OFF-LINE PROGRAMMER

DONE-POWER-OFFLINE-PRG TOOL　V1.0

Catalog

1.Foreword

1.1 Objective

This document is the manual instruction for the off-line programming software, in order to help customer acknowledge the functions and methods of the software more convenient and clearly.

1.2 Background

DonePower was concentrated on the constant current/constant voltage products in the past.When customer required different output current/voltage, the only option is do customization,casing the increase of model number and could up to thousands of models. This could cause very complicated process of stock, manufacture and warehouse management for both customer and DonePower.

Because of the above situations, DonePower invent the new programmable driver with 0-10V, PWM, and timer dimming functions. It is able to manufacture the programmable drivers ahead of schedule and change according to the requirement of customer easily through software, which could reduce the stress of purchasing, manufacture, sales and warehouse for both customer and DonePower.

2.Software Overview

2.1 Objective

Help customer aware of the software installation and application method of the programming software and acknowledge the function through the description of the software.

2.2 Function

1.Function Description

2.Programmer and Driver Connection

3.Language Change between Chinese and English

4.Read/Save Configuration

5.Write/Save Interface

6.Set Series/Model Number

7.Constant Power Working Curve

8.Set Output Current

9.Set Dimming Mode (0-10V、0-5V、1-10V、1-5V、three-in-one auto、timing control dimming)

10.Set Timer Dimming Curve

11.Set OLC Curve

12.Set NTC Parameters

3.Operating Environment

3.1 Hardware

1Ghz above Processor(32 bits)

RAM 512Mb above RAM

20GB above available hard-disk space

Mouse and Keyboard

3.2Software

Operation system is Windows XP or Windows 7, with Microsoft NET Framework 4.0 environment or higher version.

4.Instruction

4.1 Software Installation

4.1.1 Install USB-SERIAL-CH340 Driver:

Show in Figure 4.1.1.

1.Uncompress file CH340-WIN8 Driver.rar;

2.Launch CH340 Driver.EXE;

3.Enter installation interface, click Next, then click Finish.

Figure 4.1.1 USB driver installation package

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4.1.2 Software Installation:

Show in Figure 4.1.2.

1.Uncompress file DonePower Programming Tool_20211020.zip;

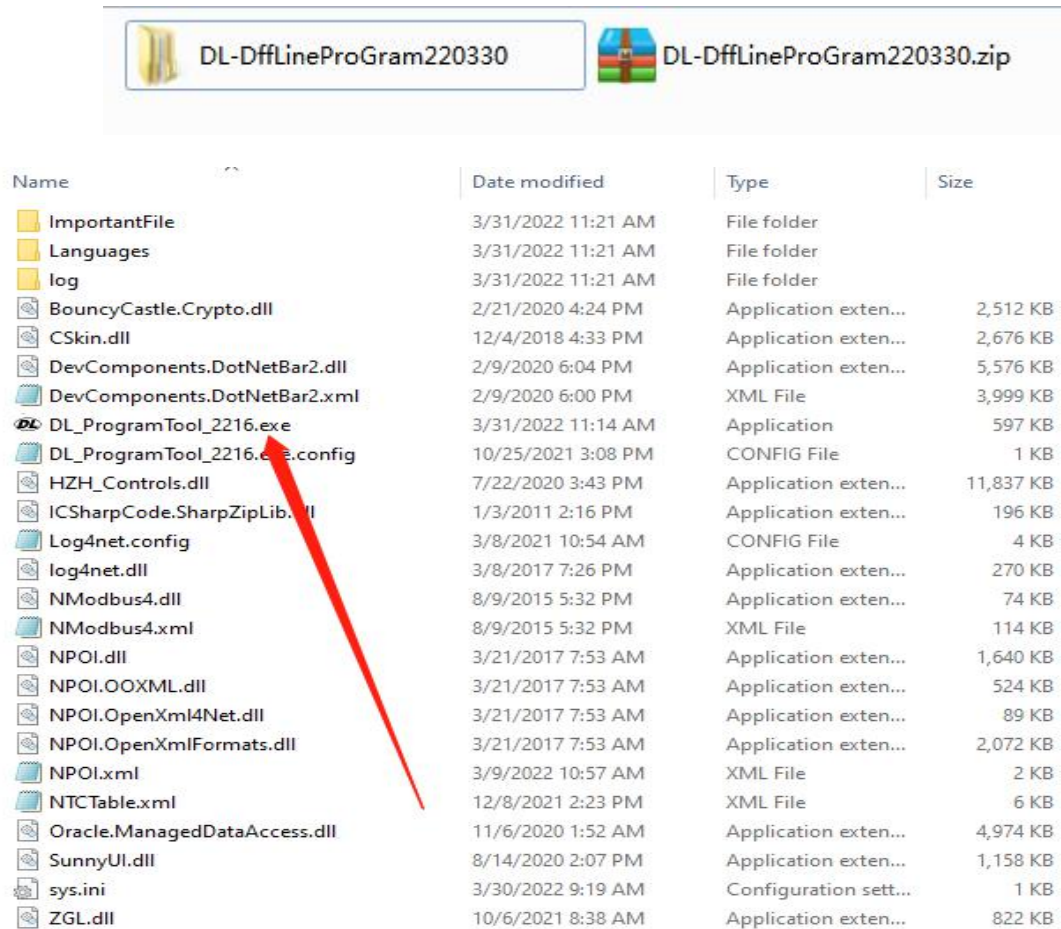2.Open document folder then double click and launch DonePower Programming Tool.exe .

Figure 4.1.2 software package

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5.Off-line programming Operation Example

5.1 Hardware Connect and Software Start-up

1.Use Micro USB connect computer and programming tool, install CH340S;

2.Launch programming tool, enter programming tool interface;

3.Click "Advance"to select interface configuration and then select serial port before you connect.

　　Note: Choose serial port: Open device manager in your computer, view "USB-SERIAL CH340（COM +num)", the number is correspond serial port.

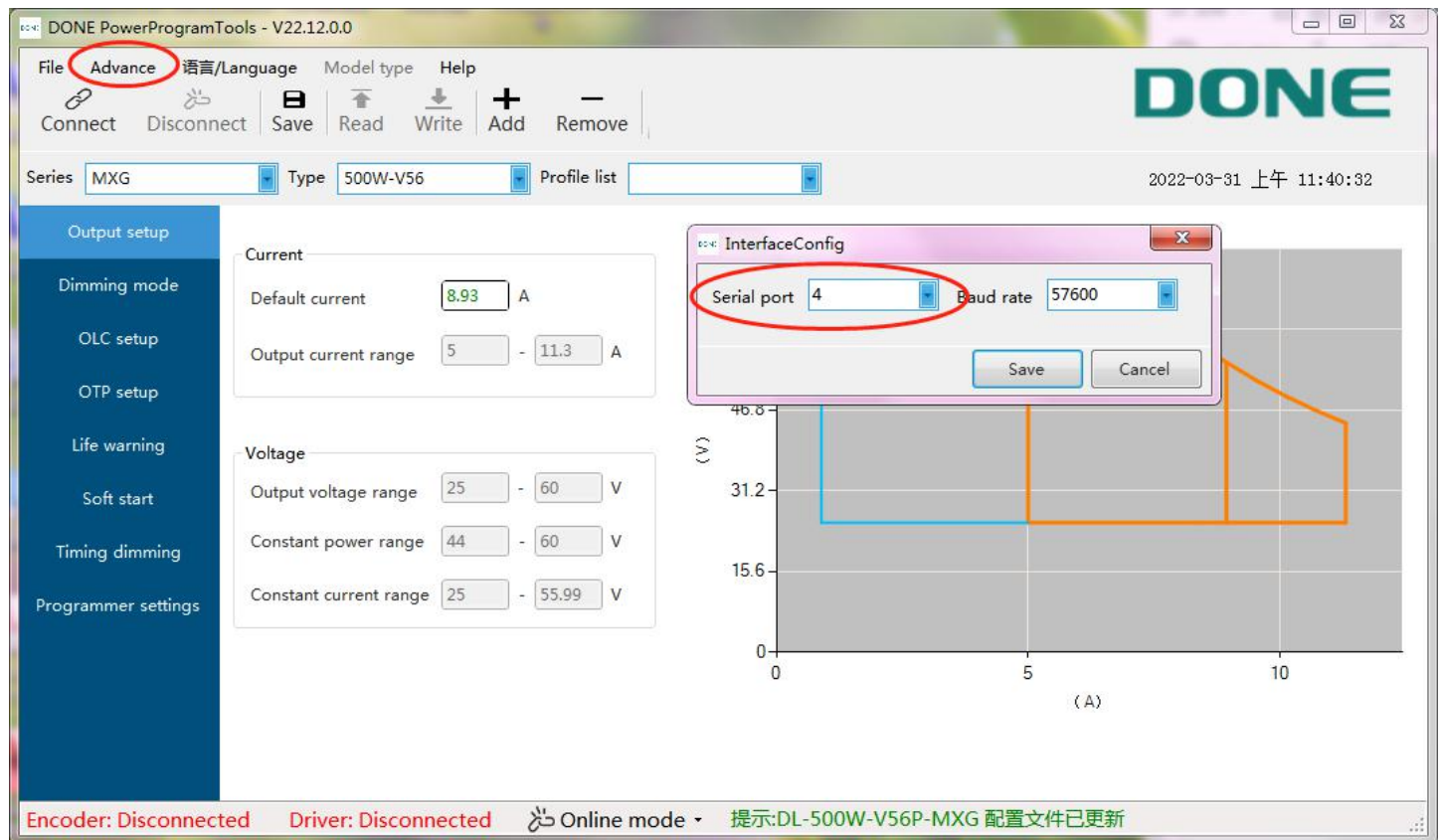**Figure 5.1.1 boot interface**

4.Click "Connect", wait for seconds, then status display "Connected";

