Description

MS-PRG-DMX is an off-line programming device. It is the bridge between the computer and the driver, through the dimming line offline programming. The USB port connects the computer and another interface connects the dimming line of the driver. The driver can be configured directly without power on, bring great convenience and cost saving to production, make driver programming easier.



CE

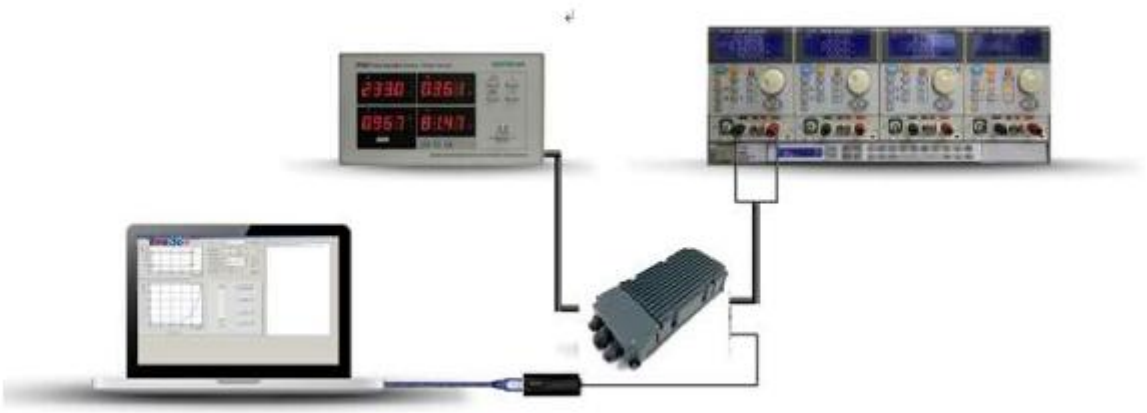
Product Features

- Operating Voltage: USB 5VDC
- Supports Offline programmable driver programming
- IP20;
- 1 year warranty.

Application

Suitable for offline programming of S6 series.

Connection Diagram



Program instructions

1. Connect to LED driver

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

Login the Configurer Tool, which automatically scans the connected DMX Programmer, shows like “DMX0” in Figure 1.

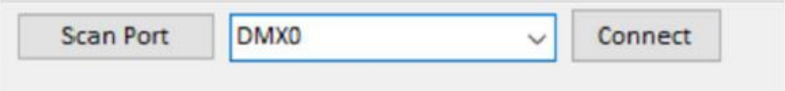


Figure 1

2. Description of DMX Configurer Tool’s Main Interface:

(1) **“Driver Type”** bar in the Configurer is the present driver’s model, cannot be changed, it has been set before leaving our factory.

(2) **“Max Out Current 1/2/3”** The maximum channel 1/2/3 output current can be set according to actual needs. (Note: The adjustable range of current is 10%Iomax ~ 100%Iomax).

(3) **“Dimming Type”** DMX dimming.

(4) After the above parameters are set, click on the **“Set”** button for the programming.

(5) To read the parameters set inside the driver, users may click the “**Read**” button to read configured data of the driver.

