DALI_Tool_For_EUCO-series

User Manual V0. 4. 1

Suitable for EUCO-2K1200GIx, EUCO-1K4200GIx, EUCO-600200GIx.

Revision history

Revision	Changes	Author	Date
V0.0	Initial release	David.Zhou	2023/03/02
V0.1	Add bootloader function	David.Zhou	2023/07/11
V0.2	Add new compatible driver: EUCO-600200GIx	David.Zhou	2023/09/10
V0.3	1. Add NTC type 33K&10K choosing function 2. Add new compatible driver:EUCO-1K4210GIx	David.Zhou	2024/02/19
V0.4	1. Add GUI broadcast mode. 2. Add channel disable function.	David.Zhou	2024/03/06
V0.4.1	1.Optimiaze GUI for EUCO-600200GIA	David.Zhou	2024/06/20

Contents

1. Connection

1.1 Preparing

Before the operation, some essential components should be ready.

a) AC source: AC supply of the driver. For EUCO-series, the driver should be powered with suitable AC input for all operations. Please refer to the corresponding datasheet to check the suitable AC input range.

b) LED driver: EUCO-2K1200GIx, EUCO-1K4200GIx and EUCO-600200GIx.

c) DALI tool: The following setting only could be done with programming tool SDPTDV05UAB,SDDV1505UAB or SDDV1505UAC from Delta.

d) PC: The setting GUI could run in this PC.

e) LED module: All settings don't need to connect with LED module.

With all of these components, please refer to the following figure to connect all of them correctly.
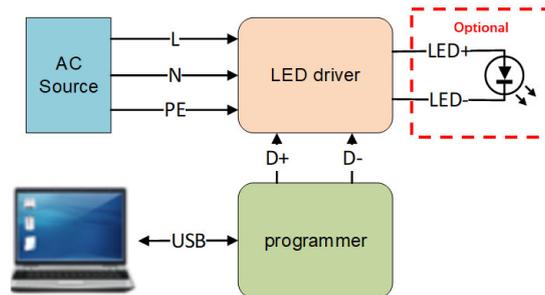
Fig 1 Connection of setting system

Fig 2 DALI tool for setting

Note1: Before running all the following functions, please make sure the driver is powered on. When

the USB is connected to the computer, it may take a few minutes to install a driver automatically. Please wait patiently for the installation to finish.

Note2: For some functions, such as firmware updating, many drivers may connect with one programming tool. It is allowed. However, the number of connected drivers should be less than 32pcs. And when connected with many drivers, all query functions will not work normally.

Note3: Please make sure that the USB port can provide at least 500mA output current for the programming tool.

1.2 Open GUI

After connection, please power on the driver firstly. Normally, with LED module connected, the LED module will turn on with default setting. Then, double click the GUI. It will start check the connected programming tool.
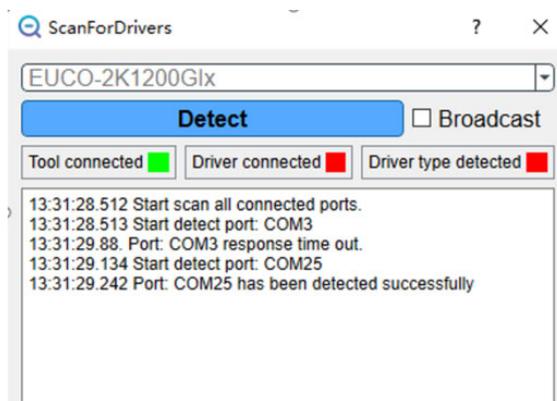
Fig 3 Check the programming tool

If there is no programming tool found, the status "Tool connected" will turn red.
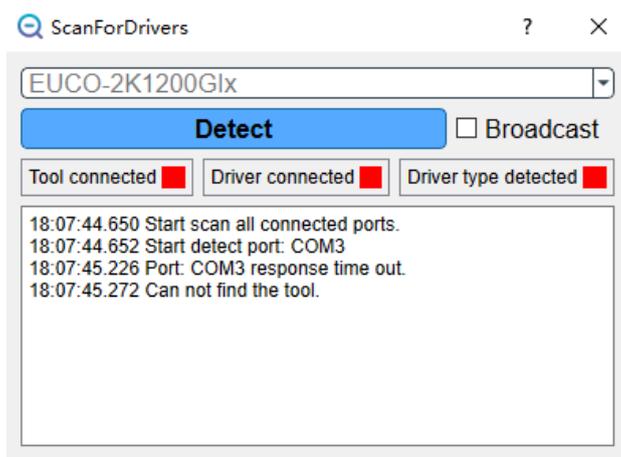
Fig 4 Can't find programming tool

There are two ways to use the GUI: one by one or broadcast. It there are more than one driver

(32pcs at most) connected with the programing tool, the "broadcast" should be selected. If the GUI is in broadcast, the programming tool will not check the response of the driver. And all "Read" function will be disabled.
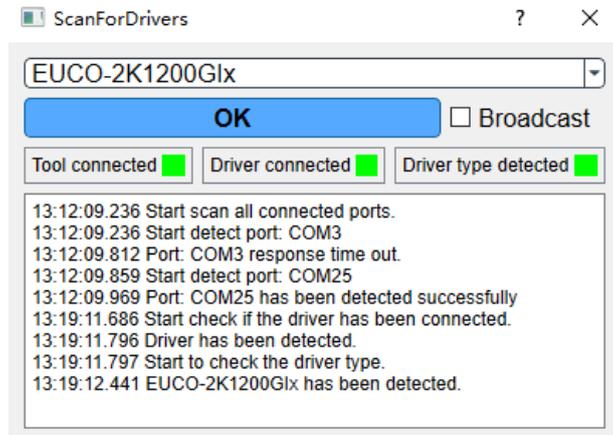
Fig 5 Detect driver type

There are all three states to illustrate the scanning process. When the state is confirmed, it will turn green. And the messages in the log dialog shows more details about the scanning.

State-Tool connected: When the GUI detects programming tool has been connected. It will turn green. When it shows red, the tool may not connect with the PC correctly. Or the tool may be occupied by other software.

State-Driver connected: The GUI will send DALI command "Query control gear present" to check if there is DALI driver connected. If there are more than one drivers, the state may check failed. You could still choose the driver type manually, and use some limited functions.

State-Driver type detected: The GUI could recognize EUCO-2K1200GIx, EUCO-1K4200GIx and EUCO-600200GIx. Or if the driver is in update mode. It should be noticed that when the driver is in update mode, it could not detect the driver type.

When the driver completes the scanning process, click the button "OK". The main GUI will pop out. For different drivers, the main GUI appearance has a little difference.
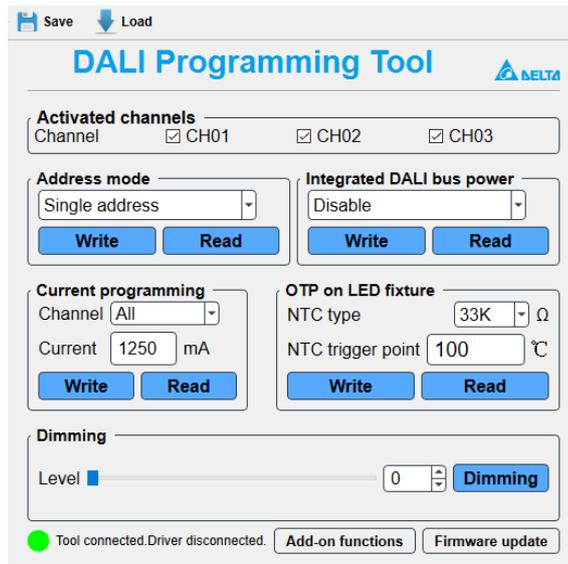
Fig 5 Main GUI for EUCO-2K1200GIx
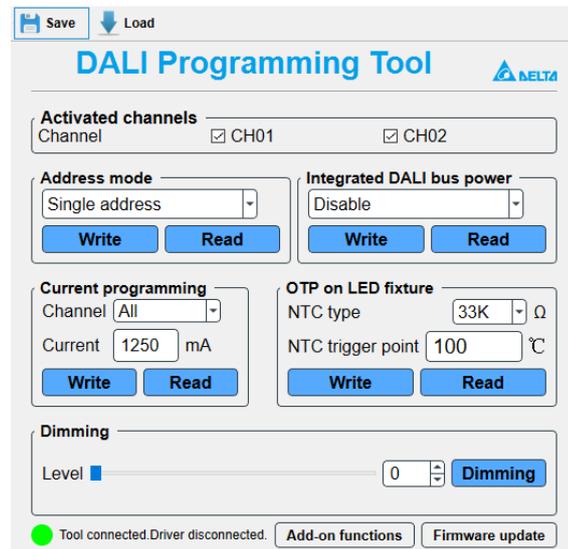
Fig 6 Main GUI for EUCO-1k4200GIx
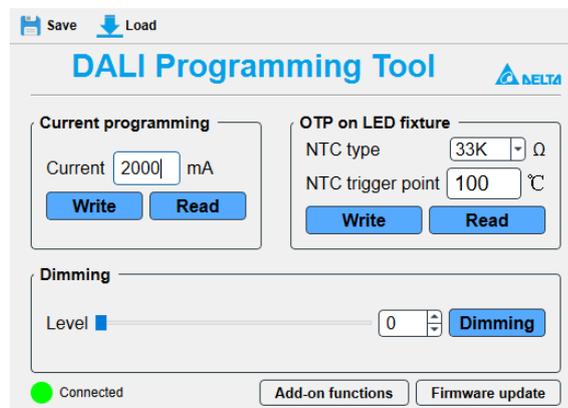
Fig 7 Main GUI for EUCO-600200GIx

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Note1: We recommend to use the latest GUI to do the settings. Please download the GUI from the PSU website.

