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## 1. Introduction

This manual provides instructions on how to use the NFC (Near Field Communication) Programmer to configure and program compatible Tridonic LED drivers. The NFC programmer allows for quick, easy, and wireless programming of LED driver parameters, enhancing flexibility and control of your lighting system. This manual covers software installation, hardware setup, basic operations, settable parameters, and troubleshooting tips to ensure a smooth programming experience. Please read this manual carefully before use.

## 2. Install Software

Before using the NFC programmer, you must install the necessary software components on your computer.

### 2.1 Install Driver

Please refer to the specific documentation for your programmer to download and install the driver.

### 2.2 Download Programming Software

2.2.1 Download the PC programming software from the Tridonic website in the tap “Downloads” .

2.2.2 Extract the downloaded folder.

2.2.3 The software is compatible with Windows 7/8/10/11 systems. Supporting both 32-bit and 64-bit architectures.

## 3. Wiring

Connect the NFC programmer to the computer vis USB.

3.1 Use the provided USB cable to connect the NFC programmer to an available USB port on your computer.

3.2 Ensure the USB cable is securely connected to both the programmer and the computer.

3.3 Compatible NFC programmer list:

Feig ID CPR30/30+

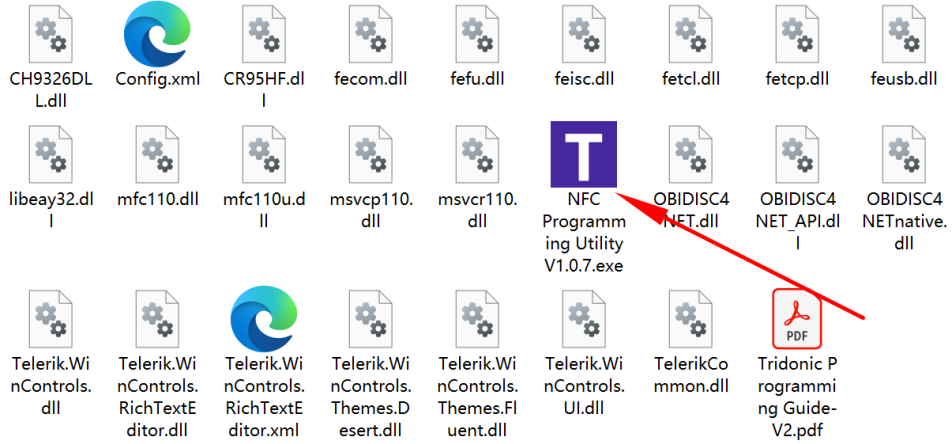
Feig ID ISC.PRH101

3.4 Ensure the LED Driver is powered off during wiring and programming.

## 4. Basic Operation

### 4.1 Open Software

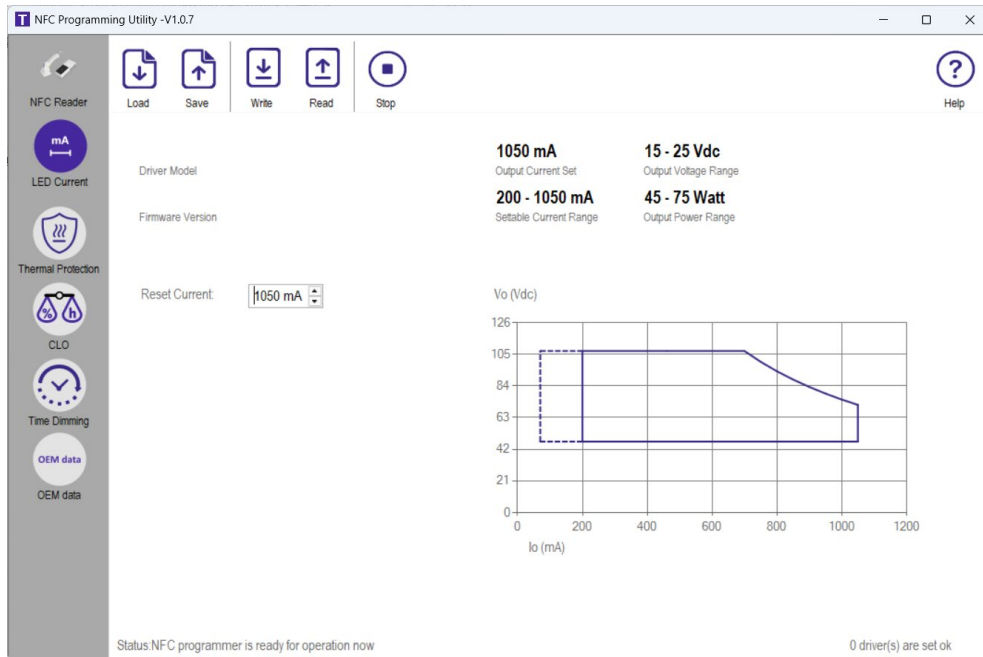
Launch the Tridonic NFC programming software by double-clicking the executable (.exe) file in the folder. The file name may vary slightly depending on the latest version available.



Upon launching, a welcome screen will appear. Click the programmer icon to access the main interface.

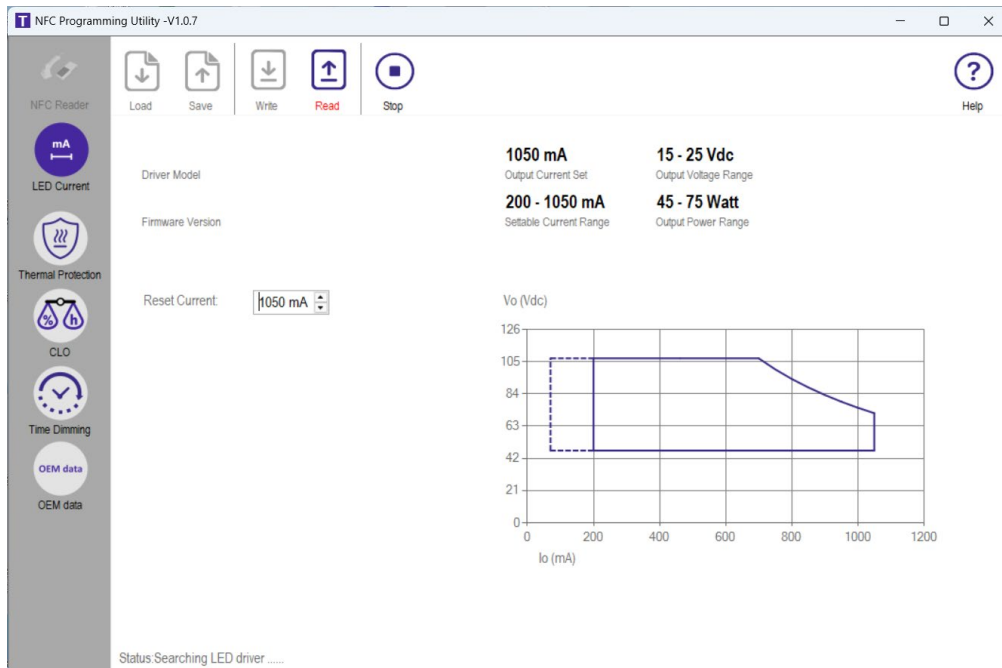


After clicking the programmer, the interface will appear, and the status bar will display: “NFC programmer is ready for operation now.”