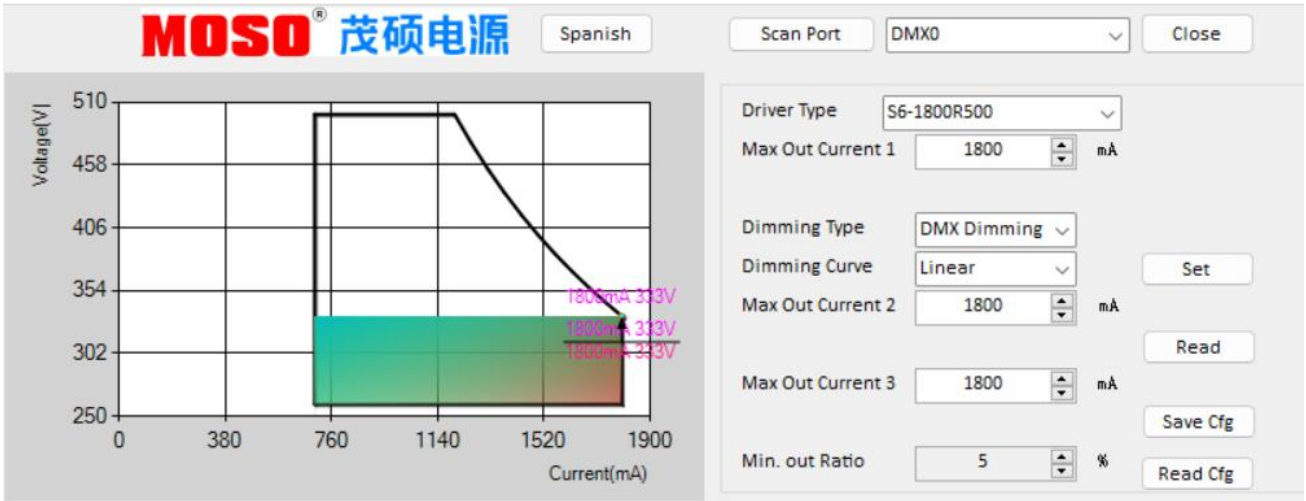


Figure 2

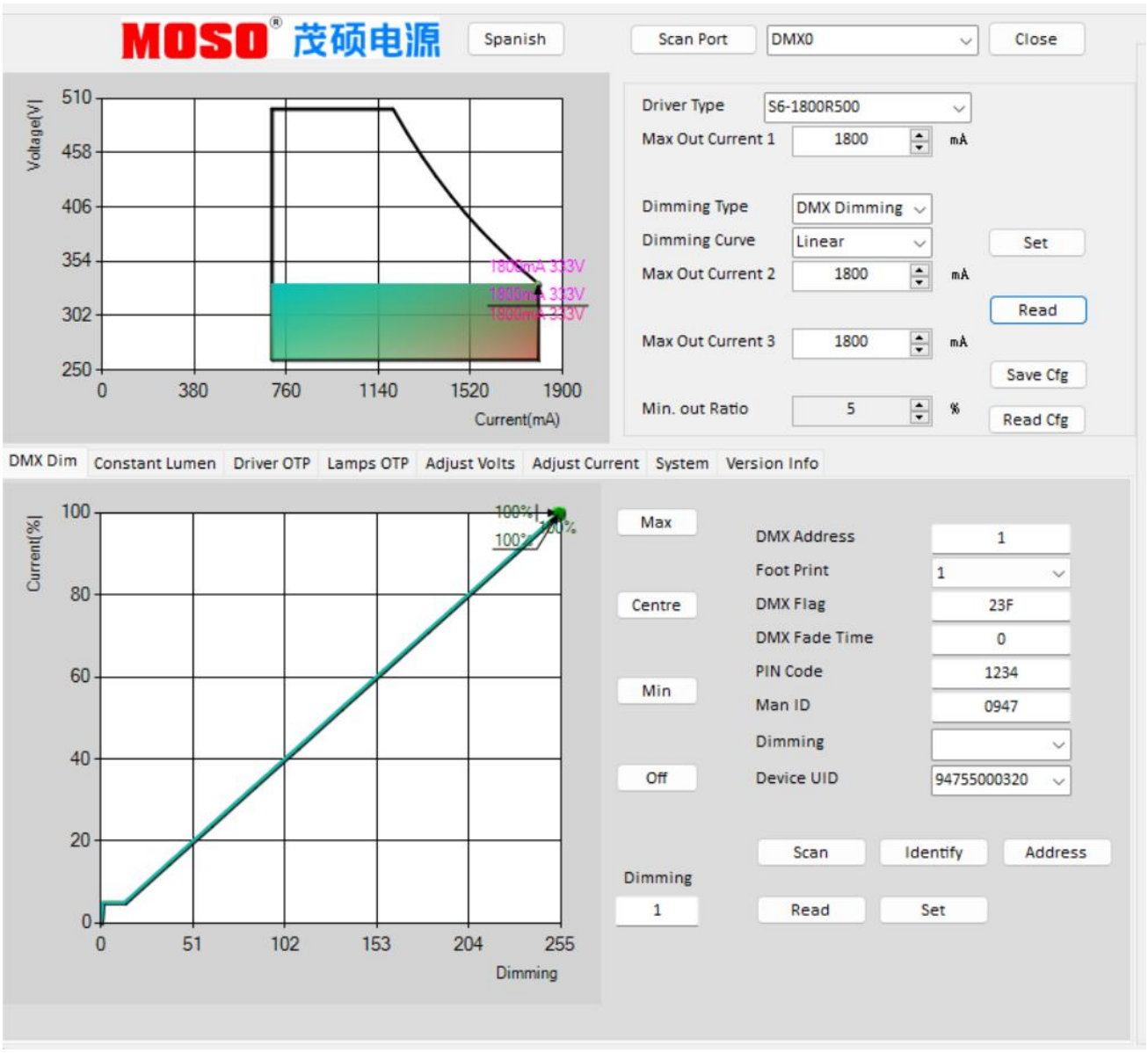


Figure 3

Scan：When the DMX control system is connected to a new driver, you need to click the "**Scan**" button to scan the new driver. At this time, the Configurer Tool will automatically read the Device UID of the newly connected driver in the system. The UID of the driver is displayed on the right side - Log interface. When the Device UID displayed by the Configurer Tool is consistent with the actual device UID of the driver, you can perform the next operation on the DMX driver, otherwise the software will display "read basic parameter fail".

Identify: The specific position of the driver can be identified by this function. Click the "**Identify**" button, and the light connected to the corresponding driver will flash to indicate its location.

Set: Unlike the "**Address**" button, which can only modify the DMX address of the driver, "**Set**" can set all the parameter modified by customer into the driver.

DIMMING: Customers can enter any number within 254 into the **Dimming (on the left one)** to change the dimming value. While "**DIMMING**" **on the right one** is used to read the real-time dimming value of the lamp feedback the system.

Address: Driver assignment DMX address can be modified. With this function, customer can enter any number within 512 into the "**DMX Address**" to reassign the DMX address of a driver. Entering the number, then click "**Address**" to complete the address setting.