5.Choose Online mode, wait for seconds, if status display "Connected",the driver is connected,and check dimming circuit if display "Disconnected".
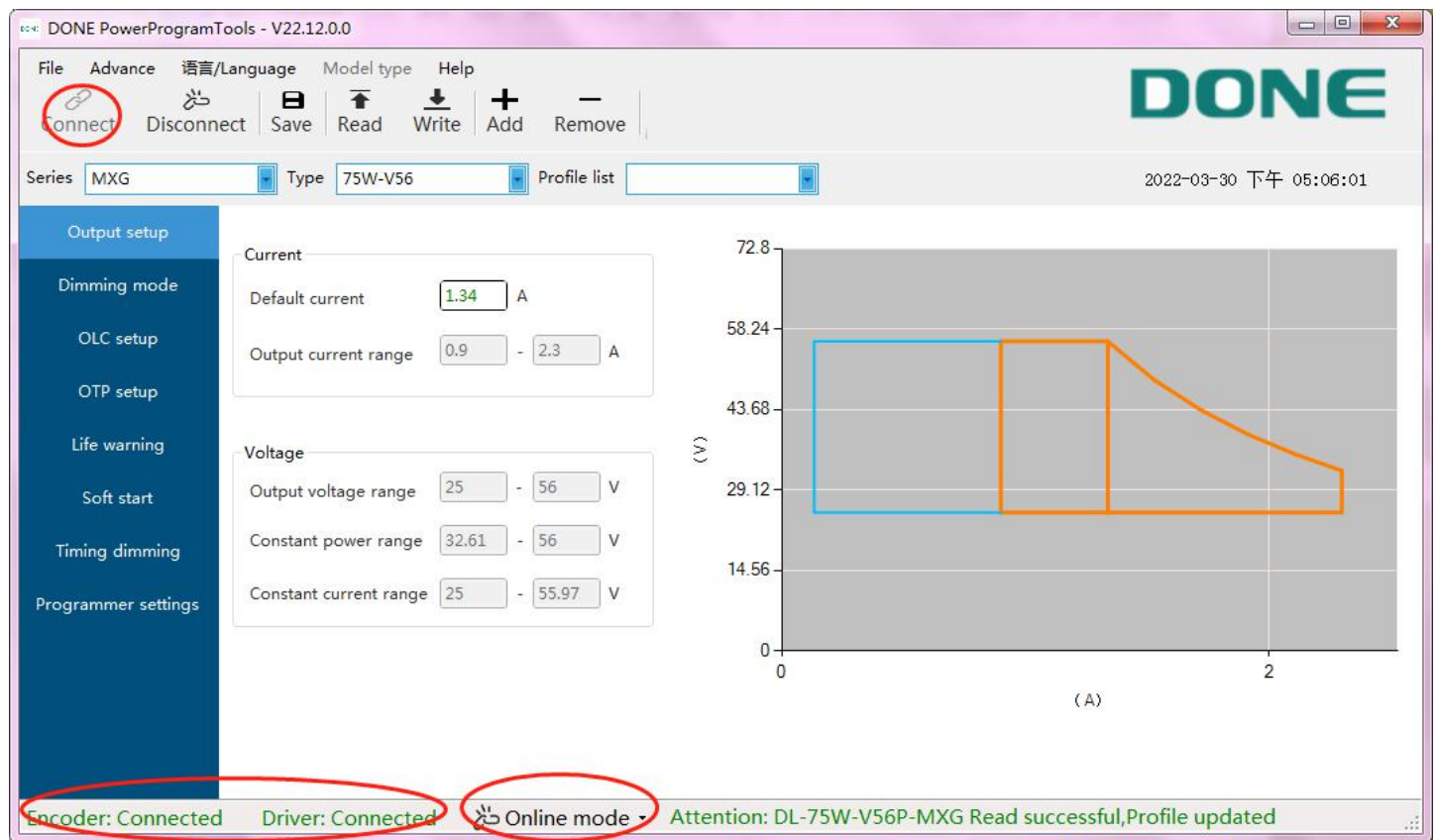
Figure 5.1.2 Offline Connection interface

5.2 Language Change Between Chinese and English

Default language is same to the last interface you close. If you click "Language" to select to Chinese, then the interface is Chinese, if you select English, then the interface is English. Show in figure 5.2.2.
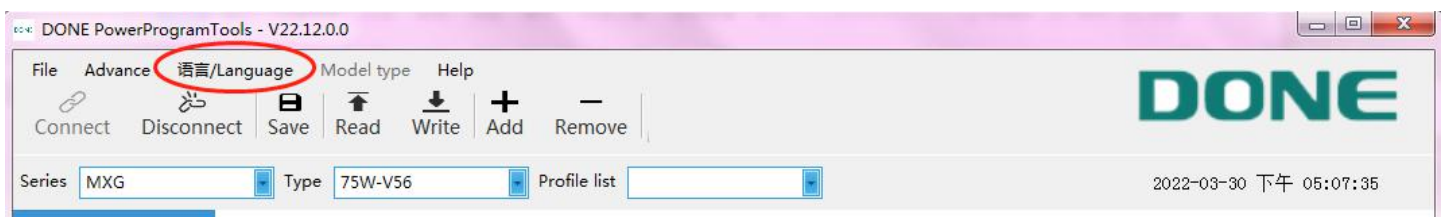

Figure 5.2.2   Language switching interface

5.3 Save/Read/Edit Configuration

Save Configuration: Save all the configurations (including serial number, model number, current parameter, mode, dimming method setting) as .xml file in PC.Show in Figure 5.3.1.

Save Method:

1. Click the "file" button choose "save as" can save profile directly.

2. Click the "save" button also can save profile directly.

3. After the configuration file is saved, it will remind the corresponding profile is updated.

Read configuration: After programmer and driver connected, click software interface and wait for seconds, then it can read profile of correspond driver series. Interface reminder: Read successful, profile updated.

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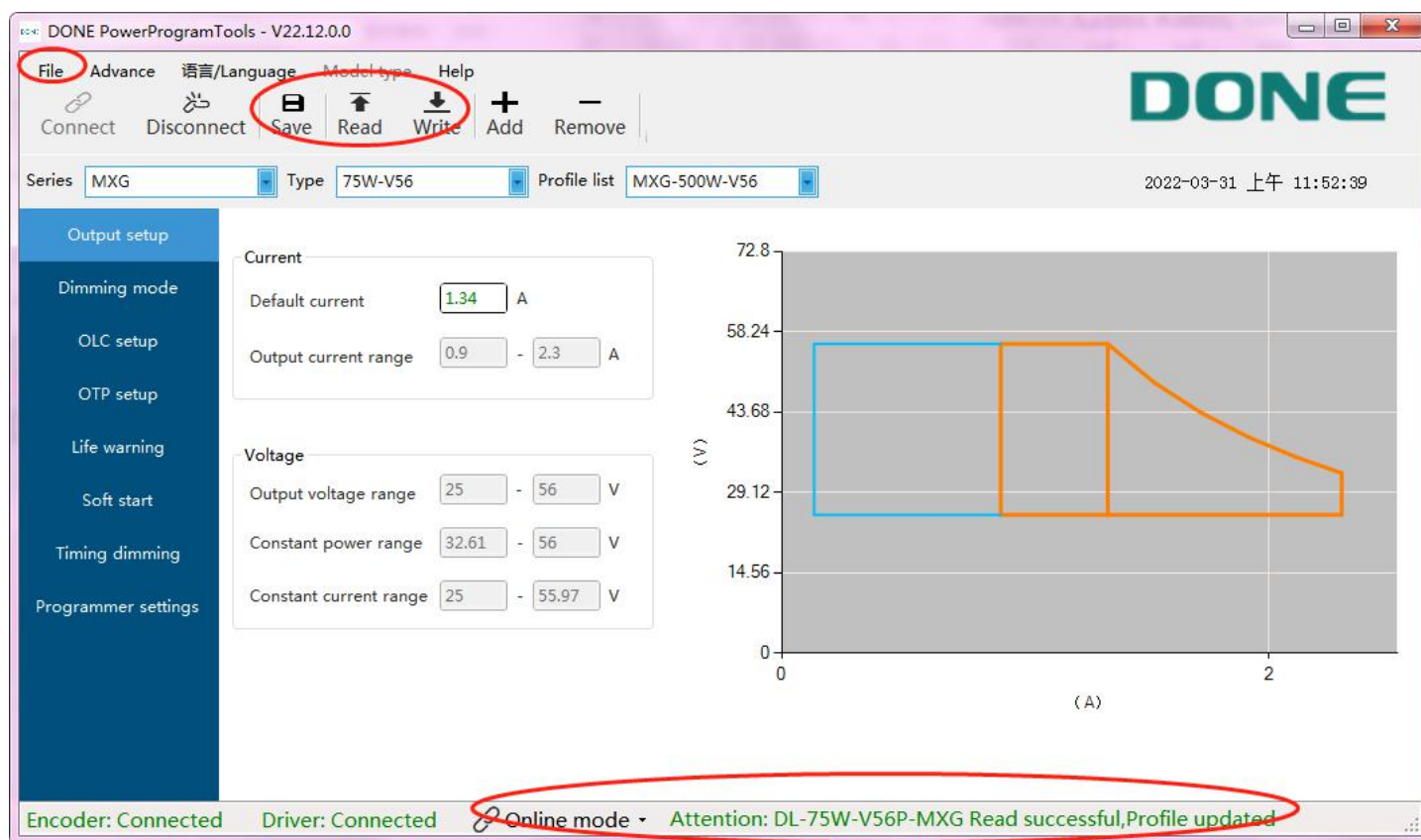

Figure 5.3.1File operation interface

5.4 Choose Serial and Model Number of Driver

Choose Corresponding serial and model number through pull-down menu, and add, delete, update through Model type option on the file menu bar.

The programmer has a variety of series and model number built-in drive power, according series to choose correspond driver to operate software. (Note: You can select more times if the series and model are not selected.)

Add and delete profile: This function is to import the profile into the offline programmer and download the file to the driver. Show in Figure 5.4.1.

Detailed Process:

1. Open the software, the programmer is connected and the driver is in offline mode.

2. Select the correspond series and models file in the offline programmer you need.

3. Click "Add" button, the profile list will show the new model number.

4. Then click "write" button, interface will remind "write successful, written to the driver ", it indicates the file is written successfully.