2. Main functions

2.1 Channel disable (Only suitable for EUCO-2K1200GIx and EUCO-1K4200GIx)

This function is only suitable for EUCO-2K1200GIx and EUCO-1K4200GIx. For these drivers, there are more than one output channel. The driver allows to disable some of the channels.
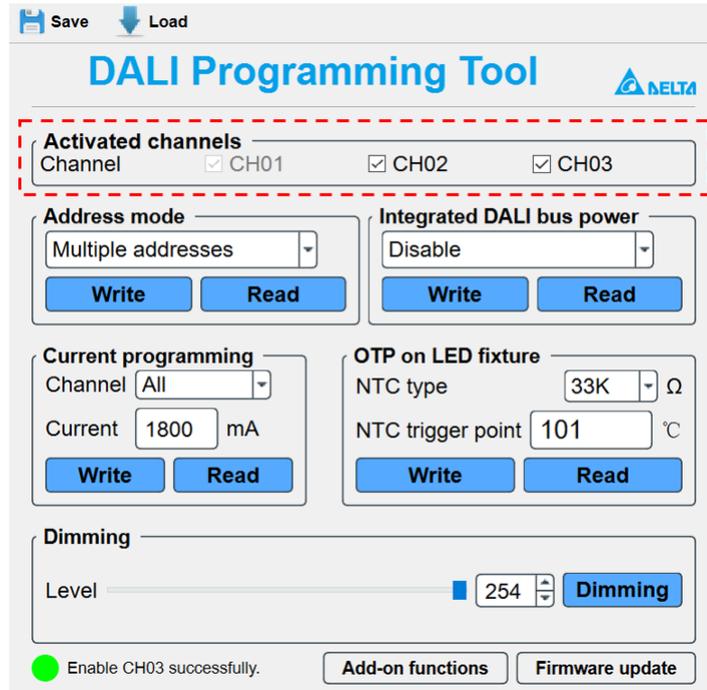
Fig 8 Channel disable functions

If the specific channel is selected, it means this channel has been enabled. Otherwise, this channel will be disabled.

Click the checkbox of the specific channel. The operation will be double confirmed.
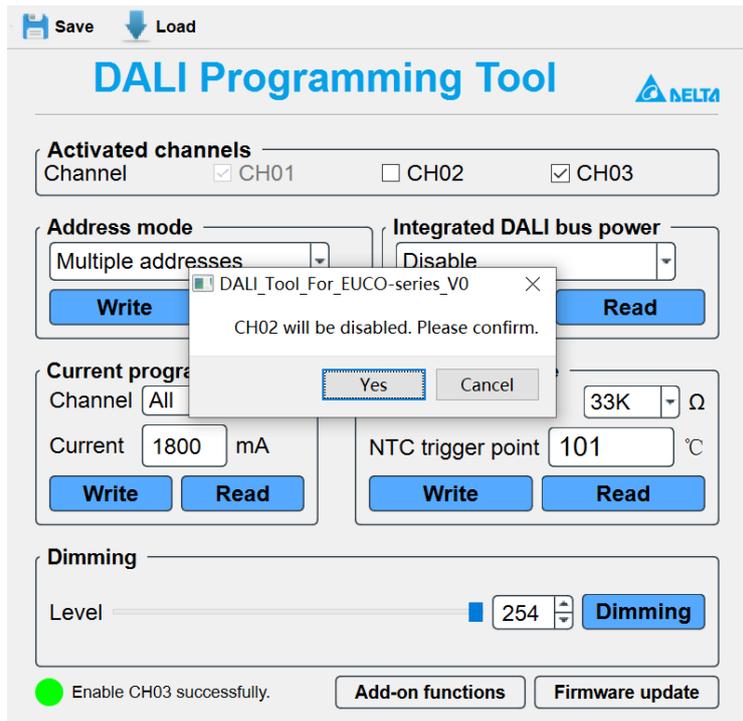
Fig 9 Disable channel 2

Click "Yes" button. Channel 2 will be disabled. Please check the bottom line to get the status of operation.

2.2 Address modes (Only suitable for EUCO-2K1200GIx and EUCO-1K4200GIx)

It's worth noting that this function is only suitable with EUCO-2K1200GIx and EUCO-1K4200GIx. This driver has two different address modes: Single address mode and multiple addresses mode. If the driver is in single address mode, all three channels are mapped to the same address and will be controlled synchronously. In multiple addressed mode, three output channels can be controlled independently. It will be recognized as three DALI drivers by DALI controller.
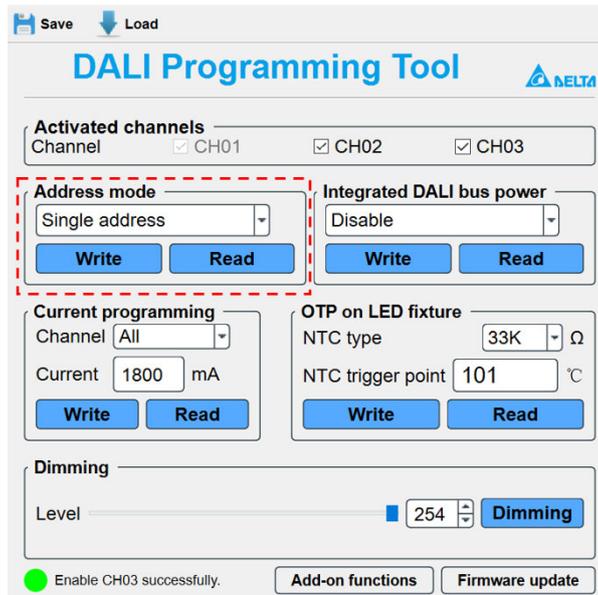
Fig 10 Address modes

The writing address mode and reading address mode functions will be executed if the relevant button is clicked. The writing or reading result would be shown in the bottom line.
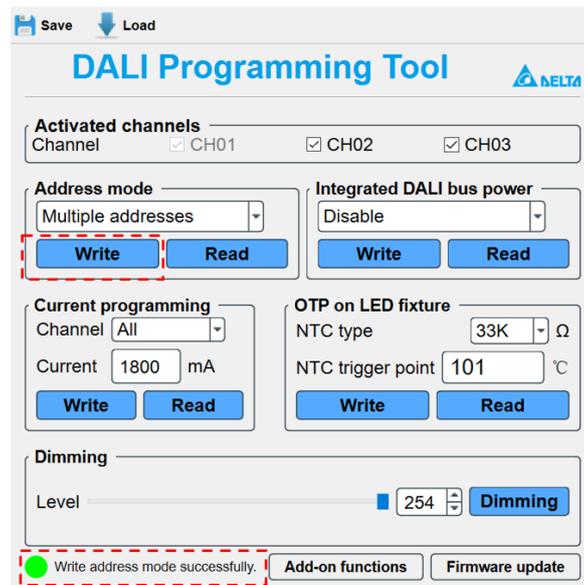
Fig 11 Write address mode

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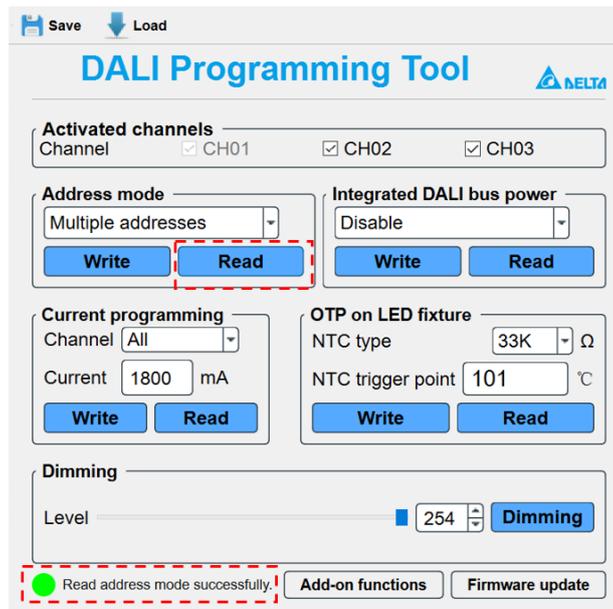
Fig 12 Read address mode

If the status in the bottom showed "Read address mode failed" or "Write address mode failed", please check if the connection and make sure the driver is power-on.

