

# luxCONTROL Lighting Control System

TECHNICAL INFORMATION

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## Overview of configTOOL

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## 1. General

The configTOOL software tool will help you configure and set the parameters for various TridonicAtco DALI units. It can also be used for addressing and grouping TridonicAtco DALI units and for setting scenes. The configTOOL must not be used for configuring the DALI MSensor. Only the masterCONFIGURATOR should be used for the DALI MSensor.

The installation package comprises the following three components:

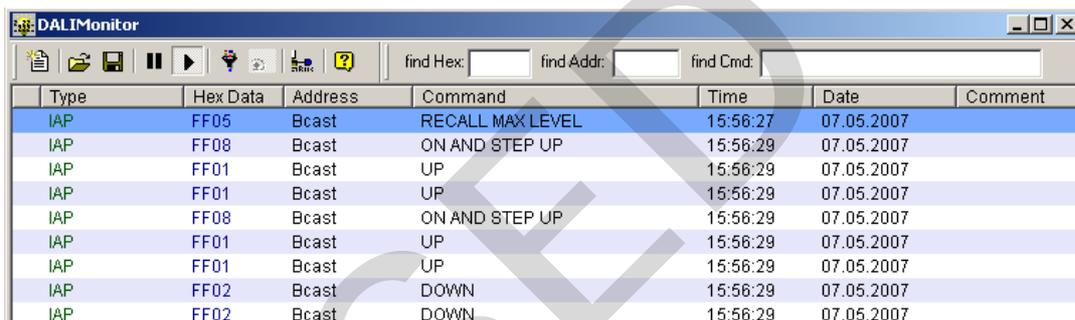
- configTOOL
- DALI Monitor
- DALI BusServer

### configTOOL

configTOOL is a configuration and parametrisation program for DALI start-up. This program is used to set up a DALI circuit and configure individual units (e.g. addressing the DALI circuit). This document provides detailed information about this program.

### DALI-Monitor (V0.97)

DALI Monitor is used for monitoring the DALI control circuit. DALI Monitor records the commands on the bus and enables the DALI installation to be checked for correct operation. The DALI-Monitor is opened via the context menu of the DALI BusServer.



Type	Hex Data	Address	Command	Time	Date	Comment
IAP	FF05	Bcast	RECALL MAX LEVEL	15:56:27	07.05.2007	
IAP	FF08	Bcast	ON AND STEP UP	15:56:29	07.05.2007	
IAP	FF01	Bcast	UP	15:56:29	07.05.2007	
IAP	FF01	Bcast	UP	15:56:29	07.05.2007	
IAP	FF08	Bcast	ON AND STEP UP	15:56:29	07.05.2007	
IAP	FF01	Bcast	UP	15:56:29	07.05.2007	
IAP	FF01	Bcast	UP	15:56:29	07.05.2007	
IAP	FF02	Bcast	DOWN	15:56:29	07.05.2007	
IAP	FF02	Bcast	DOWN	15:56:29	07.05.2007	

### DALI-BusServer (V2.3.4)

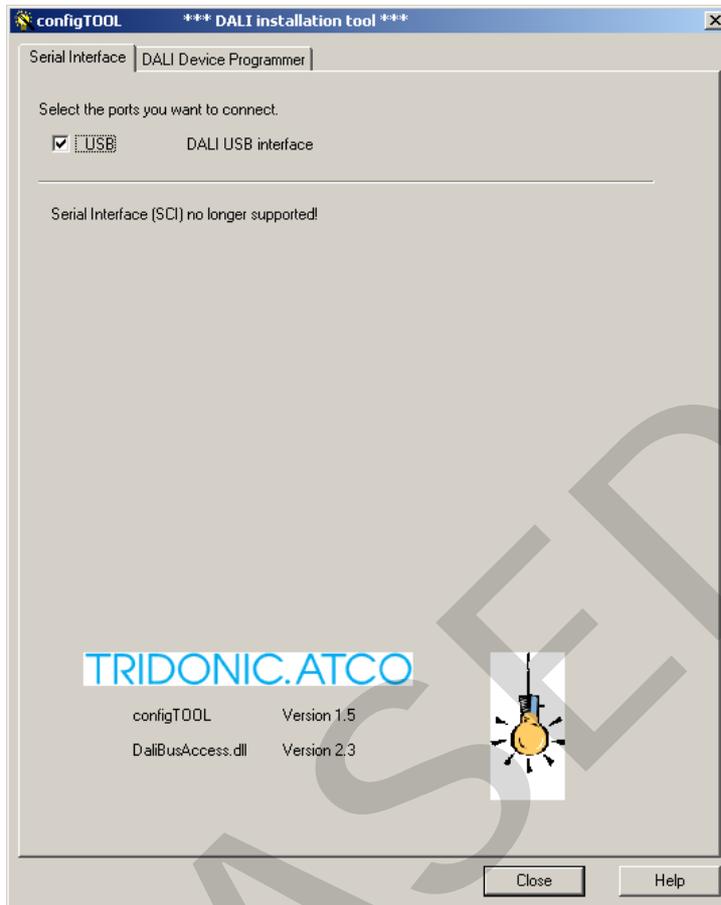
DALI BusServer manages the interface to the DALI circuit. The server is designed so that multiple Windows applications can access this interface. This allows configTOOL and DALI Monitor to be opened simultaneously so that bus commands can be recorded online. BusServer is automatically opened when configTOOL is opened. Note: The masterCONFIGURATOR operates with DALI BusServer (V2.3.4) so it is not possible to have configTOOL and masterCONFIGURATOR open at the same time. As soon as DALI BusServer is running it can be accessed via the Windows task bar.



