

User guide

DEEBRIDGE

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The User Guide and Windows PC DEEbridge software (actual version) can be downloaded at <http://ilumtech.eu/downloads>

1 What you will find in the box

- 1. Ethernet to DALI bridge device**
(housed in a standard 2U DIN box)
- 2. RJ45 1 m Ethernet cable**
- 3. Simplified connection schematic**

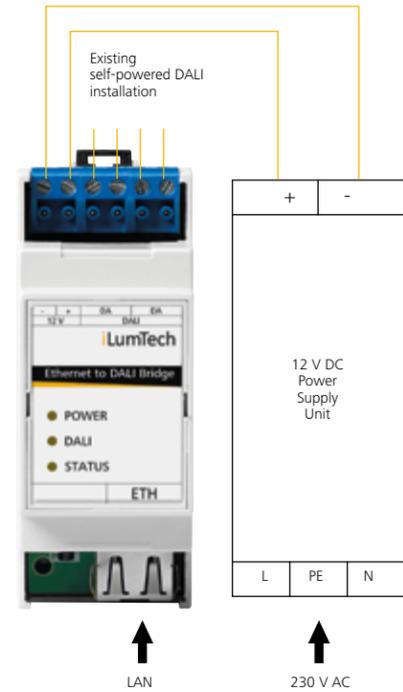


What you will find in the box

Fig.1
Overview of the Ethernet to DALI bridge device



Fig.2
Simplified connection schematic



2 Introduction

2.1 Features

- An intuitive and user friendly Graphical User Interface (GUI)
- Broadens the possibilities of lighting control
- Enables the real-time control of brightness, colour temperature and RGB output
- The PC application enables date and time functions

2.2 Overview of the device

The device comes housed in a standard 2U sized DIN box which allows for installation on electrical switchboards. It is powered by an external 12 V DC Power Source Unit (not standardly supplied with the device but available on request). Figure 2 depicts a simplified connection schematic of the Ethernet to DALI bridge device.

2.3 Default settings

Initial Ethernet to DALI bridge device TCP/IP and port configuration settings:
 TCP/IP address: 192.168.1.252
 Port: 8421
 Default web configuration settings:
 Username: admin
 Password: admin

How to change the Ethernet to DALI bridge device IP address and port is covered in **3 Hardware Installation**.

3 Hardware installation and setup

3.1 Hardware installation requirements

Before hardware installation and setup you will need:

- A fully functional and configured DALI installation
- A 12 V DC power supply
- A PC with the capability to connect to a Local Area Network (LAN) using a RJ45 connector
- Knowledge about how to perform the IP configuration of your PC
- Knowledge about the IP configuration used for your LAN

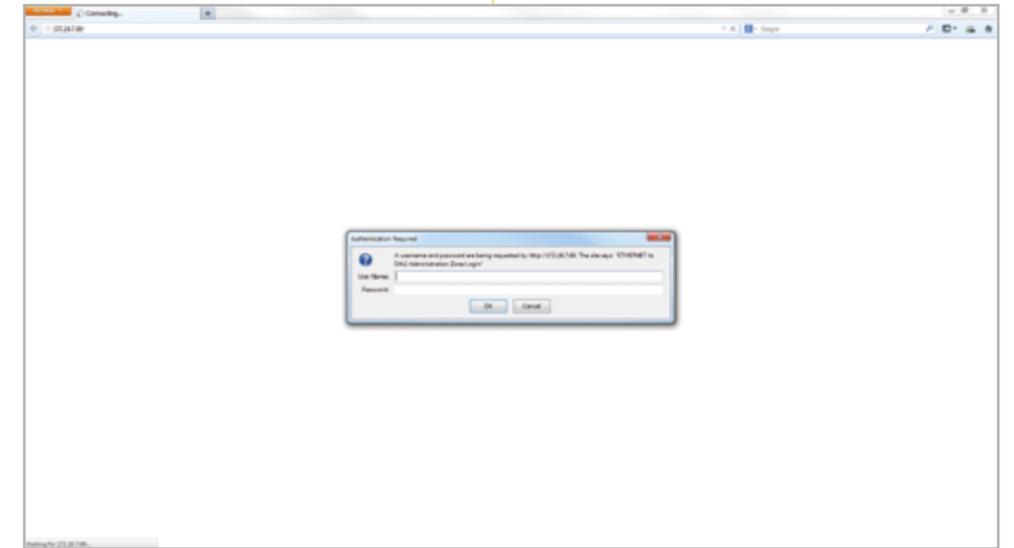
3.2 Installation

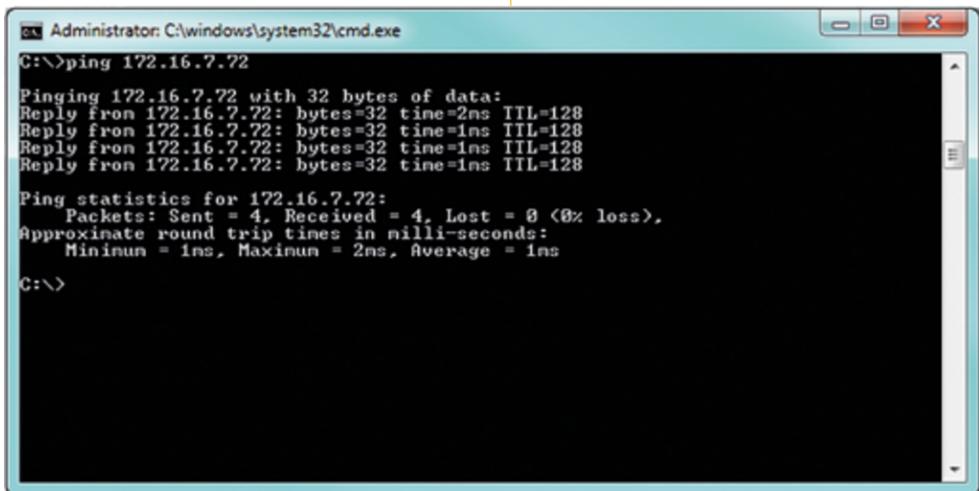
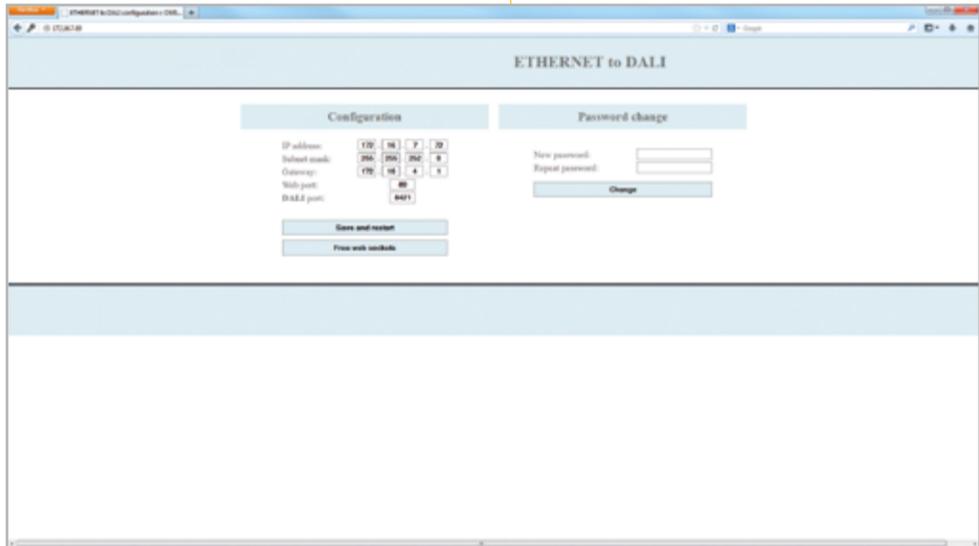
For the correct installation of the Ethernet to DALI bridge device please follow these steps and refer to Figure 2:

1. Connect the Ethernet to DALI bridge device to the 12 V DC power supply by the 12 V DC terminals. The 'power' indicator LED will light-up showing that the device is operational.
2. Connect the Ethernet to DALI bridge device to an existing DALI installation by the DALI terminal.
3. Connect the Ethernet to DALI bridge device to the LAN with the RJ45 connector using a UTP Ethernet cable.
4. Configure your computer Ethernet interface using the following TCP/IPv4 configuration (in the case that you have any problem please contact your IT administrator):

IP address: 192.168.1.100
 Subnet mask: 255.255.255.0
 Default gateway: 192.168.1.252

5. Open your web browser and type the IP address mentioned above into the address bar.





6. To login use the default username: admin and password: admin. The device settings window will be shown. Now fill-in the IP connection settings fields with the valid configuration information of your LAN and click the Save and restart button.
7. Wait for 30 seconds for restarting and then restore the TCP/IP settings to those correct for your LAN.
8. If the configuration procedure ended successfully the Ethernet to DALI bridge device will respond to a PING command in the console from the newly configured local IP address.

4 Software installation for Windows PC

4.1 Software installation requirements

- Before software installation and setup you will need:
- Knowledge about how to perform the IP configuration of your PC, Android or iOS device
 - Knowledge about the IP configuration used for your LAN
 - Knowledge about the configuration of your DALI installation

4.2 PC application for Windows NT / XP / 2000 / Vista / 7 / 8

4.2.1 Graphical User Interface overview

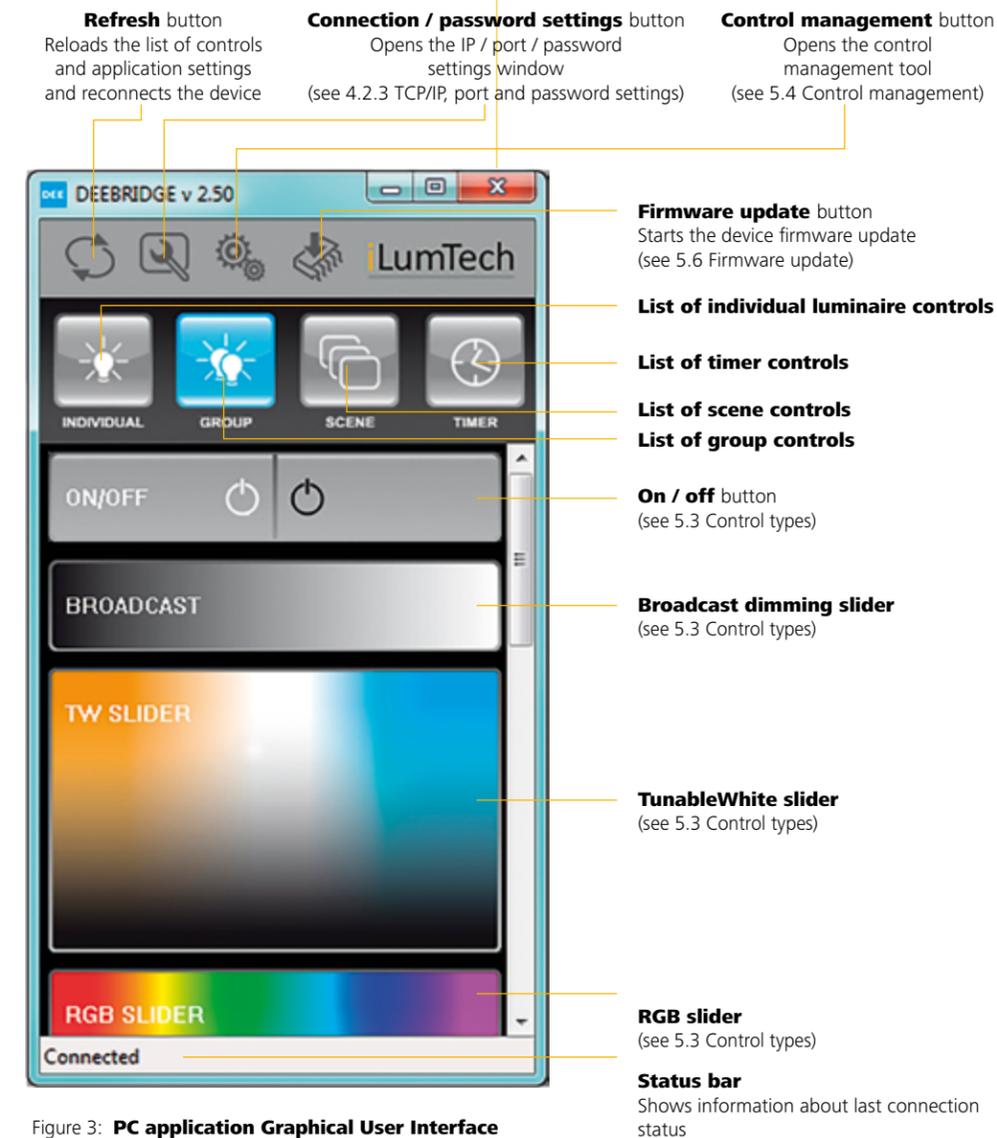
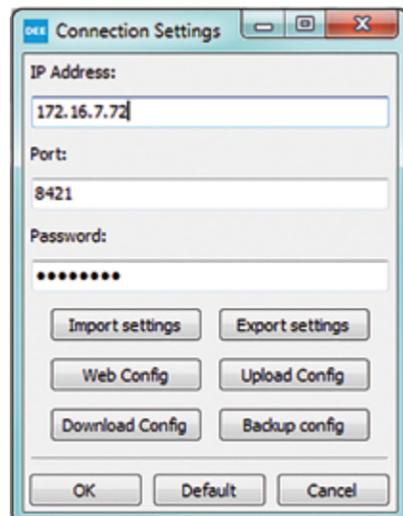
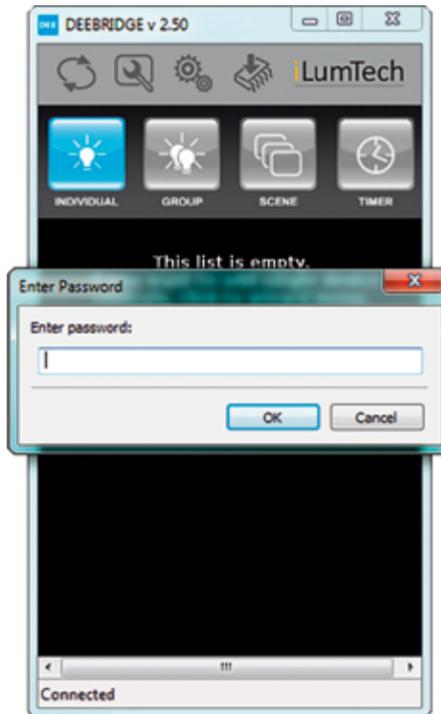
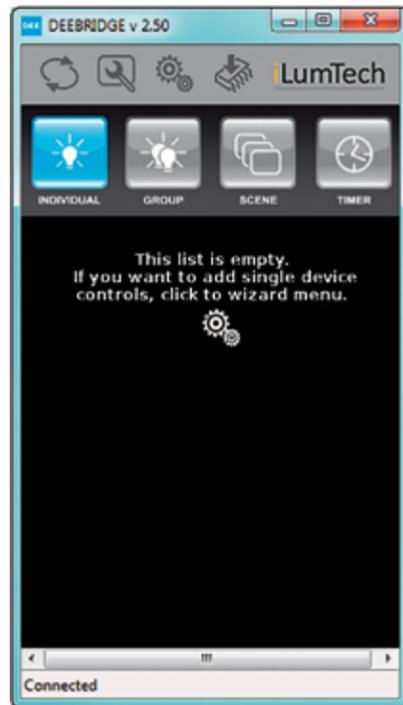


