

**DALI Wizard 3**  
12/2023

**inventronics**

**Analysis and  
commissioning tool for  
DALI installations**

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## Introduction

### Field of application

The DALI Wizard Software for Microsoft Windows is used for analyzing and configuring lighting systems in accordance with DALI Standard IEC 62386 and DALI devices.

The DALI Magic USB interface is required as the hardware interface between DALI and the PC.

Detailed information on DALI Standard IEC 62386 can be found at: <https://www.dali-alliance.org/>

Modifications of parameters of a DALI-controlled lighting system can lead to extensive malfunctions. In some control devices, modifications in the range of addresses used, in particular, require a complete re-installation by the control device or with the aid of the associated installation software.

INVENTRONICS assumes no liability for operative failures of a lighting system where the DALI Wizard has been improperly used.

### System requirements

The system requirements for the DALI Wizard are:

- DALI Magic USB DALI interface
- PC or Notebook with the following minimum specifications:
  - Pentium M processor
  - 1 GB RAM
  - Windows 7, 8, 10 or 11 (32-bit and 64-bit)
  - Microsoft .NET Framework 3.5 (SP1)
  - 10 MB hard disk space
  - Monitor with a resolution of 1024x768 pixels
  - One free USB 2.0 port
  - PDF Reader for reading the documentation files

### Installation

After downloading the software please double-click on the ZIP file. Then start the installation by double-clicking on the Setup file.



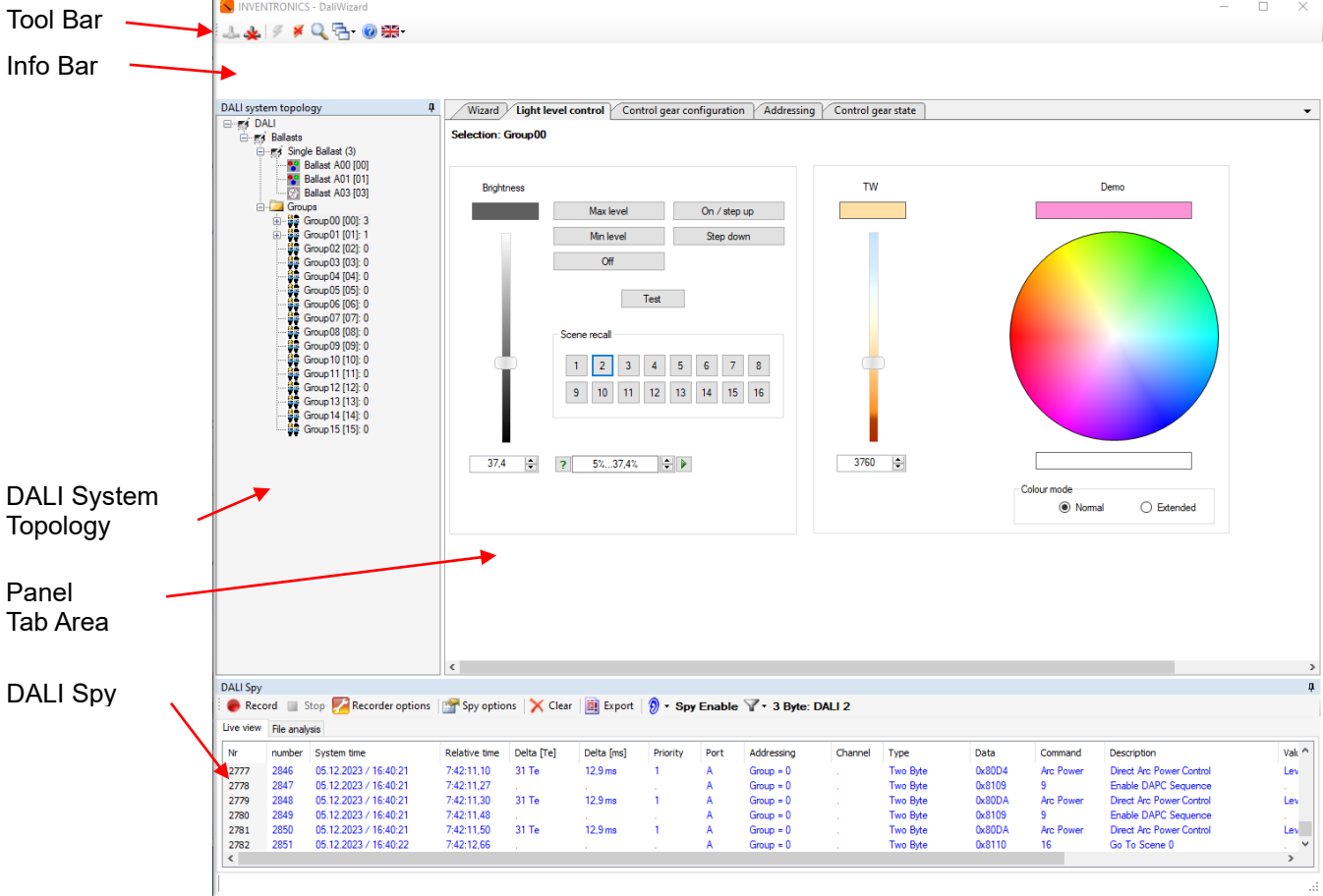
Follow the instructions of the installation wizard.