NOTE: The number of driver's channels corresponds to the number of DMX addresses occupied by the driver. The "**DMX Address**" displays the address of the first channel. For example, if the address of the first channel is 6, the address of the second channel is 7 and the address of the third channel is 8.
For multichannel DMX drivers, the maximum configurable address equals = 512- (Number of channels) +1. So, if the driver has three channels, the maximum DMX address you can set is 510.

Foot print: This function is used to assign the number of addresses. If 1 is selected, the three channels share only one DMX address. If 3 is selected, the three channels use three different DMX addresses.

DMX Flag: The software displays the hexadecimal code and converts the corresponding binary code to correspond to 16 different functions. 1 indicates that the function is enabled and 0 indicates that the function is disabled.
For example, 23F=0000, 0010 ,0011 ,1111 indicates that functions 7, 11, 12, 13, 14, 15 and 16 are enabled , FFFF=1111 ,1111, 1111 ,1111, Indicates that all 16 functions are enabled.

DMX fade time: The Fade Time will be started when the system changes the dimming value. The maximum of Fade Time for each steps can reach 250ms. The longest total time spent will be 63.5 seconds when dimming value has changed from 0 to 254 with maximum Fade Time. The calculation formula is as follows:
254 steps (whole dimming value has changed)***250ms** (maximum fade time) **÷1000** (Unit conversion: from microseconds to seconds) **=63.5 seconds**.