5. Delete the profile in the programmer: Select the file in the list, click "delete" and then click "write", and the file will be deleted.

6. You can download 8 profile to programmer at most, when connect driver, it can autonomic identify correspond profile to download.

(Note: This function is mainly to use in outdoor, customer service, production line download, etc. But not easy to use without computer connection.)
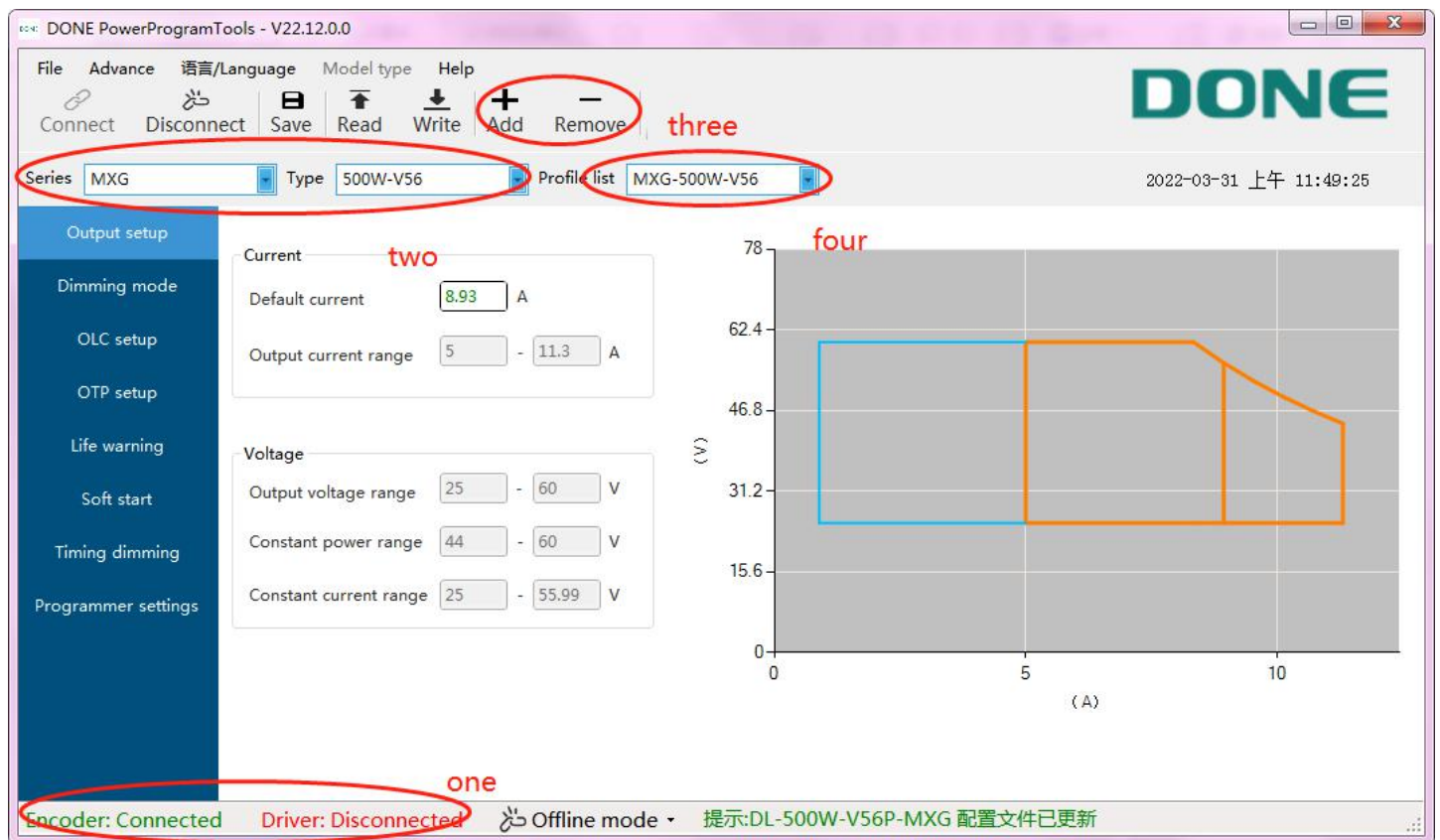

Figure 5.4.1 The selection of interface

5.5 Driver working area curve

Choose different series number, according current value to change working area curve. The blue part is the dimming working area (which can according the dimmer to control and software can not change). The orange part is the suggested working area (which can according change output current range to setting). Show in Figure
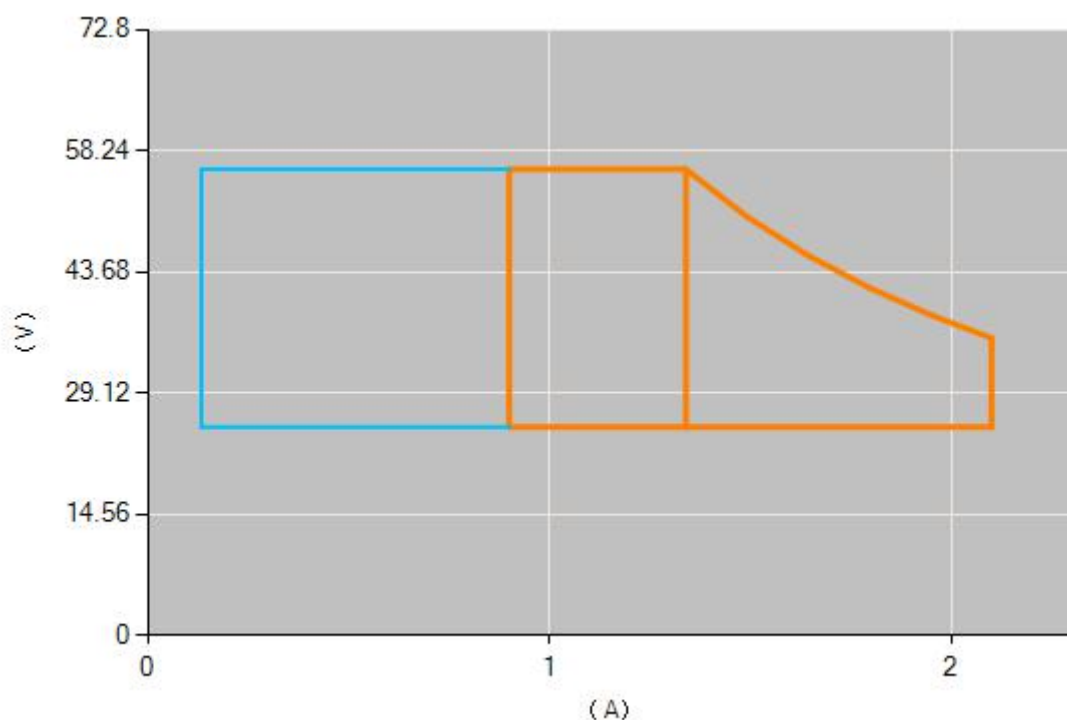
5.5.1.

Figure 5.5.1   Working curve

5.6 Set output parameter

Select the different series of drivers in the "set output current" page to the set current value of the work area drawing, and display check-box to set current parameter (rated output current, output current range) and set voltage parameter (output voltage range, constant power working range, constant current working range).

If you need to set current value, the value can not lower or higher than output current range, otherwise will set in vain. The minimum value of constant power working range can manual operate through configuration file. Show in Figure 5.6.1.

(Note: Click "Save" before set parameter, otherwise can not update configuration, then click "Save")
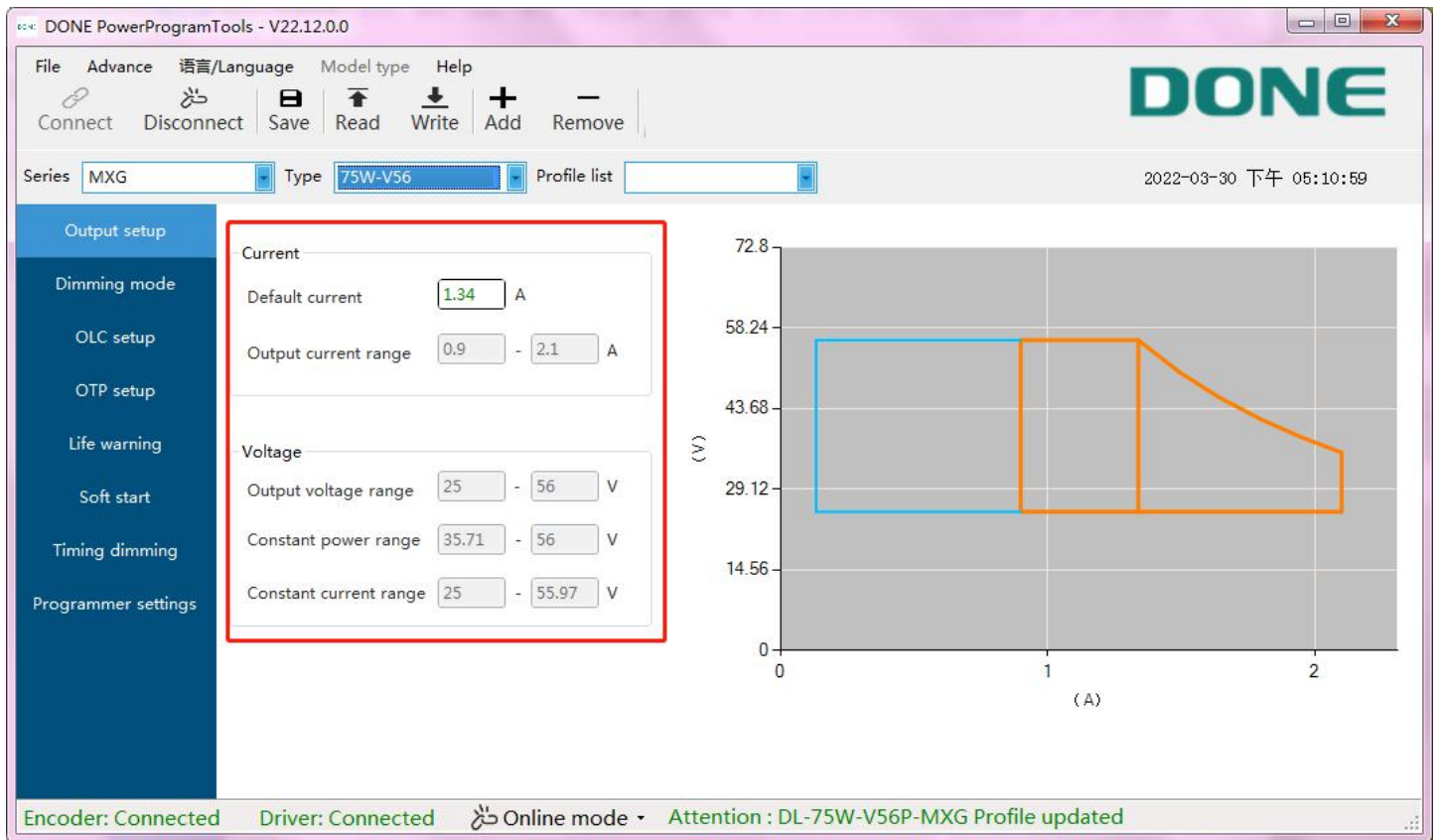
Figure 5.6.1 Input parameter setting interface