If Microsoft .NET Framework 3.5 (SP1) is not yet available on your computer, the installation wizard will prompt you to install it.

After installation, you can start the DALI Wizard by double-clicking on the desktop symbol.

### User interface

The user interface of the DALI Wizard is divided into 4 main areas: Tool Bar, Info Area, DALI System Topology, Panel Tab Area and DALI Spy. Panel tabs and DALI Spy can be hidden by settings in the Tool Bar → Window List



The individual areas are described in the following.



All user interface settings of the DALI Wizard are saved for the specific user when the program is closed and are reloaded at the start of the DALI Wizard.

### Tool Bar

**Connect:** Establishes the logical connection between the DALI Wizard and DALI Magic.

**Disconnect:** Disconnects DALI Wizard and the DALI Magic.

**Power on:** Switches DALI supply of DALI Magic on.



For up to four DALI control devices can be supplied via USB. For a higher number of bus participants, the DALI Magic wall power supply must be used.



Before switching on the internal DALI supply, make sure that the maximum permitted total current of 250 mA is not exceeded. Non-compliance can result in damage to the connected bus participants and to the DALI Magic.

**Power off:** Switches DALI supply of DALI Magic off

**Search:** Scans the bus, reads meta data from all participants and lists participants in the DALI System Topology. Search opens the following search dialog:

Device Search



The dialog box contains two buttons at the top: "Light on" (highlighted with a blue border) and "Light off". Below these are four checkboxes arranged in two columns: "Change random addresses", "Change short addresses", "Scan configuration properties", and "Scan light scenes". At the bottom are two buttons: "Start" and "Cancel".

**Light on/off:** Switches all drivers on/off via broadcast to allow fast user feedback.

**Change random/short addresses:** Assigns/revises addresses (random: 3 bytes, short: 1 byte) to participants that have either no or double addresses in the DALI network

**Scan configuration properties:** Reads configuration data from all participants (e.g. Power-on and system-failure settings, fade times, ect.

**Scan light scenes:** Reads scenes data from all participants.

**Start:** Apply scanning the DALI network with respect to settings

**Window List:** Displays a menu to select or hide panel tabs. Activating an area automatically brings it into the foreground.

**Help:** Displays a selection menu.

If the **"Online help"** menu item is selected, the manual installed with the software is opened as a PDF document. A PDF Reader must be installed on the PC for this.

