

# VS LED CONFIGURER TOOL V0.6839.X

## NFC SOFTWARE TECHNICAL APPLICATION GUIDE VOSSLOH-SCHWABE



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## 1 INSTALLATION TOOL FOR THE CONFIGURER TOOL

1. Click on the installer file inside the software package, as shown in Image 1.

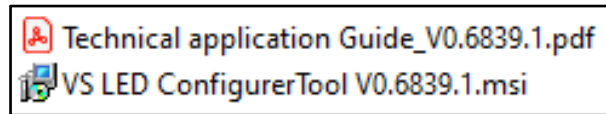


Image 1

2. After opening the installer, one can see the setup wizard (Image 2). By click on the “Next” button, you will enter the preparation stage of the installation program. Here, the appropriate installation path has to be selected (Image 3).

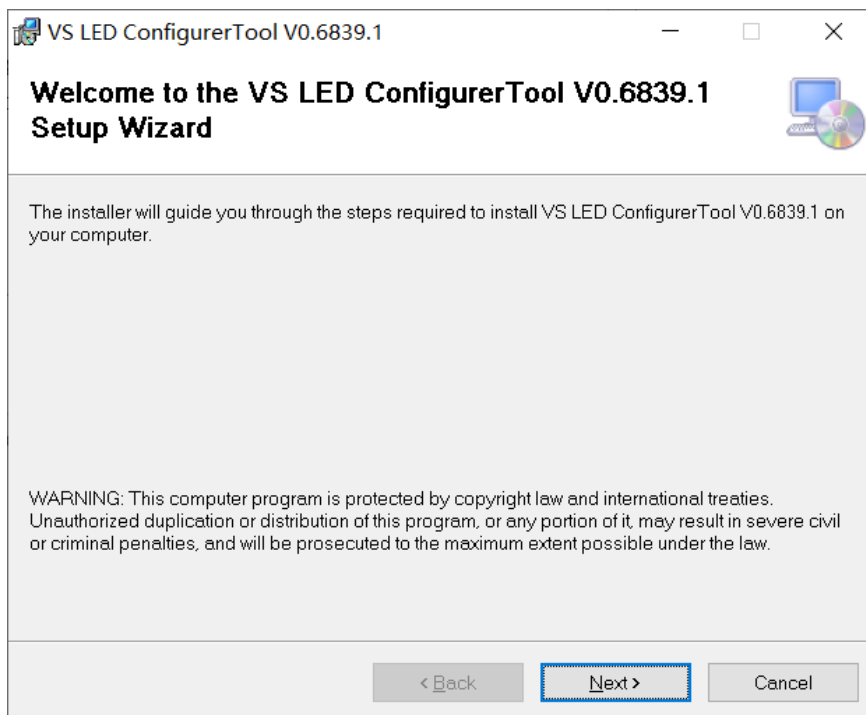


Image 2

In addition you can choose whether the software should be released exclusively for you as a single user or for every potential computer user.

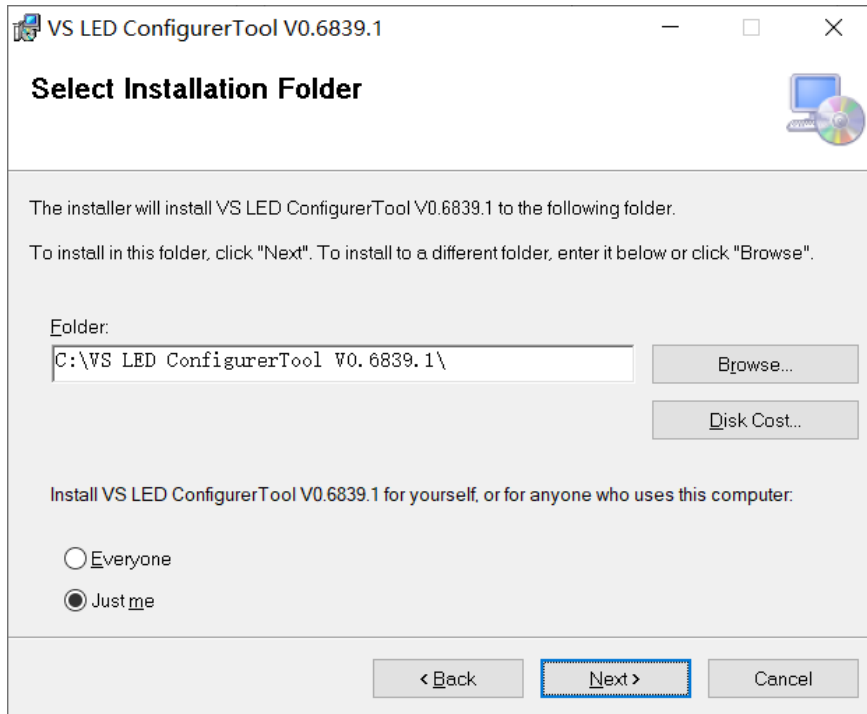


Image 3

3. After entering the desired installation path, click the “Next” button to start to install.

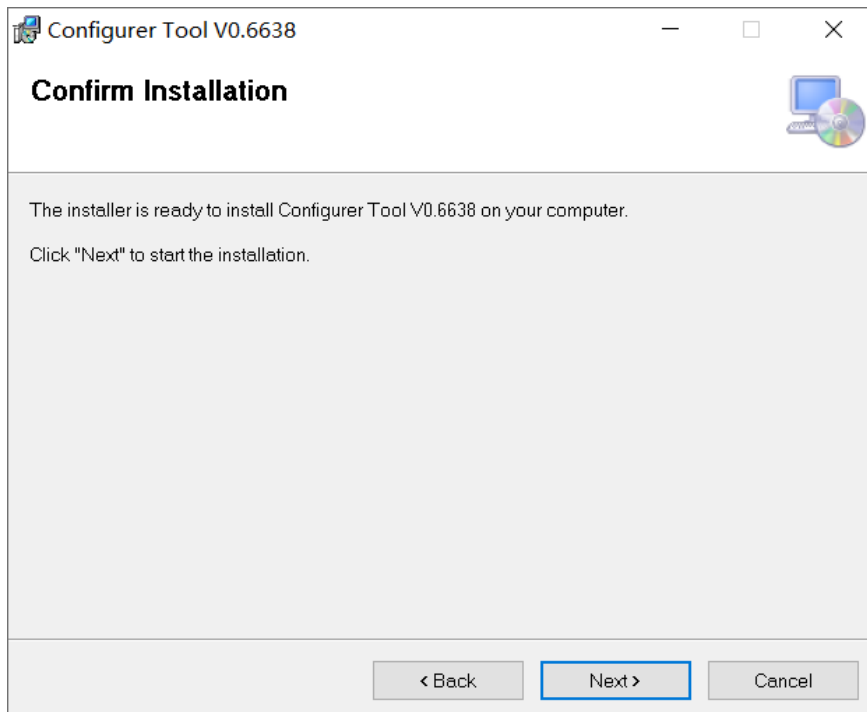


Image 4

- When the below image appears, it means that the installation is completed successfully. Click the “Close” button to start using the LED Driver Configurer Tool.

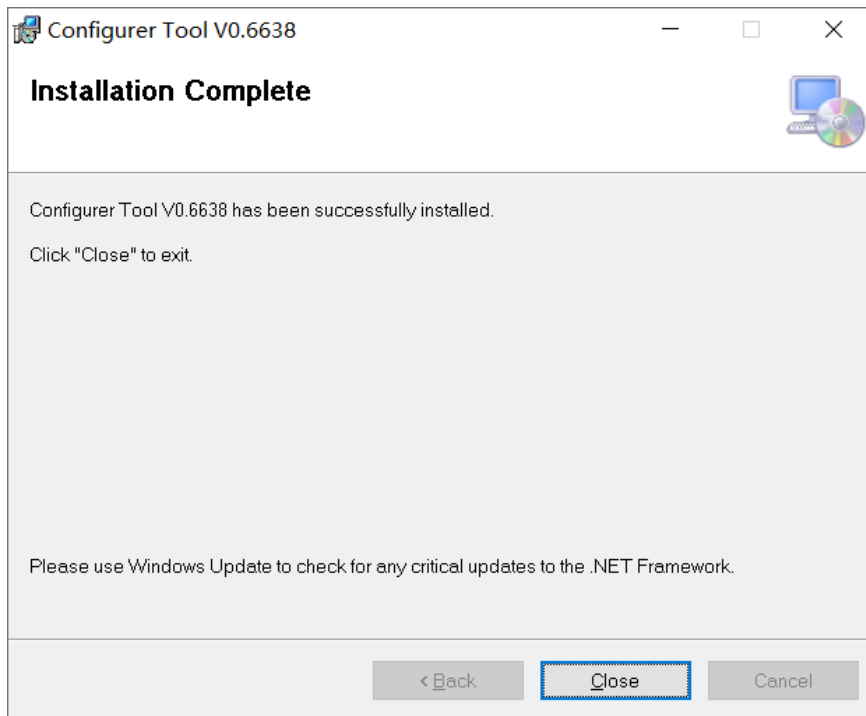


Image 5

- For the initial start, it will pull up the FEIG NFC programmers’ driver installer in sequence (Image 6 and Image 7). Please install the FEIG NFC programmers’ driver depending on your needs.



Image 6



Image 7

6. After the desired FEIG NFC programmers' drivers have been installed, please click the software icon to enter the software login interface. Click the "Login" button acc. Image 8 to enter the software. Login name and login password are already filled in, so nothing more needs to be added here.

