

# 'INTERRA

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*Developer of Uniqueness*

DALI Master

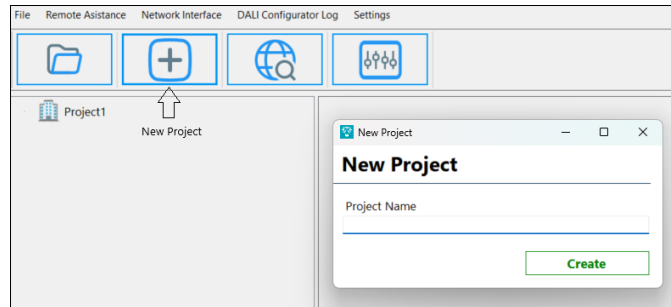
DALI Configurator User Manual

## Contents

1.	Creating a New Project .....	3
2.	Starting Addressing(Commissioning).....	5
3.	LED Driver Parameters .....	6
4.	Input Device Parameters.....	8
4.1	Push Button Parameters.....	9
4.2	Absolute Input Parameters .....	10
4.3	Occupancy Sensor Parameters .....	10
4.4	Light Sensor Parameters .....	11
5.	Color Temperature Parameters.....	11
6.	RGBWAF Color Parameters .....	12
7.	Emergency Lighting Parameters .....	13
8.	Group Based Control .....	14
8.1	Control Gear Groups.....	14
8.2	Input Device Groups .....	14
9.	Channel Based Control.....	15
10.	Multi Addressing Group.....	15
11.	Find DALI Masters .....	Hata! Yer işareti tanımlanmamış.
12.	Device Map .....	Hata! Yer işareti tanımlanmamış.

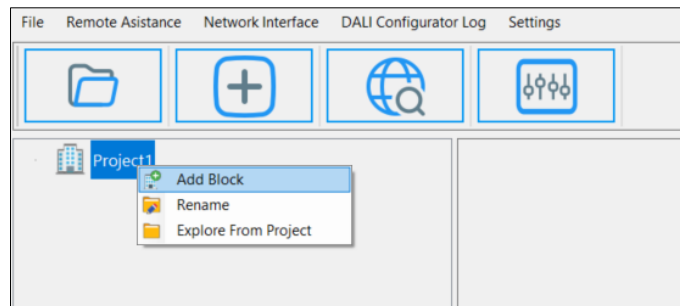
## 1. Creating a New Project

You can create a new project by DALI Configurator program to add and manage all of DALI masters, DALI input devices and DALI control gears. When you click Add Project icon upper left, you need to give a name to your project as seen Picture 1 below.



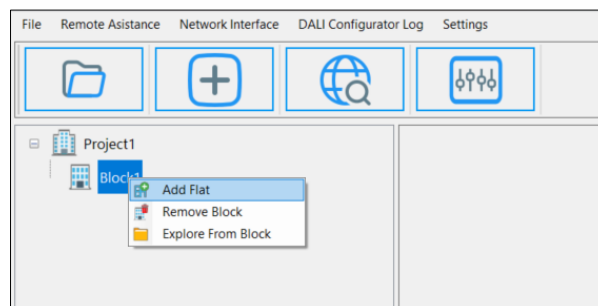
(Picture 1)

Created project is added to left side of configurator program. You can easily add new blocks by right click to project. It is shown in Picture 2.



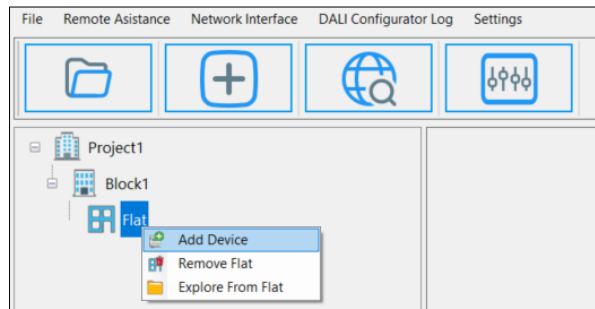
(Picture 2)

After adding new block you need to give it a name. Then you can add new flat by right click to flat. It is shown in Picture 3. You also need to give a name to new added flat.



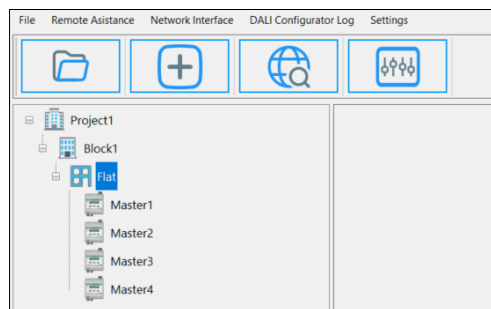
(Picture 3)

After adding a flat, you can add DALI master devices to your project. Right click to flat, then select add device as shown Picture 4 below. You need to enter DALI Master name and IP address.