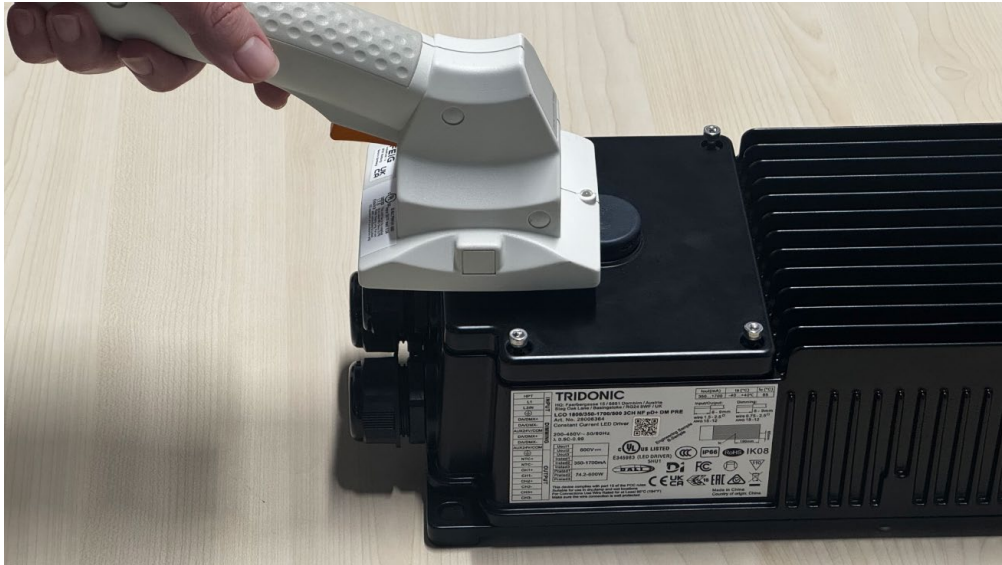


## 4.2 Read Parameters

In the software interface, locate and click the "Read" button.



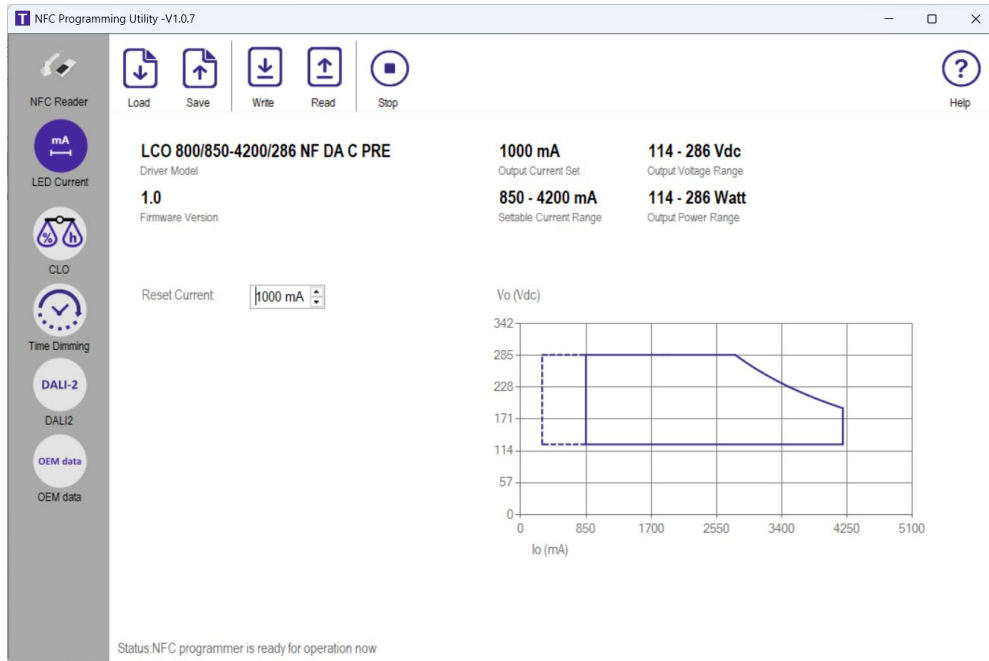
Position the NFC programmer's antenna as close as possible to the NFC antenna window on the LED driver. Optimal placement usually involves aligning the programmer's antenna parallel to the antenna symbol on the LED driver.





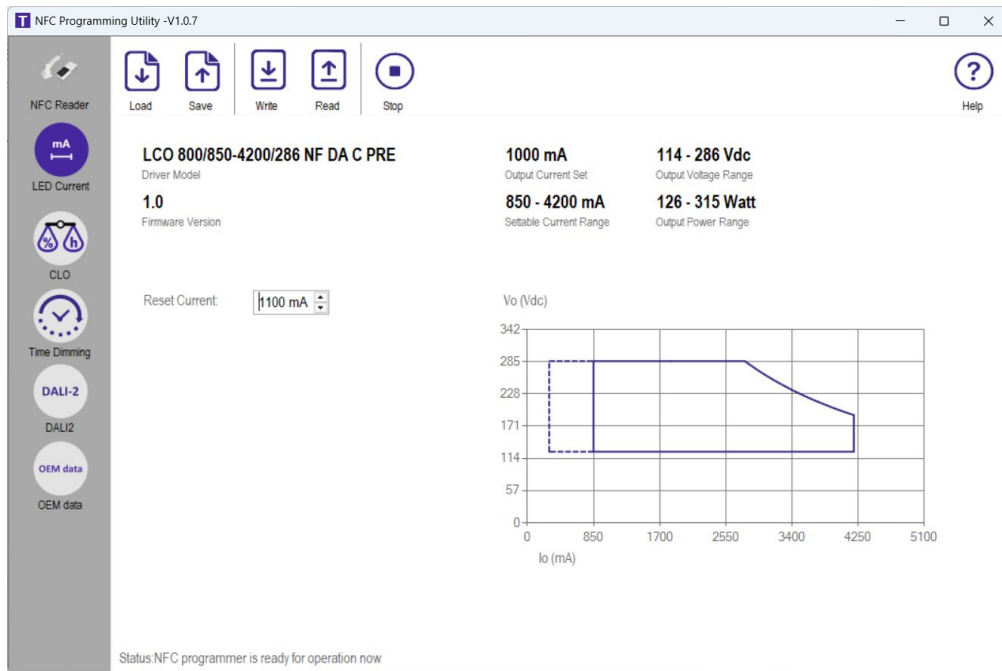
Keep the programmer still during the reading process. The software will display a progress bar. The green check mark indicating that it is reading the parameters from the LED driver.

