# DMX512&RDM programming

# User Manual V0.7

# Revision history

| Revision | Changes | Author | Date |
|---|---|---|---|
| V0.0.0 | Initial release | David.Zhou | 2020/09/10 |
| V0.1.0 | Add function setting address | David.Zhou | 2020/09/30 |
| V0.2.0 | Add function default level and Save& Load profile | David.Zhou | 2020/12/03 |
| V0.3.0 | Add “Read” function | David.Zhou | 2021/04/02 |
| V0.4.0 | Modify OTP setting range to 80-110. | David.Zhou | 2021/06/03 |
| V0.6 | Add compatibility for EUCO-1K0140GDA | David.Zhou | 2021/09/13 |
| V0.7 | Update set up for functions in use manual | David.Zhou | 2022/02/19 |
| | | | |

# Contents

## I. Connect the device

Before launching the DMX512&RDM programming software, make sure the programmer is connected to the USB port of your computer. Then, connect the programmer to the LED driver via the DMX512&RDM cable. After all of this, connect the driver to AC input, and power on the driver. The connection is described in the following figure.

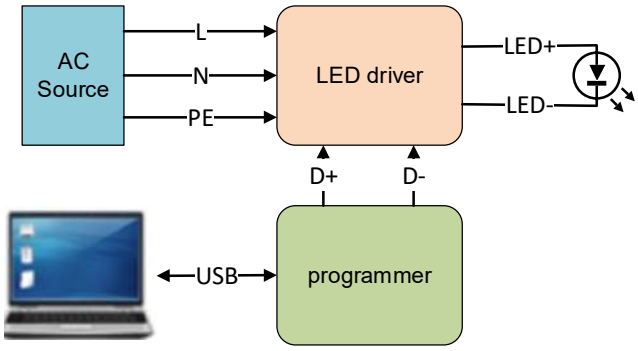


Figure 1. The connection of the DMX512&RDM programming tool

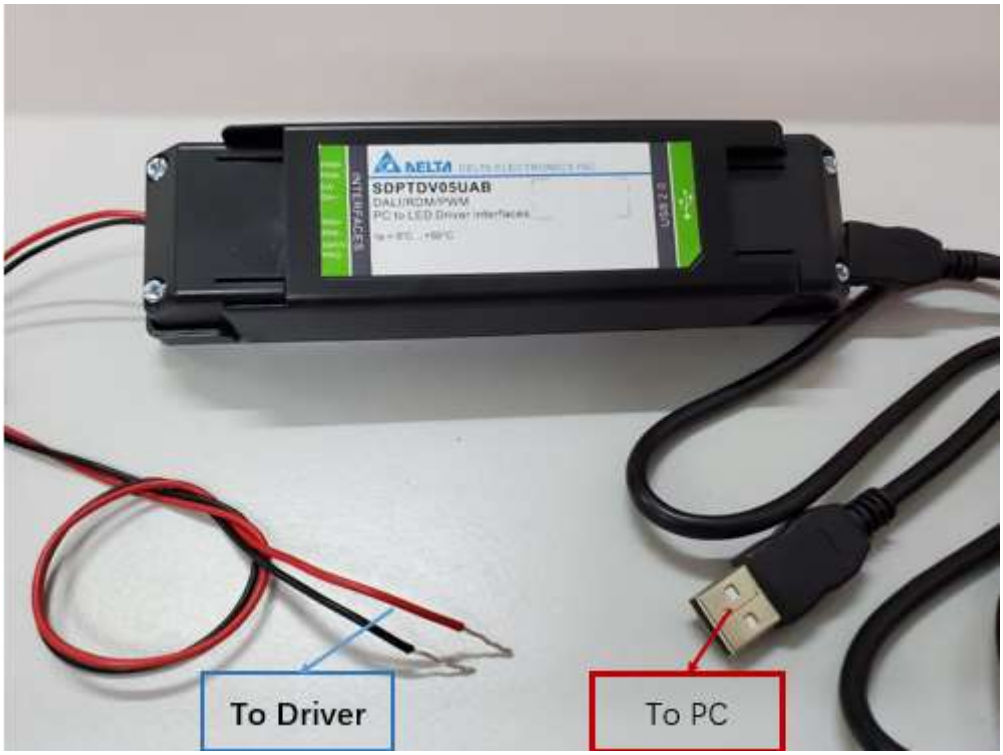


Figure 2. The picture of the DMX512&RDM programming tool

**Note: 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.**

## II. Open DMX512&RDM programming software

Double click ***"RDM_programming_tool.exe"*** to start the software.


