



SosenProgrammer Software User Manual for the NP-MC Series

Type: NP-MC

Power: 800W/1200W/1600W

Version: V00

Release Date: 2026-08-18

I、SosenProgrammer User Manual

1.Connecting the Computer, Programmer, and LED Driver

Two programming methods are available for the NP-MC series:

Method 1: Programming via RS-485 terminals (The LED driver must remain connected to AC power)

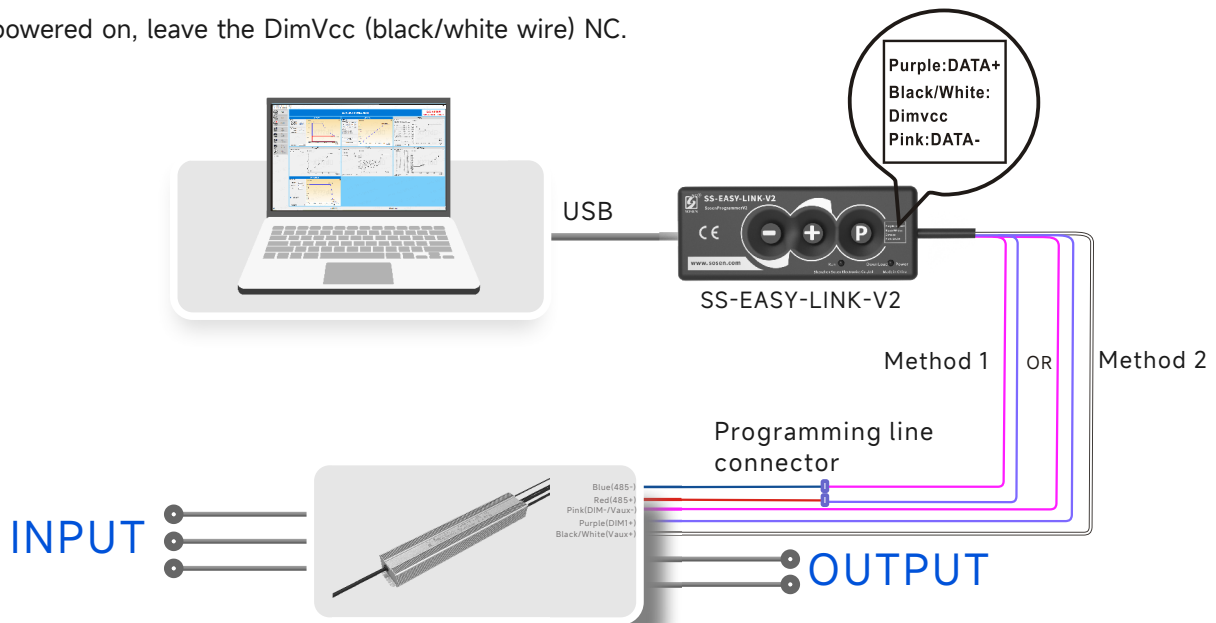
- (1) Connect the programmer's DATA+ (purple wire) to the driver's RS-485+ terminal.
- (2) Connect the programmer's DATA- (pink wire) to the driver's RS-485- terminal.
- (3) Leave the programmer's DimVcc (black/white wire) NC (unconnected).

Method 2: Programming via DIM or UART terminals

- (1) Connect the programmer's DATA+ (purple wire) to the driver's DIM1+/UART+ terminal.
 - (2) Connect the programmer's DATA- (pink wire) to the driver's DIM-/UART-/Vaux- terminal.
 - (3) Connect the programmer's DimVcc (black/white wire) to the driver's Vaux+ terminal.
- If the LED driver is AC powered on, leave DimVcc NC.

Note: When using Method 1 for programming, the driver must remain AC powered on (PS: Models with RH* suffix only support Method 1 programming).

