

LED DALI Bluetooth Interface - User Manual



Item no: LC-004-304

1. Product Description

The DALI Bluetooth module are an interface device between IOS or Android Bluetooth Low Energy capable mobile devices and DALI lighting systems. Apps are available for the mentioned operating systems. The function behind the layouts can be configured using the DALI-Cockpit software tool. It is supplied directly by the DALIline.

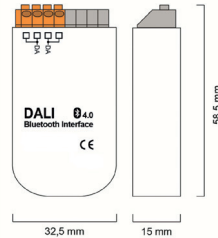
2. Specification

Power Supply	via DALI-Bus
typ. current consumption	4mA
Layout	selectable
Output	DALI
max. wire cross section	1,5 mm ²
Dimensions (L x W x H) in mm	59 x 33 x 15 mm
weight	13g

3. Description

1. Control of DALI systems via mobile devices (Android or iOS mobile devices)
2. all Bluetooth modules are displayed in the reception in the app
3. configurable up to 32 layouts
4. 5 predefined standard designs such as for switching and dimming, as well as for the control of color and color temperature
5. Access code by pin-code if possible
6. Configuration of DALI Bluetooth module via DALI Cockpit and DALI USB Interface
7. freely positionable keys can be assigned functions
8. Ability to send DALI commands or command sequences to individual addresses (1-64), groups (1-16), and broadcast
9. Multi master operation, several modules can be installed per DALI circuit
10. The supply of the module is carried out directly via the DALI Line

4. Dimensions



5. User Manual

5.1. Function

The DALI Bluetooth module are an interface device between IOS or Android Bluetooth Low Energy capable mobile devices and DALI lighting systems. Apps are available for the mentioned operating systems.

With the help of the App the DALI-system can be controlled using several layouts, but there can be connected only one mobile device at the same time.

The function behind the layouts can be configured using the DALI-Cockpit software tool. For a module up to 32 layouts and a maximum of 12 buttons per layout are supported (firmware 4.0 and higher). Furthermore 5 standard designs are available. They can be used either as predefined or customized.

5.2. DALI-Touch App

The „DALI Touch“-App is available for IOS and android and can be downloaded from:

AppStore: <https://itunes.apple.com/us/app/dalitouch/id994496429?ls=1&mt=8>

Google Play: <https://play.google.com/store/apps/details?id=com.lunatone.dalitouch>

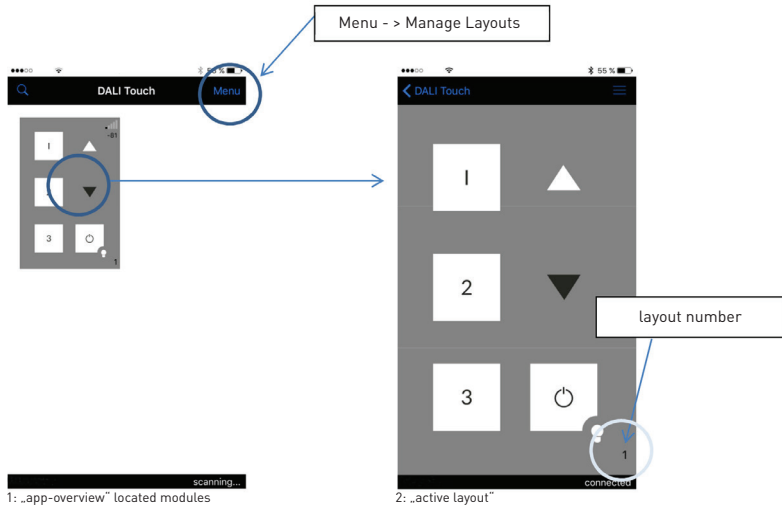
After app installation has been finished and the Bluetooth-module has been connected to the DALI line (see chapter 4 - installation), the app is already connected to the module. In the “app-overview” all Bluetooth modules located within the range are shown with their currently “active layout” (see figure 1).

If one of the modules is selected in the “app-overview”, the layout comes up (figure 2) and the DALI circuit can already be controlled by the functions defined in the layout.