## 2. Program overview

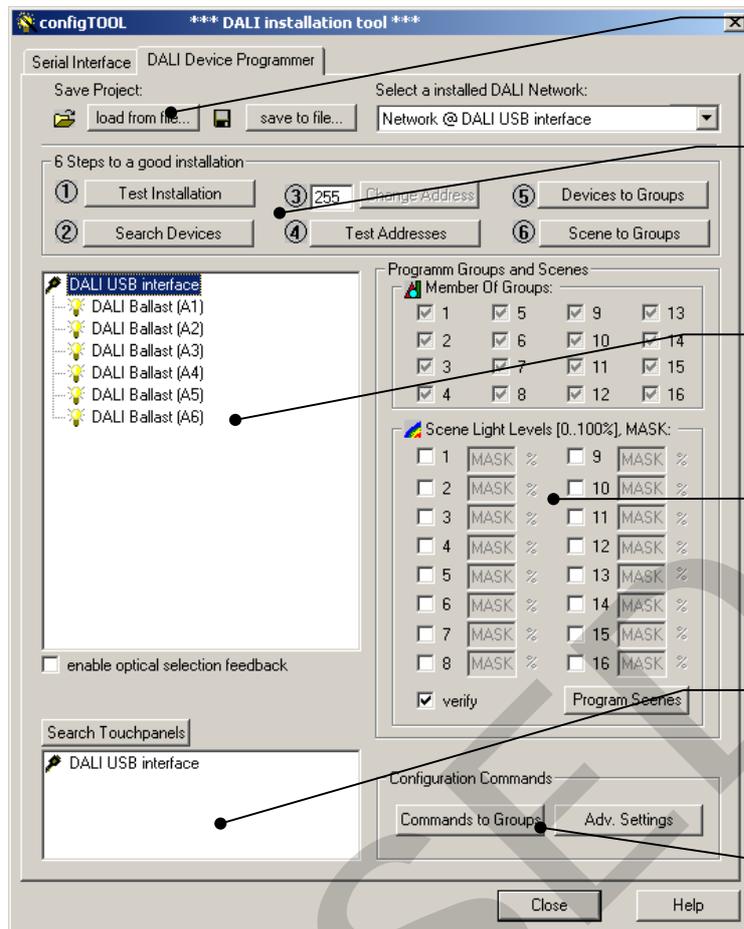
Once the software has been installed, configTOOL can be found on the following path:  
Start menu⇒Programs⇒DALITools⇒ configTOOL

When the program is opened the “Serial Interface” window will appear. In this window you can choose the interface for connection to the DALI circuit.



**NOTE: In software version 1.5 and higher only the USB option is possible (communication via DALI USB)**

Click on the “Manage DALI Devices” tab to view the main window of the configTOOL. You can access all the parametrisation and configuration options from this program window. Some options open further windows.



**Project management:**  
Saves and opens project files

**Addressing and setting parameters:**  
Used for addressing the DALI circuit and for creating the DALI groups and DALI scenes

**DALI device tree:**  
Overview of the DALI device tree in the DALI circuit.

**Group and scene assignment:**  
If a DALI device is highlighted in the bus overview the group and scene assignments of this device are displayed here.

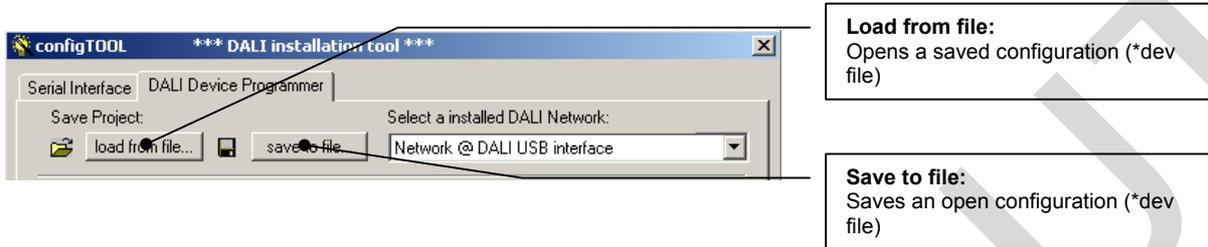
**Parameters for the DALI Touchpanel:**  
Overview of the DALI Touchpanel in the DALI circuit.

**Configuration commands:**  
Sends DALI commands to devices

### 3. Working with configTOOL

#### 3.1 Managing a project

The top section of the main window is where you can manage your projects. Here you can save your device settings as a project file and open existing projects. Projects are saved in \*.dev files.



**TIP: Before saving a configuration you should read the current values from the DALI devices with the “Read Device Properties” function. (See 4.1 General functions**

#### 3.2 Six steps to correct installation

The configTOOL enables the wiring of the DALI circuit to be tested, the devices to be addressed and the group and scene settings to be completed, all in six easy steps.



##### 3.2.1 Step 1: Test Installation



This step checks that the wiring is correct for the installation. After the test has been started the DALI commands “Recall min. Level” and “Recall max. Level” are sent alternately to all the devices in the DALI circuit, causing the connected devices to flash.

This test determines whether communication is working properly in the DALI circuit and whether all the devices in the DALI circuit are connected.

### 3.2.2 Step 2: Finding devices

There are two ways of searching for new devices on the DALI circuit.

- **System expansion:**

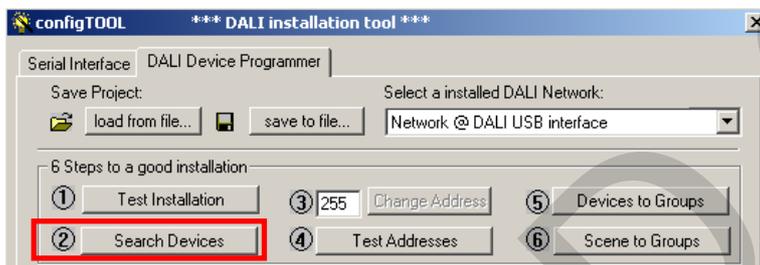
A search is carried out for devices that have already been addressed and devices that have not yet been addressed (i.e. devices that have been added). The devices that have already been addressed remain unchanged, and the new devices found are assigned to the next free DALI addresses.