Figure 3: PC application Graphical User Interface



4.2.2 First use

The DEEBRIDGE application for Windows is designed to be used without the need for installation or special privileges. Simply run DEEBRIDGE.exe and configure the software by following these steps:

1. Firstly, make sure that the computer you are using is connected to, and set correctly for working on the same network as the Ethernet to DALI bridge device. Now run DEEBRIDGE.exe.
2. Click on the **Connection/password** settings button at the top of the application window. A password dialog will be shown. Enter the default administration password: **admin**.
3. A connection settings dialog is shown. In this window it is possible to change the IP address and port of the destination device, and the administration password. Fill the 'IP' and 'Port' fields with the valid configurations of the connected Ethernet to DALI bridge device. Once the fields show the correct information click the OK button.
4. Once the correct TCP/IP settings have been set in both the Ethernet to DALI bridge device and the DEEBRIDGE PC software we can test the functionality of the device. At the bottom of the PC application is a status bar showing information about connection of the Ethernet to DALI bridge device. It should show that it is connected. In this case, if you select a dimming level in the **Broadcast dimming slider** all luminaires connected to the DALI interface will dim accordingly.

Before software installation and setup you will need:

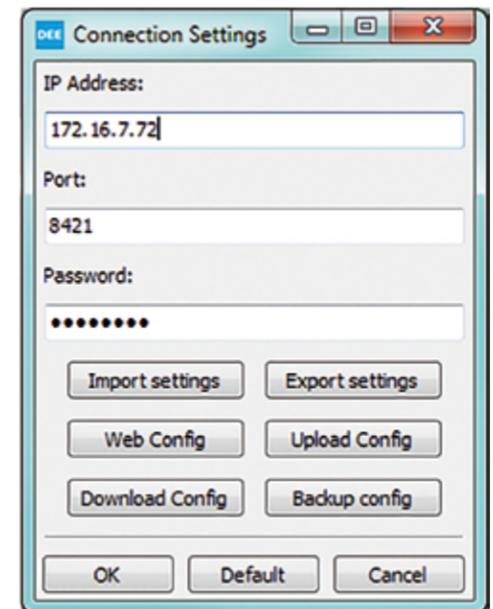
4.2.3 TCP/IP, port and password settings

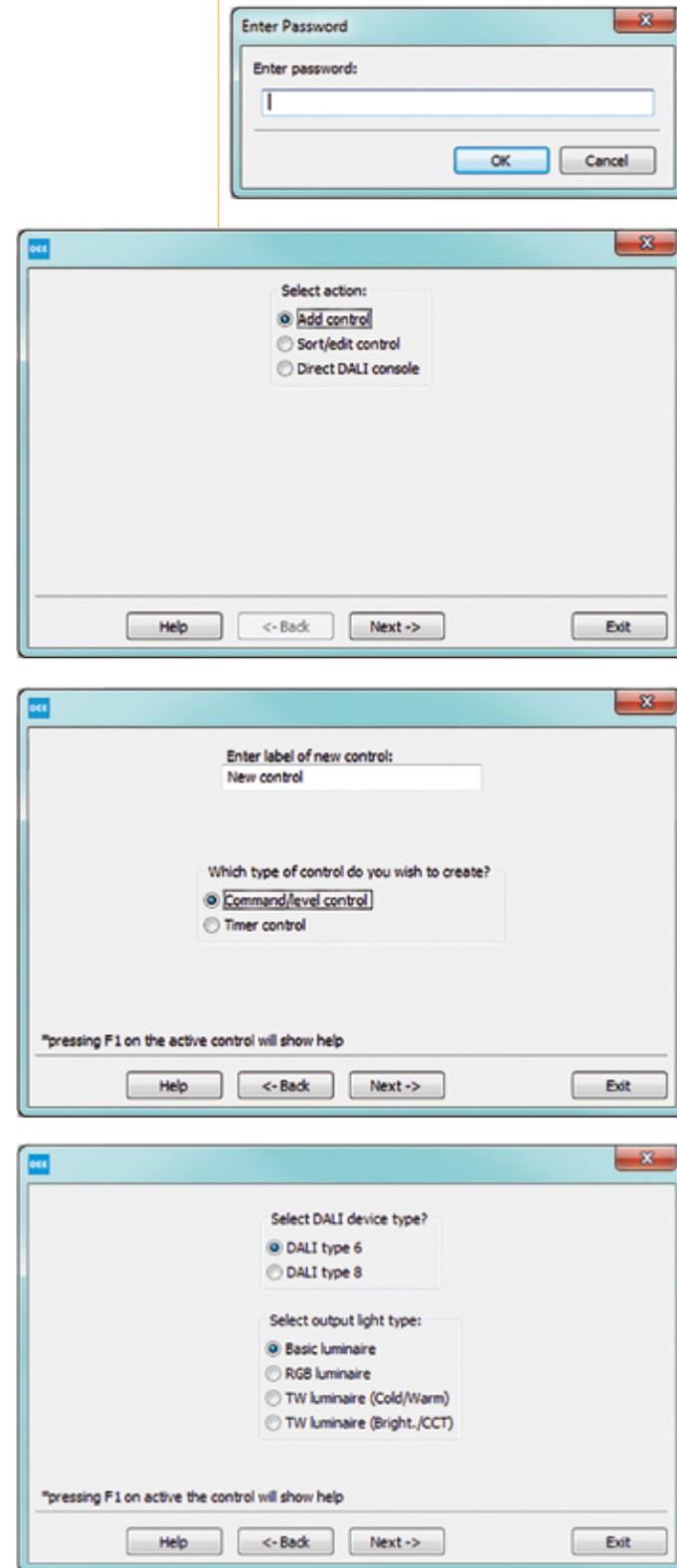
Click the **IP / port / password settings** button to open a window for configuring the IP / port / password settings.