5.7 Dimming Mode setting

1. Select the page "Dimming settings" to select the dimming mode, there are 6 optional dimming methods:

    (1) 0-10V: Dimming with external 0-10V analog voltage.

    (2) 0-5V: Dimming with external 0-5V analog voltage;

    (3) 1-10V:Dimming with external 1-10V analog voltage;

    (4) 1-5V: Dimming with external 1-15V analog voltage;

    (5) 3 in 1 auto: PWM/voltage/resistance, automatic identification；

    (6) Timing control: This option used to set timer dimming, it can achieve 6 stages of sequential power control.

2. 0/1-10V、positive and negative signal logic curve：
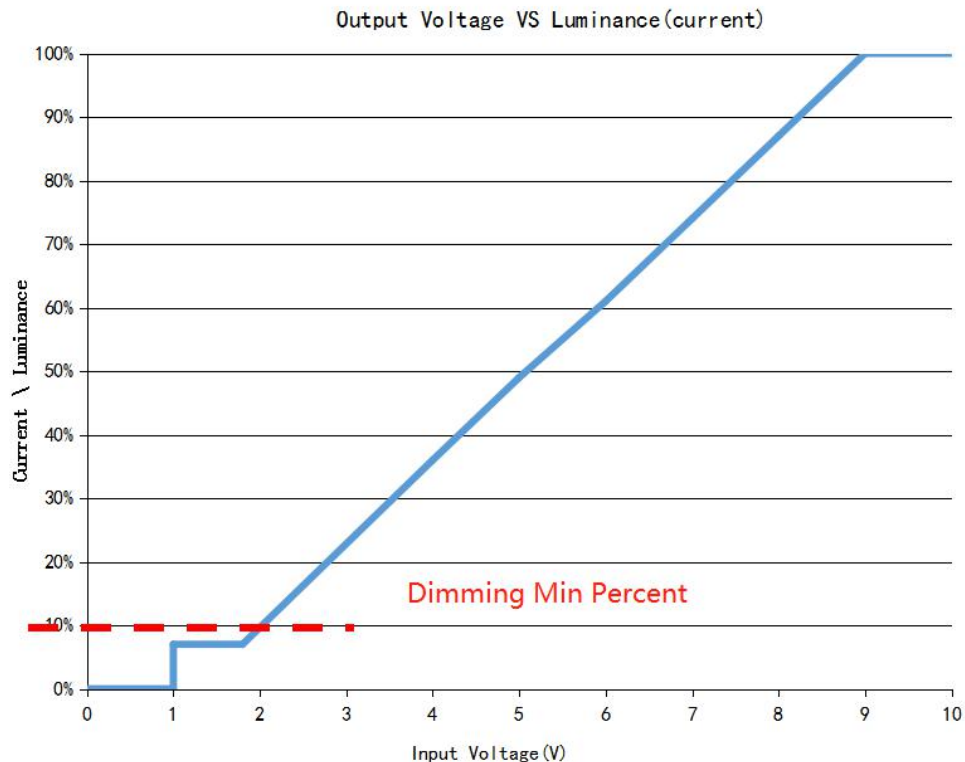
    (1) 0-10V dimming signal curve:

0-5V and 0-10V dimming mode control method is the same, dimming test for every level voltage both base on the dimming minimum percent.(Build-in minimum dimming percent default between 5% to 8%)

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Output Voltage VS Luminance(current)
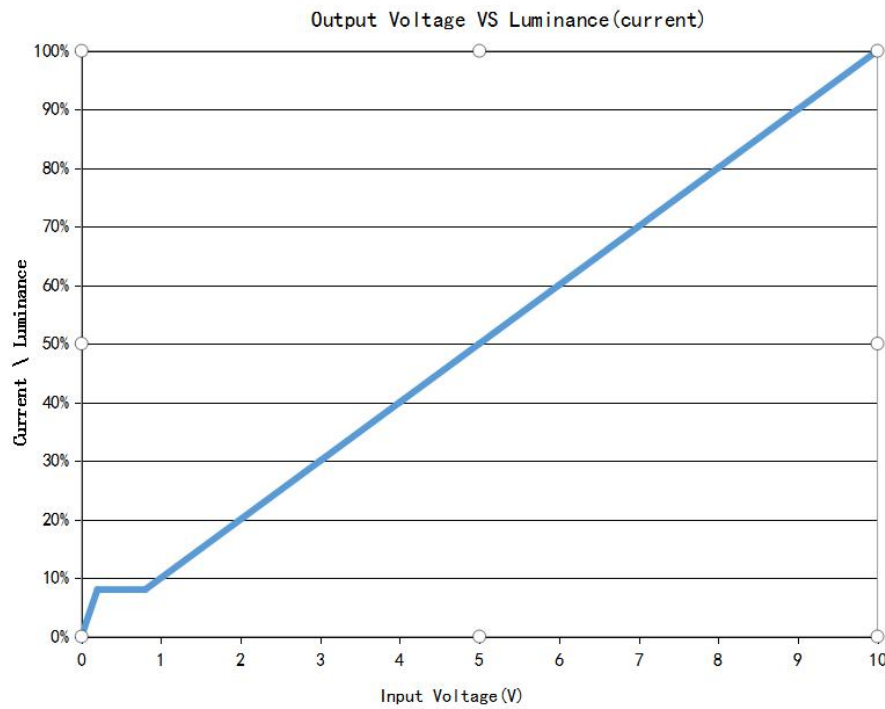
0-10Vdimming signal curve

(2) 1-10V dimming signal curve:

1-5V and 1-10V dimming mode control method is the same, both base on the dimming minimum percent, then according the value you set to achieve voltage dimming.

Output Voltage VS Luminance(current)

1-10Vdimming signal curve

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(3) Positive and negative logic signal curve:

Positive logic: Aim at input mode (including 0-10V, 0-5V, 1-10V, 1-5V, 3 in 1 dimming), any one with positive logic concurrent selection, it will according to dimming method of positive logic.

Negative logic: Opposite to the Positive logic, it will according to dimming method of negative logic.

