

LNA/EUCO-series Programming tool

User Manual V0.1

Table of Suitable driver types

Driver type	DALI2/D4i	DMX512/RDM
EUCO-2K1200Glx	●	
EUCO-1K4200Glx	●	
EUCO-600200Glx	●	
EUCO-2K1200GDx		●
EUCO-1K4200GDx		●
EUCO-600200GDx		●
EUCO-1K8200GCx	●	●
EUCO-1K6200GCx	●	●
EUCO-1K2200GCx	●	●
LNA-1K8C20ABFGx	●	●
LNA-1K6C20ABFGx	●	●
LNA-1K2B20ABFGx	●	●
EUCO-1K2120RCx	●	●

Note:

Other driver types include EUCO-1K0140GLx / EUCO-1K0140GDx · EUCO-1K5140GLx / EUCO-1K5140GDx are not compatible with this GUI. Please try the following link to download the suitable GUI for these drivers.

EUCO-1K0140GLx / EUCO-1K5140GLx:

<https://www.deltapsu.com/en/products/led-driver/EUCO-1K5140GLA>

EUCO-1K0140GDx / EUCO-1K5140GDx:

<https://www.deltapsu.com/en/products/led-driver/EUCO-1K5140GDA>

Revision history

Revision	Changes	Author	Date
V0.0	Initial release	David.Zhou	2025/01/03
V0.1	Add new drivers support	David.Zhou	2025/01/11

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1. Connection

1.1 Preparing

Before the operation, some essential components should be ready.

- a) AC source: AC supply of the driver. 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-1K2120RCx, EUCO-600200G1x, EUCO-600200GDx, EUCO-1K8200GCx.
- c) Programming tool: The following setting only could be done with programming tool SDPTDV05UAB, SDDV1505UAB and 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 figures to connect all of them correctly.

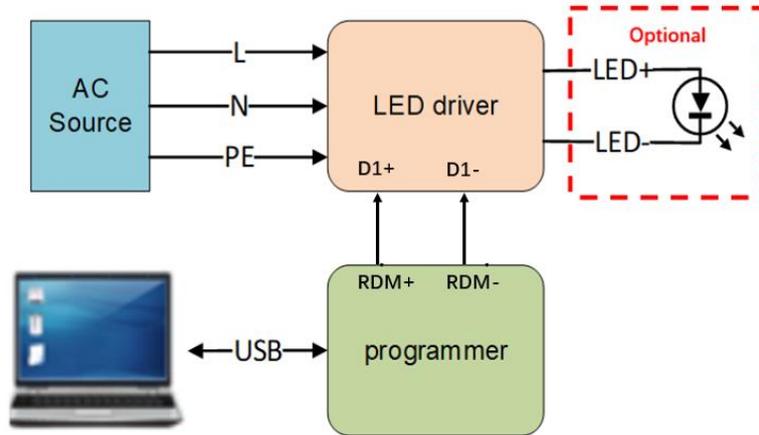


Figure 1 Connection of system with RDM interface

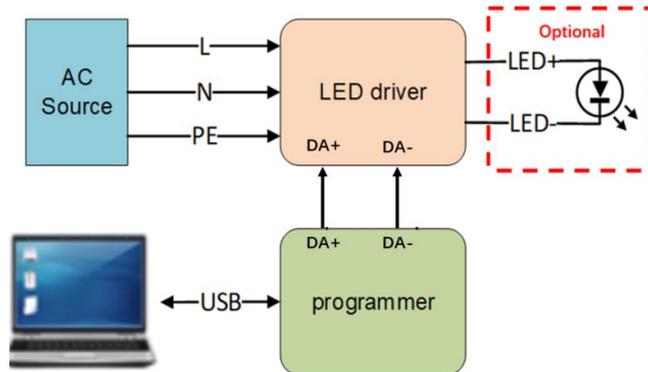


Figure 2 Connection of system with DALI interface

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 16pcs if connected with DALI, and the number should be less than 32pcs if connected with RDM. And when connected with many drivers, all query functions in the GUI will be disabled.

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

Note4: The programming tool may support multiple communicated interface. Please make sure that only connect one at a time. Recommend using RDM interface to set parameter and update firmware if the driver supports.

1.2 Open GUI

Double click the “exe” file to open the GUI. After opening the GUI, it should connect with the driver firstly to enable all setting functions. And please power on the driver before any operation.

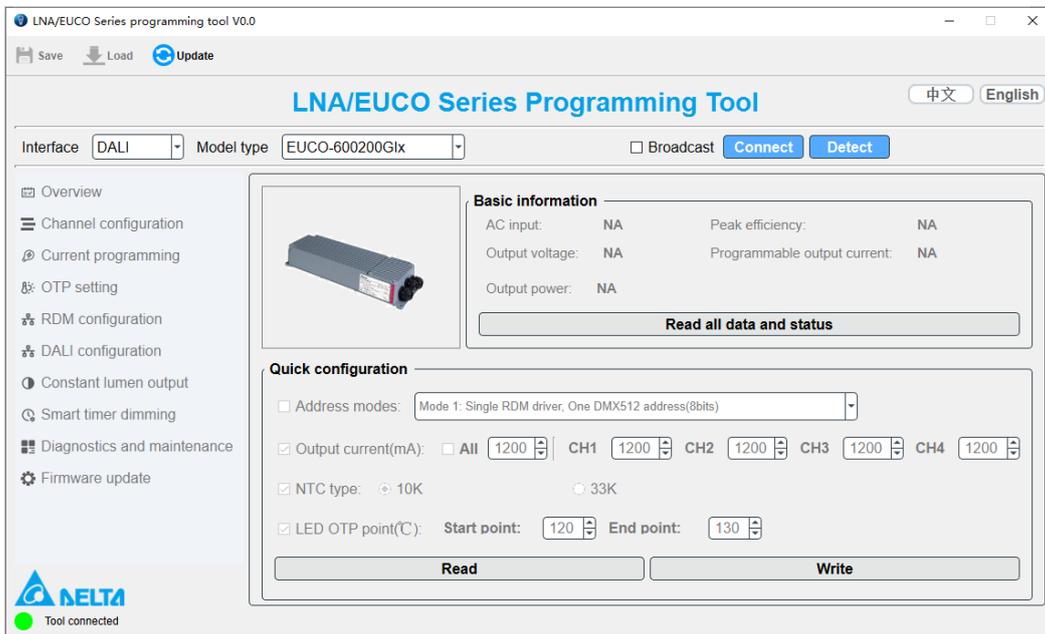


Figure 3 Main GUI

If the driver model type is unknown, please click the button “Detect”. Then GUI will detect the connected driver setting automatically.

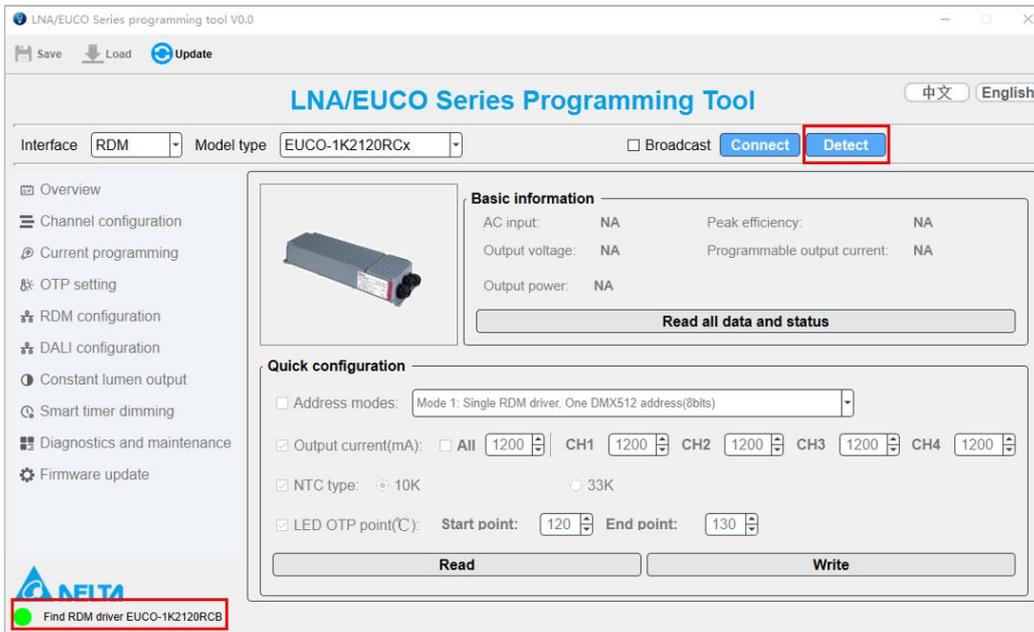


Figure 4 Detect driver type

Moreover, the driver model type and interface could be selected manually. Click button “Connect”, the driver will start to connect with the selected driver type. If connected successfully, all available functions of this driver will be enabled.

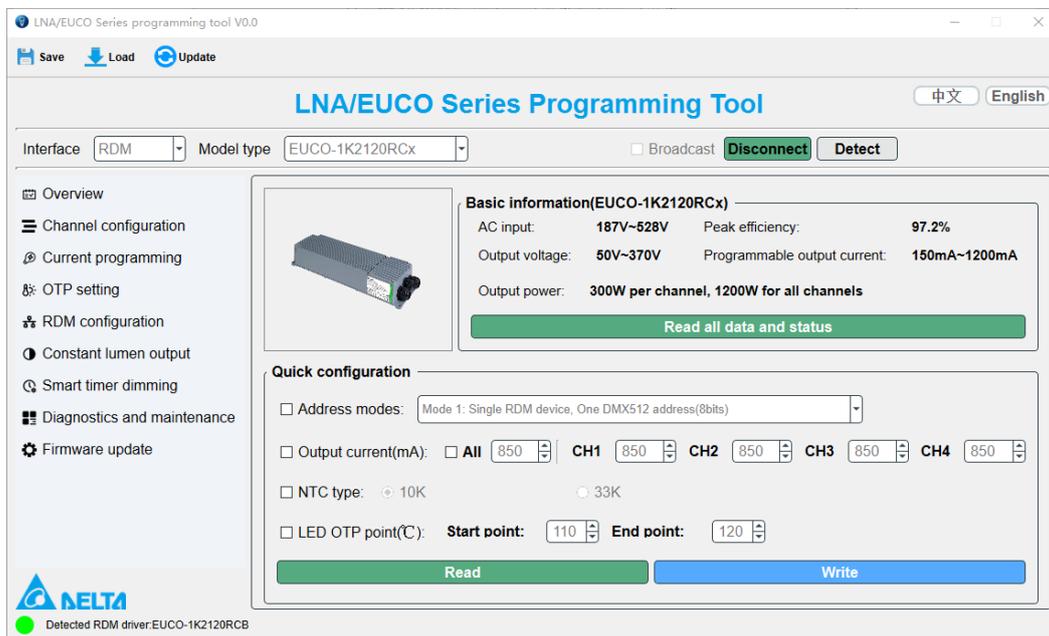


Figure 5 Connect with the driver successfully

1.3 Connect driver on broadcast

If there are more than one driver have been connected with the programming tool, please choose broadcast mode to do the setting. Click the check box of broadcast to connect the driver in broadcast.

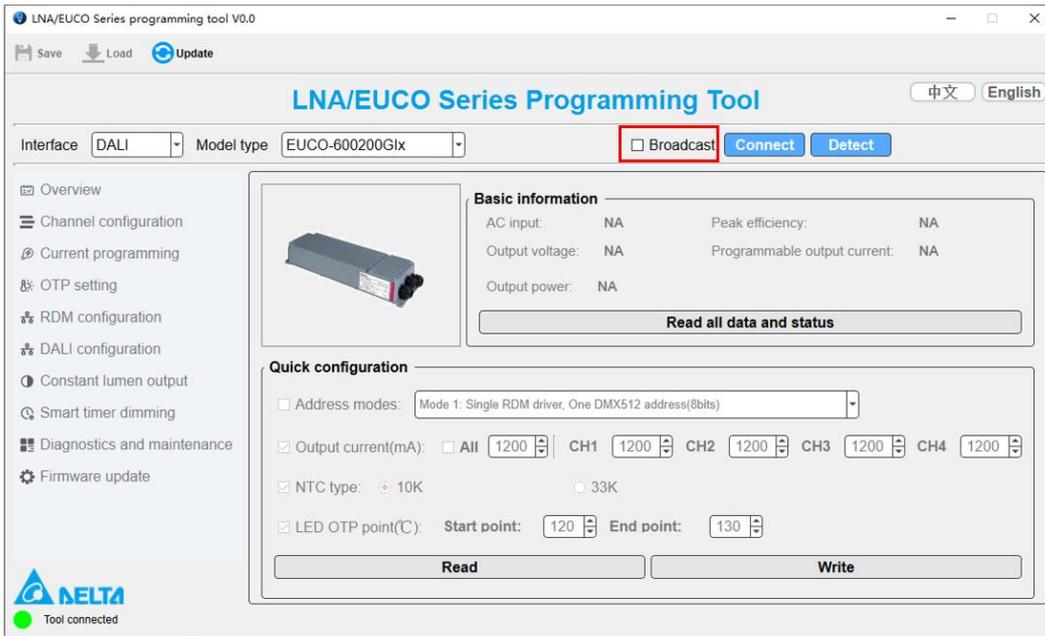


Figure 6 Connect with the driver on broadcast

At the same time, in broadcast mode, the interface and model type should be selected manually.

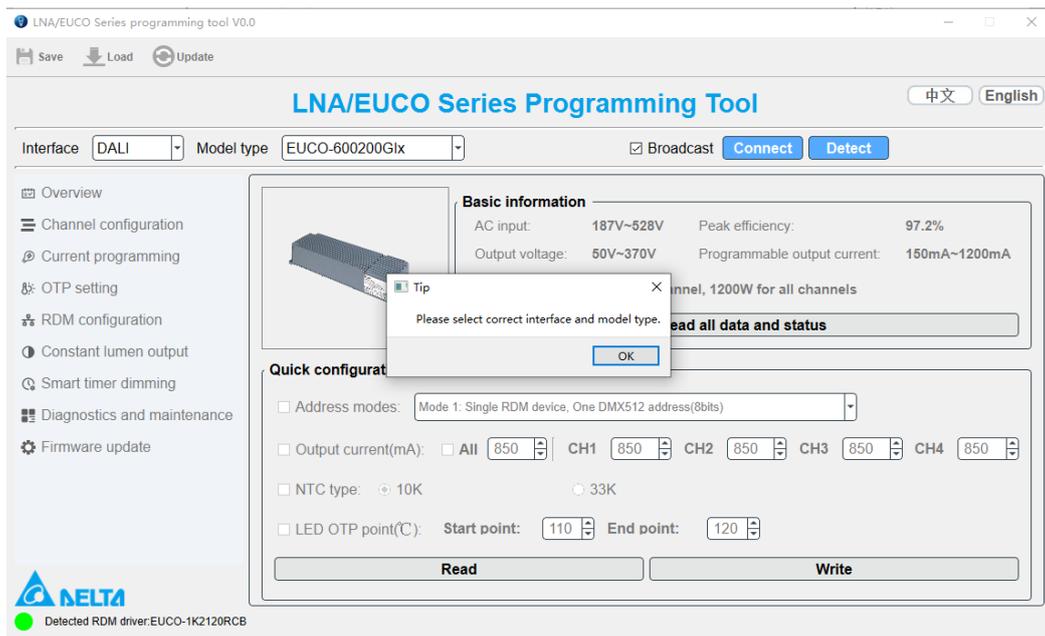


Figure 7 Select interface and model type manually

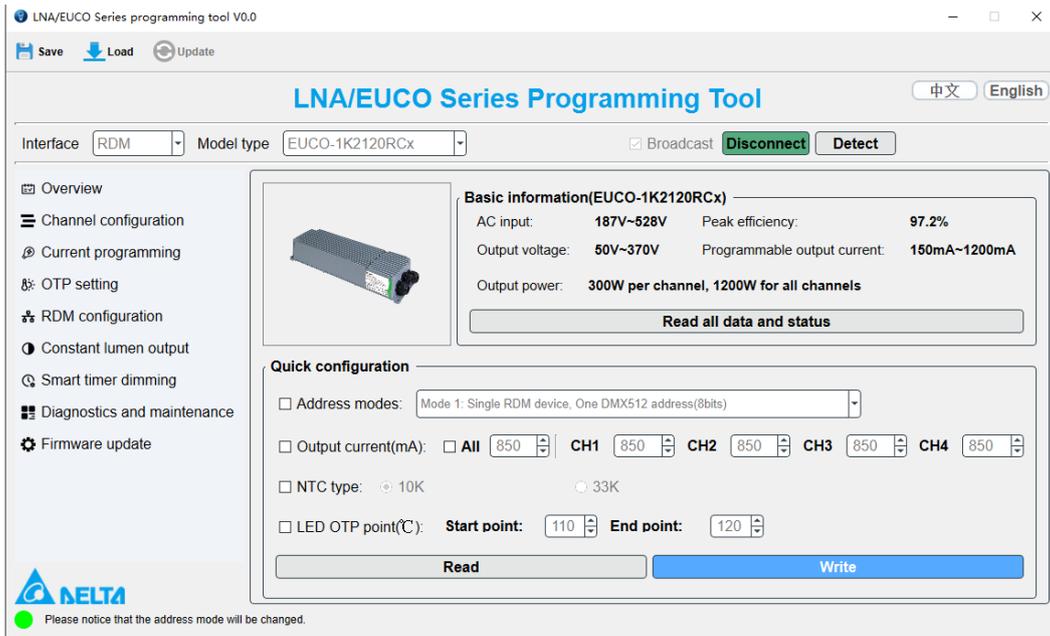


Figure 8 GUI in broadcast mode

It should be noted that in broadcast mode, all reading functions of the GUI will be disabled.