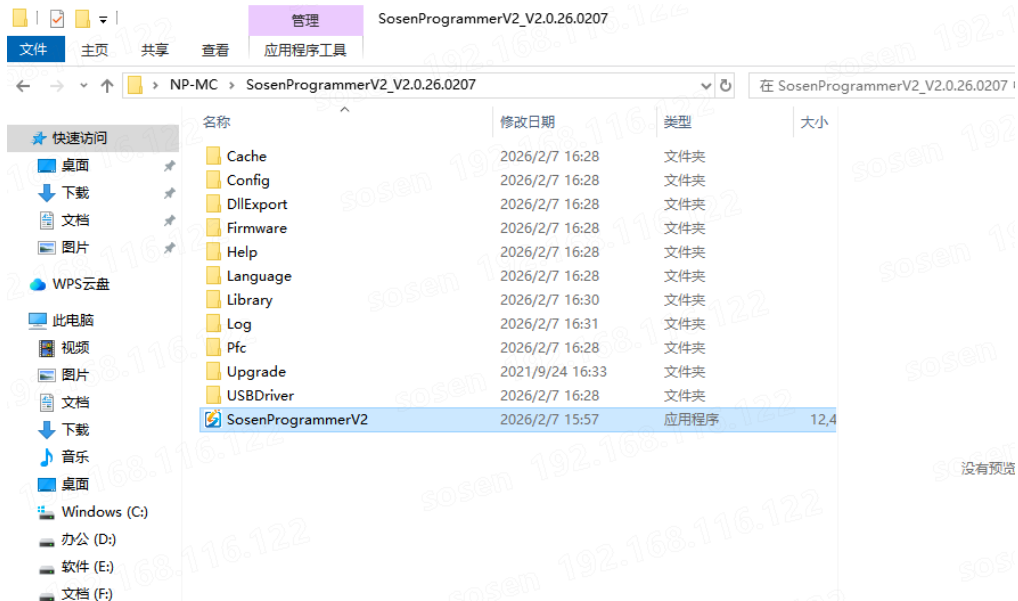
When programming with Method 2, the LED driver can remain AC powered off. If the driver is AC powered on, leave the DimVcc (black/white wire) NC.



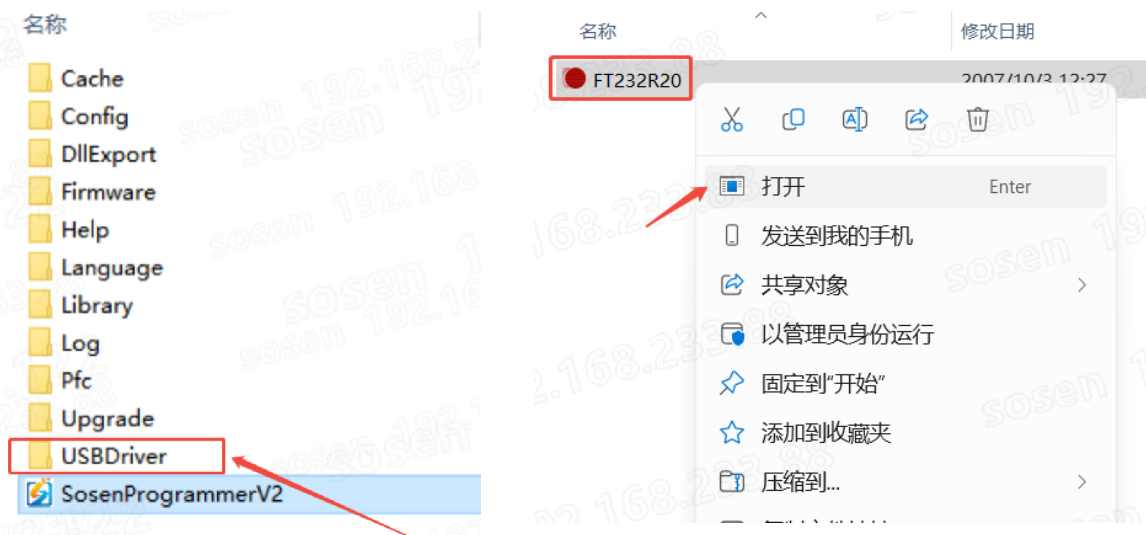
Use the appropriate programming method. If the driver is connected to a luminaire, the luminaire will flash once when programming is completed, indicating a successful write.

2.Before programming

(1)Download and extract the dedicated Sosen programming software.



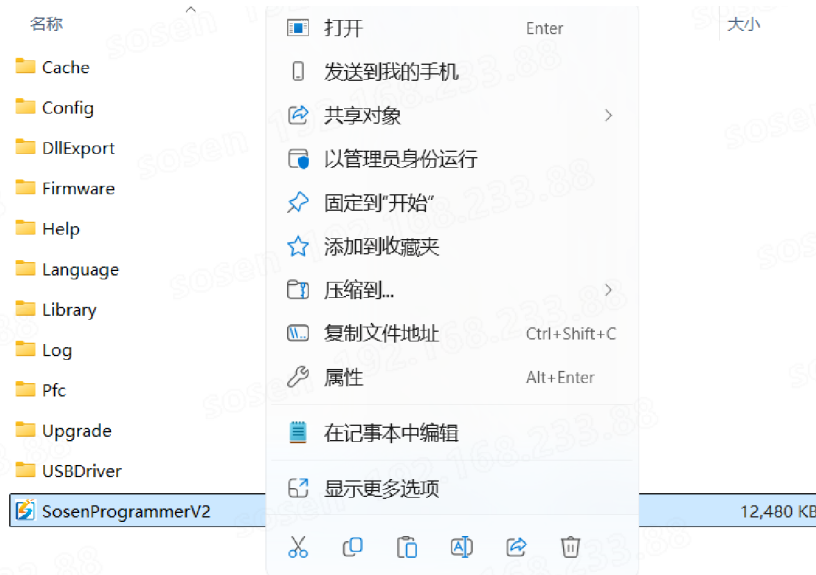
(2)Open the USBDriver folder and install the driver "FT232R20".



