



User guide

# BlueBridge

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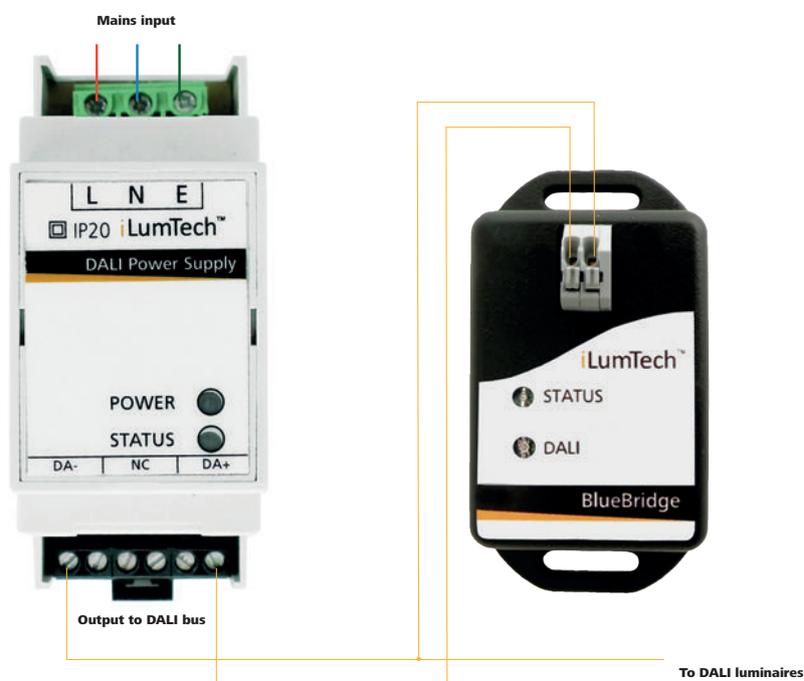
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# 1 Hardware connection

To ensure correct functionality, BlueBridge requires connection to an external DALI power supply with standard parameters: output voltage in the range of 12–24 VDC with current limited to 250 mA (for example, the iLumTech DALI Power Supply). Connect BlueBridge as shown in the figure below.

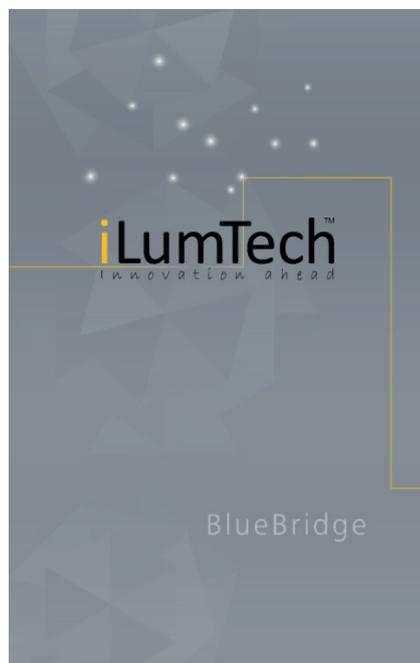
BlueBridge is able to perform commissioning of the DALI installation so no further devices are required.

Once the DALI bus is ready, you can connect BlueBridge to the DALI network. If the DALI bus correctly powered (voltage range 12–24 VDC), a red indicator LED will illuminate on the BlueBridge device. When BlueBridge has successfully established a Bluetooth connection, the red LED will flash once per second. When there is a DALI transmission initiated by BlueBridge, a green indicator LED will flash.



# 2

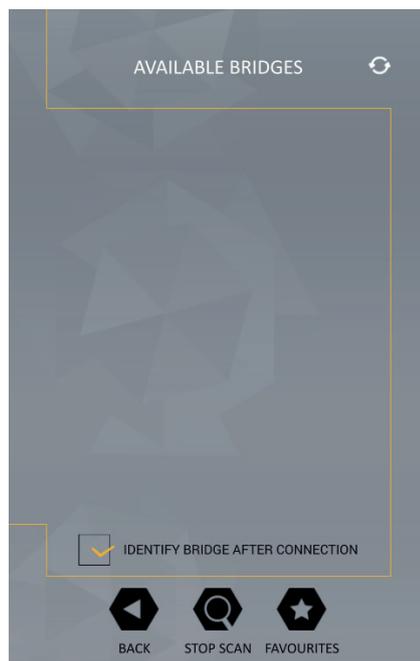
## BlueBridge properties



BlueBridge uses the Bluetooth Low Energy 4.1 wireless interface, which is supported by the most current smartphones. Please be aware that the BLE 4.1 protocol is only supported by Android 4.4 and higher. The app also requires a BLE 4.0 or higher chipset – smartphones with this are marked as Bluetooth SmartReady.

BlueBridge requires establishment of a connection for proper communication – therefore, only one device can access BlueBridge at a time. When connection is established, other Bluetooth SmartReady devices will not be able to find BlueBridge until the connection is closed.