PIN CODE: The password for each driver to join the customer's control system.

Device UID: A window used to select the device UID of the driver. Use the **"Scan"** button to automatically switch the device UID of the driver newly connected to the system, or manually select the device UID previously connected

3. How to set dimming

It is recommended to select linear curve for DMX dimming curve. The essence of DALI is a dimming mode to gently protect human eyes. Therefore, DALI dimming is optimized to select logarithmic curve, while DMX is mainly used in stage lighting control, requiring extremely accurate control, so linear curve is optimized.

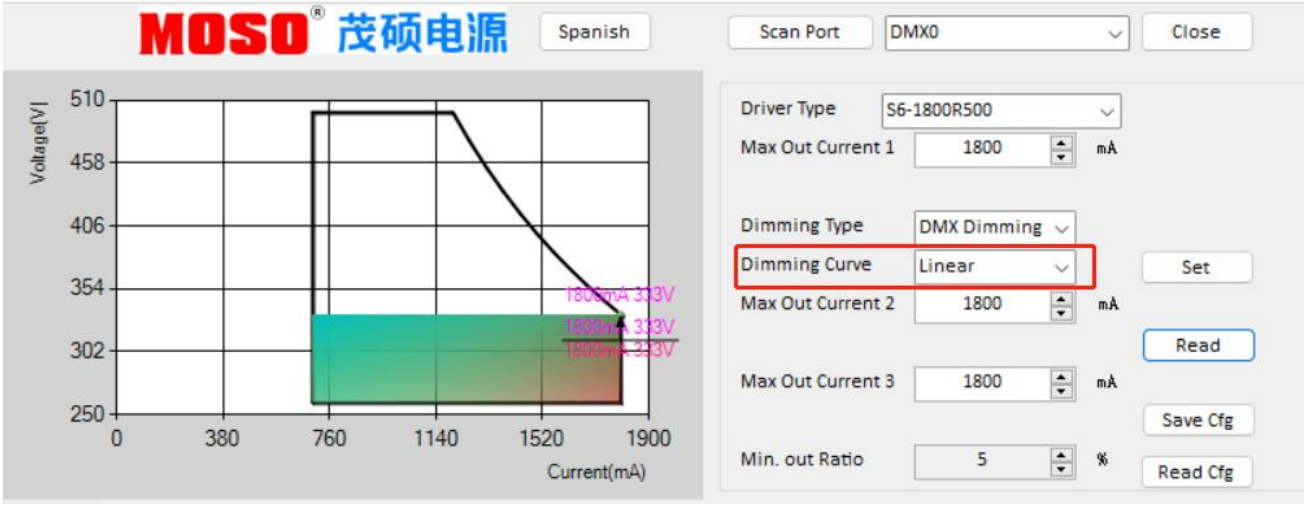


Figure 4

4. How to Set Constant Lumen Output

As the red box 1 shown in Figure 5 below. Set a current value in the “Max Out Current 1” (or other channel), which must be lower than the maximum current value. After setting the value, user must press the “Enter” key on the keyboard. After pressing the key, you can see the following two non-overlapping curves on the Configurer interface, and then you can set the CLO function.

The “**Enable**” check box must be checked before the constant lumen function can be used normally. (Red box 2)

As the red box 3 shown in Figure 5, Press “Default” button. The optimal setting for the curve of CLO function we recommend will appear. Of course, if you want to set the CLO according to your own needs, you can also enter the value where the red box 4 located.

Follow the red box 5 and press “Read” button to read the constant Lumen parameters on MCU through Configurer. After reading, when the curve set in the corresponding percentage column appears in the Configurer interface curve, it means that the setting is correct.