2. Main functions

2.1 Overview

After connection, the GUI will read some basic information from the driver. All reading data will show in the “Overview” page. It should be noted that different driver types may have different information in this page.

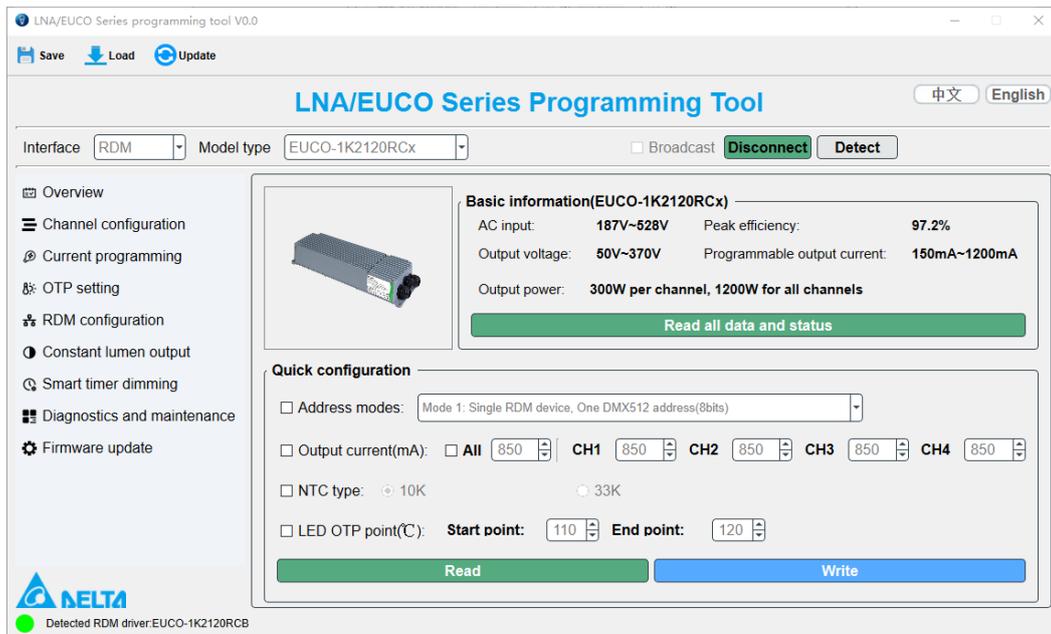


Figure 9 Overview page

In the following area, there are some basic information about the connected drivers, include AC input, output features and so on.

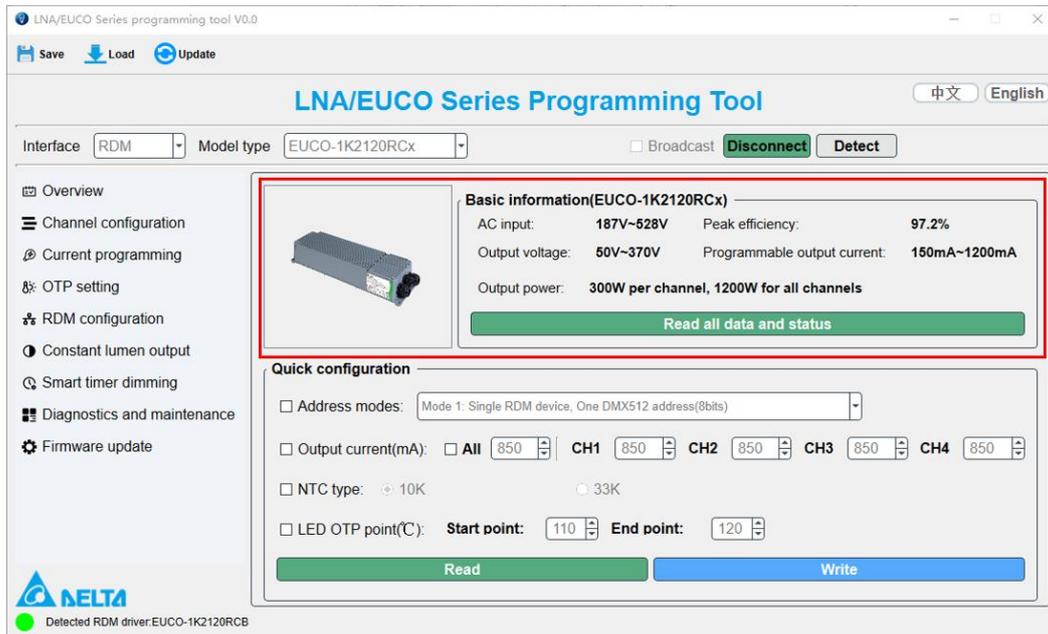


Figure 10 Basic information of the driver

Clicking the button “Read all data and status” will read out more data and information from drivers.

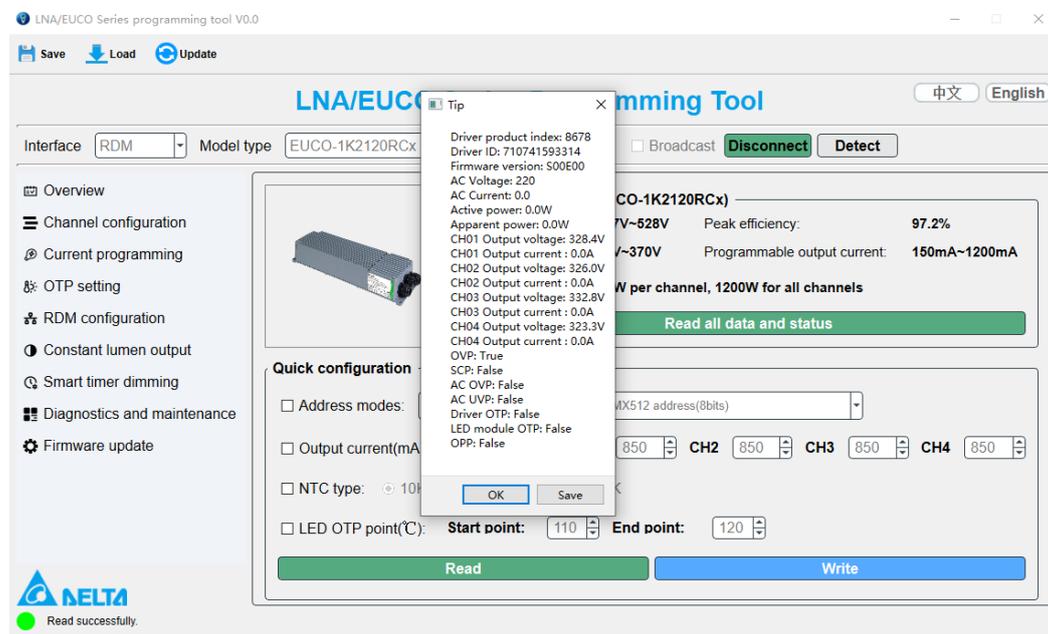


Figure 11 Data and status of connected driver

Click “save” button to save this data and status information. This file will be save in the ./profile folder.

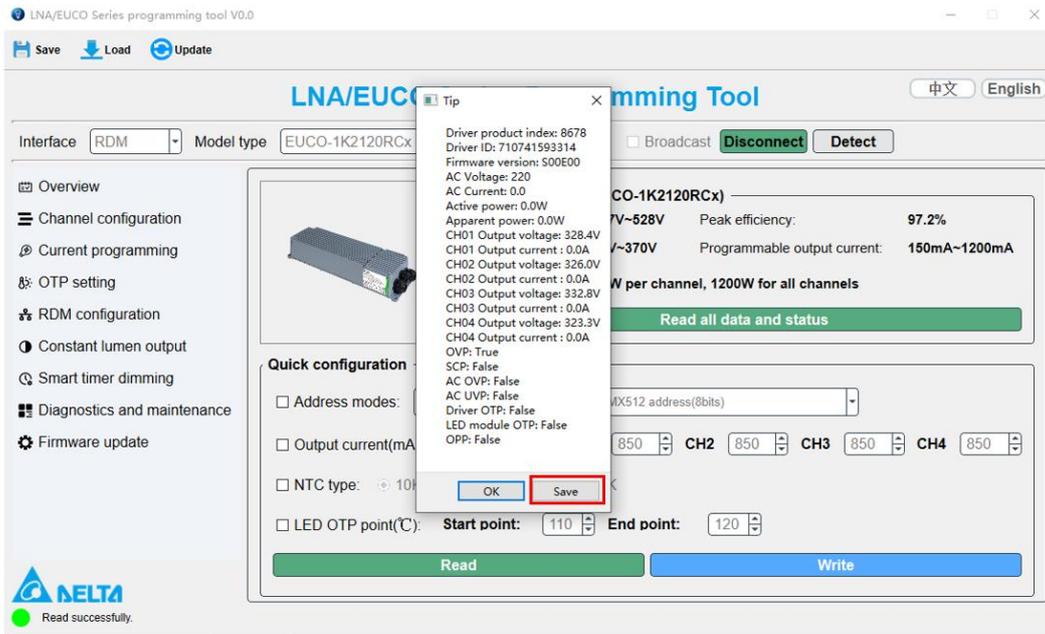


Figure 12 Save data and information

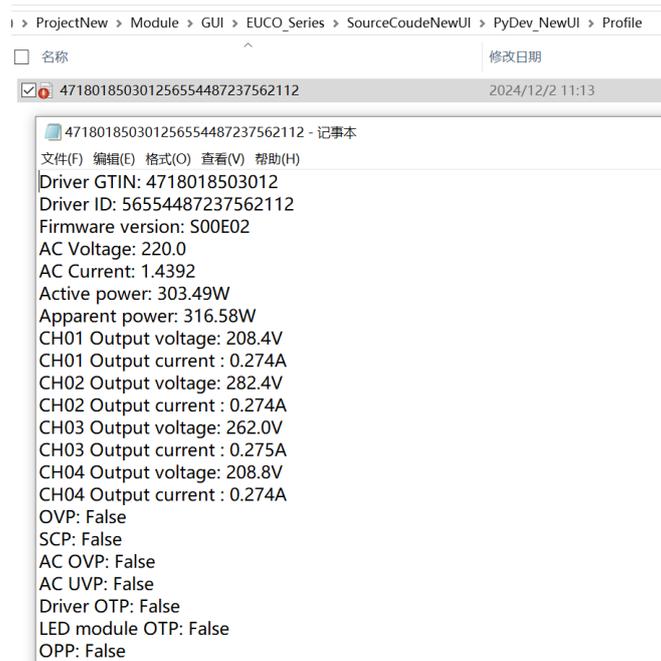


Figure 13 Saved data and information

Besides, different driver types may support different data and information. It is based on the driver's feature.

In the bottom of this page, there are some quick configuration items. By default, all setting items are disabled. Please click the check box before the item to enabled this setting items. Click the “Read” or “Write” button to read out and write in these configuration. It should be noted that the configuration will be changed only the button “Write” has been clicked. Please check the bottom line to see the read or write result.

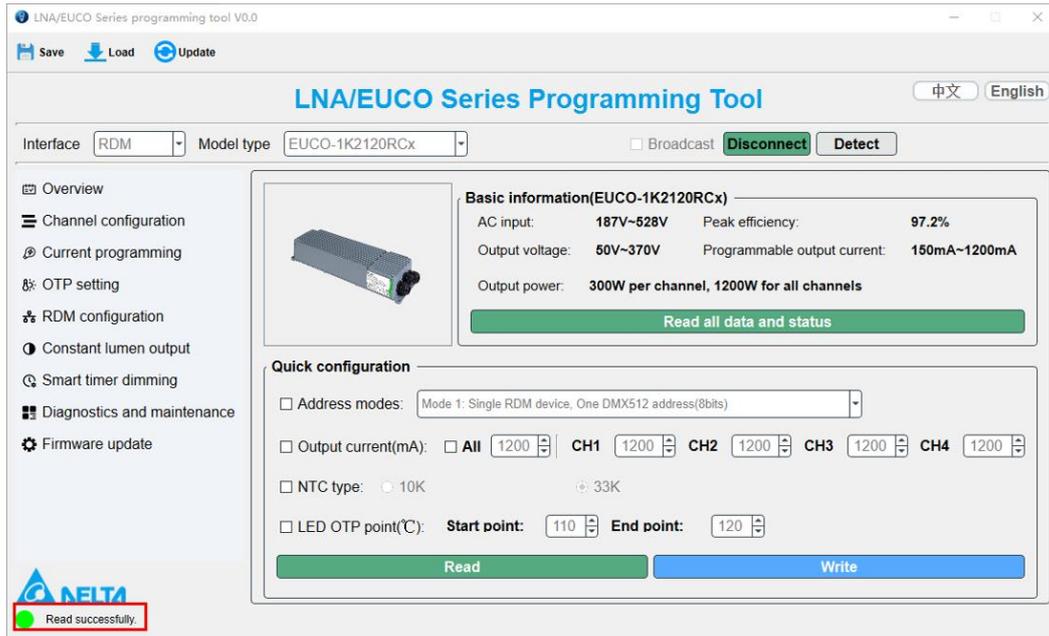


Figure 14 Read quick configuration successfully

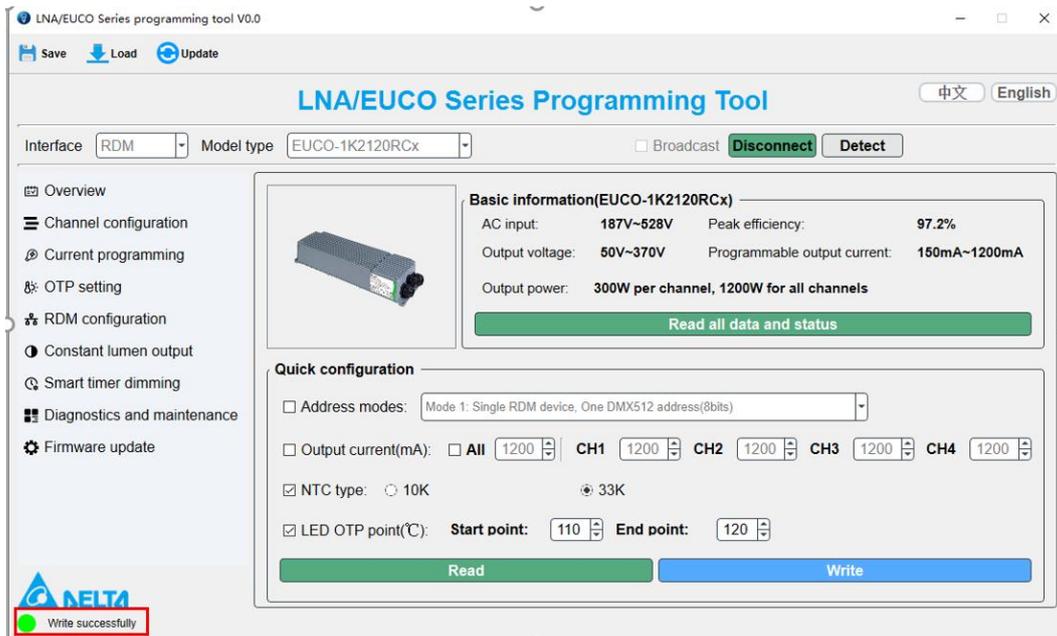


Figure 16 Write quick configuration successfully

2.2 Channel configuration (Only supported in driver with multiple channels output)

This page allows two functions: Change channel state and change address modes.

