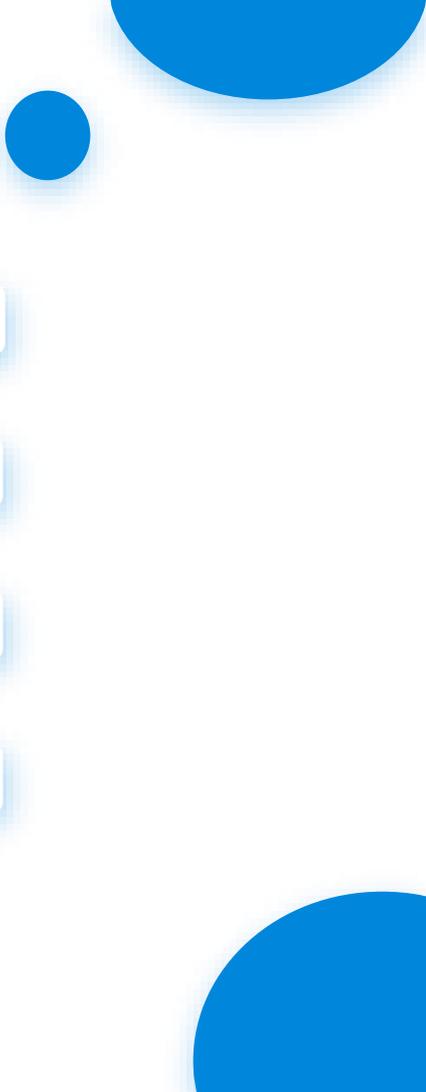


RDM/DMX512 Tool for EUCO Series Quick Start

David.Zhou | SPSBU
2/20/2024



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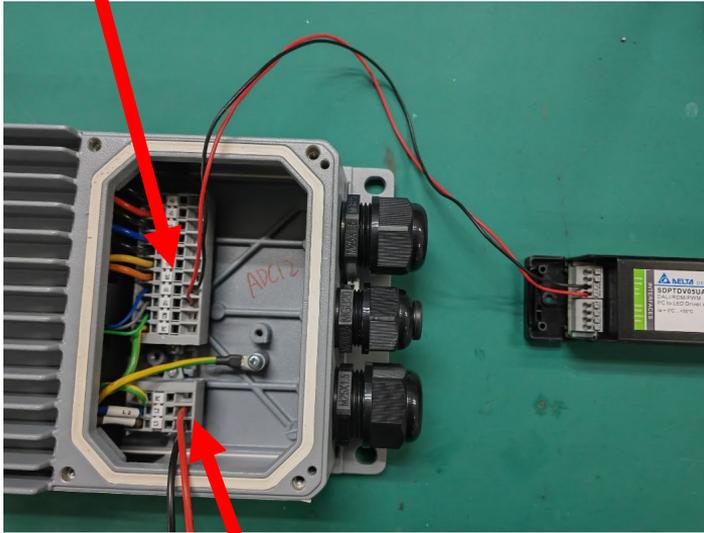
Firmware update



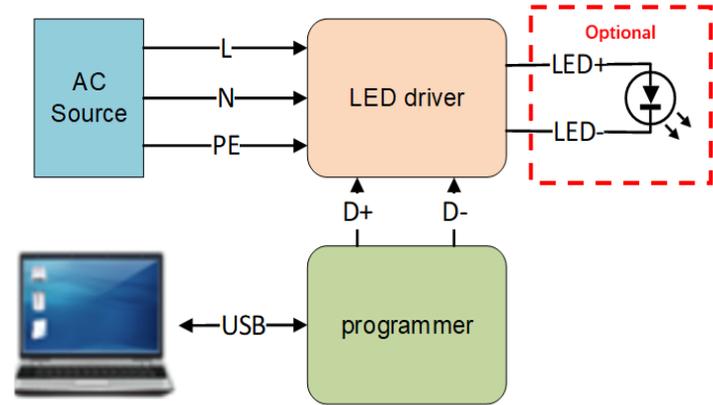
1.Connection

➤ 1.1 Physical connection

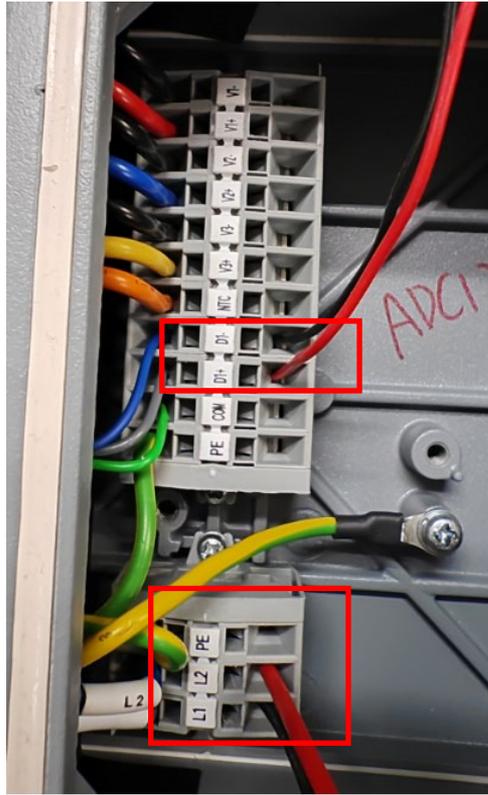
D1+,D1-



AC line: L1, L2, PE(Optional)



➤ 1.1 Physical connection



RDM-

RDM+

L

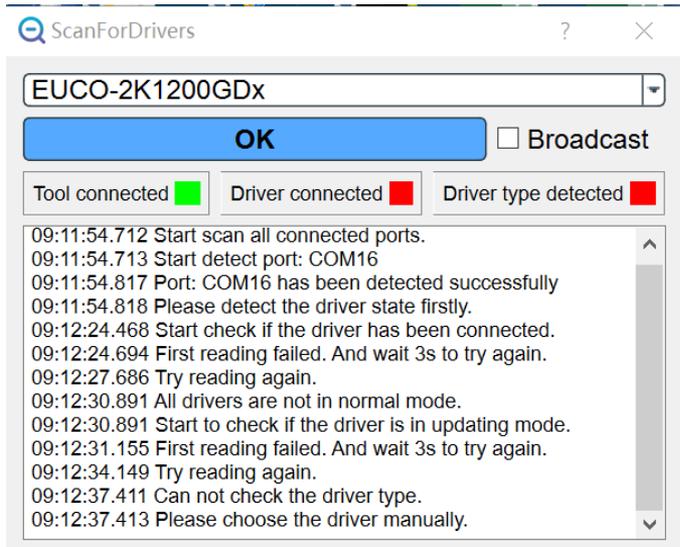
N

AC
power



➤ 1.2 Open GUI

- ◆ Step 1. After connection, turn on the AC power.
- ◆ Step 2. Open the GUI. It will start the detecting.



- ◆ State->Tool connected 
- ◆ State-> Driver connected 
- ◆ State-> Driver type detected 

There are two ways to use the GUI:

One by one: Connect only one driver with the programming tool.

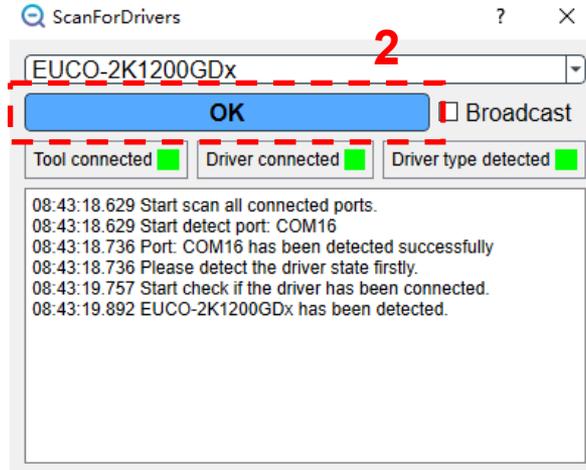
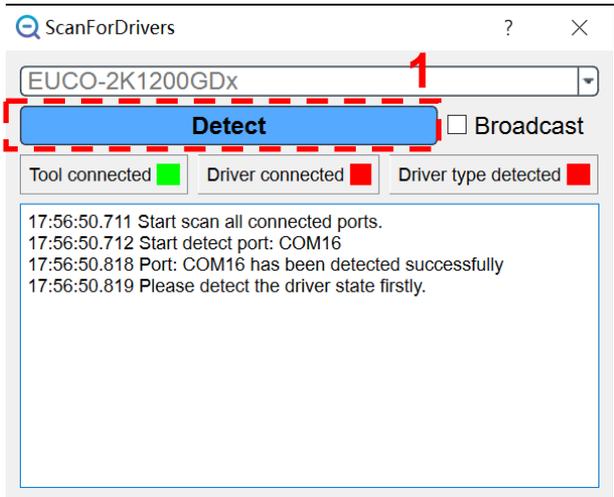
Broadcast: Connect at most 32pcs drivers with the programming tool.

➤ 1.2 Open GUI

One by one:

Step1: Click “Detect button”. The GUI will detect the driver type automatically.

Step2: Click “OK” enter main GUI.