Once the software has successfully read the parameters from the LED driver, click the "Stop" button to stop the reading function.

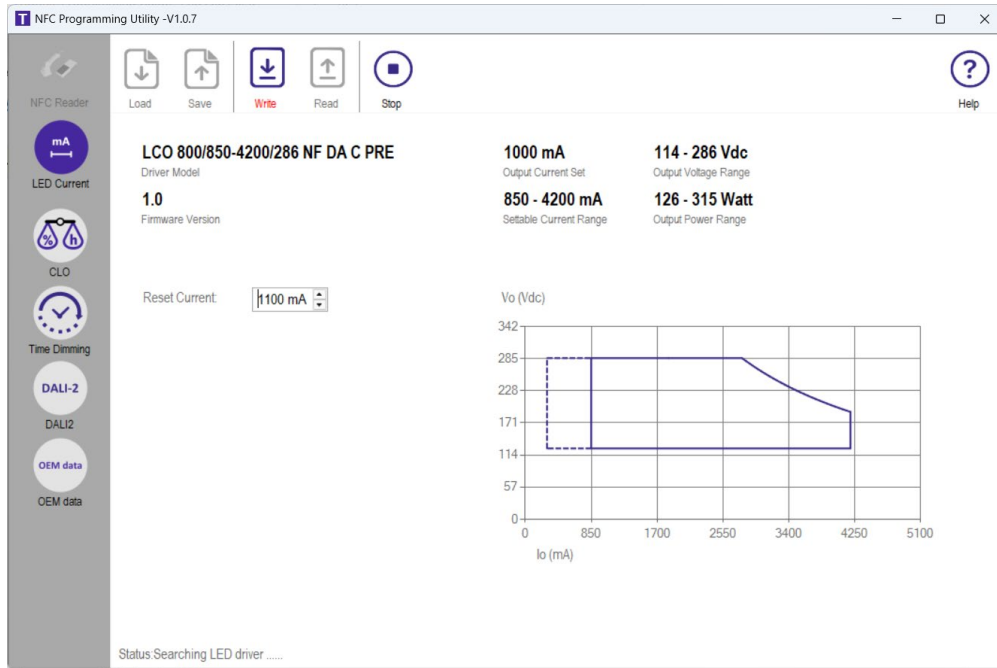


### 4.3 Write Parameters

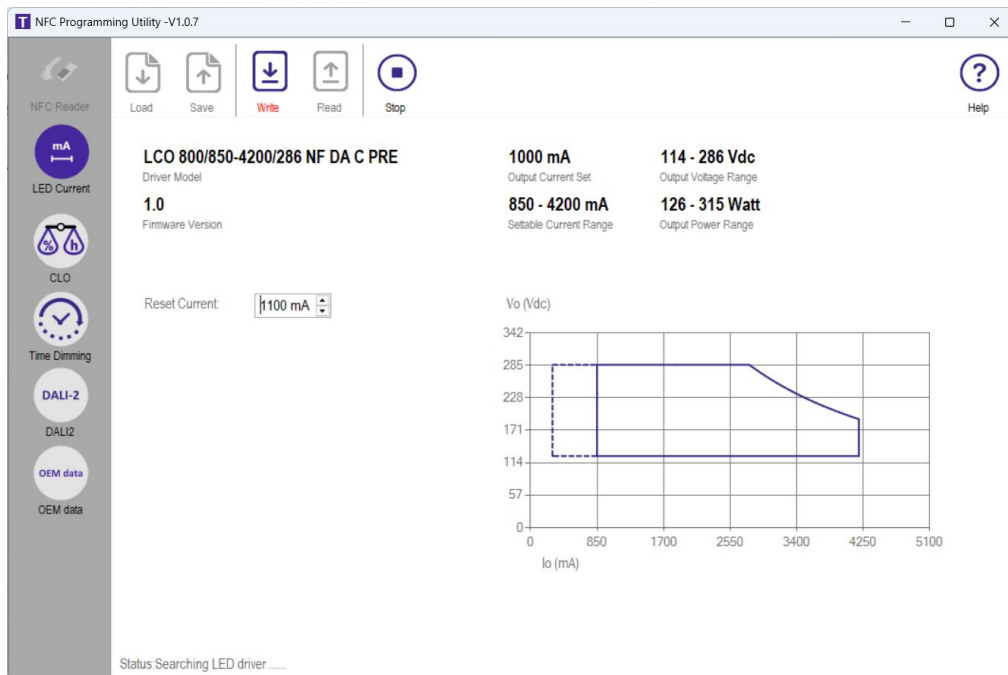
Modify the parameters, such as output current.



After modifying the parameters, click the "Write" button to write the configured value to the LED driver.



Again, position the NFC programmer's antenna as close as possible to the NFC antenna window on the LED driver, just like reading parameters. Keep the programmer still during the writing process. The software will display a progress bar and green check mark indicating that it is writing the parameters to the LED driver. Wait for confirmation on the software interface.



Once the software confirms that the parameters have been successfully written to the LED driver, click the "Stop" button to stop the programming. At this point, the settings are saved and can be verified through "Read" operation again.

