



SHENZHEN SOSEN ELECTRONICS CO LTD
A3 Building, Gonghe Fourth Industrial Area, Shajing Street, Baoan District, Shenzhen,
China 518104

SOSEN Programmer Software

User 's manual

V1.2



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1 Introduction

1.1 Objective

The manual instruction is to help customers use SOSEN Programmer software skillfully, and set LED driver function quickly.

1.2 Programmable products

M series, VA series, VB series, VH series, VP series, PA series.

Note: VA Series use potentiometer to adjust the current. Please keep the maximum output current on the software interface.

2 Hardware connection

2.1 Programmer device wiring



Wiring from top to bottom: DIM- (gray), VCC+ (pink), DIM+ (purple).

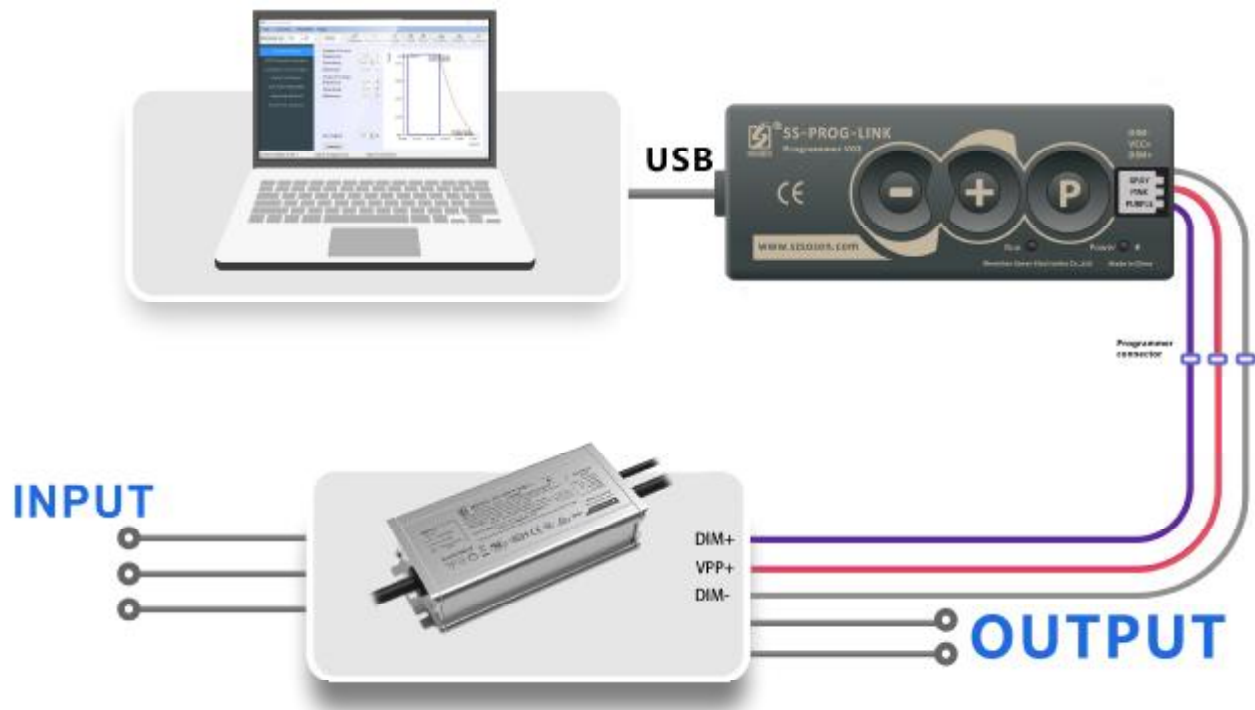
According to the latest version of wire rod as the basis for instructions.

2.2 Programmer and power connection



A four-wire power supply device that modulates light. The purple line of the power supply device corresponds to the purple line of the programmer device (purple to purple). The gray line of the power supply device corresponds to the gray line of the programmer device (gray to gray). The pink line of the power supply device corresponds to the pink line of the programmer device (pink to pink).

The black/white line of the power supply device is not connected.



A three-wire power supply device that modulates light. The purple line of the power supply device corresponds to the purple line of the programmer device (purple to purple). The gray line of the power supply device corresponds to the gray line of the programmer device (gray to gray). The pink line of the power supply device corresponds to the pink line of the programmer device (pink to pink).

2.3 Introduction of programmer device panel



The programmer device panel consists of three keys “-” “+” “P” , LED lights, and terminals.

When the LED device is connected, the programmer device is energed and the power supply can be operated by the three keys “-” “+” “P” .

Button “-” to reduce the current output by up to 10%, and to reduce the maximum output current of the power supply by 0.5% on a single press. The power supply device can only be used if the programmer device is recognized (slow flash of the green light at "Run").

Button “+” to increase the current output by up to 10%, and to increase the ratio of the maximum output current of the power supply by 0.5% on a single press. The power supply device can only be used if the programmer device is recognized (slow flash of the green light at "Run").