Show in figure 5.7.1.
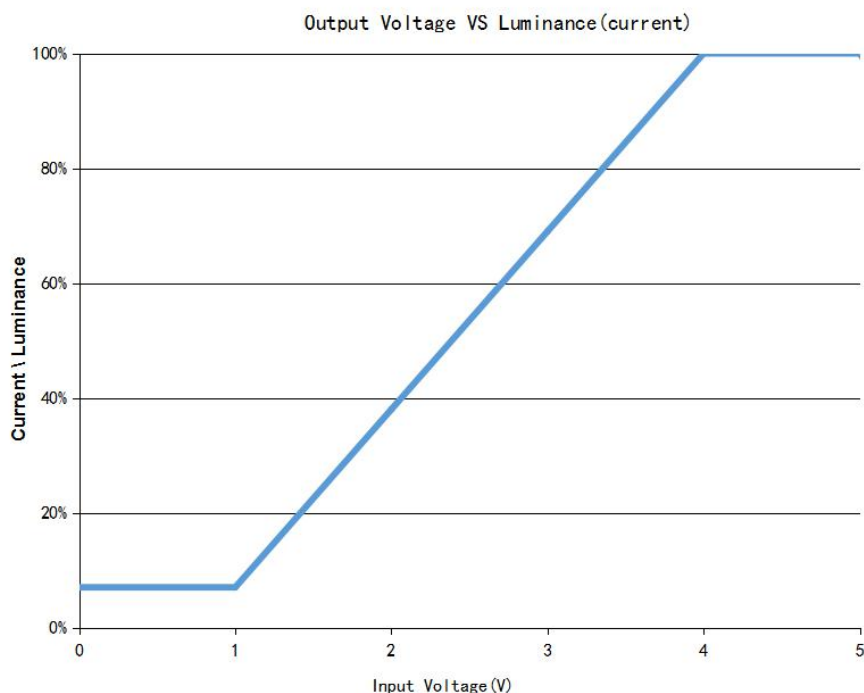
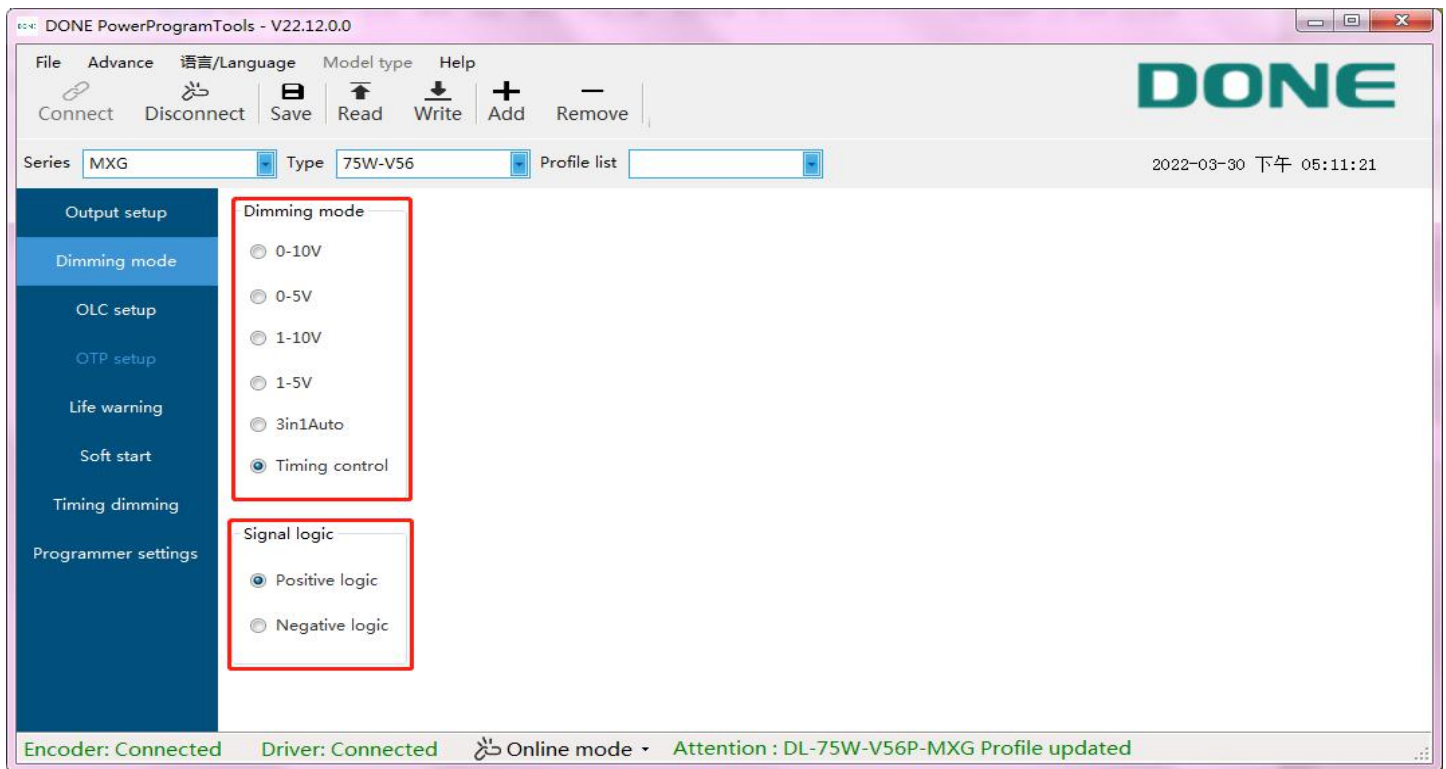**0-5V Dimming Positive Curve**
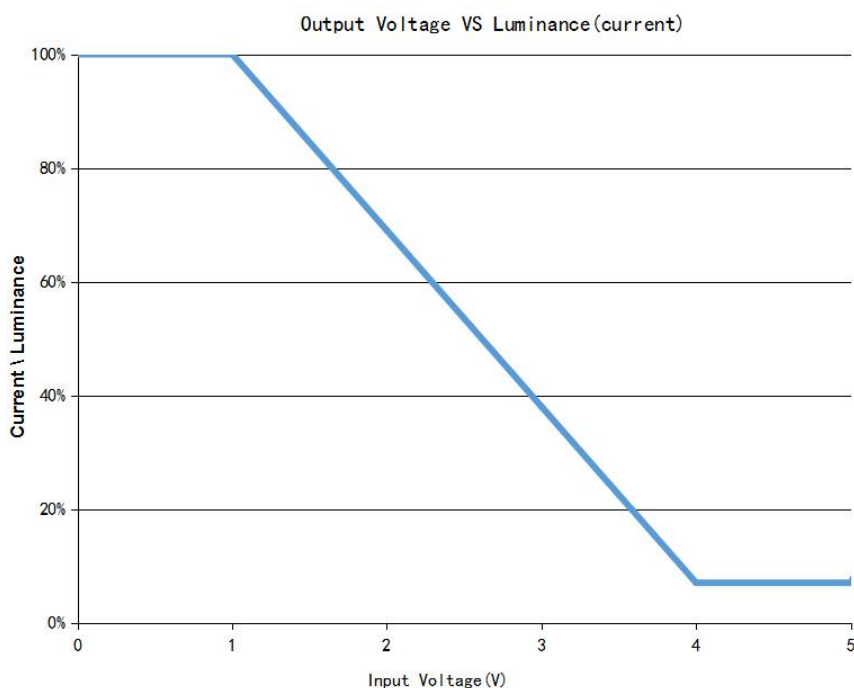
0-5V Dimming Negative Curve

Thirteen

Figure 5.7.1 Dimming mode setting interface

5.8 OLC Setting

Select "OLC Setup" page and check the modify check-box, you can set the OLC run time and output power.(Note: the unit of time is khrs and the running time is cumulative). Set OLC run time, and the current will change with the change of time and temperature. The calculation result can be obtained from the control chip, the driver can control its current increases with the increase of the total illumination time to achieve compensation.

Furthermore, the output luminous flux of power supply can be increased with the increase of accumulated illumination time to compensate optical decline. Show in Figure 5.8.1.
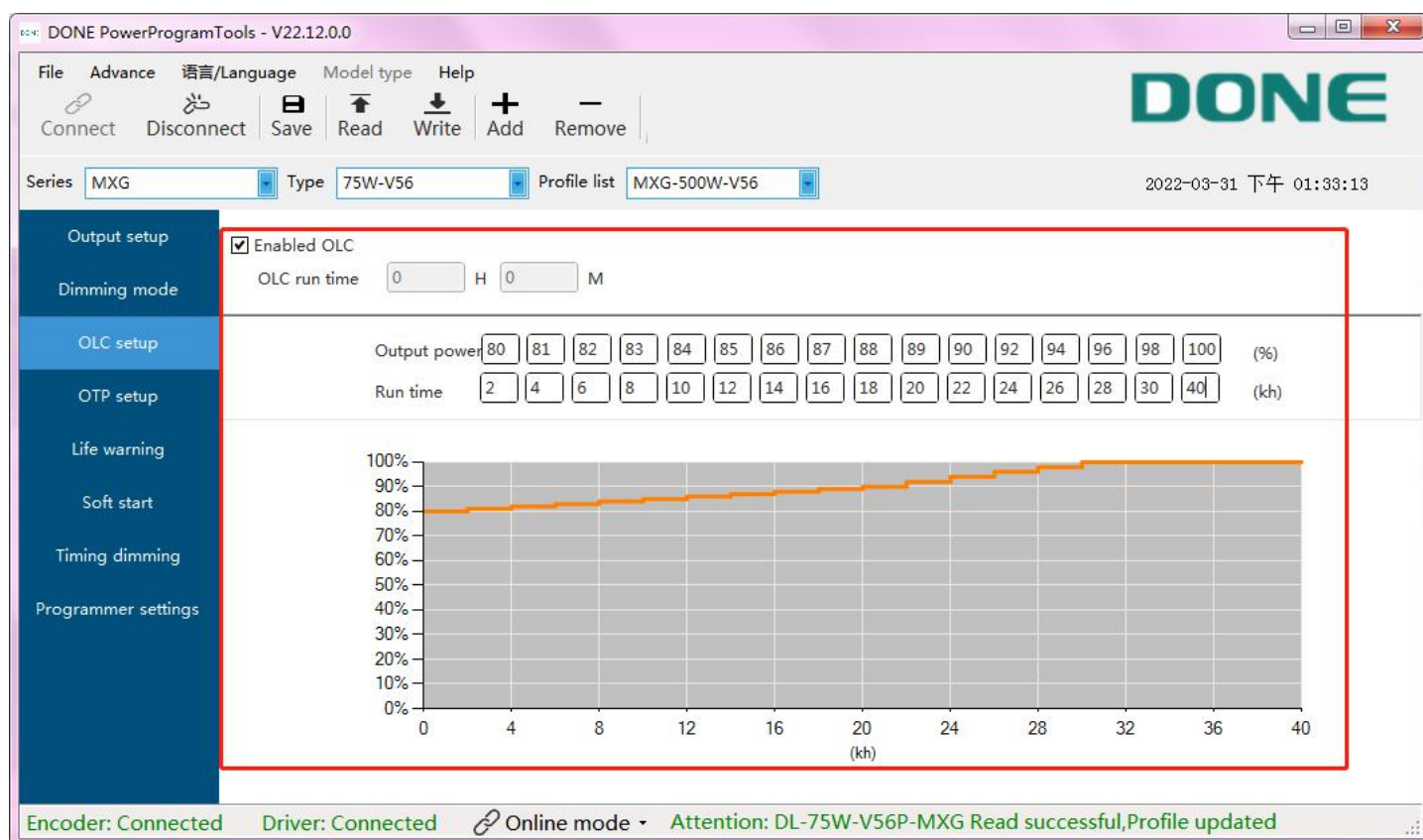
Figure 5.8.1 Optical attenuation compensation

5.9 OTP Setting

Select "OTP setting" page, this page aim at three NTC type which driver used (including CN0805X104F3950FB，NCP18XH103J03RB，TSM2A103F3951RZ) to set parameter to control temperature and protect driver.Through setting recovery point, protection point, and current value to achieve the effect of temperature protection.