## 5. Settable Parameters

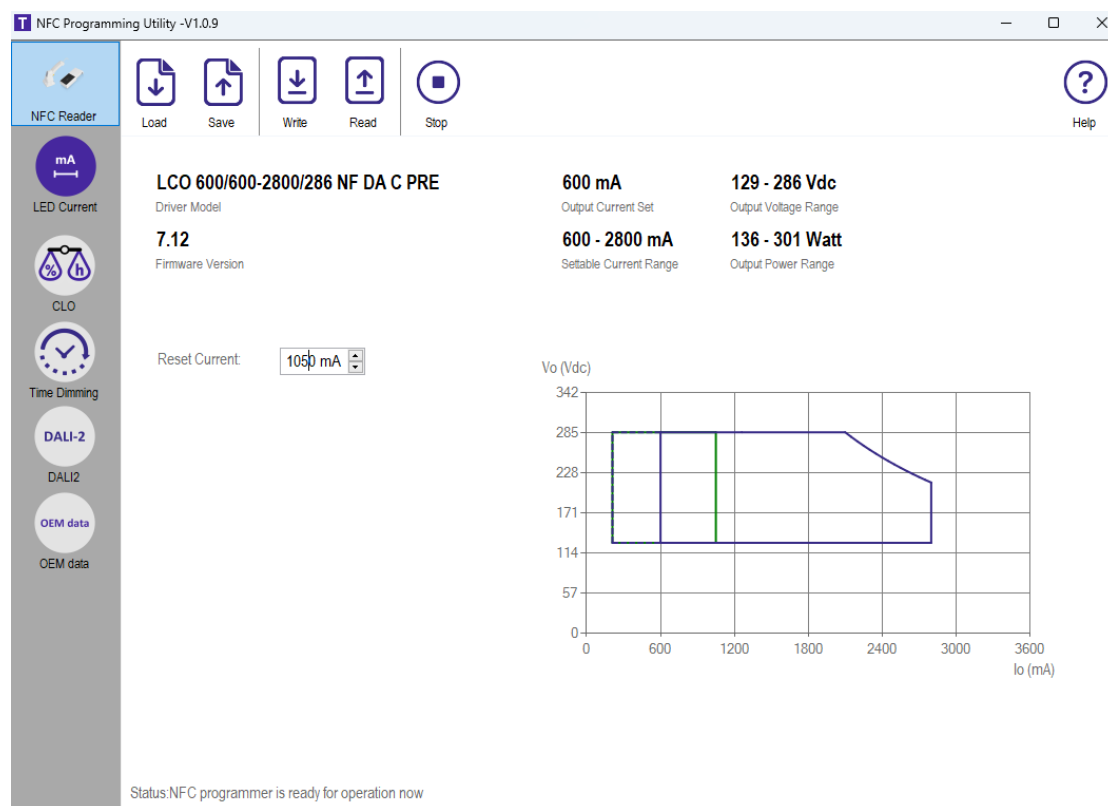
The available parameters that can be configured using the NFC programmer vary depending on the specific Tridonic LED driver model. Common settable parameters that may be found in certain models include:

### 5.1 Current setting

**Functional Overview:** This section allows you to configure the essential electrical output parameters of the LED driver. The primary function is to precisely adjust the output current (mA) to match the specific requirements of your LED module.

**Reset Current:** Adjust the output current of the LED driver to match the requirements of your LED load.

**Operation Window:** The blue line shows the driver's full operating range. The green line shows the actual working range based on the current settings.



### 5.2 External Thermal Protection

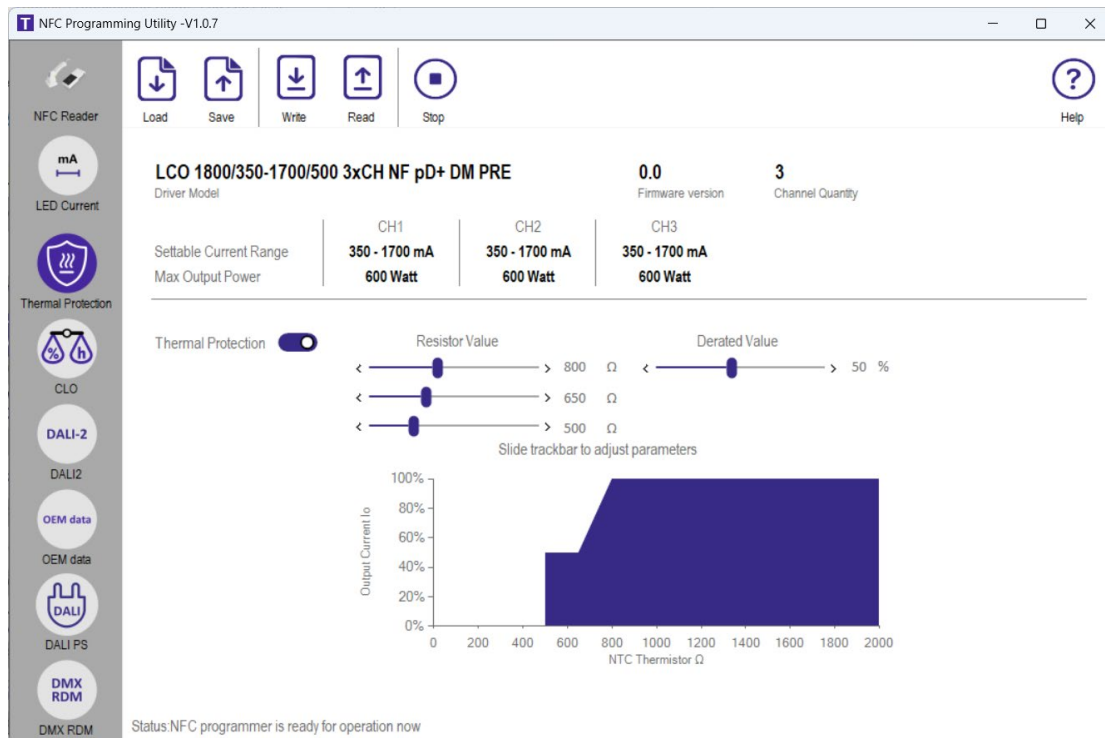
**Functional Overview:** This feature protects the LED module from overheating by monitoring an external NTC thermistor connected to the driver. When the detected temperature (resistance value) exceeds the defined threshold, the driver automatically reduces the output current to prevent damage and extend the lifespan of the LEDs.

**Enable Function** Click the "Enable" button to activate the external thermal protection feature.

**Setting Parameters** You can configure the protection behavior using the sliders:

- **Resistor Value ( $\Omega$ ):** These two sliders define the temperature range for protection (based on NTC resistance).

- **Upper Slider (Start Point):** Sets the resistance value where the driver starts to reduce the current. When the NTC resistance drops to this value (as temperature rises), the light begins to dim.
- **Middle Slider (Derated Point):** Sets the resistance value where the current reaches its minimum level. Any resistance lower than this value will keep the driver at the lowest output.
- **Lower Slider (Shut-off Point):** Sets the absolute minimum safety threshold. If the temperature reaches a critical extreme and the resistance drops below this value, the driver will completely shut off the output (0%) to protect the LED module from thermal damage.
- **Derated Value (%):** This slider sets the **minimum brightness level (floor)** that the driver will drop to when the temperature exceeds the limit.