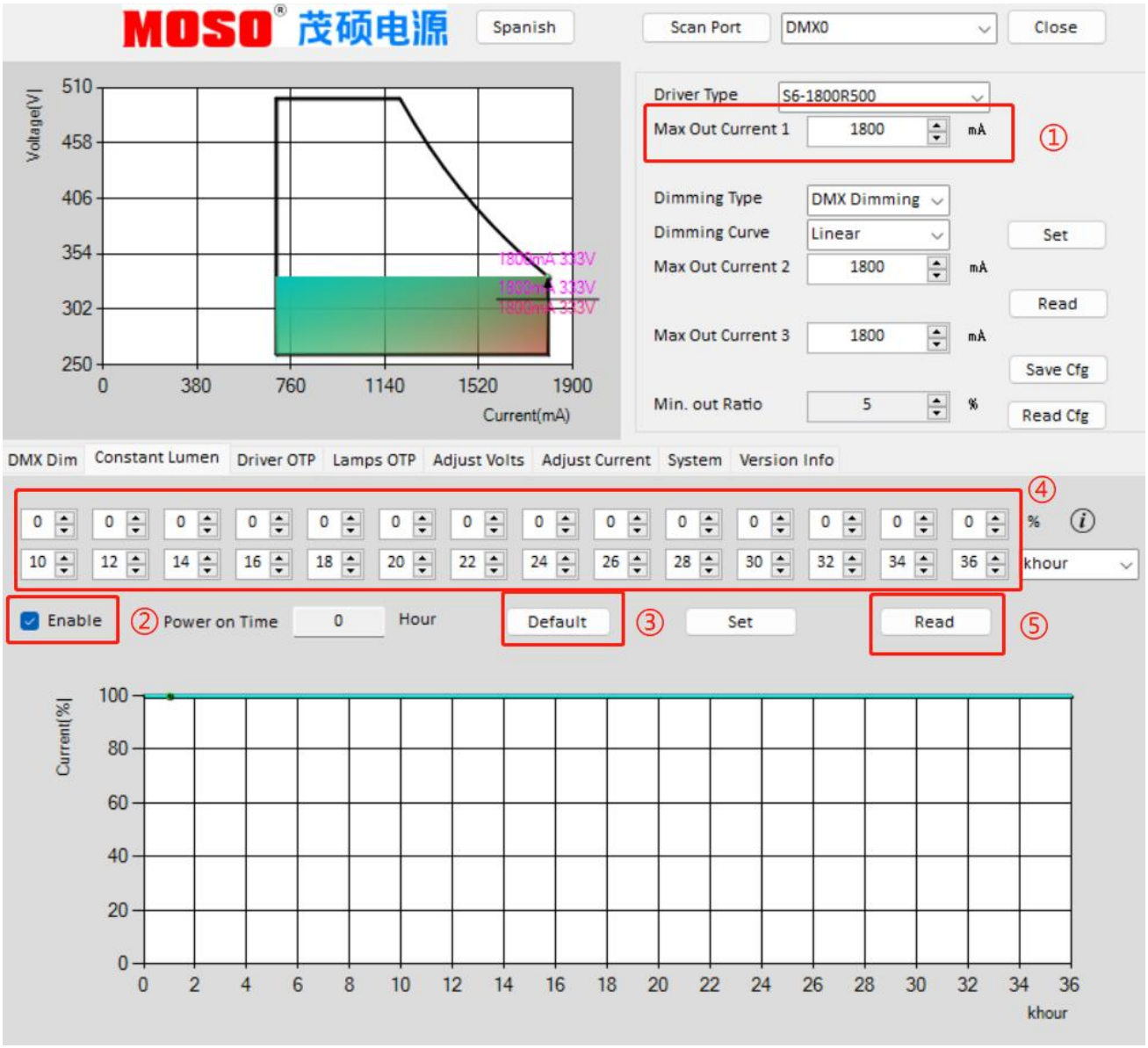


Figure 5

NOTE: The minute option bar is only for test verification. After running this function to verify that constant lumen can be used normally, power off the driver and reread the drive's data. After finding that this option bar changes to hour display, don't worry. This function is normal. The minute option is only for test use. After the test is completed, the default hour option will be restored.