Button “P” , used in offline programming, can be programmer device internal power parameters information, written to the power supply device, change the output



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current size of the power supply device, When programming offline, the internal model of the programmer device must correspond to the power model.

Note: after the LED driver is correctly connected to the 3-core programming cable of the programmer, power up the USB interface of the programmer (5V), the programmer device starts self checking, and the running light flashes rapidly. After the self-test, there will be a sound prompt:

(1) One "Di" sound of programmer device indicates that the connection between LED drive power and programmer device is normal. At this time, the running light green flashes once per second (slow flash), and the subsequent programming operation can be carried out.

(2) If the programmer device sends out other sound prompt and the running light flashes red, it indicates that the connection is failed and the LED driving power that has been connected cannot be identified. In this case, if it can be confirmed that the programmer device emits four consecutive sounds, such as "didi -", it indicates that the programmer device does not match the power supply software version, and the programmer device needs to be upgraded or degraded (please refer to the programmer upgrade document).



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Otherwise, the wiring may be abnormal, please check the wiring.

Please make sure that this step is correct, and then carry out the following software operation.

3 Software installation and operation

3.1. Computer configuration

1GHz CPU (32 bit/64 bit)

512MB above RAM

20GB above available hard disk space

Mouse and Keyboard

3.2 System configuration

Windows XP, Windows 7, 8, 10 operating systems with Microsoft .NET Framework 4.0 environment or higher version.

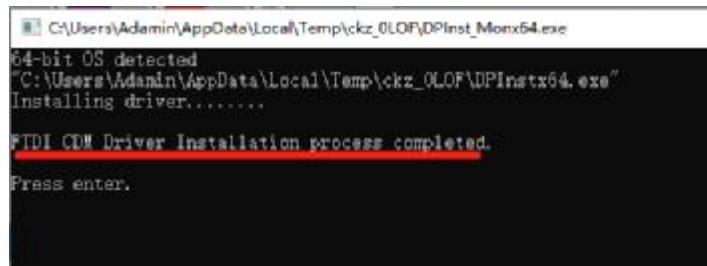
3.3 Software installation

3.3.1 Driver installation

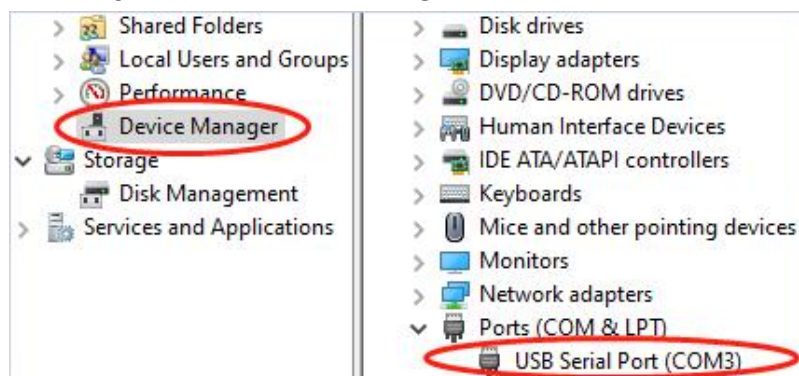
1 Install the serial port driver software "FT232R20.EXE" .



If the dialog box appears as below, indicating that the driver installation process completed, then close this window.



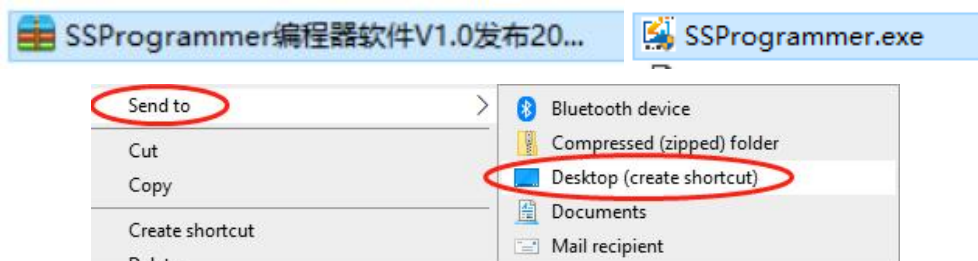
2 Check the "Device Manager" on the PC, and check whether the USB serial port driver is installed normally, as shown in the figure below.



Note: USB Serial Port (COM 3), content in the brackets is displayed differently depending on the port allocated by the PC.

3.3.2 Software installation

Unzip the obtained software package to the appropriate location, enter the unzip folder and send the shortcut to the desktop.