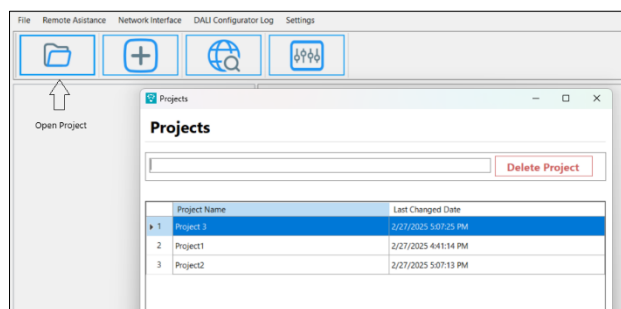
(Picture 4)

After adding DALI masters to your project, project tree in the left side is shown in Picture 5. To remove a DALI master from your project, you can right click DALI master then press Remove Device button. After adding a DALI Master, you are ready to address your DALI line easily to find connected input devices and control gears.



(Picture 5)

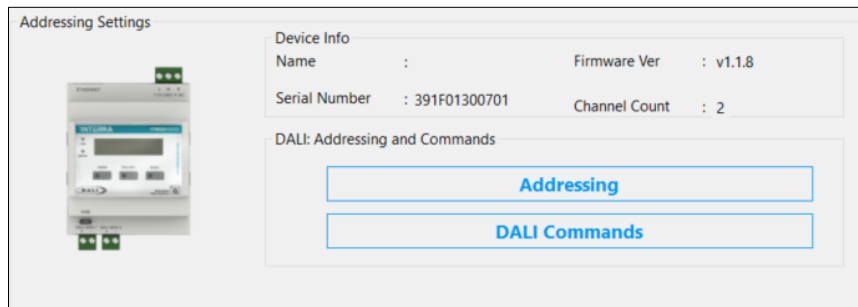
You can open previously added projects by click Select Project icon upper left. In this window you can see all created projects. Double click on a project then it will be opened. Also a project can be deleted. Selecting a new project is shown in Picture 6.



(Picture 6)

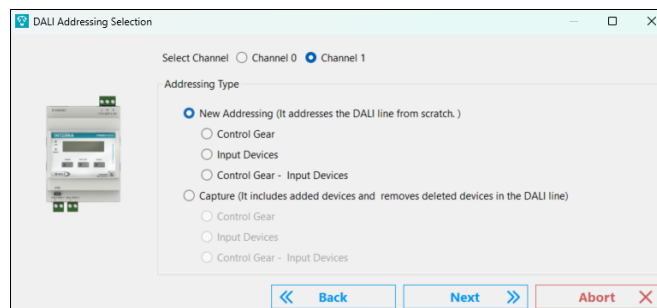
## 2. Starting Addressing(Commissioning)

After creating a new project then adding a DALI master to your project, you can easily start addressing of DALI line to find control gears and input devices. By double click to DALI master device on project tree, addressing settings section is seen as Picture 7. There are also some DALI Master specific information here.



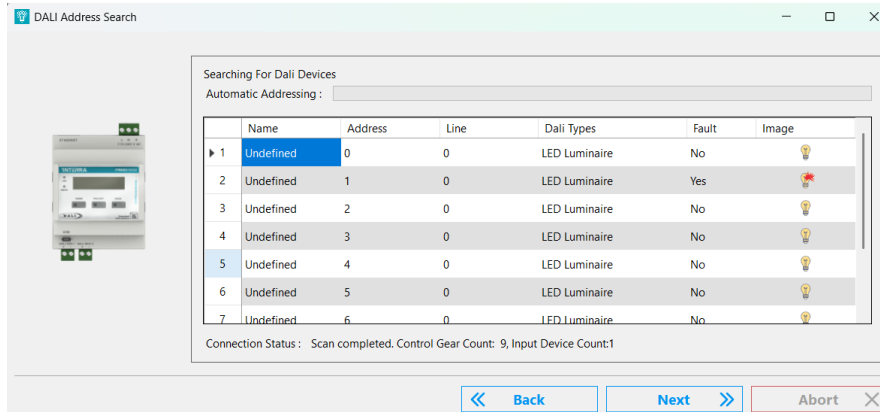
(Picture 7)