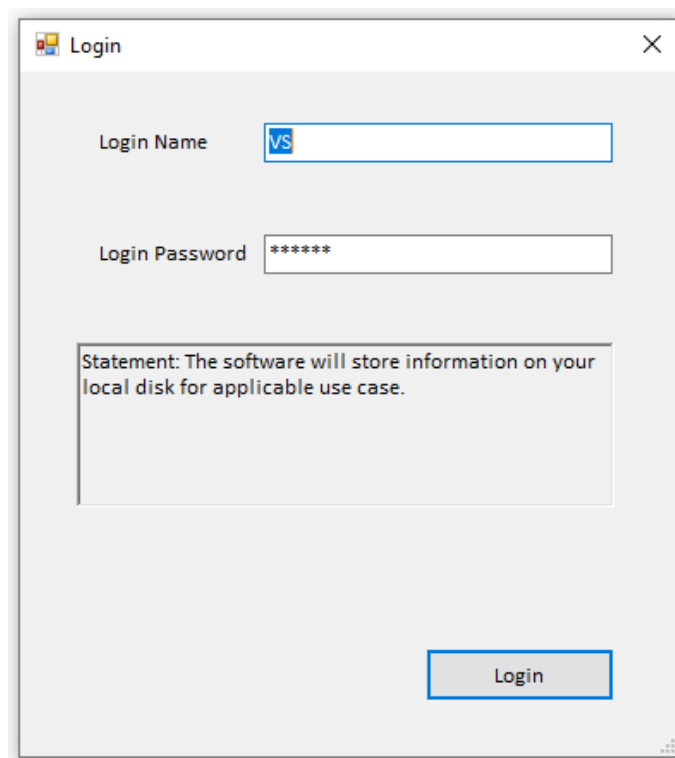


Image 8

7. Finally, you have successfully entered the LED Driver Configurer Tool software interface.

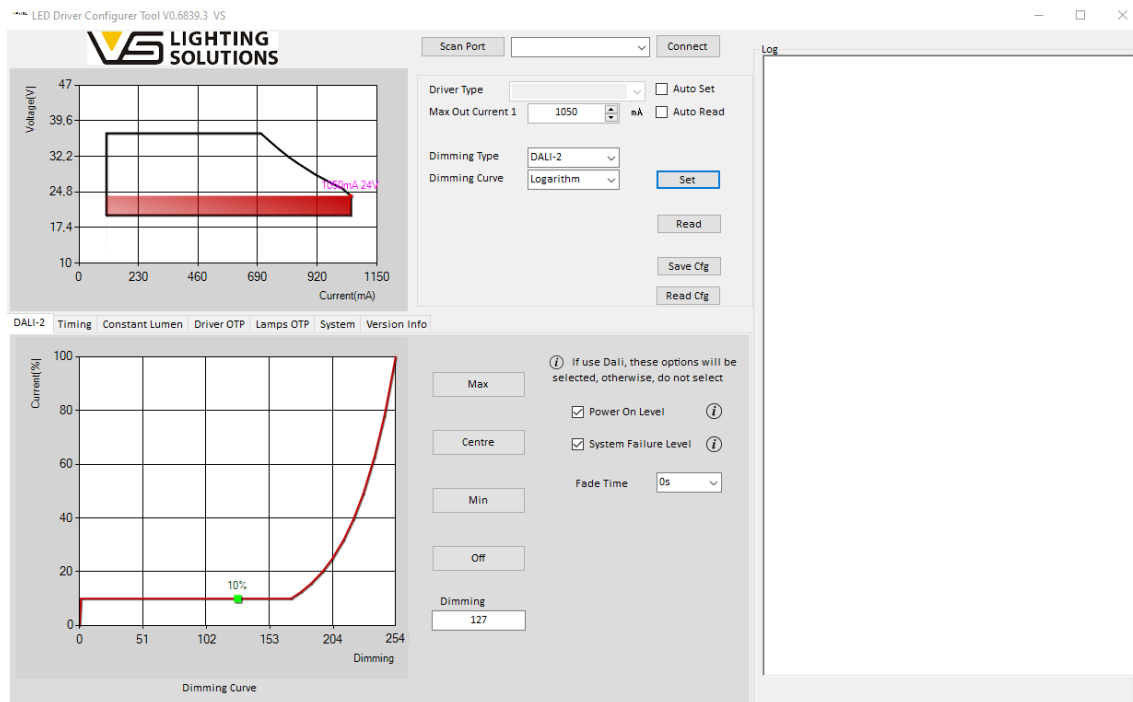
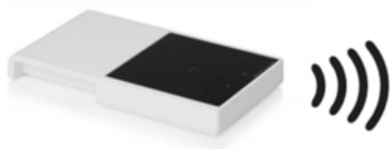


Image 9

## 2 SUPPORTED PROGRAMMERS

### 2.1 NFC PROGRAMMERS

#### NFC Programmer type:



FEIG: CPR30-USB



FEIG: ISC.PRH101-USB

#### NFC Programmer Features :

- ◆ Operating Voltage: USB 5VDC;
- ◆ RF compatible: ISO 15693;
- ◆ RF Output Power: Up to 1.4W (Max)
- ◆ Reading and Writing Distance: Within 30 mm
- ◆ IP20
- ◆ Working temperature: 0~40°C;
- ◆ Shell Material: PC;

#### Application:

Suitable for LED drivers with NFC functionality to program various driver parameter and functions through the wireless NFC interface.

### 2.1.1 DESCRIPTION OF NFC PROGRAMMER

The NFC wireless programmer is based on near-field wireless communication technology - The signal is transmitted by electromagnetic induction coupling mode of the wireless frequency part of the spectrum, and the data transmission can be completed without power on, and to realize the LED driver parameter configuration. The NFC technical operation distance is short, mainly to establish point-to-point data transmission between devices. NFC has the characteristics of close distance, high bandwidth, low energy consumption and high security. These programmers communicate wireless with the LED driver being connected to the upper computer through USB data lines. The communication is transmitted by encryption mode, that is, the data is configured from the upper computer, and then the programmer transmits the data encryption to the LED driver module to realize the adjustment of the driver's parameter, to make sure that the same LED driver can meet the different application with different configuration parameters.

### 2.1.2 CONFIGURATION CONNECTION SCHEMES



Image 9

**Note:** During configuration, the LED driver does not need to be powered on. The Programmer's coil area must be close to the LED driver's NFC coil position (check exact antenna position on the driver label) - the distance must be  $\leq 30$  mm.

First, start the configurer software and check whether the used NFC reader is successfully connected. In case of successful connection, the description "NFC connected" appears in the right log window (see Image 10).

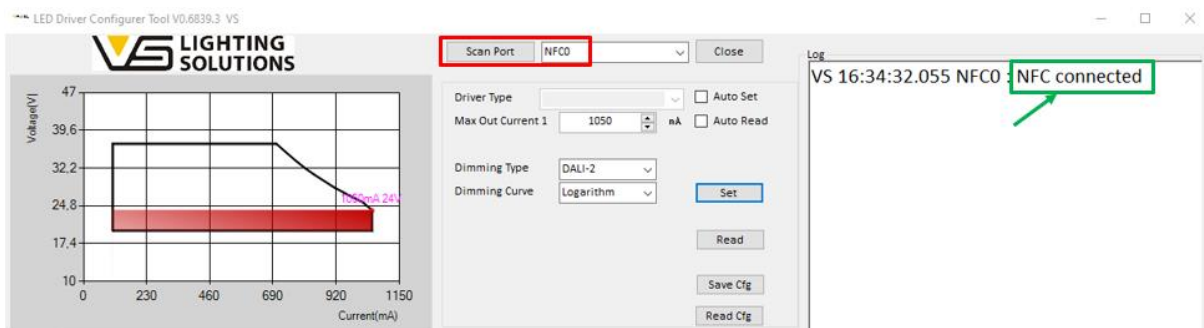



Image 10



If this is not the case, press the "Scan Port" button. The port, to which the NFC reader is connected, should be successfully recognized, NFC0 appears in the adjacent window, and accordingly "NFC connected" should be found in the log window. Once this information is displayed, the NFC reader is ready for use and hence can be placed near by the LED driver, which need to be programmed / read out. The optimum position, where to put the NFC reader, is designated on the top side of the LED driver by the following icon: 

Place the NFC reader at a distance not more than 30 mm to the icon and the driver should be detected and read out successfully, indicated by the green (or blue) indicator light to be found on the individual NFC reader types. Now any driver parameters can be modified, adjusted and re-programmed according to the own needs.

### 2.1.3 WARNING TONE AND INDICATOR LIGHT

When the indicator light of the NFC programmer turns to green / blue, Click the "Read" button (see Image 11): The programmer will make a "Di" sound, and the information of the driver appears on the software log interface, which finally means that the driver has been read successfully (here: Ref. No. 187353, If=500mA, P=36W).

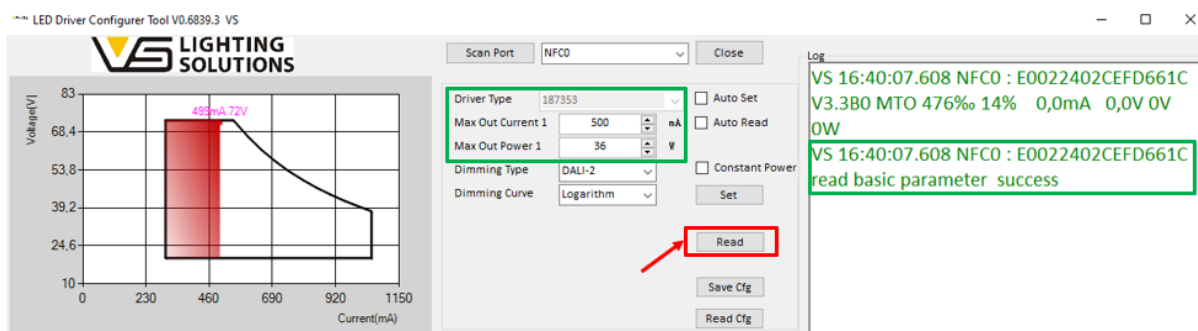


Image 11

#### 2.1.3.1 FEIG: CPR30-USB

When the programmer is connected to the computer, the red indicator light is always on, and the green indicator light flashes 3 times, indicating that the power on is normal, which means the programmer is ready to work.

When the LED driver which need to be configured is close to the programmer (distance less than 30mm), the green indicator light is always on, indicating that the LED driver has been sensed.

#### 2.1.3.2 FEIG: ISC.PRH101-USB

After the yellow light flashes five times with the warning tone, the indicator light turns green, which means that the programmer is ready to work.

This NFC programmer can be compatible with the Configurer software only when the host mode is activated.

## 2.2 DALI PROGRAMMER

### iProgrammer Streetlight DALI:

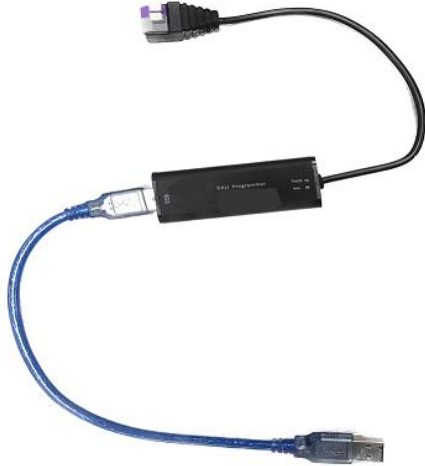


Image 12 - Ref. No. 187412

### iProgrammer Streetlight DALI Features :

- ◆ Operating voltage: USB 5VDC;
- ◆ IP20;
- ◆ 1 year warranty

### DESCRIPTION

The iProgrammer streetlight DALI (Ref. No. **187412**) is a bridge between the computer and the LED driver, through the dimming wire to realize easy programming procedure. USB port connects the computer and the other end connects the dimming wire of the LED driver. This programmer brings great convenience, cost-savings to production and make LED driver programming easier. In addition, there are some more setting / reading options, which are enabled exclusively just by using the iProgrammer streetlight DALI (e.g. setting of Luminaire Info, read out of historical driver OTP values, etc...). The Configurer Tool can be used immediately, without installing a USB driver software.