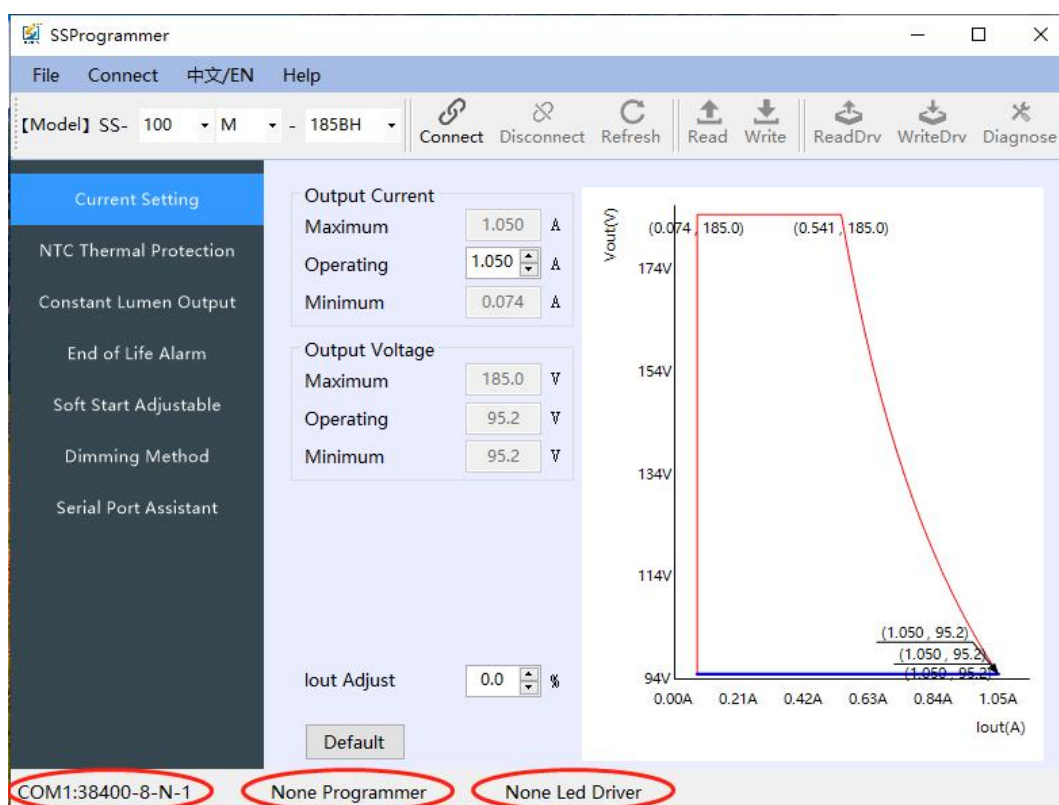


3.4 Software operation instructions

3.4.1 Notice for use

After opening the software, all the parameters in the software interface will automatically load the default values from the configuration file. Toolbar buttons are unavailable until clicking "Connect" .

Note that the bottom status bar displays three pieces of information: COM settings, the programmer saved LED driver model and connected LED Driver model. Make sure that the selected model is as same as the one detected in the status bar, otherwise the programmer will reject programming and report an error.



3.4.2 Online programming

Online programming is divided into four steps, each step of operating the



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programmer has a prompt sound or a continuous alarm sound, the user should make sure to hear the sound of the programmer before proceeding to the next step.

Sequence of online programming operations:

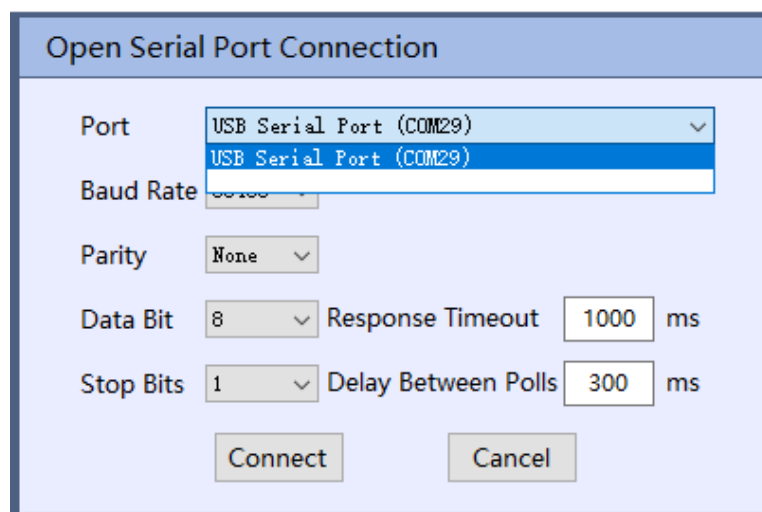
Connect->Refresh-> ReadDrv->WriteDrv

Connect: Click "Connect", the serial port dialog box will pop up, then select the correct COM port, other parameters can be as the default values, as shown in the figure below.

At this moment, the green light flashes rapidly when the programming device is running, indicating that the connected LED power supply device is being detected and identified, and there will be a prompt sound after completion.