Each BlueBridge has a unique identifier UUID. This allows easy distinction between multiple BlueBridges. When you create controls (sliders, push buttons, etc.) while being connected to one BlueBridge, these controls will remember the specific UUID of the connected device. When activating the control, the app automatically tries to connect to the BlueBridge with the UUID written in the control configuration (the UUID of the BlueBridge connected during control creation). This allows for seamless reconnection between BlueBridges when using multiple devices in your installation.



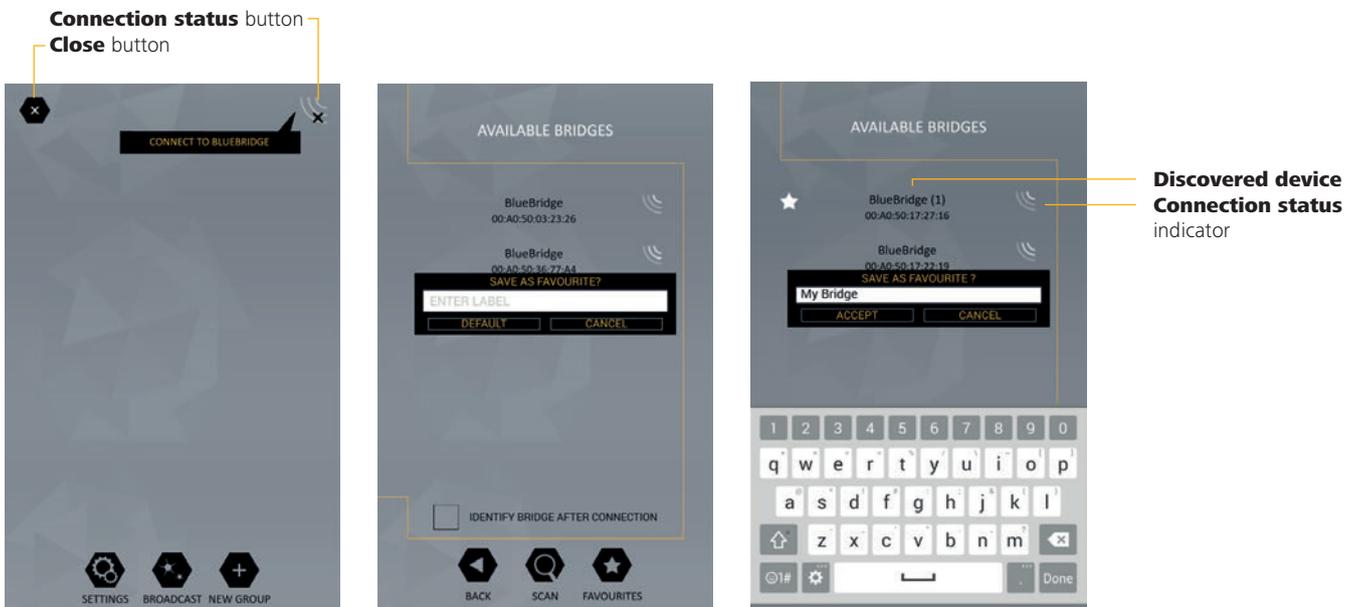
The BlueBridge application for Android and iOS is available to download from Google Play Market and the Apple App Store free of charge. The current application version supports Android 4.4 or higher.

# 3 Mobile application

## 3.1 Connection to BlueBridge

During the first start-up (or when the application is not able to connect to the last used BlueBridge), you will see the basic screen with only the option to **'Connect to BlueBridge'**. At this point, the device will automatically search for BlueBridge devices to connect to. All available BlueBridges are shown together with corresponding UUIDs and signal strength indicators (a **UUID** is a unique number used for BlueBridge identification). In order to easily recognise which DALI bus is controlled by a specific BlueBridge, you can check the **'Identify Bridge after Connection'** option, which will send broadcast ON and OFF commands.

After successful connection, you will be asked to enter the name of the selected BlueBridge. If you don't want to think about the name, just select **'Default'** and the BlueBridge will be named: "BlueBridge(x0)", where "x" is an automatically incremented index number for the BlueBridge. After this, the BlueBridge will be automatically added to your **Favourites list**.