### Connection Scheme :



Image 13

## 2.2.1 PRECAUTIONS FOR CONNECTING WITH DALI PROGRAMMER

Please confirm that after the DALI programmer is connected to the computer, the interface displays “HID0”, indicating that the DALI programmer is connected successfully.

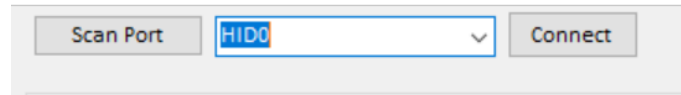


Image 14

## 3 DEFINITION OF THE FUNCTIONS IN THE CONFIGURER TOOL

### 3.1 DESCRIPTION OF CONFIGURER TOOL'S MAIN INTERFACE

1. **“Driver Type”** bar shows the present connected LED driver model (belonging VS Ref. No.): This can't be changed – it will be read out and displayed automatically.
2. **“Max Out Current”** - The maximum output current can be set according to actual needs. (Note: The adjustable output current range is given to 28,5%I<sub>omax</sub> ~ 100%I<sub>omax</sub>, i.e. 300 ... 1050 mA).
3. **“Max Out Power”** - Set the maximum output power, ensure that the driver does not exceed this set Max value. If the output voltage is high and the output power exceeds the set value, the output current is automatically reduced so that the set maximum power is not exceeded (automatic adjustment to the working window).
4. **“Constant Power”** ensures that the output power of the LED driver is constant during the dimming process. (For example, when the user changes an 80W-driver into 60W maximum output by the "Max Out Power" function, and sets the dimming ratio to 50%, the output power of the driver will be 30W instead of 40W.)
5. **“Dimming Type”** includes four different dimming options, which can be selected: **DALI-2; AC-Dim, Timing & Timing\_DALI-2**. Appropriate **“Dimming Curve”** behavior (**Logarithmic** or **Linear**) could be selected for the different dimming types.  
**NOTE:** The Logarithmic curve will be automatically selected by default, when choosing DALI2 option, while the linear one will be selected by default for the Timmer and AC-dimming options.
6. Once the above listed parameters are set, flag the **“Auto Set”** button for the batch programming.
7. To read the parameters set inside the driver, users may flag the **“Auto Read”** button to realize the function of automatically reading configured data of drivers within 6s (Programmer read data once every six seconds).

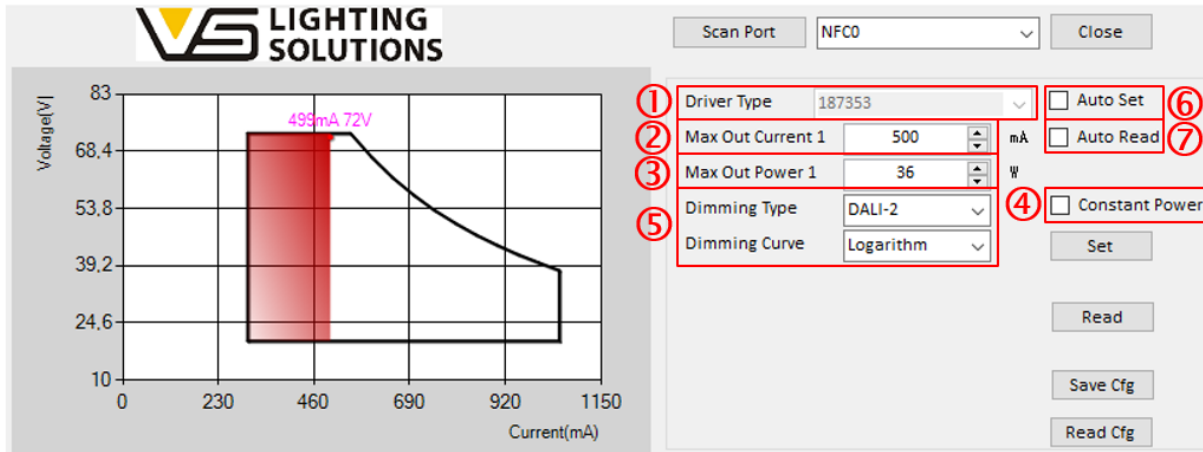


Image 15

### 3.2 WORKING WINDOW - OUTPUT CURRENT VS. LOAD VOLTAGE CURVE

This chart represents the working window (voltage vs. current range) of the LED driver. The constant power range of the driver is represented by the declining curve on the right side of the working window. Along this line, the driver is always operated at full capacity. The magenta-colored dot represents the current and voltage currently set - Setting is possible within the current range as defined in the driver specification (here: 300 ... 1050 mA).

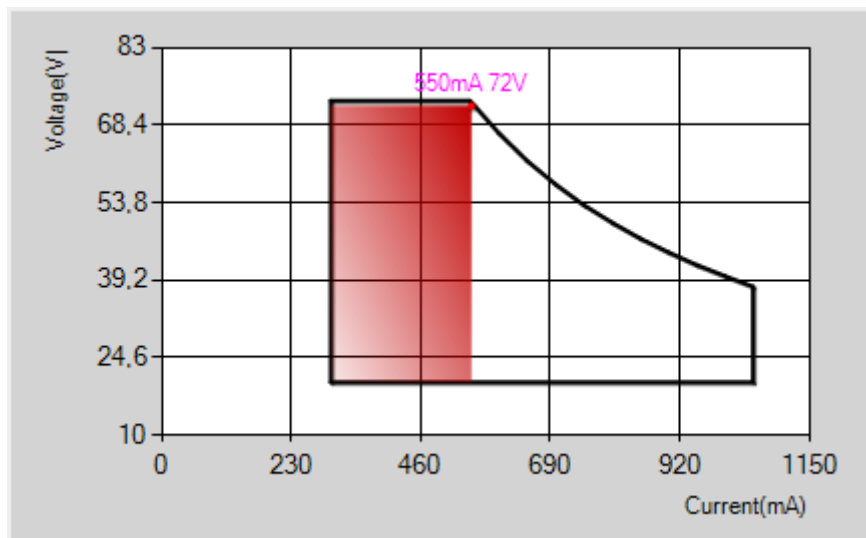


Image 16

## 4 HOW TO SET DIMMING & DRIVER PARAMETER

As already described in the function definitions to be found in Chapter 3 of this application guide, there are four different dimming modes that can be selected. These would be: **DALI-2 dimming**, **AC dimming**, **Timing dimming**, and finally **Timing-DALI2 dimming**, as shown in image 17.

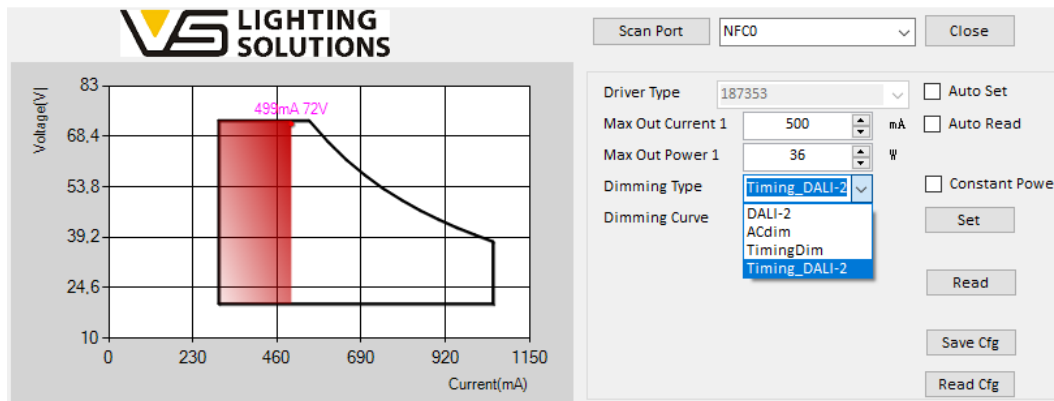


Image 17

In principle, you can choose between Logarithmic curve and Linear curve for the different dimming types. Only in case of AC-dim, it is not possible to choose. In this case it will be fixed automatically to the linear curve behavior. Logarithmic curve will be automatically selected by default when choosing DALI-2 dimming, while the linear one will be selected for the Timing dimming options. For the case that you still want to use the other type here, this must be done by manual selection.

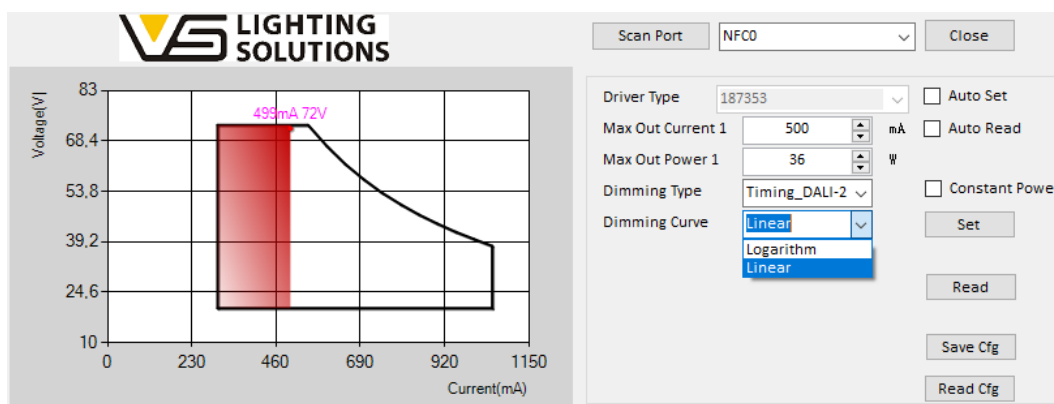


Image 18

**Note:** When **DALI-2 dimming** is selected, the **Timing dimming** function will **not** be executable, and vice versa when the **Timing dimming** is selected, the **DALI-2 dimming** function will **not** be executable.

## 4.1 TIMER DIMMING

First, after reading the LED driver model, you need to select the desired Dimming Type – In this case the Timing or Timing-DALI-2 mode. Since the Timing mode is selected, the linear dimming behavior (which is the optimal dimming curve we recommend for Timing Dimming) will be selected by default. However, if needed, this can also be changed to logarithmic behavior by manual selection (see image 19).