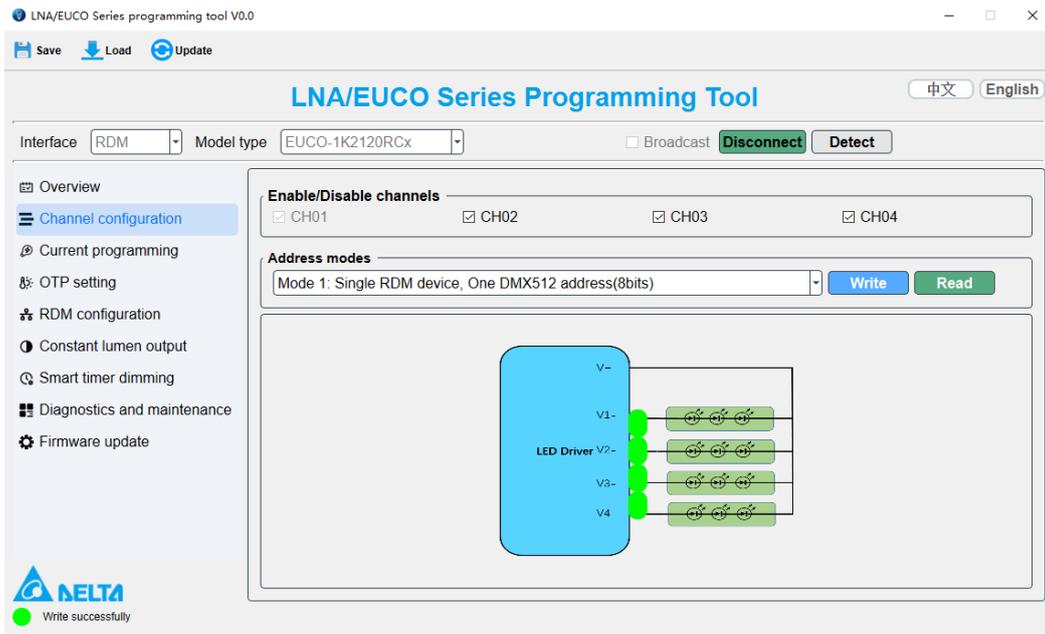


Fig 17 Channel configuration

2.2.1 Channel states

In this function, the CH01 should be always enabled. It's not allowed to be configured. And for other channels, click the check box could enable or disable the specific channel.

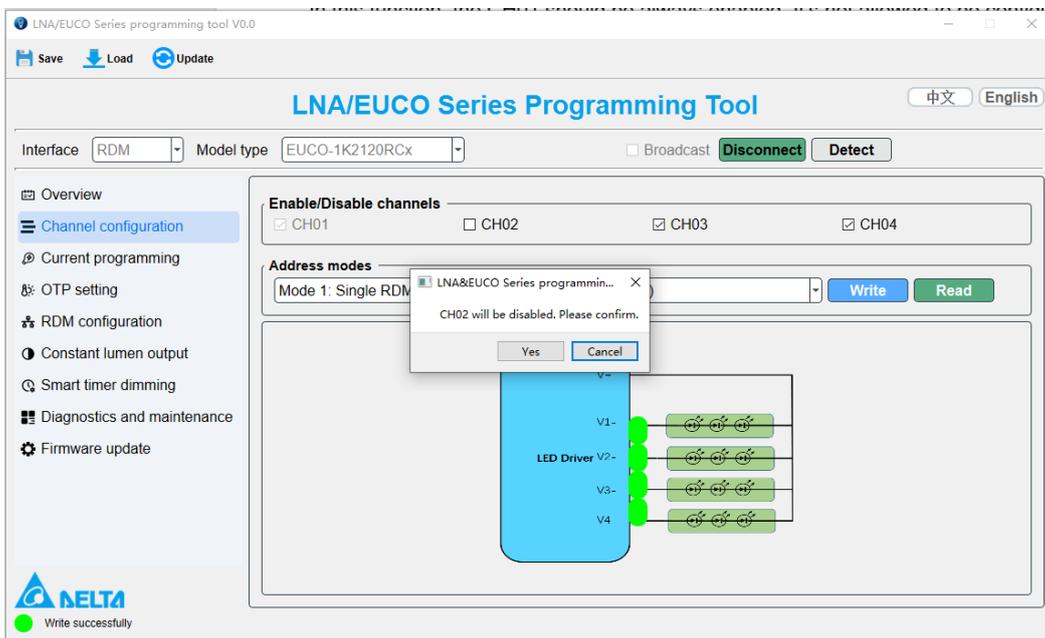


Figure 18 Disable CH02

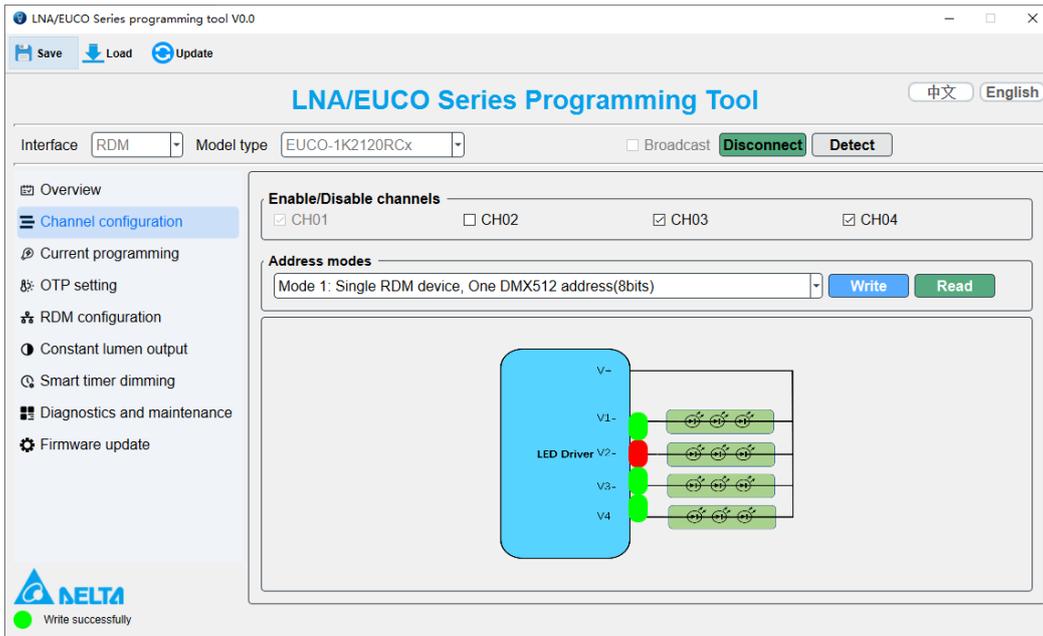


Figure 19 Disable CH03 successfully

If the channel has been disabled successfully, the state of the specific channel will turn red. Accordingly, the green status means this channel is enabled.

2.2.2 Address modes

The drivers may support two types of address modes.

Type 1 of address modes: Single address mode and multiple addresses modes. In single address mode, all channels of the driver will be recognized as one driver by controller. And the controller will control all channels synchronously. And in multiple addresses mode, the driver will be recognized as multiple independent drivers. Every driver has its own parameters and could be dimmed independently.

Type 2 of address modes:

One RDM driver, One DMX512 address(8bits)
One RDM driver, Two DMX512 addresses(10bits)
One RDM driver, Multiple consecutive DMX512 address(8bits)
One RDM driver, Multiple two consecutive DMX512 address(10bits)
Multiple RDM driver, Multiple independent DMX512 addresses(8bits)
Multiple RDM driver, Multiple two independent DMX512 addressed(10bits)

One RDM driver, One DMX512 address(8bits): The driver will be discovered as one RDM driver. And it will be assigned only one DMX512 address. All channels share this DMX512 address.

One RDM driver, Two DMX512 address(10bits): Similar with last mode. Just need two DMX512

address to realize 10bits dimming.

One RDM driver, Multiple consecutive DMX512 address(8bits): The driver will be discovered as one RDM driver. But every channel has its own DMX512, and these address will be consecutive. For example, there are four channels in the driver. If the driver has been assigned address 200 with RDM controller. Then for CH01,CH02,CH03,CH04, the address will 200,201,202,203.

One RDM driver, Multiple two consecutive DMX512 address(10bits): Similar with last mode. Just every channel needs two addresses for 10bits dimming function. For example, there are four channels in the driver. If the driver has been assigned address 200 with RDM controller. Then for CH01,CH02,CH03,CH04, the address will 200-201,202-203,204-205,206-207.

Multiple RDM driver, Multiple independent DMX512 addresses(8bits): The driver will be recognized as four independent drivers. Every channel has its own address and other parameters and could be controlled independently.

Multiple RDM driver, Multiple two independent DMX512 addressed(10bits): Similar with last mode. Just realize 10bits dimming functions.

Click the “Read” or “Write” button to read out or write in the corresponding operation.

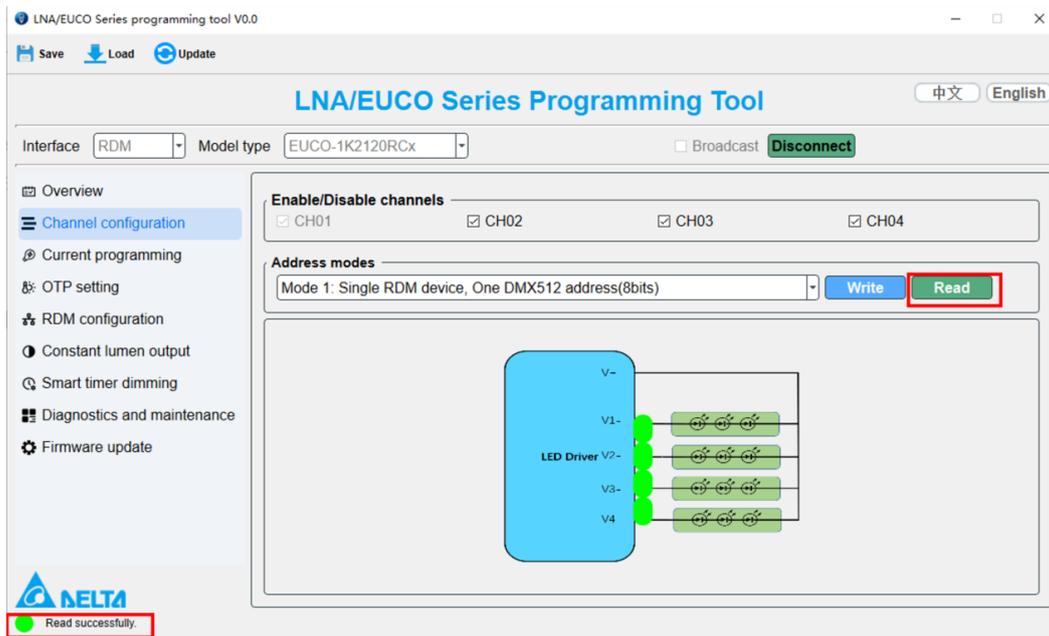


Figure 20 Read address mode

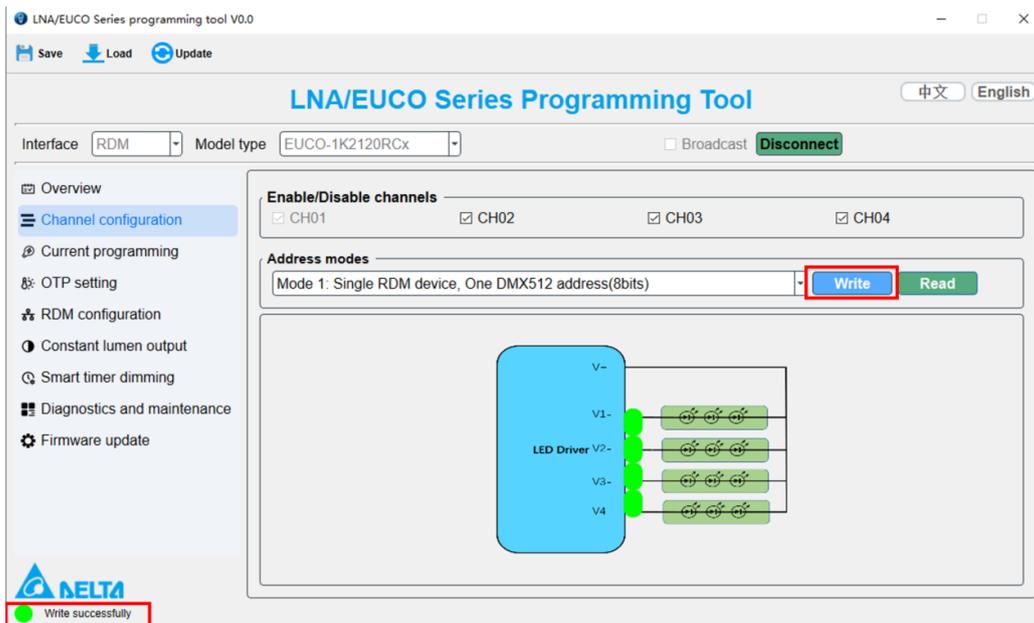


Figure 21 Write address modes

When the driver is in multiple addresses mode (Multiple RDM devices mode), the GUI may take some time to initialize the driver channels.

2.3 Current programming

For current programming, every channel could be programmed different current values. However, click “Read” button or “Write” button will read out or write in the current value of all channels.

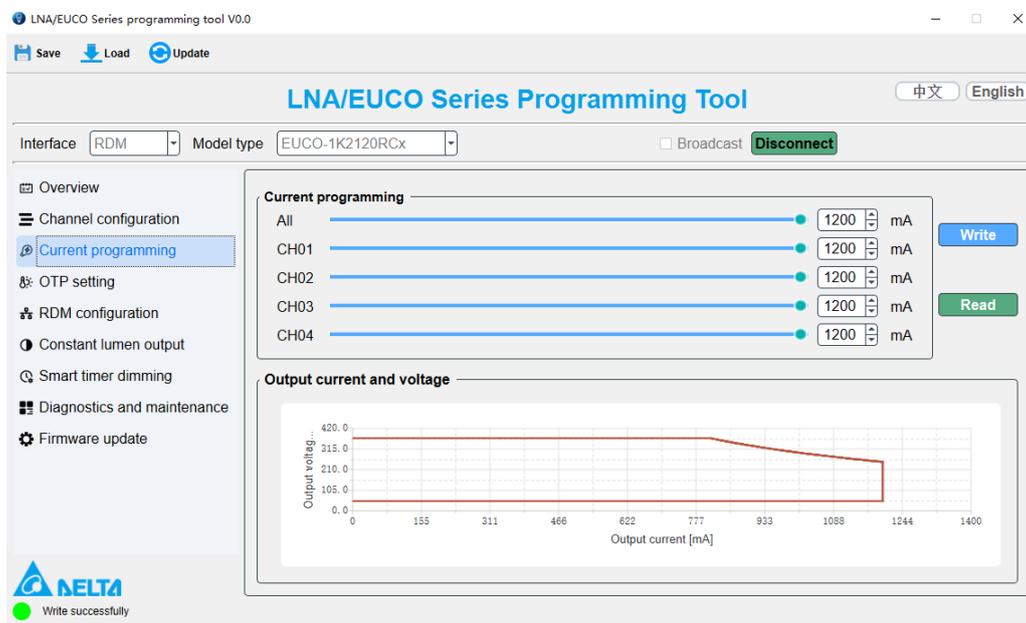


Figure 22 Current programming function

The bottom curve in this page will show the programming current curve of every channel.

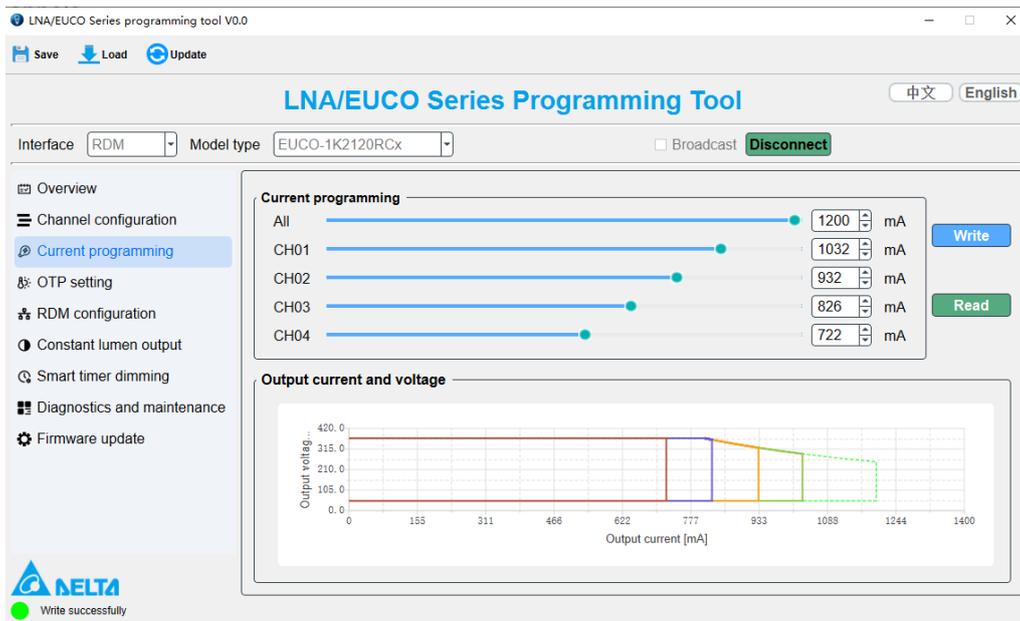


Figure 23 Output voltage and current curve

2.4 OTP setting

The driver may support different type of NTC. Please refer to the datasheet to get more details about the supported NTC. Click the check box of the NTC type will change the NTC type of the driver.