- The 'IP address' and 'Port' fields show the last used configuration settings. If the application wasn't launched before, default configuration settings will be used.
- The 'Password' field shows your current password. If you change it the new configuration settings will be used only after you have clicked on the **OK** button.
- The **Import settings** button loads the complete DEEBRIDGE configuration settings from the given configuration file. **Warning: All previous configuration settings will be lost.**
- The **Export settings** button saves the complete DEEBRIDGE configuration settings into the file selected by the user. It is recommended to use this feature before performing a firmware update.
- **The Web Config button opens the default web browser showing the valid address of the Ethernet to DALI bridge device set in the 'IP address' and 'Port' fields. Here you can change the device IP configuration, username and password (you will need the current username and password to do this).**
- The **Upload Config** button sends the complete DEEBRIDGE configuration settings to the Ethernet to DALI bridge device set in the 'IP address' and 'Port' fields. **Warning: All previous configuration**

settings stored in the Ethernet to DALI bridge device will be lost.

- The **Download Config** button loads the complete DEEBRIDGE configuration settings from the Ethernet to DALI bridge device set in the 'IP address' and 'Port' fields. **Warning: All previous configuration settings will be lost.**
- The **Backup Config** button downloads configuration settings from the Ethernet to DALI bridge device and saves it at a user-defined location on the on local disk.
- The **OK** button saves the current configuration settings and starts a new connection using this configuration.
- The **Default button** fills the configuration fields with the device's default configuration settings.
- The **Cancel** button discards any changes to the configuration settings except those changed using the Import buttons.





4.3 Control management for Windows PC application

Click the **Control management** button and enter your administration password to open a window to manage application controls. The default password is **admin**. In the case that the password is forgotten, perform a hard reset by pressing the reset button directly on the DALI to Ethernet bridge device for a period longer than 10 seconds.

- After successful authentication a control wizard will open.
- To add a new control item select the 'Add control' option.
- To sort, delete or edit items select the 'Sort items' option.
- To directly send DALI commands select the 'Direct DALI console' option.
- Confirm your selection by clicking on the **Next** -> button.

4.3.1 How to create a new control

- Write the name (label) of the new control into the textbox. It cannot be longer than 24 characters. The character ',' cannot be used.
- Select the type of control you wish to add.
- Confirm your selection by clicking on the **Next** -> button.
- 'DALI type' means the DALI protocol version supported by the luminaires. Please contact your supplier for information about which DALI type is used in your installation. Nowadays DALI type 6 is the most used type.
- 'Output light type' describes the colour possibilities of the luminaires.
- A basic luminaire is a luminaire with a single colour (standard luminaire).
- A TunableWhite luminaire offers the possibility of setting specific white colour temperature.
- An RGB luminaire offers the possibility to set any colour within the RGB space.
- Confirm your selection by clicking on the **Next** -> button.

You can select the function of the control you wish to create.

- 'On/off control' sends 100 % or 0 % brightness level commands to the destination devices.
- 'Level control' sends user-configured brightness level commands to the destination devices.
- 'Slider' offers the possibility of smooth dimming. When used with TunableWhite or RGB, the light colour is changeable too.
- 'Scene' reloads preprogrammed brightness values.

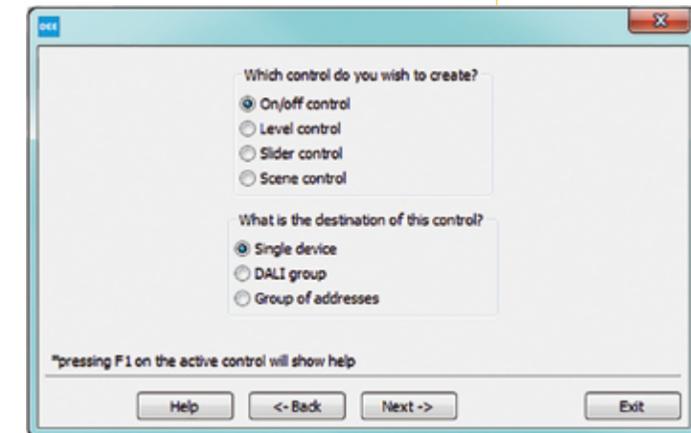
Then you have to select the addressing method.

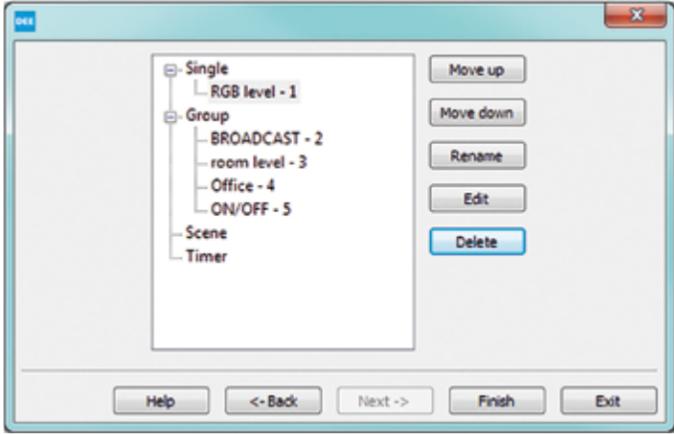
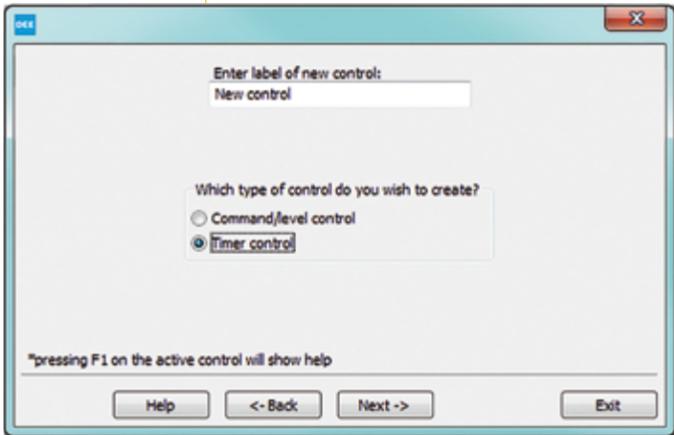
- 'Single luminaire' is for one DALI address.
- 'DALI group' is for one DALI group address.
- 'Group of addresses' gives you a list of addresses or DALI groups as the destination.