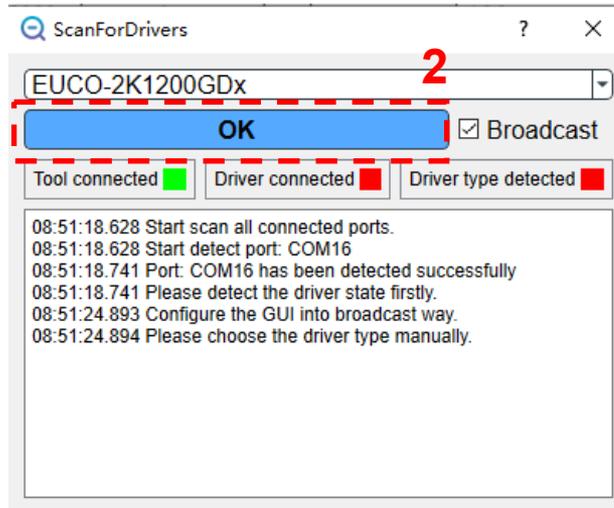
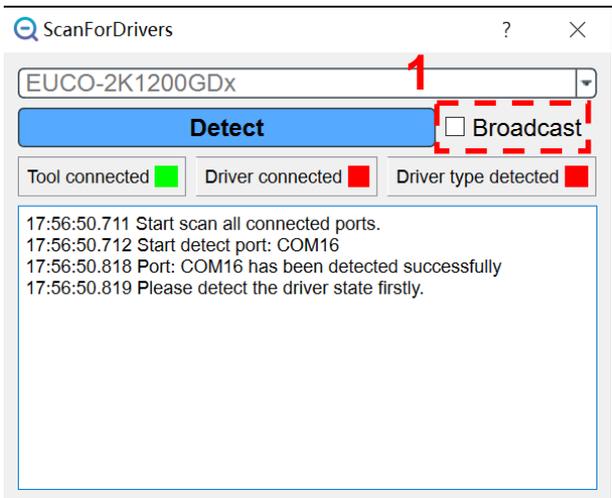


➤ 1.2 Open GUI

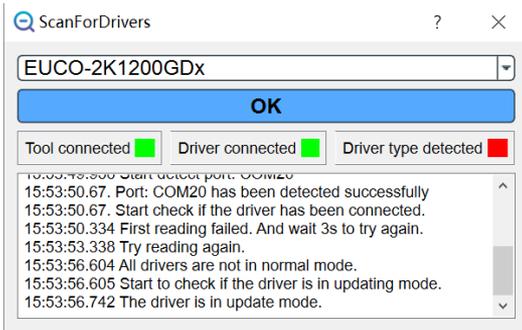
Broadcast:

Step1: Select “Broadcast” checkbox. And choose the drive type manually.

Step2: Click “ OK” enter main GUI.



➤ 1.2 Open GUI

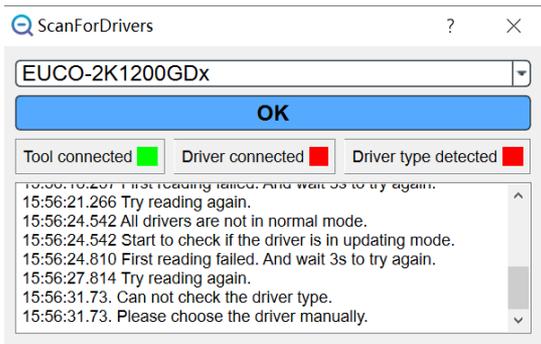


- ◆ State-> Tool connected
- ◆ State-> Driver connected
- ◆ State-> Driver type detected



1. Driver is in update mode

2. GUI doesn't support this type of driver



- ◆ State-> Tool connected
- ◆ State-> Driver connected
- ◆ State-> Driver type detected



1. The connection between tool and driver failed.

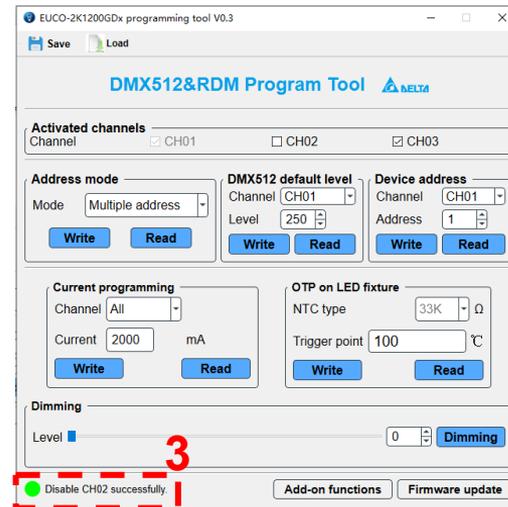
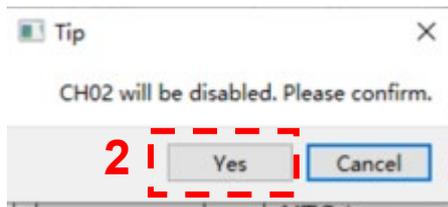
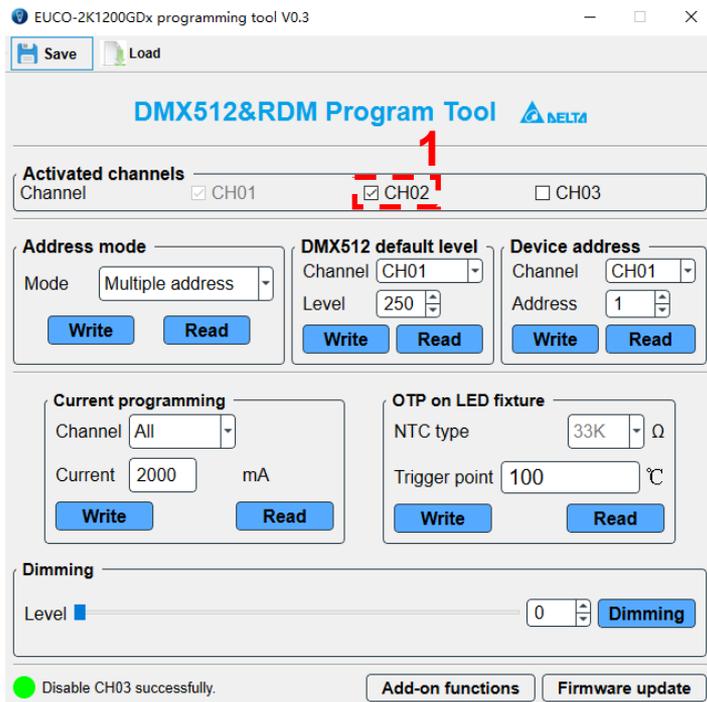
2.Regular function

➤ 2.1 Channel disable

- ◆ Step 1. Click checkbox of the specific channel.
- ◆ Step 2. Click “Yes” button on the pop-out window.
- ◆ Step 3: Check the result in the bottom line.

Disable CH0x successfully: ✓

Disable CH0x Failed: ✗



➤ 2.2 Channel enable

- ◆ Step 1. Click checkbox of the specific channel.
- ◆ Step 2. Click “Yes” button on the pop-out window.
- ◆ Step 3: Check the result in the bottom line.

DMX512&RDM Program Tool

Activated channels
Channel CH01 CH02 CH03

Address mode
Mode Multiple address
Write **Read**

DMX512 default level
Channel CH01
Level 250
Write **Read**

Device address
Channel CH01
Address 512
Write **Read**

Current programming
Channel All
Current 2000 mA
Write **Read**

OTP on LED fixture
NTC type 33K Ω
Trigger point 100 °C
Write **Read**

Dimming
Level 0 **Dimming**

Disable CH02 successfully. **Add-on functions** **Firmware update**

Enable CH0x successfully: ✓
Enable CH0x Failed: ✗

Tip ✕

CH02 will be enabled. Please confirm.

2 **Yes** **Cancel**

DMX512&RDM Program Tool

Activated channels
Channel CH01 CH02 CH03

Address mode
Mode Multiple address
Write **Read**

DMX512 default level
Channel CH01
Level 250
Write **Read**

Device address
Channel CH01
Address 512
Write **Read**

Current programming
Channel All
Current 2000 mA
Write **Read**

OTP on LED fixture
NTC type 33K Ω
Trigger point 100 °C
Write **Read**

Dimming
Level 0 **Dimming**

Enable CH02 successfully. **3** **Add-on functions** **Firmware update**

➤ 2.3 address mode

- ◆ Step 1. Choose the operating mode.
Click “**Write**” button.
- ◆ Step 2. Check writing status from bottom line.

Write successful: ✓

Write failed: ✗

Save Load

DMX512&RDM Program Tool

Operating mode

Mode Multiple address CH01 **Write** Read

DMX512 default level

Level 252 **Write** Read

Device address

Address 4 **Write** Read

Current programming

Channel All **Write** Read

Current 2000 mA **Write** Read

OTP on LED fixture

NTC type 33K Ω **Write** Read

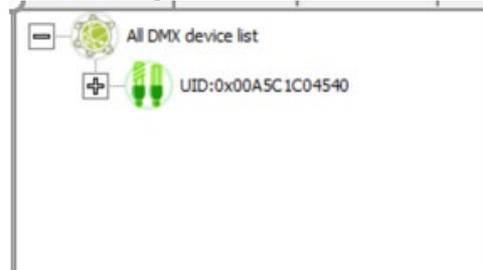
Trigger point 100 °C **Write** Read

Dimming

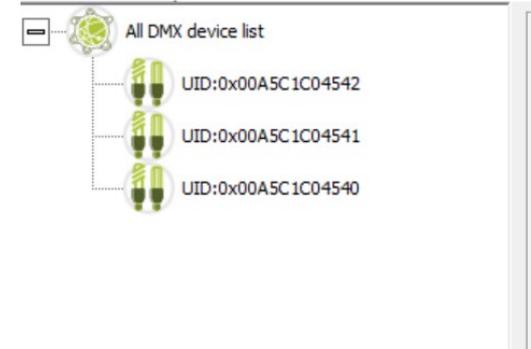
Level 0 **Dimming**

Write successfully 2 Add-on functions Firmware update

Single address



Multiple addresses



➤ 2.3 address mode

- ◆ Step 1. Choose the operating mode.
Click “**Read**” button.
- ◆ Step 2. Check reading status from bottom line.