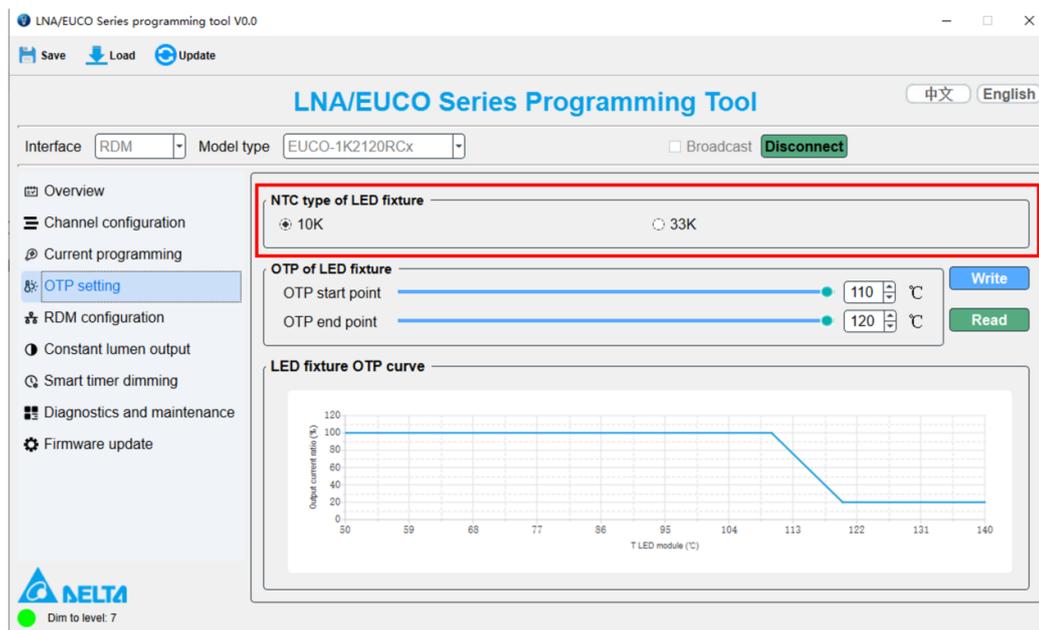


Figure 24 Change NTC type

For OTP of LED fixture, the OTP start point and OTP end point should be set correctly. The bottom curve is the OTP protection curve. Normally, the OTP end point should always be higher than the OTP start point.

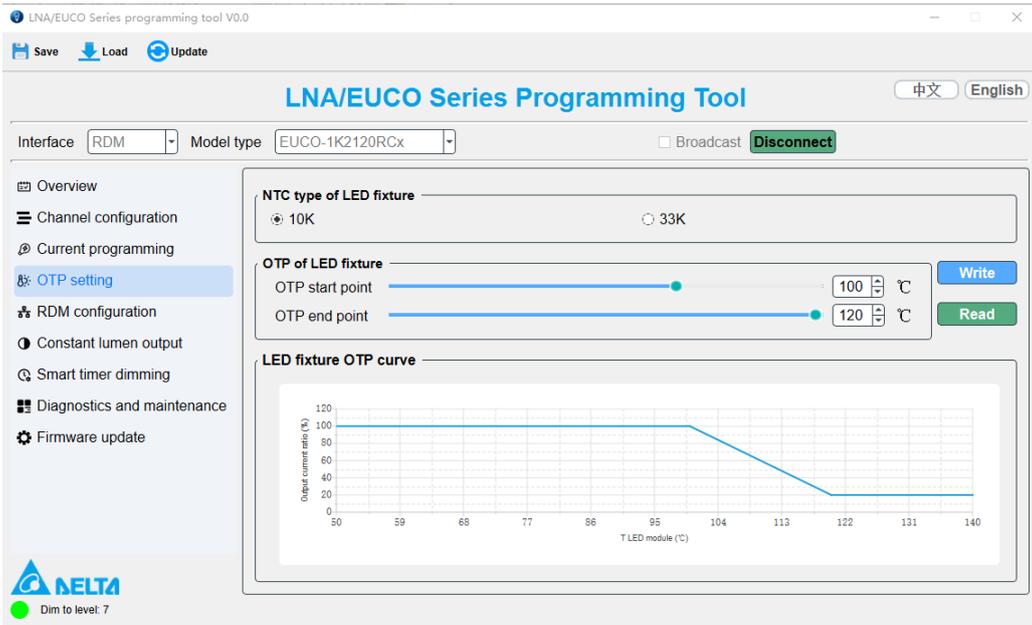


Figure 25 Change OTP start point and end point

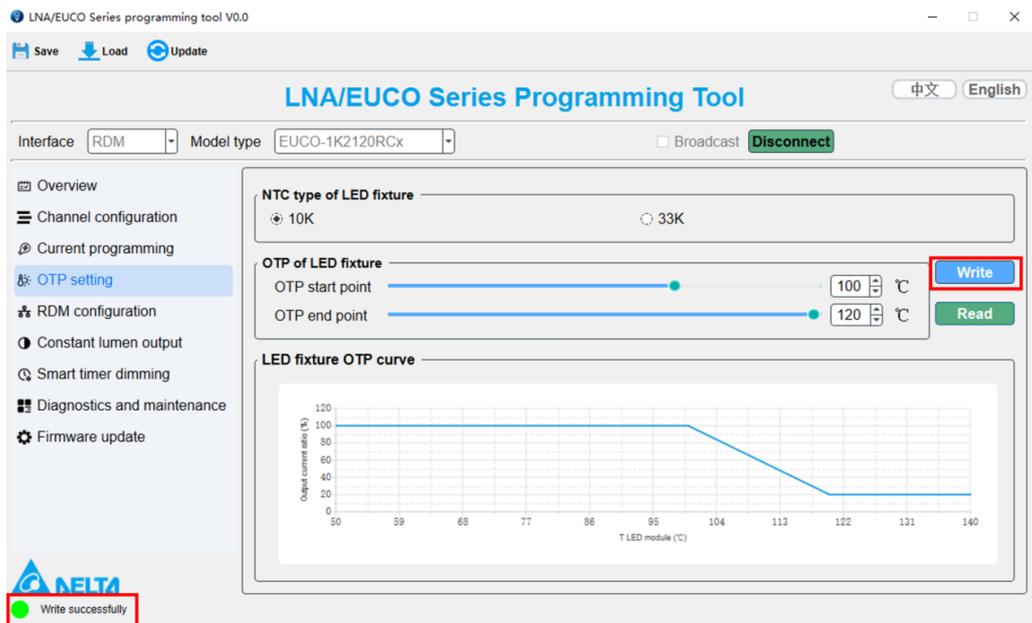


Figure 26 Write OTP parameters

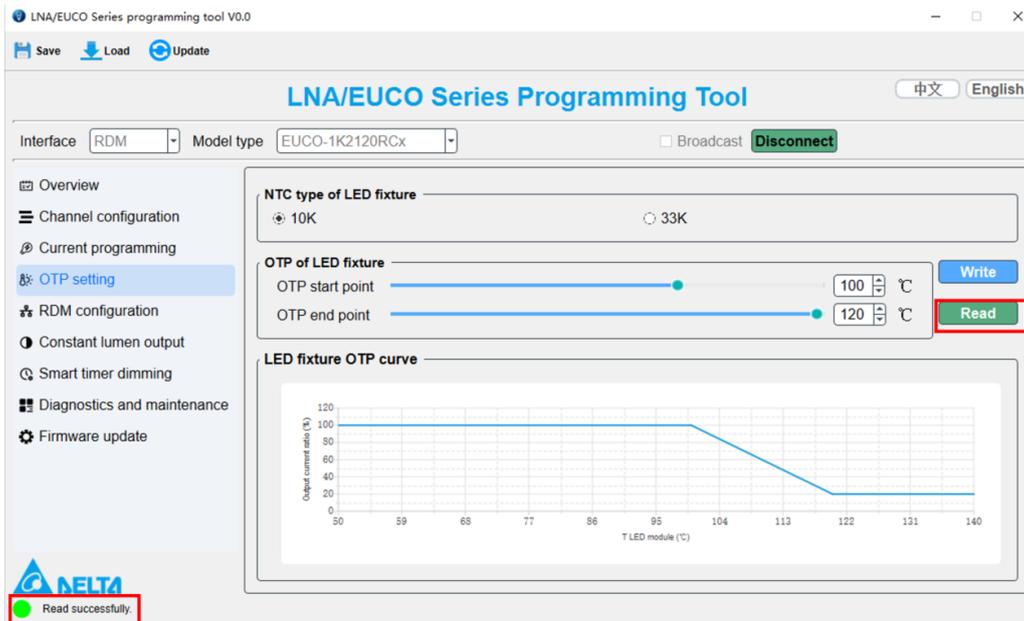


Figure 27 Read OTP parameters

2.5 DALI configuration (Only suitable for DALI drivers)

The GUI provide some DALI functions to configure the DALI parameters of the driver which supports DALI protocol.

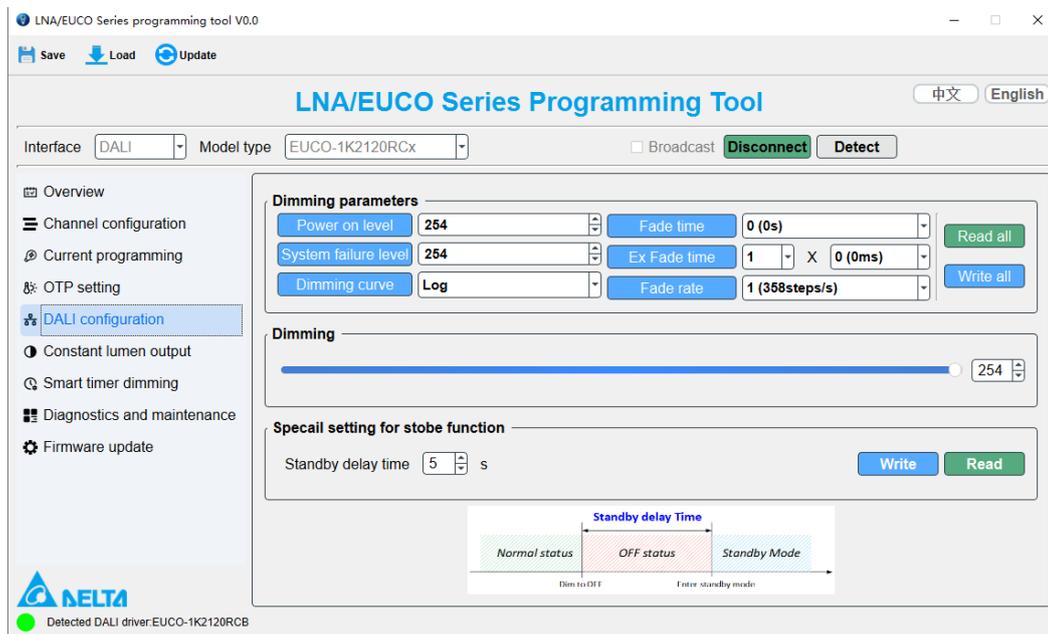


Figure 28 DALI configuration (Multiple addresses mode)

In this page, the GUI can set the all dimming parameters of the driver for every channel, include power on level, system failure level, fade time / fade rate, dimming curve and so on.

In single address mode, all channels are mapped as channel 1. Thus, only the parameters of channel 1 could be set.

Also, the GUI could send out dimming command for simple dimming. For this dimming function, it uses DAPC command on broadcast. So every driver in the DALI bus will receive this DAPC command.

If the driver is in DALI mode, it also supports strobe function which means the driver can flash very fast. For this fast flashing, please configure the standby delay to avoid the driver entering standby mode.

2.6 RDM configuration (Only suitable for RDM drivers)

If the driver supports RDM functions, the GUI provides some functions for setting RDM feature, include “Device address”, “DMX512 startup level”, ”Dimming” and “Special setting for strobe function”.

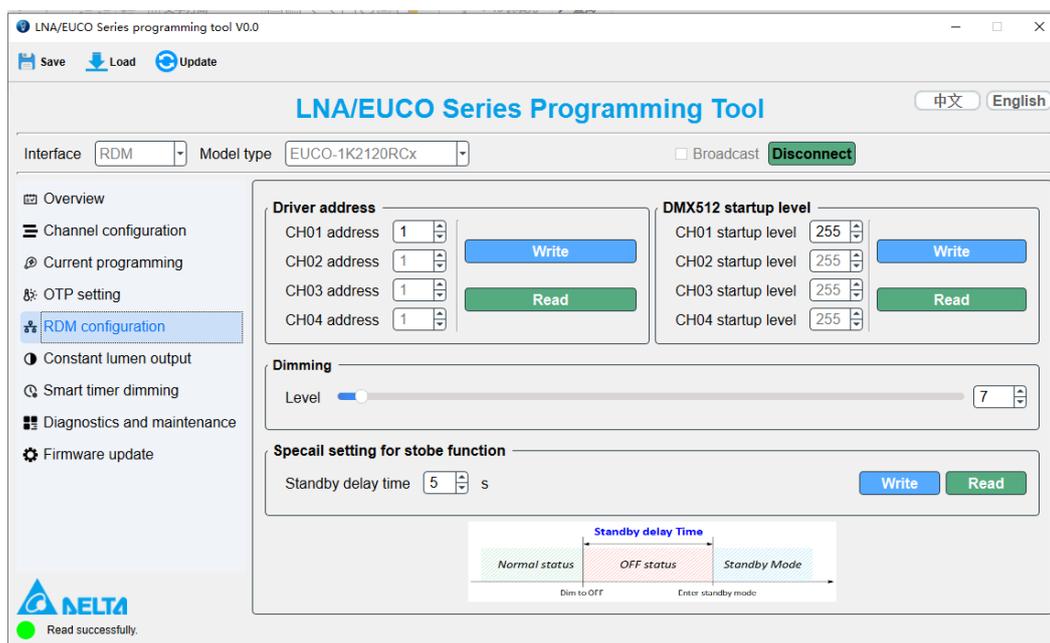


Figure 29 RDM configuration

Based on the DMX512 protocol, every driver has its own DMX512 address. It should be in the range of 1-512. For different address mode, the address of the driver has been setting different.

Mode 1: Single RDM device, One DM512 address(8bits), in this mode, only the address of channel 1 could be set. The addresses of other channels will always keep the same with channel 1.

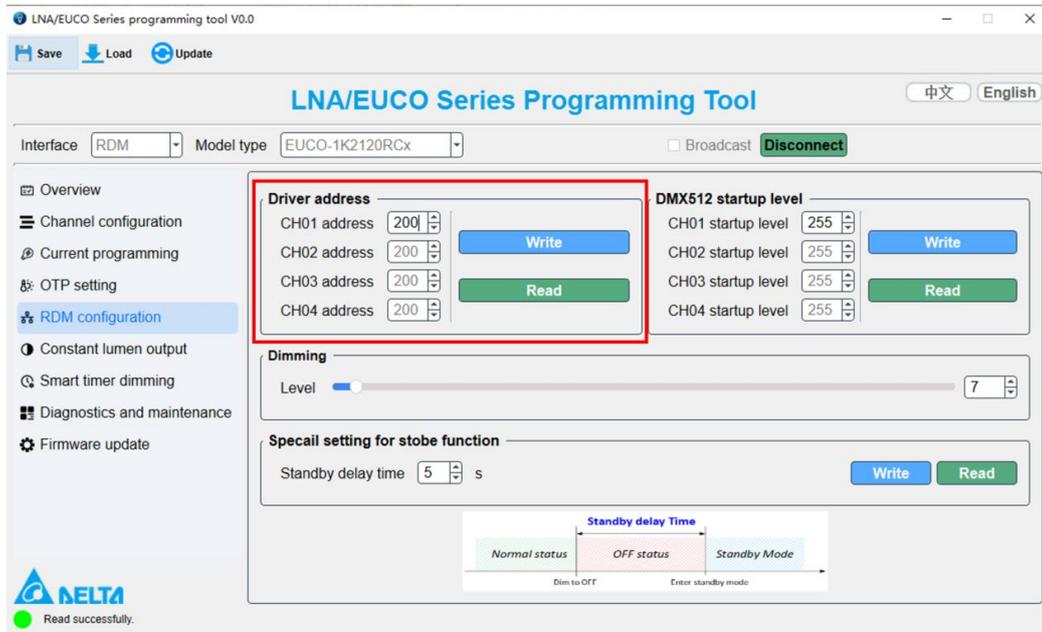


Figure 30 Mode 1 device address

Mode 2: Single RDM device, Two DMX512 addresses(10bits), this mode is very similar with mode 1. Only the address of channel 1 could be set. But channel 1 will take two consecutive DMX512 addresses to realize 10bits dimming.

