project file names are automatically extended by date and time. The files with the extension “*.osrdp2u” are write protected from the tool. |

For analyzing from all stored files can automatically be generated a diagnose ZIP file, over the “About dialog”, with the icon  and tab “Diagnose”.



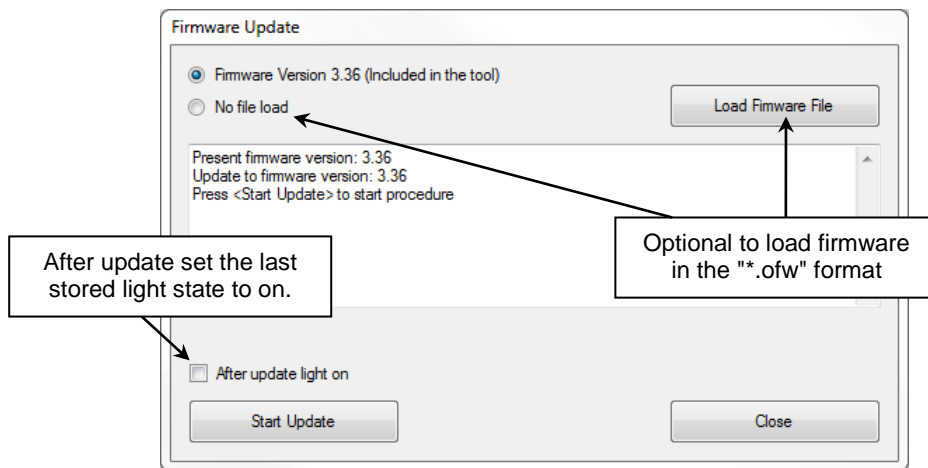
## 9.2 Firmware update

The firmware update dialog will be open if a to the tool version incompatible firmware detected. This check will be done before the DALI devices search or the upload starts. Additional the dialog can be open by the menu icon



For the development and demo version the firmware version range 3.20 - 3.49 will be used. This firmware version range can be only used with the DALI Pro v2 PC tool demo versions.

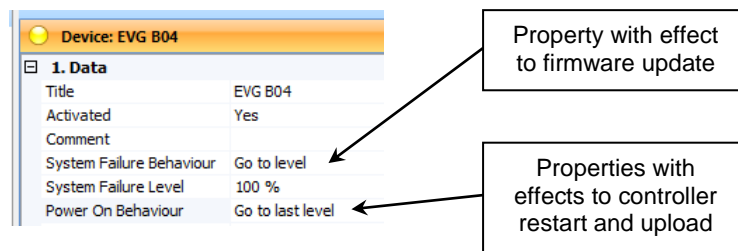
The first release version of the firmware will starts with 3.60 and is than usable for the old PC tool version 1.6.x and the new version 2.1.x.



The actual firmware is included in the PC tool. Optional it is possible to open firmware ".ofw" files for the update.

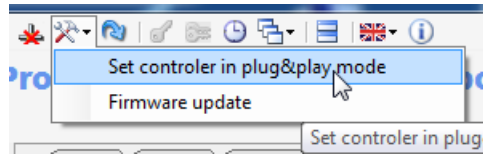
During the update the DALI voltage will be switched off. The behavior of the ECG depends of the settings of the parameter "System Failure Behavior". If is set "Go to level" and 100 %, the light will go on.

After the update the ECG with the property "Power On Behavior" set "Go to last level" will go to the state before the update was started. Optional can the stored light state for these ECG set to on. If set the property to "Go to level" the ECG will apply this level.

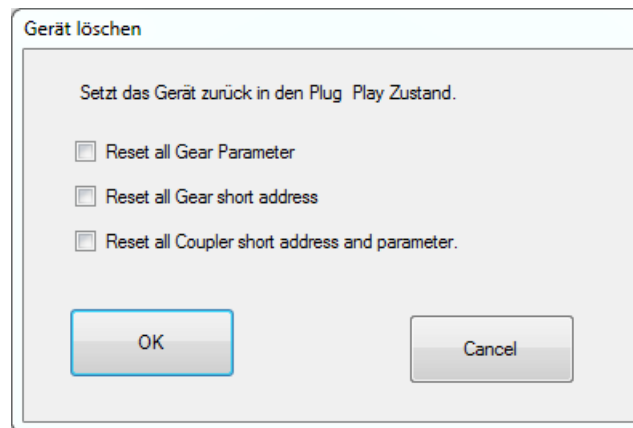


### 9.3 Set controller back to plug & play mode

The actual configuration on the controller can be deleted and set the controller back into the plug & play mode by the menu function:



The open dialog offers the selection for reset also ECG and couplers.



### 9.4 Import from DALI pro tool version 1.x

Project files with the extension "\*.osrdpc" from the program version 1.x can be imported. Following data will be adopted:

- ECG names
- Coupler input names
- Room name as zone name
- Basic functions and parameters to button, presence detection and light sensor

Complicate and time delayed functions can't be imported. In any case manual rework is necessary.