Note: Through the curve you can see in the figure, when the temperature of driving power supply gradually rises reaches the protection point, the current control takes effect, and the current efficiency will drop to the current protection value; when the temperature continues to decrease to the recovery point, the driver will recover to the current efficient highest point gradually. Show in Figure 5.9.1.
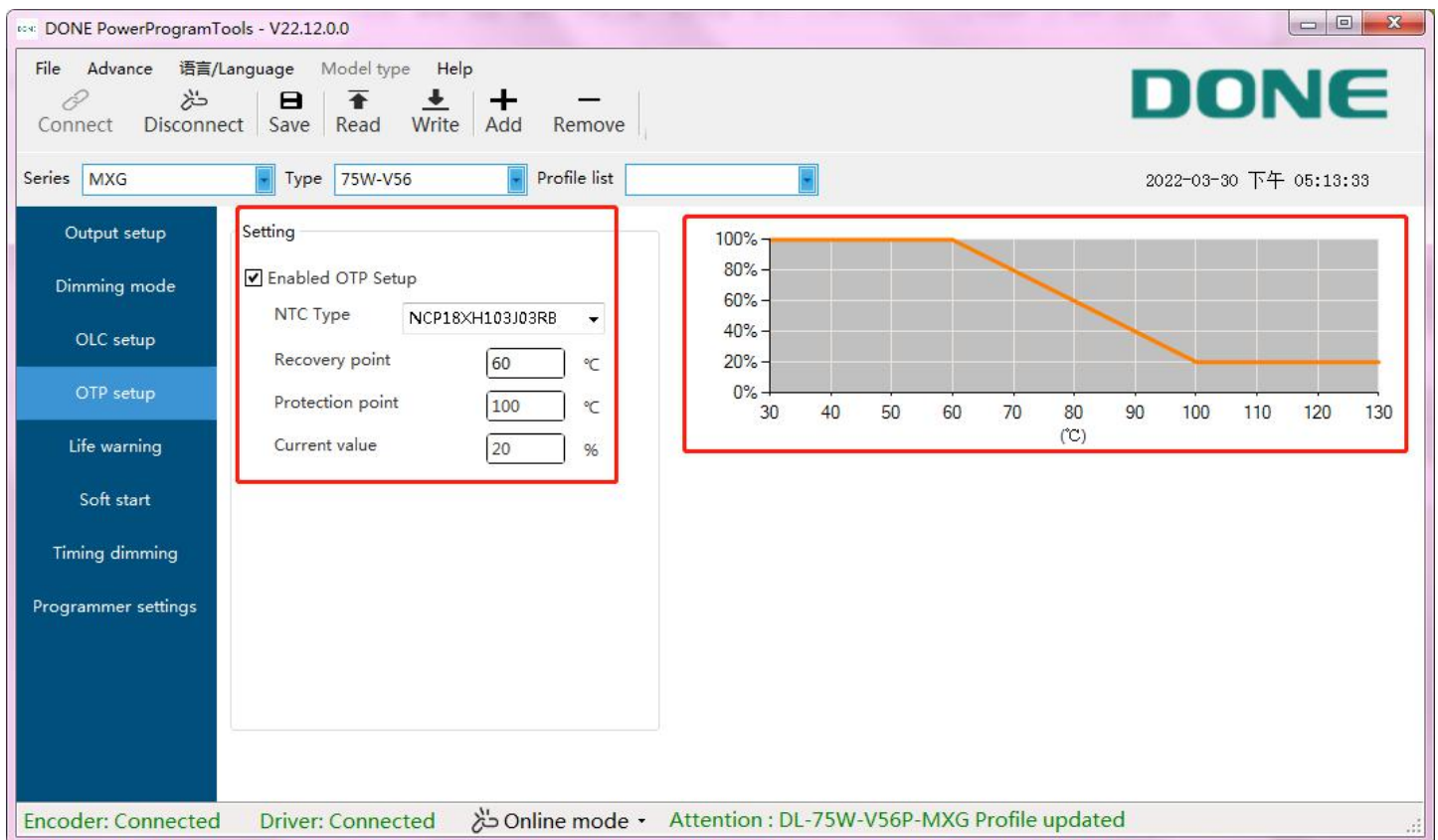
Figure 5.9.1 Temperature protection setting interface

5.10 Life Warning Setting

Select "Life Warning" page, you can choose "enable life warning", set warning time (maximum can set 200000 hours). The form of life warning: When Driver accumulate working hours reached "run time", it will early warning. During early warning time, it will on 1 second and off 13 seconds. When reach the warning interval, warning continue, and it will stop to alarm when reach warning times. Show in Figure 5.10.1.
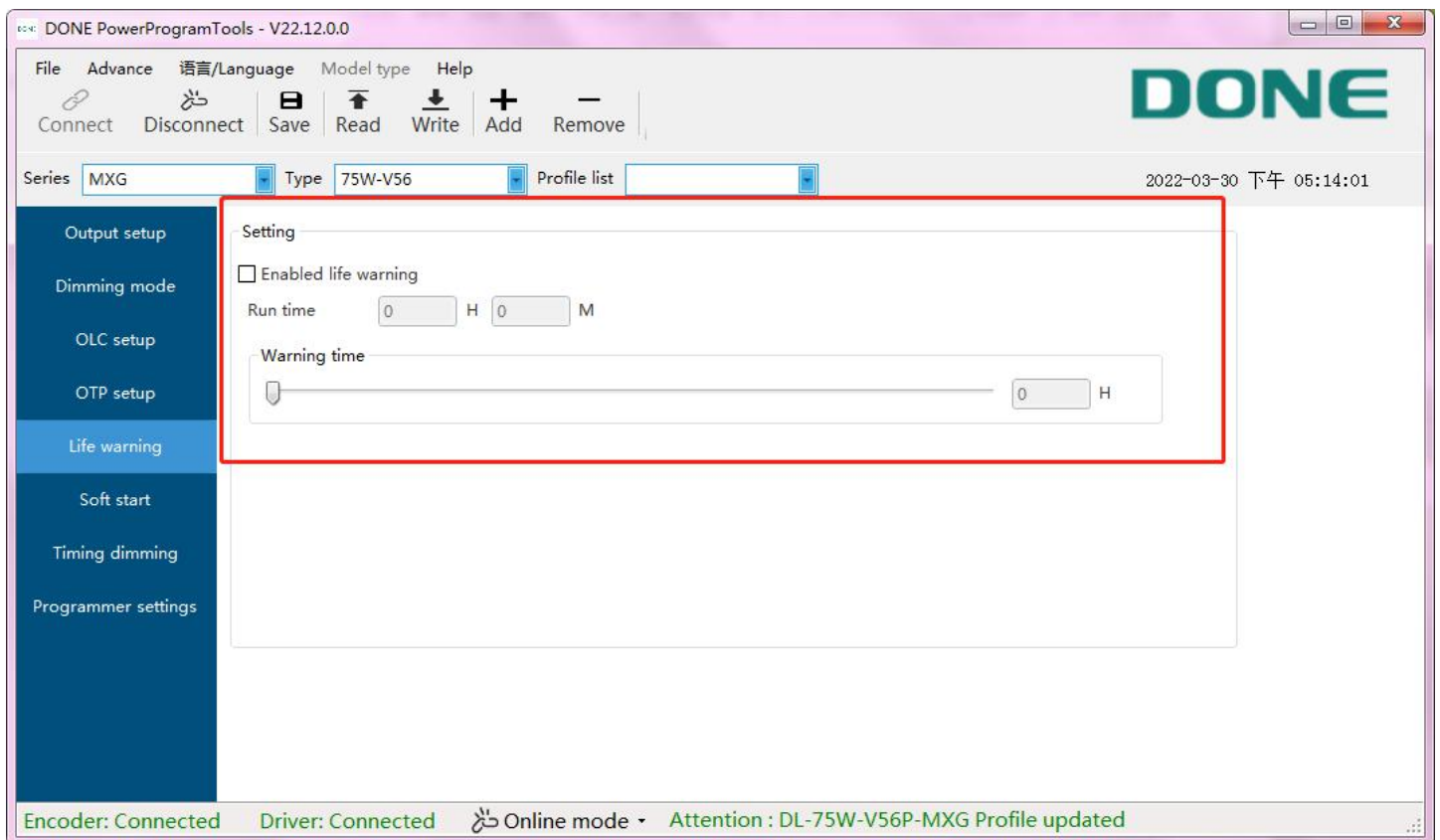
Figure 5.10.1 Life Warning Setting