If connected correctly, the programmer device recognizes to the power supply device, and it has a "Di~" prompt sound;

If connected wrongly, programmer equipment can't identify power equipment, programmer device has "DiDiDi~DiDiDi~DiDiDi~"A continuous beep.



Refresh: To check again whether the programmer device is connected to the LED driver correctly. It needs to refresh once before clicking "ReadDrv" , to reset the LED driver information cached in the programmer.

ReadDrv: Read all parameters from the connected LED driver, and refresh all parameters of PC software interface, including LED driver parameters, current and voltage parameters, dimming mode and so on.

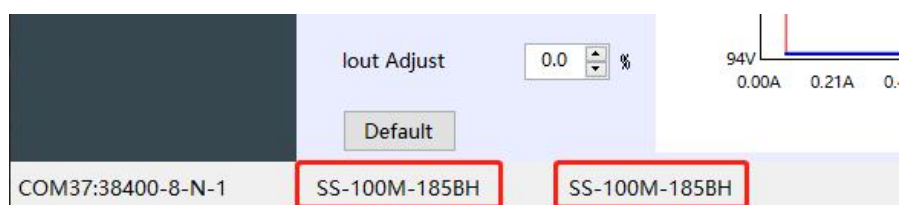
WriteDrv: Write the set current parameters, dimming mode and other parameters to LED driver.

Notes: In the process of writing or reading driver, do not set the PC software parameters, otherwise the written or read parameters may be incorrect

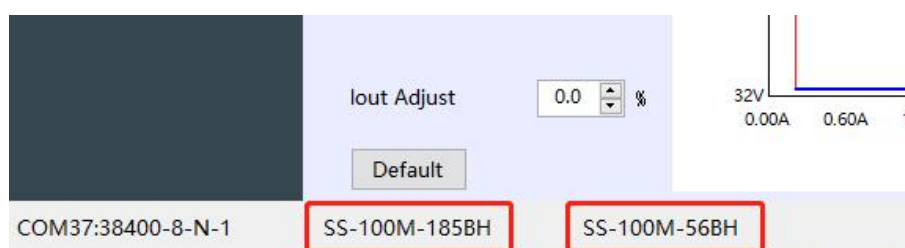
3.4.3 Off-line programming

All the parameter information of an LED driver can be stored inside the programmer device. Write the set parameters into the programmer through PC software, and then write the internal parameters of the programmer into LED driver through the "P" button on the programmer. (The internal model of programmer must be consistent

with that of LED driver in order to write successfully. Otherwise, the programmer will report an error. Please check whether the model is consistent as shown in the figure below) .



Consistent model



Inconsistent model

Offline programming sequence of operations:

**Connect->Refresh->ReadDrv->Write->5V DC power->
Programme**

Preparing programmer: Similar to online programming, after connecting the programmer device, refreshing, reading LED driver, write the set parameters to the programmer.

USB bus power: Prepare a 5V USB power supply device, which can be powered by computer USB port or mobile power .

Programming: Access the LED power supply device, press the "P" button on the programmer to start writing into LED driver. After the operation is completed, hear a



"Di" prompt sound, then replace the LED driver and repeat this step.

4 Function introduction of programmable LED driver

4.1 Main functions of programmable LED driver

- (1) The output current can be set arbitrarily (AOC)**
- (2) Over-temperature protection function for LED luminaire (NTC)**
- (3) Constant lumen output for LED luminaire (CLO)**
- (4) End-of-life alarming for LED driver (ELA)**
- (5) Delay startup, soft startup adjustable (gradually lightening) (SSA)**
- (6) 0-10V analog voltage signal. +/- Logic optional, PWM dimming (0-5V, 0-3.3V, 1-10V etc)**
- (7) Timer: traditional timer, self-adapt-midnight timer and self-adapt-percentage timer dimming**

4.2 Function explanation of programmable LED driver

4.2.1 Current Setting

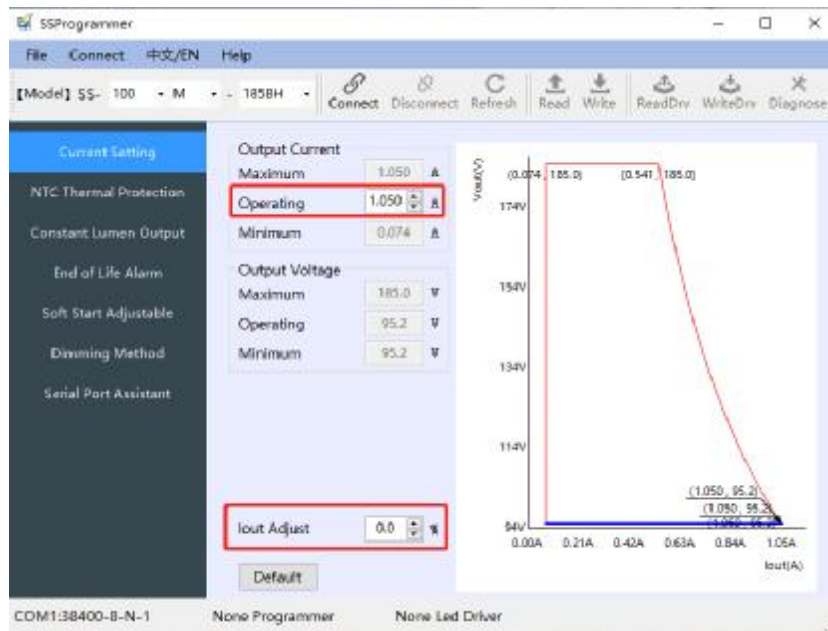
The output current of the power supply device can be freely adjusted. The parameters obtained by reading the power supply device through the programmer device will be displayed on the interface of the programming software, and the current parameters at the "operating" can be modified to change the output current value (Do not exceed the rated power of the power supply device).