2.3 DALI bus power (Only suitable for EUCO-2K1200GIx and EUCO-1K4200GIx)

There is one integrated DALI bus power which conform to IEC 62386 Part 250 in the driver. It provides around 55mA current for DALI bus. The DALI bus power is disabled with default value. Click the "Write" and "Read" button will write or read this DALI bus power state.

Based on the DALI protocol, the whole supplied current for DALI bus should never exceed 250mA. So, please choose the DALI power state carefully in case of unexpected error.
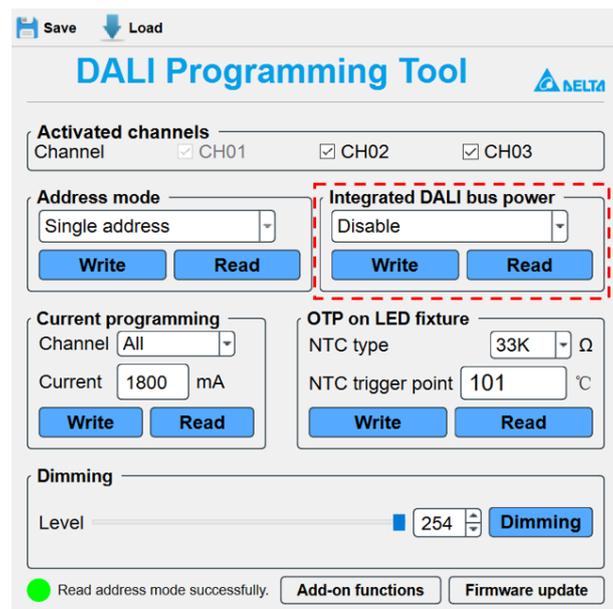
Fig 13 DALI bus power

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Check the bottom message to make sure the operation is successful.
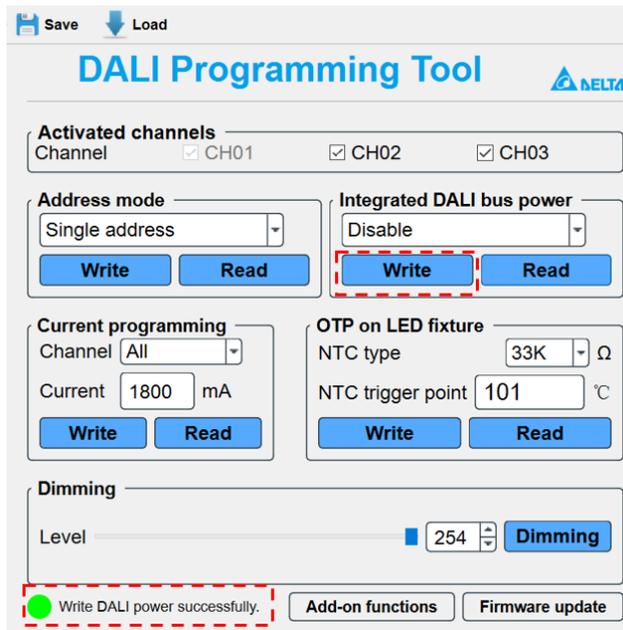
Fig 14 Write DALI power
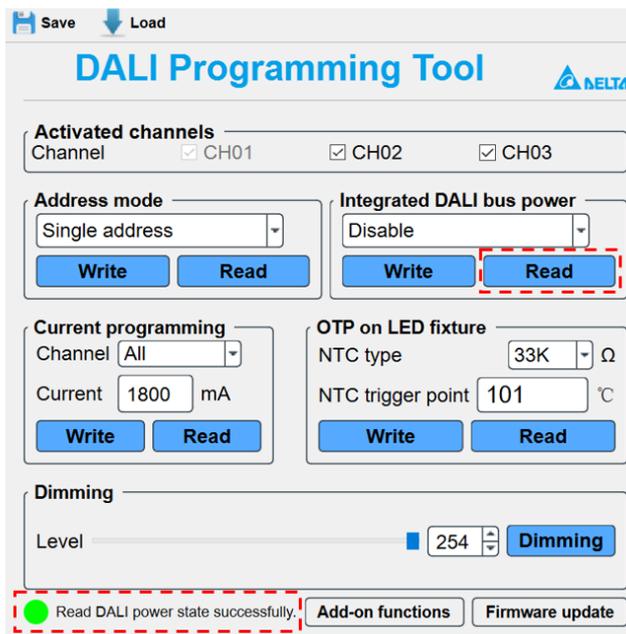
Fig 15 Read DALI power

2.4 Current programming

First of all, please choose the output channel which need to be programmed for EUCO-2K1200GIx and EUCO-1K4200GIx. These three channel could be programmed at the same time or independently. It is certain that the output current for three channels could be different. But all of them should be in the range of 700mA-2000mA. For EUCO-600200GIA, there is only one channel for programming.

Then key in the output current value. And click the "Write" button. The output current will be set successfully if the bottom line shows "Current program successfully". Clicking the "Read" button could read out the current programmed current in the driver.
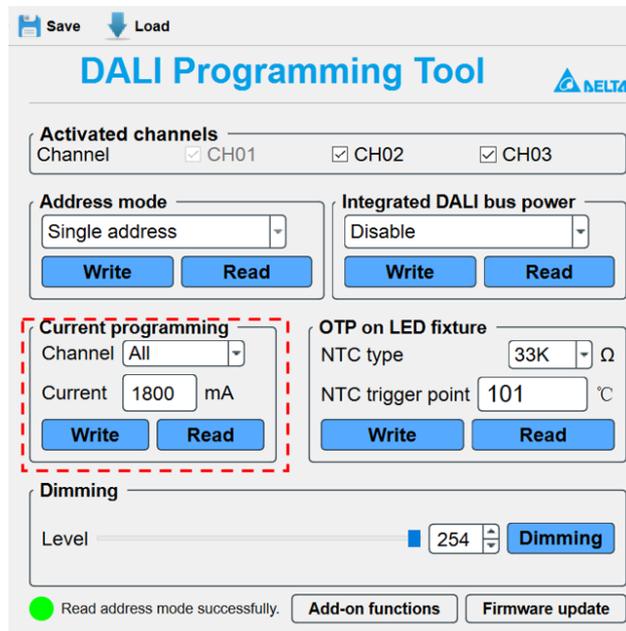
Fig 16 Current programming
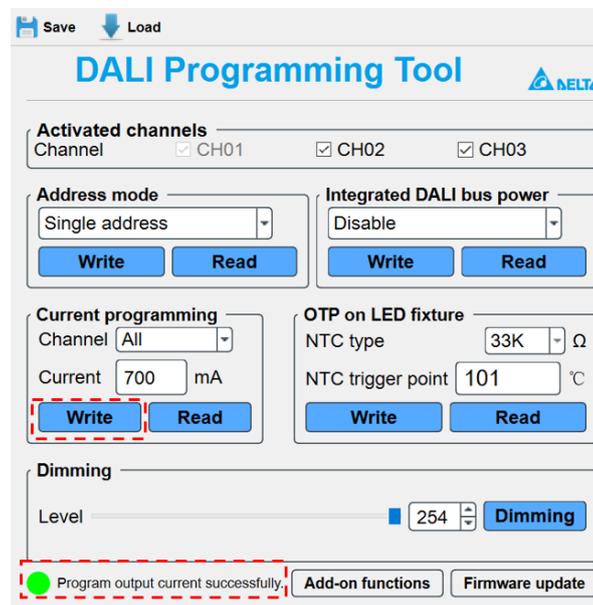
Fig 17 Program output current
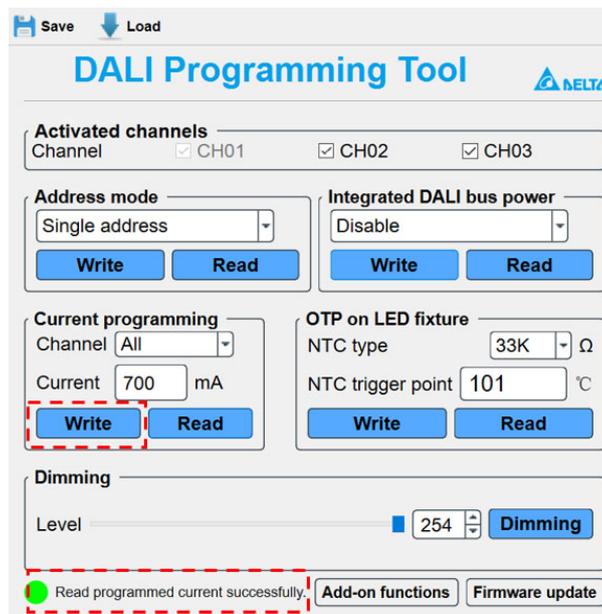
Fig 18 Read programmed current