**IMPORTANT: If the system is being expanded the new devices that are added to the system must not already have a DALI address otherwise there may be problems with duplicated addresses.**

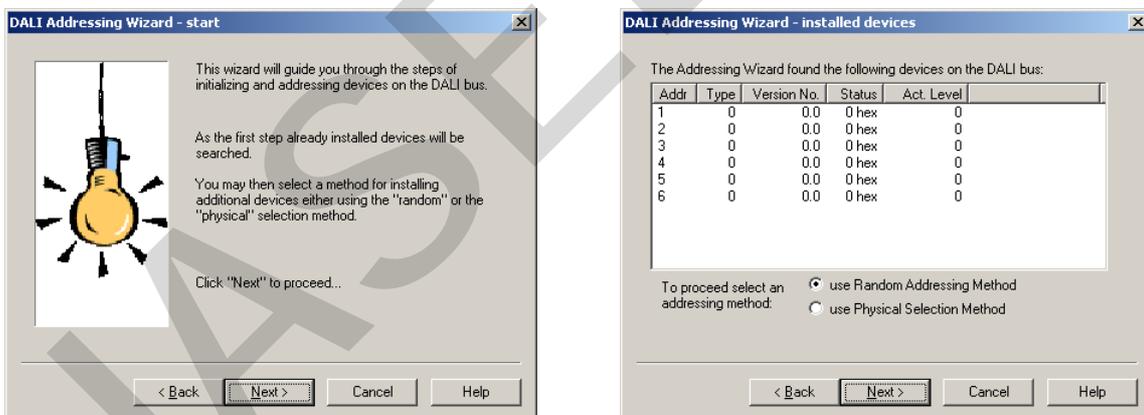
- **Complete new installation:**

The short addresses in all the DALI devices in the DALI circuit are deleted and then the devices are readdressed.

1. Start the Addressing Wizard



2. Search the DALI circuit for devices already addressed



A search is conducted first for devices that have already been installed. You then have to decide whether new devices are to be addressed randomly or physically.

- **Random addressing:**

The addresses are assigned randomly. The DALI device that is found first on the DALI circuit is given the first address; the second one found is given the second address and so on.

- **Physical selection:**

For physical selection of luminaires the light sources of the devices connected to the DALI circuit must be removed from their holders and replaced again to address the device.

**IMPORTANT: No all DALI devices support physical addressing. Before using this method, check whether the connected devices support this function.**

3. Select either “System expansion” or “Complete new installation”



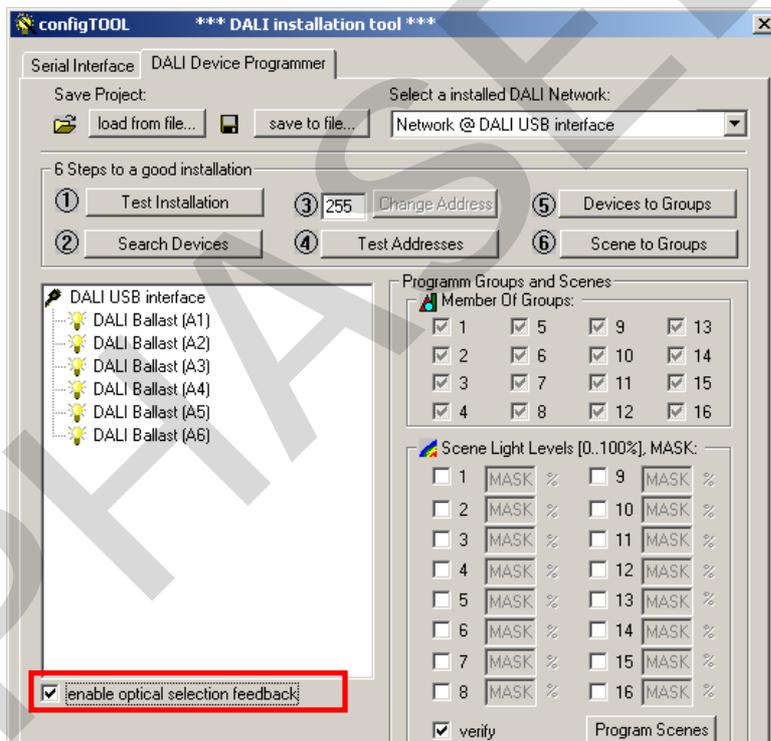
Clicking on “Delete all group assignments” deletes the group settings in the DALI devices.

Press “Next” to start addressing.

### 3.2.3 Step 3: Changing addresses

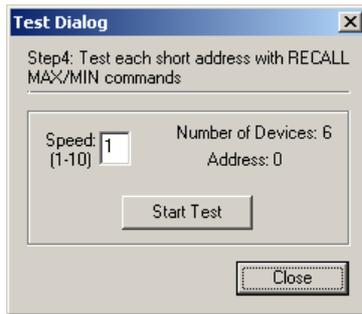
In step 3 you can change the randomly assigned addresses to suit the installation plan. Highlight the device to be given a new address, change the address in the field “Change address” (3) and apply the change by clicking on the “Change address” button.

To identify which luminaire in the device tree corresponds to which luminaire in the lighting installation, activate the function “Show selected devices visually”.



**NOTE: To change an address there must be at least one address free on the DALI circuit (maximum of 63 addresses used)**

## 3.2.4 Step 4: Testing the addresses

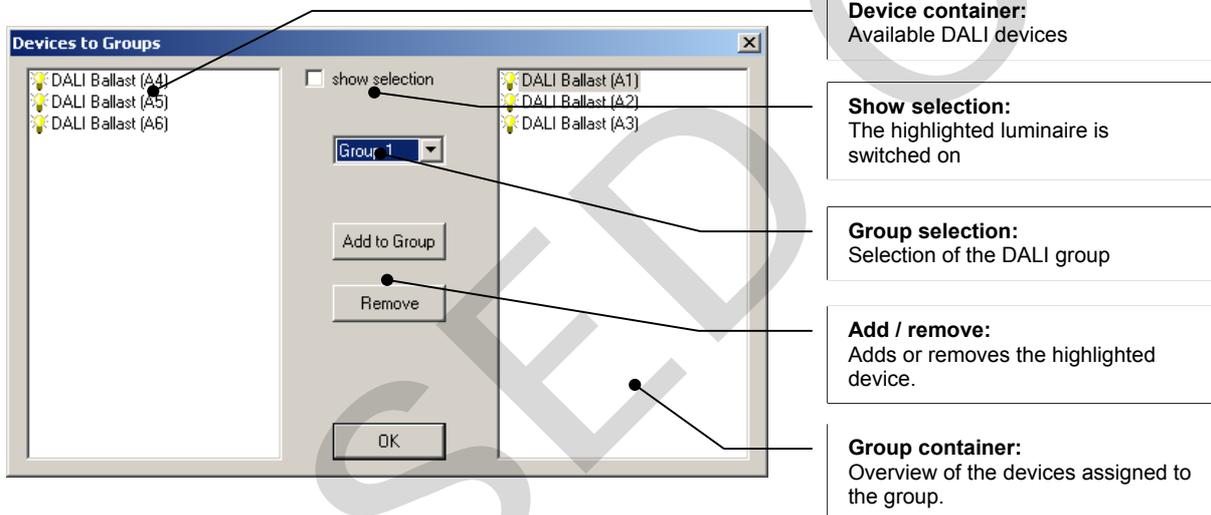


Testing the addresses involves the devices being switched on one after the other with all the other devices switched off. The process is repeated when the last address is reached.