Note: After the USB driver is successfully installed on the computer, there is no need to reinstall the USB driver for subsequent use of the SosenProgrammer application.

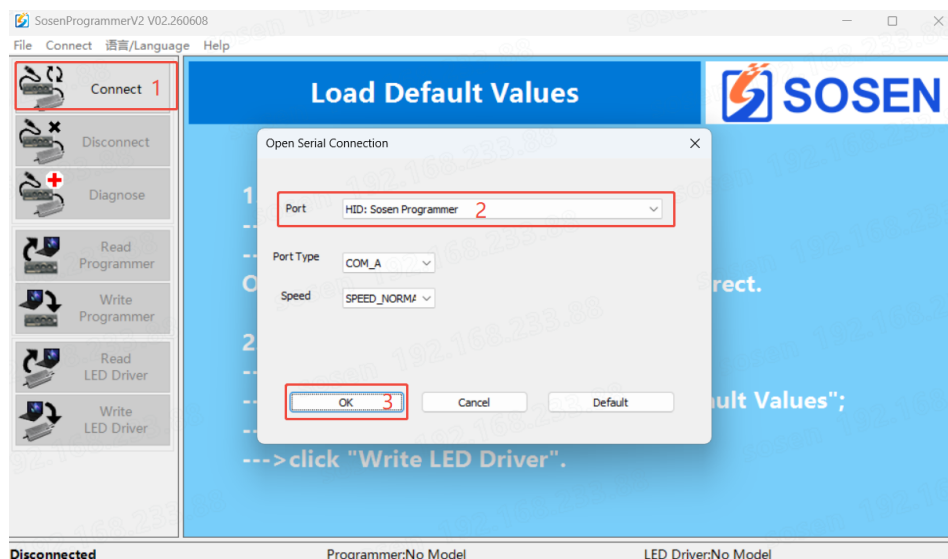
3.Run the Software and Read the LED Driver

Locate and open the SosenProgrammer V2 application



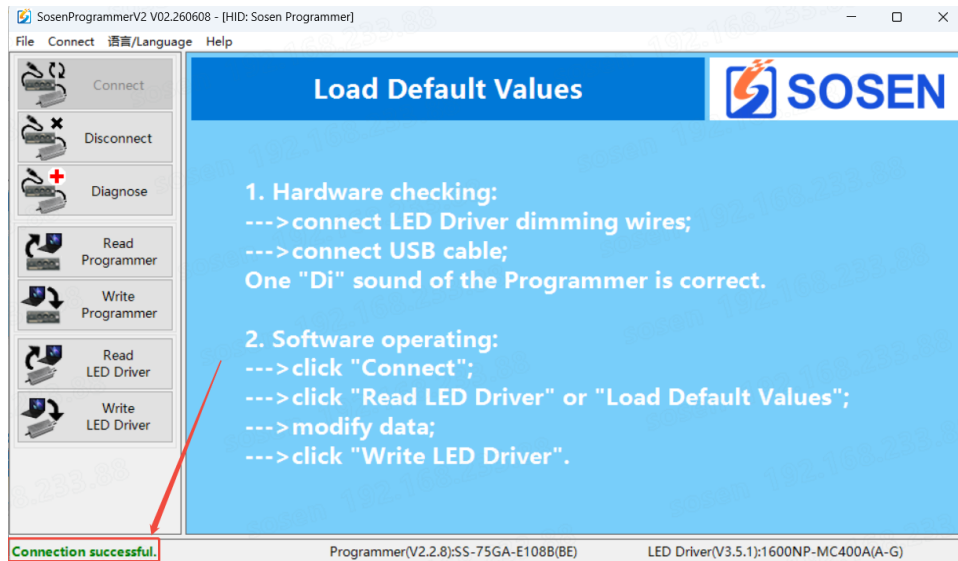
(1)Click "Connect" to launch the Open Serial Port Connection window.

(2)Select the port (if the "Port" option is blank, you need to reinstall the USB driver).