2.5 OTP for LED fixture

   This function is over temperature protection for LED module. Just key in the protection trigger point and click the "Write" button. The function will be set successfully if the bottom line shows the message "Write OTP successfully". The "Read" could read out current trigger point for OTP. In addition, the range of the trigger point should be in the range of 70-120℃.

   For some drivers, it supports two types of NTC: 33KΩ and 10KΩ. Before changing the NTC type, please make sure that the driver supports this type of NTC. Please refer to the datasheet of the driver for more details.
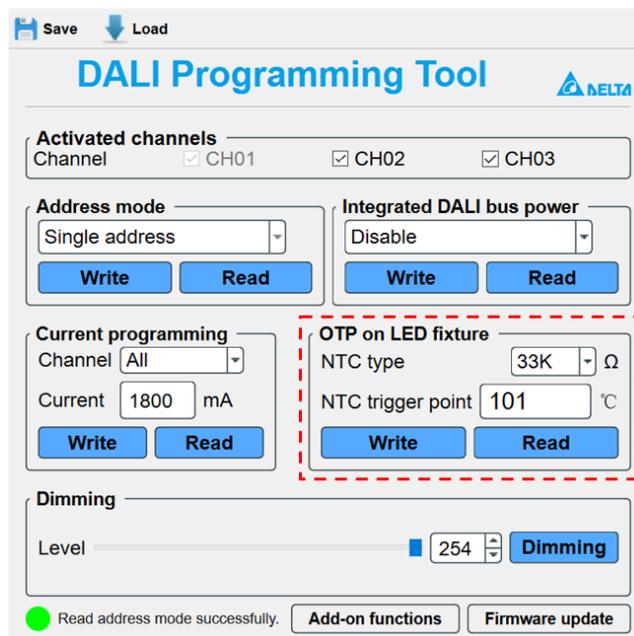
Fig 19 OTP on LED fixture

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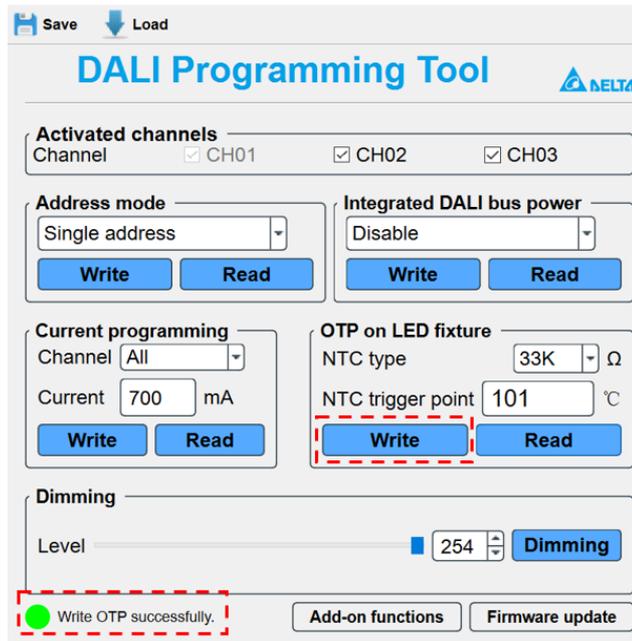
Fig 20 Write OTP
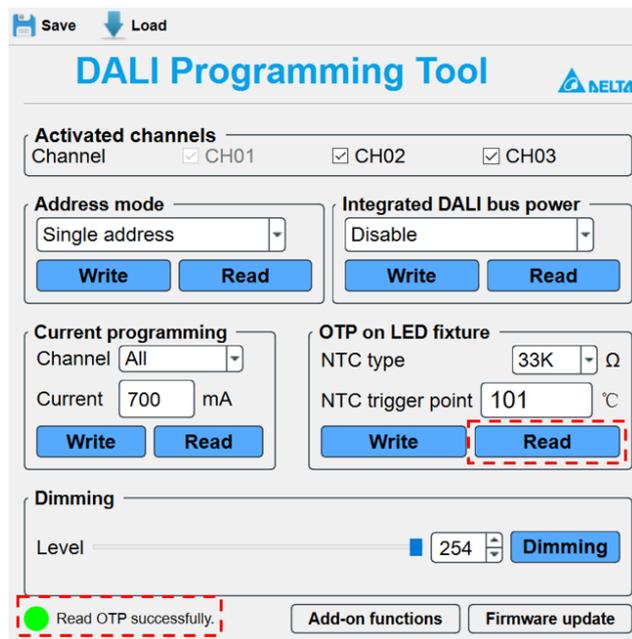
Fig 21 Read OTP

2.6 Dimming control by the tool

Click the "Dimming" button, the DALI tool would send out DALI "DAPC" command. This command is sent in broadcast way which means all drivers connected with the programming tool will receive the same dim command.

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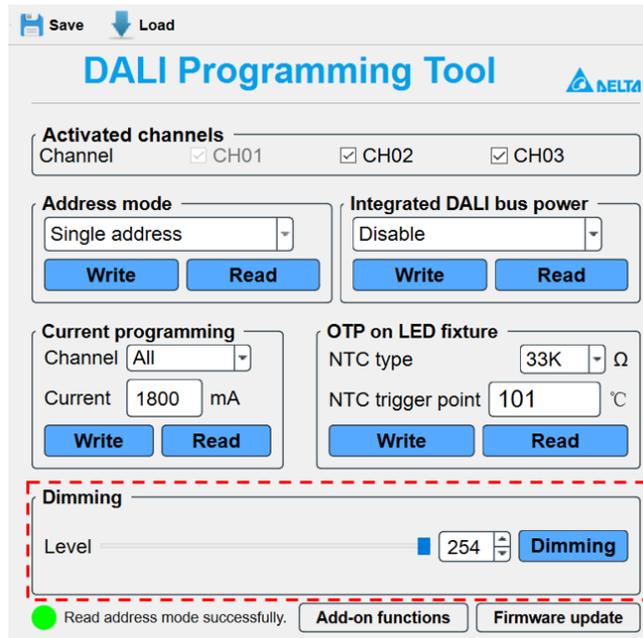
Fig 22 Dim function

2.7 Save & Load profile

The GUI provide "Save & Load profile" function to save the configure parameters. Click the "Save" button, and choose the directory you want to save the profile in.
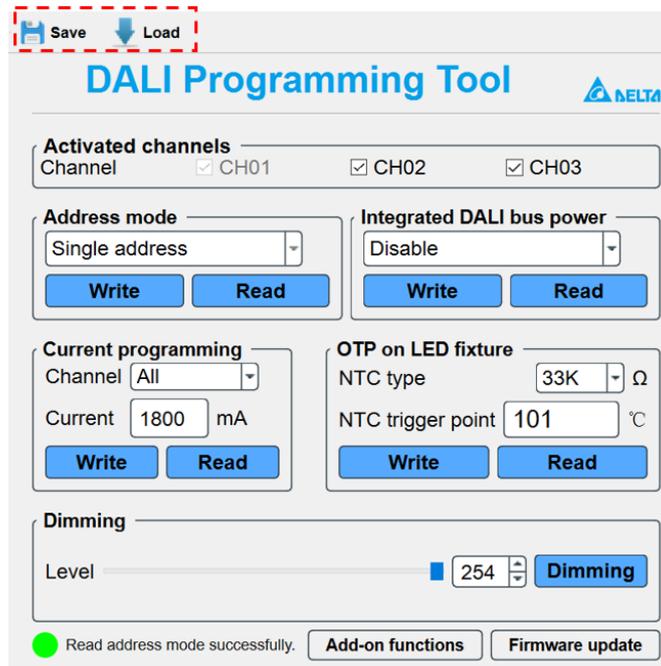
Fig 23 Save & Load profile
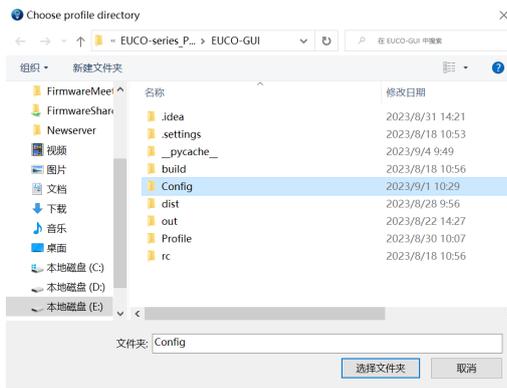
Fig 24 Saving profile