Read successful: ✓

Read failed: ✗

The screenshot shows the 'DMX512&RDM Program Tool' interface. At the top, there are 'Save' and 'Load' buttons. The main title is 'DMX512&RDM Program Tool' with the DELTA logo. A red '1' is placed next to the 'Operating mode' section. In this section, the 'Mode' is set to 'Multiple address' and 'CH01'. The 'Read' button is highlighted with a red dashed box. Below this, there are sections for 'DMX512 default level' (Level: 252), 'Device address' (Address: 4), 'Current programming' (Channel: All, Current: 2000 mA), and 'OTP on LED fixture' (NTC type: 33K Ω, Trigger point: 100 °C). Each of these sections has 'Write' and 'Read' buttons. At the bottom, there is a 'Dimming' section with a level slider set to 0 and a 'Dimming' button. A red dashed box highlights a green circle and the text 'Read successfully' with a red '2' next to it. At the very bottom, there are buttons for 'Add-on functions' and 'Firmware update'.

➤ 2.4 DMX512 default level

DMX512 default level -> DMX STARTUP MODE: Level

Level:

This field sets the proportional intensity for the scene. If it is at full (0xFF), then the scene shall be played as recorded. Otherwise, it scales the level of the scene proportionally.

The screenshot shows the 'DMX512&RDM Program Tool' interface. The 'Operating mode' is set to 'Single address' and 'CH01'. The 'DMX512 default level' is set to 255. The 'Device address' is 1. The 'Current programming' is set to 'All' channels with a current of 2000 mA. The 'OTP on LED fixture' is set to '33K' NTC type with a trigger point of 100 °C. The 'Dimming' level is 0. A green status indicator shows 'Read information successfully'.

The screenshot shows the 'DMX512&RDM Program Tool' interface. The 'Operating mode' is set to 'Multiple address' and 'CH01'. The 'DMX512 default level' is set to 100. The 'Device address' is 6. The 'Current programming' is set to 'All' channels with a current of 1500 mA. The 'OTP on LED fixture' is set to a trigger point of 100 °C. The 'Dimming' level is 0. A green status indicator shows 'Read successfully'.

➤ 2.4 DMX512 default level

The screenshot shows the 'DMX512&RDM Program Tool' interface. At the top, there are 'Save' and 'Load' buttons. Below that, the title 'DMX512&RDM Program Tool' and the 'DELTA' logo are displayed. The main interface is divided into several sections:

- Operating mode:** Includes a 'Mode' dropdown set to 'Single address', a 'CH01' dropdown, and 'Write' and 'Read' buttons.
- DMX512 default level:** This section is highlighted with a red dashed box. It contains a 'Level' dropdown set to '252', a red '1' next to it, and 'Write' and 'Read' buttons.
- Device address:** Includes an 'Address' dropdown set to '4' and 'Write' and 'Read' buttons.
- Current programming:** Includes a 'Channel' dropdown set to 'All', a 'Current' input field set to '2000' mA, and 'Write' and 'Read' buttons.
- OTP on LED fixture:** Includes an 'NTC type' dropdown set to '33K' Ω , a 'Trigger point' input field set to '100' $^{\circ}\text{C}$, and 'Write' and 'Read' buttons.
- Dimming:** Includes a 'Level' slider set to '0' and a 'Dimming' button.
- Status bar:** At the bottom, there is a green circle with a checkmark, the text 'Write successfully!', a red '2', and two buttons: 'Add-on functions' and 'Firmware update'.

◆ Step 1. Key in the default level.

Click “**Write**” button.

◆ Step 2. Check writing status from bottom line.

Write successful: ✓

Write failed: ✗

➤ 2.4 DMX512 default level

Save Load

DMX512&RDM Program Tool

Operating mode
Mode Single address CH01 Write Read

DMX512 default level
Level 252 Write Read 1

Device address
Address 4 Write Read

Current programming
Channel All
Current 2000 mA Write Read

OTP on LED fixture
NTC type 33K Ω
Trigger point 100 °C Write Read

Dimming
Level 0 Dimming

Read successfully 2 Add-on functions Firmware update

- ◆ Step 1. Choose the operating mode and channel. Click “**Read**” button.
- ◆ Step 2. Check reading status from bottom line.

Read successful: ✓

Read failed: ✗

➤ 2.5 Device address

Device address -> DMX_START_ADDRESS

10.6.3 Get/Set DMX512 Starting Address (DMX_START_ADDRESS)

This parameter is used to set or get the DMX512 start address.

The screenshot shows the 'DMX512&RDM Program Tool' interface. At the top, there are 'Save' and 'Load' icons. The title bar reads 'DMX512&RDM Program Tool' with the DELTA logo. The main interface is divided into several sections:

- Operating mode:** Mode is set to 'Single address' and Channel to 'CH01'. There are 'Write' and 'Read' buttons.
- DMX512 default level:** Level is set to '255'. There are 'Write' and 'Read' buttons.
- Device address:** Address is set to '1'. This section is highlighted with a red dashed box. There are 'Write' and 'Read' buttons.
- Current programming:** Channel is 'All', Current is '2000 mA'. There are 'Write' and 'Read' buttons.
- OTP on LED fixture:** NTC type is '33K Ω', Trigger point is '100 °C'. There are 'Write' and 'Read' buttons.
- Dimming:** Level is '0'. There is a 'Dimming' button.

At the bottom, there is a status bar with a green dot and the text 'Read information successfully.', and two buttons: 'Add-on functions' and 'Firmware update'.

➤ 2.5 Device address

Save Load

DMX512&RDM Program Tool

Operating mode
Mode: Single address CH01 Write Read

DMX512 default level
Level: 252 Write Read

Device address
Address: 4 Write Read

Current programming
Channel: All Current: 2000 mA Write Read

OTP on LED fixture
NTC type: 33K Ω Trigger point: 100 °C Write Read

Dimming
Level: 0 Dimming

Write successfully 2 Add-on functions Firmware update

◆ Step 1. Key in device address (1-512).
Click “**Write**” button.

◆ Step 2. Check writing status from bottom line.

Write successful: ✓

Write failed: ✗

Settings RDM RDM Patcher DMX Monitor DMX Console

Refresh

Delta Electronics, Inc., EUCO-2K1200GDA

+ Boot Software Version

+ Communication Status

+ DMX Personality

- DMX Start Address

DMX Start Address 4

Refresh Save

➤ 2.5 Device address

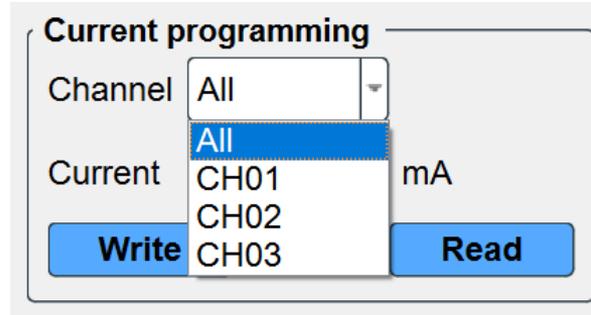
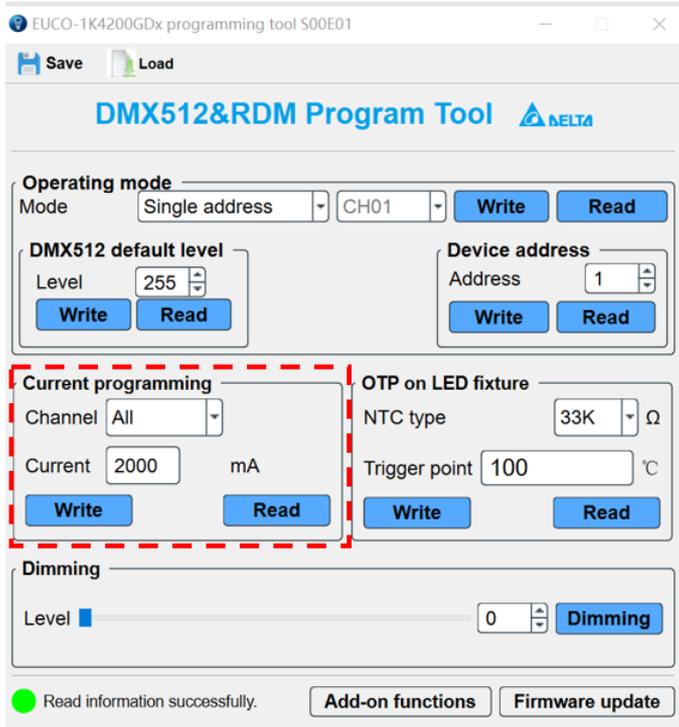
- ◆ Step 1. Choose the operating mode.
Click “**Read**” button.
- ◆ Step 2. Check reading status from bottom line.

Read successful: ✓

Read failed: ✗

The screenshot shows the 'DMX512&RDM Program Tool' interface. The 'Operating mode' section is set to 'Single address' and 'CH01'. The 'DMX512 default level' is set to 252. The 'Device address' is set to 4. The 'Read' button for the device address is highlighted with a red dashed box and a red '1'. The 'Current programming' section shows 'Channel All' and 'Current 2000 mA'. The 'OTP on LED fixture' section shows 'NTC type 33K Ω' and 'Trigger point 100 °C'. The 'Dimming' section shows 'Level 0'. At the bottom, a red dashed box highlights a green circle and the text 'Read successfully' with a red '2'. There are also buttons for 'Add-on functions' and 'Firmware update'.