5.11 Soft Start Setting

Select "Soft Start" page, this part is to set soft start time and starting power, meanwhile option box setting can create soft start curve to make it more clearly and directly.
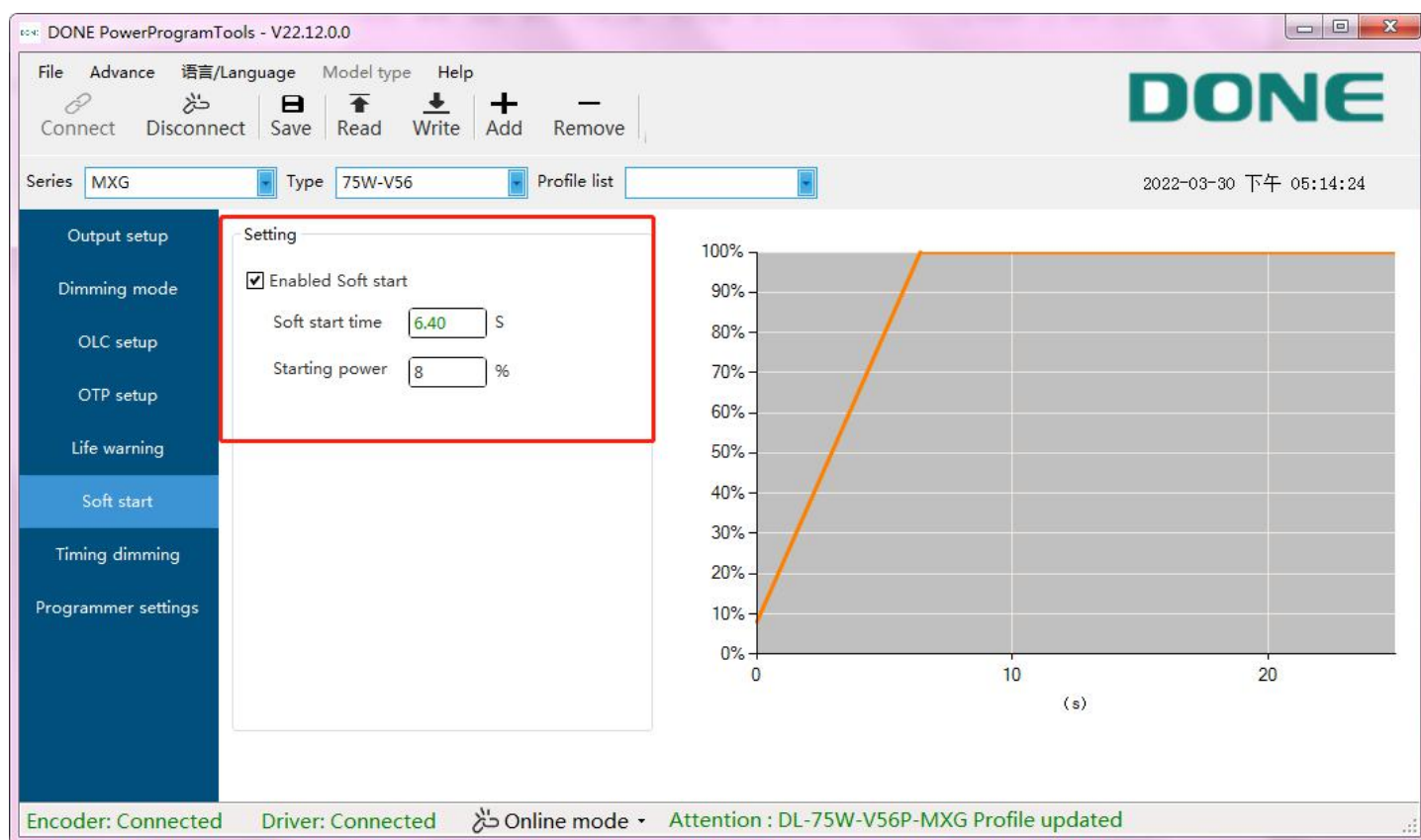
Figure 5.11.1 Soft start setting interface

5.12 Timing dimming setting

Enter Timer dimming mode, enable timing control dimming before start-up timer dimming. There are three optional timer dimming mode: Traditional Timer Mode, Self-Adapt-Midnight Timer Mode, Self-Adapt-Percentage Timer Dimming Mode.

Then choose one mode to enter secondary page to set Timing Output Power Percentage, Timing Output Time, Timing Switch Time, close page after finish setting. Then the "timing setting page" will depict corresponding curve. Show in Figure 5.12.1.

Note:

1. Secondary page timing output power rage (1%~100%)

2. Timing output time can be divided in six duration, and total time can not over 19 hours.

3. The sixth part of time is default equal to the sum of the first five time, and can not be edit.

4. Feature of timing switch time: When every part of duration change, the current will change slowly.
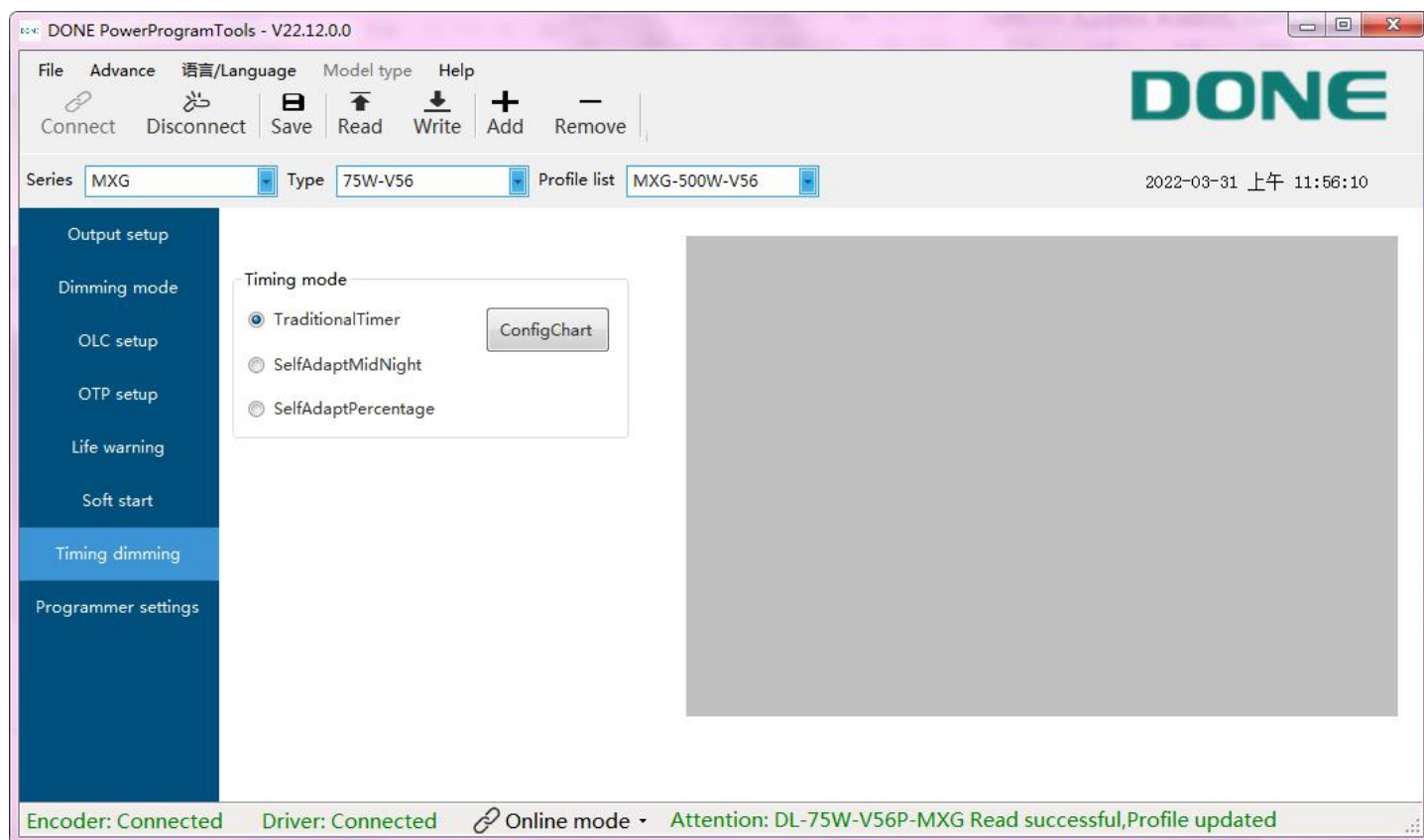
Figure 5.12.1   Timing dimming setting interface

5.12.1 Traditional Timer Mode

Select Traditional Timer, then click setting curve. Initial setting is default curve, you can click setting curve, according to your requirement to set dimming curve in the check-box. Show in Figure 5.12.1.1.
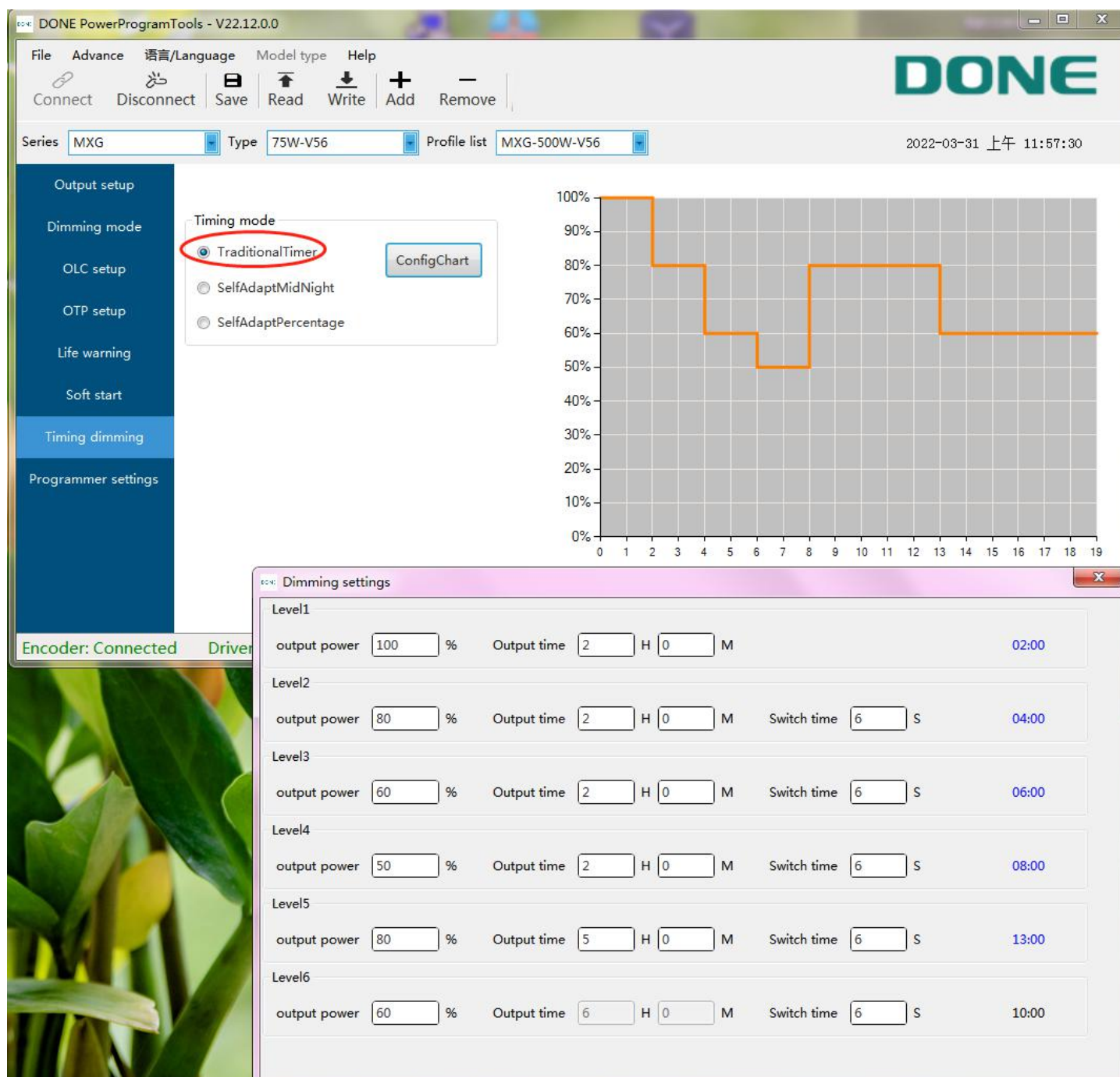
Figure 5.12.1.1 Traditional Timing Mode

5.12.2 Self-Adapt-Midnight Timer Setting

Select Self-Adapt-Midnight Timer Mode, this page can set total time and standard midnight, enable to reach the midnight effect. According to midnight and total time to choose the starting/ending points of operation curve.