Fig 25 Saved profile

Then you could click the load button to read the specified profile.
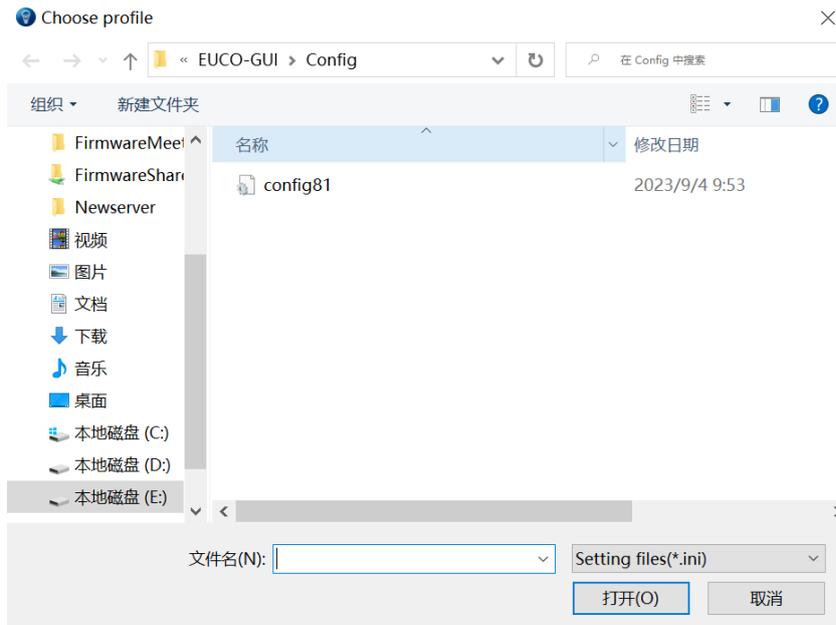
Fig 26 Loading profile
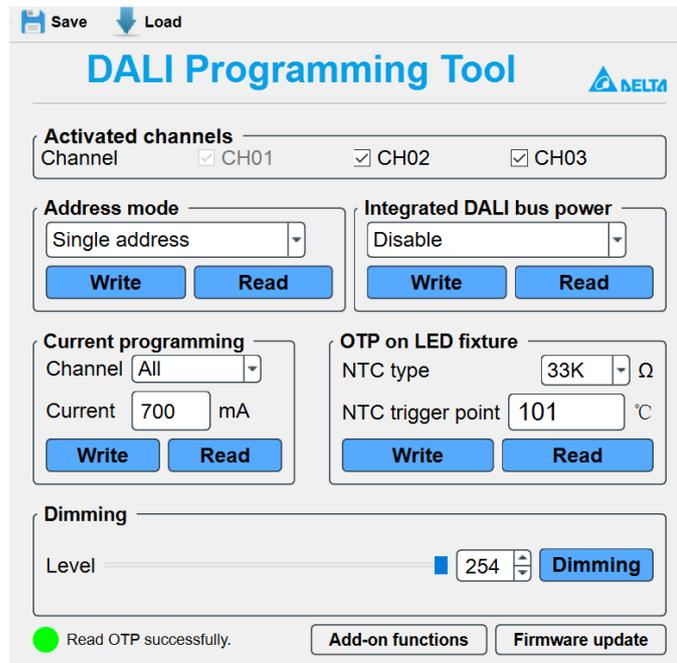
Fig 27 Load profile

3. Add-on functions

Except the command functions, the GUI also supports some add-on functions. When clicking the "Add-on functions" button, the add-on function GUI will appear.
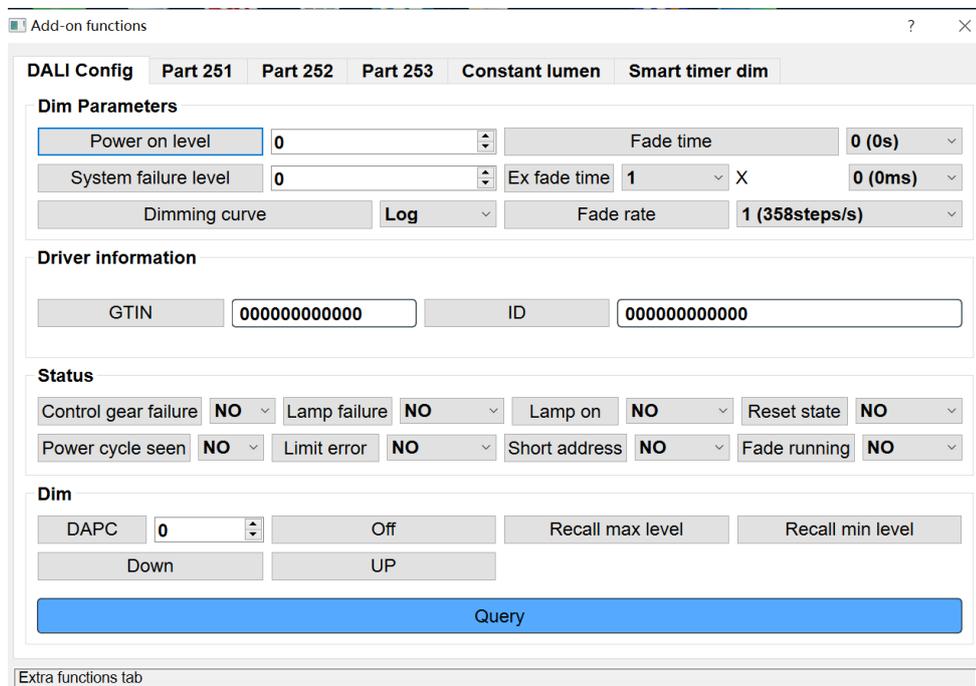
Fig 28 Add-on functions

The GUI splits the add-on functions into 5 different function groups: DALI config, Part 251,

Part 252, Part 253, Constant lumen, Smart timer dim.

3.1 DALI config

In this part, some regular DALI configure parameters has been integrated. Such like, power on level, system failure level … and so on. Normally, these functions are very convenient to configure DALI driver.
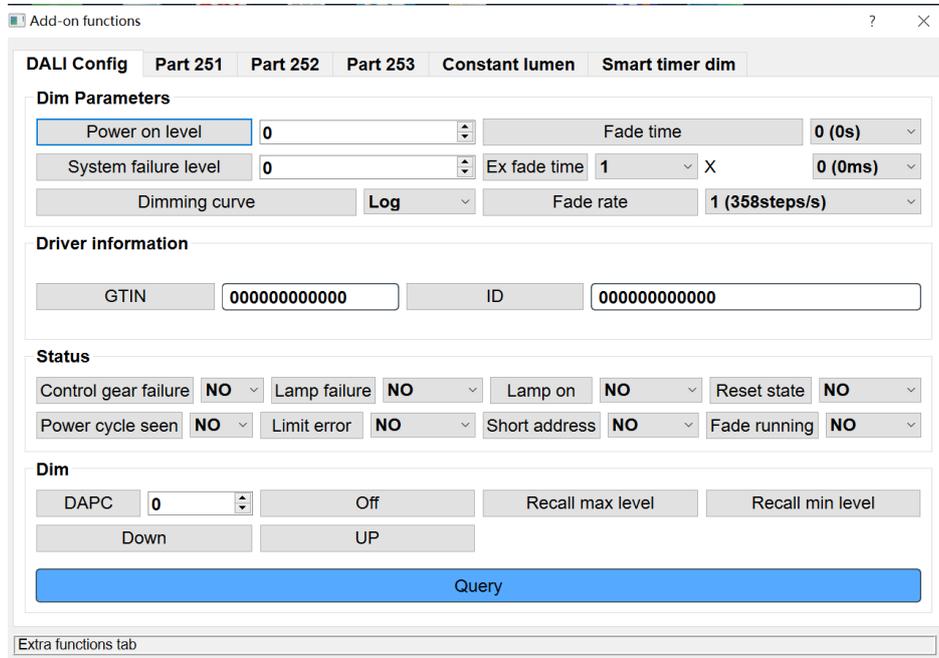
Fig 29 DALI config