When the set current output is off the actual output, Adjust the ratio of the output error using "Iout Adjust" to get an accurate current output.



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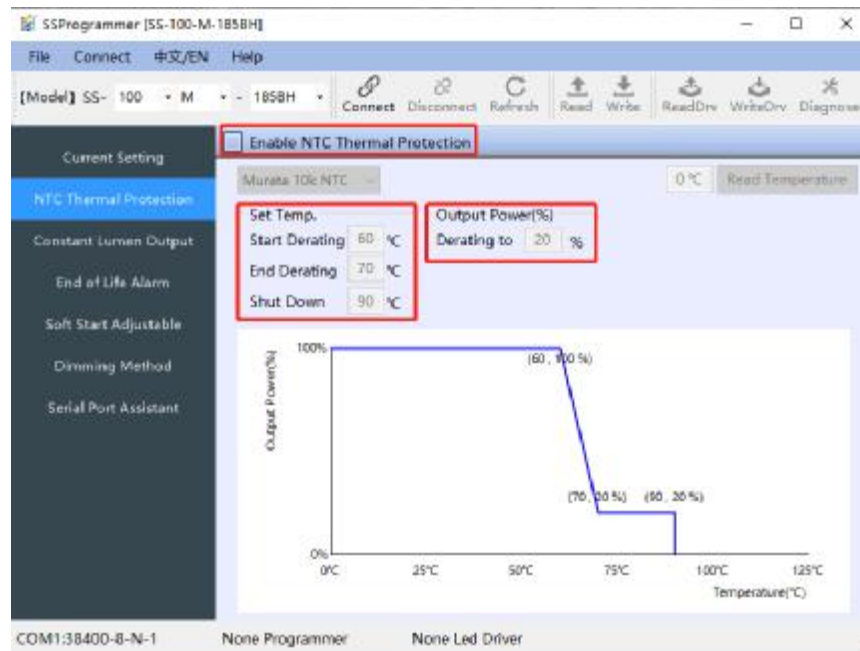


4.2.2 NTC——Over-temperature protection function for LED luminaire

Draw out a line in the power plant by NTC temperature control switch sensor, the temperature feedback on the LED lamps and lanterns to the power supply unit inside the MCU, and by programmable interface software, can set parameters, power supply units began to lower the temperature of the power point, end fall lower the temperature of the power point, shut off temperature points, output derating percentage data.

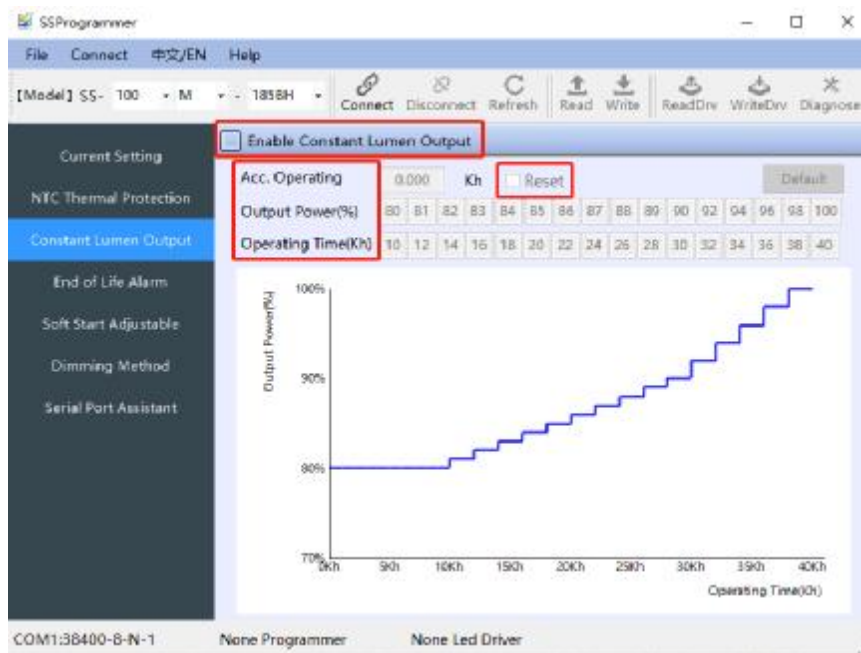
Notes: Power supply device hardware must support NTC function.

