LUMIGEAR

2026

LUMIGEAR Programming Tool User Manual

V1.1

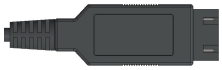
Important Notes

Before using this software operation manual, please ensure you have the complete set of required products:

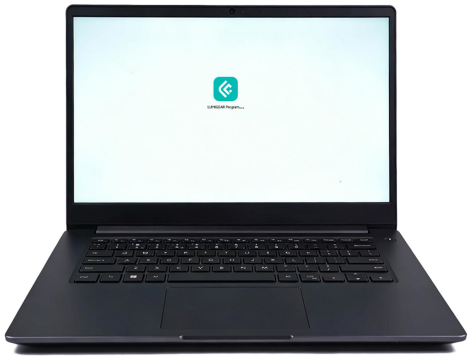
1.LUMIGEAR LED driver

2.Programming Interface

3.Programming cable (Different products use different cables; please refer to the specification for cable details)

Model list	Description	Length	Picture
PGT-USB-RJ9	USB Type A + RJ9	1500 mm	
PGT-USB-AUDIO	USB Type A + 2.5mm Audio plug	1500 mm	
PGT-USB-M4P2	USB Type A + 4pin P2.0 male plug	1500 mm	
PGT-USB-P254	USB Type A + 4pin P2.54 male plug	1500 mm	
PGT-USB-F4P2	USB Type A + 4pin P2.0 female plug	1500 mm	

4.Computer with our software installed（Currently only supports Windows operating system.）



Below are two wiring methods: one correct and one incorrect.

If you have followed the correct wiring method, you can launch the software, log in with the default password Lumigear, click the READ button to read parameters, and click WRITE after parameter setup to finish programming.
(Simple operations can be completed following these steps. For more information, please continue reading this software manual.)

1. Introduction

1.1 Software Introduction

LUMIGEAR Programming Tool is fully compatible with all current LUMIGEAR LED drivers equipped with a programming interface. Developed with the core goal of "simplifying operations and enhancing efficiency".it delivers a convenient and highly efficient parameter configuration experience for customers. Whether it is basic parameter debugging or customized function setup.users can quickly complete the parameter setting of the LED driver without going through complicated operation procedures. This significantly shortens the debugging cycle.transforming driver programming from a tedious task into a streamlined and efficient process. It truly achieves "instant adjustment and setup.efficient adaptation".providing strong support for customers in advancing projects and debugging products.

1.2 Operating System Requirements

Operating System：Windows 7 Service Pack 1 or higher.

Software Environment：.NET Framework 4.8

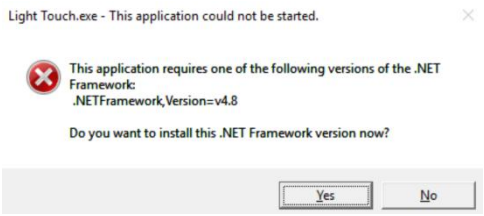
Supported Printer Model：Zebra ZD410.GK420T

Note:

1.If you do not use the printing function.you do not need to install the printer driver.

2.If you encounter an error when double click the “LUMIGEAR Programming Tool” file, please click on the link below to download and install .NET framework 4.8.

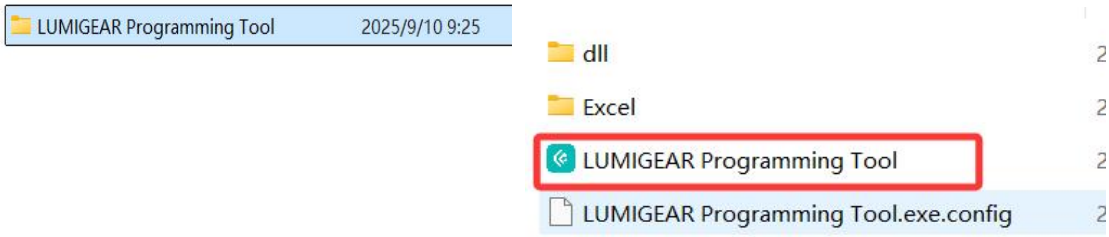
https://dotnet.microsoft.com/zh-cn/download/dotnet-framework/thank-you/net48-offline-installer



.NET framework not installed

.NET framework has been installed

1.3 Software installation and startup



Double click "LUMIGEAR Programming Tool" to start the software.