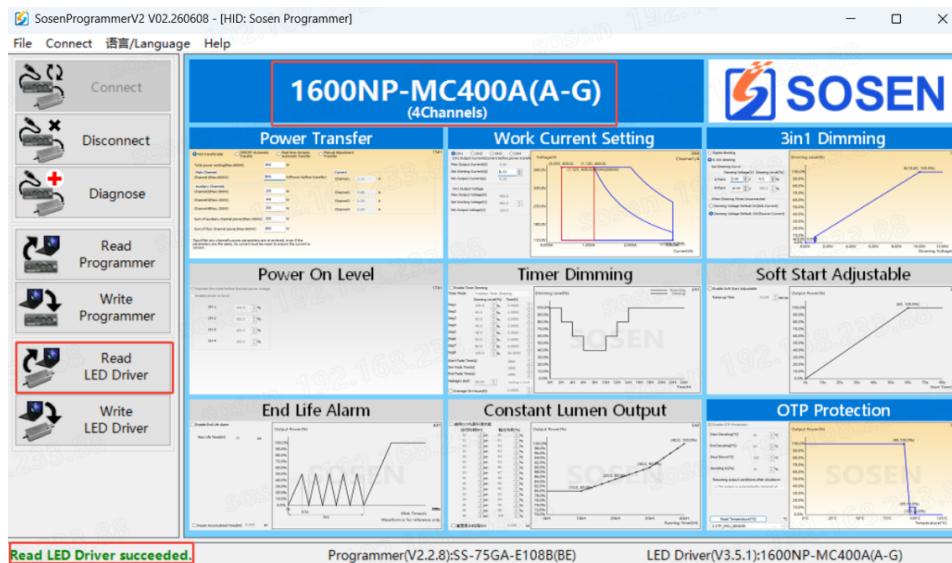


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(3)Click "OK", and the status in the lower-left corner will display "Connection successful".

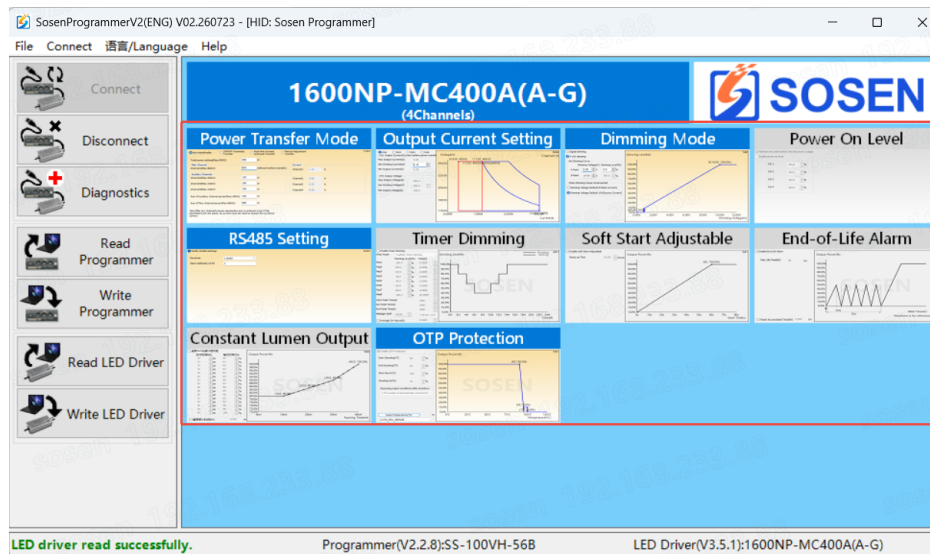


(4)Click "Read LED Driver"



Upon successful reading, the lower-left corner displays "Read LED driver succeeded", and the top model field displays the driver's model information.

(5)Configure device parameters using the SosenProgrammer software.



It is recommended to configure the parameters in the following order:

- ①Select the power transfer mode. No Power Transfer / Auto Power Transfer (Dim-to-off) / Dynamic Auto Power Transfer / Manual Power Transfer)
- ②Set the total output power limit.
- ③Set the power for each channel.

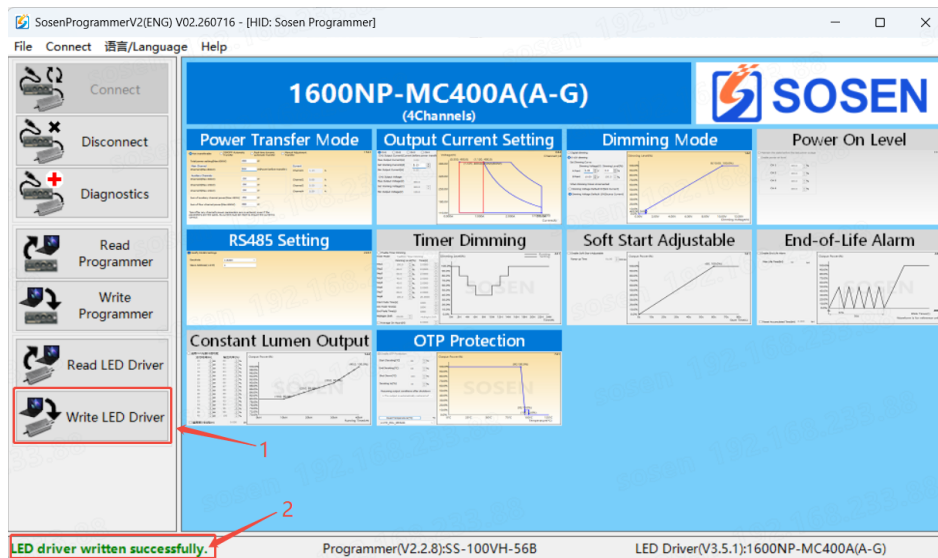
Note: When using the No Power Transfer, Auto Power Transfer (Dim-to-off) or Dynamic Auto Power Transfer modes, the power of CH 1 shall be set to the pre-transfer power. When using the Manual Power Transfer mode, the power of CH 1 shall be set to the post-transfer power.