When you press addressing button, new window is appeared as shown in Picture 8. First parameter we need to take care is channel selection. We can address both DALI lines with DALI Configurator program. There are two addressing types. First one is new addressing. In this type of addressing, DALI short address, groups etc...parameters are deleted and previous configurations will be deleted for every device on this DALI line. We have to be careful so much while new addressing. Second addressing type is capture. In this type, previously addressed device's parameters are kept. If there are some removed devices, DALI master can understand it. If we add a new device which was addressed before or not doesn't matter, it is assigned a new available short address. If there are some deleted devices, their short address is assigned to a new added device. If there is no deleted device its address is set to last device's address plus one. Those two addressing type is supported for control gears and input devices. After we decide which addressing type is used, we can also select what kind of devices will be addressed; control gear, input device or both.



(Picture 8)

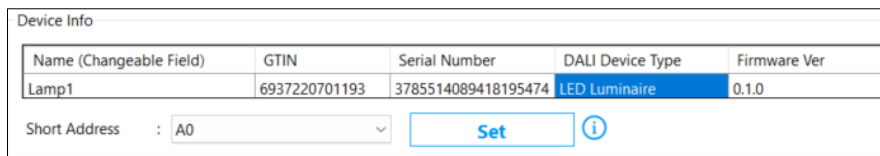
Press Next button to start addressing. While DALI master is addressing, DALI Configurator program shows every found devices. The lamp of a control gear can fail. It is also observed in DALI Address search window. Fault column shows lamp is fault or not. After addressing process is done, found control gear and/or input device count is shown below in Picture 9. All found devices are listed in project tree on left side. You can configure a device by double click on it. It may take little bit duration of time while getting DALI parameters. In the next section it is described that which parameters are used for which purpose.



(Picture 9)

### 3. LED Driver Parameters

LED drivers are commonly used control gear type. There are some lighting functions on the left side of the screen to control light level. Also you can identify the device with Identify Device button. Identification process takes 10 seconds. Device info section contains device specific data which are name, GTIN number, serial number, device type, firmware version and short address. You can give a name to control gear by typing name area. Maximum allowed character count is ten. It is let to change the short address of control gear. If you change short address which was set previously, they are swapped. Device info section is shown in Picture 10.



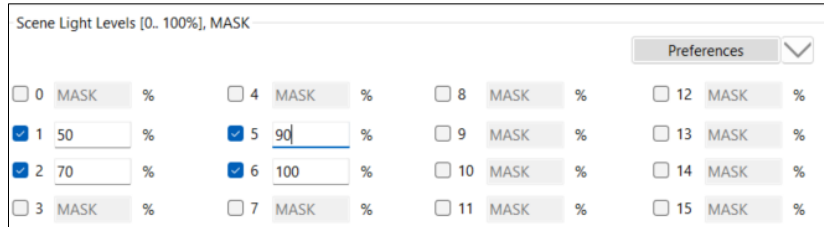
(Picture 10)

There are 16 control gear groups in a DALI line. To assign a control gear to a group is easily achieved by click on group button. Assigned group is marked as dark. You can also remove a group which was previously added. While assigning or removing a group, DALI configurator program keeps you waiting. Group section is shown in Picture 11.



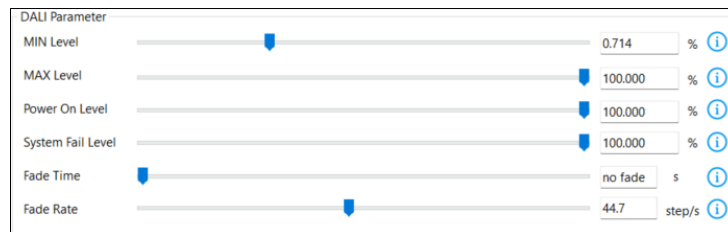
(Picture 11)

Scenes are pre-defined light levels and colors if supported for control gears. There are 16 scenes in a control gear. You can set a light level to a scene the recall it later. If you want to set scene light level, click the checkbox then type the light level between 0 and 100. To remove a scene, make check box unchecked. Save button is used to save Scene light levels and DALI parameters. After making configuration don't forget to click Save button. You can export your scenes profile to use them later. Press the button in the top right corner of Scene Light Levels then press Export to file. If you want to import previously exported file also there is an import button. Scene Light Levels are shown in Picture 12.



(Picture 12)

Minimum light level, maximum light level, power on light level, system fail light level, fade time and fade rate are standard DALI parameters. Fade time and fade rate values define how fast a light level changes. Those values are set with DALI configurator. Set those parameters then press Save button. Those parameters are found in DALI Parameter section as shown in Picture 13.