Figure 3 Open DALI programming software

## III. Program the output current

Before programming the output current, please make sure the driver has properly connected and worked fine. Then turn on the AC power.

**Step 1:** The GUI interface of DMX512&RDM programming tool is shown in the following figure. Firstly, after opening the software, make sure the status light becomes green which means that the DMX512&RDM programming to has connected successfully. Otherwise, follow step “I-Connect the device” to check the USB cable and DMX512&RDM bus.

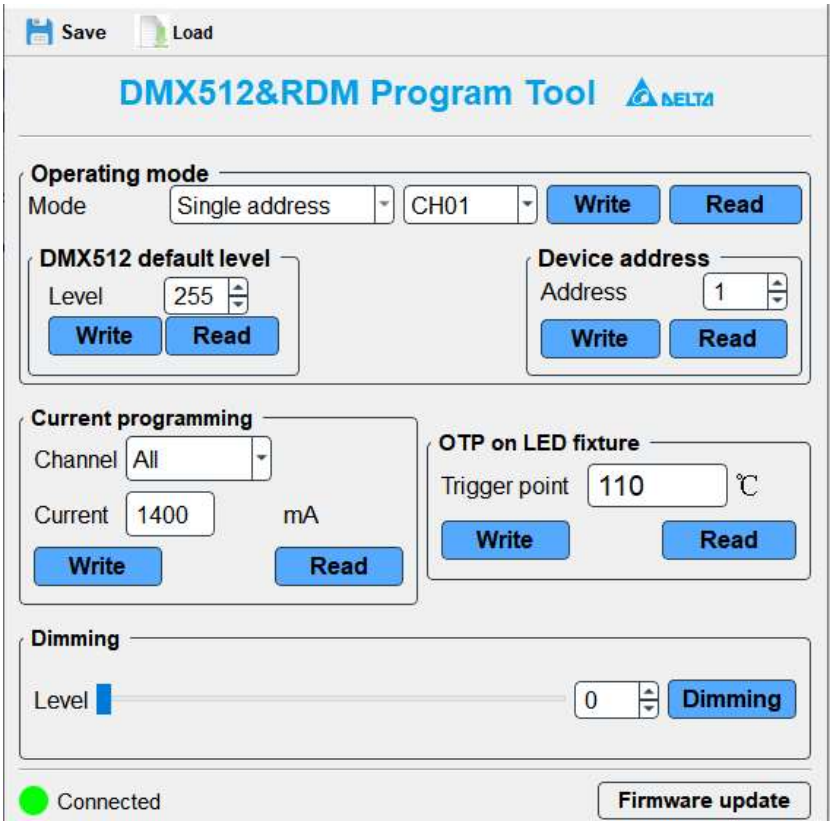


Figure 4 the software of DMX512/RDM programming tool

**Step 2:** There are four (three for EUCO-1K0 series) items of current channel you can choose as shown below:

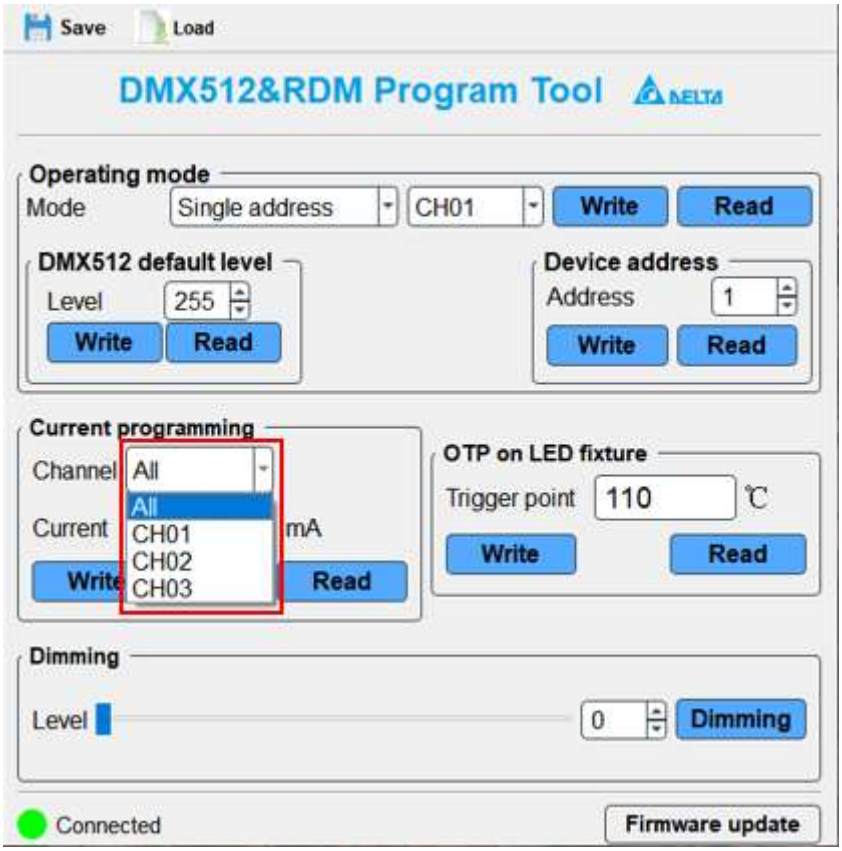


Figure 5. Choose current channel

If you select the item **“All”**, it means that you would program the current of all three channels at once. And the channel, “CH01”, “CH02” and “CH03”, would only program the corresponding channel ‘s current. However, for EUCO-1K0 series, there are only three items, such as “All”,”CH01”, “CH02”.