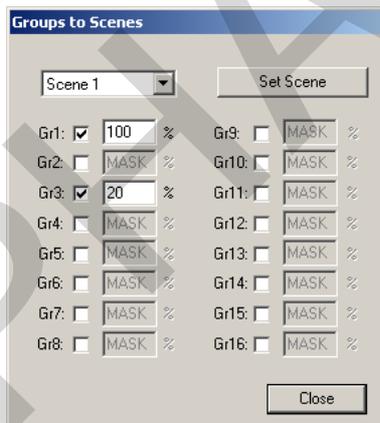
This function can be used to check whether the addresses are assigned as required.

## 3.2.5 Step 5: Grouping the devices

In the “Devices to Groups” step the various ballasts are assigned to the DALI groups. The relevant device is highlighted and added to the group by clicking on the “Add” button. If you add a device to a group by mistake, click on the “Remove” button to delete it from the group container.



## 3.2.6 Step 6: Assigning scenes



In the “Scenes to Groups” step dimming values for the various DALI groups can be assigned to the 16 DALI scenes of the DALI circuit. Clicking on the “Set scene” button transfers the values to the relevant ballasts.

The device tree can be used to assign values for the individual scenes to each DALI device.

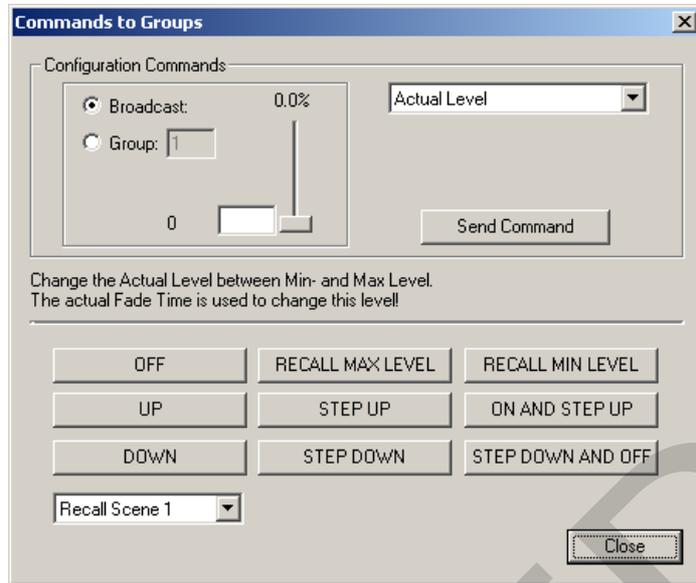
**IMPORTANT:** The devices must first be assigned to the groups.

## 3.3 Broadcast and group commands

Clicking on the “Command to groups” button opens a dialog box. In this box you can send dimming commands to groups or to all the devices (Broadcast).

In this window you can also change general settings for the devices.

The dialog box is in two parts. The top section is where configuration commands can be performed. The bottom section enables control commands to be sent to groups or to all the devices. The Broadcast or Group options enable the command to apply to all the devices or just for a particular group.



**NOTE:** For commands and settings for individual devices see 4.2.2 Device Properties

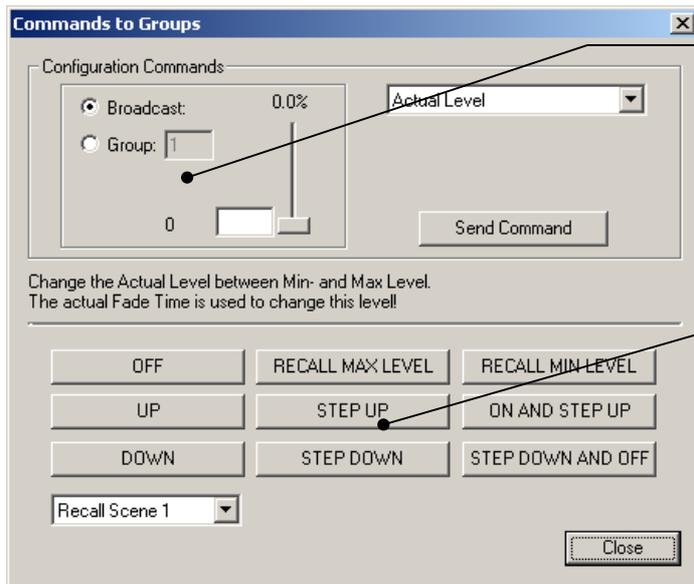
### 3.3.1 Configuration commands

Configuration commands are used to set the global parameters for the DALI devices.

**Table 1: Configuration commands**

	Description
Actual Level	Changes the current brightness value between the minimum and maximum values.
Maximum Level	Changes the maximum dimming value. The brightness value cannot exceed this value
Minimum Level	Changes the minimum dimming value. The brightness value cannot go below this value
Power ON Level	The Power ON Level corresponds to the light value that the DALI devices adopt when the lighting system is powered up.
System Failure Level	The System Failure Level corresponds to the light value that the DALI devices adopt when a bus fault occurs.
Fade Time	The fade time is the time in seconds that is needed to reach a particular brightness value.
Fade Rate	The fade rate is used in connection with the DALI commands “up” and “down”. It indicates by how many dimming steps the light value is changed.