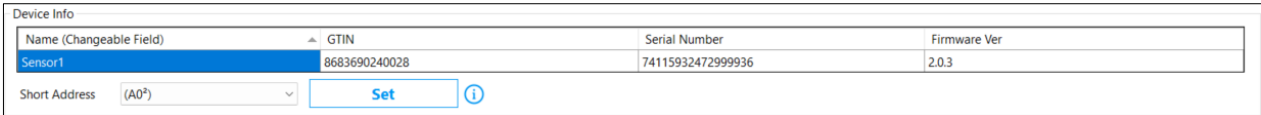


(Picture 13)

There are 2 buttons which are Read and Save in the top left corner. To load parameters to control gear, use save button. Also you can read control gear information by click Read button. Some actions like assign and remove group, change short address don't need to press Save button. They effect immediately. Programing Scenes and DALI parameters needs to press Save button.

## 4. Input Device Parameters

Input devices are responsible with getting physical changes from environment. Input device parameters are set and get with DALI configurator. There are mainly two parts of input devices which are general and instances. General parameters are device related parameters and instances are input channels related. As mentioned in LED driver part, Device Info section contains basic input device information such as name, GTIN number, serial number, firmware version and short address. You can also change short address of an input device. Short addresses are limited between 0 and 19. Device info section is shown in Picture 14.



(Picture 14)

In General tab there are application controller and power cycle notification check boxes, input device group assignment and identify button for input device. Application controller feature lets you to control lamps. This feature isn't supported for ever input device. If an input device doesn't support application controller, the check box is disabled. Power cycle notification is an event that an input device sends when it is powered up.

There are 32 Input device groups which are entirely different from control gear groups. For example, group 5 of an input device isn't same with group 5 of control gear. As described in control gear groups, you can add or remove groups of an input device by click on it.

Identify process of input devices is usually done with a buzzer or a LED. You can identify selected input device with Identify device button. Identification process takes 10 seconds. General tab is shown in Picture 15.



(Picture 15)

Instances are used to send events of an input device. There are 4 different types of instance which are push button, absolute input, occupancy sensor and light sensor. Every instance has their own parameters. Instances can be enabled or disabled. When it is disabled it doesn't send a DALI event.

Instances are also have their groups. They are different from control gear and input device groups. An instance can become a member of maximum 3 groups. Event scheme is a parameter that says which information is stored in a DALI event. There are 5 types of event scheme.

- Instance addressing : Event information is send with instance type and instance number.
- Device addressing : Event information is send with short address and instance type.
- Device/Instance addressing : Event information is send with short address and instance number.
- Device group addressing : Event information is send with input device group and instance type.
- Instance group addressing : Event information is send with instance group and instance type.

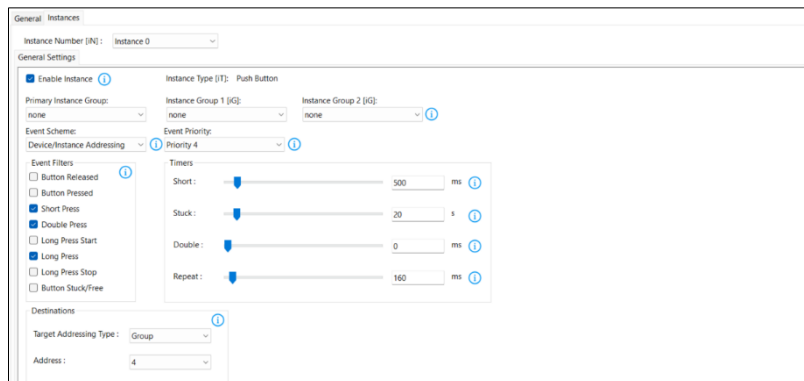
Event priority determines which message takes the control of DALI line before. Priority 2 has highest priority. This parameter can be selected with DALI configurator.

We may not want to send every DALI event. In this situation we can filter some variables with selecting Event filter check boxes. Every instance type has their own specific filters. Event filter has a big role to decrease the data traffic of DALI line. So if we aren't interested in every event type, we should filter it. Those parameters are common for every instance type. Only the content of event filter differs but the existence of it is same.

### 4.1 Push Button Parameters

Push button events are designed based on how a button press action is performed. There are 4 timer parameters for push buttons. Short timer is used to distinguish between a long press and a short press. If a user hold press more than duration of short timer, push button sends long press event. If the user releases the button before short timer expires, push button sends short press event. Double timer is used for double press event. If the button is pressed twice within double timer, push button send double press event. Repeat timer is used when Long press repeat event is activated. While we are holding the button, push button sends long press repeat event in every repeat timer. If we continue to press for stuck timer, it stops to send log press repeat event and sends button stuck event which can be used to determine the button may be broken down or there is another problem.