Note: This mode can according day and night length of four seasons to adjust time, assure control duration of both sides of midnight is the same, then through change the length of the total time to change output power

proportion.

Setting curve: Through set timing output power, timing output time and timing switch time in second page(range 1%~100%); during the setting process, the dimming curve of the first page can respond the change in real time, and you can see the curve effect directly. Show in Figure 5.12.2.1.
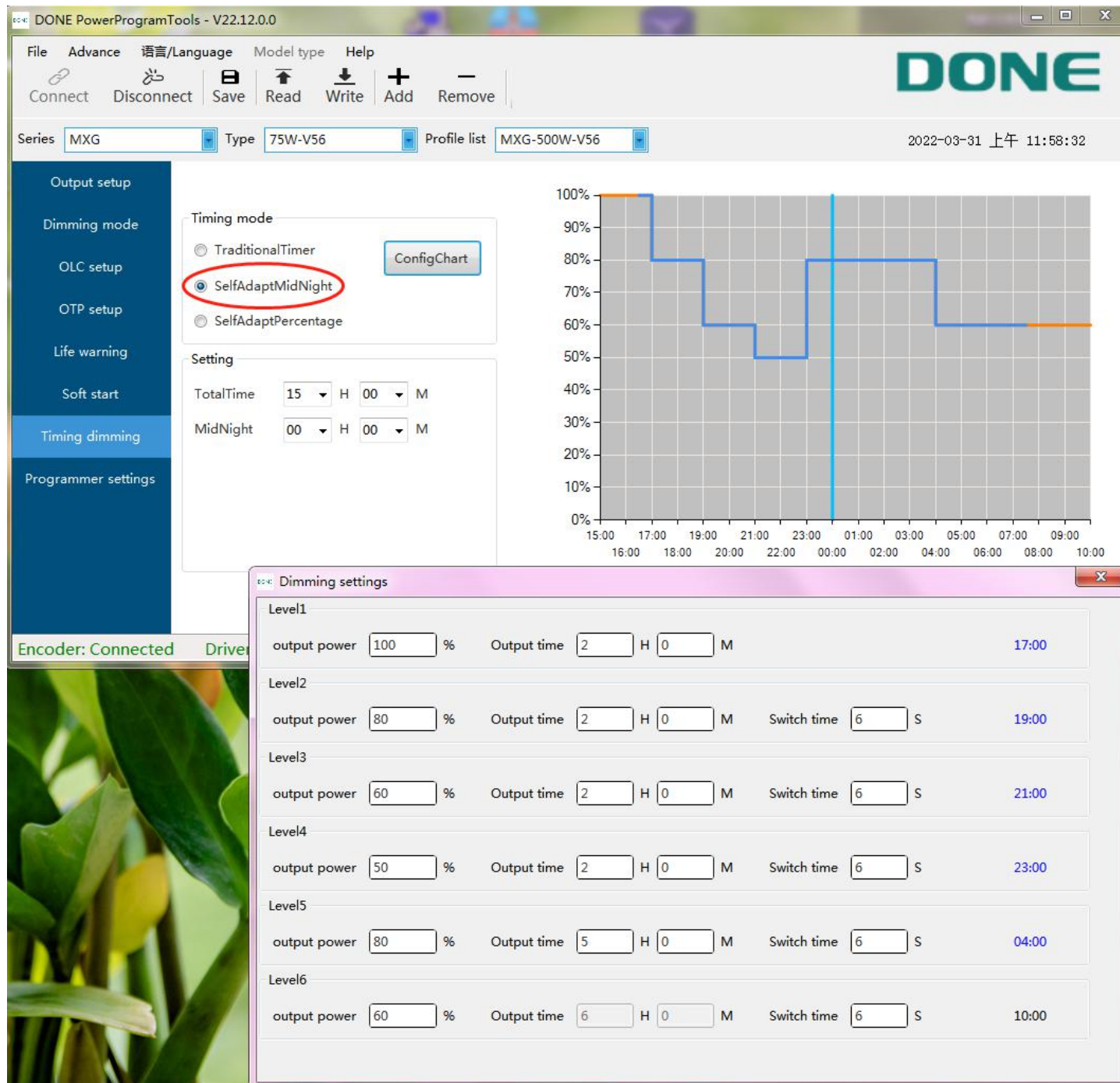

Figure 5.12.2.1 Self-Adapt-Midnight Timer Setting Mode

5.12.3 Self-Adapt-Percentage Timer Dimming Mode

Select Self-Adapt-Percentage Timer Dimming Mode, this mode page set standard time of timing control

run time, according to total time and setting each part percentage to control dimming time , and set the value in secondary page before you Configure Curve.

Setting curve: Through set timing output power, timing output time and timing switch time in second page(range 1%~100%); during the setting process, the dimming curve of the first page can respond the change in real time, and you can see the curve effect directly.Show in Figure 5.12.3.1.
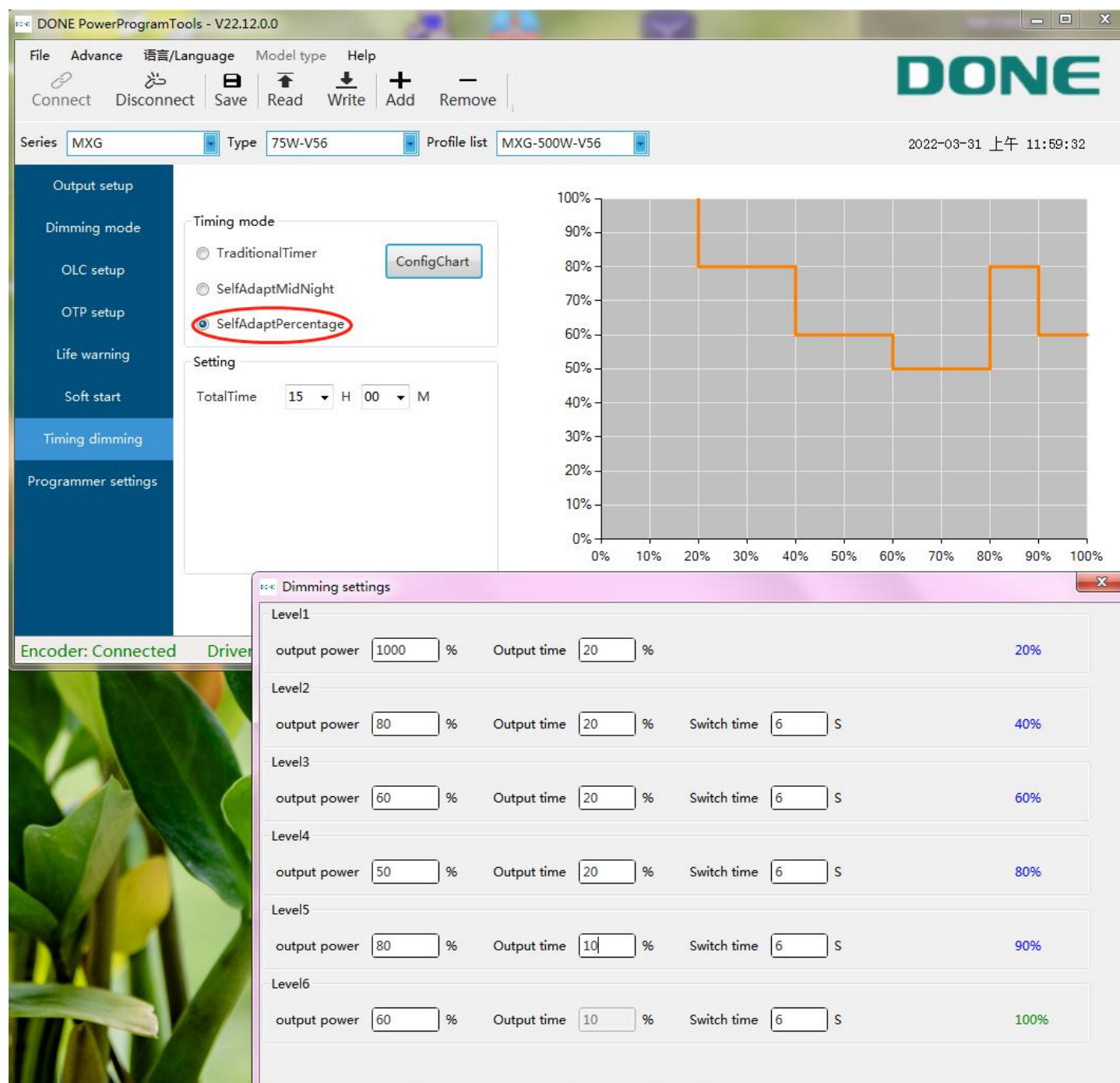

Figure 5.12.3.1 Self-Adapt-Percentage Timer Dimming Mode

Version

DATE	DESCRIPTION	REV.	CHECK
2022.4.6	DONE-POWER-OFFLINE-PRG TOOL Initial Version.	V1.0	

MANUFACTRUER		
EDIT	CHECK	APPROVE