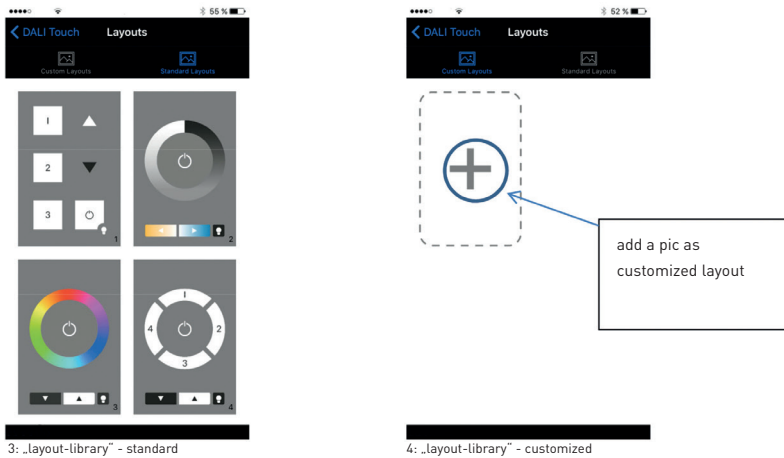
On the right bottom of the layout the layout number is shown. If any changes on the function are required, then this number indicates the layout which has to be adapted in the DALI-Cockpit.

The pics used for the different layouts are managed in the “layout-library”. It can be accessed via the “Manage Layouts” in the main menu (“app overview”). In “Standard-Layouts” (figure 3) the predefined layouts (number 1-5) are listed whereas in the „Customized-Layouts” (figure 4) for each number from 100-255 (range for customized layouts) a pic from the memory of your mobile device can be assigned. Already assigned pics can at any time be removed, changed or assigned to another layout by changing the number (figure 5 and figure 6).

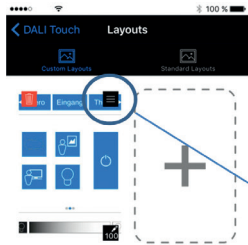
Finally the used pics can be sent per email e.g. for using exactly the same pic in the DALI-Cockpit config tool when configuring the corresponding layout.



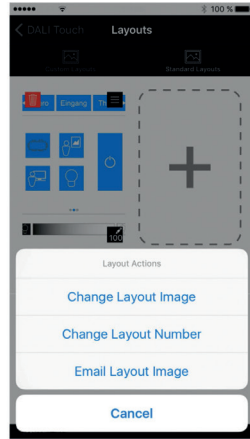
Manage Layouts:



Layout 100 added:

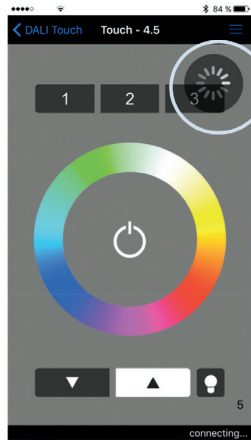


5: Customized Layout 100

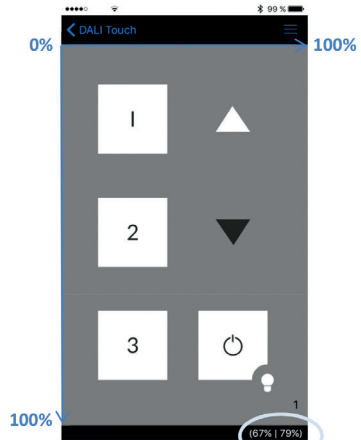


6: Edit option

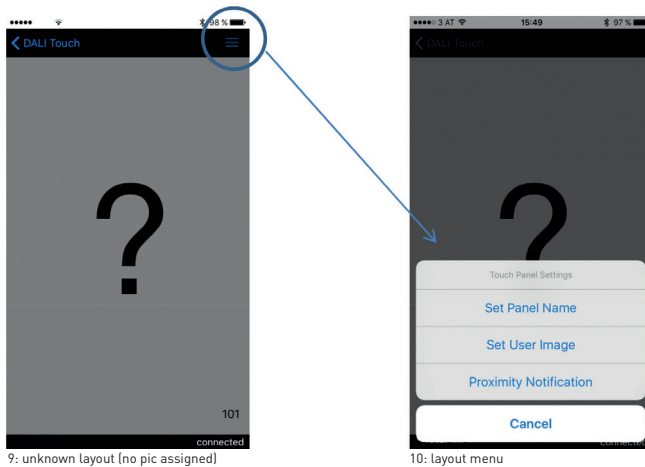
additional hints:



7: searching for connection



8: coordinates of last pressing action



The search for a bluetooth connection is indicated by the symbol shown in figure 7.