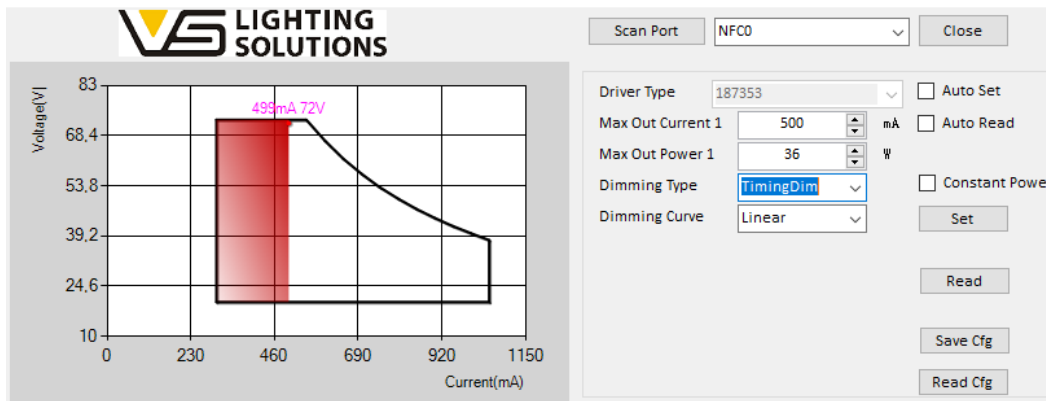


Image 19

The selected "Timing Dim" or "Timing\_DALI2" mode, will automatically open the timing tab in the lower part of the Configurer Tool. This tab enables you to set the relevant timer parameters within three individual selectable Timer Dimming options, i.e. **Timing, Virtual Midnight & Self-Adaption**.

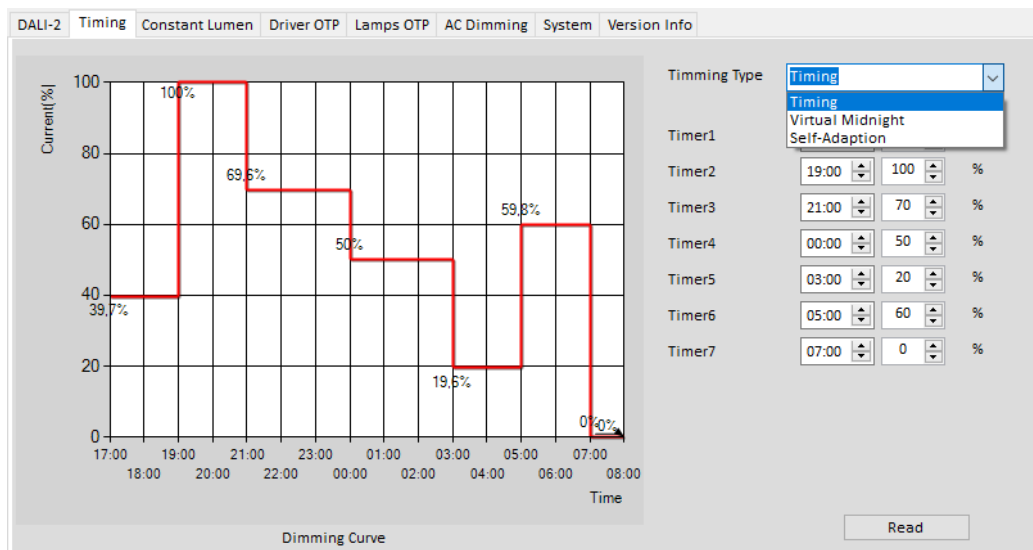


Image 20

**Specialty of Timing DALI2 Mode:** When "Timing\_DALI2" mode is selected, the driver will follow the principle of "the latter first". That means: As long as there is no DALI signal, the preset Timing Dimming Function is used, but for the case, the user applies DALI-2 dimming, the driver will give priority to run the DALI-2 dimming function, whereas the timing counter remains active in the background. While the DALI signal is present, DALI-2 dimming will always be executed. As soon as there is no more DALI signal, the driver will automatically continue to run the Timing Dimming mode when entering the subsequent timer step.

Let's take image 20 as example. **Timer2: 19:00 & Timer3: 21:00**

When DALI dimming is performed at any time from 19:00 to 22:00, the driver will follow the DALI dimming value and keep the light accordingly. Until 00:00, when the driver reaches the Timer 4, it will immediately switch back to the dimming value set by Timing Dimming (i.e. 50%).

**NOTE:** When the driver reaches Timer7, it will execute DALI dimming and output the dimming value according to DALI dimming and will not switch back to timing dimming. After shutdown and restart, the driver will again give priority to run the Timing Dimming function.

#### 4.1.1 TIMING

Timing example: The “Timing” parameters are set as shown in Image 21.

- Timer 1: 17:00
- Timer 2: 19:00
- Timer 3: 21:00
- Timer 4: 00:00
- Timer 5: 03:00
- Timer 6: 05:00
- Timer 7: 07:00

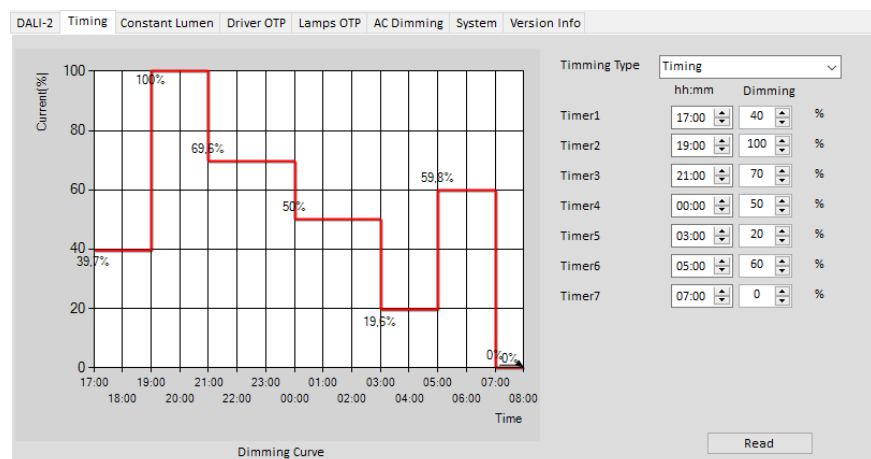


Image 21

The output current of the driver will drop to 40% of “Max Out Current” at the moment of power on (Timer1).

After two hours (Timer2), the current will increase to 100% of the set “Max Out Current”.

After two hours (Timer3), the drive current will become 70% of the set “Max Out Current”.

After three hours (Timer4), the current will become 50% of the set “Max Out Current”.

After three hours (Timer5), the current will become 20% of the set “Max Out Current”.

After two hours (Timer6), the current will become 60% of the set “Max Out Current”.

And two hours later (Timer7), the current will become 0% of the set “Max Out Current”.

**NOTE:** The time settings given here are for ease of understanding only. “18:00” from timer 1 does not mean the actual 18:00 o'clock; The start of the program depends on the time your LED driver is switched on (power on time).

#### 4.1.2 VIRTUAL MIDNIGHT

Virtual Midnight example: The “Virtual Midnight” parameters are set as shown in Image 22.

- Timer 1: 19:00
- Timer 2: 20:00
- Timer 3: 22:00
- Timer 4: (Midnight point) 00:00
- Timer 5: 02:00
- Timer 6: 04:00
- Timer 7: 05:00

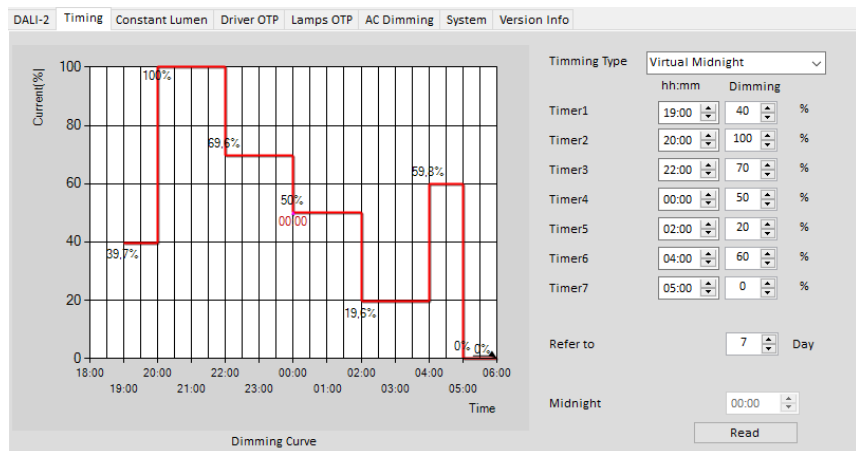


Image 22

Since the set working period is 10 hours in total (19:00 ... 05:00), the calculated midnight point will be  $10 \div 2 = 5$  hours after starting Timer1, ergo at 00:00. At the same time, the software will collect the average working time of the LED driver for the individually pre-set reference period (e.g. 7 days – here: the basis reference period set).

If, for example, the average working time in the past 7 days was 12 hours, then the daily working time for **Timer1** (front end) and **Timer7** (rear end) must be increased by one hour  $[(12-10)/2]$  in order to adjust the time of the LED driver. Basically, this means that the working period must be increased or decreased based on the calculated average time.

In case of our example, the actual working hours will be automatically adjusted as shown below:

- Timer 1: 18:00
- Timer 2: 20:00
- Timer 3: 22:00
- Timer 4: (Midnight point) 00:00
- Timer 5: 02:00
- Timer 6: 04:00
- Timer 7: 06:00

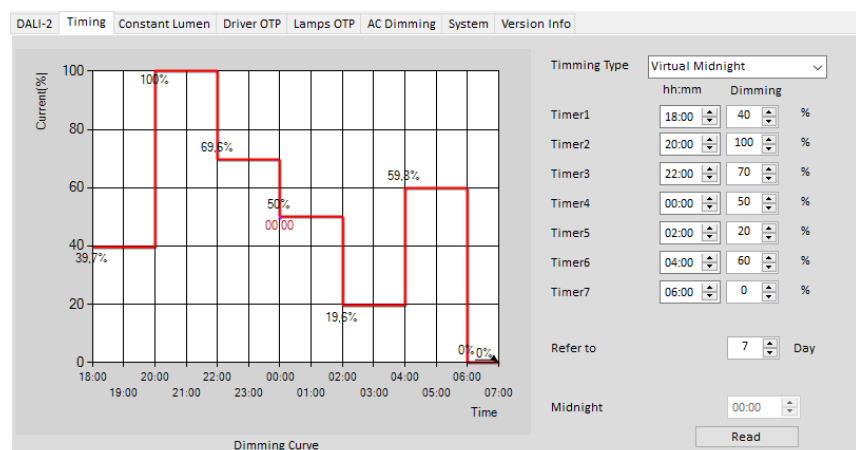


Image 23



**NOTE:** The time settings given here are for ease of understanding only. "18:00" from timer 1 does not mean the actual 18:00 o'clock; The start of the program depends on the time your LED driver is switched on (power on time).

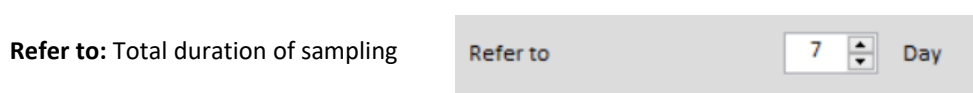
The modification of the midnight point takes place automatically without the user being able to intervene manually. Every time the user inputs the required parameters in the "Virtual Midnight" interface, the software will automatically calculate the total duration of Timer 1-Timer 7.