Mode 3: Single RDM device, Multiple consecutive DMX512 addresses(8bits). In this mode, only the address of channel 1 could be set. But the other addresses will be set automatically based on channels. For example, if the address of channel 1 has been set to 200, CH02 address will be 201, CH03 is 202... and channel n will be 200+n.

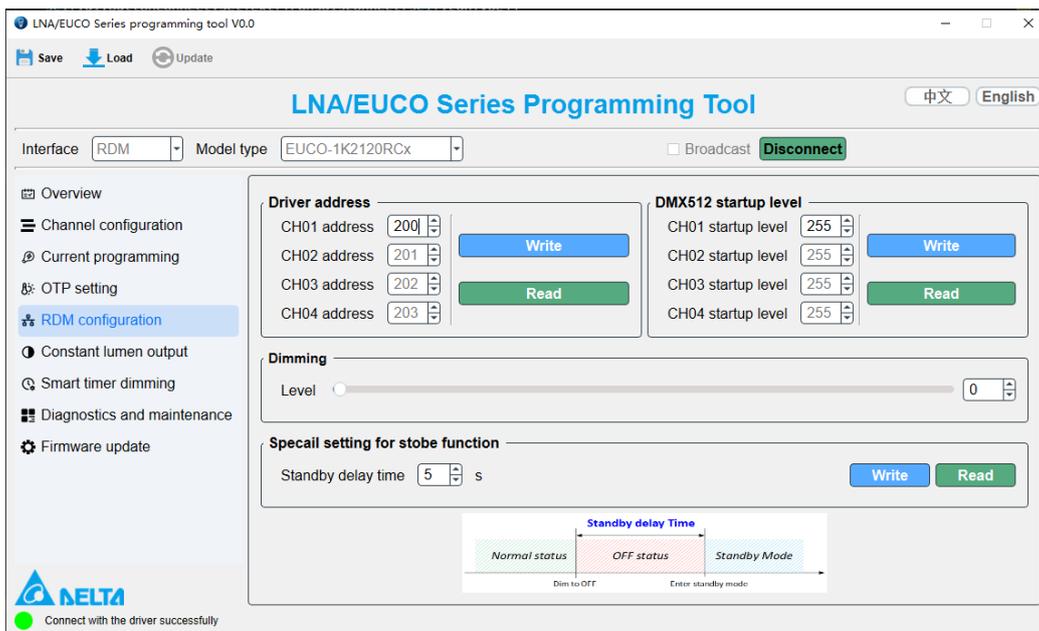


Figure 31 Mode 3 device address

Mode 4: Single RDM device, Multiple consecutive DMX512 addresses(10bit). This mode is similar with mode 3. If the CH01 has been set address 200, the address of CHn will be $200+2*n$.

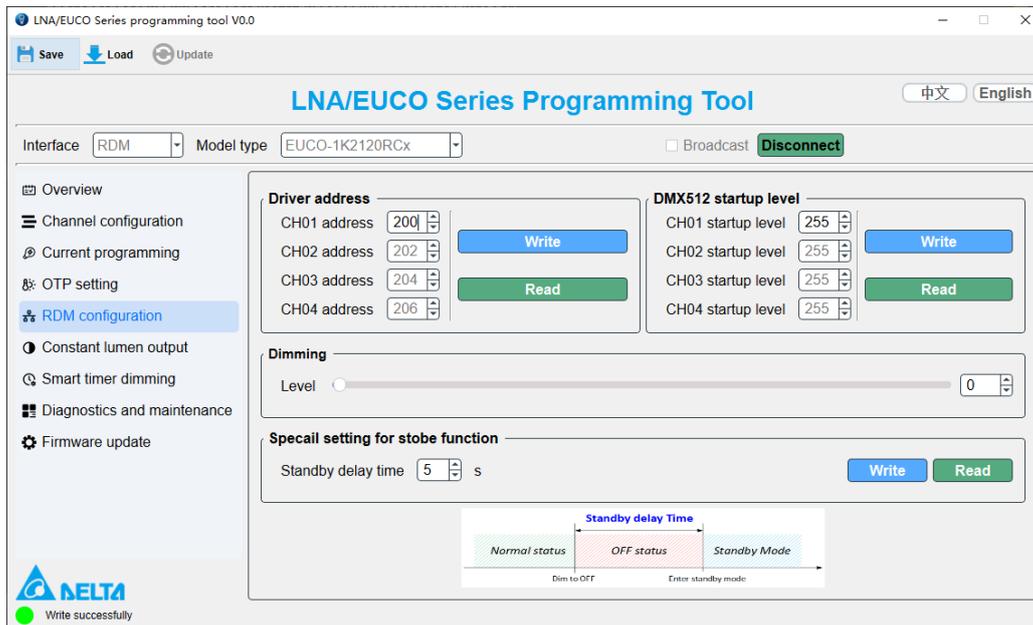


Figure 32 Mode 4 device address

For other two modes, mode 5 and mode 6, the driver will be in multiple RDM devices mode, in this mode, the driver will be recognized as multiple independent RDM driver, the address of every channel is also independent.

The DMX512 startup level is used when the driver doesn't connect with any DMX512 controller. In this case, after 1.5s, the driver will dim to the setting startup level.

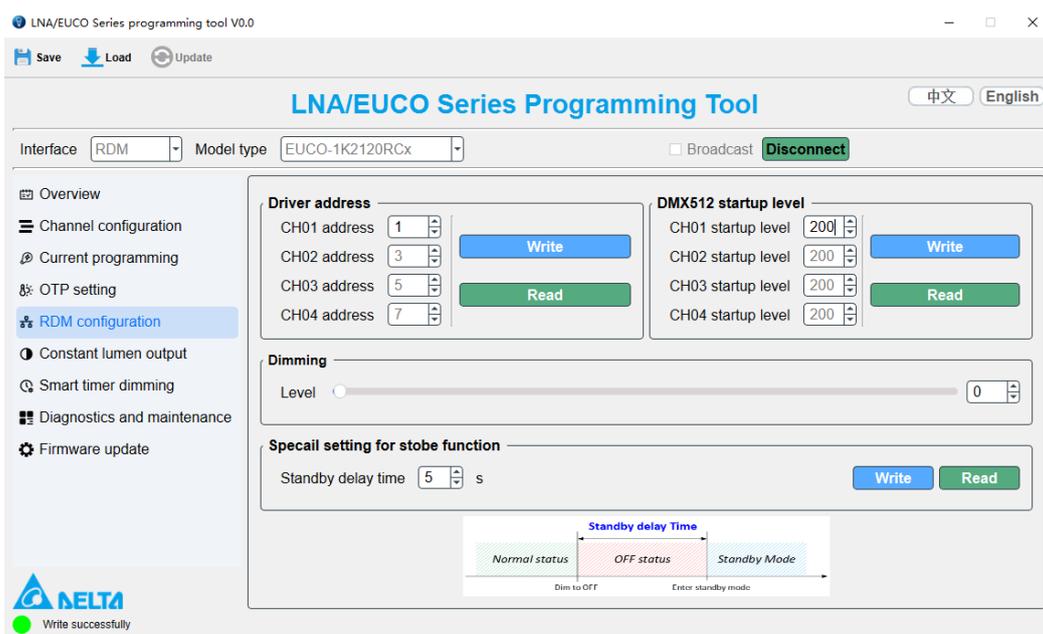


Figure 33 DMX512 startup level

In mode 1 to mode 4, only DMX512 startup level of channel 1 could be set. The other channels will always follow the setting of channel 1. In mode 5, mode 6, every channel could be set independently.

It should be noted that if the DMX512 startup level has been set to level 0, the driver will keep off after power on until receiving the DMX512 dimming command.

The GUI also provides simple dimming function in the page. This dimming command is sent out in broadcast mode. The driver will always dim to the corresponding level ignoring the DMX512 address setting.

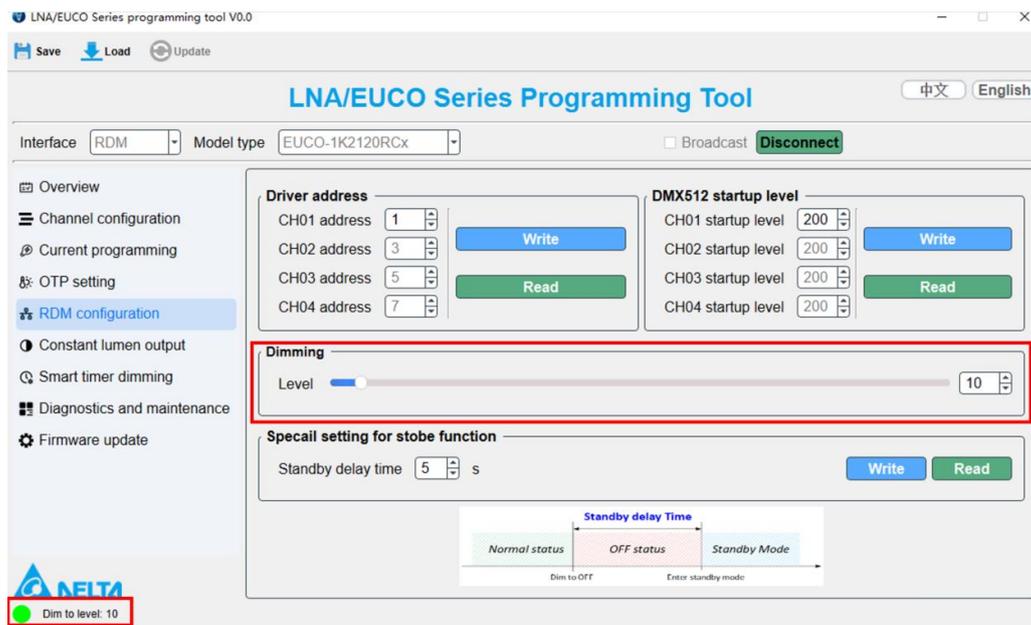


Figure 34 Dimming function

All RDM drivers support strobe function. With this function, the driver may flash very fast. In case of the driver entering standby when doing strobe, this standby delay time should be set over than the longest off time in strobe. For this parameter, the setting range could be 5s~60s.

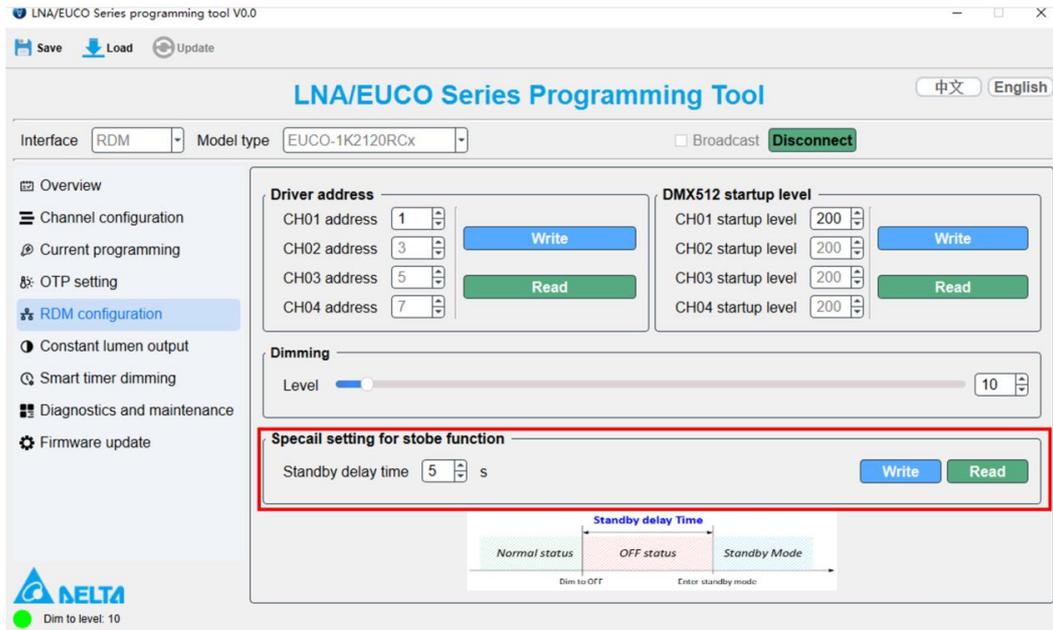


Figure 35 Special setting for strobe function

2.7 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.

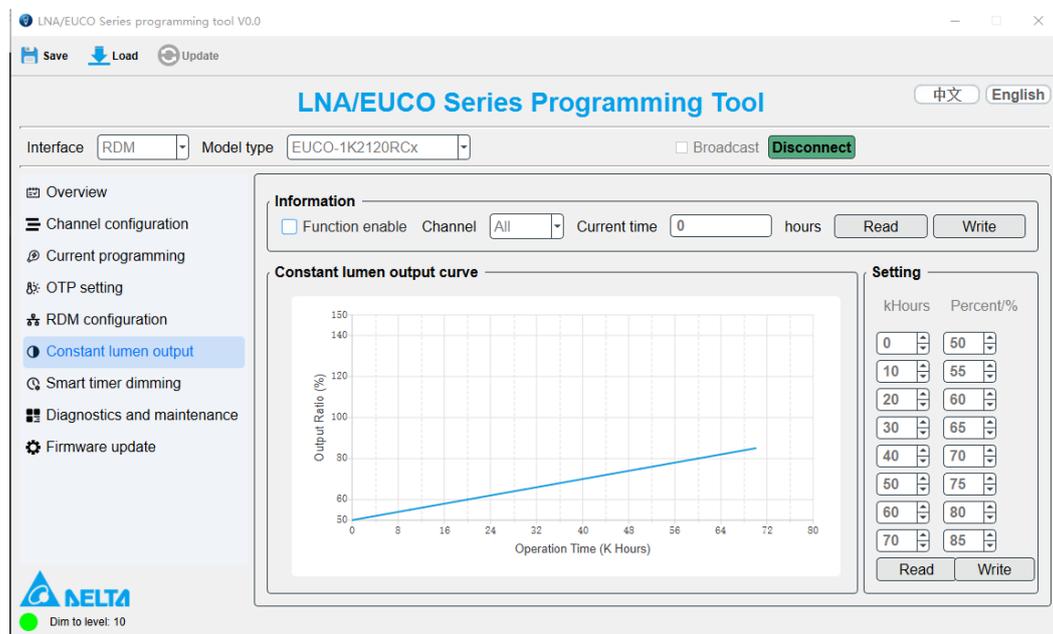


Figure 36 CLO function

By default, the function is disabled and every “read” and “write” function is disabled. Click the check box of “Function enable” to enable or disable this function.

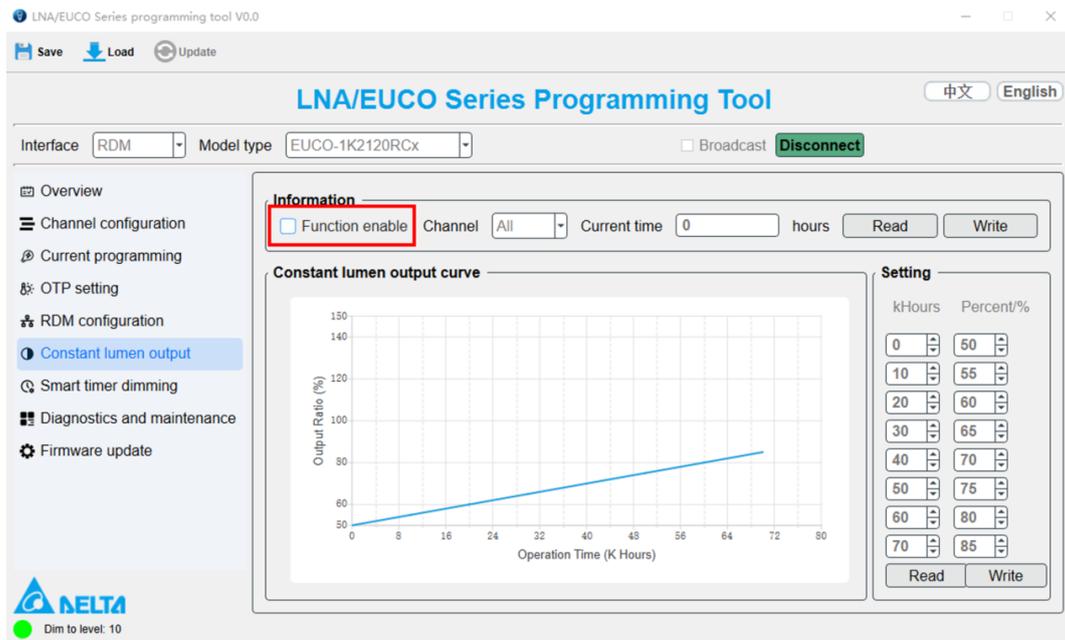


Figure 37 Enable the CLO function

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.