After a pressing action the coordinates at which the action has been located is shown (in% relative to the screen size) for about 3 seconds on the bottom right (see figure 8). This information is quiet helpful for the definition of button coordinates in the DALI-Cockpit.

If the case occurs that a layout gets active, for which no pic has been assigned (like it is the case with layout 101 in figure 9), a big question mark will indicate this behaviour. The pic can then be assigned to Layout 101 either via "Manage Layouts" as already mentioned above or using menu function "Set User Image" (see layout menu figure 10).

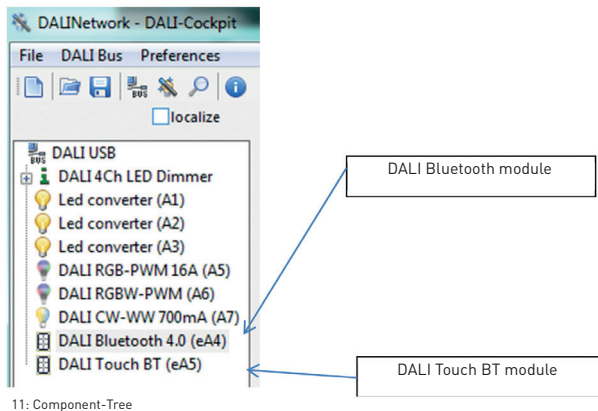
The difference between these methods is as follows: The app has one "layout-library" in use, that means that each Bluetooth module that connects to the app uses the same layout-library and as a result the same pics for the same layout numbers. In difference a "User image" is only assigned to the currently active layout of the connected device, the pic defined in the layout manager is overruled in this case.

Besides the definition of a user image the panel name can be set as well as the proximity notification can be enabled/disabled in the layout menu (see figure 10).

5.3. DALI-Cockpit - Layout Configuration

The DALI Cockpit is the configuration tool for DALI systems and it is available as free download. Please check that you have the last recent version in use, otherwise it cannot ensure that all functions and devices are supported (for DALI BT-modules please use DALI-Cockpit Version 1.25 and higher).

With the help of the DALI-Cockpit DALI control gear and control devices can be addressed and configured. All devices that are connected to the DALI-line and have been addressed are listed in the component tree (figure 11).



Selecting a device in the component tree will open the corresponding configuration site.

5.3.1. General Settings

The configuration site of the DALI Bluetooth modules is separated in tabs, one for each layout and a general settings tab.

On the left there general functions like the info-field about the number of layouts and the buttons for adding/removing layouts and assigning/removing pics to layouts are located. The touch-panel-type offers an additional button for calibration of the physical touchpanel (see figure 12).

The header, marked as device info, provides information about the device (like manufacturer, article number, serial number and firmware version).

device info:
type, manufacturer, etc.

firmware version
update function

read save

Device Info

Name: DALI Touch BT Article Number: 24035465-BT Update...
Manufacturer: Serial Number: 1 Firmware Ver: 4.5
DALI Device Type: N/A Short Address: eA5 Set

General Layout 1

TouchPanel- LED on Bluetooth version: 1.0
 Beeper
 Enable PIN (4digits)

 Enable Proximity Event

Power up
Action after power up: no change Destination Address
Delay: 0 sec [0...7sec]

Zieladresse
1: none
2: none
3: none

Proximity Event Command: no action

Show button hints
Calibration...
Number of Layouts: 1/32
Add new Layout...
Remove Layout
Add Layout picture...
Delete Layout picture

Add Layout:
Standard layout
Empty layout
Copy of already existing layouts

General Settings:
pincode (access protection)
proximity event
power-up behaviour
touchpanel LED

General Settings:

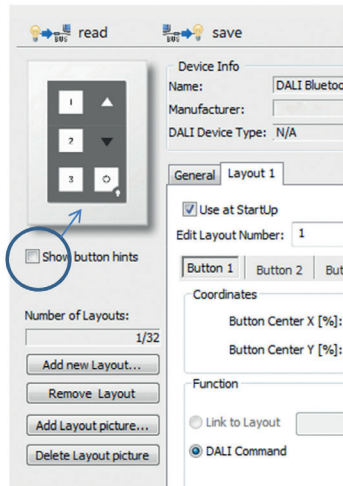
Enable PIN: access protection by a 4 digit pin code. Once activated the app of a connected mobile device will ask for a valid pin.

proximity event: the proximity function offers the possibility to set a predefined action if a mobile device comes into the range of the bluetooth connection (e.g. for automatic switch on the light). The proximity function has to be enabled on the mobile device as well (function is supported up from Bluetooth version 1.0 and firmware version 4.3).

power-up: behaviour after a power brake has occurred

5.3.2. Layout Settings

Once a layout is selected additional options are available in the menu on the left. The selected layout can be deleted and the image that should be used for the layout can be selected. This is useful for defining the coordinates of the buttons. The buttons defined in the layout can be superimposed or suppressed dependent on the „Show button hints“ checkbox.



13: DALI Bluetooth Module

Hint: A Start-Layout (DALI Bluetooth, „Use at StartUp“) must be available at any time. This layout cannot be deleted. If the currently active layout has been deleted accidentally, a power cycle restarts the module in a defined state using the startup-layout as active layout.

Layout Number:

The number of the layout can be changed in the field „Edit Layout Number“ (100...255), the number is used by the module to tell the app which layout (pic) should be shown. Furthermore the layout numbers are used for the link-function. Assigning a link to another layout to a button offers the possibility to switch between several layouts and generate menu structures and so on.

Buttons:

Each layout supports up to 12 buttons. The position of each button is defined by its coordinates, in detail by its centre as well as its width and height. The coordinates are entered in % relative to the layout size (0/0 is top left, 100/100 is bottom right – see figure 8 and figure 15). The coordinates shown in the app when touching the layout are very helpful for defining the centre of a button.

If the checkbox „Show button hints“ is selected, the areas of the defined buttons will be superimposed to the background pic. The currently active button is highlighted.

Button areas may overlap, in this case the button with the higher number has higher priority (like in fig 15 at which button 7 has higher priority than button 6).

Visualisation of Buttons

Power Up

Layout Number (App)

0/0

100/100

15: Layout Page Settings

Device Info

Name: DALI Bluetooth 4.0 Article Number: 89453584 Update...

Manufacturer: Lunatone Serial Number: 100043 Firmware Ver: 4.5

DALI Device Type: N/A Short Address: eA4 Set

General Layout 1

Use at StartUp

Edit Layout Number: 1 Buttons count: 7 Add Button Delete Button

Buttons: Button 1 Button 2 Button 3 Button 4 Button 5 Button 6 Button 7

Coordinates

Button Center X [%]: 25 Button Width [%]: 50

Button Center Y [%]: 16 Button Height [%]: 33

Function

Add / Remove Button

Buttons

Button Coordinates (Centre, Width, Height)

Function:

Each button a function can be assigned to. As function 2 different types are available:

- a link to another layout, this allows switching between different layouts and thus offers the generation of structures with submenus and so on

General Layout 1 Layout 100

Use at StartUp

Edit Layout Number: 1 Buttons count: 7 Add Button Delete Button

Buttons: Button 1 Button 2 Button 3 Button 4 Button 5 Button 6 Button 7

Coordinates

Button Center X [%]: 25 Button Width [%]: 50

Button Center Y [%]: 16 Button Height [%]: 33

Function

Link to Layout Layout 100

DALI Command

16: Link-Function

Function: Link selectable only if other layouts are available

· a DALI command, this option includes several possibilities to send DALI commands on the DALI-line

The screenshot shows the DALI-Cockpit configuration interface. At the top, there are two input fields: 'Button Center Y [%]: 16' and 'Button Height [%]: 33'. Below these are two sections: 'Function' and 'Destination Address'. In the 'Function' section, the 'DALI Command' radio button is selected. Below it, a dropdown menu shows 'BF1 - Pushbutton: sends CmdX'. Underneath this, there is a 'Cmd X (ON Cmd)' dropdown menu with 'GOTO SCENE 0' selected. There is also a 'Fade time' section with a checkbox and a dropdown menu set to '[0] fastest'. The 'Destination Address' section has three rows, each with a dropdown menu: '1: All (DALI Broadcast)', '2: none', and '3: none'. A blue box on the left contains the text 'DALI-Function: Adress(es) + Commands' with an arrow pointing to the 'DALI Command' radio button. Another blue box on the right contains the text 'Detailed DALI Settings:' followed by 'Effective range', 'Switching function', and 'DALI command', with an arrow pointing to the 'Function' dropdown menu.