3.3.2 Control commands



**Broadcast or group command:**  
The command applies to all groups or just a particular group

**Control commands:**  
These buttons enable the luminaires to be controlled.

Table 2: Control commands

	Description
Off	Switches the light off
Recall Maximum Level	Calls up the maximum level
Recall Minimum Level	Calls up the minimum level
Up	Increases the light value by the dimming steps defined in the fade rate
Down	Reduces the light value by the dimming steps defined in the fade rate
Step up	Increases the light value by one step
Step down	Reduces the light value by one step
ON / Step up	Switches the light to the Minimum Level if the device was already off. If the device is on, the light value is increased by one step.
Step down / OFF	Reduces the light value by one step. If the device is at Minimum Level it is switched off.
Recall Scene x	Calls up lighting scene "x"

## 4. DALI device tree

The DALI device tree shows the DALI devices found together with their assigned DALI addresses. The DALI device tree is the heart of configTOOL. This is where you can set and read parameters and perform extended functions. In the DALI device tree a distinction can be made between a DALI circuit function and a function for individual DALI devices.

### 4.1 General functions

Right-clicking on the “DALI USB interface” entry opens a context menu containing various functions.

**Search devices:**  
DALI devices already addressed are found and displayed.

**Read Device Properties:**  
Device parameters are read from the DALI devices and updated in configTOOL (e.g. group assignment, scene values, fade time, etc.)

**Print all Properties:**  
The device parameters are printed.

**Flash all devices:**  
Device parameters read out or saved are transferred to the DALI devices (e.g. for backup in the event of a device failure)

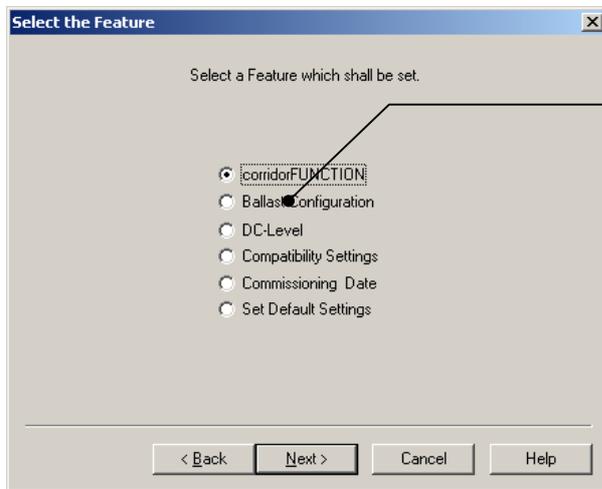
**Advanced feature wizard:**  
Wizard for setting advanced device functions for PCA ballasts (e.g. setting the corridorFUNCTION)

**Device addressing:**  
For changing the DALI addresses

**NOTE:** The “Reprogram all devices” function overwrites the device parameters of the DALI devices with the parameters of configTOOL.

## 4.1.1 Assistant for extended functions:

The assistant for extended functions enables the extended functions and parameters of the PCA EXCEL one4all Ip electronic ballast to be activated and set.



### Settable advanced functions:

- corridorFUNCTION
- Device configuration
- DC level
- Compatibility setting
- Start-up date

**Table 3: Extended settings for PCA EXCEL one4all Ip**

	Description
corridorFUNCTION	This functions enables settings to be made for the corridorFUNCTION.
Device Configuration	This function enables the two parameters "enhanced PowerON Level" and "Dimming on DC" to be set.
DC-Level	This function enables the brightness value to be set to which the ballast is to fade when DC voltage is applied.
Compatibility Setting	This function enables the ballast to be parametrised to the settings of the predecessor generation. (For replacing ballasts in existing systems)
Commissioning Date	This function enables the start-up date of the system to be stored in the devices. (The date can only be set once)

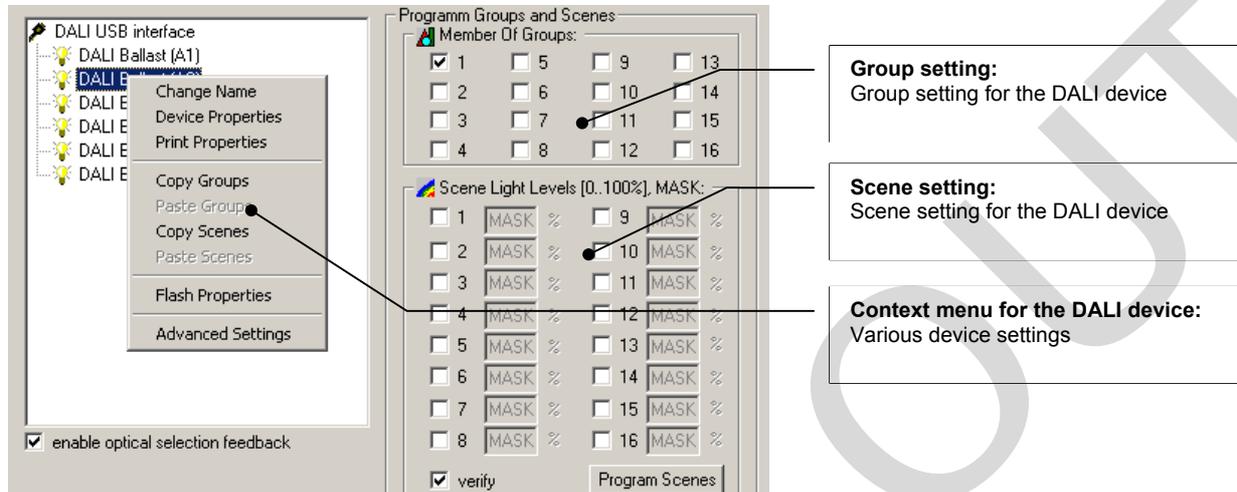
**NOTE:** The assistant operates in broadcast mode, which means that the settings apply to all the PCA EXCEL one4all Ip ballasts in the DALI circuit.

**NOTE:** Knowledge of the extended PCA parameters is required for the settings. For more information on the functions please refer to the device documentation.

## 4.2 DALI device functions

When you click on (select) a device in the DALI device tree the group and scene settings for this device are displayed in the right-hand window. Here you can change the settings and save the changes in the device.

Right-clicking on the device opens a context menu with further options.



### 4.2.1 Group and scene settings

By highlighting a DALI device you can read or change the group and scene settings.

#### Group settings:

Use the check box to activate the group you want. The group settings are transferred to the DALI device immediately.