**Step 3:** After choosing the programming channel, the current value of that channel also need to be set. The default value for each channel is 1400mA as show in the figure. The current value range can be set from 500mA to 1400mA.

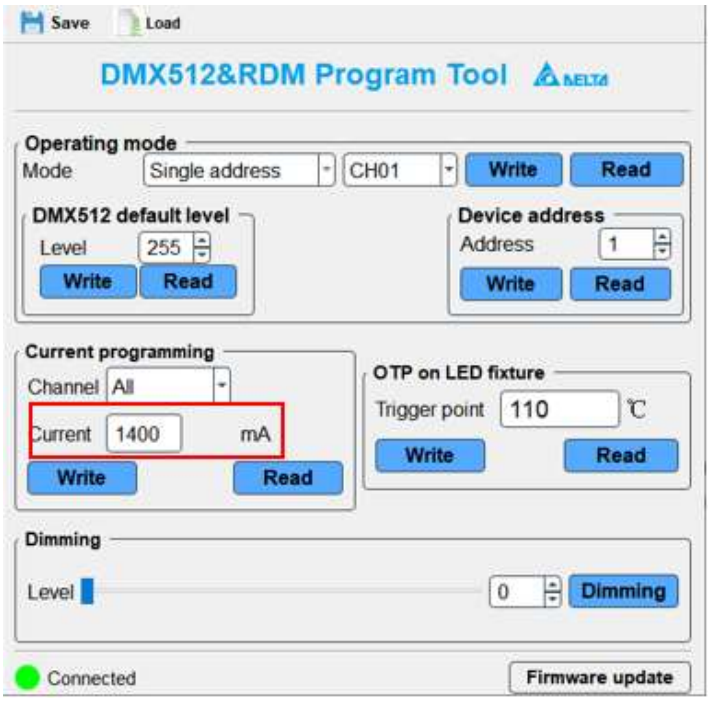


Figure 6. Set current value

**Step 4:** If the programming parameters have been set completely, click ***"Write"*** button. Then the driver would light-off and light-on automatically. And the status message at the bottom will show ***"Current programming successfully"***.

**Note: The" Current programming successfully" only means that the commands have be sent out. To check the programming is successful or not, please click the "Read" button to verify the programed current value.**

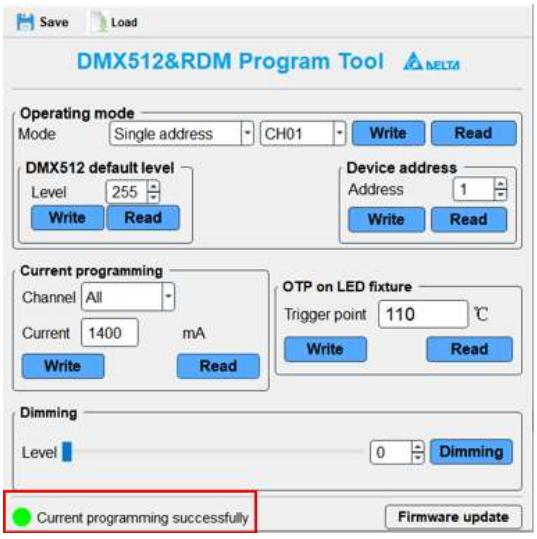


Figure 7. Current program successfully

**Step 5:** After current programming, click "**Read**" button to check if the programming level is right. There is one point which should be noted that the minimum scale of current programming is 1% of 1400mA. So it may not be set to the exact value as same as the current which was written.