For example: Timer 1 is 19:00 (tonight); Timer 7 is 09:00 (next morning); The software automatically calculates the midnight point as 02:00 and locks the midpoint to run the virtual midnight function according to this value.

#### 4.1.2.1 REFERENCE DAYS SETTING

---

The reference days can be set via the "Refer to" function.



When the driver is used for the first time, there is no working data stored inside the driver. When the reference time is set to a certain number of days (1 ... 7 days can be set), the driver will first run a cycle for the corresponding days to set the parameters of this program. The number of reference days can be regarded as the denominator, whereas the total working duration can be treated as numerator of a fractional calculation method. When calculating the average working time, the more reference days, the more accurate the calculated average result will become, hence the error will be minimized. In return, the longer of the reference days period is, the more it will affect the drivers' error correction speed. However, it is recommended to use the highest possible reference day value (i.e. 7 days), which minimizes the estimation error.

#### 4.1.2.2 WHAT IS JUDGED AS "VALID" REFERENCE DAY?

---

When the working time in a switching cycle of the driver is greater than 4 hours and less than 24 hours, it is considered as a valid working day from driver side.

NOTE: When the actual power-on time of the driver is more than 24 hours, the driver will return to Timer1, which is equivalent to a cycle of 24 hours. The 24 hours are not included in the calculation of sampling time and are invalid.

### 4.1.3 SELF-ADAPTION

Self-Adaption example: The “Self-Adaption” parameters are set as shown in Image 24.

- Timer 1: 21:00
- Timer 2: 22:00
- Timer 3: 23:00
- Timer 4: 00:00
- Timer 5: 01:00
- Timer 6: 02:00
- Timer 7: 03:00

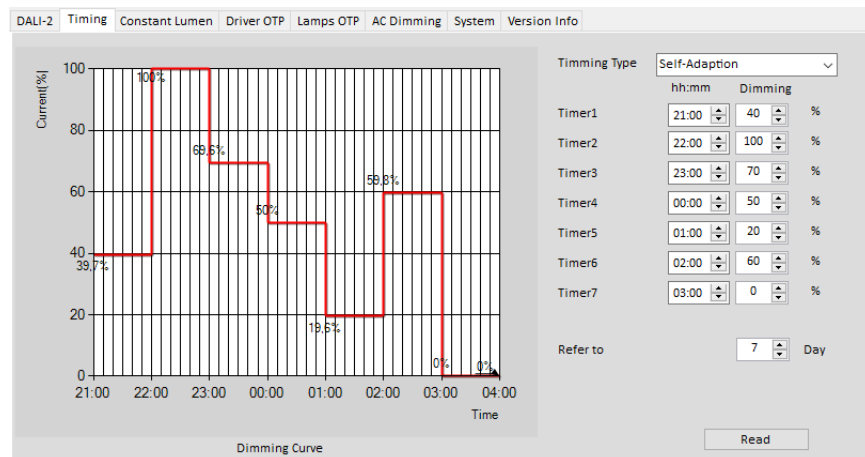


Image 24

This function is used to adapt to the situation that the night-time varies with the seasons. The setting parameters of Timing Dimming also change accordingly. To use this function, you need to set the parameters in "Timing Dimming", and the software will calculate the night-time length of tonight according to the night-time length of the previous days (reference days).

When the software obtains that the average working time of 7 days is e.g. 720 minutes (12 hours), because the total working time we set is 6 hours for each day, and  $12 \div 6 = 2$ , the time interval will be 2 times longer than the previously set time.

The driver’s actual working time will be change according to the following 7 timers:

- Timer 1: 18:00
- Timer 2: 20:00
- Timer 3: 22:00
- Timer 4: 00:00
- Timer 5: 02:00
- Timer 6: 04:00
- Timer 7: 06:00

Refer to: Total duration of sampling



## 4.2 DALI-2 DIMMING

① Once the connected LED driver model is recognized successfully, you need to select the DALI2 Dimming Type – Logarithmic dimming behavior will be selected by default. If required, this can also be changed to linear behavior by manual selection.

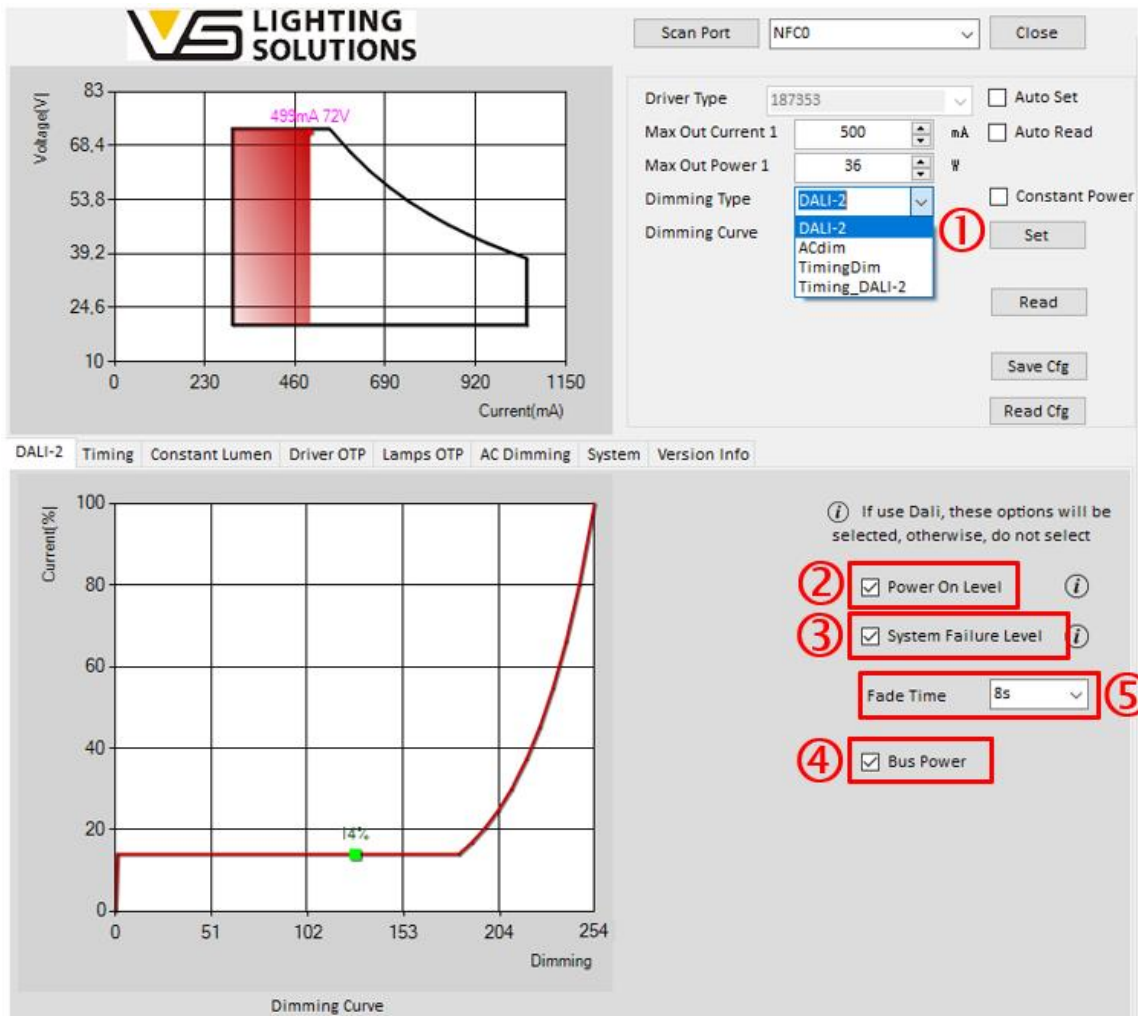


Image 25

② **Power On Level:** This function is defined by the DALI standard. If you use a DALI controller or a DALI programmer to control the brightness / dimming level, this function must be checked. When the check box is not checked, the driver remembers the last DAPC value and starts with the last DAPC on the next reboot. When this check box is selected, the driver always starts at maximum brightness.

③ **System Failure Level:** This function is defined by DALI standard and is also only available when using the DALI programmer or controller. When the next operation cannot be performed or the operation fails during the usage of software, an error message will appear on the log interface on the right to remind the user of the operation error. When this feature is selected, light conditioning that does not connect to DALI's signal is considered a failure.

④ **Bus Power:** The driver has a built-in 16V DALI bus power supply, which is enabled by default. This check box can change the enabled state of the DALI bus power supply.

⑤ **Fade Time:** This function is defined by DALI standard, but it can be also used with the NFC programmer. Fade time can be set from the minimum value of 0s to the maximum value of 90s (see image 26). When the selected Fade Time is determined, each subsequent dimming operation will be completed within the specified Fade Time. For example, when the fade time is set to 8s, it will take 8s to complete the dimming operations (Including adjustment to the maximum dimming value, adjustment to the minimum dimming value, and adjustment to the middle dimming value, as long as it is an action of changing the dimming value).

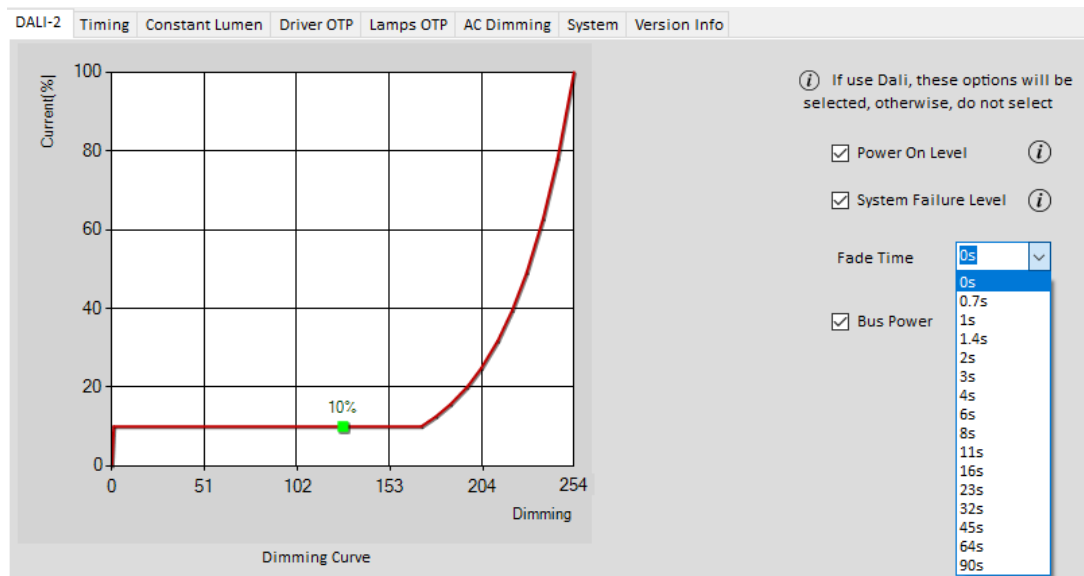


Image 26

**NOTE:** Normally, when “timing” or “AC dimming” mode is selected, the Power on Level check box and System Failure Level check box will be automatically deselected. But please re-confirm it again that the “**System Failure Level**” check box is not checked when using one of this two modes. Because when the “**System Failure Level**” is turned on, the driver detects that the dimming wire is open, it will judge that the LED driver is in a fault state. When the dimming wire is connected to the DALI controller and the fault is removed, the driver will run the preset timing function.