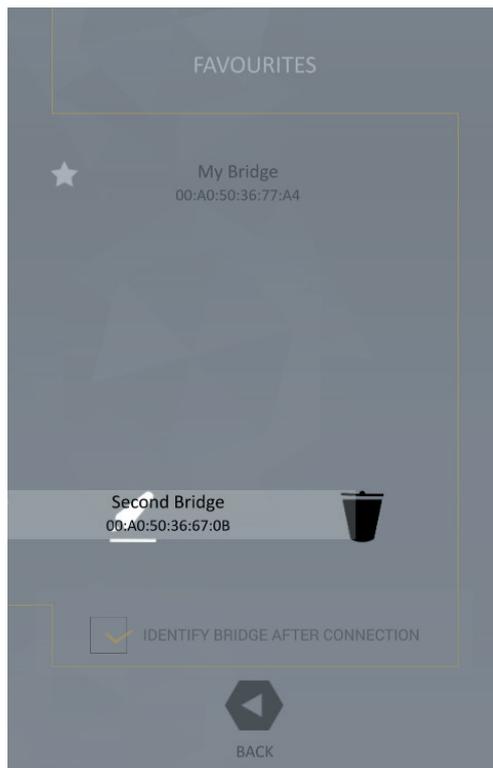
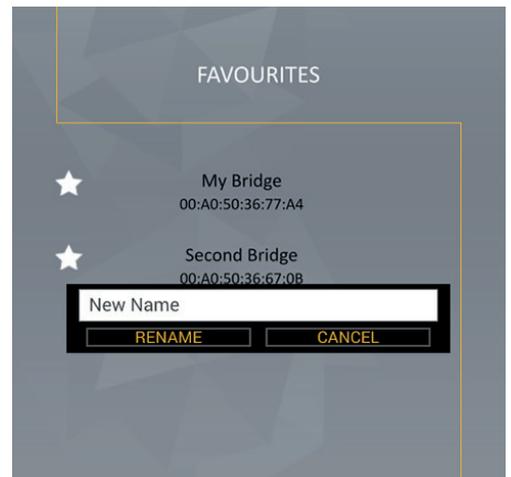
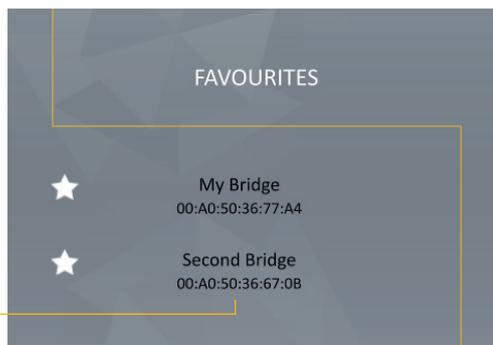


### 3.2 Favourites menu

In the Favourites menu, you can see all the BlueBridges already added as favourites. You can connect to a specific BlueBridge by clicking on it. If you want to edit the name the BlueBridge device drag and drop its name to the **edit icon** (left).

If you want to delete the BlueBridge from your favourites, drag and drop its name to the **trash bin icon** (right).

Universally Unique Identifier





### 3.3 Main screen

The main screen contains group icons for simple access to group control. In the top-right corner, there are a **status icon** and a **connection icon**. The connection icon shows the current connection status – connected or not connected. When pressing the connection icon, you will go to the Connection screen described in the section 3.1. The status icon shows the current status of the DALI installation. Status functionality is described in section 3.6.

The bottom part of the screen contains three buttons: **'Setting'** will activate the screen showing the setting menu (section 3.8), **'New Group'** allows for adding a group (section 3.5) and **'Broadcast'** activates the screen for broadcast control of luminaires. You can use a standard slider for dimming, or when switching to scene mode (swipe to the right) you can use predefined dimming scenes. Use the **'Back button'** to return to the main screen. By default, the main screen shows Groups. Swiping to the right brings up the Timers screen, which allows for the control of existing timers and the creation of new ones (**'New Timer'** button). Timer functionality is described in more detail in section 3.7.





### 3.4 Creating luminaires

After successful connection, you will be asked whether you would like **to scan the DALI network**. This step is essential when running the app for the first time. The app will perform the scan in order to discover all the luminaires connected to the DALI network. During this step, the app will discover the FW version of the connected BlueBridge. If the FW is not up-to-date, you will see a notice saying that there is a new version available. During scanning, you will see how the process is progressing including how many luminaires are discovered.

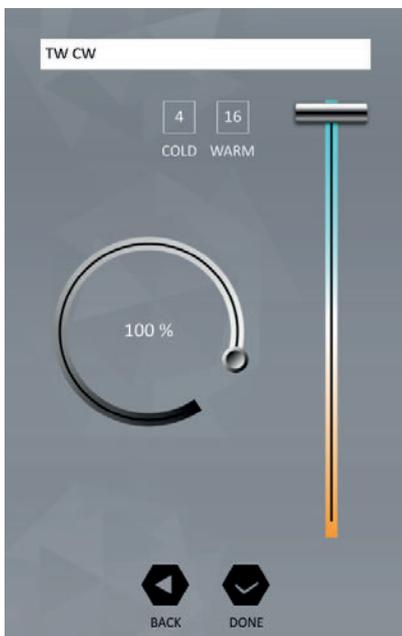
If the BlueBridge detects some DALI devices without addresses, it will start commissioning automatically. The progress of commissioning is shown in the dialog windows.

When scanning is finished, you will see a **'Create Luminaires'** wizard. In the upper part of the screen, you can see the total number of luminaires (or addresses) discovered during the scanning process. Below, you can see six basic types of luminaire. The first four types work with DALI device type 6 – Basic (single colour), TW Cold/Warm, TW Brightness/CCT, and RGB. The app is not able to differentiate between single colour luminaires and other TW or RGB luminaires so the user must define this information. If you want to create a single colour luminaire, select the 'Basic' option.