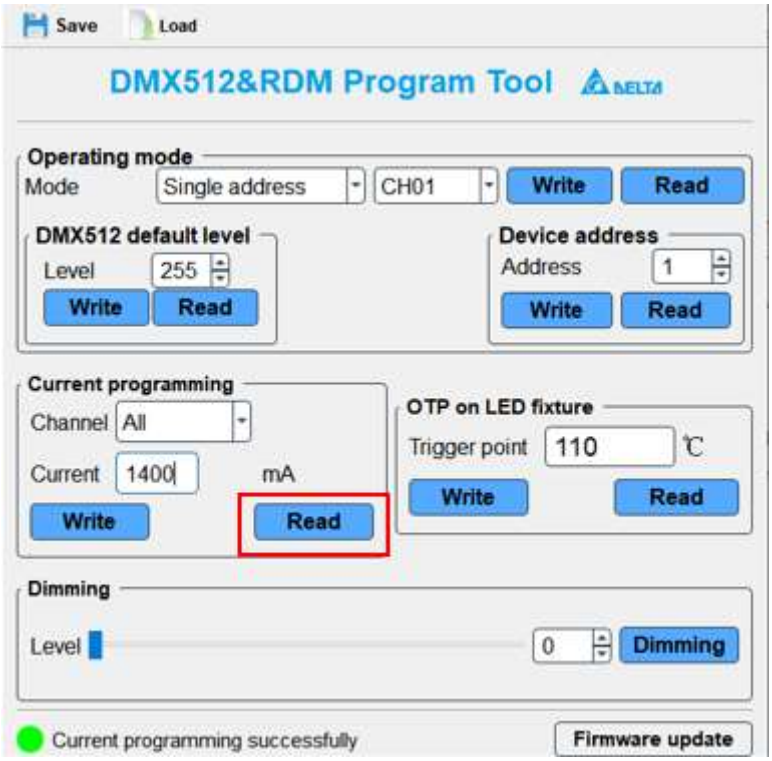


Figure 8. Read current programming

## IV. Set LED OTP parameters

The driver has integrated the OTP function for the LED fixture via “NTC” terminal with a certain NTC component in LED fixture. Please refer to datasheet for the circuit details. For the OTP, there is one parameter need to be set: the NTC trigger point.

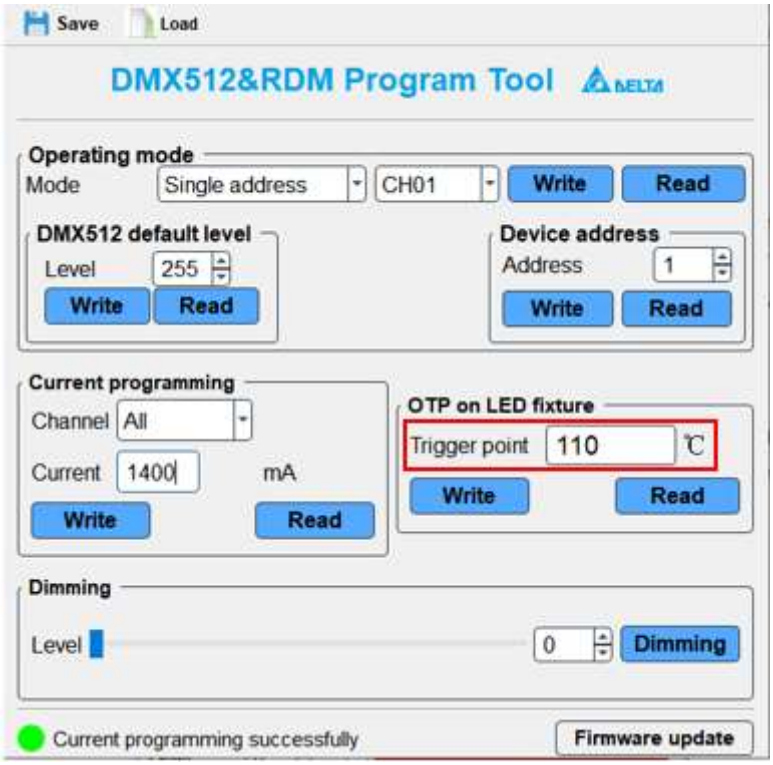

Figure 9. Set OTP parameters

When the temperature of NTC component has exceeded NTC trigger point, it would start OTP protection process. Please refer to the driver's datasheet for full details of OTP.

In order to make sure the OTP protection works normal, some constraints have been introduced.

1. The range of NTC trigger point is 80℃~110℃. The default value is 100℃.

Also, click the "**Read**" button could read the current OTP setting.