## 5.3 Constant Lumen Output

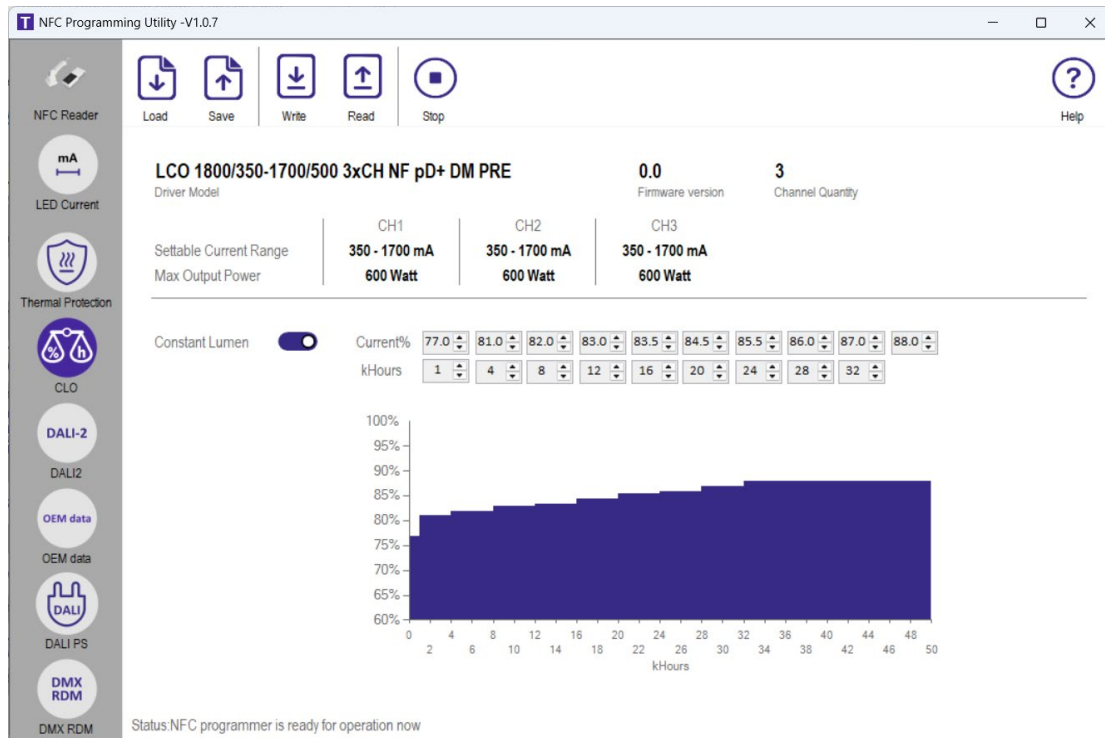
**Functional Overview:** The Constant Lumen Output (CLO) function compensates for the natural depreciation of luminous flux (light output) that occurs over the lifespan of an LED module. By gradually increasing the output current over operational hours, the driver ensures the luminaire maintains a consistent brightness level throughout its service life, rather than fading over time.

### Enable Constant Lumen

This is the main toggle switch for the function. Click this button to enable or disable the Constant Lumen Output (CLO) mode.

### Setting Parameters

- **Current%:** This represents the output current level as a percentage of the set current. You should set lower values for the beginning and higher values for later stages to compensate for light decay.
- **kHours:** This stands for "thousand hours" of operation time (e.g., inputting "1" means 1000 hours, "4" means 4000 hours). This defines when the driver should adjust to the specific Current%.



## 5.4 Timer Dimming

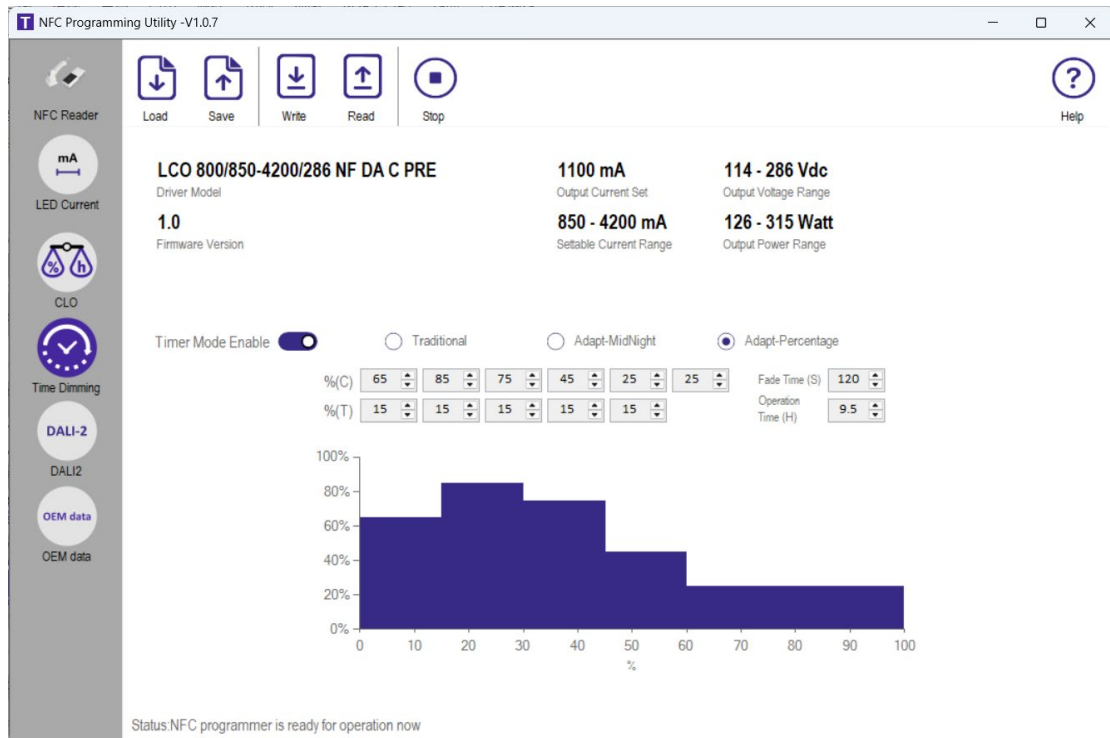
**Functional Overview:** Timer Dimming (often referred to as chronological dimming or virtual midnight) allows the driver to execute autonomous multi-step dimming profiles based on operating time, without the need for external control wiring. This is particularly useful for street and area lighting, allowing light levels to be reduced during low-traffic hours to maximize energy savings.