1.4 Programmer Hardware Wring Connection

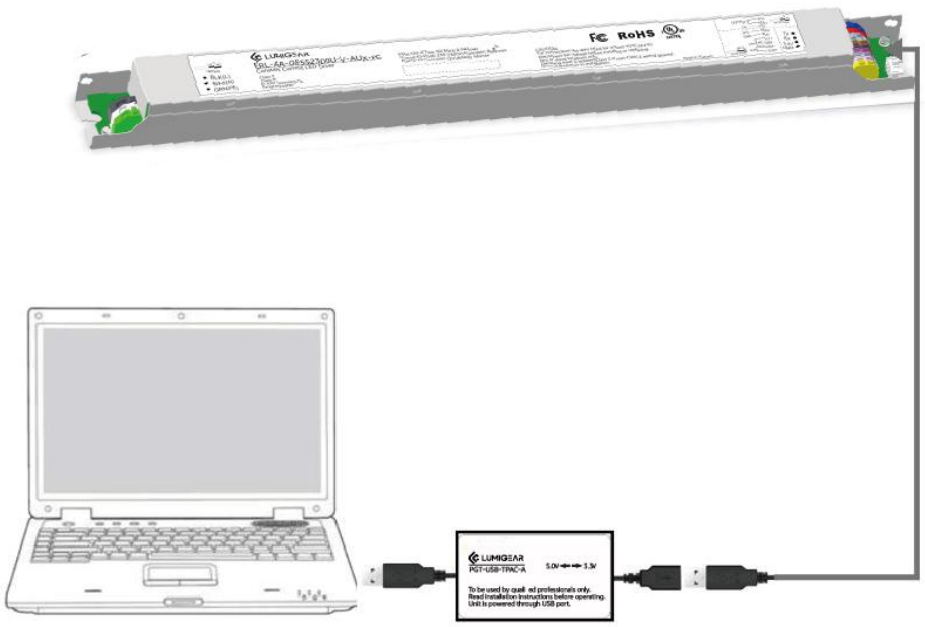


Figure 1 Programming connection diagram

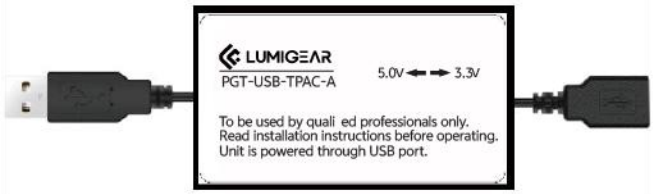


Figure 2 LUMIGEAR Tool Box

The USB male connector of LUMIGEAR Tool Box is connected to the computer.the USB female connector is connected to the USB male to RJ9 or 2.54mm cable.and the RJ9 or 2.54mm terminal is connected to the driver. see figure 1.

Note: When programming the LED driver.there is no need to provide AC power to the LED driver.