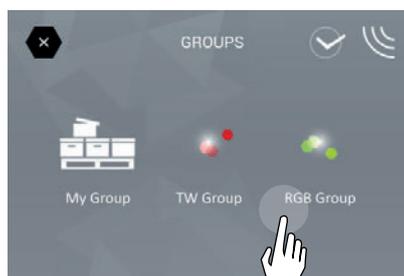
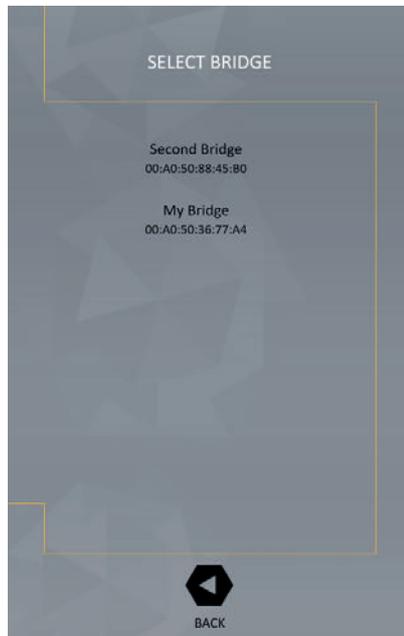
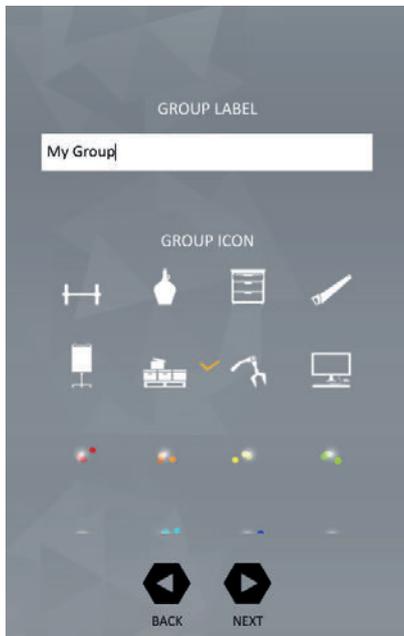


You will be asked to **select the address of the luminaires**. Selected addresses are indicated by a yellow tick. Each time you select an address, the corresponding luminaire will be switched off and on again making it easy to identify the luminaire you want to define. Addresses in black are already used by other luminaires. When the addresses are selected correctly, choose **'Next'**, which will take you to a screen where you can test the dimming of the luminaire and choose a specific label for it in order to easily distinguish it from other luminaires (you don't need to remember all the addresses). Once you have finished, you can confirm the settings by clicking **'Accept'**. You will see that the number in the 'Basic' group has been incremented and that the number of unused addresses is lowered by one. In a similar way, you can add Tunable White luminaires with either Cold/Warm or Brightness/CCT control methods. You will be asked to select two addresses as each of these Tunable White luminaires requires a separate addresses for each function. The same is valid for three-channel RGB luminaires, which require three independent addresses. Already **selected addresses are highlighted in a corresponding colour** – for example when selecting address for the blue channel of an RGB luminaire, you will see the address for the red channel in a red square and the address for the green channel in a green square. In the case of switches (Device type 7) and colour control (Device Type 8), the app is able to recognise the type of luminaire and only corresponding device type devices will appear in the address selection screen when selecting 'Switch' or 'Colour control' type. For 'Colour control' type, you can select only a single address.

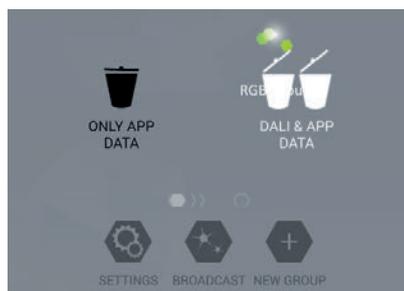
You can check the current state of the **'List of luminaires'** at any time by clicking on the list, which includes already created luminaires. Once you have defined all the luminaires in your installation (unused addresses will equal 0), you can **finish the wizard by clicking on 'Done'**.



The **'AutoCreate'** button automatically creates luminaires sand groups using current settings for the DALI network. The app reads the group status of all luminaires and creates groups accordingly. Group names are based on the group addresses. When using the AutoCreate function, the app cannot distinguish between type 6 single colour luminaires and Tunable White or RGB luminaires, so all type 6 luminaires will be considered single colour.



press & hold



### 3.5 Creating groups

To create a new group, press the **'New Group'** button on the main screen. You will be asked to select an icon and label for the new group to help you to differentiate between groups easily. If you have created devices on multiple BlueBridges, the next step requires that you select which BlueBridge the group will relate to – this step will be skipped if there is only one DeeBridge with created devices as this will be selected automatically. Next, you need to **select the type of group** – the same types are available as for luminaires. Each group type also contains a number of existing corresponding luminaires. When the group type is selected, you will see a list of luminaires of the corresponding type – you can select which of them you want to add to the group. Click on **'Done'** when you've finished. The new group will appear on your main screen.