#### 4.2.1 DALI-2 DIMMING CURVE

The vertical axis represents the current percentage, and the horizontal axis represents the dimming value corresponding to the percentage current - We divide DALI from 0% - 100% dimming into 255 (0-254) steps, which equals to an 8-bit arc power level.

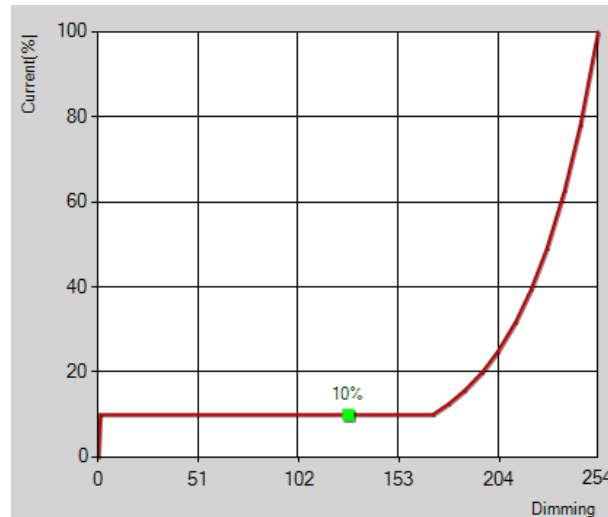


Image 27

#### 4.3 AC-DIMMING

Dimming via mains voltage amplitude: This feature is often used in combination with magnetic ballasts in outdoor applications. The dimming behavior can be set via the Configurer Tool.

The input voltage range of AC Dimming is 160Vac-250Vac, which can be set by software under this scope.

**NOTE:** Since the input protection range (under- and overvoltage protection) can be adjusted manually, the start input voltage should be set at least 20 Vac higher than the set lower cut-off input voltage.

**Start input Voltage:** Voltage, at which the output current starts derating. If the input voltage is higher than the "Start input Voltage", the drive output will remain at 100%.

**Cut off input Voltage:** Voltage, at which the output current stops derating. If the input voltage is lower than the "Cut off input Voltage", the driver will keep minimum cut off output current.

**Start output Current:** When the driver reaches the set "Start input Voltage" value, the Current will change to the value "Start output current ", set by the end-user.

**Cutoff output Current:** When the driver reaches the set "Cut off input Voltage" value, the Current will change to "Cutoff output Current "set by the end-user.

<b>AC DIMMING</b>		<b>Minimum value</b>	<b>Default Value</b>	<b>Maximum Value</b>
	<b>Start input Voltage</b>	180Vac	220Vac	250Vac
	<b>Start output Current</b>	10%	100%	100%
	<b>Cut off input Voltage</b>	160Vac	170Vac	230Vac
	<b>Cutoff output Current</b>	10%	30%	100%
	The difference between the starting voltage and the cut-off voltage	/	20Vac	/
	Starting and cut-off voltage increments	/	1V	/
	Starting and cut-off current increments	/	1%	/

### Input Protection

**Under Voltage:** The input undervoltage protection point of the driver can be set in a range from 140–160 Vac.

**Over Voltage:** The input overvoltage protection point of the driver can be set in a range from 310–330 Vac.

**NOTE:** The tolerance range of both above functions is ≤ 5V.

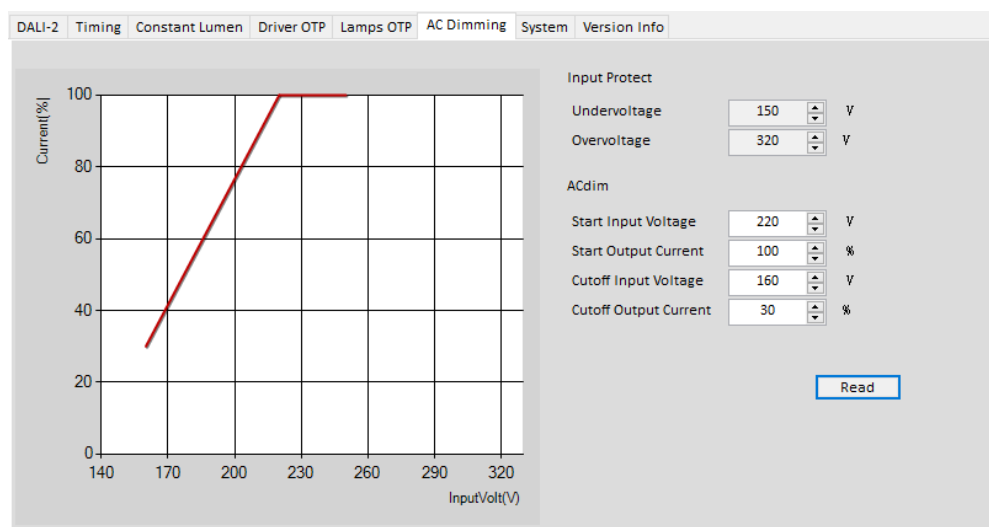


Image 28

## 4.4 CONSTANT LUMEN OUTPUT (CLO)

The decrease in luminous flux of an LED module can be compensated over its entire lifetime via a preprogrammed current curve. This not only ensures stable lighting but also saves energy and increases the lifetime of the LEDs.

① According to Image 29, a current value has to be set in the “Max Out Current 1”, which must be lower than the maximum possible current value, i.e. < 1050mA. After setting the desired current value, press the “Enter” key and following two non-overlapping curves on the Configurer interface will appear, and then you can set the CLO function.

- ② The “Enable” check box must be checked before the constant lumen function can be used normally.
- ③ By pressing on the “Default” button, the optimal setting for the CLO-curve we recommend will appear.
- ④ For individual CLO setting, enter own values (see red box 4) according your needs.
- ⑤ Finally, press “Auto Set” button. The parameters will be sent to the NFC tag.
- ⑥ To read out the CLO parameters stored on the MCU, press the "Read" button. The stored data is read out and the associated curve appears in the corresponding graphics window.

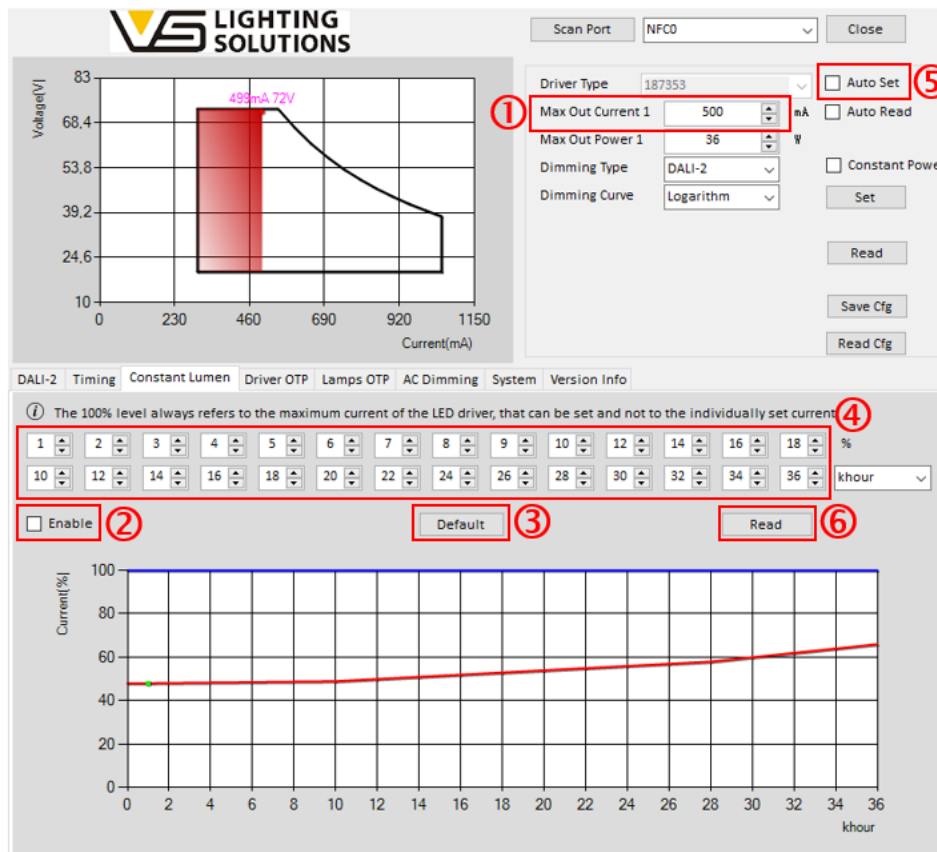


Image 29

**NOTE:** The selectable minute option bar is only for test verification purposes. After running this function to verify that constant lumen can be used normally, power off the driver and reread the drive’s data. After reset, the option bar will change to hour display - this function is normal. The minute option is only for test use. After the test is completed, the default “hours” option will be restored.

## 4.5 OTP (OVER TEMPERATURE PROTECTION)

### 4.5.1 DRIVER OTP

① In the Driver OTP tab, the user can set the target values at which LED driver temperature the current derating should start and end by specifying the desired “**Start Derating**” and “**End Derating**” values. The “**OTP Out Ratio**” is pre-set to 0% (no current – thermal shutdown) and also can’t be adapted manually.

② In order to perform the “**Driver OTP**” function, the appropriate check box need to be flagged.

③ Once step 1 and 2 have been done, flag the “**Auto Set**” check box to write all parameters to the NFC tag.

Power on the driver and wait five seconds before powering off again (this is to ensure that the data edited by the NFC programmer is successfully written into the MCU of the driver).

The “Read” button ④ located in main interface is to read all parameters written into the MCU through the NFC programmer whereas the “Read” button located in the “Driver OTP” interface ⑤ reads only the set Driver OTP parameters from the MCU.