➤ 2.6 Current programming



- ◆ **Channel: All**-> All channel are programmed to same current.
- ◆ **Channel: CH0x**-> Program the specific channel.

Current range: 700mA~2000mA

➤ 2.6 Current programming

- ◆ Step 1. Key in output current and programmed channel. Click **“Write”** button.
- ◆ Step 2. Check writing status from bottom line.

Current program successful: ✓

Current program failed: ✗

Save Load

DMX512&RDM Program Tool

Operating mode
Mode: Single address CH01 Write Read

DMX512 default level
Level: 252 Write Read

Device address
Address: 4 Write Read

Current programming
Channel: All Current: 2000 mA Write Read

OTP on LED fixture
NTC type: 33K Ω Trigger point: 100 °C Write Read

Dimming
Level: 0 Dimming

Current program successfully 2 Add-on functions Firmware update



➤ 2.6 Current programming

The screenshot shows the 'DMX512&RDM Program Tool' interface. At the top, there are 'Save' and 'Load' buttons. Below that, the title 'DMX512&RDM Program Tool' and the DELTA logo are displayed. The interface is divided into several sections:

- Operating mode:** Mode is set to 'Single address' and the channel is 'CH01'. There are 'Write' and 'Read' buttons.
- DMX512 default level:** Level is set to '252'. There are 'Write' and 'Read' buttons.
- Device address:** Address is set to '4'. There are 'Write' and 'Read' buttons.
- Current programming:** Channel is set to 'All' and Current is '2000 mA'. There are 'Write' and 'Read' buttons. A red dashed box highlights the 'Read' button, with a red '1' next to it.
- OTP on LED fixture:** NTC type is '33K Ω' and Trigger point is '100 °C'. There are 'Write' and 'Read' buttons.
- Dimming:** Level is set to '0'. There is a 'Dimming' button.

At the bottom, a status bar shows a green circle, the text 'Read successfully', a red exclamation mark, and a red '2'. There are also 'Add-on functions' and 'Firmware update' buttons.

- ◆ Step 1. Select output channel. Click “Read” button.
- ◆ Step 2. Check reading status from bottom line.

Read successful: ✓
Read failed: ✗

➤ 2.7 OTP on LED fixture

Save Load

DMX512&RDM Program Tool

Operating mode

Mode: Single address CH01 Write Read

DMX512 default level

Level: 255 Write Read

Device address

Address: 1 Write Read

Current programming

Channel: All Write Read

Current: 2000 mA Write Read

OTP on LED fixture

NTC type: 33K Ω Write Read

Trigger point: 100 °C Write Read

Dimming

Level: 0 Dimming

Read information successfully. Add-on functions Firmware update

NTC type: 33KΩ or 10K Ω. Before changing the NTC type, please make sure the driver supports this type of NTC.

Trigger point: 70°C~120°C

➤ 2.7 OTP on LED fixture

The screenshot shows the 'DMX512&RDM Program Tool' interface. At the top, there are 'Save' and 'Load' buttons. The title bar reads 'DMX512&RDM Program Tool' with the DELTA logo. The main interface is divided into several sections:

- Operating mode:** Mode is set to 'Multiple address' and 'CH01'. There are 'Write' and 'Read' buttons.
- DMX512 default level:** Level is set to '255'. There are 'Write' and 'Read' buttons.
- Device address:** Address is set to '1'. There are 'Write' and 'Read' buttons.
- Current programming:** Channel is set to 'All' and Current is '1200 mA'. There are 'Write' and 'Read' buttons.
- OTP on LED fixture:** NTC type is '33K Ω' and Trigger point is '100 °C'. The 'Write' button is highlighted with a red dashed box and a red '1' above it. There is also a 'Read' button.
- Dimming:** Level is set to '0'. There is a 'Dimming' button.

At the bottom, there is a status bar with a green circle and the text 'Write OTP successfully.' followed by a red '2'. To the right of this are buttons for 'Add-on functions' and 'Firmware update'.

- ◆ Step 1. Choose NTC type and key in the OTP trigger point. Click “**Write**” button.
- ◆ Step 2. Check writing status from bottom line.

Write OTP successful: ✓

Write OTP failed: ✗

➤ 2.7 OTP on LED fixture

The screenshot shows the 'DMX512&RDM Program Tool' interface. At the top, there are 'Save' and 'Load' buttons. Below that, the title 'DMX512&RDM Program Tool' and the DELTA logo are displayed. The interface is divided into several sections:

- Operating mode:** Mode is set to 'Single address' and 'CH01'. There are 'Write' and 'Read' buttons.
- DMX512 default level:** Level is set to '252'. There are 'Write' and 'Read' buttons.
- Device address:** Address is set to '4'. There are 'Write' and 'Read' buttons.
- Current programming:** Channel is set to 'All' and Current is '2000 mA'. There are 'Write' and 'Read' buttons. A red dashed box highlights the 'Read' button, with a red '1' next to it.
- OTP on LED fixture:** NTC type is '33K Ω' and Trigger point is '100 °C'. There are 'Write' and 'Read' buttons.
- Dimming:** Level is set to '0'. There is a 'Dimming' button.

At the bottom, there is a status bar with a green circle, the text 'Read successfully', a red exclamation mark, and a red '2'. To the right of this are 'Add-on functions' and 'Firmware update' buttons.

- ◆ Step 1. Click “**Read**” button.
- ◆ Step 2. Check reading status from bottom line.

Read successful: ✓
Read failed: ✗

➤ 2.8 Dimming control by the tool

The tool applies one custom dimming command to control the driver output. This dimming command is sent in broadcast way.

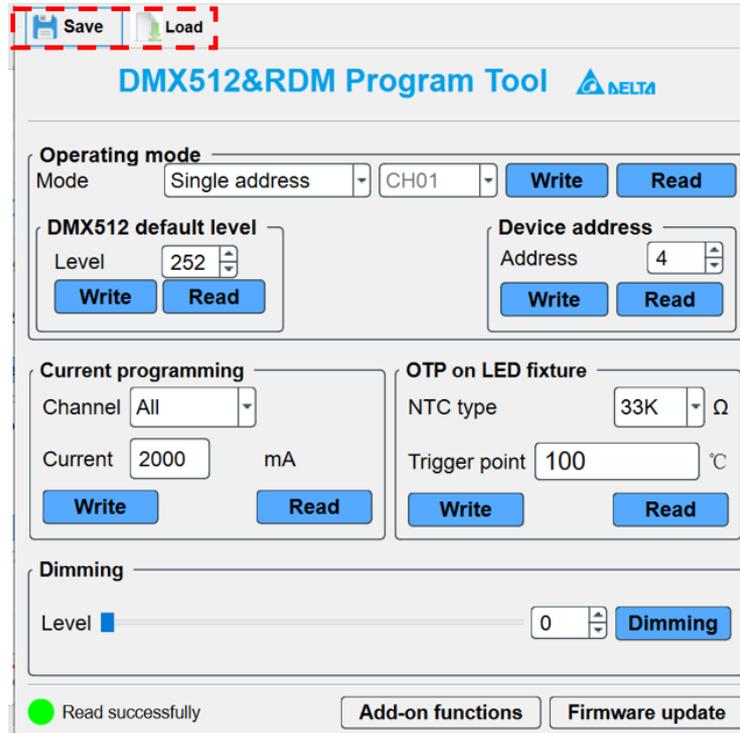
The screenshot displays the 'DMX512&RDM Program Tool' interface. At the top, there are 'Save' and 'Load' buttons. The title bar includes the tool name and the DELTA logo. The interface is organized into several sections:

- Operating mode:** Includes a 'Mode' dropdown set to 'Single address', a 'CH01' dropdown, and 'Write' and 'Read' buttons.
- DMX512 default level:** Features a 'Level' spinner set to '252' and 'Write' and 'Read' buttons.
- Device address:** Features an 'Address' spinner set to '4' and 'Write' and 'Read' buttons.
- Current programming:** Includes a 'Channel' dropdown set to 'All', a 'Current' input set to '2000' mA, and 'Write' and 'Read' buttons.
- OTP on LED fixture:** Includes an 'NTC type' dropdown set to '33K' Ω , a 'Trigger point' input set to '100' $^{\circ}\text{C}$, and 'Write' and 'Read' buttons.
- Dimming:** This section is highlighted with a red dashed border. It contains a 'Level' slider set to '0' and a 'Dimming' button.

At the bottom of the interface, there is a status bar with a green circle and the text 'Read successfully', and two buttons: 'Add-on functions' and 'Firmware update'.

➤ 2.9 Save & Load profile

The GUI can save all current parameters in the main GUI. The saved file could be copied or used in another PC.