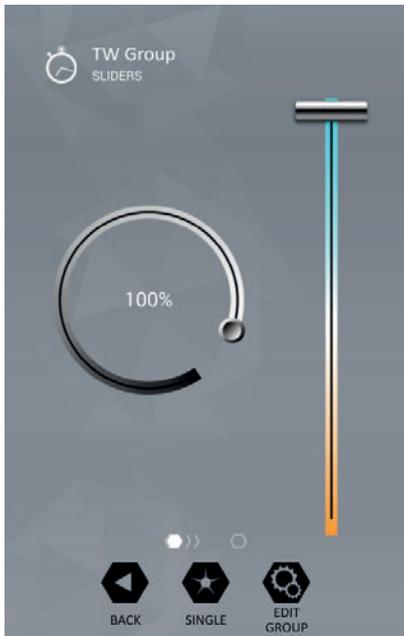
The DALI standard allows for a maximum of 16 groups, and the app automatically uses the possibility of 16 group addresses. When the number of groups exceeds 16, the further group will be processed sequentially (consequent reaction to dimming). **Sequentially processed groups are marked in orange.** Advanced control possibilities like timers or sensor are only supported for groups that uses DALI group addresses.

You can repeat the process until you have created groups for all of the luminaires in your installation. You will see the created groups on the main screen represented by their icons and labels. To control a specific group, just click on its icon to select it. Depending on the group type, you will see different control objects – a circular slider for dimming; a linear slider for CCT or hue control; and an ON/OFF switch for switching devices.

If you want to control individual luminaires from within the group, click on the **'Single'** button. A list of luminaires contained within the group will appear. Simply select the one you want to control and you will see the screen for single luminaire control. You can return to group control by clicking on the **'Back'** button.

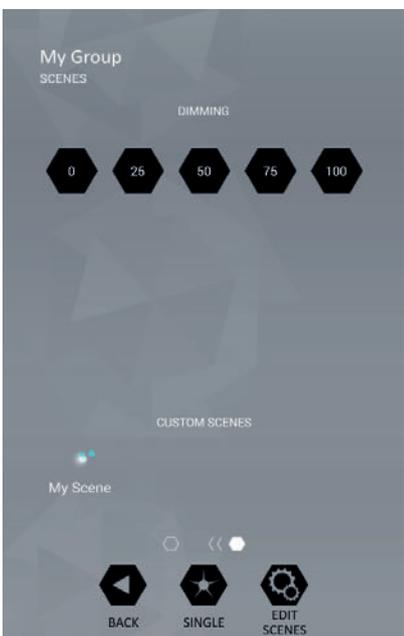
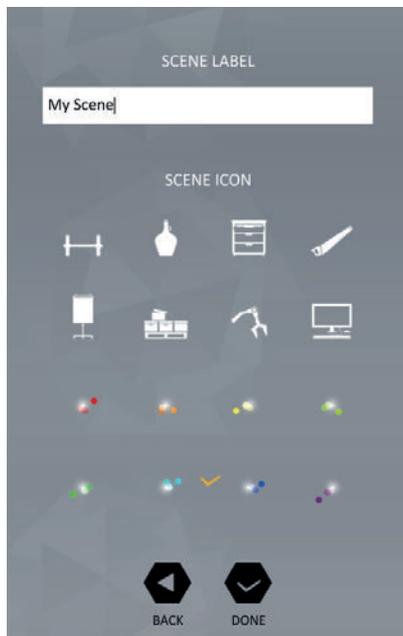
A group can be deleted pressing and holding the icon and dragging it to the **trash bin**. You can select whether the group will be deleted only from the app (the group address will stay configured for the luminaires) or deleted also from the DALI bus settings (luminaires will lose their group address).