- ④Calculate the output current based on the load voltage and then set it in the Output Current Setting interface.

Note: When using the No Power Transfer, Auto Power Transfer (Dim-to-off) or Dynamic Auto Power Transfer, the current of CH 1 shall be set to the pre-transfer current. When using the Manual Power Transfer mode, the current of CH 1 shall be set to the post-transfer current.

- ⑤Set the dimming mode and other functions.

(6)Click 'Write LED Driver' to write the parameters and complete the programming process.



After successful writing, the lower-left corner interface will display " LED driver written successfully ".

II、Key Feature Instructions

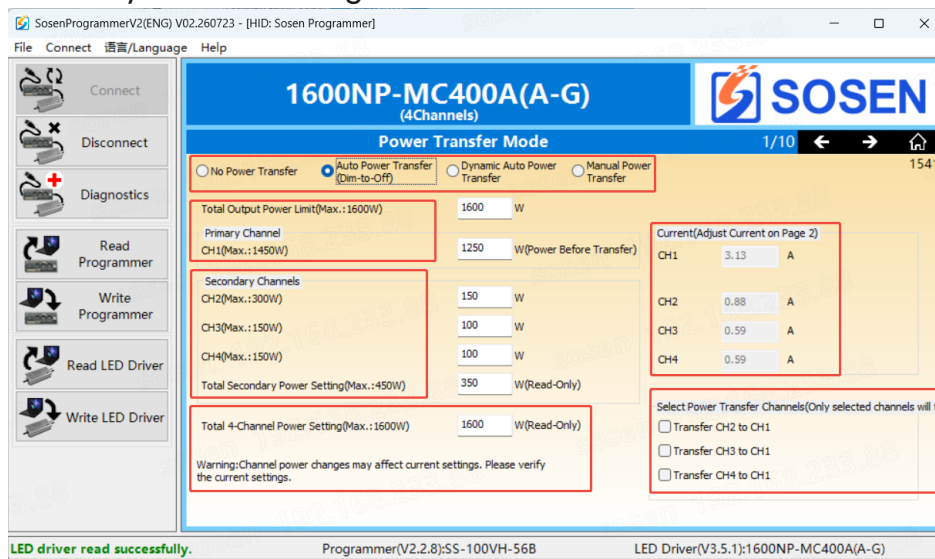
1.Power transfer

The power-transfer function provides several modes for transferring available power from the secondary channels (CH 2, CH 3, and CH 4) to the primary channel (CH 1), thereby increasing the primary channel's output power.

When selecting a power transfer mode, select the appropriate "Select Power Transfer Channels" based on your actual requirements.

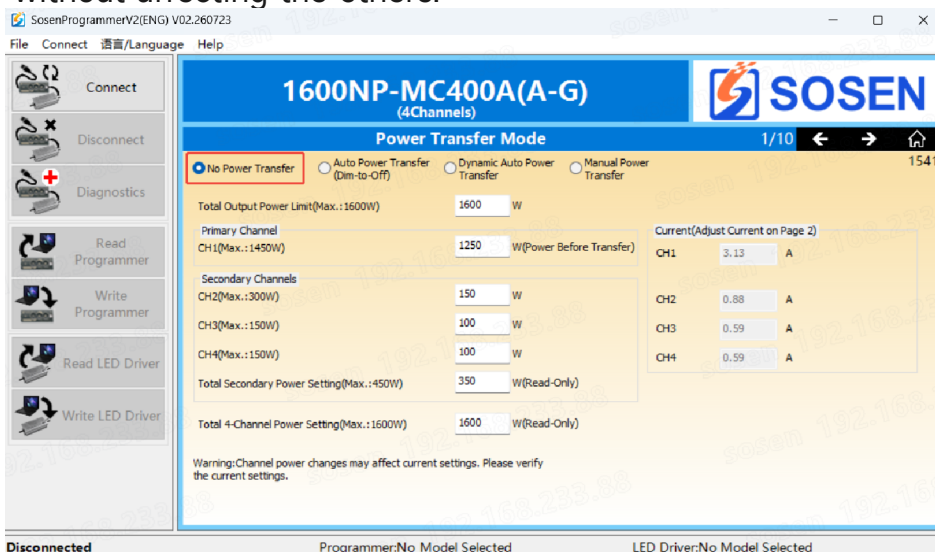
► The maximum output power of the primary channel is limited by the model specifications (e.g., the maximum output power of the primary channel for 1600NP-MC is 1450 W).