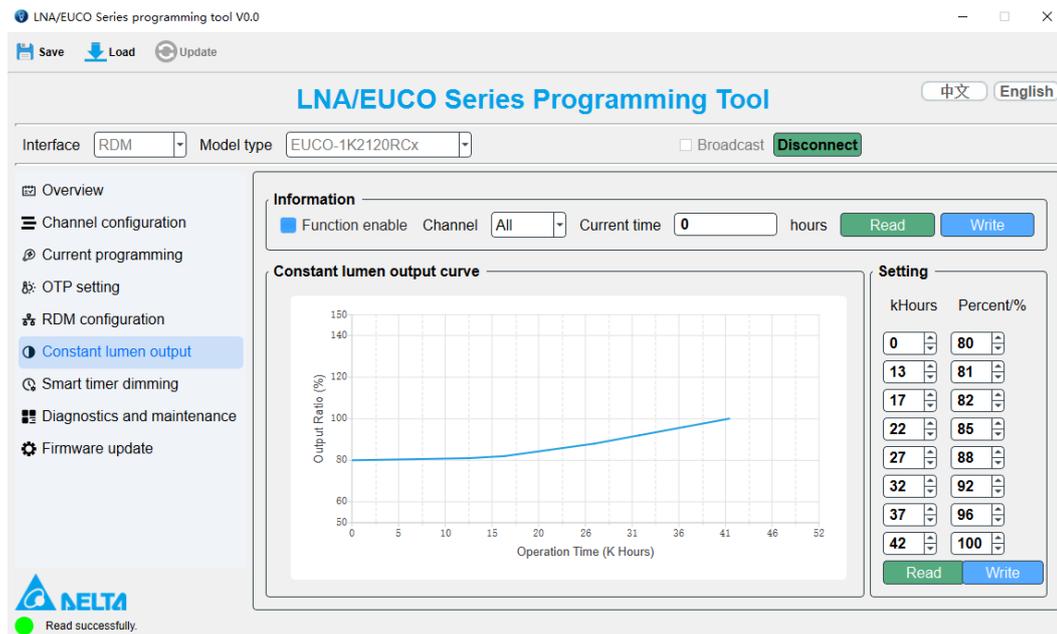


Figure 38 CLO function

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.

2.8 Smart timer dimming

In this function, you could customize a dynamic dimming schedule in different modes

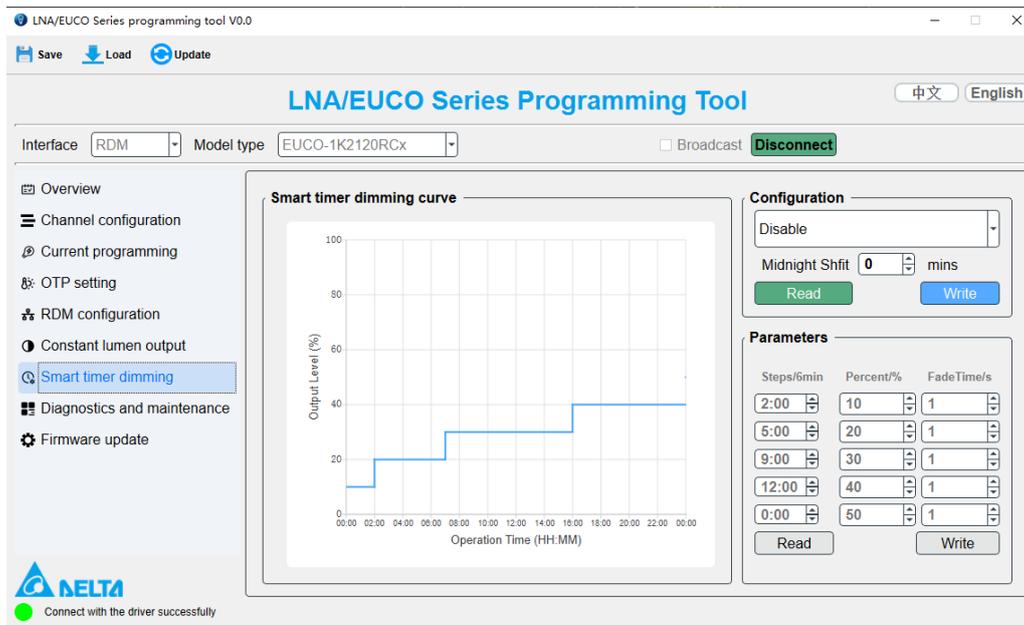


Figure 39 Smart timer dimming

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 10% output level for the first two hours since power-up. Then change to 20% output level for following five hours (as step 2), follow by 30% output level for another six hours (as step3), and so on.

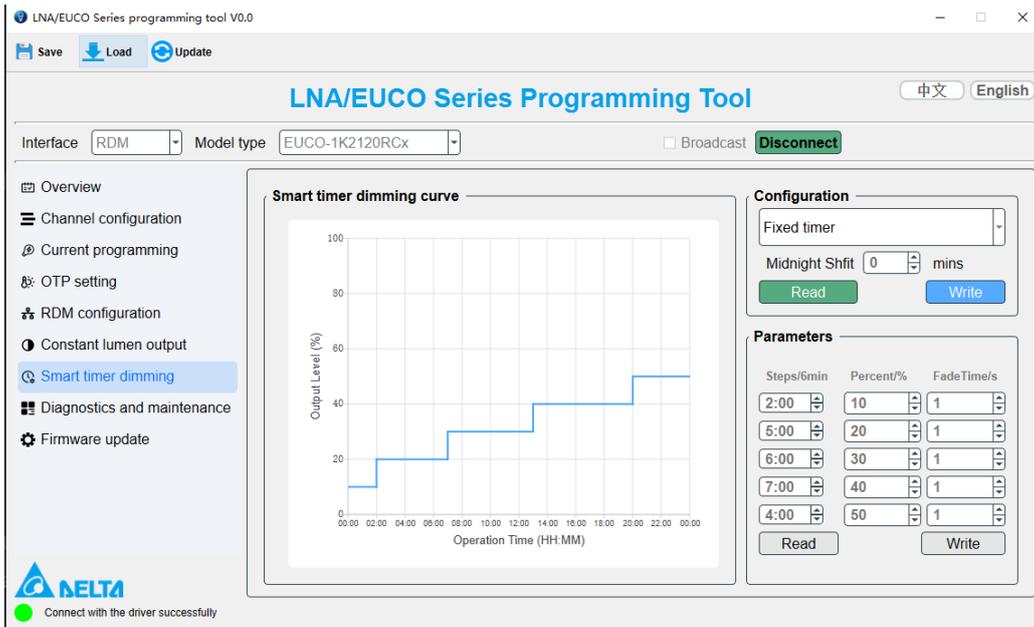


Figure 40 Fixed timer mode usage

Midnight centric timer mode usage: If yesterday's time duration is six hours and valid, then the driver will perform the output level at 20% for five hours when power on, then follow by 30% for one hour, and so on.

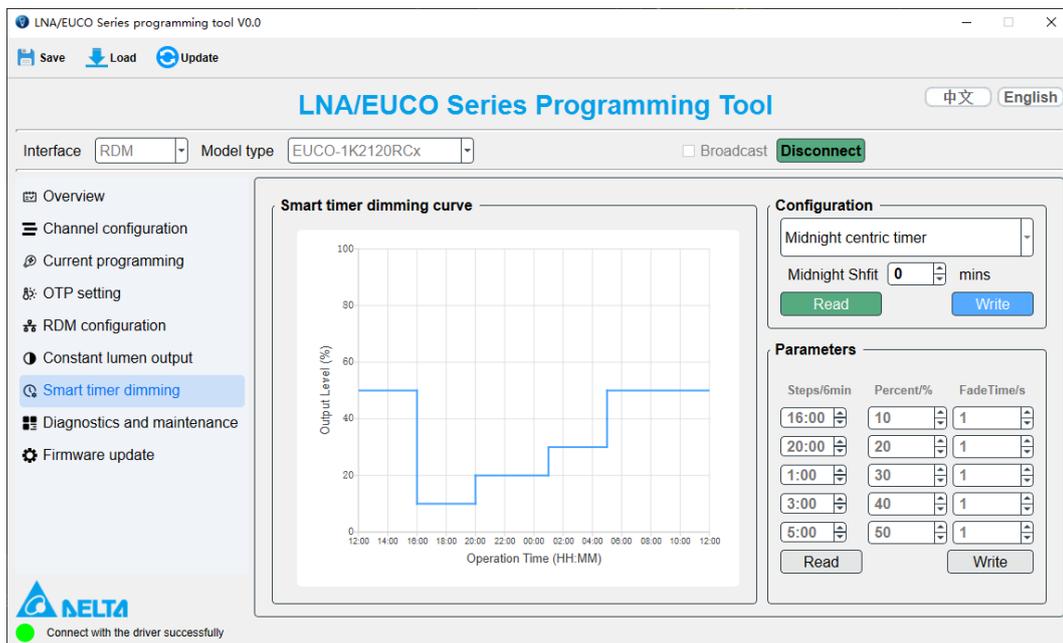


Figure 41 Midnight centric timer mode usage

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 10% for one hour (50% of setting profile) when power on. Then performs 20% output level for two hours and half, and so on.

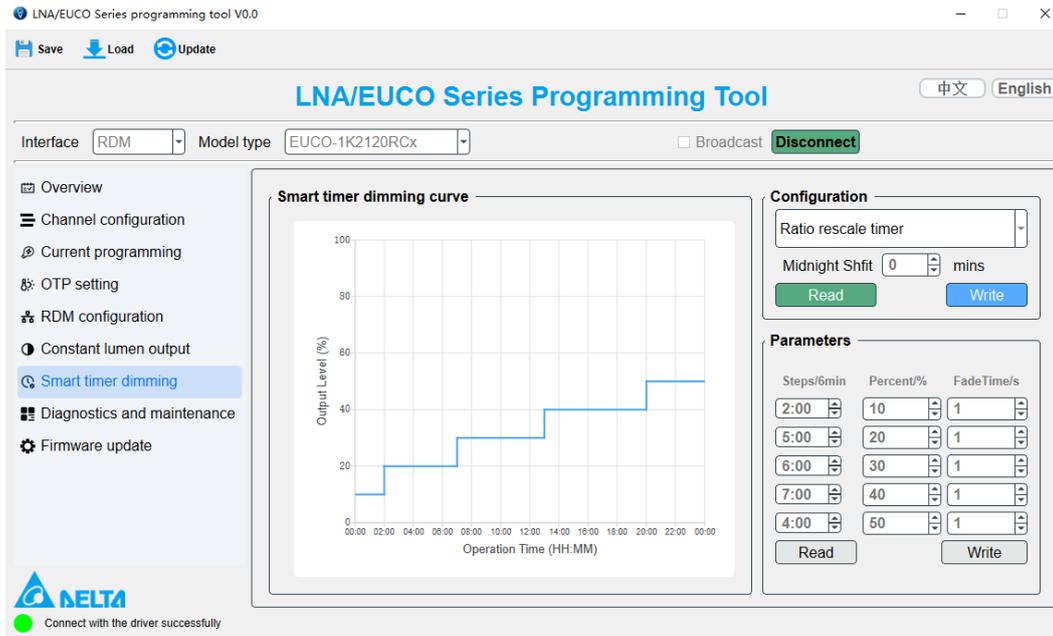


Figure 42 Ratio rescale timer mode usage

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.

2.9 Diagnostics and maintenance

The GUI could read the diagnostics and maintenance data from the driver to check the driver work status.

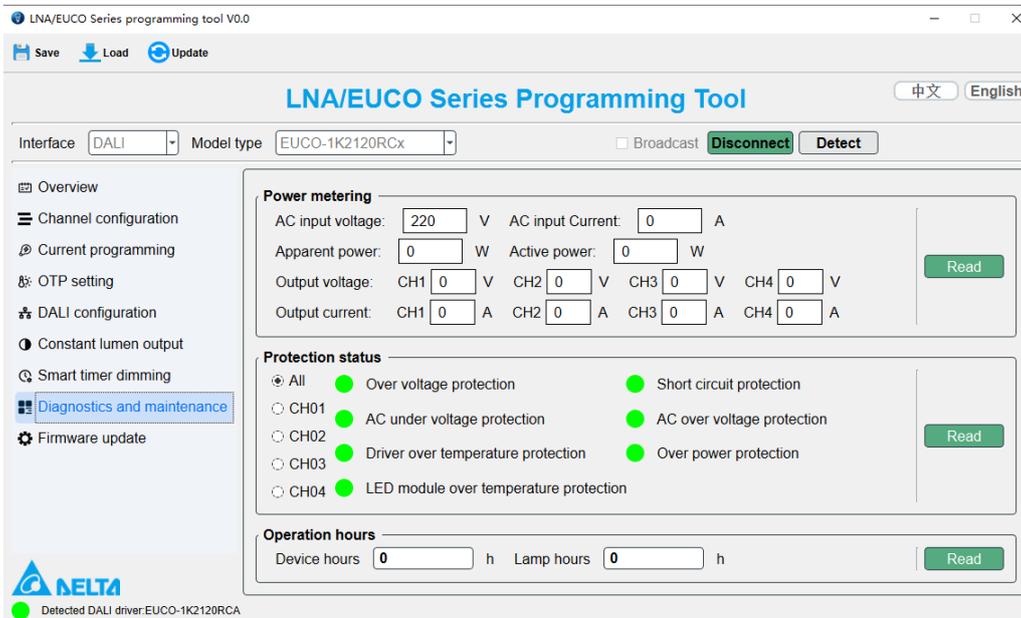


Figure 43 Diagnostics and maintenance

In the power metering part, the GUI could read out input and output parameters of every

channel.

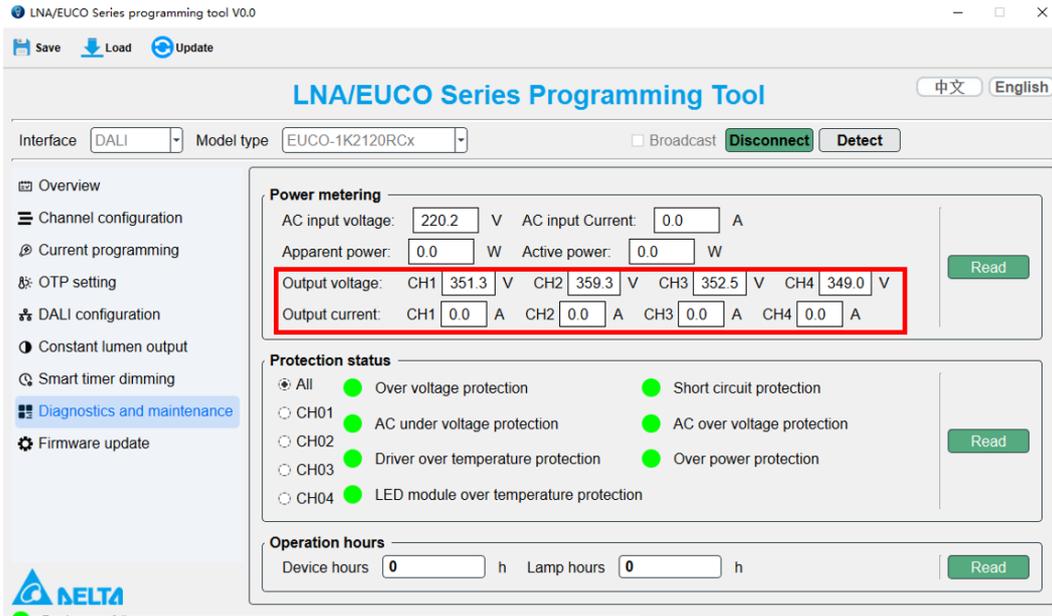


Figure 44 Power metering data

There are 7 protection status which could be queried.