**Select Timer Mode** Choose the desired operating mode by clicking one of the buttons at the top:

- **Traditional:** Runs a fixed schedule every night.
- **Adapt-MidNight:** Automatically adjusts the curve based on the midpoint of the night.
- **Adapt-Percentage:** Automatically scales the curve steps based on the total night duration.

**Setting Parameters** Configure the specific behavior by filling in the data fields:

- **% (Dim Level):** Enter the brightness percentage for each stage in the top row.
- **H (Duration):** Enter how long each stage should last (in hours) in the bottom row.
- **Fade Time (S):** Set the transition time (in seconds) to smooth the change between different brightness levels.
- **Operation Time (H):** Set the estimated total duration of the night.
- **Midnight:** (For "Adapt-MidNight" mode) Select the time point that represents the middle of the night.



## 5.5 DALI-2 Default Parameters

**Functional Overview:** This section is used to configure the standard operating parameters for DALI-2 communication. It allows you to pre-program settings such as the short address, dimming curves, fade times, and power-on behaviors. Pre-configuring these values via NFC can significantly speed up the commissioning process on-site.

### Update all settings

Default State: Unchecked

**Purpose (Protection Mechanism):** This checkbox acts as a crucial safety feature. In many field applications, DALI parameters (such as the Short Address, Dimming Curve, and Fade times) are commissioned on-site by a DALI master controller. To prevent the NFC programming process from accidentally overwriting or resetting these active network configurations when adjusting other driver settings (like Output Current or Timer profiles), the DALI-2 tab is locked by default.

**If left unchecked:** None of the DALI parameters displayed on this screen will be written to the driver during the NFC programming process. Existing DALI settings inside the driver will remain completely untouched.

**If checked:** You authorize the software to overwrite the driver's current DALI settings. You must check this box if your intention is to configure or update the DALI default parameters using this NFC tool.

**CH1/CH2/CH3:** The parameters of each channel can be set separately.

**Dimming Curve Selection** Select the desired dimming behavior by clicking the buttons at the top:

- **Logarithmic:** The brightness changes follow a logarithmic curve (standard for human eye perception).
- **Linear:** The brightness changes linearly with the control signal.

**Setting Parameters** Configure the specific DALI parameters using the sliders. You can check the box next to a parameter to include it in the programming.

- **Short Address:** Sets the unique DALI address (0-63) for the driver.
- **Fade Time:** Sets the time it takes to transition from one brightness level to another.
- **Fade Rate:** Sets the speed of the transition in steps per second.
- **Minimum / Maximum Level:** Defines the allowable brightness range. The driver will not dim below the "Minimum" or brighten above the "Maximum".
- **Power On Level:** Sets the specific brightness level for mains power on.
- **System Failure Level:** Sets the brightness level the light will go to if the DALI bus communication fails.

**Reset to Defaults** If you need to restore the original factory settings, simply click the **Reset Default** button on the right.

The screenshot shows the 'NFC Programming Utility -V1.1.0' window. The interface includes a top toolbar with icons for Load, Save, Write, Read, and Stop, along with a Help icon. A sidebar on the left contains various programming modes: NFC Reader, LED Current, Thermal Protection, CLO, **DALI-2** (selected), DALI2, OEM data, DALI PS, and DMX RDM. The main area displays driver information: 'LCO 1800/350-1700/500 3xCH NF pD+ DM PRE', '22.13' Firmware version, and '3' Channel Quantity. Below this, a table shows 'Settable Current Range' and 'Max Output Power' for three channels (CH1, CH2, CH3), all set to '350 - 1700 mA' and '600 Watt'. A section titled 'Set DALI default parameters' allows configuration for CH1, CH2, and CH3. Parameters include Dimming Curve (Logarithmic selected), Short Address (8), Fade Time (<0.7s), Fade Rate (45 Steps/s), Minimum Level (1), Maximum Level (254), Power On Level (254), and System Failure Level (254). Checkmarks indicate which parameters are active. A 'Reset Default' button is located to the right of the parameter list. The status bar at the bottom indicates 'Status NFC programmer is ready for operation now'.

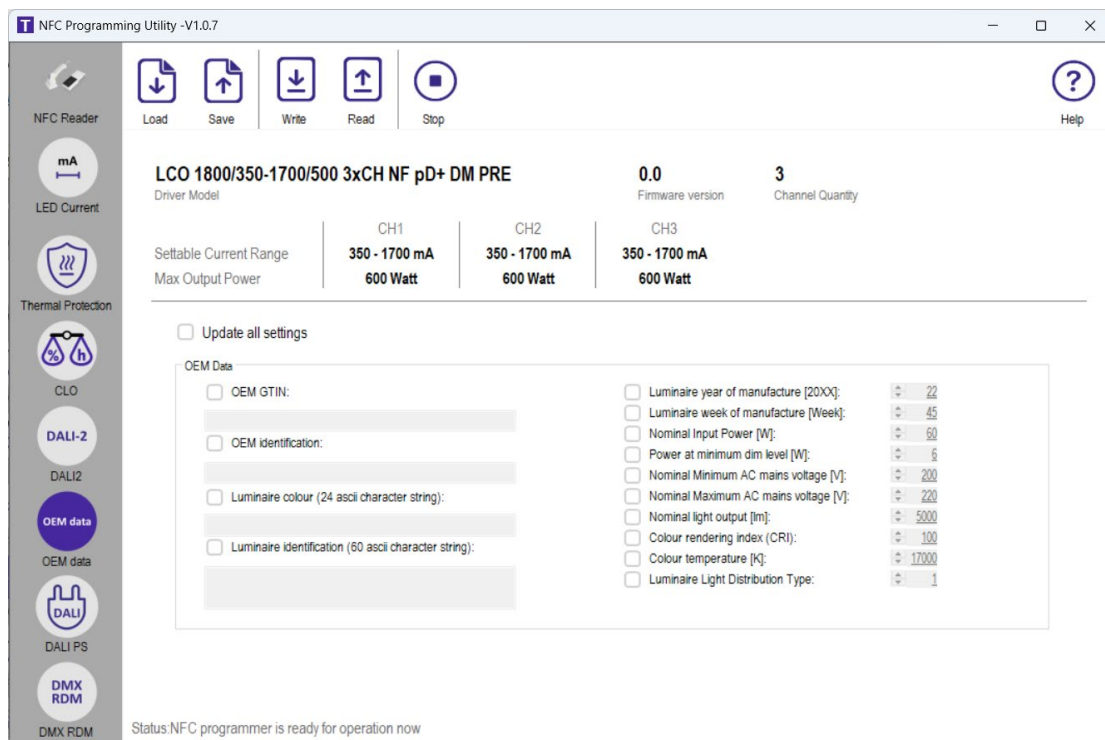
## 5.6 OEM Data Settings

**Functional Overview:** This section allows the luminaire manufacturer to program specific product information into the driver's memory. This data is useful for asset management and system identification in DALI networks.