#### Scene settings:

Use the check box to activate the scene you want and enter the required light value in %. Repeat the process for any other scenes you want. Clicking on the "Program scenes" button transfers the values to the relevant DALI devices.

#### Copy group and scene settings:

Use the "Copy groups" or "Copy scenes" option in the context menu to copy the group or scene settings to the clipboard and use the "Paste group" or "Paste scene" option in the context menu to transfer the settings to the relevant device.

Use the "Save settings" option in the context menu or the "Program scenes" button to transfer to the ballast.

## 4.2.2 Device Properties

Double clicking on a device in the DALI device tree or clicking on the “Device Properties” entry in the context menu opens the “Device properties” window. In this window you can set device parameters or read the status and the current values of the device. This window is largely the same as the one in Section 3.3. The difference is that the commands and settings here apply only to the selected device.

**Setting the group parameters:**  
Select the required variable in the actual value window. Enter the required value. Write the change to the DALI device with the “Change Property” button

**Actual values for the DALI device:**  
Current values in the DALI device

**Status values of the ballast:**  
Current status values of the DALI device

**Control commands:**  
Control commands to the DALI device

Variable	Val...	Add. Info
Actual Level	0	0.0%
Max Level	254	100.0%
Min Level	1	0.1%
Power On Level	254	100.0%
System Failure Level	254	100.0%
Fade Time	0	<0.7sec
Fade Rate	7	95steps

Status	Value
Status of ballast	Ok
Lamp failure	No
Lamp on	No
Limit error	No
Fade ready	Yes
Reset state	No
Missing address	No
Power Failure	No

For an explanation of the actual values and control commands see Sections 3.3.1 and 3.3.2.

**Table 4: Device status**

	Description
Status	Indicates whether the DALI device is ready for communication
Lamp failure	Indicates where there is a lamp fault
Lamp on	Indicates whether the lamp is switched on
Limit error	The specified light value is outside the defined minimum and maximum light values
Fade ready	The DALI device has reached the setpoint light value (fading has finished)
Reset state	Indicates whether the ballast has been reset
Missing address	Indicates whether the DALI device has been assigned a DALI short address
Power failure	Indicates whether the power supply has failed since the last fade command

### Print Properties:

The “Print settings” option in the context menu can be used to print out the settings and the device status.

## Advanced settings:

The “Advanced settings” option in the context menu enables extended device parameters to be checked or set for various DALI devices (e.g. production date, article number, device type, start-up date)

**Information:**  
Extended information for the DALI device (lamp type, device type, production date, ...)

**Features:**  
Overview and brief description of advanced device functions.

**Configuration:**  
Extended device parameters (backward compatibility)

Erweiterte Einstellungen

- [-] Information
  - [-] Device Information
  - [-] Actuator Status
- [-] Features
  - [-] Actuator Features
  - [-] Dimming Features
  - [-] Configuration

Variable	Value
Lamp Type	1x14W T16 (FH-FQ)
Actuator Type	PCA EXCEL one4all Ip
Article Number	22088511
Firmware Version	2.3
Minor Version	2
DALI Version	0.0
eDALI Version	0.9
Commissioning ...	not set!
Batch Number	1073676
Serial Number	777
Production Date	14.11.2006

**NOTE:** The advanced settings vary according to the type of device.

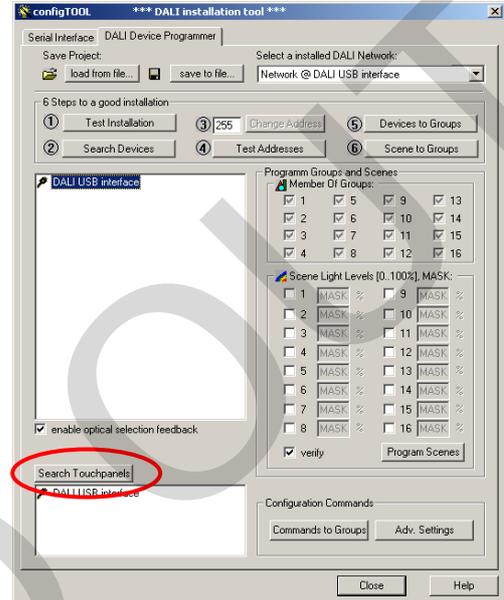
To change settings via the “Configuration” option you need a good knowledge of the device and the DALI system.

## 4.3 DALI controllers

The configTOOL software can be used to assign each of the buttons on the DALI TOUCHPANEL.

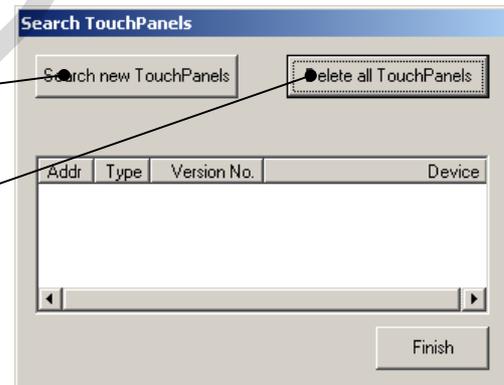
### 4.3.1 Addressing the DALI TOUCHPANEL

- Click on the “Search Touchpanel” command in the “Manage DALI devices” window.

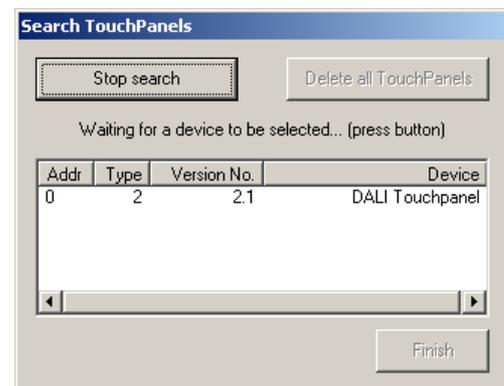


- The “Find Touchpanel” window will open:

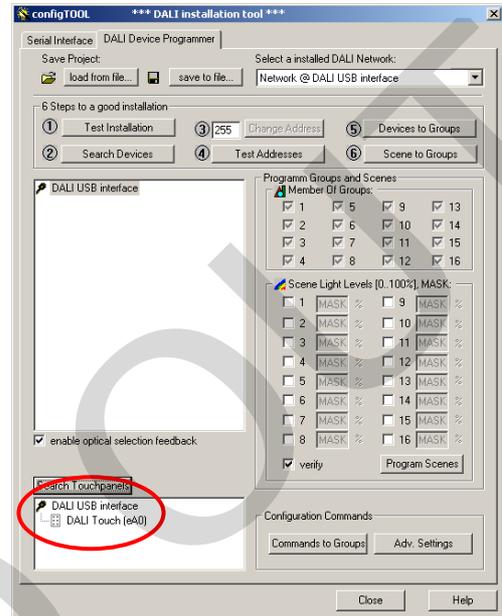
- “Search new TouchPanels” button**  
Starts physical addressing
- “Delete all TouchPanels” button**  
Deletes existing entries  
(addresses of existing TouchPanels)



- Press “Search new TouchPanels” to start addressing.  
Physical addressing functions as follows:  
The configTOOL asks you to press a button on the DALI TOUCHPANEL. Pressing the button causes the device to be detected and an address assigned to it. For applications with multiple DALI TOUCHPANELS the user is notified with device has been assigned which address.



- When all the DALI TOUCHPANELS have been addressed in this way you can stop the search operation by clicking on “Stop search”. Clicking on “Finish” transfers the addressed devices to the main window.
- In the main window the DALI Touchpanels are now displayed as an icon (with the assigned address). Double clicking on the appropriate icon opens the configuration window.



## 4.3.2 Configuration window

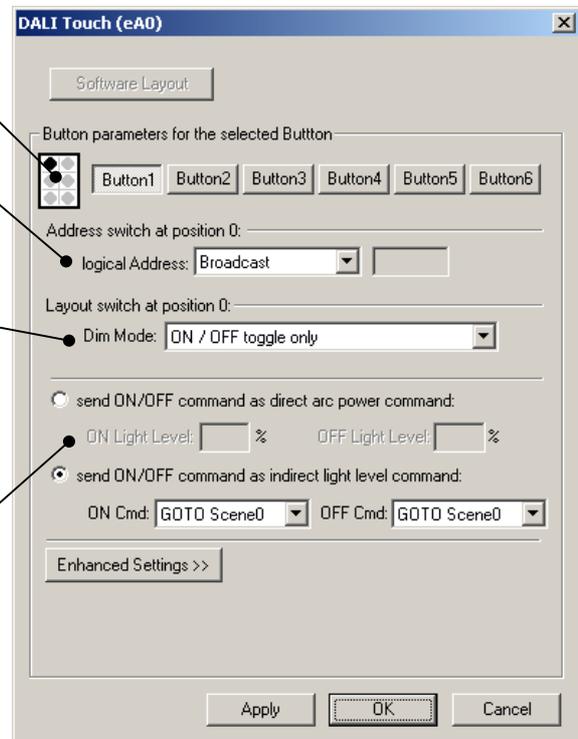
Double clicking on the DALI Touchpanel icon in the DALI bus view opens the configuration window. In this window you can set the parameters for the panel buttons.

**Select button:**  
Select the button to be parametrised

**Select address:**  
Select the destination address to which the command will apply. Options:  
- Broadcast  
- Group 1-16  
- Individual address 1-64

**Select dimming mode:**  
Select button function. Options:  
- toggle ON/OFF  
- dim up only  
- dim up and on for short press  
- dim down only  
- dim down and off for short press  
- toggle up/down  
- toggle up/down and on/off for short press

**ON/OFF command selection:**  
Select which command is sent for ON and OFF.  
Options:  
- OFF  
- Recall Max Level  
- Recall Min Level  
- Go to Scene 1-16



In the advanced settings you can set the fade times for the ON/OFF commands.

**Table 5: Parameters for the dimming mode**

Dimming mode selection	Short press	Long press
Toggle ON/OFF	Toggles between the selected ON command and OFF command	
Dim up only	Ignored	On (if necessary) / fade up
Dim up and on for short press	Perform the selected ON command	On (if necessary) / fade up
Dim down only	Ignored	Fade down
Dim down and off for short press	Perform the selected OFF command	Fade down
Toggle up/down	Ignored	Toggle between fade up and fade down
Toggle up/down and on/off for short press	Toggles between the selected ON command and OFF command	Toggle between fade up and fade down

**Note: Selecting ON or OFF in dimming mode not only allows you to switch the lighting on or off, you can also select which specific command for ON or OFF will be sent. ON and OFF are therefore variables.**

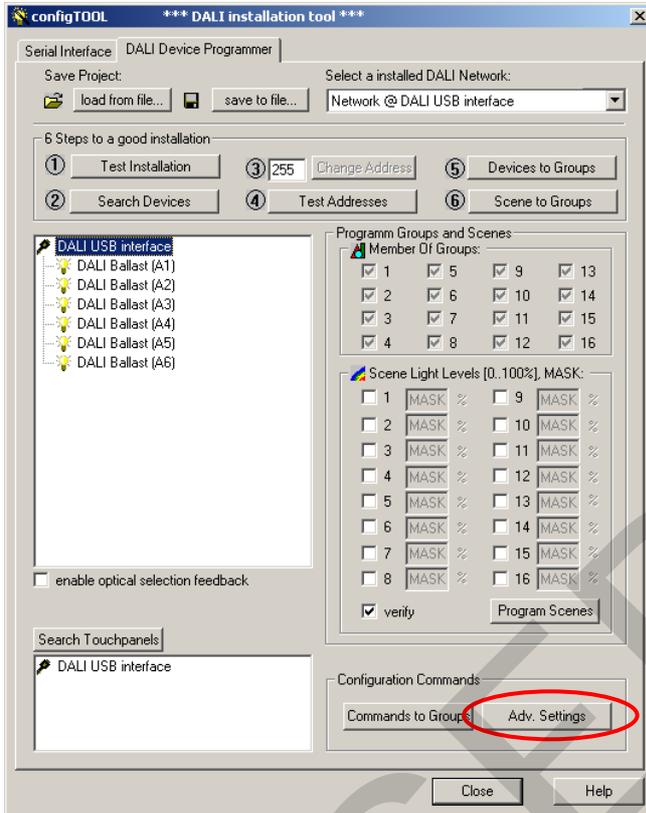
#### Example: Configuring the scene 1 button

- Logical address: Broadcast
- Dimming mode: toggle ON/OFF
- ON/OFF command selection: ON command: "Go to scene 1"  
OFF command: "Go to scene 1"

Each time the button is pressed the command "Go to scene 1" is sent.