**Note: The message after writing only means that the commands have be sent out. To check the programming is successful or not, please click the "Read" button to verify the written value.**

## V. Set address mode

The EUCO-1Kx140GDA RDM/DMX series have two different channel mode: Single address mode and Multiple address mode. The single address means that three current output channels share one DMX address. So the dimming actions of the three output channels are performed uniformly. And multiple address mode means that the three output channel could be set as different addresses. When in this mode, the three output channel could be controlled independently. The default address mode is single address mode.

Figure 10. Address modes

After the address was written, the driver should power off and wait at least 30s, then power on again to make sure the new address mode works normal. Of course, click “**Read**” button could read current address mode.

## VI. Set DMX512 address

It should be noted that before setting DMX512 address, the address mode should be set first. When the driver is set as single address mode, there is only one address needed to be set. Otherwise, three addressed needed be set.

In the DMX512 or RDM network， every driver has its unique address. This address of driver could be set with the programming tool. The range of address is 1~512.

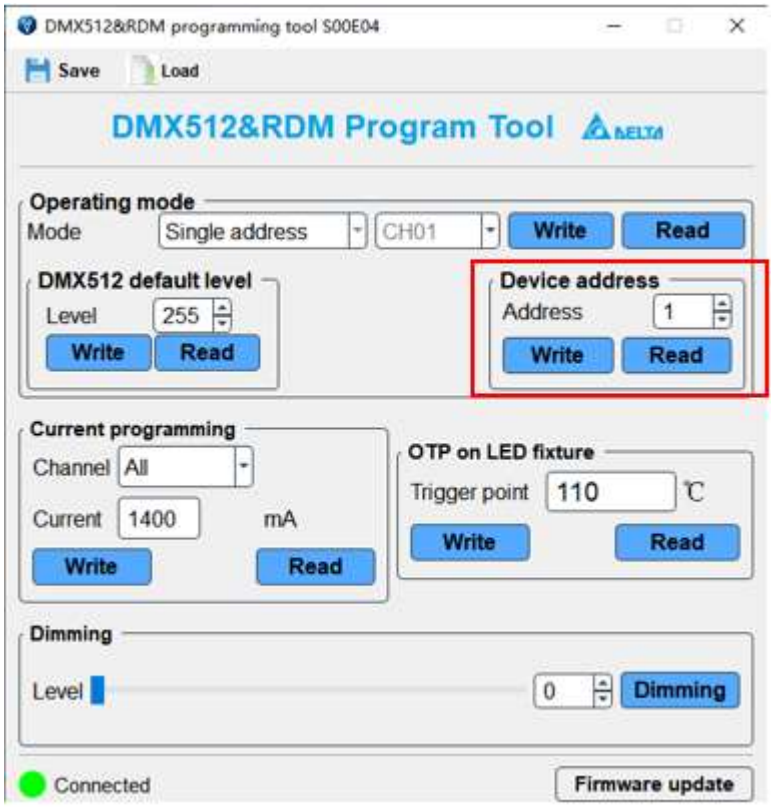


Figure 11. Set address

Click “**Read**” button would read current DMX512 address.

## VII. Set default level

It should be noted that before setting DMX512 address, the address mode should be set first. If the multiple address mode is chosen, the default level of every channel should be set.

In the DMX512&RDM network, the dimming command of DMX512 should be sent at least once a second. If the driver could not receive dimming command in two seconds, it will return to the default level.

You could click “Write” button to set this default level. Or click “Read” button to check current default level.