**Update all settings:** Please refer to the description in section 5.5.

**Setting Parameters** You can input various types of luminaire data. Use the checkboxes to select which information you want to program:

- **Identification Info:** Enter text strings for the Global Trade Item Number (**OEM GTIN**), **Luminaire Colour**, and **Luminaire Identification** strings.
- **Manufacturing Date:** Record the production timing by setting the **Year** and **Week** of manufacture.
- **Technical Specifications:** Input electrical and optical parameters such as **Input Power**, **AC Voltage range**, **Light Output (lm)**, **CRI**, and **Colour Temperature**.

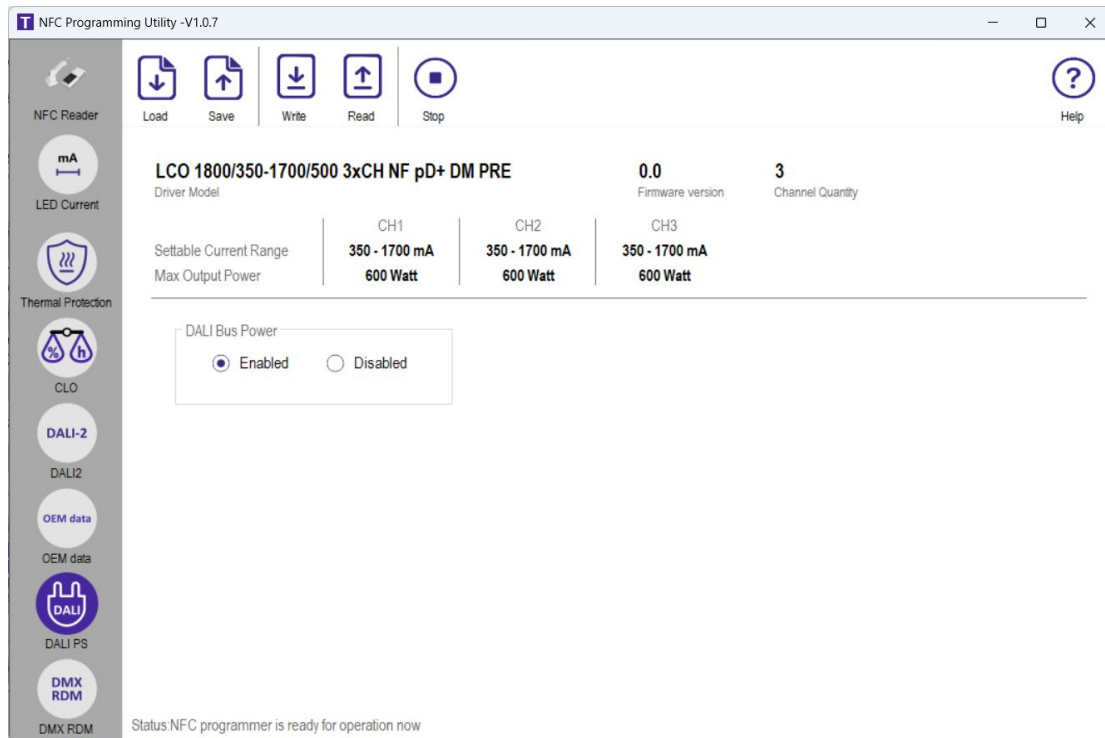


## 5.7 Bus Power Supply Settings

**Functional Overview:** This setting controls the internal DALI bus power supply unit. It determines whether this specific driver should provide power to the communication bus.

### Setting Parameters

- **Enabled:** Select this option if the system requires this driver to power the DALI bus (e.g., in a standalone system without an external power supply).
- **Disabled:** Select this option if the DALI bus is already powered by another device or an external power supply unit.