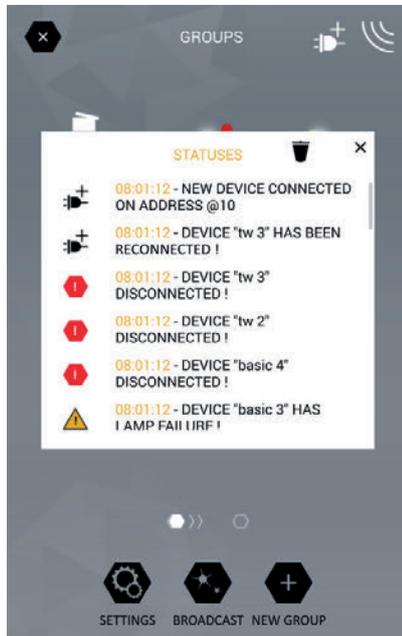
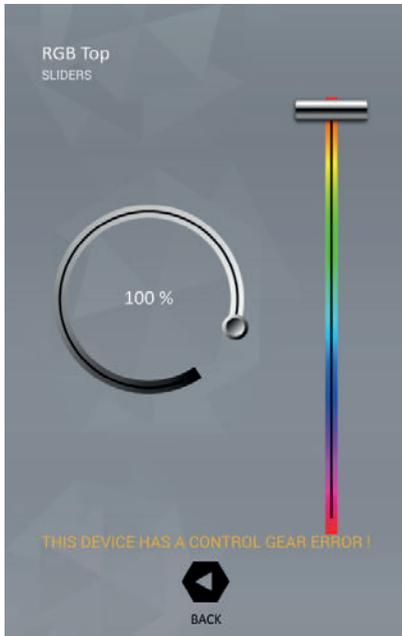
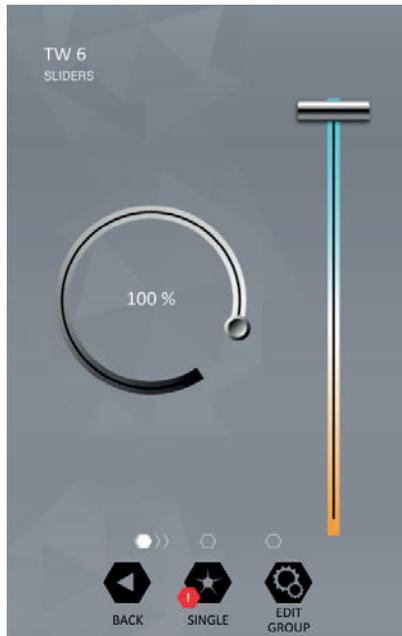
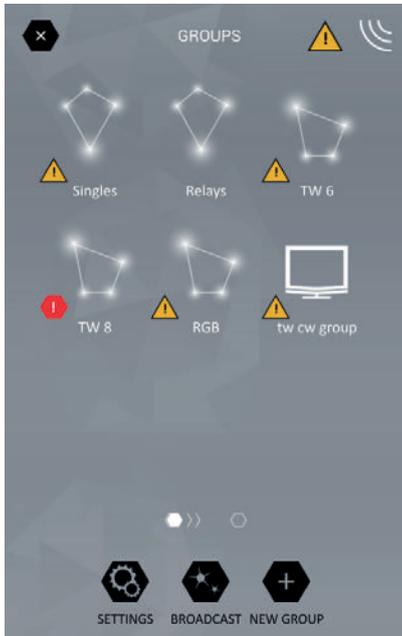
When a **stopwatch icon** is shown next to the group name, there is a timer active for this group. When you make changes using sliders, the timer will override the slider setting after some time. To deactivate the timer, click on the stopwatch icon and it will disappear. To reactivate the timer, go to the timer screen.



If you prefer scene control, you can switch to scene mode (by sliding according to the arrows at the bottom of the screen). You can choose from predefined scenes or create custom ones.

You can create your custom scenes by clicking on the **'Edit Scenes'** button. You can add an icon and label to the custom scene. The scene will be created according to currently set levels. You can also edit already created scenes.





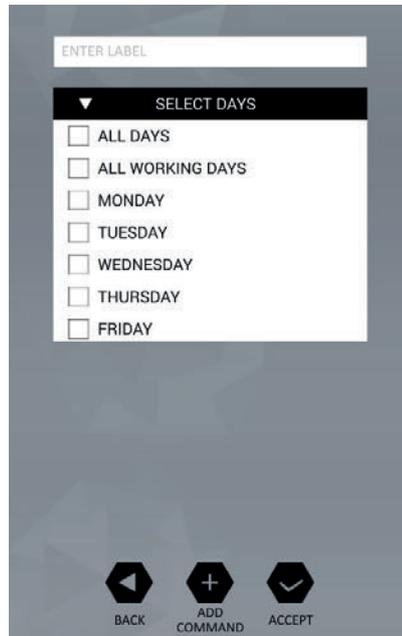
### 3.6 Status function

The status function is a feature included in the latest FW update. To enable this feature, upgrade your BlueBridge device to FW version 2.0. BlueBridge periodically checks the status of each DALI device. The results of the check are sent to the application once per minute. If all previously discovered devices work correctly, the status icon will show **'Installation OK'**. If there is an error such as lamp or control gear failure, a **warning sign** will appear. The relevant warning icon will also appear next to the group icon of the corresponding device, and next to the single device within the group. When you open the device with a warning, you will find a description of the error.

In the case that a device stops responding to status checking, an error will appear. If the device starts to respond again, the error icon will disappear. If you want to see the exact time that the error occurred, click on the status icon and a list of events will appear.

Description of status icons:

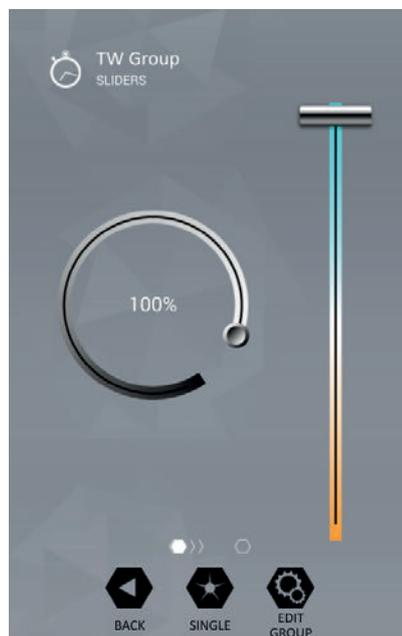
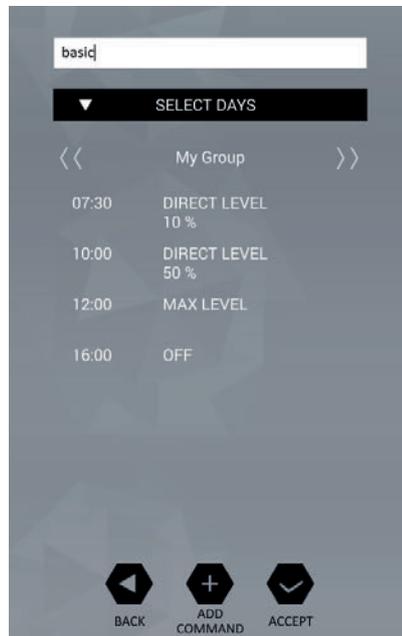
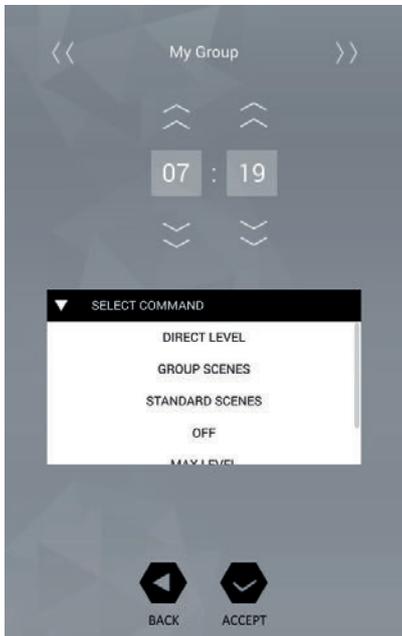
-  Installation **OK**
-  Device **Error**
-  Device **Disconnected**
-  Device **Reconnected**

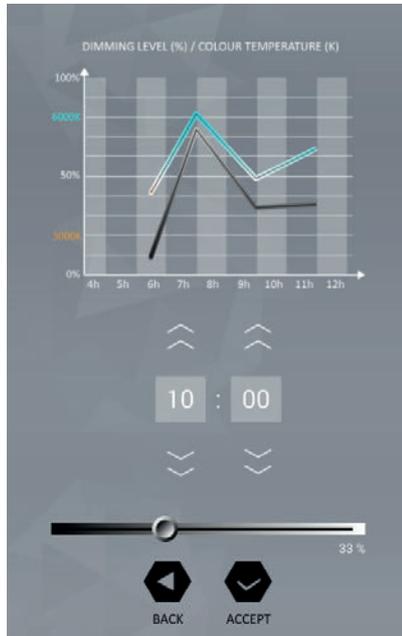
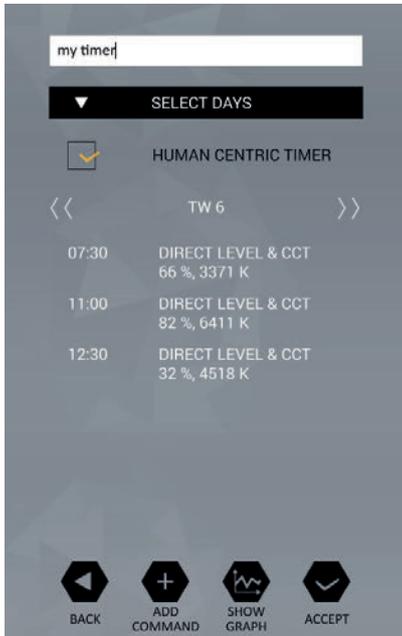


### 3.7 Timers

The timer function is a feature related to the latest HW and FW versions of BlueBridge. To benefit from this feature, you will need to upgrade your FW to the latest version 2.0. This HW version of BlueBridge contains a real-time clock module and allows for the creation of 4 independent timers with 30 second time steps (basic timers) and 15 time steps (Human Centric sequences). Timers run independently of the app once activated, and will override other settings from the app. **Each timer is defined by its label and the days of the week it is active.** Any day of the week can be selected. There are extra setting options available for Human Centric sequences.