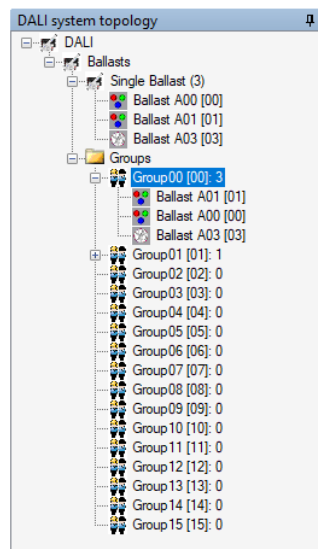
If the **"About"** menu item is selected, information on system, versions and legal documents are displayed

**Language:** After selecting a language, the DALI Wizard has to be restarted to work with the selected language. A corresponding indication will be shown in information line.

## Info Area

Error and warning messages will be displayed in the Info Area

## DALI System Topology




This is the central element of the DALI Wizard. In this area, the topology of the connected DALI lighting system is shown in the form of a tree.

The DALI interface is displayed on first level.

All participants present in the system are shown with symbols in two levels. The total number of participants appears behind the folder names. The address of the participant is specified in square brackets behind each participant. If this folder is selected, actions are carried out for all participants.

The 16 DALI groups are in the **"Groups"** folder. If this folder is selected, actions are carried out for all groups.

The individual groups are shown under the group folder. The number of DALI control devices that belong to the respective group appears behind the group name. Clicking on the  symbol in front of the group expands the display and the individual participants are shown. If a group is selected, actions are carried out for this group.

## Panels

### Wizard

Basic settings can be made to the DALI Wizard software here.

The screenshot shows the DALI Wizard software interface with the following settings:

- Allowed commands:**
  - None
  - Control and queries, no configuration
  - All
- Counting:**
  - Start at 0
  - Start at 1
- Diagnostic options:**
  - Show communication problems permanent
  - Reset button
- Memory bank options:**
  - Transmit configuration to further gears

#### Allowed commands – None

If this option is selected, commands cannot be sent with the DALI Wizard. Commands on the DALI line are, however, registered and can be displayed in the Panel Bus log.

#### Allowed commands – Control and queries, no configuration

In this setting, commands for the light control as well as query commands can be sent with the DALI Wizard. No change to the device configuration is possible.

This setting, at least, is required in order to search for participants or to read participant parameters.

#### Allowed commands – All

With this setting, all valid DALI commands can be generated with the DALI Wizard. This setting is required to make changes to the participant configuration.

#### Counting – Start at 0 / Start at 1

In the DALI Standard IEC 62386, counting starts at 0. Thus there are groups 0 to 15, for example. Numerous control devices on the market start counting at 1, however, and use the designation groups 1 to 16.

Here the layout in the DALI Wizard can be adapted according to the personal preferences of the user.

#### Diagnostic options

Communication problems are shown in the DALI tree so that the relevant participant appears in red lettering. If a participant does not respond to query commands, the associated symbol is shown with a cross.

If the **"Show communication problems permanent"** option is selected, the participant stays marked in red even if error-free communication is possible again. In this case, the error display can be deleted by clicking on **"Reset"**.

If the **"Show communication problems permanent"** option is not selected, the error display is automatically deleted as soon as error-free communication is possible.

#### Memorybank-Options:

If **"Transmit configuration to further gears"** selected, configurations of single devices can be transferred to other single devices. This is only possible with one connected non-addressed device at one time and can be used for the panels Corridor Function, Touch DIM Configuration and Emergency / Power to lamp.



## Light Level Control

With this panel light level and light color can be controlled for the participant selected in the tree, the selected group of participants or all participants.