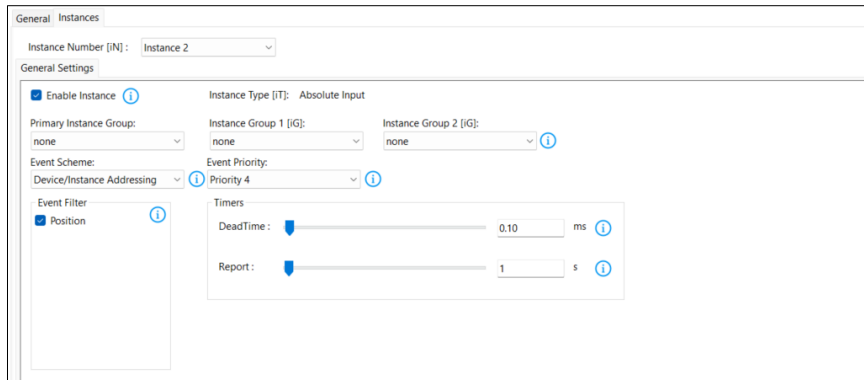
DALI Master uses Push button events to turn on/off and dim control gears. Which control gears are controlled is selected with Destination section. Target addressing type can be Broadcast, Group and Device. If None is selected, DALI Master does nothing when push button event is sent. Short address and group address is appeared when Target addressing type is selected as Group and Device. It is an obligation to enable instance, set Instance scheme to Device/Instance addressing and click Short Press, Long Press Start, Long Press Repeat, Long Press Stop and Button Stuck/Free event filters to use push button events. The algorithm works as follows; in every short press DALI master toggles lights, in every long press dimming direction changes. Push button instance parameters are shown in Picture 16.



(Picture 16)

## 4.2 Absolute Input Parameters

Absolute input is a general instance type that can send an analogue value. Absolute input can be used for rotary switches. Interra DALI sensors use absolute inputs as a temperature sensor. The output is only an analogue value, how it is interpreted is up to manufacturer. For Interra DALI Sensors, Event value 0 means, -5 ° and 110 means 50 °. The change is linear between those values. There is only one event filter and two timer parameters which are dead time and report time. Absolute inputs send an event on every change of value. If this change is so much, we can reduce the event transmission by using dead timer. Absolute input doesn't send new event until dead timer expires. Report timer is used to send input value periodically even its previous value remains same. Report timer determines the period. Absolute input parameters are shown in Picture 17.

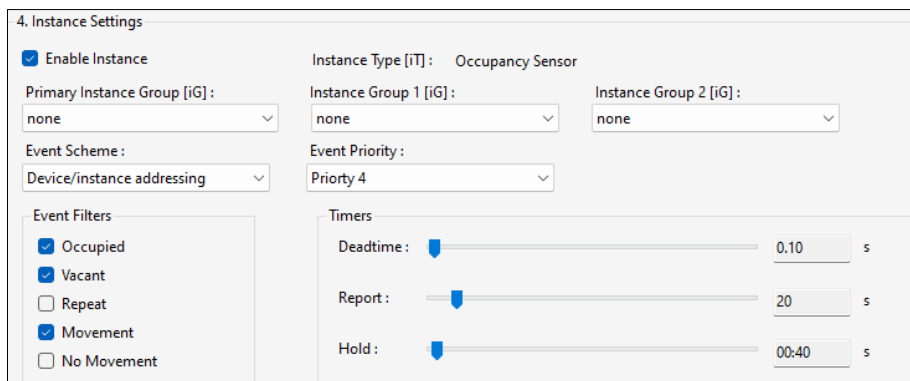


(Picture 17)

## 4.3 Occupancy Sensor Parameters

An occupancy sensor event contains occupancy/vacancy and movement/no movement information. Event filters are related with those events. There are 3 timer parameters which are dead time, report time and hold time. Dead time and report time is same as described in absolute input section. Hold timer is used to determine vacancy situation. If occupancy sensor doesn't detect anybody for duration of hold timer, it sends vacancy event.