The driver with NTC function has suffix "BHN" , for example SS-100VP-56BHN.



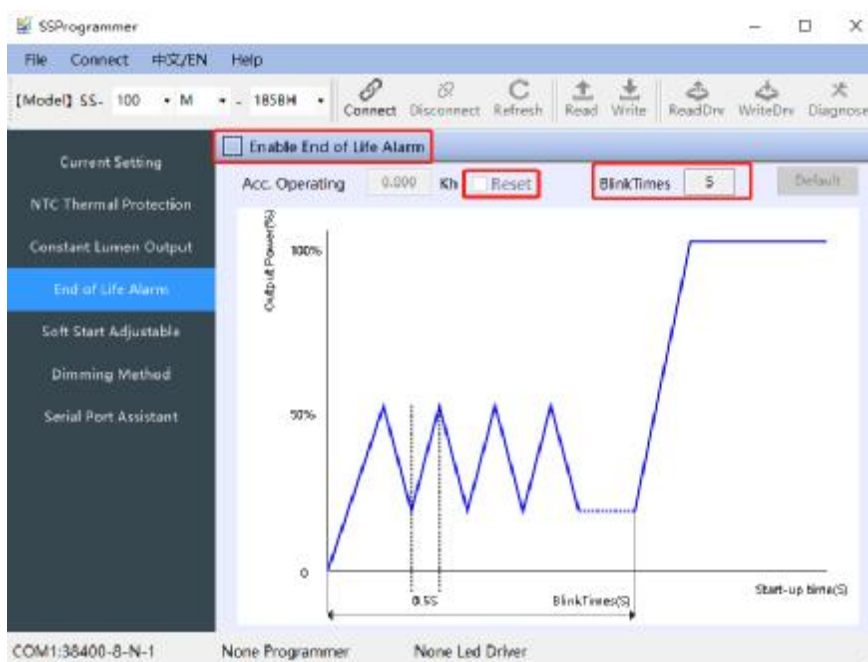
4.2.3 CLO——Constant lumen output for LED luminaire

Constant Lumen output. According to the light decay curve of LED lamps, constant LED light flux can be output and the overall luminous effect can be maintained unchanged by gradually increasing the output current during the lamp life cycle. (LED lamp life — During the use of LED lamps, the luminous efficiency of LED beads will gradually decrease, and the lifetime of LED lamps will expire if the whole light flux falls to 70%.



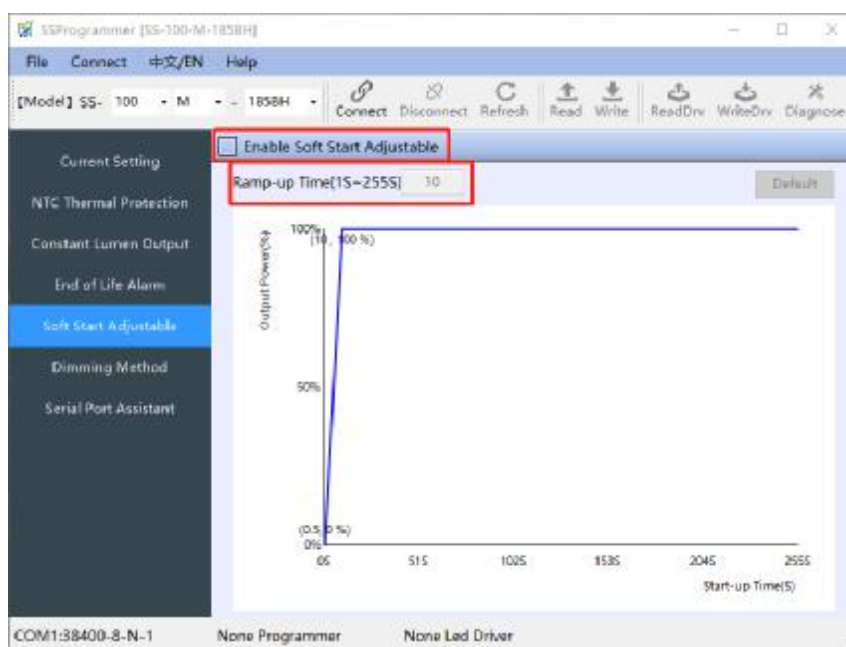
4.2.4 ELA——End-of-life alarming for LED driver

The service life of a power supply device is preset, such as 50000 hours. When the lighting time of the lamp accumulates to 50000 hours, every time the lamp is powered on and turned on, it will flash 5 times, reminding the user to change the LED power supply device.