The screenshot shows a control panel with a navigation bar at the top containing 'Wizard', 'Light level control', 'Control gear configuration', 'Addressing', and 'Control gear state'. Below the navigation bar, it says 'Selection: Group00'. The main interface is divided into two main sections. The left section is titled 'Brightness' and contains a vertical slider, buttons for 'Max level', 'Min level', 'Off', 'On / step up', and 'Step down', and a 'Scene recall' grid with 16 numbered buttons. Below this is an input field showing '72.1' and a percentage field showing '72.1%'. The right section is titled 'TW' and contains a vertical slider, a 'Demo' color wheel, and an input field showing '3140'. Below the color wheel is an input field showing '254; 127; 164; 0' and a 'Colour mode' selector with 'Normal' and 'Extended' options. Red arrows point from labels on the left to specific elements: 'Selected participant(s)' points to 'Selection: Group00', 'Light Level Area' points to the brightness slider, 'Scene Recall' points to the scene recall grid, 'TW Slider' points to the TW slider, and 'RGBW Area' points to the color wheel and its associated input field.

The top area of the panel displays which participant is selected.

### Light Level Area

This area contains a slider and input field for dimming, DALI Command buttons and Scene Recall buttons

**Slider:** Moving the slider transfers the new light value directly to the selected participant. The transferred light value is shown in the input field.

**Input field:** A light value can be entered directly into the input field and sent with the Execute button. The Up/Down buttons can be used to increase or decrease the light value in DALI steps. Clicking on the **"Query"** button queries the light value of the selected participant. If several participants are selected, they are queried individually. If the light values of the queried participants are different, the lowest and highest light value is shown as a range in the input field.

**DALI Commands:** Various DALI commands for lighting control can be selected in this area.

**Scene recall:** The associated DALI light scene is recalled up by clicking on one of the Scene buttons.

### Tunable White Slider

This area contains a slider and input field for modifying the light color in TW devices. The light color is displayed in the field on top of the slider.

**Slider:** Moving the slider transfers the new light color directly to the selected participant. The transferred light color is shown in the input field.

**Input field:** A light color can be entered directly into the input field and sent with the Execute button. The Up/Down buttons can be used to increase or decrease the light color.

### RGBW Area

This area contains a color picker, an input field and a color mode selector for modifying the light color in RGB devices. If the driver features RGBW, a slider controls the dim level of the white LED.

- Color picker:** Moving the cursor transfers the new light color directly to the selected participant. The transferred light color is shown in the input field.
- Slider:** Moving the slider transfers the new dim level of the white LED directly to the selected participant. Dim level is assigned to 0 - 50% of the scale of the driver. Moving slider from 50 - 100% will dim RGB channels. At 100%, only white LED is active. The transferred dim level is shown in the input field.
- Input field:** A light color can be entered directly into the input field and sent with the Execute button.
- Color mode:** In normal mode, max power on each channel (color) is clamped. In Extended mode, power is not clamped. Please check for details in the driver data sheets.

### DALI Spy

**Button Bar** →

**Display Area** →

Nr	number	System time	Relative time	Delta [Te]	Delta [ms]	Priority	Port	Addressing	Channel	Type	Data	Command	Description	Value	Device type	Self
2815	2884	05.12.2023 / 17:08:40	8:10:24.67	31 Te	12.9 ms	1	A	Address = 0	...	Two Byte	0x0004	Arc Power	Direct Arc Power Control	Level = 212 (0x04, 31.8% ...	...	x
2816	2885	05.12.2023 / 17:08:40	8:10:24.84	...	...	...	A	Address = 0	...	Two Byte	0x0109	9	Enable DACP Sequence	...	...	x
2817	2886	05.12.2023 / 17:08:40	8:10:24.87	31 Te	12.9 ms	1	A	Address = 0	...	Two Byte	0x0004	Arc Power	Direct Arc Power Control	Level = 212 (0x04, 31.8% ...	...	x
2818	2887	05.12.2023 / 17:09:12	8:10:57.12	...	...	...	A	Address = 0	...	Two Byte	0x0105	5	Recall Max Level	...	...	x
2819	2888	05.12.2023 / 17:09:14	8:10:59.20	...	...	...	A	Address = 0	...	Two Byte	0x0104	4	Step Down	...	...	x
2820	2889	05.12.2023 / 17:09:16	8:11:00.78	...	...	...	A	Address = 0	...	Two Byte	0x0108	8	On And Step Up	...	...	x
2821	2890	05.12.2023 / 17:09:16	8:11:01.38	...	...	...	A	Address = 0	...	Two Byte	0x0105	5	Recall Max Level	...	...	x

The DALI Spy panel is split into two areas. There is a button bar at the top edge of the panel and an information line below. The bottom part of the panel contains a display area with the "Live view" and "File analysis" tabs.