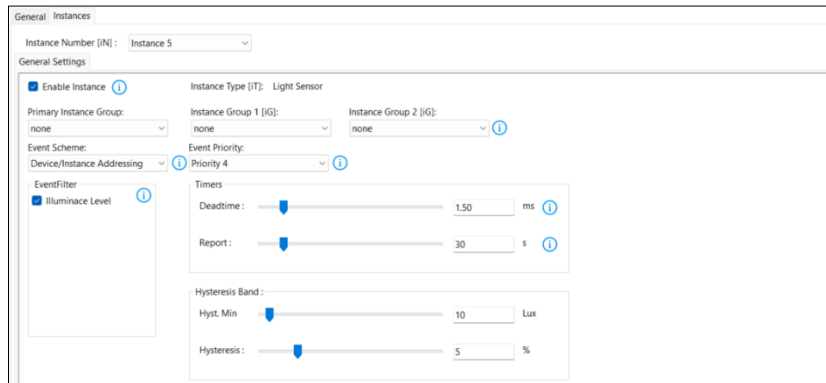
DALI master can handle with occupancy sensor events. When somebody is detected, DALI Master dims lamps to Stage A value level. If vacancy situation is kept for Stage A Stay time, DALI Master dims lamps to Stage A value level. Destination section defines which lamps are controlled. Target addressing type can be Broadcast, Group and Device. If None is selected, DALI Master does nothing when occupancy sensor event is seen. Short address and group address is appeared when Target addressing type is selected as Group and Device. To use occupancy sensor events, we have to enable instance, set Instance scheme to Device/Instance addressing and Occupied and Vacant event filters must be set. Occupancy sensor parameters are shown in Picture 17.



(Picture 17)

## 4.4 Light Sensor Parameters

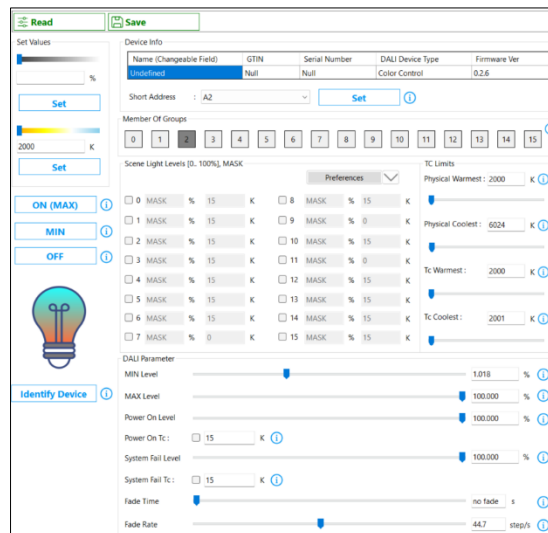
Light sensors detect light intensity in Lux unit. It sends only light level event. There is an event filter that permit to send illuminance level event or not. Timer parameters which are dead time and report time are same with absolute input. Light sensor data can change so fast. For this issue, there are two parameters that control hysteresis of sensor. If we decrease those parameters, light sensor sends light level event in every small light level change. Light sensor parameters are shown in Picture 18.



(Picture 18)

## 5. Color Temperature Parameters

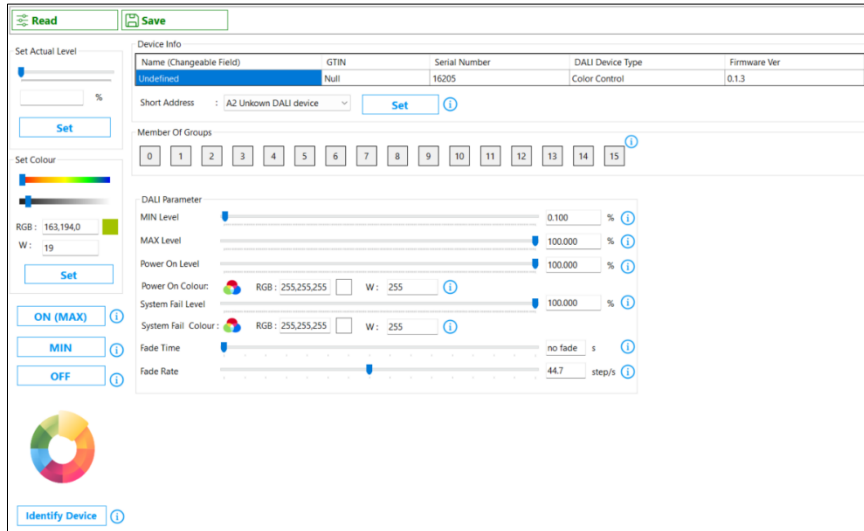
Color temperature is a control gear type. In addition to control gear parameters, you can set color temperature for scenes, power on and system fail parameters in kelvin unit. There are extra four parameters special to color temperatures. Physical warmest, physical coolest, warmest and coolest. Warmest can't be lower than physical warmest and Coolest can't be higher than physical coolest. Color temperature window is shown in Picture 19.