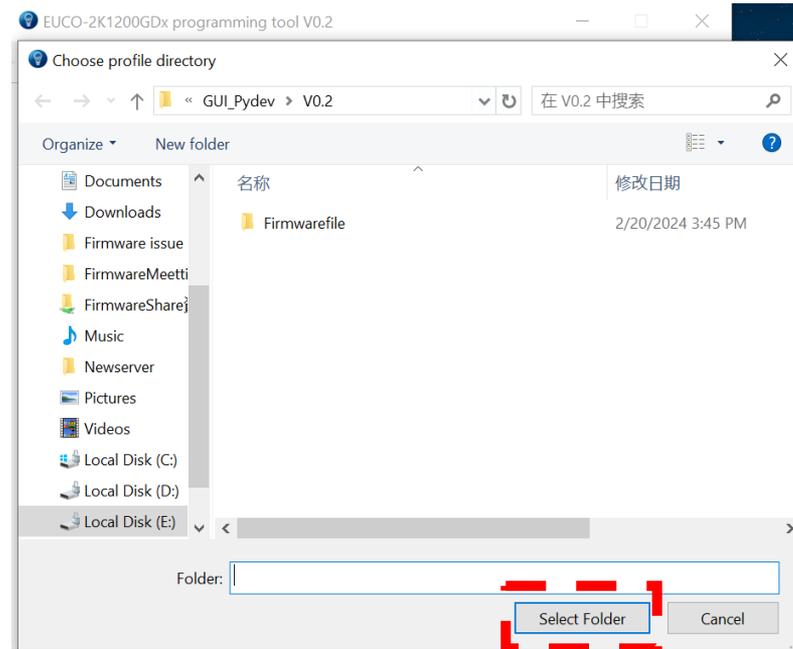
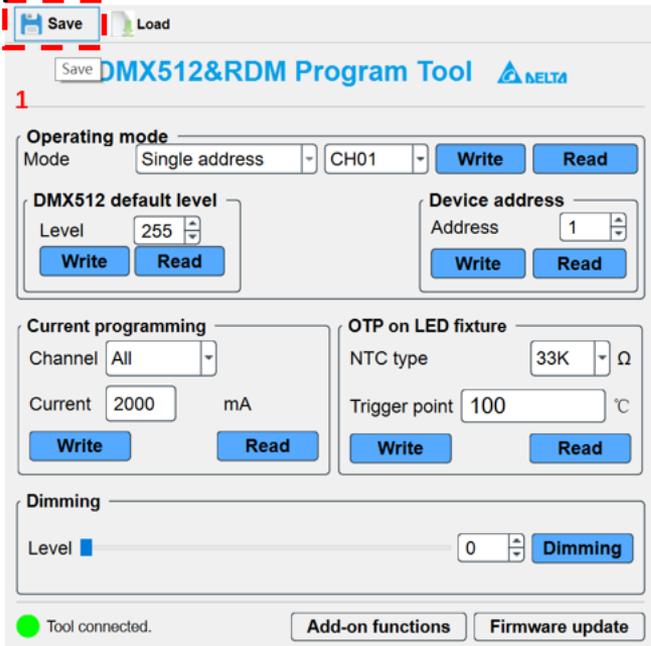
The screenshot displays the 'DMX512&RDM Program Tool' interface. At the top, there are 'Save' and 'Load' buttons, which are highlighted with a red dashed box. Below this, the tool is organized into several sections:

- Operating mode:** Includes a 'Mode' dropdown set to 'Single address' and a 'CH01' dropdown. It features 'Write' and 'Read' buttons.
- DMX512 default level:** Includes a 'Level' input field set to '252' with up/down arrows, and 'Write' and 'Read' buttons.
- Device address:** Includes an 'Address' input field set to '4' with up/down arrows, and 'Write' and 'Read' buttons.
- Current programming:** Includes a 'Channel' dropdown set to 'All', a 'Current' input field set to '2000' mA, and 'Write' and 'Read' buttons.
- OTP on LED fixture:** Includes an 'NTC type' dropdown set to '33K' Ω , a 'Trigger point' input field set to '100' $^{\circ}\text{C}$, and 'Write' and 'Read' buttons.
- Dimming:** Includes a 'Level' slider and an input field set to '0', with a 'Dimming' button.

At the bottom of the interface, there is a green status indicator labeled 'Read successfully', and two buttons: 'Add-on functions' and 'Firmware update'.

➤ 2.9 Save & Load profile

Step1: Click “Save” button. Then choose the file directory. Click “Select folder”. The profile will be saved.

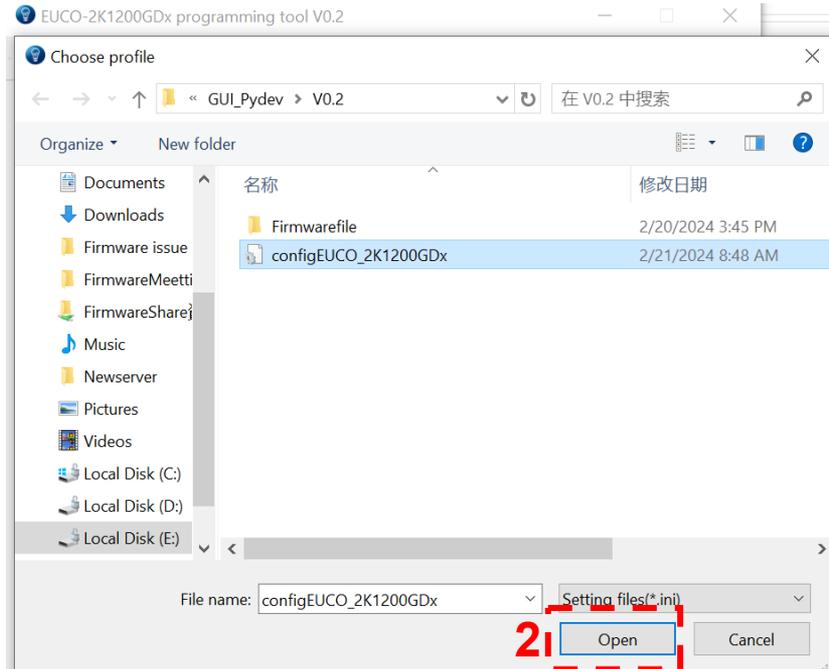
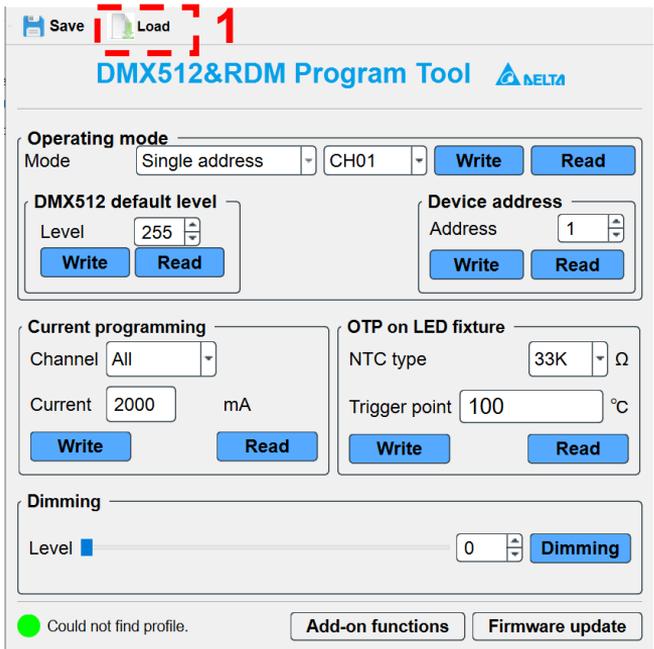


Saved file

| 名称 | 修改日期 | 类型 |
|-------------------------------|-------------------|----------|
| Firmwarefile | 2/20/2024 3:45 PM | File fol |
| configEUCO_2K1200GDx | 2/21/2024 8:48 AM | Config |
| RDM_Tool_For_EUCO-series_V0.2 | 2/20/2024 4:07 PM | Applic |

➤ 2.9 Save & Load profile

Step1: Click “Load” button. Then choose the saved profile. Click “Open”. The profile will be loaded.



3.Add on functions

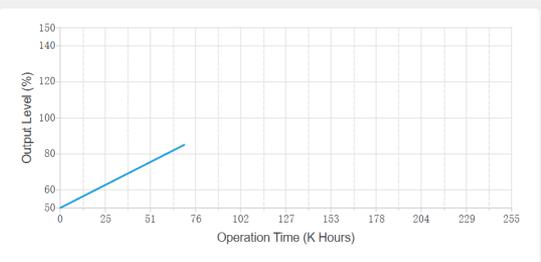
➤ 3 Add on functions

Click “Add-on functions” in the bottom line will active add on functions: Constant lumen output and smart timer dim

⚙️ Add-on functions ? ✕

Constant lumen output **Smart timer dim**

Constant lumen output curve



| KHours | Percent/% |
|--------|-----------|
| 0 | 50 |
| 10 | 55 |
| 20 | 60 |
| 30 | 65 |
| 40 | 70 |
| 50 | 75 |
| 60 | 80 |
| 70 | 85 |

Read Write

Information

CH1 current time hours **Read** **Enable**

CH2 current time hours **Read** **Enable**

CH3 current time hours **Clear** **Disable**

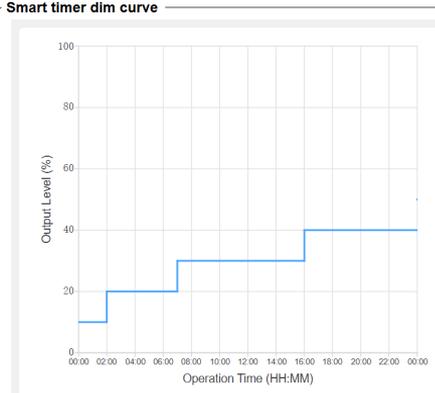


Add-on functions

⚙️ Add-on functions ? ✕

Constant lumen output **Smart timer dim**

Smart timer dim curve



| Steps/6min | Percent/% | FadeTime/s |
|------------|-----------|------------|
| 2:00 | 10 | 1 |
| 5:00 | 20 | 1 |
| 9:00 | 30 | 1 |
| 12:00 | 40 | 1 |
| 12:00 | 50 | 1 |

Read Write

Config

Disable

Midnight Shift mins **Read** **Write**

Parameters

Steps/6min Percent/% FadeTime/s

2:00 10 1

5:00 20 1

9:00 30 1

12:00 40 1

12:00 50 1

Read Write



Add-on functions

➤ 3.1 Constant lumen output

Generally speaking, the LED module will get a little darker even with the same output current as the working time increases.