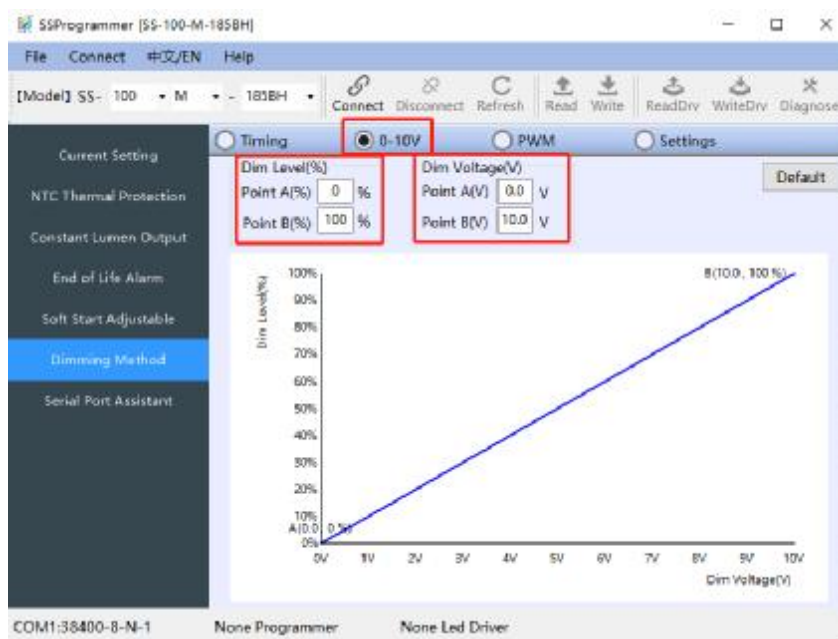
4.2.5 SSA——Soft startup adjustable

It can be programmed to control the power-on time of the power device, which can be adjusted at will within 1 second to 255 seconds. Such as street lamps, tunnel lights, square lights, stadium lights, lamps suddenly lit up causing the danger of glare. If the power supply device is too much, it can also prevent the instantaneous power from being too large when starting up to protect the power supply line.



4.2.6 0-10V dimming

Select 0-10V (PWM dimming is integrated into 0-10V dimming). Set dim level point A, which is the lowest level brightness of short-circuit dimmer, do not modify the B point; Set dimming voltage, voltage at point A and B, such as 0-10V, 1-10V, 0-5V, 10-0V, 10-1V, 5-0V, etc.



4.2.7 Timing dimming

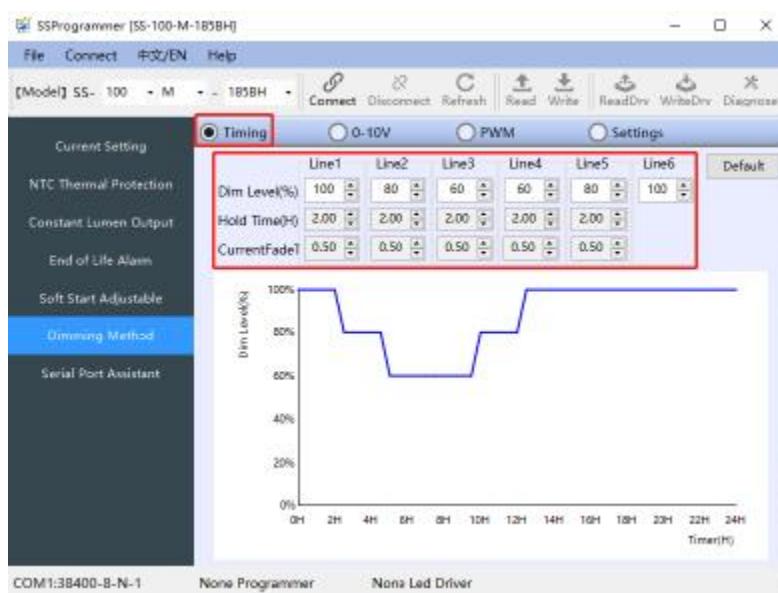
Timing dimming can be divided into traditional timer, self-adapt-midnight timer and self-adapt-percentage timer dimming

Traditional timer: After starting up, it can work according to the set dimming curve (the maximum holding time for each set period shall not exceed 4H. Adding gradient time can make the dimming levels change slowly and prevent the brightness from changing suddenly and causing glare phenomenon.

Self-adapt-midnight timer: The midpoint is the starting point of the fourth segment of the timer dimming line. The MCU of the power supply device will automatically recognize the effective starting time of the previous 4 days, and automatically calculate the starting time to adjust the adaptive time of the day.

Self-adapt-percentage timer: According to the initial set of 6 periods, the percentage of dimming set in each period will be automatically adjusted with the

effective time calculated by the power device, and each period will be automatically adjusted according to the percentage change of the effective time.



4.2.8 Reserve functions

PWM dimming, Setting, two interfaces are used as reservations.