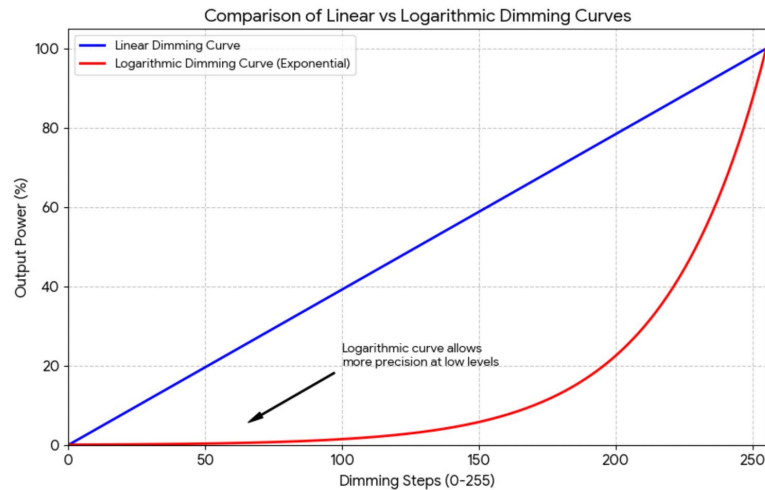


## 5.8 DMX Dimming Settings

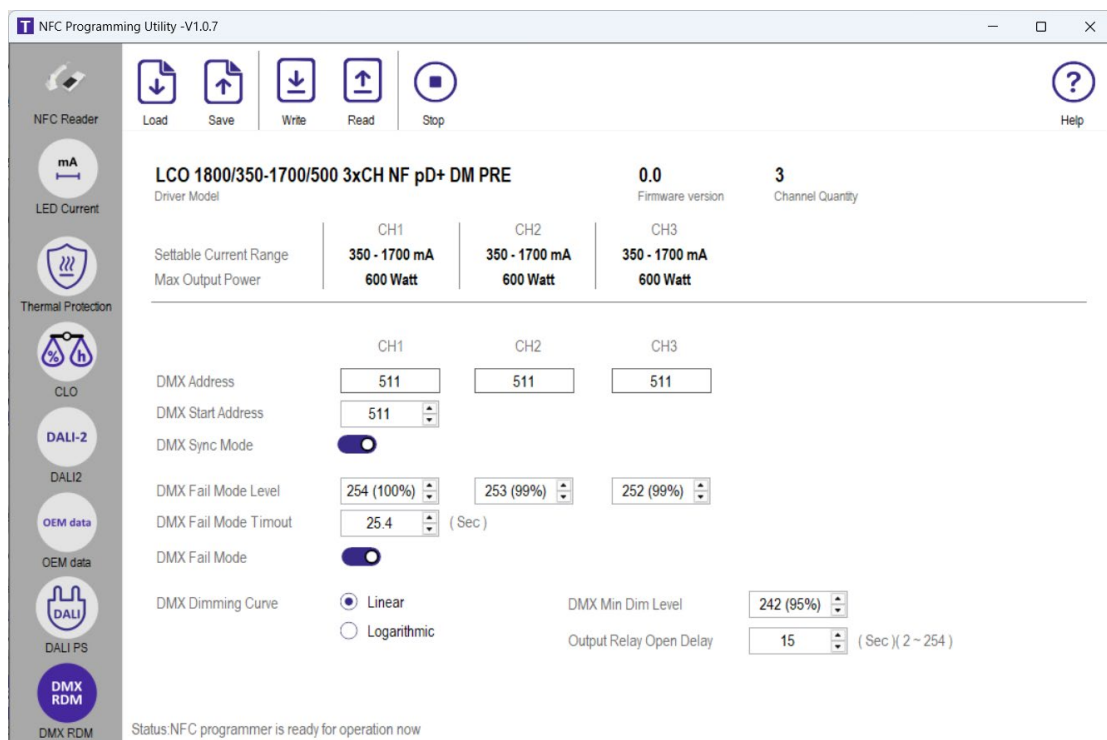
**Functional Overview:** This section allows you to configure the DMX control parameters for LED drivers, including addressing, signal synchronization, and behavior during signal loss.

### Setting Parameters

- **DMX Address:** Sets the starting DMX address for the driver. You can set this manually for the first channel.
- **DMX Sync Mode:**
  - **Enable:** When switched on, all output channels (CH1, CH2, CH3) are assigned the same DMX address. This allows you to control all channels simultaneously with a single command, although the output current for each channel is set different.
  - **Disable:** Each channel operates with its own unique DMX address.
- **DMX Fail Mode:**
  - **Fail Mode Switch:** Enables or disables the safety behavior when the DMX signal is lost.
  - **Fail Mode Level:** Sets the specific default light output level for each channel if the signal is lost.
  - **Timeout:** Sets how long the driver waits after signal loss before triggering the Fail Mode.
- **DMX Dimming Curve:** Select between **Linear** or **Logarithmic** dimming curves to match your lighting requirements.



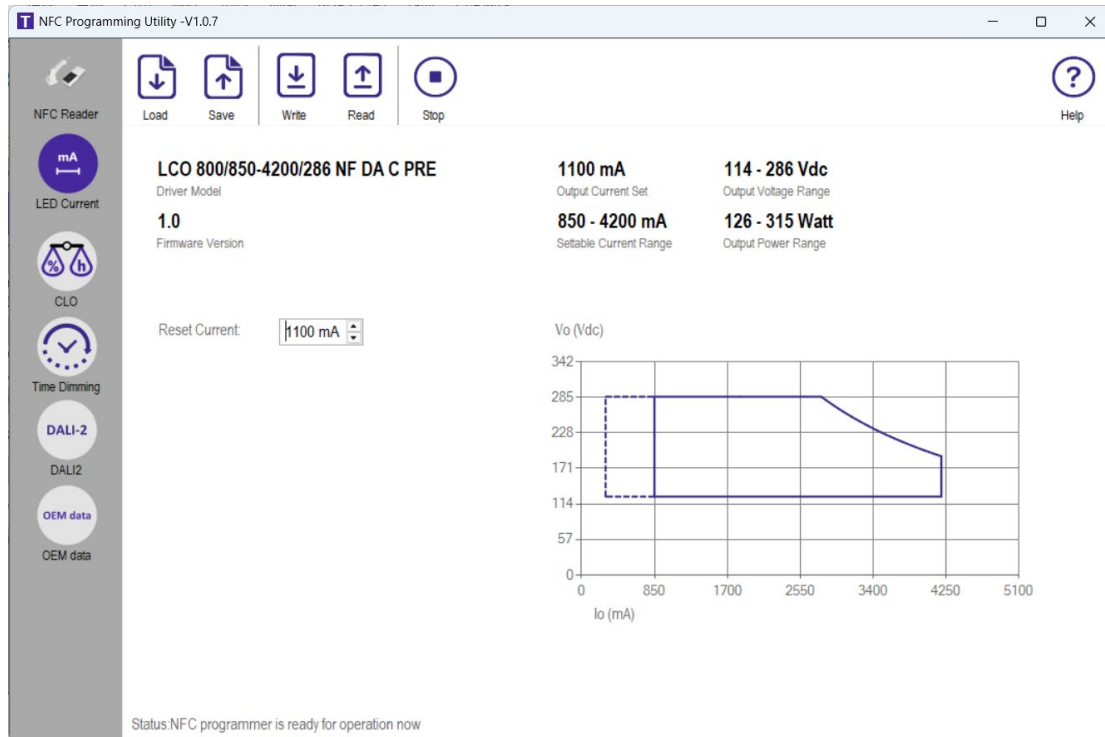
- **DMX Min Dim Level:** Defines the lowest possible brightness level the light can dim to.
- **Output Relay Open Delay:** This parameter controls the internal relay. It sets the delay time (in seconds) *after* the driver receives a "dim off" (0%) command before it physically cuts off the output power.



## 6. Load and Save Function

The software provides Load and Save function. Load allows the user to copy other setting from previous saved parameter files to the software interface. Save function allows user to save the current setting of the driver to computer

for backup. Configuration files are saved in XML format.



## 7. FAQ

- "Connecting NFC Programmer, please wait":
  - Ensure the USB cable is securely connected to the computer.
  - Try a different USB port on your computer.
  - Verify that the correct driver is installed.
- "Searching LED driver":
  - Ensure the NFC programmer is positioned correctly and is close enough to the LED driver's NFC antenna.
  - Make sure the LED driver is powered off while programming.
  - Avoid any obstructions between the programmer and the LED driver.

### Contact:

For further support or questions, please contact Tridonic.