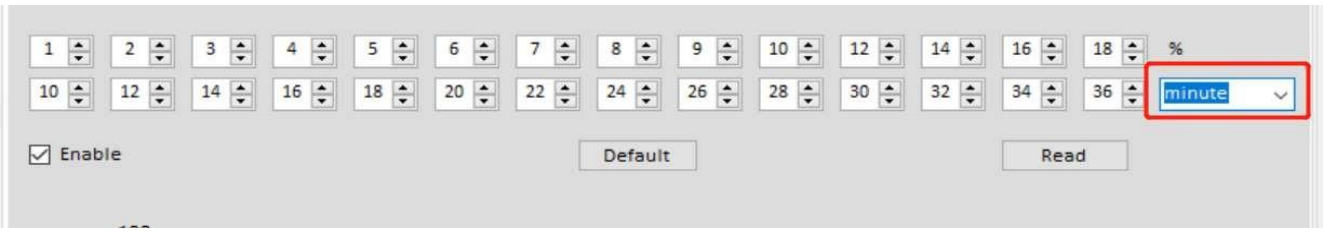


Figure 6

5. About Driver OTP

Calculate the current dimming value according to the following formula,

$$Val = (254-Voor) * (T-Ts) / (Te - Ts) + Voor$$

Val is the current dimming value,

Voor is the corresponding dimming value of the OTP out Ratio, the OTP Out Ratio is the percentage of the maximum output current.

Te is the end derating temperature, End Derating Ts is start derating temperature, Start Derating T is the current temperature

6. How to Set Lamps OTP

As “the red box 1”shown in Figure 7 below. User can set the target value in the “**Start Derating**”, “**End Derating**”, “**OTP Out Ratio**” (Other parameters can be set based on actual needs).

The “**Lamps OTP**” check box must be checked to make sure that the Lamps OTP function can be used normally. (Red box 2).

Power on the driver and wait five seconds before powering it off (This is to ensure that the data edited by the DMX programmer is successfully written into the MCU of drivers).The “Read” button located in main interface (red box 3) is to read all parameters written into the MCU through DMX programmer.

The “Read” button located in “Lamps OTP” interface (red box 4) read only the Lamps OTP parameters from MCU. Only what Configurer read out is exactly the parameter the user set before, it means that the OTP function has been set successfully.