In this part you are requested to set the device / group addresses, dimming levels and scenes based on previous settings. You can add addresses to the address field in two ways:

1. Fill the address field with all addresses manually, they must be separated by the '-' character.
 2. Select the luminaires from the list and click on the **Add device** button.
- Device addresses range from 0 to 63.

- If you have previously selected the **Scene / level** button you will need to fill-in the 'Scene / level' field assigned to the entered addresses.
- Dimming levels range from 0 to 254.
- Scenes range from 0 to 15.
- The new control is created by clicking on the **Finish** button.





4.3.2 How to create a new timer control

- Enter a name for the timer control you wish to set up. Then click on the Timer control option.
- In each row of the timer table is shown one timing item which can be added, edited or deleted. For each timing item you must specify which Scene / level control will be used, and at what time.
- The new timer will be created after clicking on the **Finish button**.

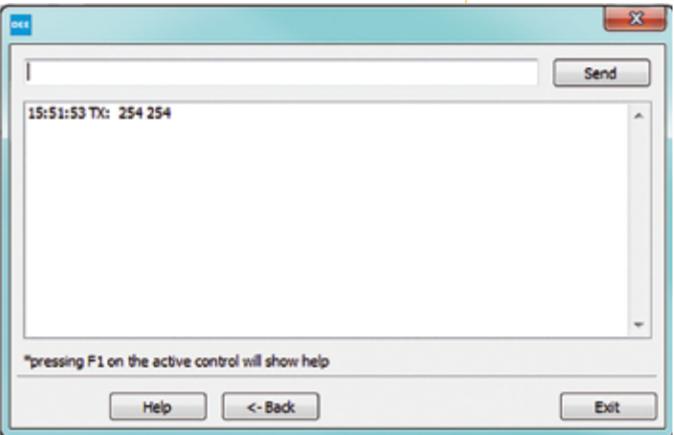
4.3.3 Sort / edit controls

You can sort controls in the control tree by clicking on each control, and selecting the required action from the buttons to the side.

- A special ID is assigned to each control. This ID is not shown in the application GUI.
- Identification numbers are displayed so it is possible to differentiate between controls with the same name.

4.4 Direct DALI console

This console is designed for the direct sending of DALI commands through DEEBRIDGE. Each command value must be entered in decimal format, separated by the '-' character, and command pairs must be separated by the ';' character. For example two direct broadcast dimming commands: 254,254 and 254,0 must be entered in this format: '254-254;254-0'. When your command is written you can send it simply by clicking on the **Send** button or by pressing the 'Enter' key. The history of transmitted and received data is shown in the text field below the command line.



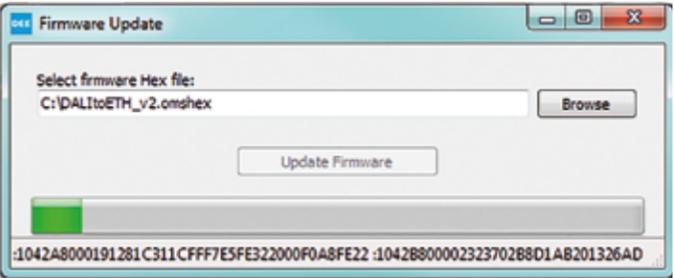
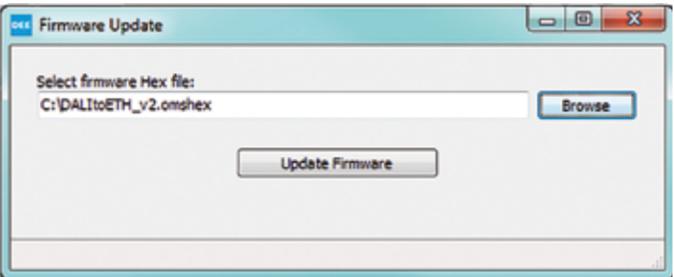
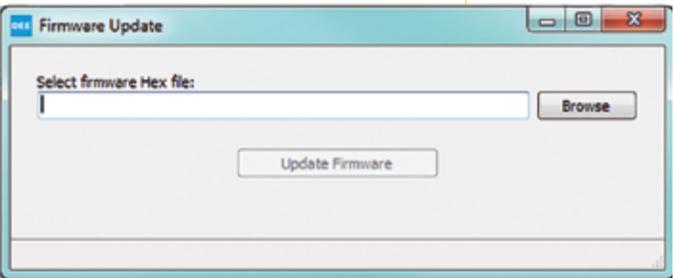
4.5 Firmware update

(Warning!! Incorrect use of this option may cause failure of the device)

To download the latest firmware updates please go to <http://www.ilumtech.eu/downloads/> For correct performing of the firmware update follow these steps:

1. Click on the **Firmware Update** button in the software toolbox. The following window opens.
2. The **Update Firmware** button will be enabled if the correct firmware file is selected and the device is connected.
3. Close all other applications on your PC and click on the Update Firmware button.
4. After successful updating a message will be shown and the application will be reconnected with the updated device.

WARNING!! Do not run any other applications on your PC, turn off or restart your computer during the update process. We strongly recommend that you back up the device configuration settings by clicking on the Backup Config button in the TCP/IP configuration window.



The DEEBRIDGE application for iOS is available to download from Apple App Store free of charge.

iOS mobile applications are working on the same principle as the Windows PC application. The only difference is the missing timer function, and reduced possibilities for controls configuration.

5 Mobile application for iOS (iPaD)

5.1 Graphical User Interface overview

5.2 TCP/IP, port and password settings

Click the **IP / port / password settings** button to open a dialog for configuring the IP / port / password settings.

The DEEBRIDGE application for Android is available to download from Google Play Market free of charge. Application version 2.0.0 supports Android 2.1 or higher.

Graphical User Interface overview

6 Mobile application for the Android platform

6.1 Connection management

When first opening the application, you will not see any controls as you must first connect to the Wi-Fi network to which the DEEBRIDGE device is connected. Once this is done, select the Control Management button and you will be prompted to enter a password – the default password is **admin**.