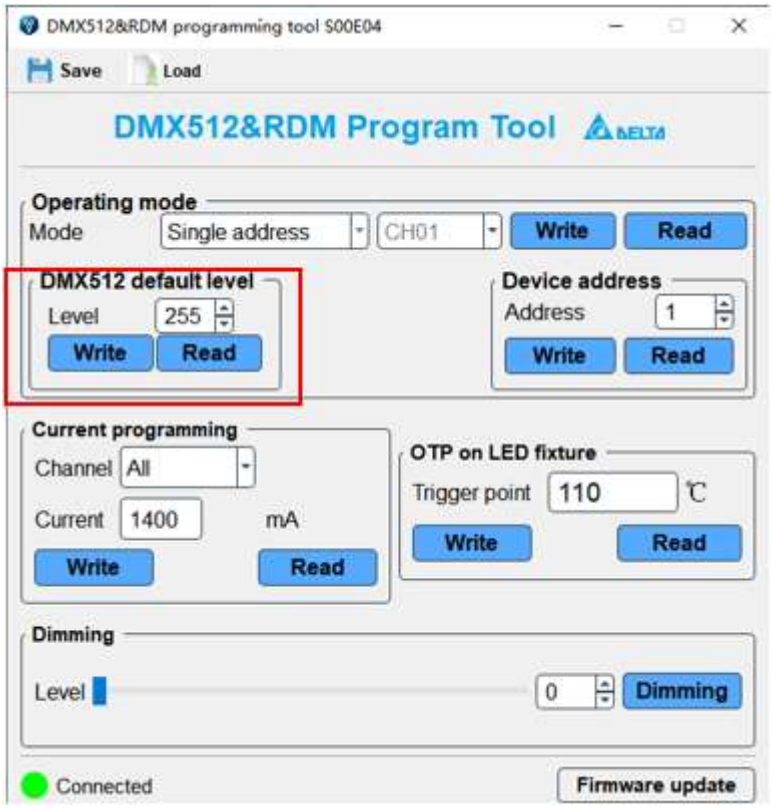


Figure 12. Set default level

## VIII.Save& load profile

**Step1:** Please click the “Save” button in the tool bar. The GUI would save current configured parameters.


Figure 13. Save profile

The program will create a new folder in current path named “profile”. In this folder, the file with parameters is named “config.ini”.

**Step2:** Please click “Load” button to load the last saved profile.

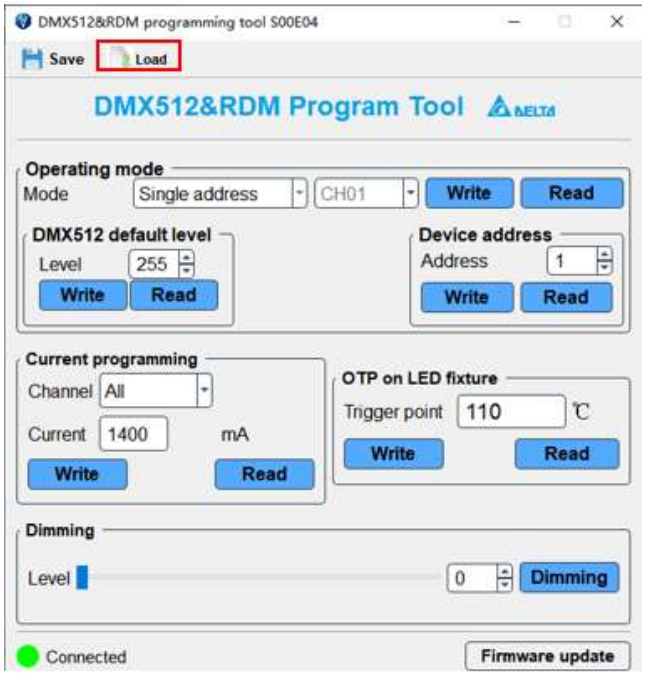


Figure 14. Save profile

And every time the GUI starts, it will load the profile automatically.

## IX. Firmware update

In case that the software needs to be updated to the latest version, the “firmware update” function is available. Please make sure to only activate this function with formal notice from Delta.

**Step1:** Before updating the firmware, please make sure that the programming tool you are using is the latest version which the model number is SDPT05UAB. And, the AC power of the driver has been turned off for at least 30 seconds.

**Step2:** Click “***Firmware update***” button in the lower right corner. The firmware update interface would pop out.


Figure 15. Click Firmware update button

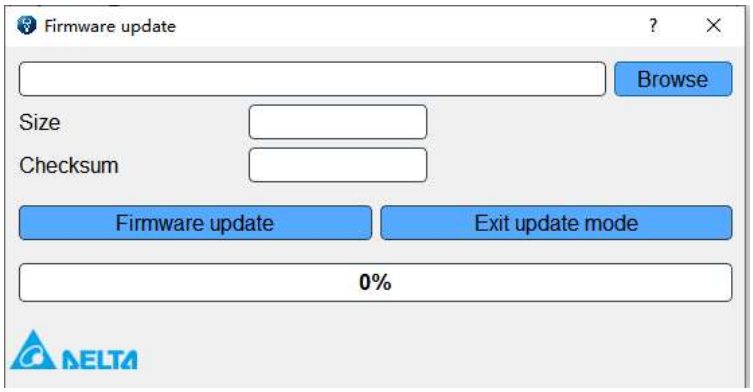


Figure 15. the interface of firmware update

**Step3:** Click ***"Browse"*** button and choose the hex file that you are ready for updating. Please check the size and checksum of hex file in case of updating wrong file.