(Picture 19)

## 6. RGBWAF Color Parameters

RGBWAF is a control gear type. Every color channel(every one of R, G, B, W, A, F is a color channel) doesn't need to be supported. In addition to control gear parameters, you can set RGBWAF colors for scenes, power on and system fail parameters. RGBWAF color window is shown in Picture 20.



(Picture 20)

To import or export scene parameters in RGBWAF control gear types becomes more important. Because, in addition to light level, to assign light colors for every R, G, B, W channels takes more time. It would be more convenient to save your scene data using the button in the top-right corner of the scene and use it later. Scene configuration parameters are shown in Picture 21.



(Picture 21)

## 7. Emergency Lighting Parameters

Emergency lighting is a control gear type. You can start emergency lighting test type by DALI Configurator program. DALI tests may not start if all conditions aren't met. Control gear fail, minimum battery level, mains related problems, operating mode... can be a possible case that cause test to delay. Partial duration test isn't standart DALI test type. This specialized test type doesn't wait to discharge the battery entirely. It takes less time than normal duration test operation.

Every emergency lighting devices doesn't support arc power commands. So when you try to change light level it may not effect. Emergency test and status information are updated periodically and when a test is started. Emergency test and Emergency status results are shown in Picture 22. Duration test status reports the result of the duration test, which allows us to test the battery's discharge process. Function test status indicates the result of the functional test of emergency lighting. Duration test result indicates how long the battery's duration test elapsed. Emergency lighting status also is queried and reported periodically. Emergency status contains some critical information like converter mode, test pending status etc.

Hardwired inhibit is an optional input that added to prevent the device from entering emergency mode. Hardwired switch is also an optional input that allows us to manually turn on/off the lamp while in normal mode. Converter mode indicates the operating mode of emergency lighting. Test operations can only start when in normal mode. Converter failure indicates that there is a device-based error. In this case, test operations cannot start. Emergency tests can wait for some reasons. This can be shown with pending test status.

The screenshot shows the 'Emergency Test Type' set to 'Start Function Test'. The 'Emergency Status Result' section contains the following parameters:

- Hardwired Inhibit:  Yes  No
- Hardwired Switch:  Yes  No
- Converter Mode: FUNCTION TEST IN PROGRESS
- Converter Failure:  Yes  No
- Partial Duration Test Pending:  Yes  No
- Duration Test Pending:  Yes  No
- Function Test Pending:  Yes  No
- Last Changed Date: 28.02.2025 11:29:40

The 'Emergency Test Result' section contains the following parameters:

- Duration Test Status: EMERGENCY UNKNOW
- Function Test Status: EMERGENCY FAILED TEST EXECUTED IN TII
- Part Duration Test Status: EMERGENCY UNKNOW
- Duration Test Result: 0
- Part Duration Test Result: 0
- Last Changed Date: 28.02.2025 11:29:40

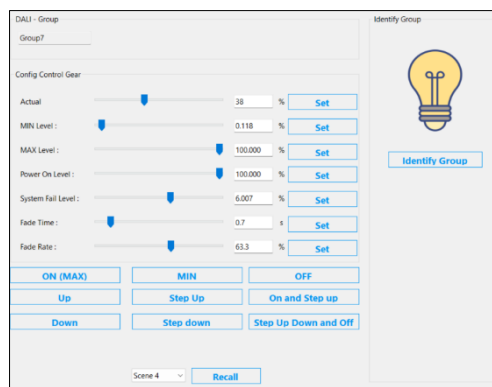
(Picture 22)

## 8. Group Based Control

As control gears and input devices can be controlled individually, after assigning a device to a group you can control all members from group perspective. It is so important that control gear groups and input device groups are entirely different from each other. Double press on a group that you want to control in project tree to enter group control view.

### 8.1 Control Gear Groups

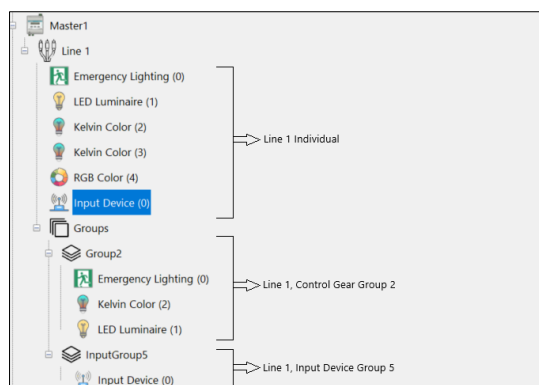
When you add a control gear to a group, you can manage them from groups section in project tree. Actual level, min level, max level etc.. can be controlled from this window. Control gear basic parameters(IEC62386-102) are controlled from this window. You can also identify all members of this group with Identify group button. If there no member of a group, it is deleted automatically. When you expand groups section, you can see which devices are member of this group. Control gear groups are added at the end of the project tree. Control gear group control is shown in Picture 23.