Parameter area: Based on the feature of used LED module, modify the relation of time and output current percent.

Setting area: Reset current time. Enable or disable CLO function.

➤ 3.2 Smart timer dim

The module is used for 24hours automatic dimming. There are all three different modes: Fixed timer, midnight centric timer and ratio rescale timer.

⚙️ Add-on functions

Constant lumen output | **Smart timer dim**

Smart timer dim curve

| Operation Time (HH:MM) | Output Level (%) |
|------------------------|------------------|
| 00:00 - 02:00 | 10 |
| 02:00 - 06:00 | 20 |
| 06:00 - 12:00 | 30 |
| 12:00 - 16:00 | 40 |
| 16:00 - 18:00 | 50 |
| 18:00 - 00:00 | 50 |

Config

Fixed timer

Midnight Shift mins

Read Write

Parameters

| Steps/6min | Percent/% | FadeTime/s |
|------------|-----------|------------|
| 2:00 | 10 | 1 |
| 5:00 | 20 | 1 |
| 6:00 | 30 | 1 |
| 4:00 | 40 | 1 |
| 5:00 | 50 | 1 |

Read Write

Config

Fixed timer

Disable

Fixed timer

Midnight centric timer

Ratio rescale timer

➤ 3.2 Smart timer dim: Fixed timer

⚙️ Add-on functions

Constant lumen output | **Smart timer dim**

Smart timer dim curve

| Operation Time (HH:MM) | Output Level (%) |
|------------------------|------------------|
| 00:00 - 02:00 | 10 |
| 02:00 - 06:00 | 20 |
| 06:00 - 12:00 | 30 |
| 12:00 - 17:00 | 40 |
| 17:00 - 00:00 | 50 |

Config

Fixed timer

Midnight Shift mins

Read Write

Parameters

| Steps/6min | Percent/% | FadeTime/s |
|------------|-----------|------------|
| 2:00 | 10 | 1 |
| 5:00 | 20 | 1 |
| 6:00 | 30 | 1 |
| 4:00 | 40 | 1 |
| 5:00 | 50 | 1 |

Read Write

Time step1 **2:00** means 2hours.00:00->02:00, dim to 10%.

Time step2:**5:00** means 5hours, 02:00->07:00 dim to 20% .

Time step3:**6:00** means 6hours, 07:00->13:00 dim to 30% .

Time step4:**4:00** means 6hours, 13:00->17:00 dim to 40% .

Time step5: the value has no meaning. 17:00->24:00 dim to 50% .

➤ 3.2 Smart timer dim: Midnight centric timer

Add-on functions

Constant lumen output Smart timer dim

Smart timer dim curve

| Operation Time (HH:MM) | Output Level (%) |
|------------------------|------------------|
| 12:00 - 16:00 | 50 |
| 16:00 - 20:00 | 10 |
| 20:00 - 02:00 | 20 |
| 02:00 - 04:00 | 30 |
| 04:00 - 06:00 | 40 |
| 06:00 - 08:00 | 50 |
| 08:00 - 12:00 | 100 |

Config

Midnight centric timer

Midnight Shift mins

Read Write

Parameters

| Steps/6min | Percent/% | FadeTime/s |
|------------------------------------|---------------------------------|--------------------------------|
| <input type="text" value="16:00"/> | <input type="text" value="10"/> | <input type="text" value="1"/> |
| <input type="text" value="20:00"/> | <input type="text" value="20"/> | <input type="text" value="1"/> |
| <input type="text" value="1:00"/> | <input type="text" value="30"/> | <input type="text" value="1"/> |
| <input type="text" value="3:00"/> | <input type="text" value="40"/> | <input type="text" value="1"/> |
| <input type="text" value="5:00"/> | <input type="text" value="50"/> | <input type="text" value="1"/> |

Read Write

This mode supposes the driver's work time two days before are 00:00 centered, such like from 20:00->08:00 next day.

Then setting the parameter will reassign the dimming process in this time range.

➤ 3.2 Smart timer dim: Ratio rescale timer

Constant lumen output Smart timer dim

Smart timer dim curve

| Operation Time (HH:MM) | Output Level (%) |
|------------------------|------------------|
| 00:00 - 02:00 | 10 |
| 02:00 - 06:00 | 20 |
| 06:00 - 12:00 | 30 |
| 12:00 - 00:00 | 40 |

Config

Ratio rescale timer

Midnight Shift mins

Read Write

Parameters

| Steps/6min | Percent/% | FadeTime/s |
|------------------------------------|---------------------------------|--------------------------------|
| <input type="text" value="2:00"/> | <input type="text" value="10"/> | <input type="text" value="1"/> |
| <input type="text" value="5:00"/> | <input type="text" value="20"/> | <input type="text" value="1"/> |
| <input type="text" value="6:00"/> | <input type="text" value="30"/> | <input type="text" value="1"/> |
| <input type="text" value="12:00"/> | <input type="text" value="40"/> | <input type="text" value="1"/> |
| <input type="text" value="16:00"/> | <input type="text" value="50"/> | <input type="text" value="1"/> |

Read Write

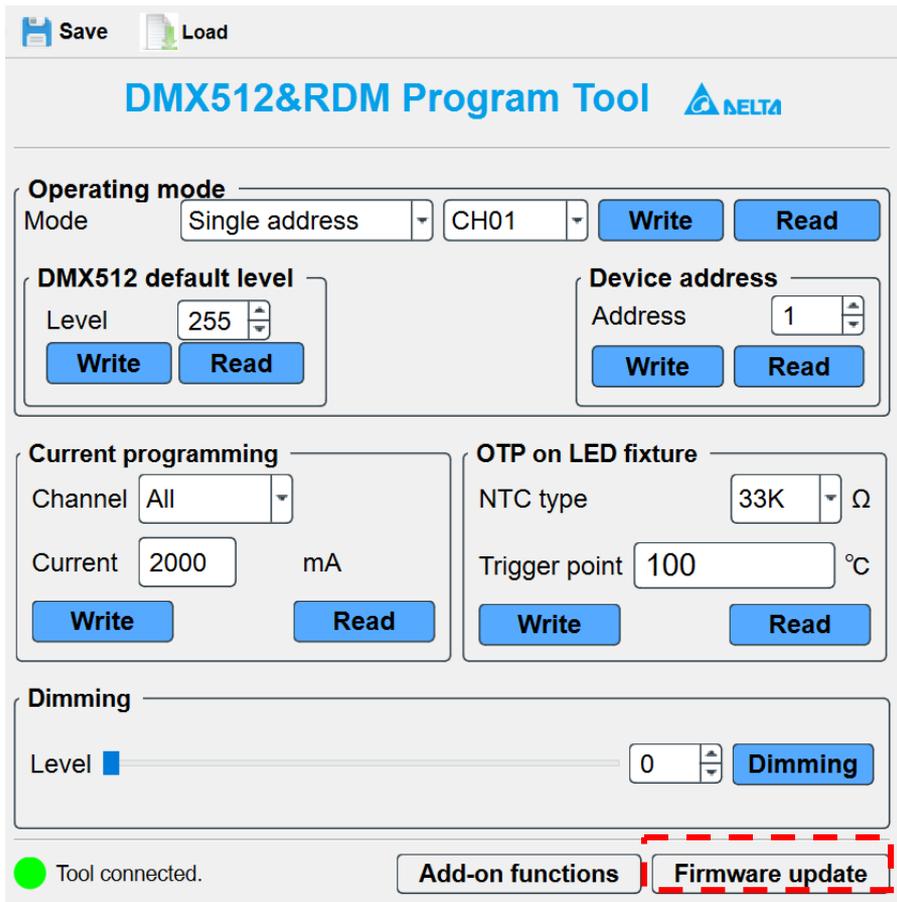


Add-on functions

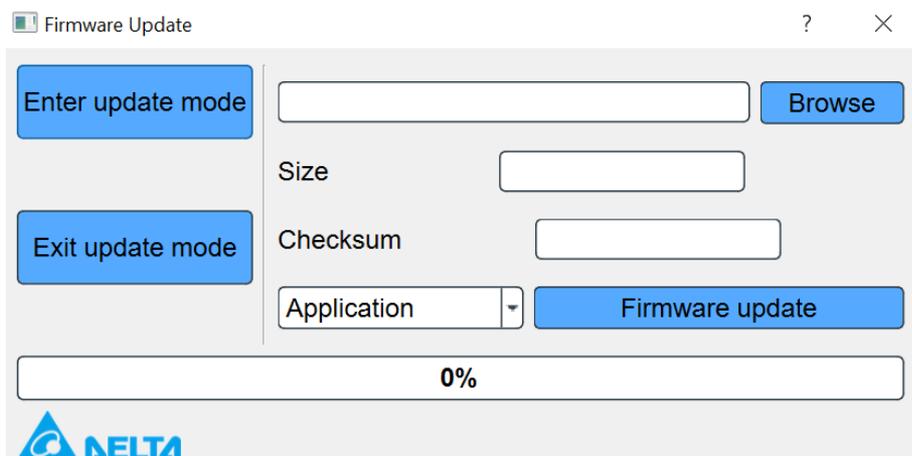
This mode is very similar with the fixed timer mode. In fixed timer mode, we assign 24hours dimming process. However, in this mode, it is allowed to assign the time slot of two day before. All time steps will equally scaled down from 24hours setting to the record time slot.