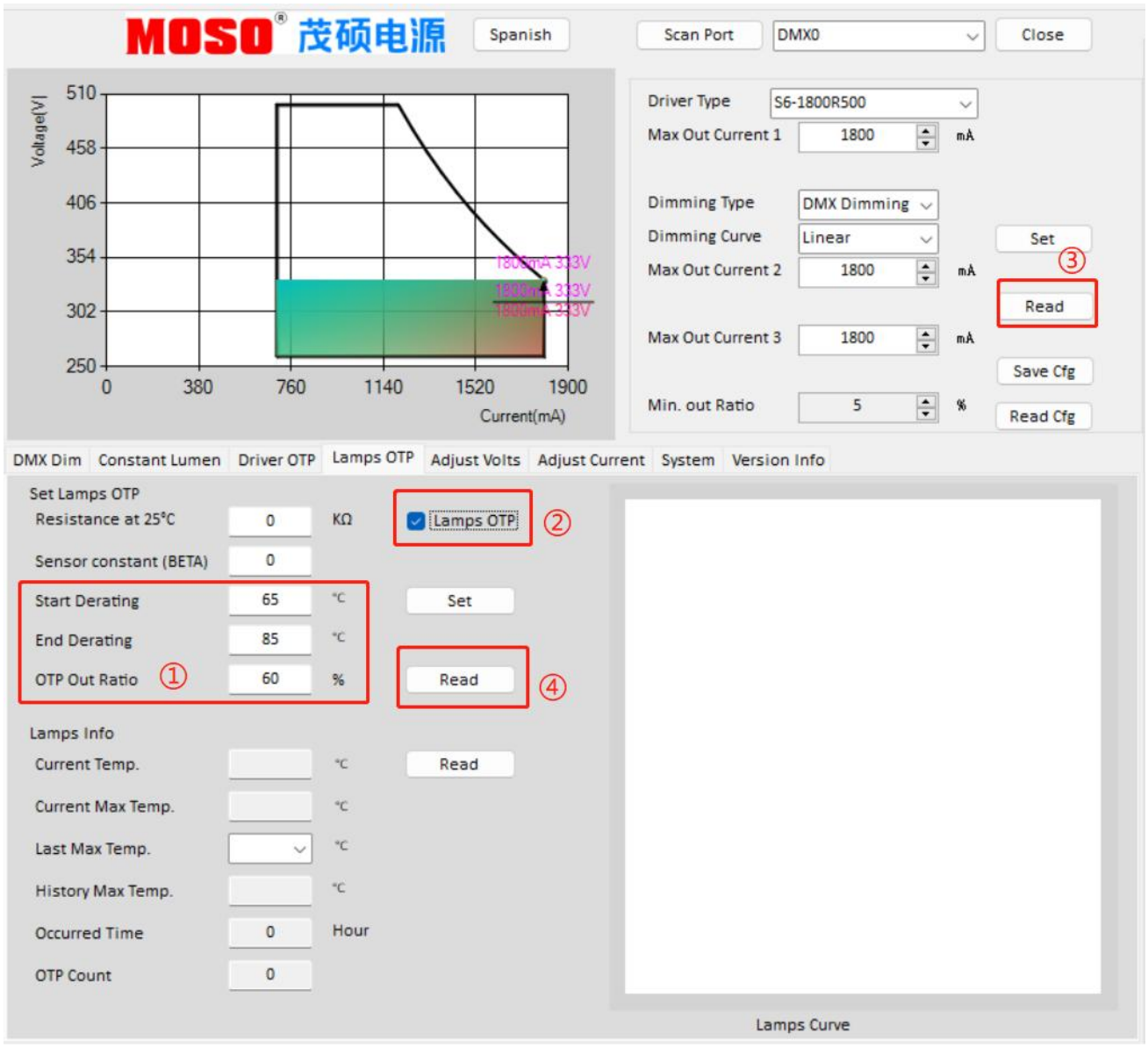


Figure 7

Note: NTC resistance at 25℃ recommended value 100KΩ, Sensor constant (BETA) value 4050.NTC resistance can be selected by customers, but we still recommend the use of 100k Ω thermistors, because the error between the use of 100k Ω thermistors and the actual temperature is the smallest.