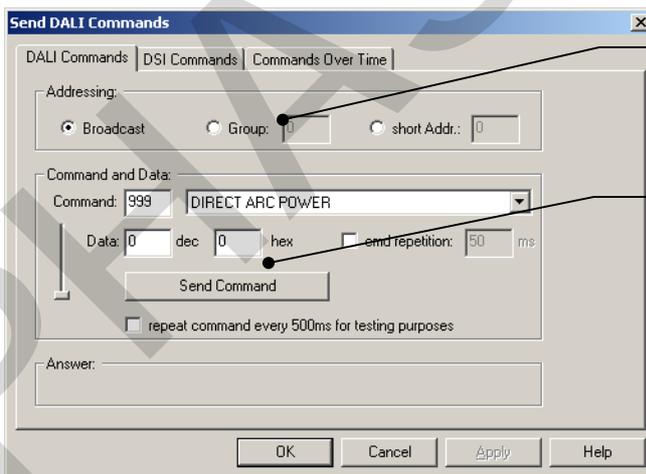
## 5. Command window

The command window enables the advanced DALI user (with excellent knowledge of the DALI command set) to send function commands directly to an individual device, to a group or as a broadcast message to all bus users.



The window is opened with the “Advanced settings” button in the configuration command section.

### 5.1 DALI commands



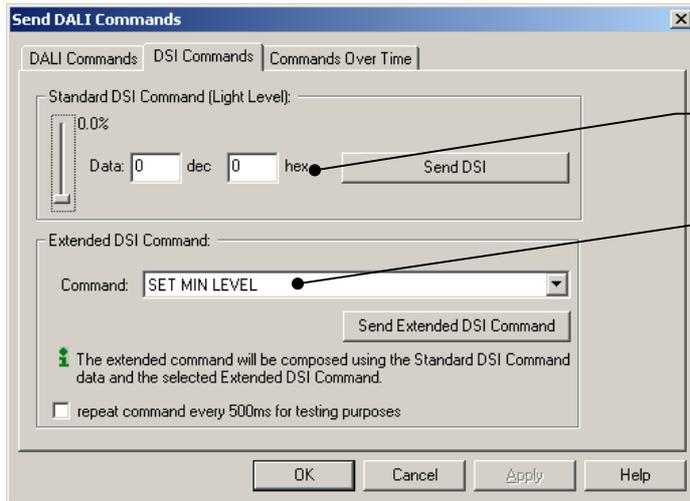
**Addressing:**  
Choice of destinations for the commands

**Commands and data**  
Selection of the command and the value to be sent  
e.g:  
Command: 999 DIRECT ARC POWER  
Data: 0  
Luminaire goes to 0% light

**NOTE:** To use the DALI/DSI command window you need a good knowledge of the DALI/DSI command set.

## 5.2 DSI commands

The options in the “DSI commands” tab enable commands to be sent to DSI units.



**Select brightness value**  
Select dimmer value between 0 and 100%

**Extended DSI commands**  
Extended DSI command set for setting operating parameters  
e.g.: minimum dimming level

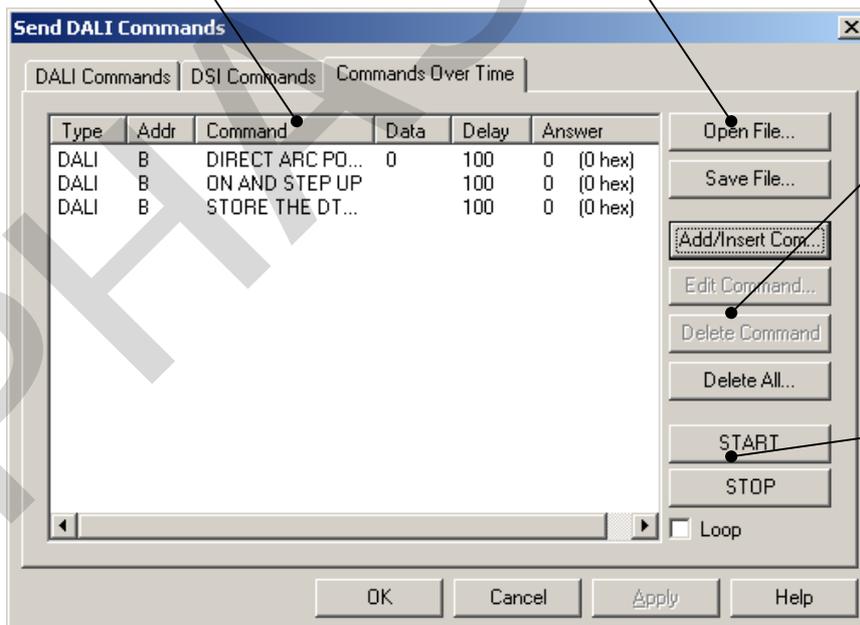
**NOTE:** To use the DALI/DSI command window you need a good knowledge of the DALI/DSI command set.

## 5.3 Commands over time:

The “Commands over time” tab lets you send a sequence of DALI commands to the devices on the DALI bus.

**Command list:**  
Sequence of DALI commands.

**Open file:**  
Opens a saved sequence of commands  
**Save file:**  
Saves the current sequence of commands to a file with the suffix .cod



**Add command:**  
Adds a new DALI command to the command list.  
**Edit command:**  
Changes the highlighted command.  
**Delete command:**  
Deletes the highlighted command.  
**Delete all:**  
Deletes all the commands.

**START:**  
Sends all the commands in the specified sequence to the devices or groups.  
**Step:**  
Sends one command at a time in the specified sequence to the devices or groups.  
**STOP:**  
Stops the command sequence.  
**Endless loop:**  
Enables an endless loop of commands to be performed.

**NOTE:** To use the DALI/DSI command window you need a good knowledge of the DALI/DSI command set.

## 6. Document version

Software version 1.5 2007	C025en_overview_configTOOL_V1_thi (first version)

PHASED OUT