► Total secondary Power Setting (Max.: 450 W)



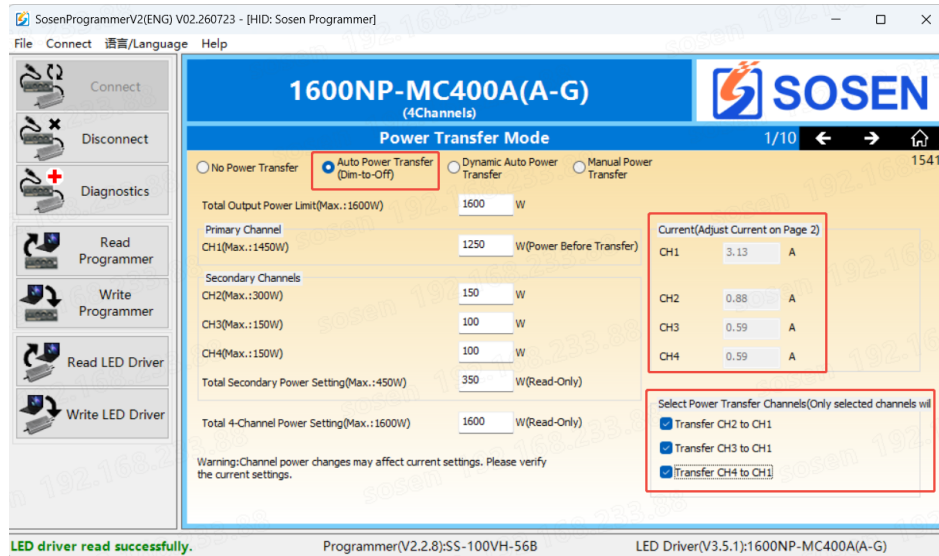
(1) No Power Transfer

The four channels operate independently, each delivering its configured output power without affecting the others.



(2)Auto Power Transfer (Dim-to-off)

When any of the secondary channels (CH 2, CH 3, or CH 4) is completely turned off by Dim-to-Off, the power configured for that channel is automatically transferred to the primary channel (CH 1).

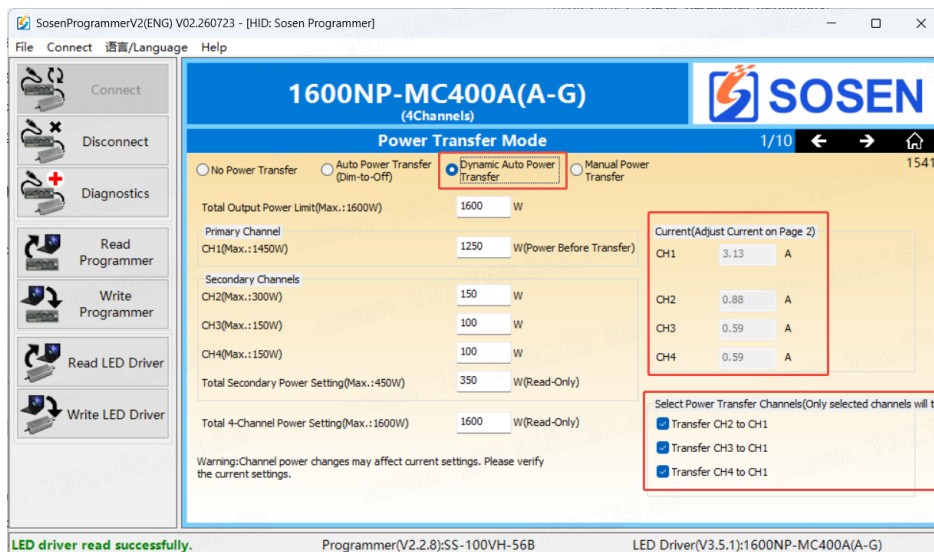


Note: If an secondary channel is merely dimmed to a lower output level (rather than fully turned off), no power transfer occurs.

Transfer limit: Further transfer stops when the cumulative transferred power causes the primary channel to reach its maximum output-power limit, preventing operation above the rated power.