3.2 Part 251:

This group are parameters within protocol DALI part 251-Memory bank 1 extension.
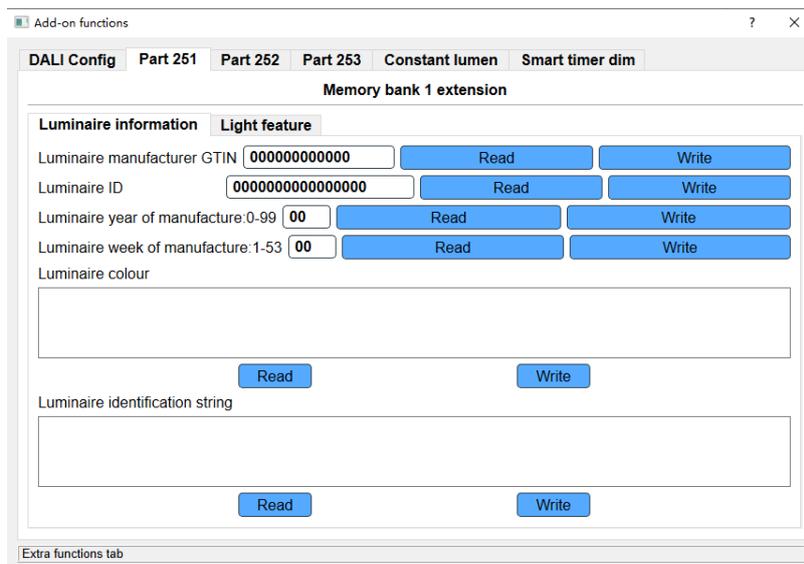
Fig 30 Part 251-Luminaire information
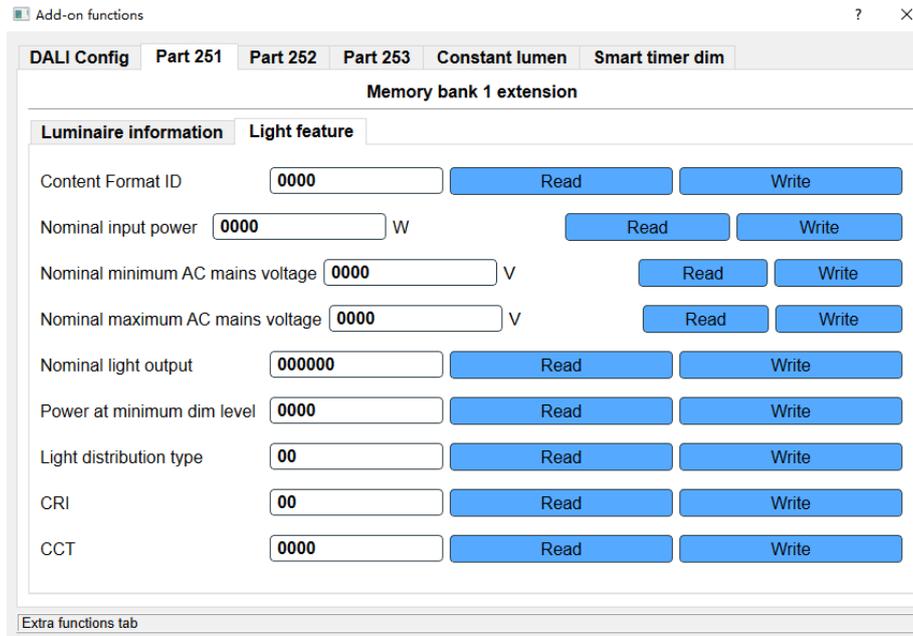
Fig 31 Part 251-Light feature

3.3 Part 252:

DALI part 252-Energy reporting. This part includes some parameters related to power and energy. The driver supports active energy, active power, apparent energy and apparent power. It should be noted that these four parameters only support reading action.
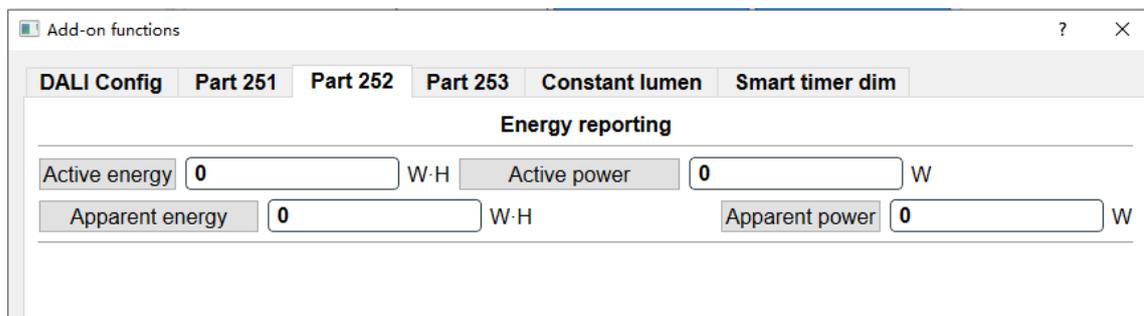
Fig 32 DALI part 252

3.4 Part 253:

DALI part 253- Diagnostics & Maintenance. For this part, there are more parameters which give more details about the driver state.

Fig 33 DALI part 253-Control gear features

Fig 34 DALI part 253-Light source features
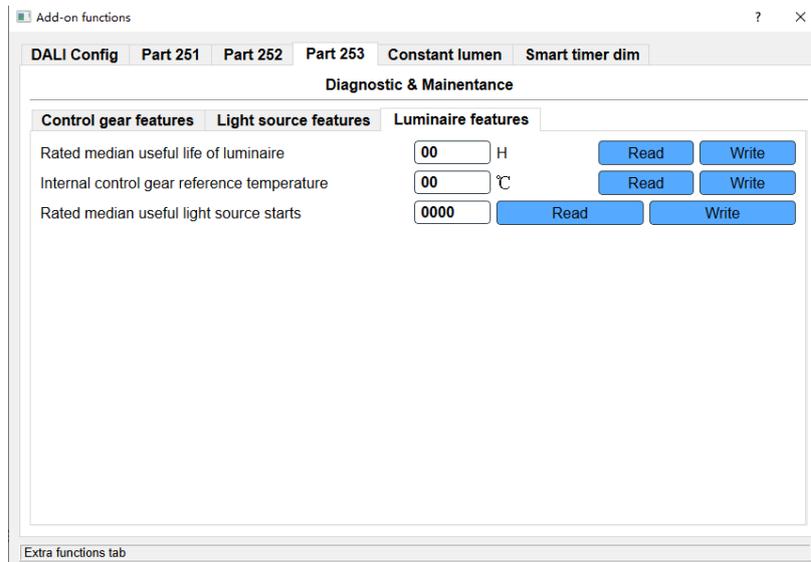
Fig 35 DALI part 253-Luminaire features

3.5 Constant lumen output:

This function is designed to make sure consistent brightness over time. Generally speaking, the LED module would get a little darker even with the same output current as the working time increases. So, for some special situation, this function could make some compensation for the brightness.

If this function is activated, the output current may decrease a little. Another important thing is that the first step for time should always keep 0.
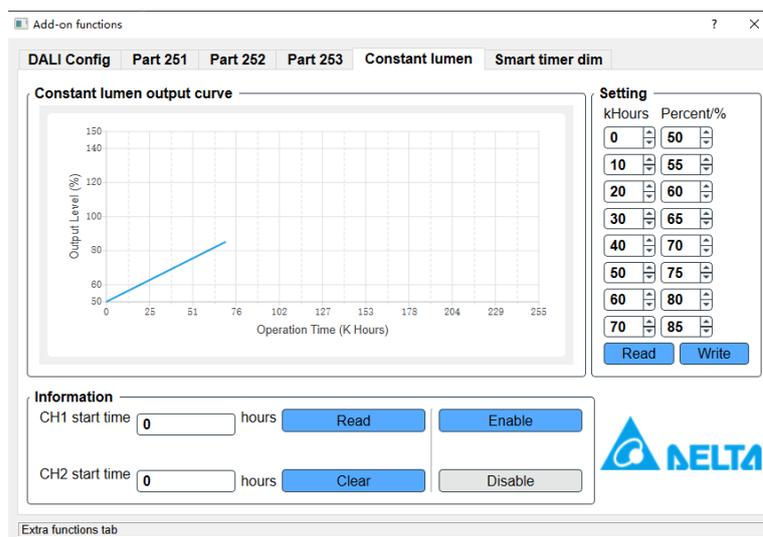
Fig 36 Constant lumen

Note1: **There is one thing should be noted that the "Enable" and "Disable" function would only apply for the suitable CLO function. It would not stop the current time counting. So it is**

recommended that clearing the current time firstly before using the CLO function.