4. Firmware update

➤ 4. Firmware update



The image shows the 'DMX512&RDM Program Tool' interface. At the top, there are 'Save' and 'Load' buttons. The title bar reads 'DMX512&RDM Program Tool' with the DELTA logo. The main area is divided into several sections: 'Operating mode' with a dropdown set to 'Single address' and 'CH01', and 'Write'/'Read' buttons; 'DMX512 default level' with a level of '255' and 'Write'/'Read' buttons; 'Device address' with an address of '1' and 'Write'/'Read' buttons; 'Current programming' with 'Channel' set to 'All' and 'Current' set to '2000 mA', and 'Write'/'Read' buttons; 'OTP on LED fixture' with 'NTC type' set to '33K Ω' and 'Trigger point' set to '100 °C', and 'Write'/'Read' buttons; and 'Dimming' with a level slider at '0' and a 'Dimming' button. At the bottom, a status bar shows 'Tool connected.' and two buttons: 'Add-on functions' and 'Firmware update', which is highlighted with a red dashed border.



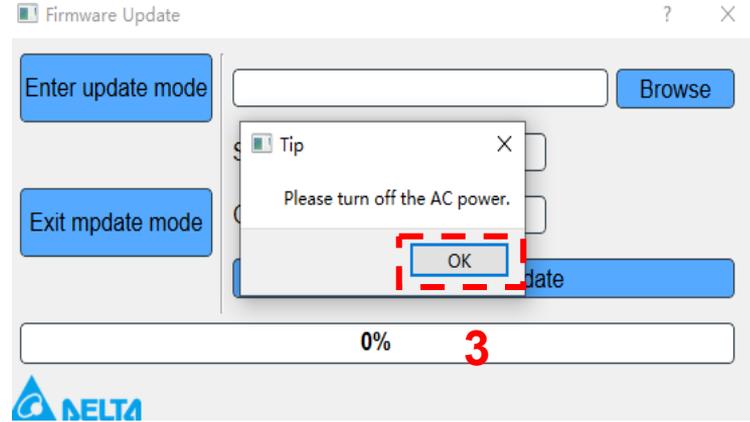
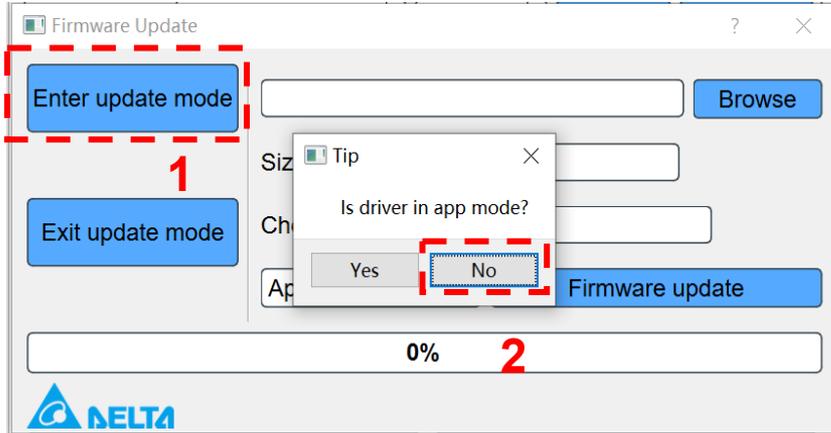
The image shows a 'Firmware Update' dialog box. It has a title bar with a question mark and a close button. The main area contains: 'Enter update mode' button and a text input field with a 'Browse' button; 'Exit update mode' button; 'Size' text input field; 'Checksum' text input field; 'Application' dropdown menu and a 'Firmware update' button; and a progress bar at the bottom showing '0%'. The DELTA logo is at the bottom left.

Click the “Firmware update” button will activate the firmware update function.

➤ 4.1 Enter update mode: AC power off

Step1: click the button “Enter update mode”.

Step2: Click button “OK”

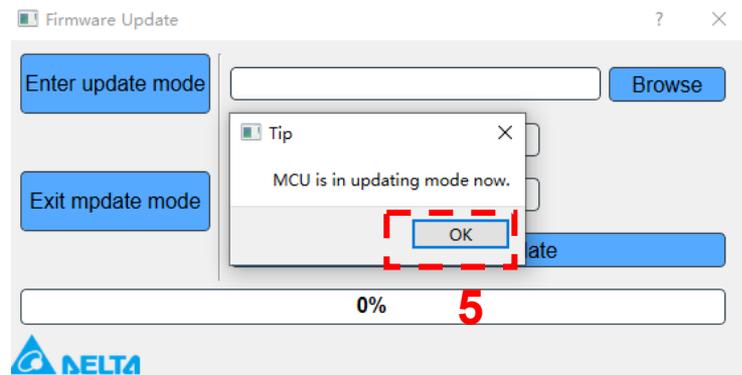
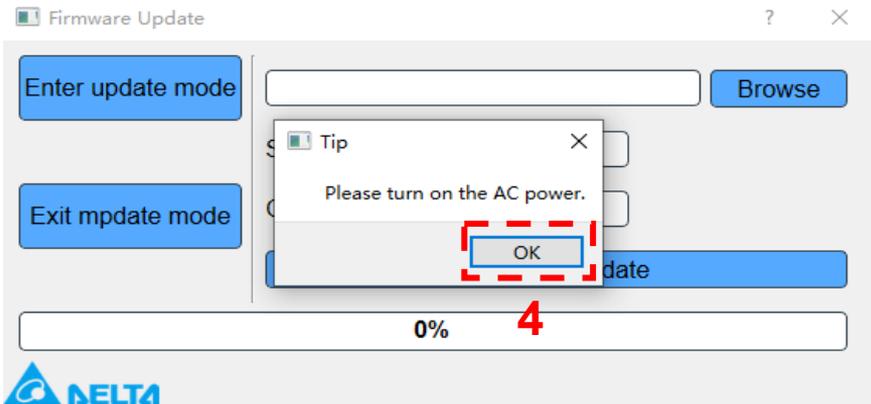


Step3: Power off the driver. Then click the button “OK”

➤ 4.1 Enter update mode: AC power off

Step4: Wait for the driver completely off. Click the button “OK”

Step5: Normally, the driver will enter update mode successfully.



➤ 4.1 Enter update mode: Normal app mode

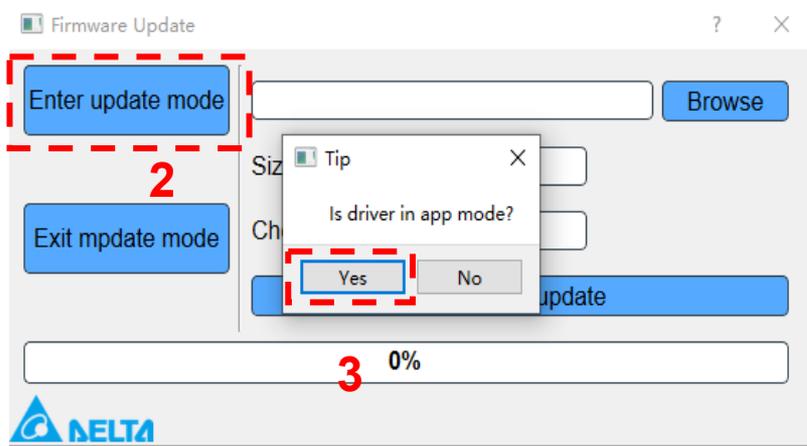
The screenshot displays the 'DMX512&RDM Program Tool' interface. At the top, there are 'Save' and 'Load' icons. The title bar reads 'DMX512&RDM Program Tool' with the DELTA logo. The main content is organized into several sections:

- Operating mode:** Includes a 'Mode' dropdown set to 'Single address', a 'CH01' dropdown, and 'Write' and 'Read' buttons.
- DMX512 default level:** Features a 'Level' input field with '255' and 'Write'/'Read' buttons.
- Device address:** Features an 'Address' input field with '1' and 'Write'/'Read' buttons.
- Current programming:** Includes a 'Channel' dropdown set to 'All', a 'Current' input field with '2000' mA, and 'Write'/'Read' buttons.
- OTP on LED fixture:** Includes an 'NTC type' dropdown set to '33K' Ω , a 'Trigger point' input field with '100' $^{\circ}\text{C}$, and 'Write'/'Read' buttons.
- Dimming:** Features a 'Level' slider and input field set to '0', and a 'Dimming' button.

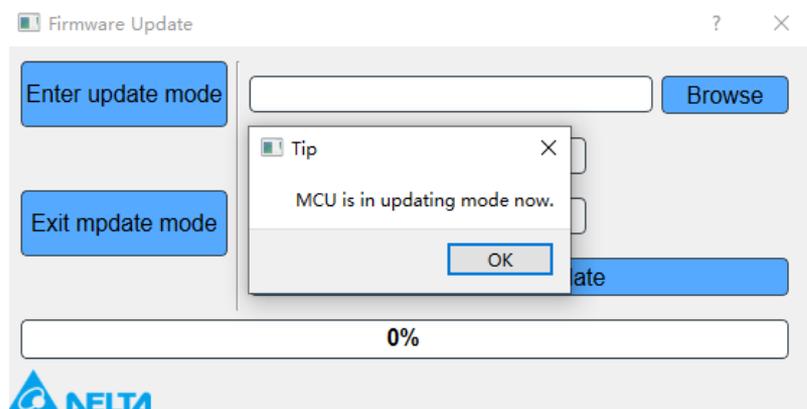
At the bottom, a green status indicator shows 'Tool connected.', and there are buttons for 'Add-on functions' and 'Firmware update'.