(Picture 23)

### 8.2 Input Device Groups

As control gears can be controlled group based, input devices can also be controlled. After assign an input device to a group, it is shown in Input group section in project tree. All member input devices are listed below the group. You can set some general and instance specific settings. In general settings you can identify all member input devices with Identify group button. Every instance type can be controlled. You can easily choose which instance type you want to control from Instance type combo box. If members don't support related instance type, it doesn't affect them. Every parameters for different instance type is explained [here](#). Parameters are set to their default value because feedback isn't appropriate in group based control. After setting values, you have to click the save button top left corner to write values to input devices. To prevent confusion between control gear and input device groups in project tree, input device groups are listed as Input group as shown in picture 24.



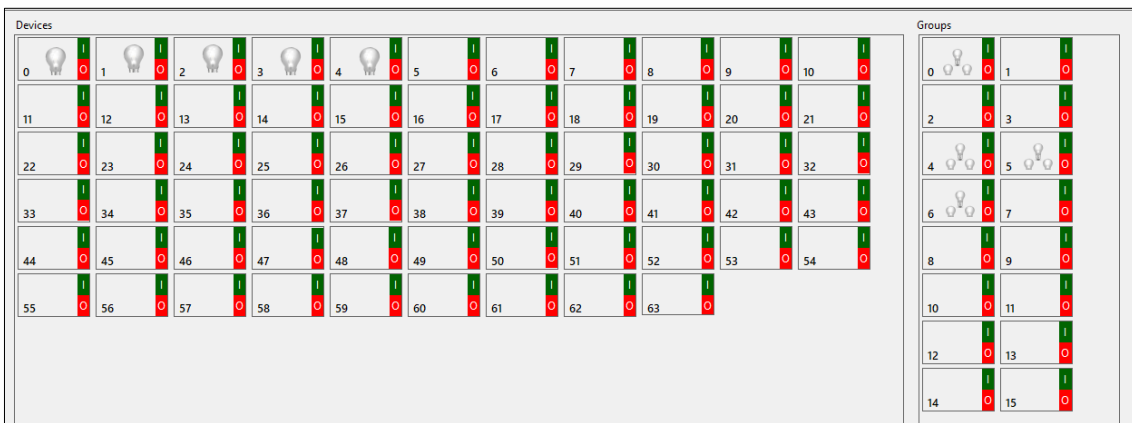
(Picture 24)

## 9. Channel Based Control

It is introduced that individual and group based control of input devices and control gears is possible. Also all control gears in the same channel can be controlled. Some basic operations like setting minimum, maximum, power on and system fail level, fade time and fade rate are performed for all control gears on the line. There are two ways to open broadcast control view. First one is double press on to which Line you want to control from project tree and second way is that right click on the Line and press Channel general settings. As mentioned in group perspective control, feedback method isn't supported here to. Because, for example light level of all devices doesn't need to be same. Every data will be set to their default value when you open this window. You can also identify all control gear with Identify broadcast button on right side.

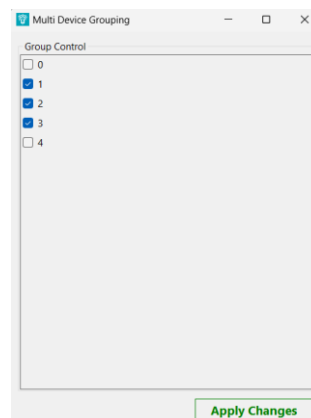
## 10. Multi Addressing Group

To group control gears with drag and drop method is possible. This feature lets you to speed up your project's design. There is a multi addressing control feature that offers you to group control gears easily. There are 2 parts which are Devices and groups. Press and hold the lamp and drop it into the desired group. Turning on/off is done with green and red buttons. Multi addressing control window is shown in Picture 25.



(Picture 25)

Removing and assigning devices to a group is also possible from group perspective. You can left click on a group then all devices will be listed. Checked devices are member of this group. Make group assignment by checking and unchecking then press Apply Changes button to save them. This window is shown in Picture 26.



(Picture 26)