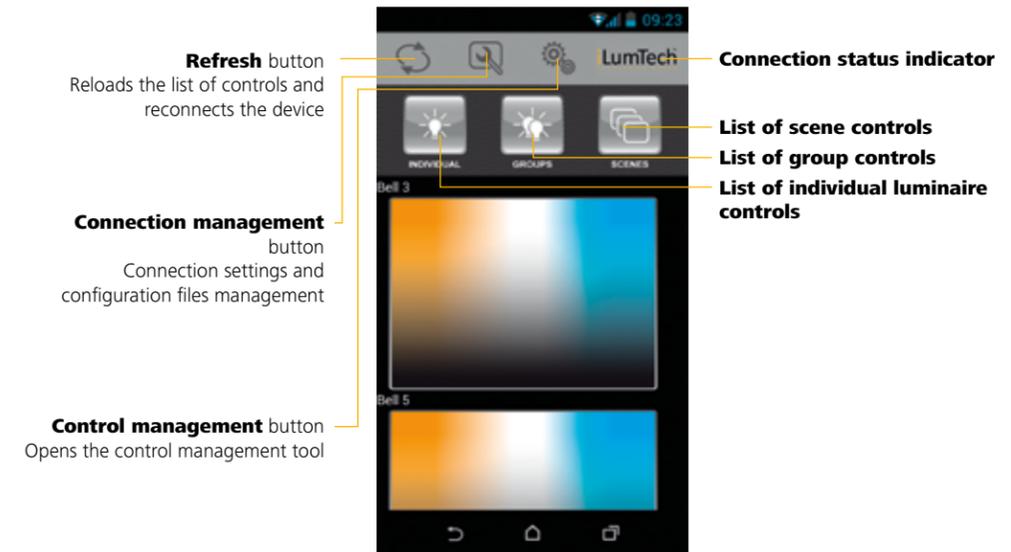
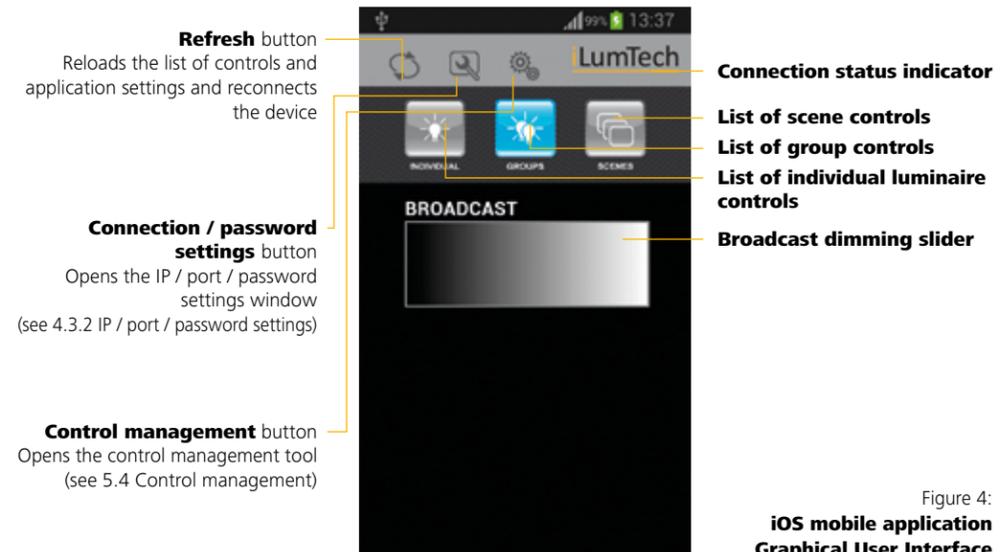
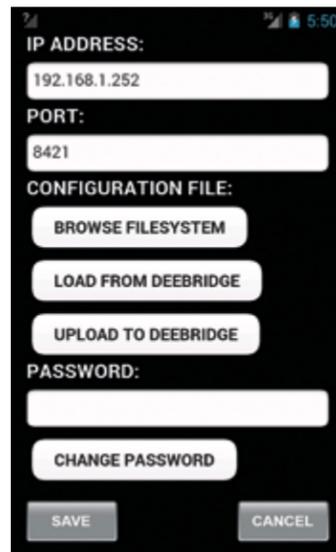
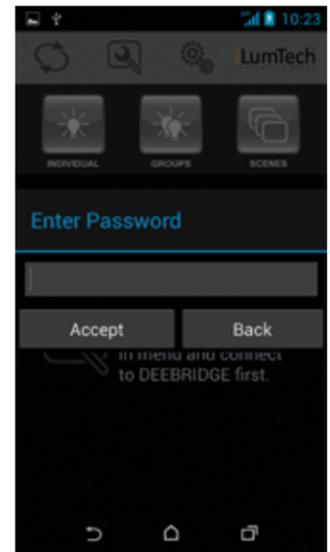
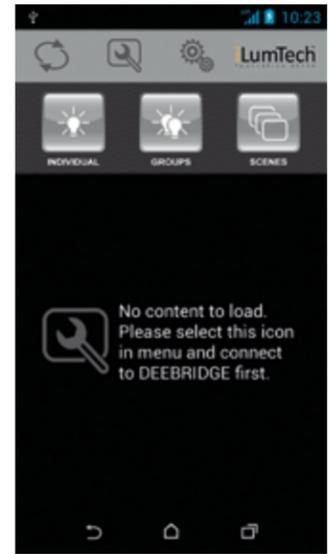
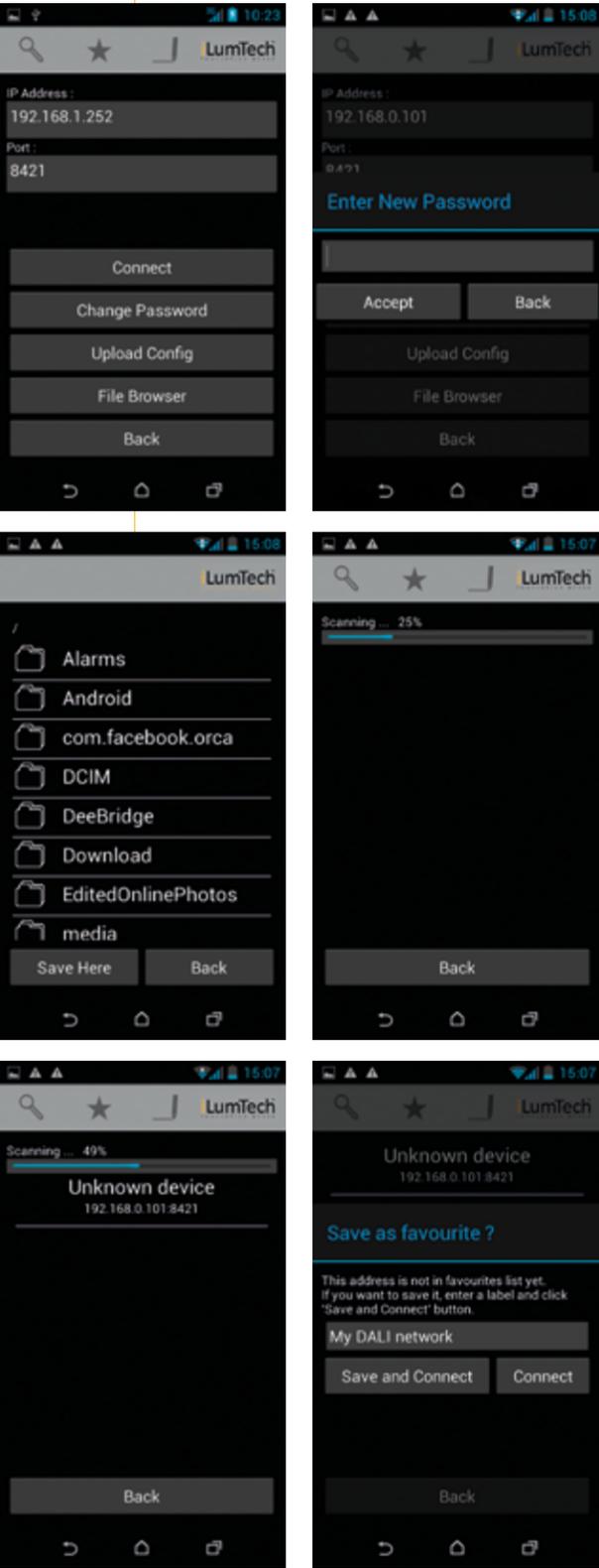