(3)Dynamic Auto Power Transfer

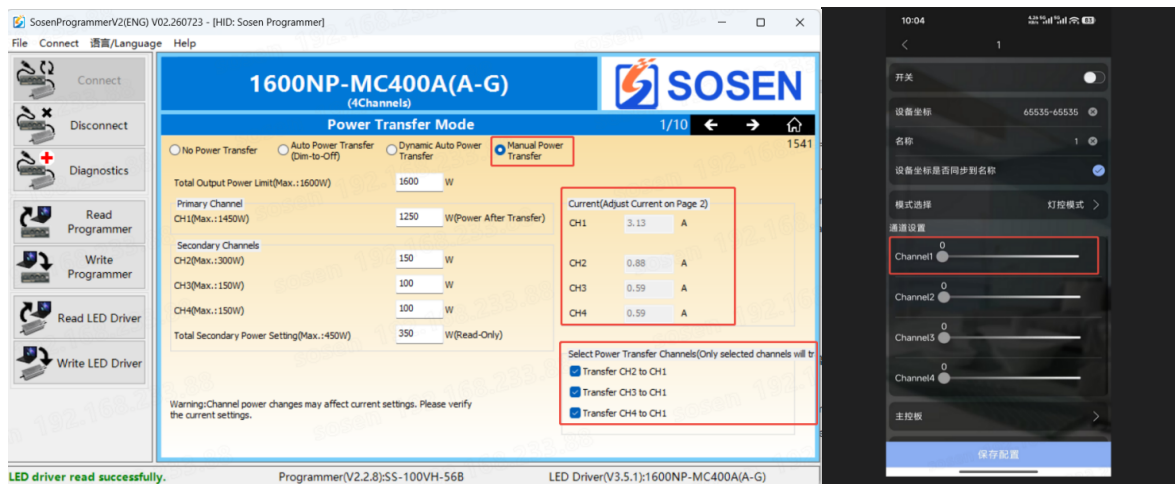
When the secondary channels (CH 2, CH 3, and CH 4) are dimmed to lower output levels, the resulting available power is immediately transferred to the primary channel (CH 1).



Note: This mode transfers power during dimming (not only at complete shutdown), whereas Dim-to-off mode only transfers when the secondary channel is completely turned off.

(4) Manual power transfer

When the output power of any secondary channel (CH2, CH3, or CH4) is reduced through dimming, the released power capacity becomes available to CH1. However, CH1's output power does not increase automatically. To increase CH1's output power, the user must raise the CH1 dimming-control signal. If the dimming-control signal of the secondary channel is subsequently increased, the power previously transferred to CH1 will automatically be returned to that secondary channel.



Note: In Manual Power Transfer mode, the main channel power and current entered are the values after power transfer.

①. Basic parameter definitions

Primary channel power upper limit: The maximum output power allowed for the primary channel after power transfer (software adjustable).

Initial primary-channel power: The primary-channel output power before power transfer.

Initial primary channel power == Actual Total Output Power Limit - Actual Total

Secondary Power Setting

System idle power: The total idle power of secondary channels during dimming down (real-time dynamic).

②.Calculation of the Effective Primary-Channel Dimming-Signal Value

Effective primary-channel dimming-signal value =

$(\text{Initial primary-channel power} + \text{System idle power}) / \text{Primary-channel power limit} \times 100\%$
($\leq 100\%$).

Meaning: The maximum proportion of power the primary channel can output at present; if exceeded, the primary channel output will be clamped.

③.Actual Primary-Channel Output Power

When the Primary-channel dimming signal $\leq$ the effective primary-channel dimming-signal value:

$P_{\text{out}} = \text{Primary-channel power limit} \times \text{Primary-channel dimming signal}$

When the primary-channel dimming signal $\geq$ the effective primary-channel dimming-signal value: $P_{\text{out}} = \text{Initial primary-channel power} + \text{System idle power}$ (clamped)

Example: For simplicity, the LED driver's output-current accuracy error is ignored in the following calculation.

Take the 1600NP-MC as an example. Select Manual Power Transfer mode, set the maximum total four-channel power to 1600 W, set the maximum post-transfer primary-channel power to 1450 W, and set the total secondary-channel power to 440 W.

Initial primary channel power = 1600 W – 440 W = 1160 W

When no dimming derating is applied to the secondary channels, the system idle power is 0 W.

Effective primary-channel dimming-signal value = $(1160 + 0) / 1450 = 80\%$.

When the dimming signal $\leq 80\%$, the primary channel supports normal dimming; when the dimming signal $\geq 80\%$, the output power of the primary channel remains steady at 1160 W.

When the secondary channels are dimmed down to 295 W,
the system idle power = 440 W – 295 W = 145 W.

Effective primary-channel dimming-signal value = $(1160 + 145) / 1450 = 90\%$.

When the dimming signal $\leq 90\%$, the primary channel supports normal dimming; when the dimming signal $\geq 90\%$, the output power of the primary channel remains steady at 1305 W.