17: DALI-Function

5.4. Installation

The DALI-Bluetooth module is connected directly to the DALI-line. It is supplied directly by the DALI line. The connection to the DALI-line is polarity-free.

The DALI Touch BT can be mounted on a wallbox, the DALI Bluetooth module can be inserted inside. Connecting wire cross section is 1,5mm² (Interface only type).

The DALI-Bluetooth modules are multimaster capable, that means that several modules can be connected to the same DALI-line.

The DALI-Bluetooth module does not use a DALI address, hence all 64 addresses can be used for control gear..

5.5. Firmwareupdate

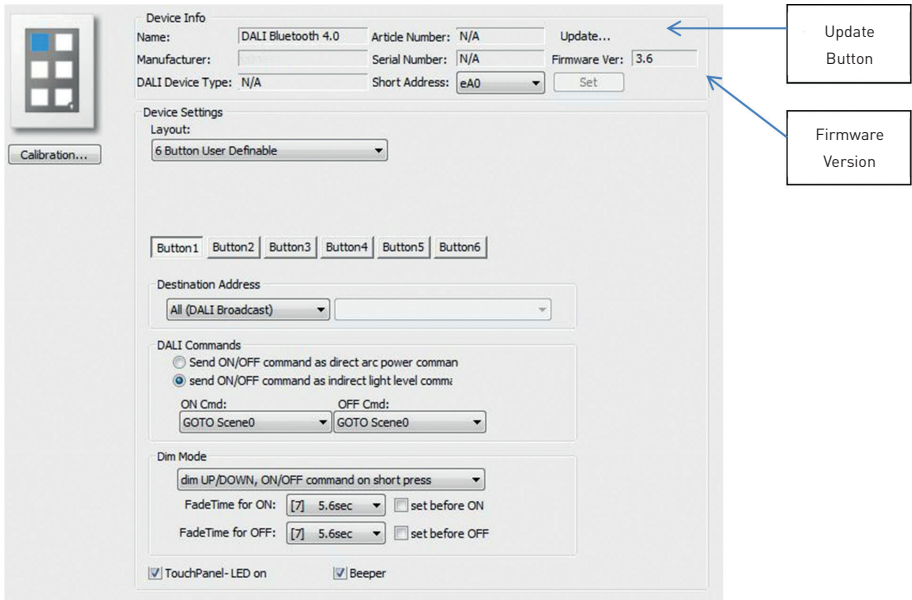
Please ensure that you are using the last recent DALI-Cockpit version.

Update Procedure:

1. Connect the DALI-Bluetooth Modul to the DALI-line. Connect your computer with the DALI-Cockpit to the DALI-line using a DALI-USB or DALI RS232 interface.

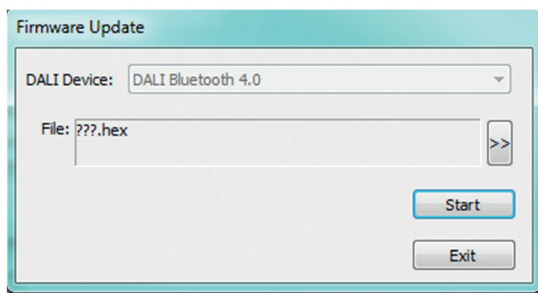
2. Open the DALI-Cockpit and address the devices. Select the device in the component tree

The site will look similar to the example: (old firmware version 3.6)



18: DALI Cockpit view with DALI Bluetooth Firmware 3.6

3. Press the update button and enter the code from the Zip-File for enabling the update feature
4. The update window pops up -> Select the hex-file from the Zip and press start. The update can last up to 15 minutes.