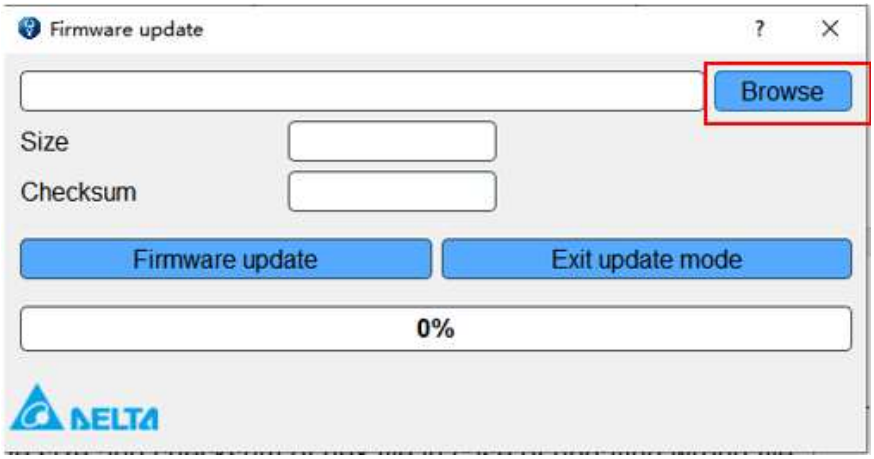


Figure 16. Choose hex file

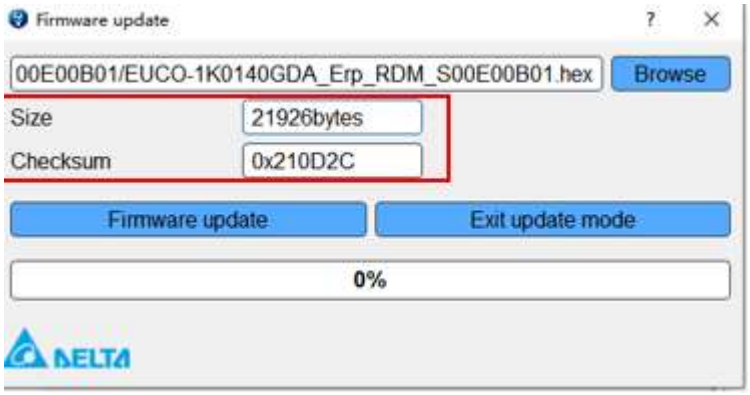


Figure 17. Checksum and file size

**Step 4:** Click "**Firmware update**" button before power AC on. When a message ***"Wait for AC power on …"*** pops up, turn on the AC power of driver. After the AC power is stable, click ***"OK"*** button.

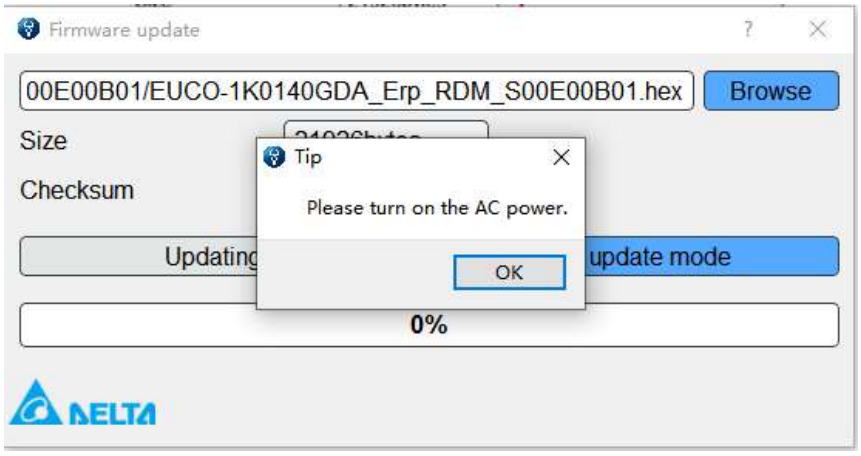

Figure 17. Wait the Power AC on

If the MCU has already been in update mode, a message “MCU is ready for updating” would pop out.

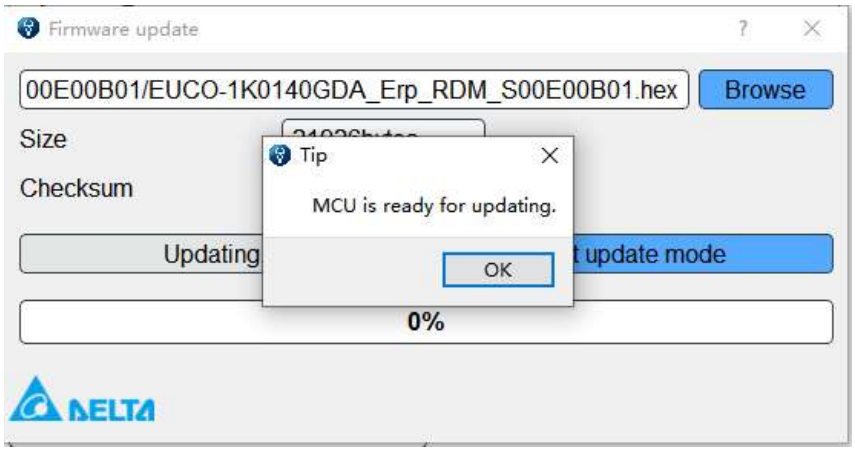


Figure 18. Message: MCU is ready for updating

Click “OK” button, the firmware update process would begin.