#### Button bar

**Record** Starts the recording of DALI communication of the selected Magic in a data file. The file name and save location of the data file can be defined in the "Recorder options". Every time recording starts, the file name is appended with an automatically generated index. When recording is running, "(Recording running)" appears behind the panel name. Independent of filter settings the entire communication is recorded in the data file.



**Recorder options:** Opens the "Recorder options" dialog window. The file path for the save location of the data file can be specified by clicking on path. The specified file path is displayed abbreviated in the "path" display field. The full path can be seen in the Tool Tip when the cursor is over the display field.

The file name can be specified in the "File name" input field. The default value for the file name is "dali". Clicking on the "date" button appends the file name with the current date.

**Spy options:** Opens the "Spy options" dialog window with both "Columns" and "Filter" tabs. The tabs of the dialog window are described in the "Filter" or "Columns" sections of this chapter.

**Clear:** Deletes the content of the currently selected tab display area. The button does not affect the recording in a data file.

**Export:** Allows the selected tab display area contents to be saved in a .csv file for further processing in other programs.

**Spy enable:** Enables or disables displaying DALI data traffic. Selecting "Only signal" displays traffic from sensors only.

**Filter:** Select DALI cmd mode (DALI 2, OSRAM or autodetection)

#### Information line

If the "Live view" tab is active, the "File name" is displayed in the information line of the Bus Logging panel followed by the abbreviated path and the complete file name of a data file of the running recording or the recording that was run last. If the cursor is on the information line, the full path and file name are displayed in the Tool Tip.

If the "File analysis" tab is active, the "File name" is displayed in the information line of the Bus Logging panel followed by the abbreviated path and the complete file name of the data file shown in the display area. If the cursor is on the information line, the full path and file name are displayed in the Tool Tip.





## Display area

The DALI communication is shown in tabular form on the display area of the tab. The different command types are coded in different colors.

System information is displayed in **GREY**.

Addressable DALI commands that do not need to be sent twice are shown in **BLUE**.

In the case of addressable DALI commands that need to be sent twice, the first command is shown in **LIGHT BLUE** and the second command in **BLUE**.

Non-addressable DALI commands that do not need to be sent twice are shown in **GREEN**.

In the case of non-addressable DALI commands that need to be sent twice, the first command is shown in **BLUE-GREEN** and the second command in **GREEN**.

Answers to queries are shown in **RED-BROWN**.

Unknown communication events are shown in **RED**.

An example of the color coding is shown below.

## Columns

At the "**Columns**" tab of the "**Spy options**" dialog the columns shown in the display area can be defined.

The meaning of the columns is:

**Addressing:** Type of addressing and address of the recorded command. Nonaddressable commands are marked with "All".

**Channel:** This column is intended for future applications and currently has no display.

**Command:** Command number according to IEC 62386.

**Data:** Raw data recorded by the interface shown in hexadecimal.

**Delta [ms]:** Time between the current event and the preceding event in ms. If the time is longer than 106 ms, the column stays empty.

**Delta [Te]:** Time between the current event and the preceding event in units of 417  $\mu$ s. If the time is greater than 255 units, the column stays empty.

**Description:** Command name according to IEC 62386 or interpretation and value of a response.

**Device type:** Descriptive text of the device type for device type-specific commands.

**Event:** Sequential number of the registered event on the DALI line.

**Priority:** Command priority according to IEC 62386.

**Relative time:** Time of registering an event, measured since switching on the DALI Magic. The format is hh:mm:ss.xy with a resolution of 10 ms.