Figure 4:
iOS mobile application
Graphical User Interface



You will be presented with a dialog for manual TCP/IP settings that contains default IP address and port number settings for DEEBRIDGE. If you have changed the IP address or port number of DEEBRIDGE you must make the same changes in the TCP/IP settings. Selecting the Connect button applies current manual settings and connects to the DEEBRIDGE device. The Change Password button offers users the possibility to change the password used for settings access. If you leave the password field empty it will disable password protection. The Upload Config button will upload current active configuration into the DEEBRIDGE device. You can also choose a configuration file saved on your SD card using the File Browser button.

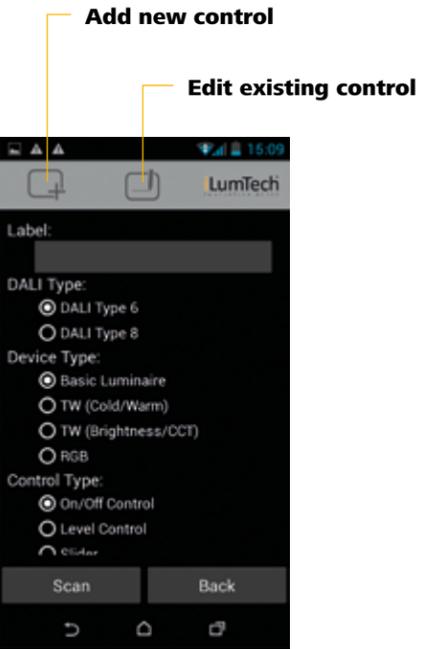
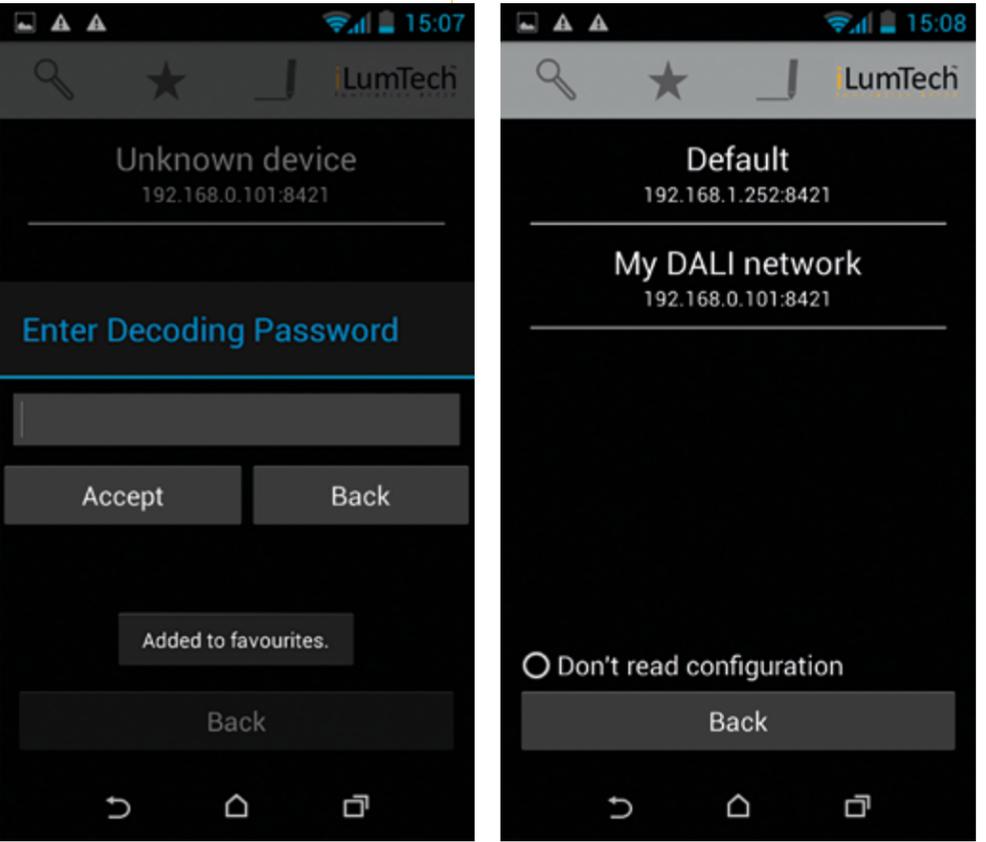
If you don't remember the IP address of DEEBRIDGE you can use the Search DEEBRIDGE feature. The application will start a searching process that scans the local Wi-Fi network. Be aware that the process is successful only when the default port number has not been changed. The discovered DEEBRIDGE devices will appear on the screen and can be selected. You will be prompted to enter a label for the selected DEEBRIDGE in order to save the device into the Favourites list.

When connecting to DEEBRIDGE, a dialog will prompt you to enter the password used for decoding the configuration file that is automatically downloaded from the DEEBRIDGE device. The default password is again admin, which can be changed through the web interface. Now you are connected to your DEEBRIDGE and you can start adding new controls.

The Favourites list contains the labels of already used DEEBRIDGE devices with their TCP/IP settings. If you use more DEEBRIDGE devices, you will not need to remember their settings. Simply choose a DEEBRIDGE according its label and you will be connected. You can also choose whether the configuration files with controls should be loaded or if you want to keep any current controls. The Favourites list also contains default TCP/IP settings. You can always go back to Manual setting by pushing corresponding button.

6.2 Controls management

The Control Management screen allows for the creation of new controls or the editing existing ones. When creating a new control, you must first give it a label. Then select the parameters of the control such as DALI type, Device Type and Control Type. The parameters of the control may change when different parameters values are selected. When finished, press the Scan button to find all DALI devices connected to the DALI network or the OK button if the control doesn't need specific individual DALI addresses.