The current dimming value is following the below shown linear function and calculated by the following relation:

$$Vd = (254 - Vo) * (T - Ts) / (Te - Ts) + Vo$$

- Vd is the current dimming value,
- Vo is the corresponding dimming value of the OTP out Ratio (pre-set to 0% - switch-off).
- Te is the end-derating temperature - End Derating
- Ts is start derating temperature - Start Derating
- T is the current temperature

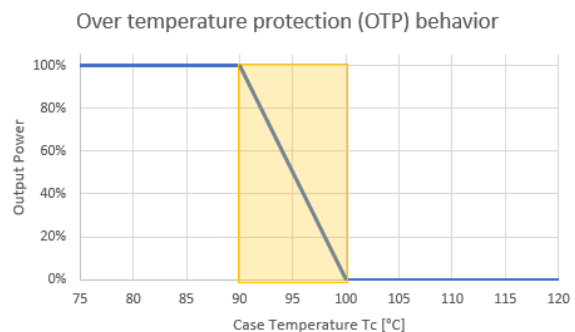






Image 30

#### 4.5.2 LAMPS OTP

① In the Lamps OTP tab, the user can set the target values at which LED module tp-temperature the current derating should start and end by specifying the “Start Derating” and “End Derating” values. In the “OTP Out Ratio” box, it can be specified individually up to which level the derating should go. Values down to 0% (no current) can be specified in the “OTP Out Ratio” box.

② Dependent on the used NTC on LED board side, the belonging resistance value at 25°C and the correlating BETA constant can be set individually. By default, the values for a 100kΩ thermistor are pre-set. This is what we recommend to be used if possible, because here the error between measured and actual temperature is the smallest.

③ When using the “Lamps OTP” function, the appropriate check box must be flagged.

④ Pressing the “Auto Set” button will write all the set parameters to NFC tag.

Power on the driver and wait five seconds before powering off again (this is to ensure that the data edited by the NFC programmer is successfully written into the MCU of the driver).

The “Read” button ⑤ located in main interface is to read all parameters written into the MCU through the NFC programmer whereas the “Read” button located in the “Lamps OTP” interface ⑥ reads only the set Lamps OTP parameters from the MCU.



Image 31

#### 4.6 LUMINAIRE INFO AND MONITORING DATA (DIAGNOSICS & MAINTENANCE)

**Please NOTE:** At present, only the DALI programmer (Ref. No. 187412) supports the settings and read-out of the Luminaire info and Monitoring Data! If the Configurer Tool software detects a connected NFC reader, the tabs explained below will not be displayed!

##### Luminaire Info:

This information is filled in by the luminaire manufacturer. Currently, lamp manufacturers are supported to fill in the below listed information. These can be read out and saved in a text file if required.

The figure shows the 'Luminaire Info' tab in the VS LED Configurer Tool. It contains the following fields and controls:

- Luminaire Manufacturer GTIN: 0
- Luminaire Identification Number: 0
- Luminaire Date Of Manufacture: Year [dropdown] Week [dropdown]
- Luminaire Color: Max 24 Chars
- Luminaire identification: Max 60 Chars
- Nominal Input Power: 0 W
- Power At Minimum Dim Level: 0 W
- Minimum AC Input Voltage: 90 V
- Maximum AC Input Voltage: 90 V
- Nominal Light Output: 0 lm
- Color Rendering Index: 0
- Correlated Color Temperature: 0 K
- Light Distribution Type: [dropdown]
- Buttons: Default, Set, Read

Image 32

In addition to the luminaire info, the content of stored “Monitoring Data” from connected driver could be read out and saved in a text-file report. Data from the LED driver itself but also the connected light source is monitored.

**Light Source Diagnostics & Maintenance Data:**

Following Light Source information are monitored permanently and could be read out and saved in a report file:

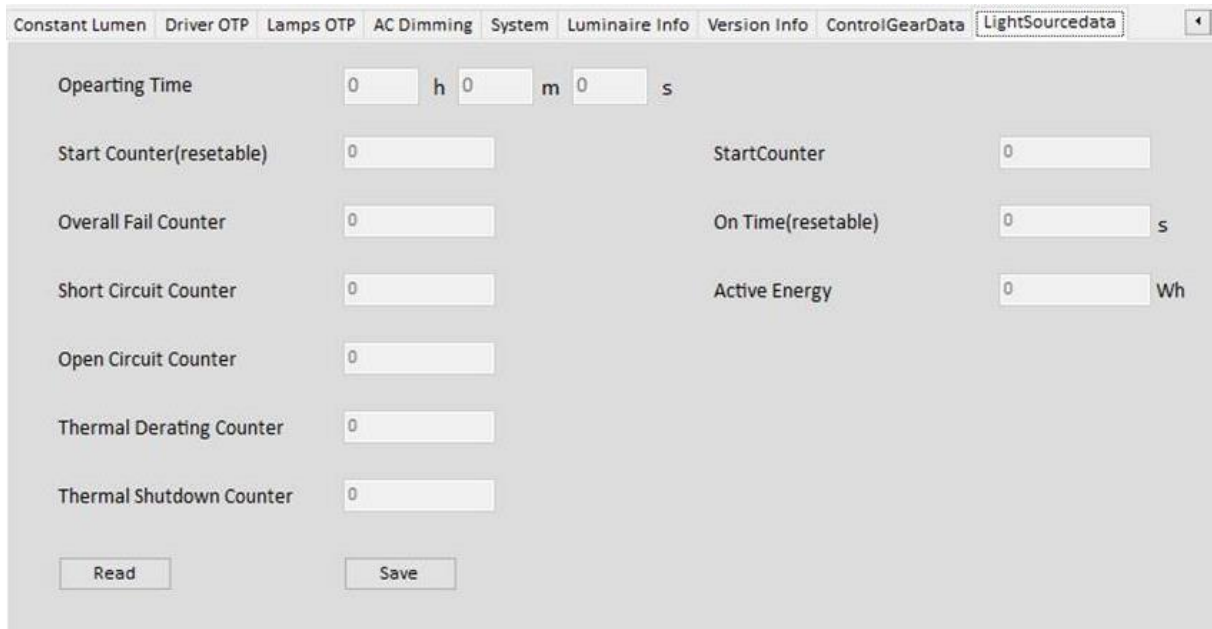


Image 33

**Control Gear Diagnostics & Maintenance Data:**

Following Control Gear information are monitored permanently and could be read out and saved in a report file:

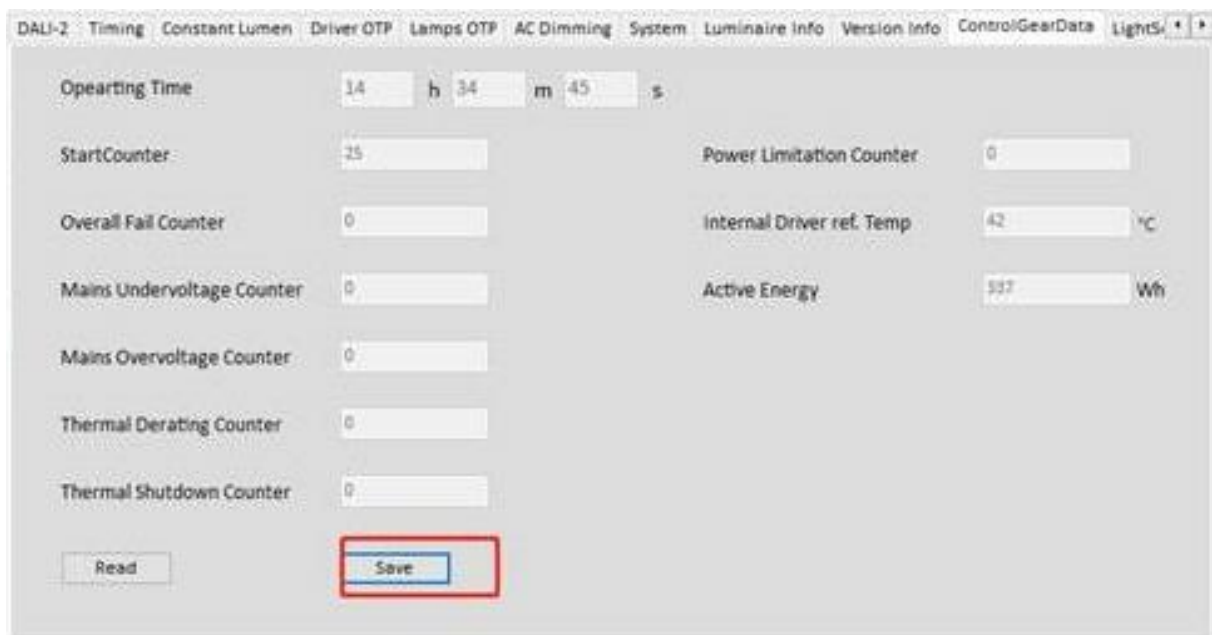


Image 34

## 4.7 VERSION INFO

The Configurer interface version info tab is used to display the number of version updates of the software and the contents of each version update.

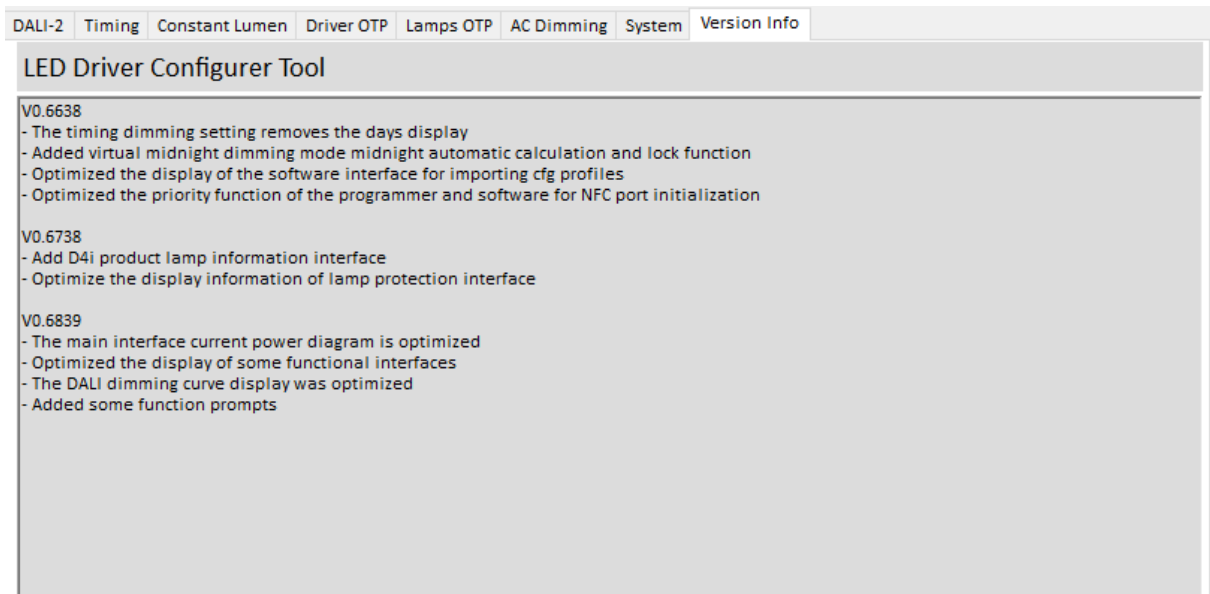


Image 35

## 5 PROGRAMMING PRACTICE GUIDE

### 5.1 NFC PART

#### 5.1.1 INSTALL CONFIGURER TOOL AND DRIVER SOFTWARE FOR NFC PROGRAMMER

Before the user prepares to program, please ensure that the Configurer Tool and the driver software corresponding to NFC programmer have been correctly installed on the computer.