**Type:** Details of the event type: 2-byte, 3-byte, response.

**Value:** Parameter value for commands which contain a parameter.



The column selection is saved separately for live view and the file analysis depending on the user. The column selection does not affect the recording in a data file.

## Filter

A filter criterion can be defined on the "Filter" tab in the "Spy options" dialog. Only elements that correspond to the filter criterion are then shown in the display area. Filtering can be carried out according to addresses and/or commands.

**Address filter:** Short addresses, group addresses, broadcast or special address (nonaddressable commands) can be selected as the filter criterion. Nonaddressable commands are marked in the display area with "All".

**Command filter:** The command filter provides all commands defined in IEC 62386 as a filter criterion, grouped according to command type. If a filter is applied, "(Filter)" is displayed behind the tab name in the DALI spy panel.



The filter criterion is stored separately for the live view and the file analysis depending on the user. The filter criterion does not affect the recording in a data file.

If the filter criterion is not selected correctly, no element will be shown in the display area under certain circumstances.

## Addressing

The Addressing panel is used for the display, allocation and modifying of the short addresses in a DALI system.

The screenshot shows the 'Addressing' panel with the following elements:

- Wizard** | **Light level control** | **Control gear configuration** | **Addressing** | **Control gear state**
- Addressing** section:
  - Buttons: Start addressing, Stop addressing, Delete all addresses, Delete selected address.
  - Options:
    - No change of existing random-addresses
    - Analysis
- Identification** section:
  - Visualize selection
- Addresses** section:
  - Grid of 64 address buttons (0-63). Address 0 is blue, 1 and 3 are green, and all others are grey.



Changes of short addresses and random addresses can lead to malfunctions of lighting systems that can only be remedied through re-installation by means of the control system used.

### Addressing area

#### "Start Addressing" button:

Starts the addressing process taking the selected options into account.

#### "Stop addressing" button:

Immediately stops a running addressing process.

#### "Delete all addresses" button:

Deletes all short addresses.

#### "Delete selected address" button:

Deletes the selected short address.

#### "Analysis" option:

If this option is selected, no change is made to the existing short addresses.

#### "No change of existing random-addresses" option:

If this option is selected, no DALI command for generating new random addresses are sent to the participants.

### Identification area

If Visualize selection is selected, a flashing sequence for identification is started in the system for the selected short address. The settings in the "Blink sequence" area on the "Light level control" panel are used for this.

### Addresses area

The addresses of a DALI lighting system are shown in this area. Unused addresses are shown in **GREY**, allocated addresses in **GREEN** and selected addresses in **BLUE**.

Clicking on an allocated address selects it.

The address of a participant can be changed by Drag&Drop.

## Control Gear State

The **Control Gear State** panel is divided into a general and a device type-specific area.

Clicking on the respective query button sends a corresponding DALI command or a command sequence. The responses are analyzed and displayed.

Status information according to IEC 62386-102 are displayed in the general section on the left side. The extended OSRAM serial number and the OSRAM ID (CIN) are also displayed in the lower section of the general area.