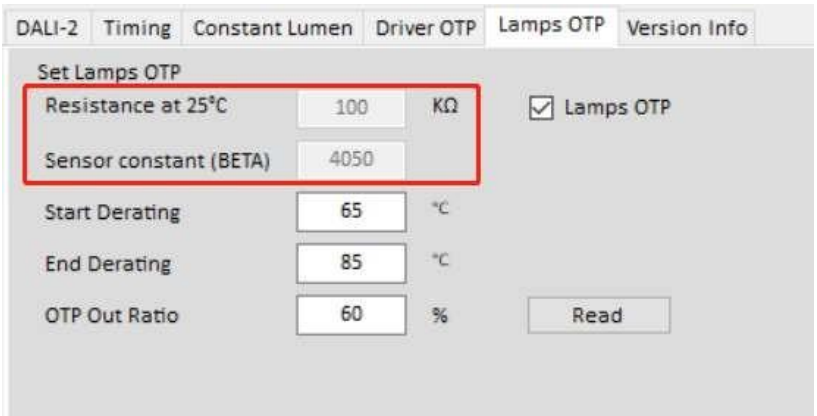


Figure8

7. Version information

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

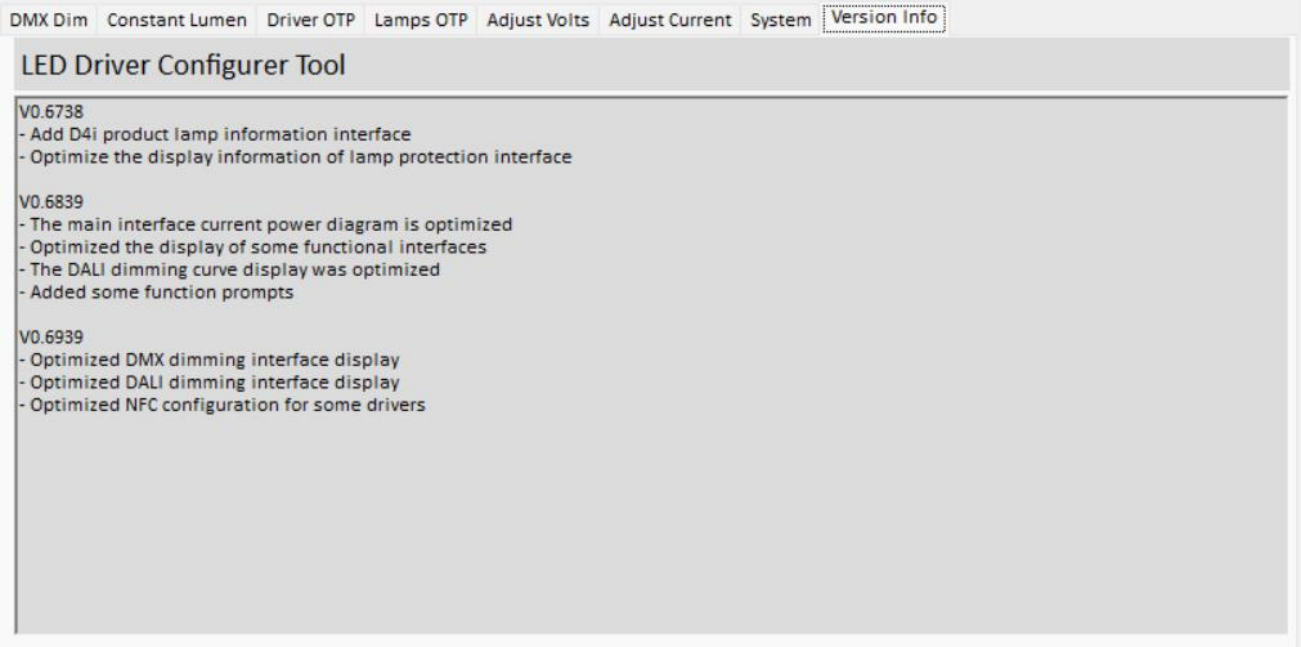


Figure 9

Version

A.1	First release	2024-09-03

Specification for Approval

Product Name： MS-PRG-DMX Programmer

Product Model： MS-PRG-DMX

Rev ： A.1

Address: XiLi Songbai Road 1061, Nanshan District, Shenzhen City, Guangdong, China
Tel: 0755-27657000
FAX: 755-27657908
E-mail:info@mosopower.com
Web Site: http://www.mosopower.com

Prepared By	Checked By	Approved By

Specification for Approval

Product Name： MS-PRG-DMX Programmer

Product Model： MS-PRG-DMX

Rev： A.1

CUSTOMER AUTHORIZED SIGNATURE		
Tested By	Checked By	Approved By
(Company seal)Return one copy to MOSO with approved signature and company seal.		

Address: XiLi Songbai Road 1061, Nanshan District, Shenzhen City, Guangdong, China
Tel: 0755-27657000
FAX: 755-27657908
E-mail:info@mosopower.com
Web Site: http://www.mosopower.com

Prepared By	Checked By	Approved By