Double clicking on the Configurer Tool Icon, which automatically scans the connected NFC Programmer, shows like "NFC0" in Image 34.



Image 36

#### 5.1.2 GENERATING THE CONFIGURATION FILE

Place the driver with the NFC programming function close to the NFC Programmer coil (at the NFC label).

The Configurer Tool automatically reads the driver's model (type) ① that is in close proximity, as well as the driver firmware revision and used mode ②, as shown in Image 35.

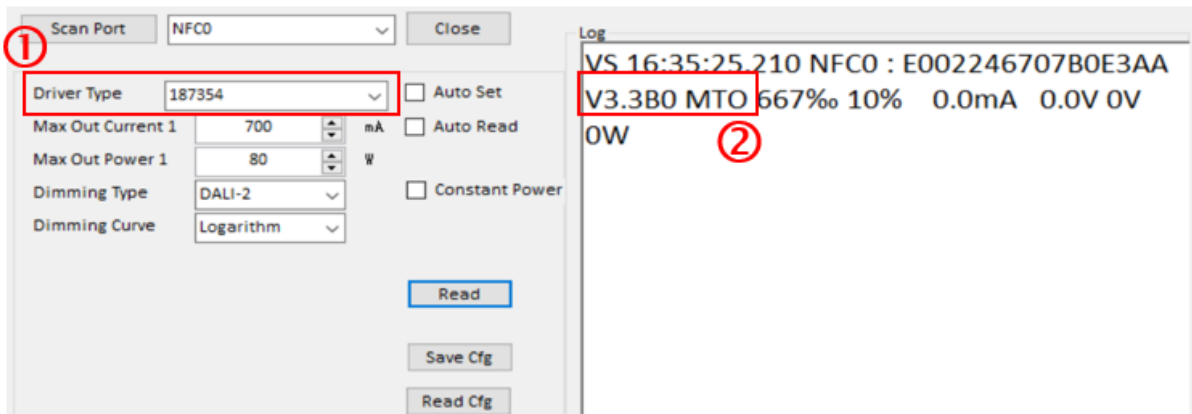


Image 37

Set any desired functions that you want to use, change or adjust e.g. setting the current, the output power, selecting the dimming mode, activating the OTP functions etc. (as described in Part IV).

When this is done, please click on the "Save Cfg" button ③ to save the configuration file under any name e.g. xxxx-187353.cfg. This will save "all" the configuration parameters set by the user. By pressing the "Read Cfg" button ④, any configuration previously saved on the hard disk can be loaded and used again.

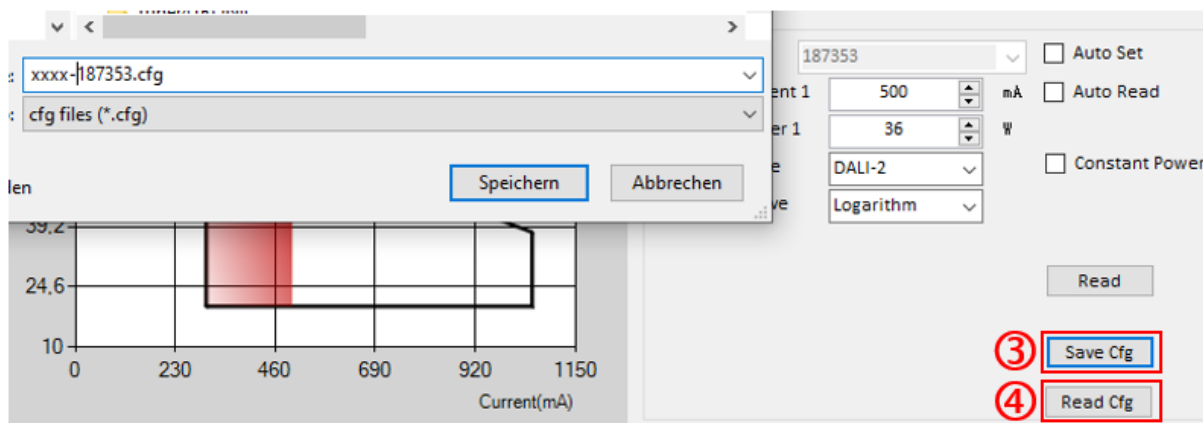


Image 38

### 5.1.3 DOWNLOAD THE CONFIGURATION FILE TO THE NFC TAG OF THE DRIVER

Click the "Read Cfg" button to load the desired configuration file e.g. xxxx-187353.Cfg.

Once the configuration file is loaded, please check whether "Auto Set" is selected, if not, please set the flag. Now bring the LED driver to be programmed close to the NFC reader or vice versa. The Configurer Tool scans the driver and prompts "Reading and writing, please wait".

The Configurer Tool automatically writes the set parameters together with the MTO into the NFC tag of the driver.

**NOTE: DO NOT REMOVE the LED driver or NFC Programmer during the reading / writing process!**

If the writing succeeds, the software interface will prompt the result with green text, as shown in Image 37:

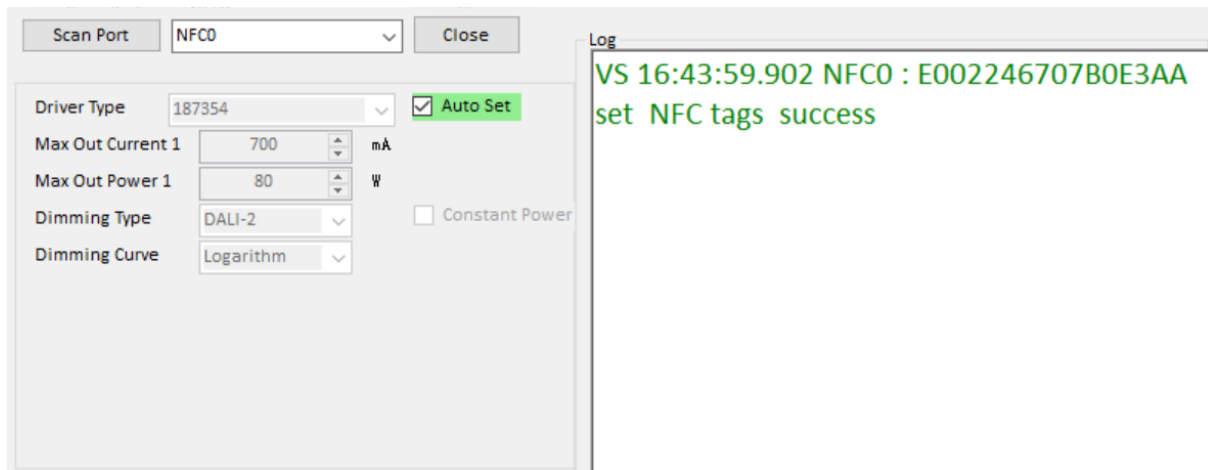


Image 39

If the writing fails, the software interface will display the result in red text, as shown in Image 38:

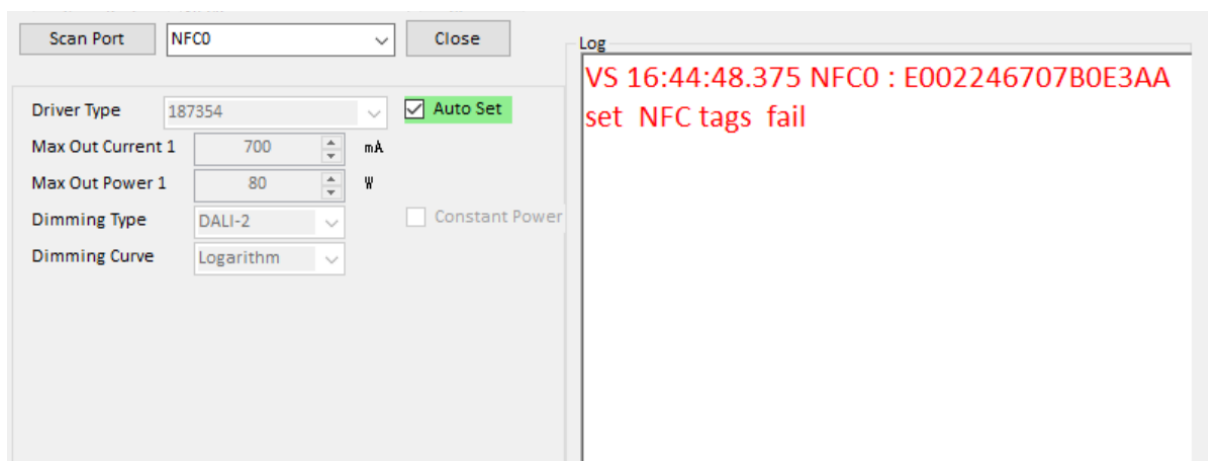


Image 40

For the case that writing fails, remove the driver from the coil area of the Programmer, and repeat above steps.

#### 5.1.4 CHECKING OF PROGRAMMING SUCCESS

First, please power on the configured driver. Then, the MCU of driver reads what was written into NFC tag.

The MCU of the driver will write the setting parameters, driver firmware version, USER and other information back to the NFC tag, overwriting the previous content.

Power off the driver and use the Configurer Tool to read out the content of the NFC tag in the driver. Please check whether the parameters are correct, and whether the **MTO** in the log interface changes to **USER**

(see ② in Image 35).

If **MTO** is found in the prompt string, the MCU of driver does not read the NFC setting parameters, and the NFC programming has failed. If **USER** is found in the prompt string and all configuration parameters are correct set, it means NFC programming was successful. All other drivers can now be programmed.

## 5.2 DALI-2 PART

### 5.2.1 PRECAUTIONS FOR PROGRAMMING WITH DALI FUNCTION

1. The DALI programmer can not only realize the DALI dimming function, but also modify the driver's current, output power, and dimming mode, enable OTP and other functions. Please refer to the third and fourth parts of this manual for more details.
2. Only by ensuring that the driver's dimming wires are always connected to the DALI programmer can the driver maintain the set dimming value unchanged.
3. When the DALI dimming wires of the driver are not connected to the DALI controller/programmer, customer should not select the "System Failure Level" check box before using the timer dimming function.
4. When the customer uses the DALI programmer to program, after the log interface displays the setting parameters successfully, click the "Read" button on the main interface to read the driver's information again. If the displayed parameters are consistent with the preset values, it can be proved that the data has been successfully written into the driver.
5. The control range of the "Read" button on the main interface is different from that of the "Read" during NFC programming. When using DALI programmer, the "Read" button on the main interface can only control each individual function below the main interface (such as Constant Lumen, driver OTP, lamp OTP,...)