3.6 Smart timer dim:

In this function, you could customize a dynamic dimming schedule in different modes
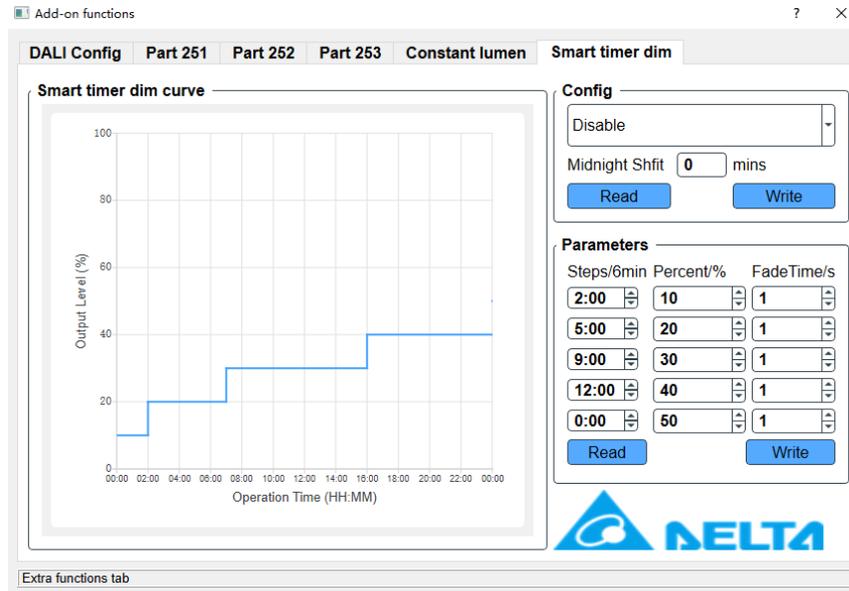
Fig 37 Smart timer dim

There are three modes to create an autonomous dimming schedule:

Fixed timer: It is a memoryless-based dimming mode that tracks the output level based on the programmed timing curve. The output level is organized by scheduled profile in the five steps.

Midnight centric timer: This mode is a memory-based that automatically measures over the past two days. The power on time of these two days is naturally corresponded to the night time. The midnight centric timer software calculates the length of power on time and centralized from the given virtual midnight point and changed the output level accordingly. More specifically, when the LED driver is power-on during the very first two days or the power-on time difference of past two days is more than 15minutes, the output current will fix to the maximum level since there is no valid data for reference. When the power-on time difference of past two days is less than 15minutes, the output level is controlled based on the correlation between the midnight point of programmed profile and yesterday power-on duration.

Ratio rescale timer: This mode is similar to midnight centric timer that records the power-on time based on the local night time. The ratio rescale timer software rescale programmed output power profile of each step by a calculated percentage of the recorded power-on time (when valid) out of given 5 steps duration.

**Note：When all steps are finished, the light level remain in last level (level in step 5) for all three modes.**

Fixed timer mode usage: The figure below shows the example of fixed timer dimming profile. In this case, the driver will perform 75% output level for the first two hours since power-up. Then change to 55% output level for following four hours (as step 2), follow by 35% output level for

another three hours (as step3), and so on.
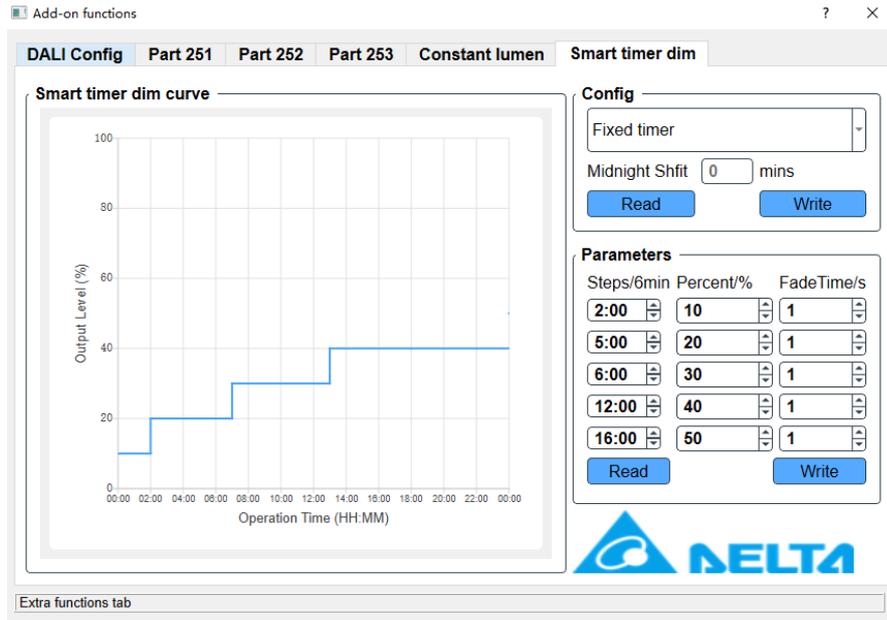
Fig 38 Fixed timer mode usage

Midnight centric timer mode usage: The figure below shows the midnight point is set to 23:00(dotted line) with typical five steps profile. If yesterday's time duration is six hours and valid, then the driver will perform the output level at 55% for one hour when power on, then follow by 35% for three hours, and so on.

Fig 39 Midnight centric timer mode usage

Ratio rescale timer mode usage: The figure below shows the same example of dimming profile as in fixed timer. If yesterday's time duration is six hours and valid. In this case, the ratio is going to be rescaled is 50% of original setting profile (total of twelve hours) for each step. Therefore, the driver will perform the output level at 75% for one hour (50% of setting profile) when power on. Then performs 55% output level for two hours, and so on.

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For this function, it would be better to write the setting parameters. Click the "Write" button to configure the midnight shift and all schedule. Then click the " Write" button in the STD mode to choose one mode or disable all of them.

Fig 40 STD write

4. Firmware update

The GUI provide two different ways to enter update mode: AC power off mode or normal app mode. These both ways only have difference in entering the update mode. It would be same for updating. Before updating, it would be better to check the communication.

4.1 Enter update mode

a) AC power-off mode: With this way, please make sure the driver has completely powered off. It is recommended to keep the driver AC off at least 30s. Then click the button "Enter update mode".
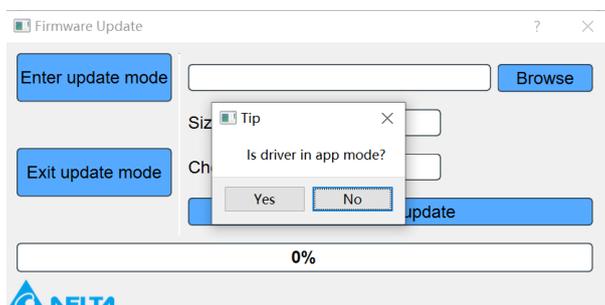

Fig 41 Choose enter update mode way

Click "No" to enter next step.