Step1 : Check communication. Click any “Read” button in the main GUI. The status in the bottom line shows “Read successfully”.

➤ 4.1 Enter update mode: Normal app mode



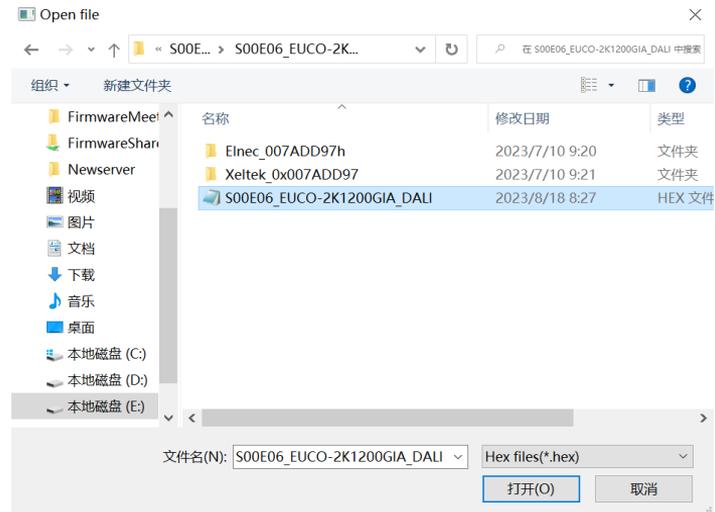
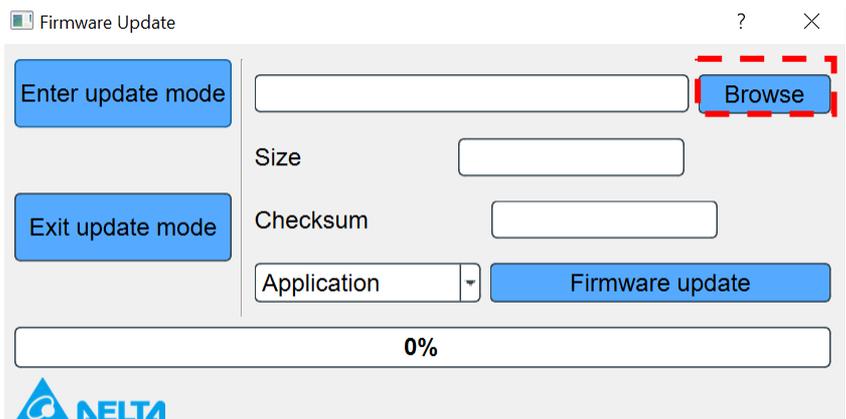
Step2: Click button “Enter update mode”
Step3: Click button “Yes”



Step4: Normally, the driver will enter update mode successfully.

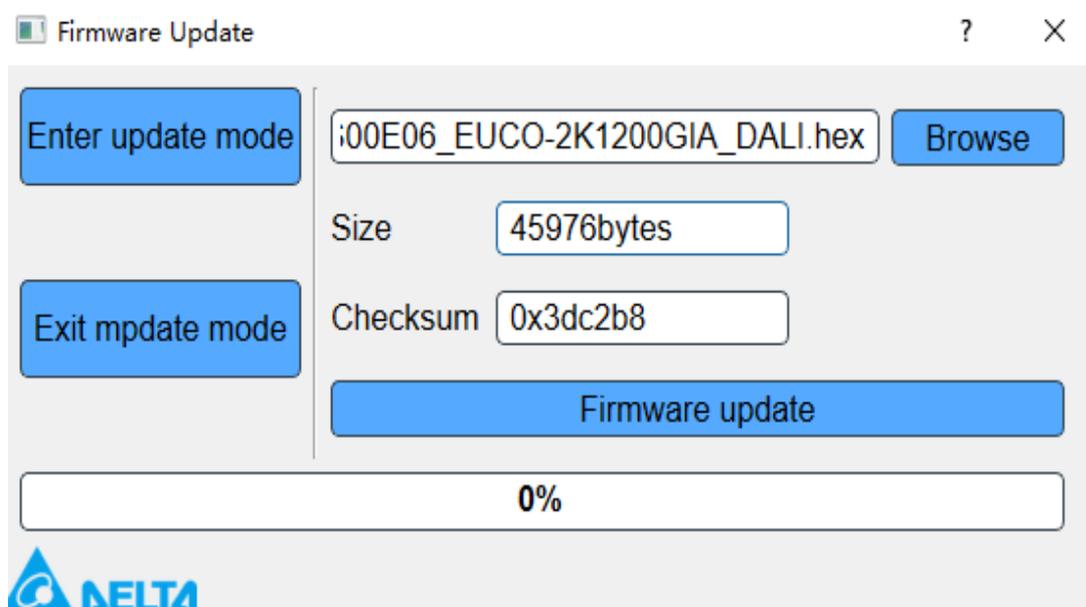
➤ 4.2 Choose firmware file

Step1: Click “Browse” button. And choose the correct firmware file



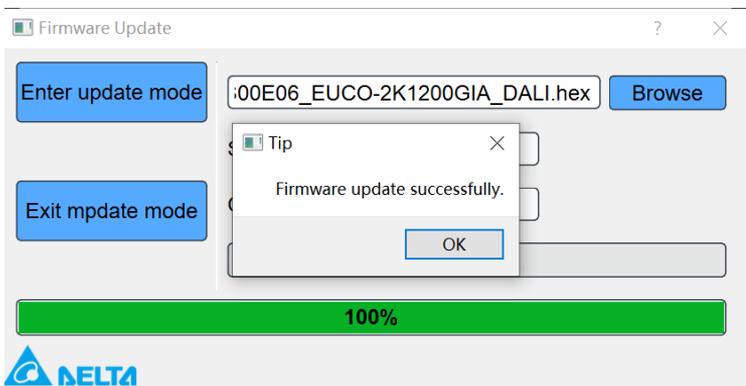
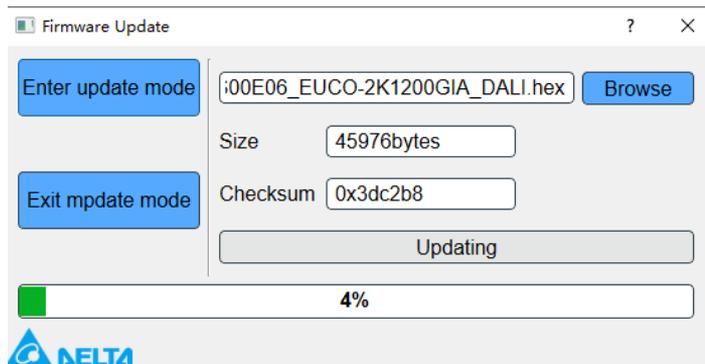
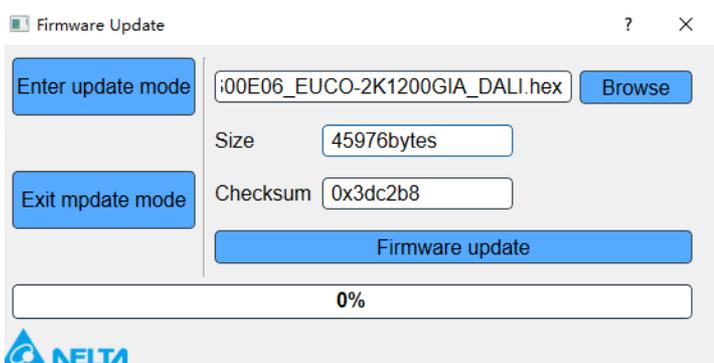
➤ 4.2 Choose firmware file

After reading, the size and checksum value of the GUI will be shown in the GUI.



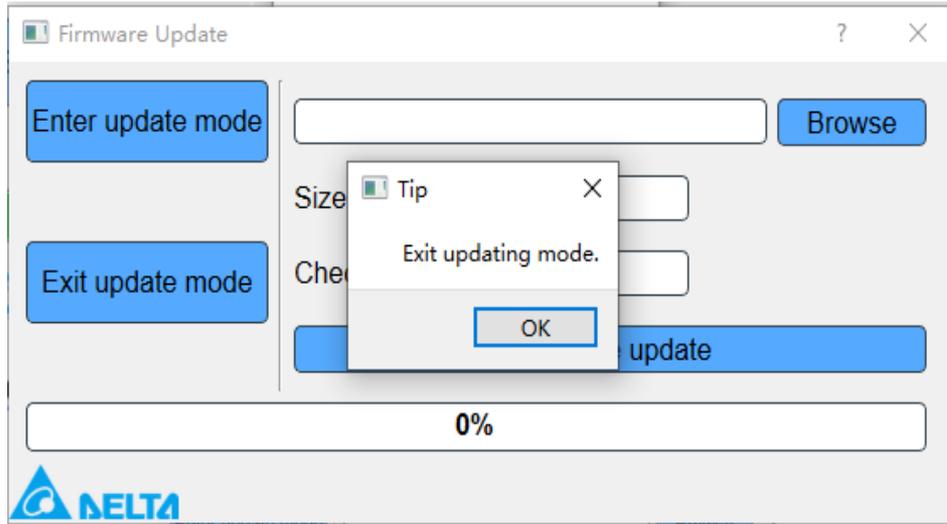
➤ 4.3 Updating the firmware

Step1: Click “Firmware update” button. Wait for 1-2minutes



➤ 4.4 Exit update mode

Step1: Click “Exit update mode” button. The driver will recover to normal app.



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