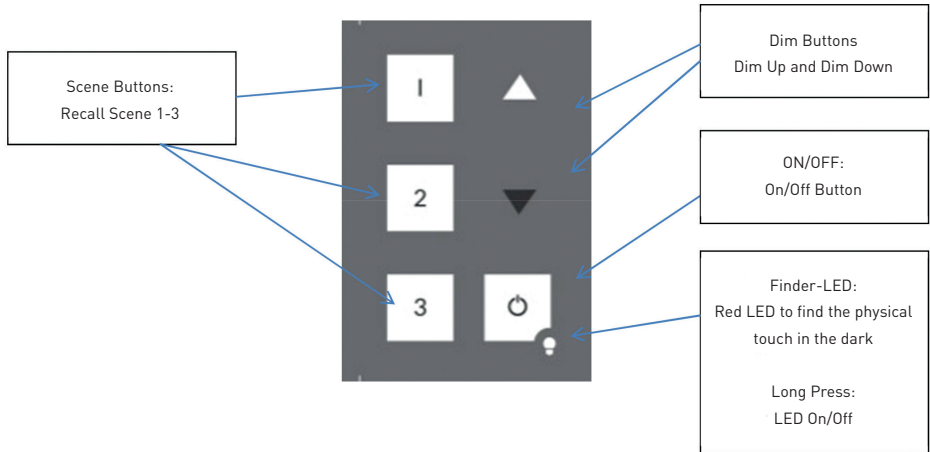
19: Firmware Update

5. After the Update has finished, the device must be readdressed (right click on the device in the component-tree and selecting "delete" removes the device from the component-tree and deletes the address).

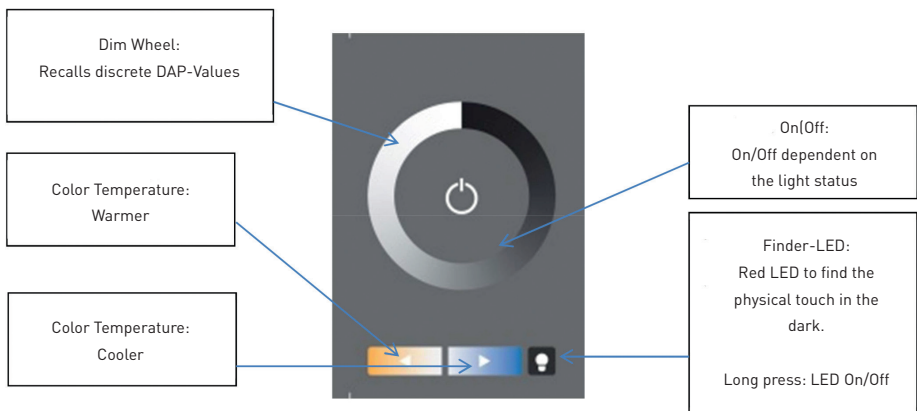
6. Appendix A: Standard-Layouts

The well known layouts used by the DALI-Touchpanel can be loaded as presets and modified by the customer. Standard Layouts:

6-Button Layout (Standard Layout No. 1)

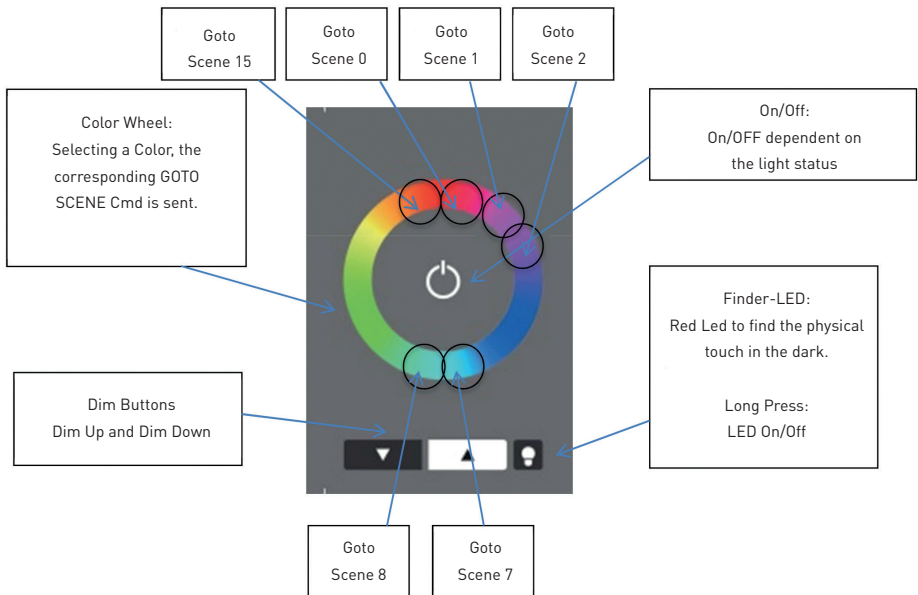


Tunable White Layout (Standard Layout No. 2)