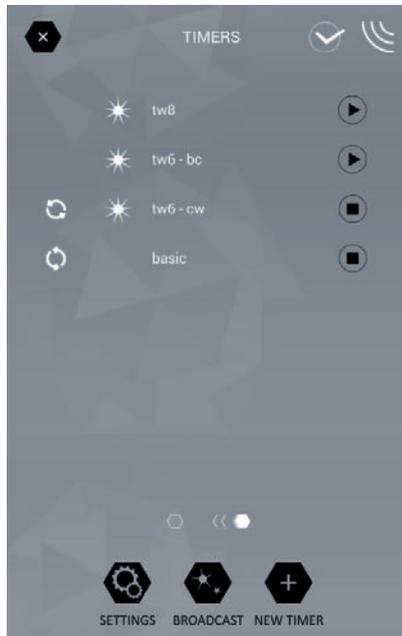
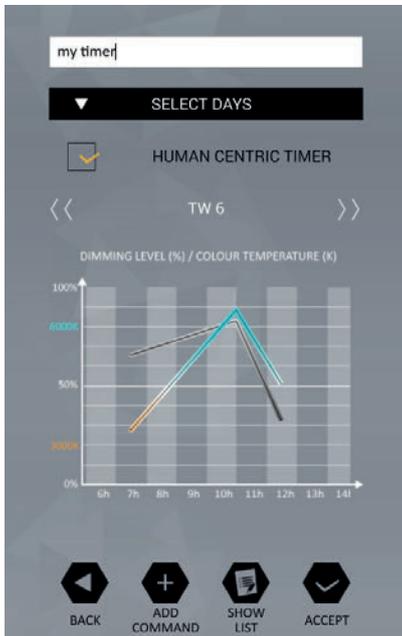
Basic timers can be used to control any group based on a DALI group address (labels are white). Transitions between time steps are sudden without fading. To add new commands, press the corresponding button. Now you can select the group you want to control, set the command and the time the command should be sent. Supported commands include direct level, control, scene, and DALI Type 8 CCT commands. After confirmation of the setting, the command will appear in a command list. When all commands have been added to the timer sequence, the timer is loaded and stored inside the BlueBridge device by pressing 'Accept'.



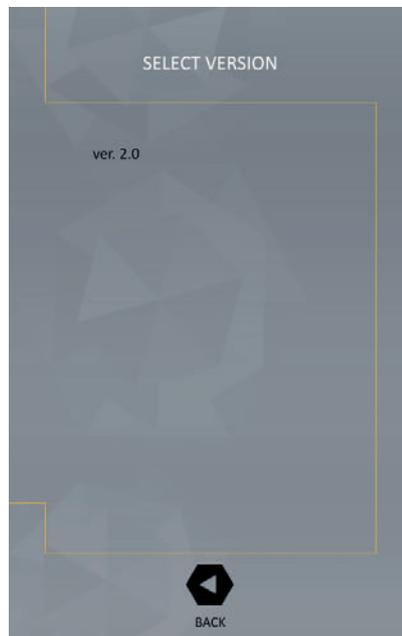
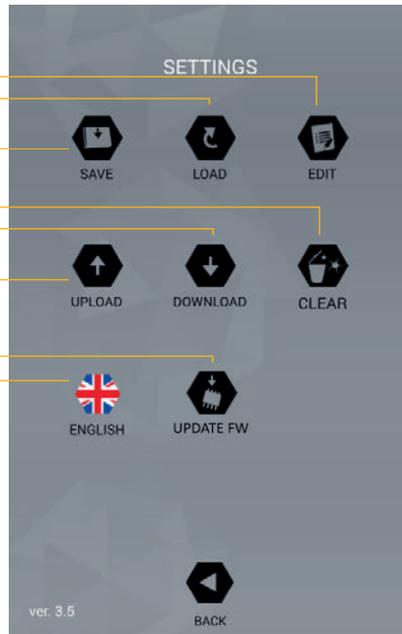


Human Centric sequences have smooth transitions between time steps. There must be a minimum of 2 time steps with each sequence in order to create a transition (BlueBridge internally calculates the linear interpolation between time steps). The defines values of each time are only reached as the specific time. Human Centric sequences are related to CCT regulation, therefore, only Tunable White groups can be selected when creating a new timer, and only one group can be selected for each timer. You can add commands using the same method as basic timers. In the dialog that appears when adding a time step, you will see a **graph with current points**, a **clock for time setting**, and **two sliders for changing of CCT and brightness settings**. The position of the points on the graph change whenever you change some of the above-mentioned parameters. Each added command will be shown in the command list. You can review the sequence by pressing **'Show Graph'**. Once the sequence is finished, press **'Accept'** and the timer will be stored.

Created timers can be independently activated and deactivated by pressing the play/stop button next to them. An active timer is has a spinning wheel icon next to it on the left. Human Centric timers are marked with a Sun icon. To delete any timer, press and hold the entry in the list and drag and drop it into the trash bin.



- Edit** list of luminaires
- Load** to restore same group configuration
- Save** current configuration
- Clear** current group configurations
- Download** configurations to other device
- Upload** current configuration
- Update firmware**
- Switch between **languages**



### 3.8 Settings

The last button on the main screen is dedicated to the **'Settings'**. In the settings menu, you can manage the configuration of groups. You can save current configurations to a file that can be moved to other devices and loaded to restore the same group configuration as on the original device. You can also upload current configurations to the BlueBridge and from there download it to other devices – this is the most comfortable way. You can also clear current group configurations, edit the list of created luminaires, and switch between languages. The **'Update FW'** button allows for simple updating of FW when an update is available. A list of FW versions will appear, all of which are compatible with the detected BlueBridge device. You can also reload older FW versions.

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iLumTech industries, s. r. o.  
Čáčovská cesta 2709/4  
Senica 905 01  
Slovakia

Email: [info@ilumtech.eu](mailto:info@ilumtech.eu)  
[www.ilumtech.eu](http://www.ilumtech.eu)