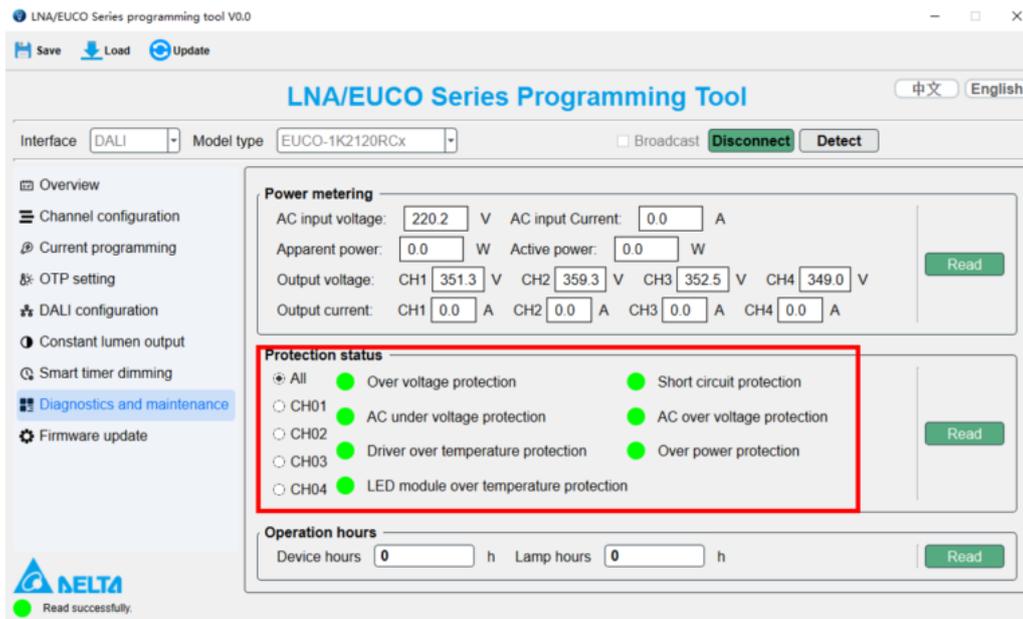


Figure 45 Protection status

The GUI also could query the driver work hours.

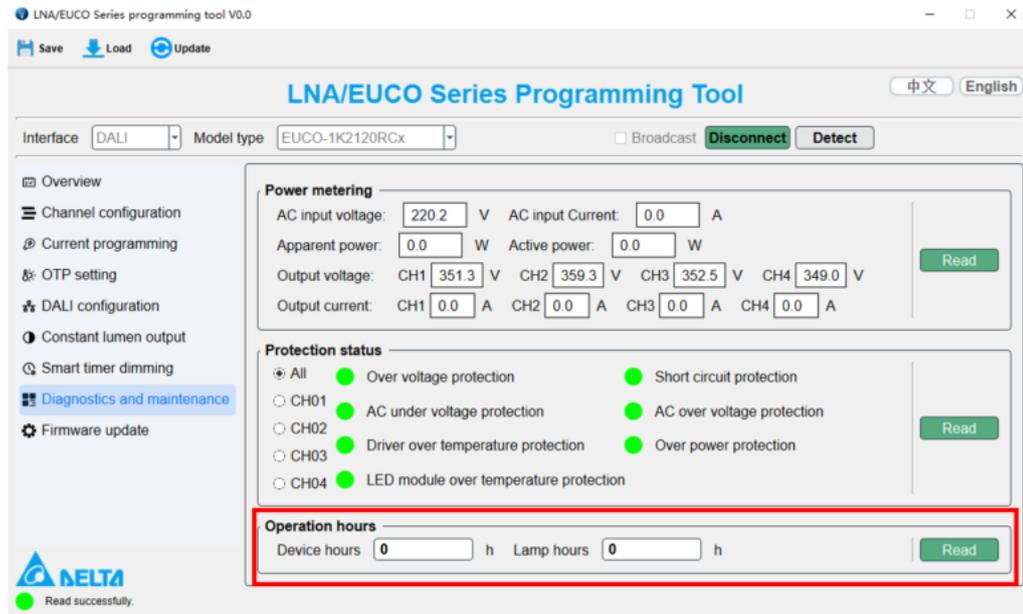


Figure 46 Operation hours

2.10 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.

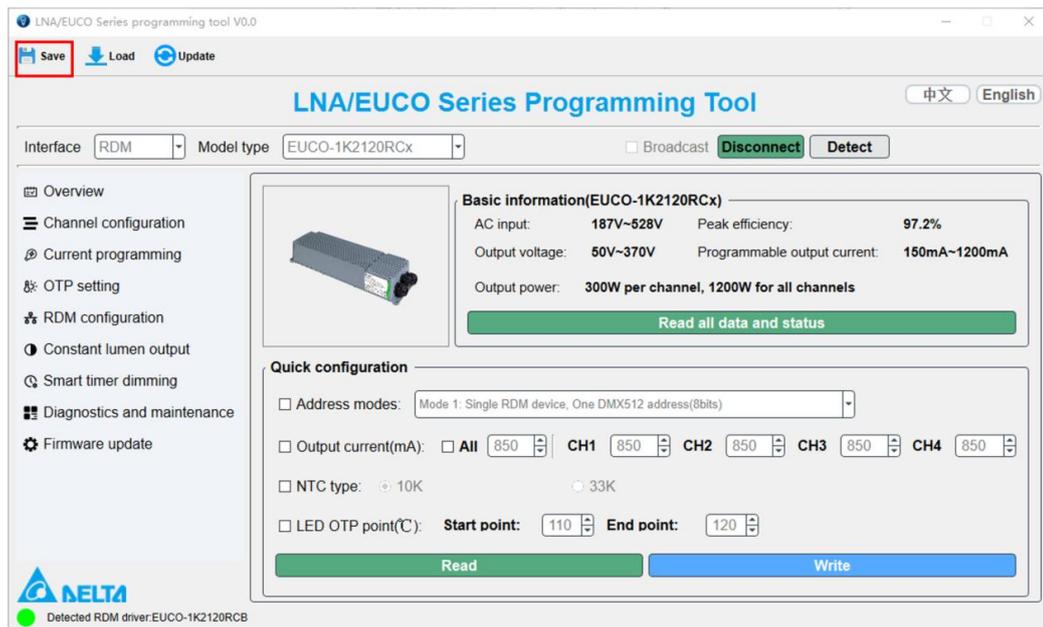


Figure 47 Save profile

Then you could click the load button to read the specified profile.

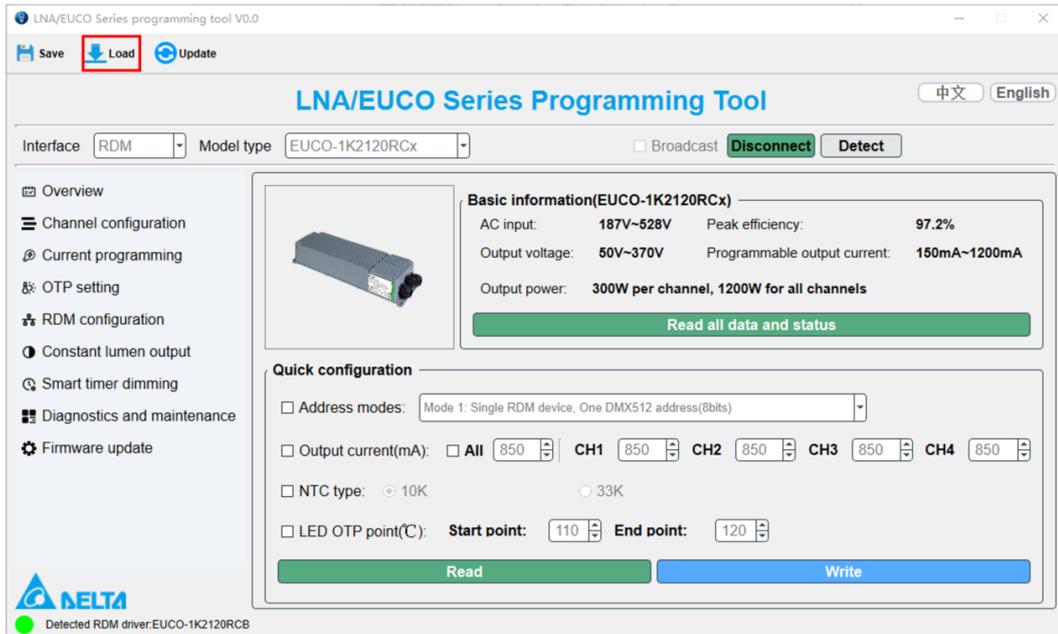


Figure 48 Save profile

3. Firmware updating

Click the “Firmware update” item will select the firmware update function

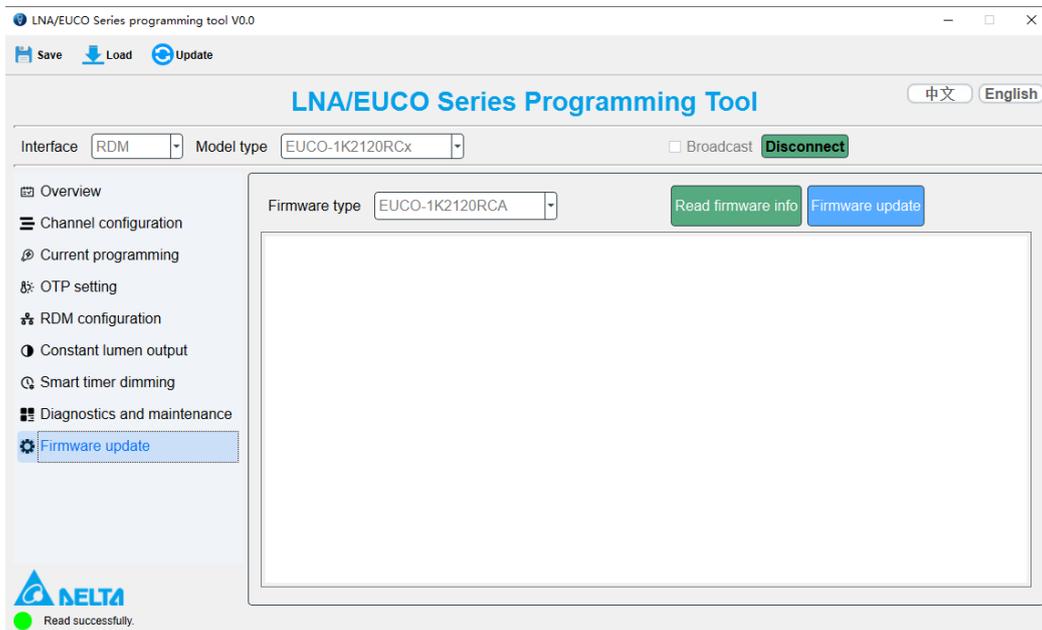


Figure 49 Firmware update

If the setting is in broadcast mode, the GUI may not recognize the driver type. Then please choose the correct driver model type to get the right firmware.

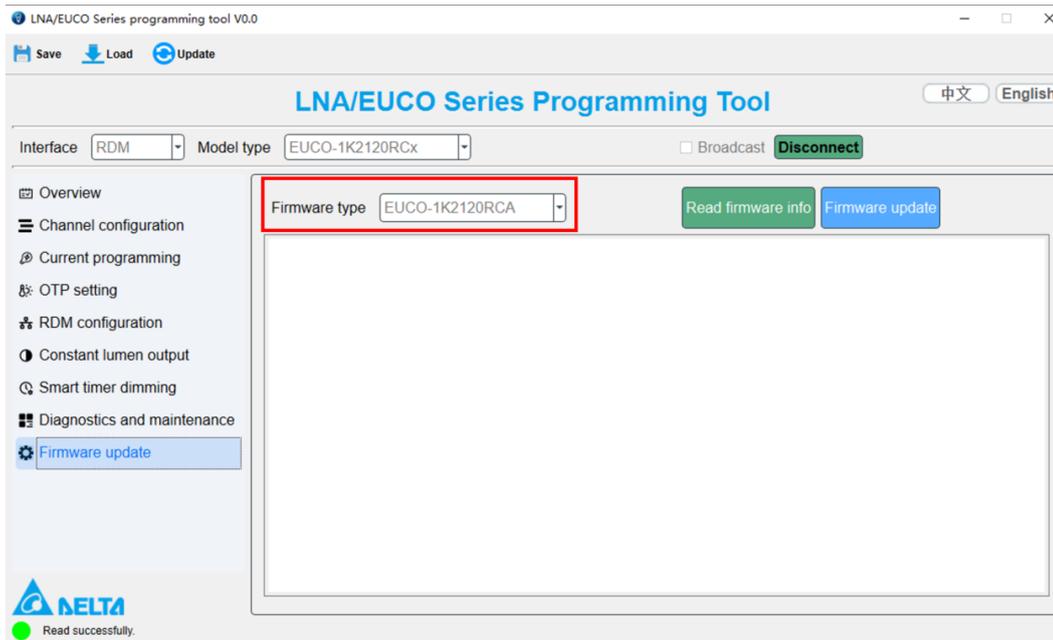


Figure 50 Choose the correct firmware type

Click the “Read firmware info” to check the firmware version of the connected driver and the latest firmware version of remote server.

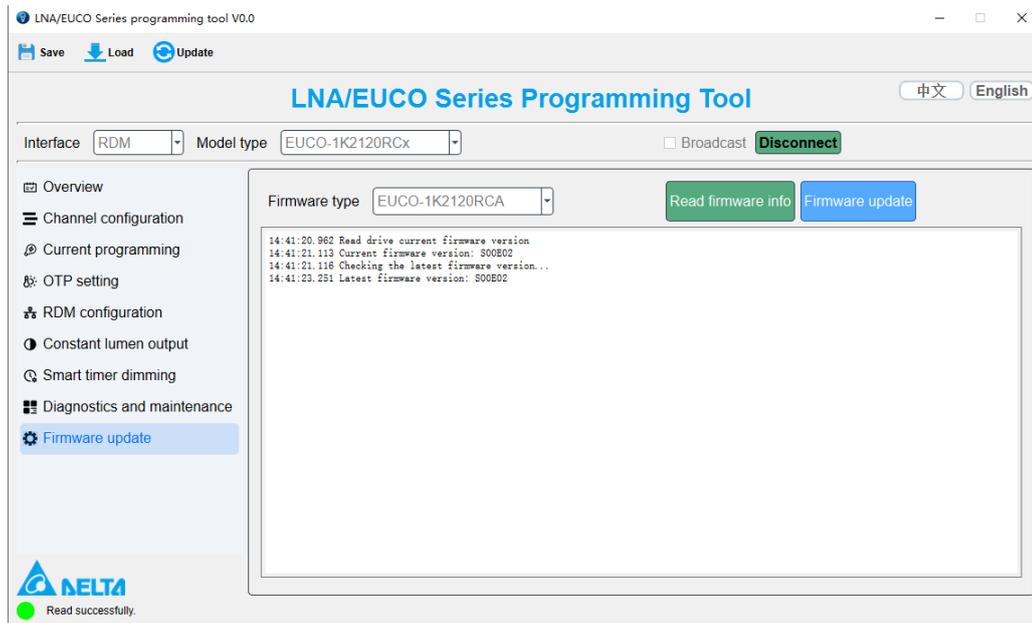


Figure 51 Check firmware version

Then click “Firmware update”. The GUI supports two different way of loading hex file: downloading from server or choose from local folder.