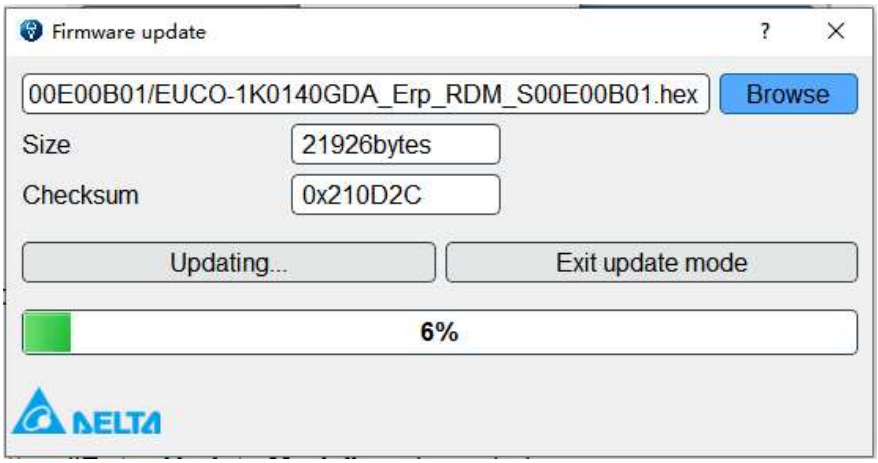


Figure 18. Update hex file

When the update is completed, ***“Update successfully”*** would pop out. The whole update process will take about one minute.

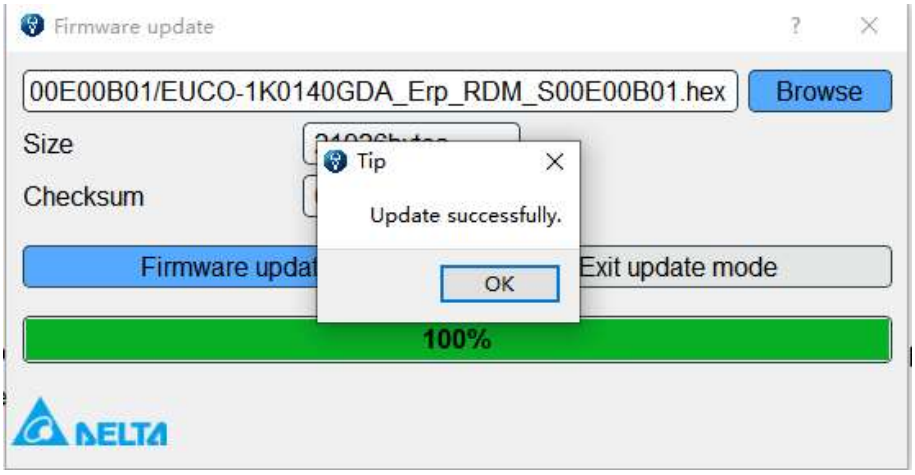


Figure 19. Update successfully

**Step 5:** Click button ***"Exit Update Mode"*** to exit update mode.

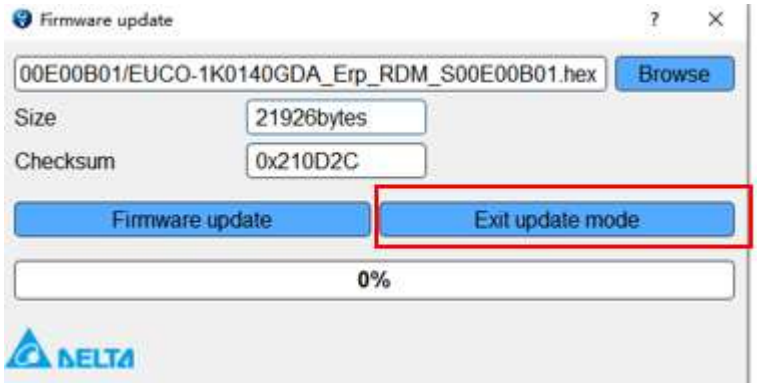


Figure 20. Exit update mode