4.3 Introduction to self-adapt timer dimming function

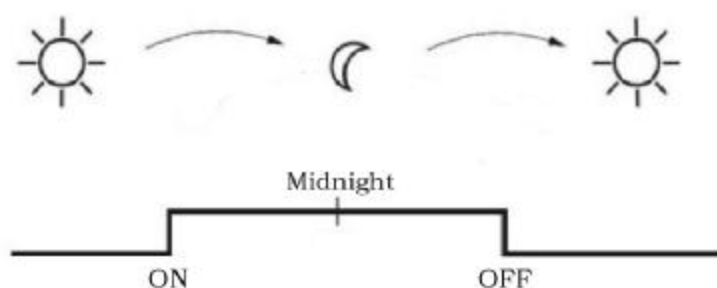
4.3.1 Application of self-adapt timer dimming function

The self-adapt timer dimming function in SOSEN programmable LED driver fully considers the influence of the change of night length in different regions and seasons on the use of lamps. The LED power supply device automatically calculates the boot time in the way of "self-learning" and corresponds to the "timing and dimming curve" set at the initial installation to realize the self-adaptive timing and dimming function. "Timing dimming curve" only needs to be set once on site during installation. Our self-adapt timer dimming function includes two modes: self-adapt-midnight and

self-adapt-percentage.

4.3.2 Self-adapt time calculation

1. Turn the machine on and off manually at least once a day.



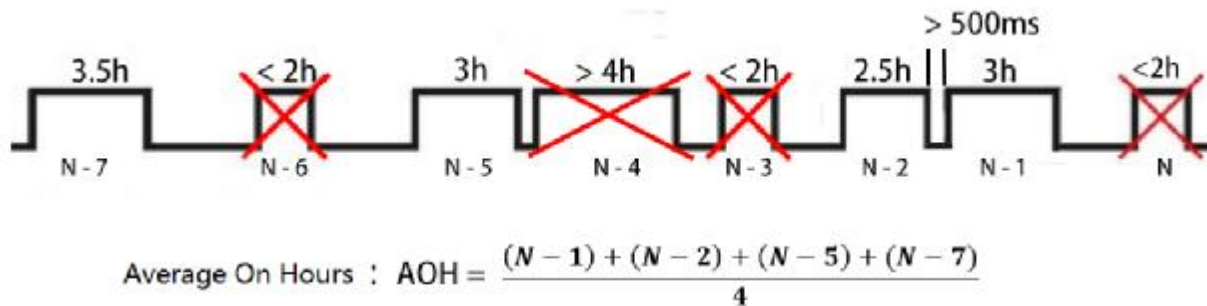
2. The power supply device automatically calculates the effective startup time

(1) The time of power supply device starting and running is no less than 2 hours, which is one effective operation time.

(2) The power-off time of the power supply device is not less than 500ms, which will be recorded as a new time.

(3) The absolute value difference of the effective operation time of the power supply device is no more than 1 hour.

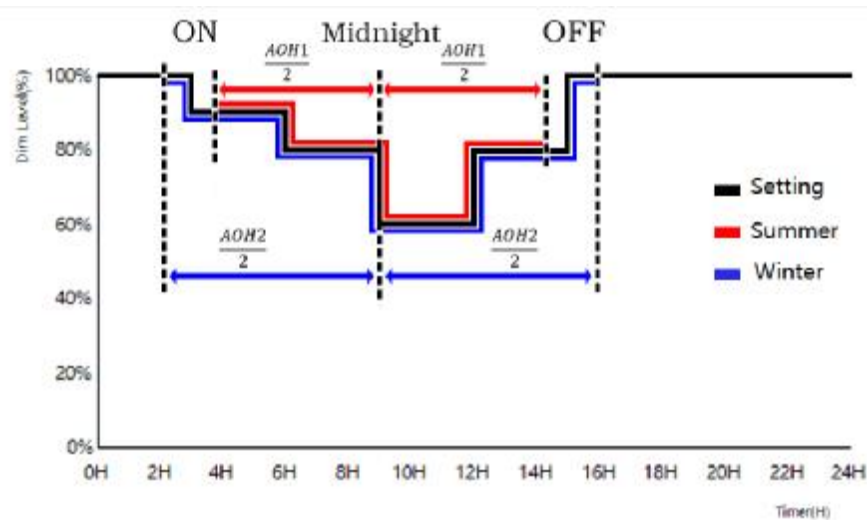
(4) Average the last four effective operation times to get the "average on time"(AOH), or "adaptive cycle".



4.3.3 Modes of self-adapt timer dimming

1 Self-adapt-midnight timer

- (1) Take the starting point set in section 4 of the timing dimming curve as the adaptive midpoint(Virtual Midnight).
- (2) Then, according to the "average on time", correspond to the "timed Light adjustment" midpoint side.



2 Self-adapt-percentage timer

The full length of "timed Light Adjustment" is 100% time, corresponding to the specific time of "average on time".