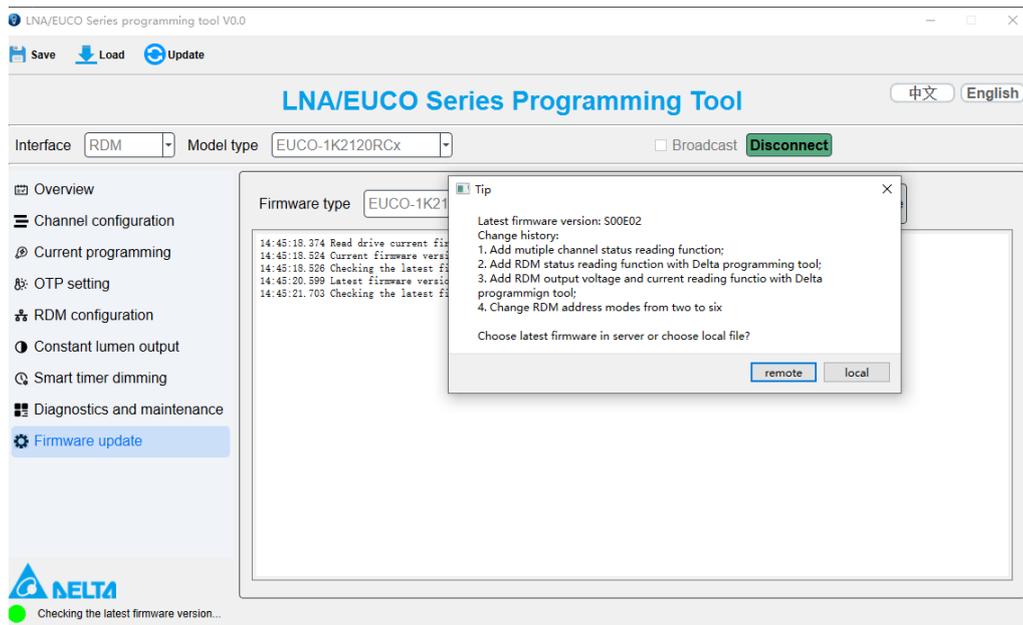


Figure 52 Load hex file

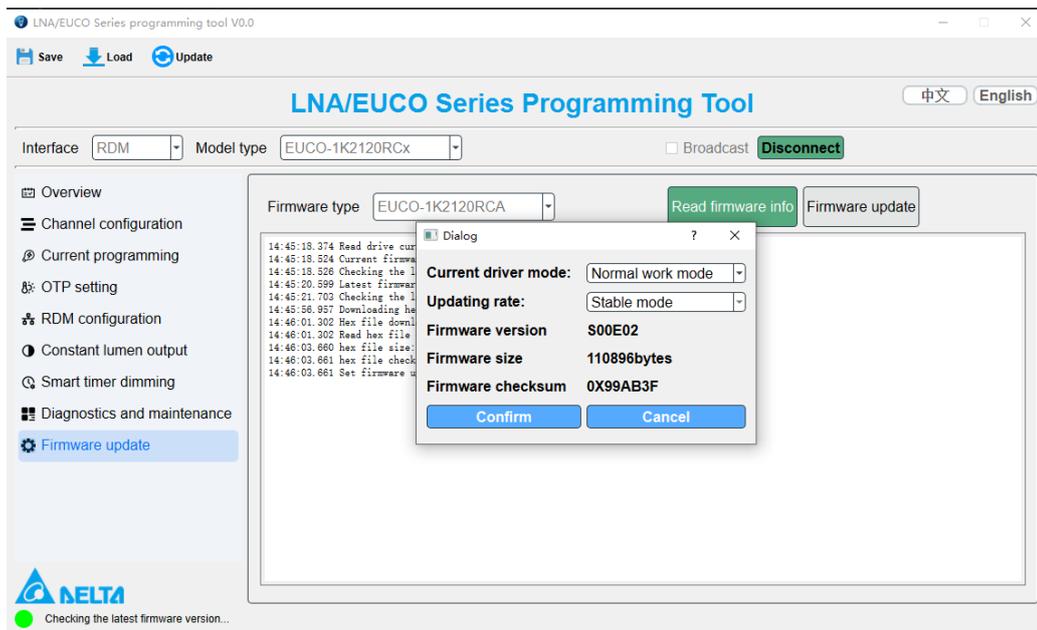


Figure 53 Choose the correct parameter of updating

Normal work mode or Power off mode: The driver supports two different ways to enter update mode. The normal work mode doesn't need to turn off and turn on the power of the driver. If the driver could not enter update mode with this way, please choose the power off mode and following the tip to operate.

Updating rate: If the connected bus line is short and the programming tool is SDDV1505UAC, choosing fast mode will speed up the updating process. Otherwise, please choose the stable mode.

After choosing the parameters, click "Confirm" and wait patiently for the firmware updating

process to finish.

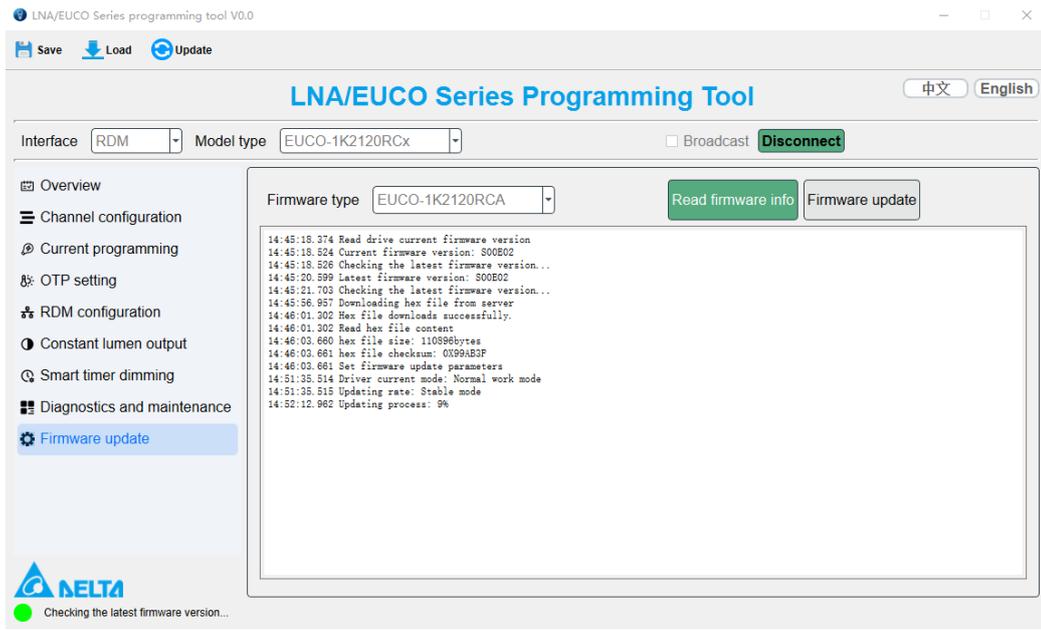


Figure 54 Wait the updating to finish

4. GUI update

Every time after opening the GUI, it will check the latest version from the server automatically. If the server has newer version the following message will pop out.

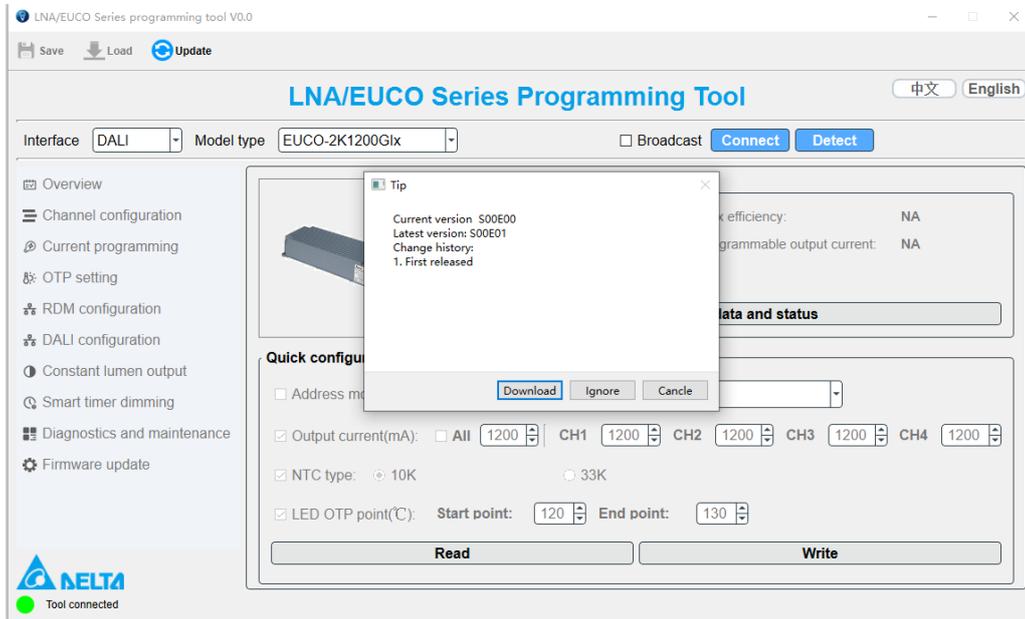


Figure 55 Tip of GUI updating

There are three buttons for this message:

Download: The latest GUI will download from the server and save in folder.

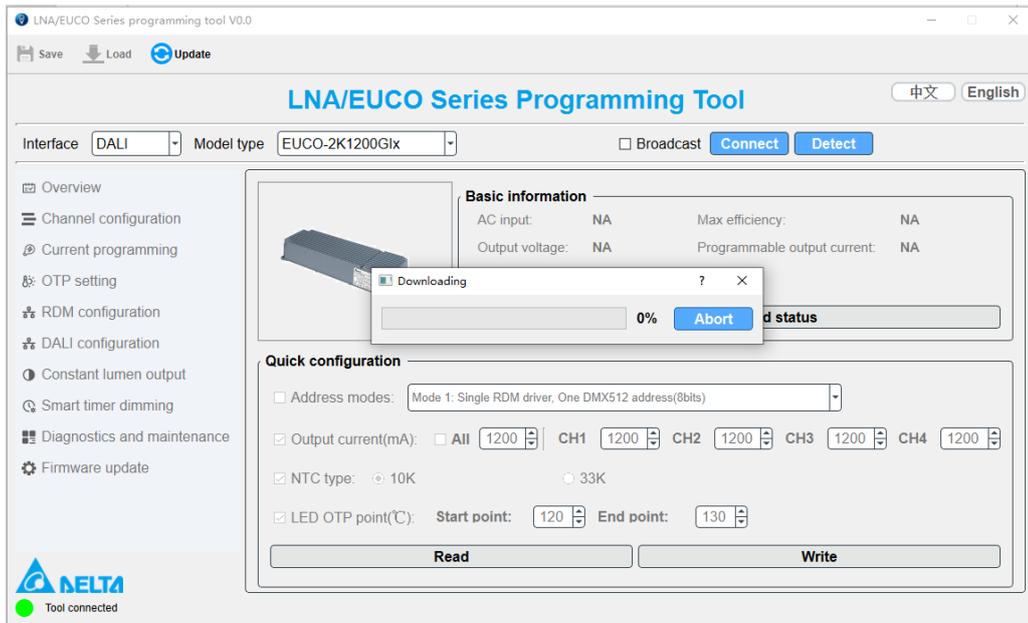


Figure 56 Downloading the latest GUI

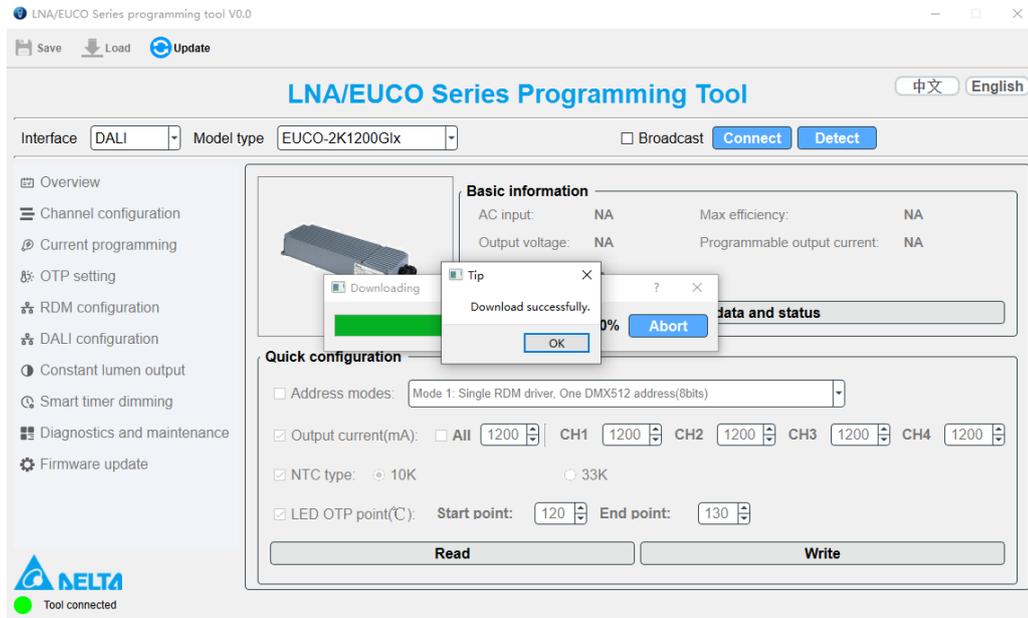


Figure 57 Downloading successfully

After downloading, unzip the file and there will be the latest GUI.

Ignore: The GUI will ignore this version and will never pop out the tip again. But click the “update” button in the tool bar will always check the latest version.

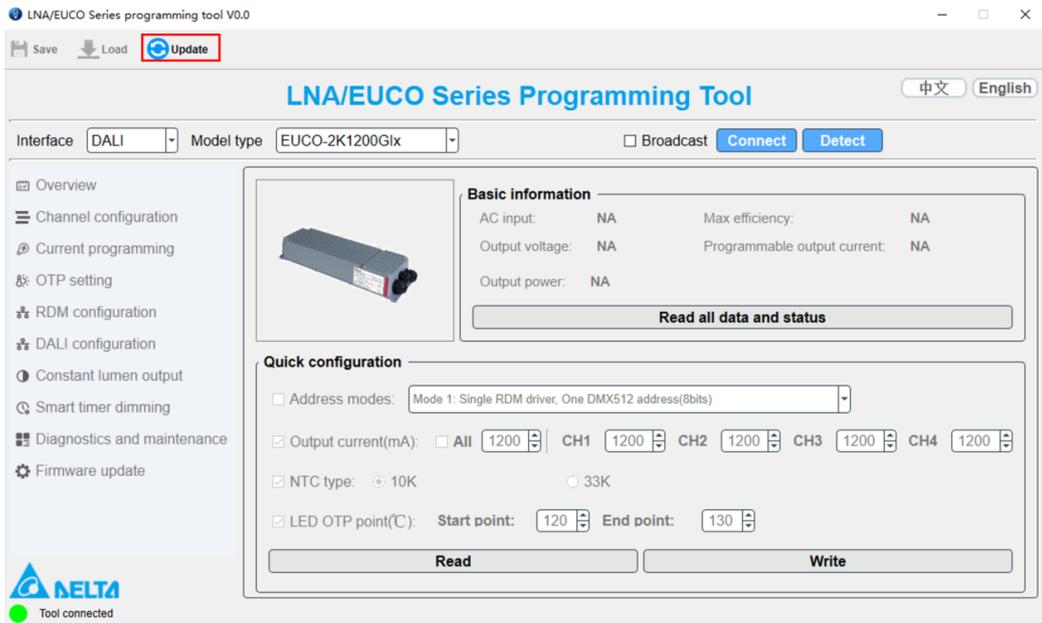


Figure 58 Update button in the toolbar

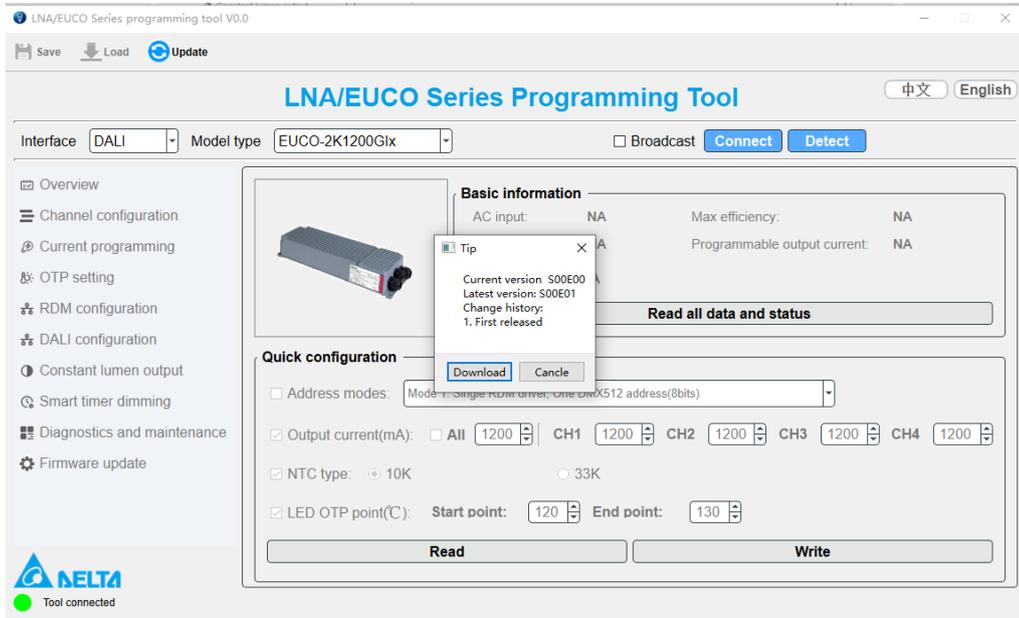


Figure 59 Update tip

Cancel: Ignore the tip this time. This updating tip will show again after next opening the GUI.