During the scanning process, buttons with corresponding DALI device short addresses will appear on screen. To identify each DALI device, choose the address, which will be highlighted, and the corresponding DALI device will be periodically switch on and off. After finishing the address selection (if TW or RGB is selected, the dialog will appear two or three times) press the OK button and the created control will appear on the main screen in its corresponding group of controls (individual, group or scene). In the Edit Control section, you are able to edit the label of any existing control or delete the control.

This explanation is based on the PC application. The functionality of the Android and iOS mobile applications is the same apart from the missing timer function.

7 Graphical User Interface design and function of controls

7.1 Application start-up

The application will automatically load saved controls and the last used configuration settings. It will then connect to the device with the last IP / port configuration settings. If it hasn't been launched before then default IP / port configuration settings are used. To manually refresh the list of controls and reconnect the device click on the **Refresh** button.

7.2 Default administration password

You need to enter an administration password before entering into each configured location. This password is set by default to **admin**.

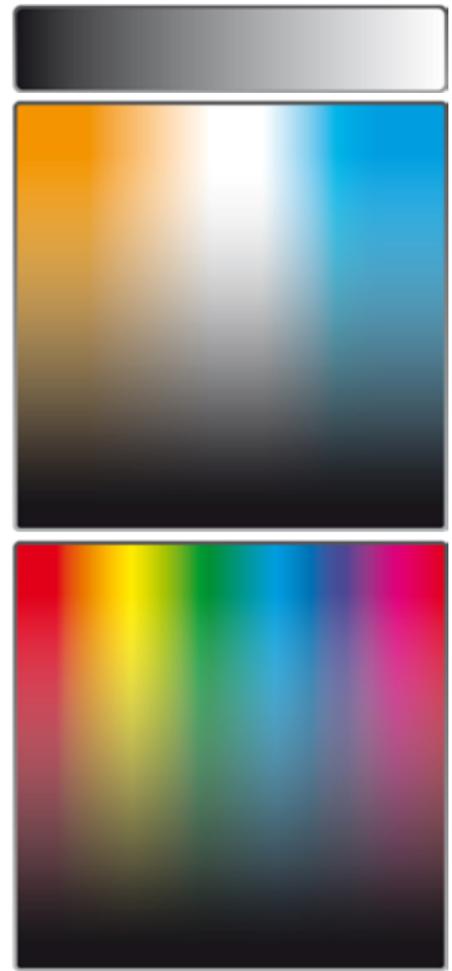
7.3 Control types

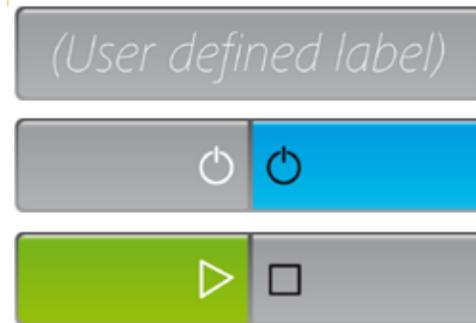
Broadcast dimming slider
Used to set the dimming level of destination devices.

TunableWhite slider
Used to control the dimming level and colour parameters of TunableWhite luminaires. The horizontal axis represents the colour temperature and the vertical axis is used to choose the dimming level.

DEEBRIDGE supports two types of Tuneable White luminaires: DALI type 6 and DALI type 8. Difference is that DALI type 8 uses only one address for both brightness and colour temperature control. DALI type 6 luminaires can be of two types: warm/cold channel method or brightness/colour temperature method.

RGB slider
Used to control the dimming level and colour parameters of RGB luminaires. The horizontal axis represents the colour spectrum for colour choice, and the vertical axis is used to choose the dimming level.



**Scene / level button**

Used for direct brightness level or scene control. By clicking on this button the direct level or scene control command is sent to the destination device.

On / off buttons

Double button used for on / off functionality in the destination devices. The **On** button sends a direct 100 % brightness level command to the destination devices. The **Off** button sends a 0 % brightness level command to the destination devices.

Timer button

Double button used for the activation and deactivation of the user configured timer. Timer control is a special feature of the DEEBRIDGE Windows PC application. It allows the user to program level and scene control based on time. Only one level or scene control can be used per minute.

This function is not available in the Android and iOS mobile applications.

This timer is dependent on the PC clock.

For correct functionality of the timer it is necessary that the PC be turned on and connected to your Ethernet.

8

Reset and recovery procedures

Soft reset

If the Ethernet to DALI bridge device is not responding or not working properly please perform a soft reset by pushing the **Reset** button located next to the Ethernet port (please refer to Figure 1) for 2 seconds or less. If the problem persists unplug the DALI and power cables and then reconnect.

Re-enabling the web interface

If this does not work there are two methods for restarting the web interface. Firstly try to start the web interface from the PC application by clicking on the **Connection / password settings** button and in the window that opens, click on the **Web Config** button. This will automatically enable the web interface in the Ethernet to DALI bridge device and open your default browser with the correctly filled-in IP address of the device. The second way is to hold the **Reset** button between three to seven seconds (while the Status LED is blinking). If you press for longer than this period the LED will stop blinking, this is a hard reset, as described below.

Hard reset (reset to default settings)

By setting an incorrect IP address, or other parameter, you can make the device unreachable. In this case you can recover the default settings by holding the **Reset** button for more than ten seconds, until the Status and DALI LEDs stop blinking and go off.

Warning: this operation erases the device's memory (network configuration settings, password and control configuration settings).

Recovery from interrupted firmware update

If a firmware update was interrupted because of a certain problem, the PC application will automatically detect this. When you restart the Ethernet to DALI bridge device a message and window will open to prompt you to begin the firmware update again. If this message and window does not appear, you can manually begin the firmware update again by clicking on the **Firmware Update** button. In case of a power loss during a firmware update the device must be physically reconnected to the DALI network and you will need to perform a hard reset.

1. The status bar displays the message 'Disconnected' or 'Error while connecting'.

Click on the **Refresh** button. If the problem persists, check your IP / port settings and correct it using the current device settings.

Make sure that the Ethernet cables are securely plugged in. The left yellow LED indicator on the Ethernet port will be lit if the Ethernet cable from the device to the router, switch, hub or PC is plugged in correctly and both are turned on.

2. The web interface is unreachable but the DALI sub-system is working correctly

One cause of this could be that the user has incorrectly entered the IP address, username or password. Please check and try again.

If this does not work there are two methods for restarting the web interface. Firstly try to start the web

interface from the PC application by clicking on the **Connection / password settings** button and in the window that opens, click on the **Web Config** button. This will automatically enable the web interface in the Ethernet to DALI bridge device and open your default browser with the correctly filled-in IP address of the device. The second way is to hold the **Reset** button between three to seven seconds (while the Status LED is blinking). If you press for longer than this period the LED will stop blinking, this is a hard reset.

3. The DALI sub-system is unreachable but the web interface is working correctly

Make sure you're using the correct DALI port and that there is sufficient power supplied from the DALI network.



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