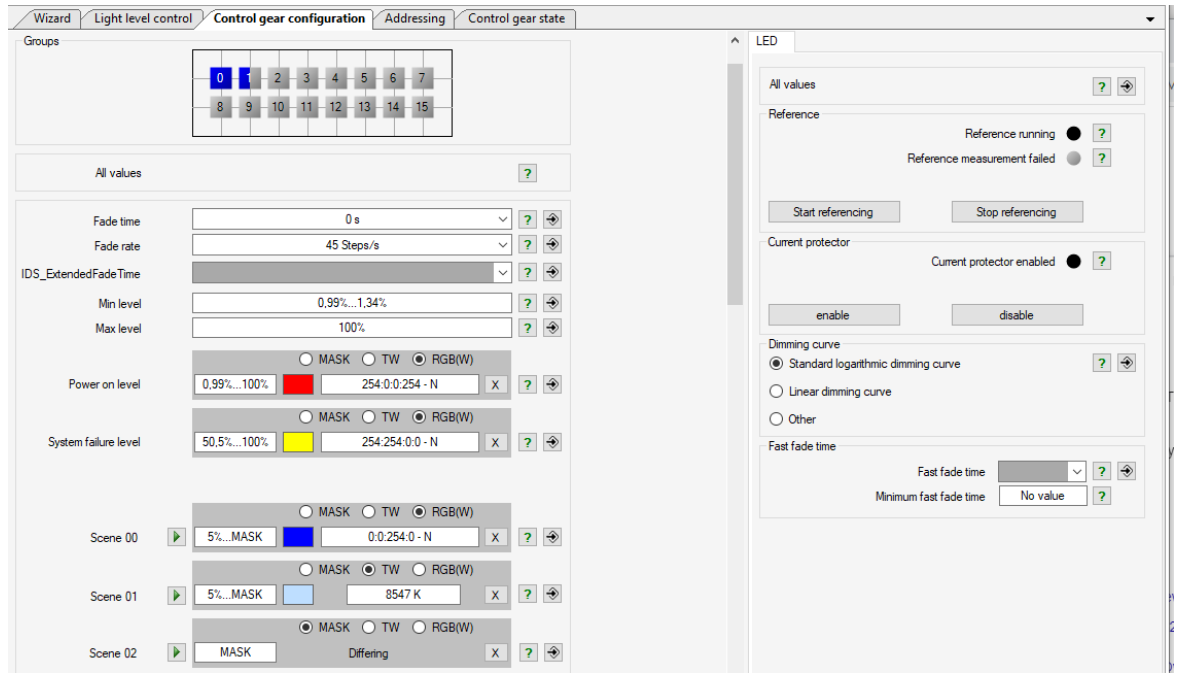
Status information according to IEC 62386-2xx is displayed on tabs in the device type specific section on the right side. Different data are shown and can be queried depending on the participant selected.



Only tabs of device types that have been detected when reading the device parameters are displayed in the device type-specific area.

# Control Gear Configuration

The **Control Gear Configuration** panel is divided into a general and a device type-specific area.



Clicking on the respective query button sends a corresponding DALI command or a command sequence. The responses are analyzed and displayed.

Parameter settings are sent to the selected participant(s) by clicking on the associated "Transmit configuration" button.

Configuration parameters according to IEC 62386102 are displayed in the general section on the left side.

Configuration parameters according to IEC 62386-2xx are displayed on tabs in the device type-specific section on the right side. Depending on the selected participant, different data are displayed, can be queried and configured.



Only tabs of device types that have been detected when reading the device parameters are displayed in the device type-specific area.



Changes to the configuration parameters lead to changed behavior of the lighting system. Care must be taken when changing configuration parameters, especially with components of safety and emergency lighting.

## Groups area

In the "**Groups**" area is shown in **BLUE** to which of the 16 DALI groups the selected participant is assigned to.

If several participants are selected which do not all belong to the same groups, this is indicated by the corresponding group field only being half filled in blue.

Clicking on a group field on the display assigns or removes the selected participant to or from the group. The group configuration is transmitted immediately.

## Scene programming

Each of the 16 DALI scenes is displayed on its own line in the general section of the device configuration with respect to dim level, TW and RGBW settings, if supported by the driver.

Each scene has a checkbox, an "Execute" button, an input field, a "Query" button and a "Transmit configuration" button.

### Input field:

The scene light value and color are displayed in the input field. If several participants are selected and the scene light values of the participants are not identical, a value range is displayed. A deleted scene value is marked with "MASK". The input field can be edited. Entries are **not** automatically transmitted to the participant(s).

### "Execute" button:

Recalls the scene light value stored in the selected participant.