④.Power Transfer and Return Logic

Power transfer

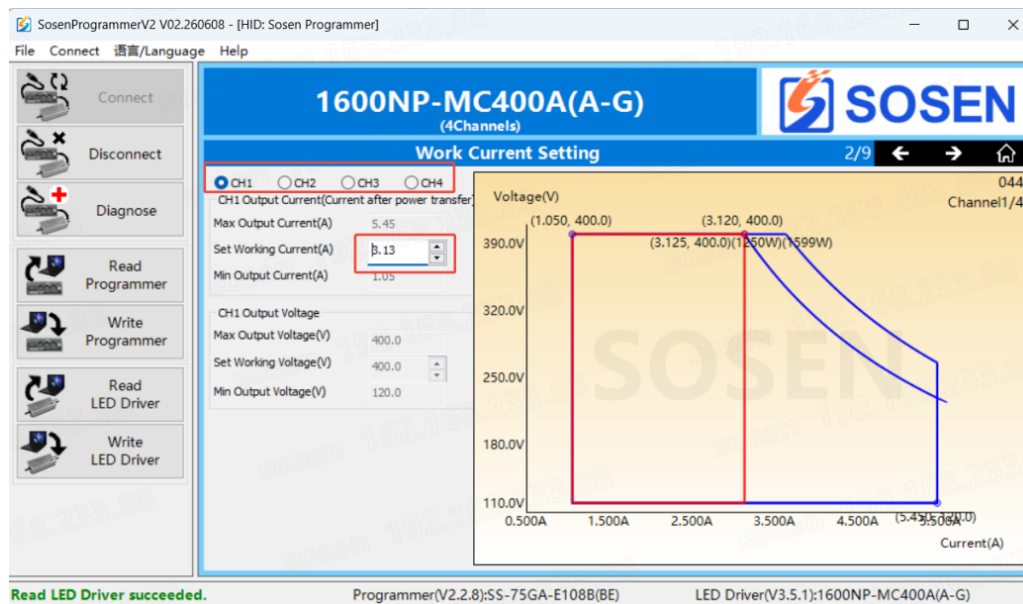
Secondary channels dimming down → Idle power generated → Primary channel dimming effective value increases, output capability improves → Increase controller signal → Primary channel output power increases

Power Return

If an secondary channel is dimmed and part of its power is transferred to the primary channel, increasing its dimming level will automatically return the transferred power to the corresponding secondary channel. At this time, the primary channel dimming signal is greater than the primary channel dimming effective value, resulting in a positive output deviation. Please lower the primary channel dimming signal to make it less than or equal to the primary channel dimming effective value.

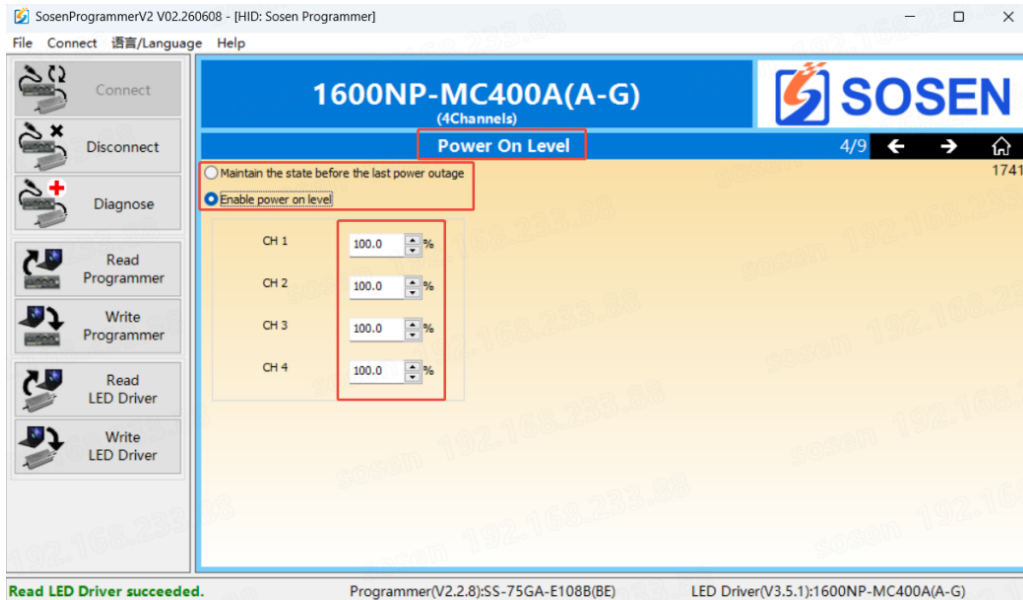
Note: In all the above transfer modes, the primary channel power cannot exceed its maximum output power limit. Power transfer stops automatically when the cumulative transferred power causes the primary channel to reach its upper limit.

2.Current setting



The driver allows the output current of each channel to be configured independently. Select each channel in turn and set its output-current value.

3.Power-on brightness level (valid only in 485/UART dimming mode; not applicable in 0-10 V or PWM dimming mode)



(1)Power-off Memory

Retains the last output level of each channel before power-off.

(2)Enable Power On level

After power-on, the device operates at the preset level. It will switch to the value defined by the dimming signal once a valid signal is received

Change History

Version	Description of Changes	Revision Date	Remarks
V00	Initial Release	2026/08/18	