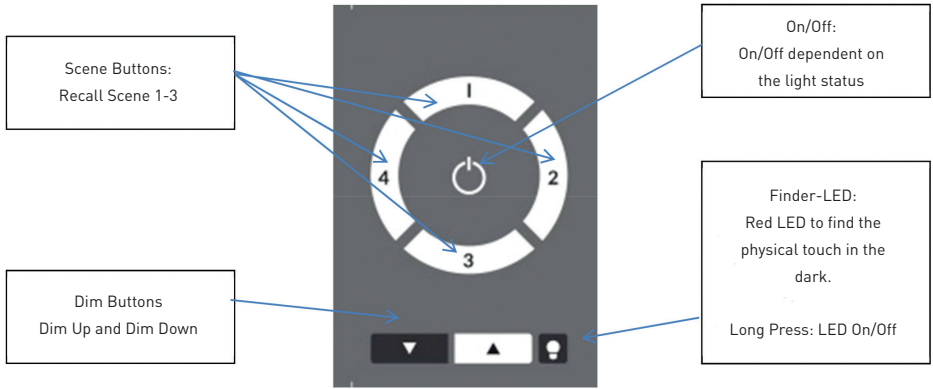
Color Layout (Standard Layout No. 3)

The Color Wheel is divided in 16 scenes. When you touch the wheel a GOTO SCENE X command is sent to the effective range. The scene number depends on the position.

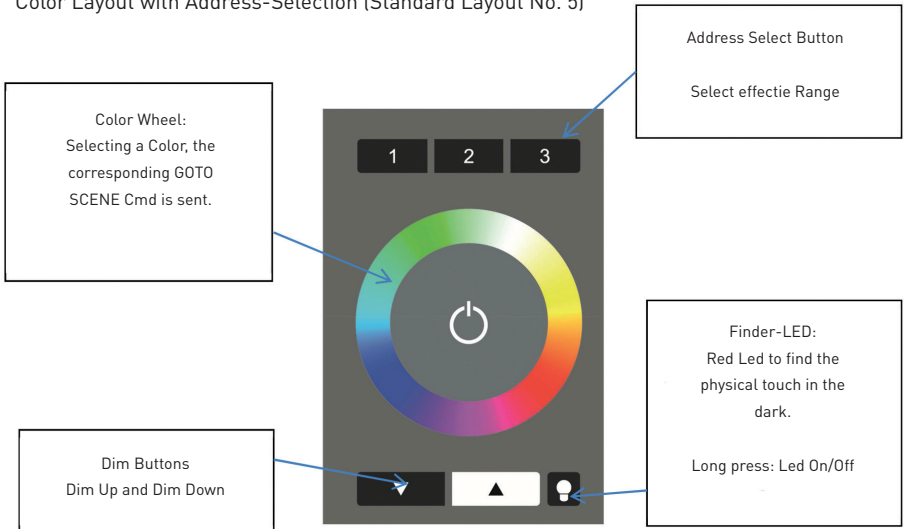


The device does only recall scenes when using this layout. The color values have to be stored in the scenes of the control gear itself. The big advantage of this method is that it can be used for DT8 capable control gear as well as for systems using one address for each color.

7-Button Layout (Standard Layout No. 4)



Color Layout with Address-Selection (Standard Layout No. 5)



5. Wiring Diagram

Connection

The DALI Bluetooth has to be connected directly to the DALI bus. It is supplied with power by the DALI bus and does not need any additional power supply. A typical value of the current consumption is approximately 4mA. In order to supply additional components on a DALI line the installation of a power supply (DALI PS) is required. The connection to the DALI-line is polarity free and immune to overvoltage. The module fits into a standard lush mount box.