**"Query" button:**











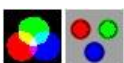

Reads out the scene light value stored in the selected participant. If several participants are selected and the scene light values of the participants are different, a value range is displayed.

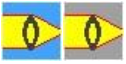
**"Transmit configuration" button:**

Transmits the scene configuration to the selected participant(s).

## Appendix

### Symbols for DALI participants and groups

	Unknown device: Devices marked as such cannot be uniquely identified or the device type has not yet been queried.
	Non-accessible device: If a participant is not accessible, the associated symbol is marked with a cross.
	Control gear according to IEC 62386 – 201, device type 0, low pressure fluorescent lamps. Participants detected as an OSRAM product are shown in color, competitor devices or older OSRAM devices are shown on a grey background.
	Control gear according to IEC 62386 – 202, device type 1, self-contained emergency lighting. Participants detected as an OSRAM product are shown in color, competitor devices or older OSRAM devices are shown on a grey background.
	Control gear according to IEC 62386 – 203, device type 2, high pressure discharge lamps. Participants detected as an OSRAM product are shown in color, competitor devices or older OSRAM devices are shown on a grey background.
	Control gear according to IEC 62386 – 204, device type 3, low-voltage halogen lamps. Participants detected as an OSRAM product are shown in color, competitor devices or older OSRAM devices are shown on a grey background.
	Control gear according to IEC 62386 – 205, device type 4, supply voltage regulator for incandescent lamps. Participants detected as an OSRAM product are shown in color, competitor devices or older OSRAM devices are shown on a grey background.
	Control gear according to IEC 62386 – 206, device type 5, signal converter 0 V – 10 V / 1 V – 10 V. Participants detected as an OSRAM product are shown in color, competitor devices or older OSRAM devices are shown on a grey background.
	Control gear according to IEC 62386 – 207, device type 6, LED. Participants detected as an OSRAM product are shown in color, competitor devices or older OSRAM devices are shown on a grey background.
	Control gear according to IEC 62386 – 208, device type 7, switching function. Participants detected as an OSRAM product are shown in color, competitor devices or older OSRAM devices are shown on a grey background.
	Control gear according to IEC 62386 – 209, device type 8, color control. Participants detected as an OSRAM product are shown in color, competitor devices or older OSRAM devices are shown on a grey background.
	Control gear according to IEC 62386 – 210, device type 9, sequencer. Participants detected as an OSRAM product are shown in color, competitor devices or older OSRAM devices are shown on a grey background.



Control gear according to IEC 62386 – 211, device type 8, optical control.

Participants detected as an OSRAM product are shown in color, competitor devices or older OSRAM devices are shown on a grey background.



Device group: Groups according to DALI Standard IEC 62386 are marked with this symbol.

## Interface symbols



"Execute": Clicking on a button marked as such leads to execution of an action.

Example: Transfer of a light value to a control gear.



"Query": Clicking on a button marked as such leads to the querying of one or more parameters of a control gear.

Example: Query for a lamp failure.



"Transmit configuration": Clicking on a button marked as such leads to the transfer of one or more parameters to a control gear.

Example: Saving a scene light value.



"Cancel": Cancels a prolonged action immediately.



"Yes" indicator: Appears if an associated request has been answered with "Yes".



"No" indicator: Appears if an associated request has been answered with "No".



"Undetermined indicator": Appears if multiple control gears are selected, but have different values.



"Unknown" indicator: Appears if a parameter is unknown or if the answer to a question cannot be clearly interpreted, e.g. if several participants respond at the same time.



Movement detector switches on.



Movement detector switches off.

## Program and manual updates

Please note:

All information in this manual has been prepared with great care. INVENTRONICS, however, does not accept liability for possible errors, changes and/or omissions. Please check <https://www.inventronics-light.com/tuner4tronic> or contact your sales partner for an updated copy of this manual.

Software updates:

To ensure the latest software version is used please consult the our website

<https://www.inventronics-light.com/tuner4tronic>

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