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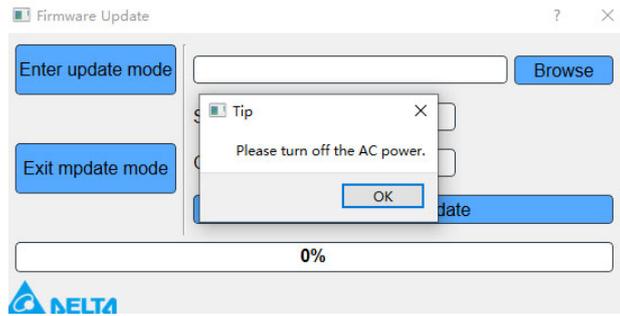
Fig 42 Turn off the AC power

Turn off the AC source following the tip. Please keep the AC off at least 30s.
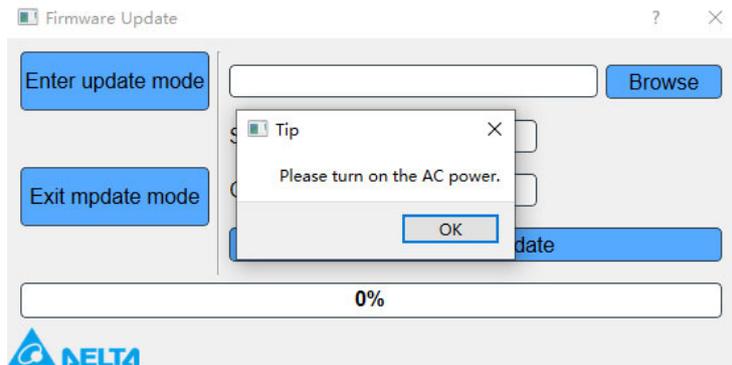

Fig 43 Turn on the AC power

Turn on the AC source in this step.
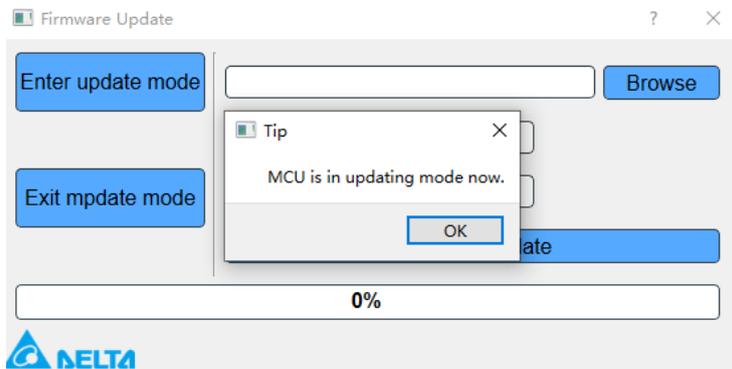
Fig 44 Enter update mode successfully

If everything goes well, the driver would enter update mode successfully.

b) Normal app mode: If it is not very convenient to change the AC state, it would be a better choice to enter the update mode from the normal app mode. Before using this way, please make sure the DALI communication works normally. Click the "Enter update mode" button,

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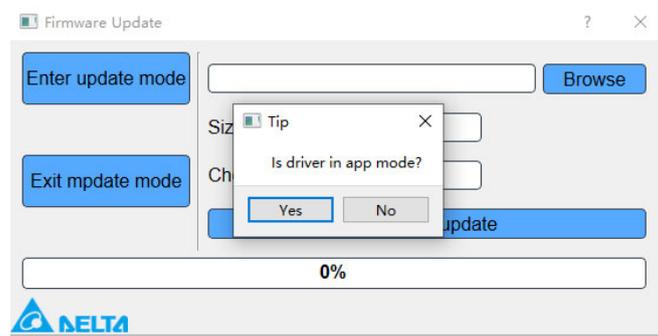
Fig 45 Choose enter update mode way

Click "Yes" when the above message pops out. After a few seconds, the driver would enter update mode automatically.
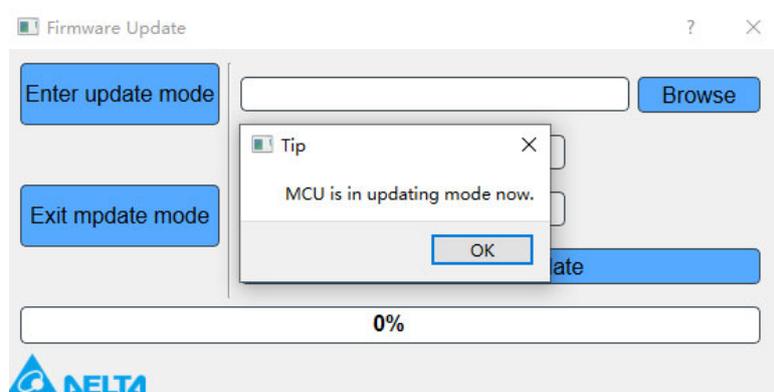

Fig 46 Enter update mode successfully

4.2 Choose firmware file(*.hex)

Click button "Browse" to select the appropriate hex file for update. The GUI cannot automatically recognize the right file or not. So please choose the correct firmware file carefully.


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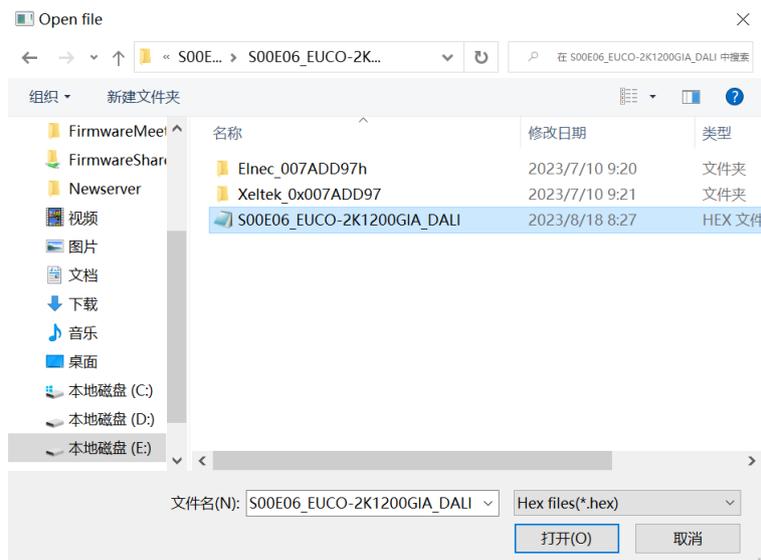
Fig 47 Choosing hex file

After choosing, the GUI would read the content and information from the hex file.
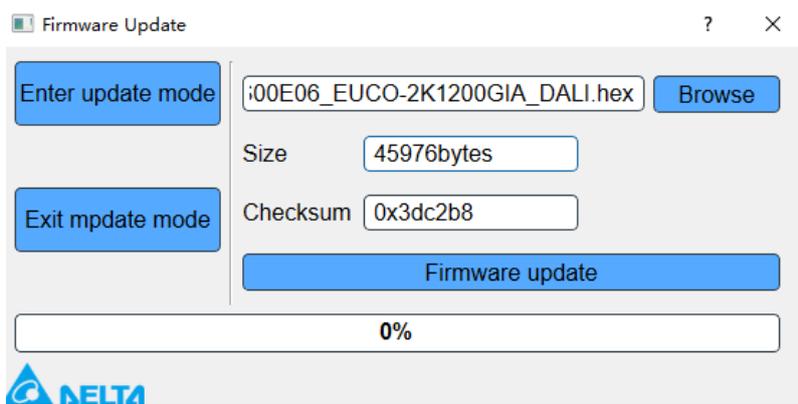
Fig 48 Hex file information

4.3 Firmware update

Click "Firmware update" button to start updating. This process usually takes 1~2 minutes.
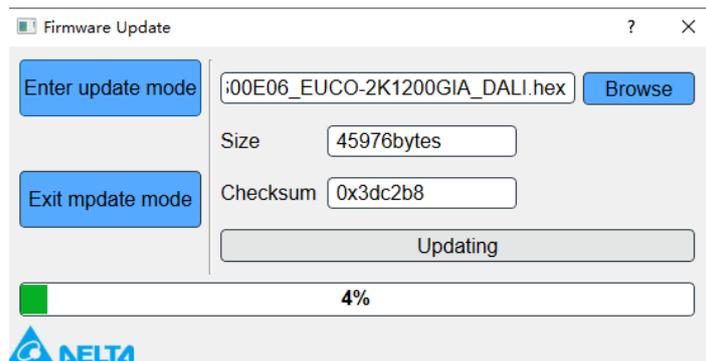

Fig 49 Updating
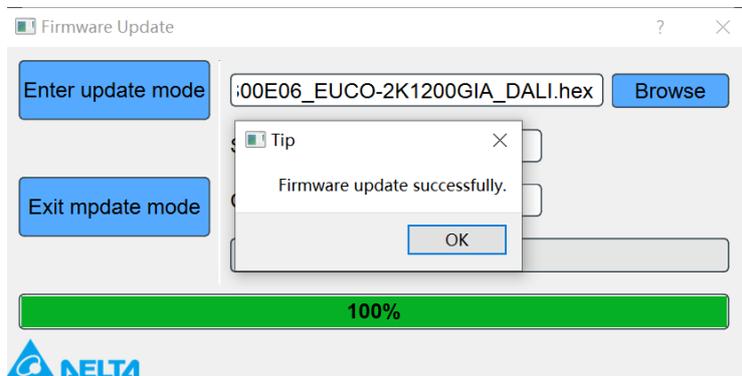
Fig 50 Firmware update successfully

## 4.4 Exit update mode

Click "Exit update mode" to exit update mode.

Fig 51 Exit update mode