2. Software Function

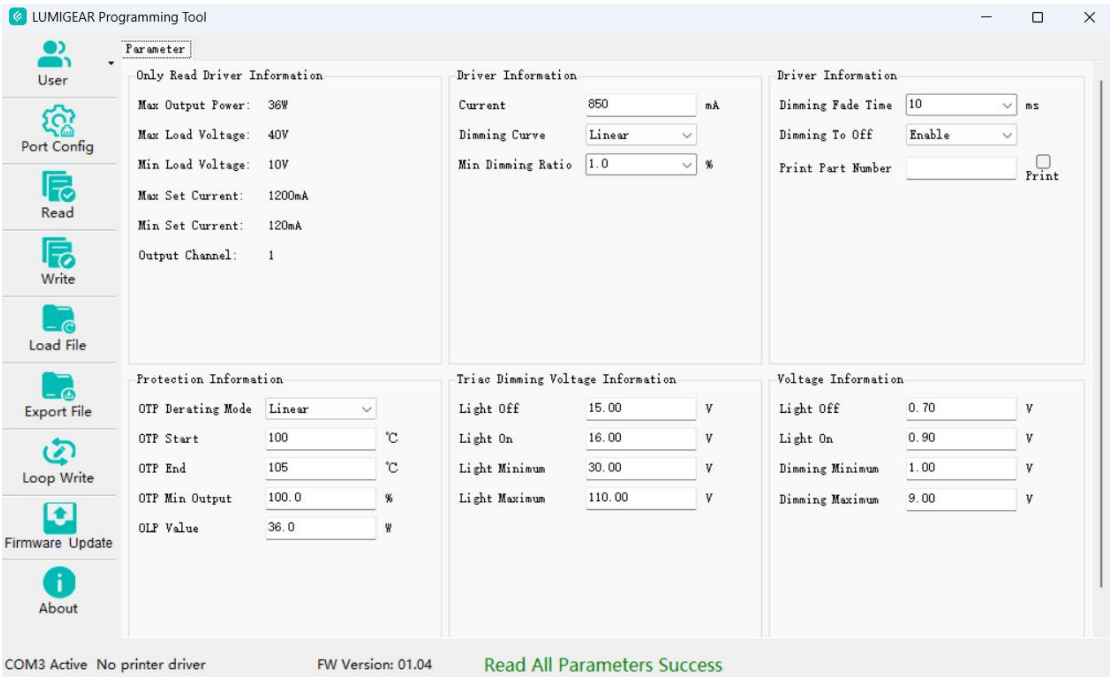


Figure 3

LUMIGEAR Programming Tool UI include:

Title bar: Display the software name and version.

Operating area: All operation buttons.including user menu.serial port configuration.read parameter.write parameter.load parameter file.export parameter file.loop write parameter.Firmware Update.about software.

Parameter display area: Displays and edits parameter information.

Click the Write or Loop Write button to start writing parameters.after writing parameters.it will prompt whether the write is succeeded (Completed) or failed (Operation Failed).

Click an area except the title bar to cancel the display of the prompt information.

Status bar: Displays serial port.printer driver.firmware version.operation prompt information.**2.1 User**

2.1.1 User login

Figure 4

1. Click User -> Login.
2. Input “password” and then click “Login”.

Note: only engineers need to login.Default password “Lumigear”. Operator mode does not require login.

2.1.2 Change Password

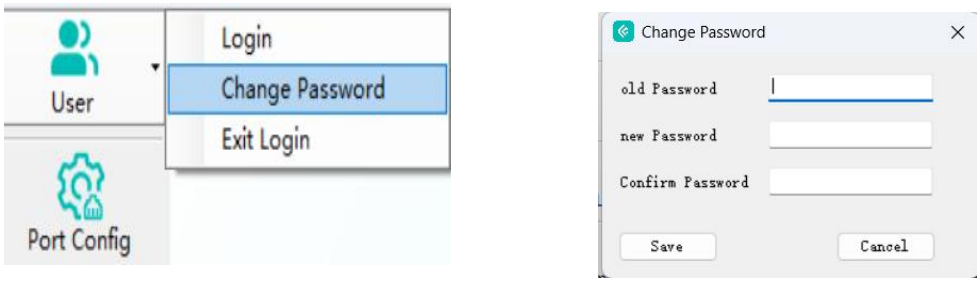


Figure 5

1. Click User -> Change Password.
2. Input old password.new password and confirm password then click “Save”.

2.1.3 Exit Login

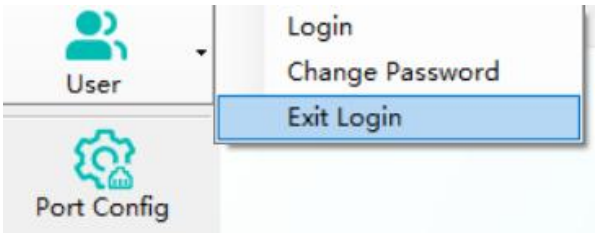


Figure 6

Click User -> Exit Login.Exits the engineer permission.

2.2 Port Configuration

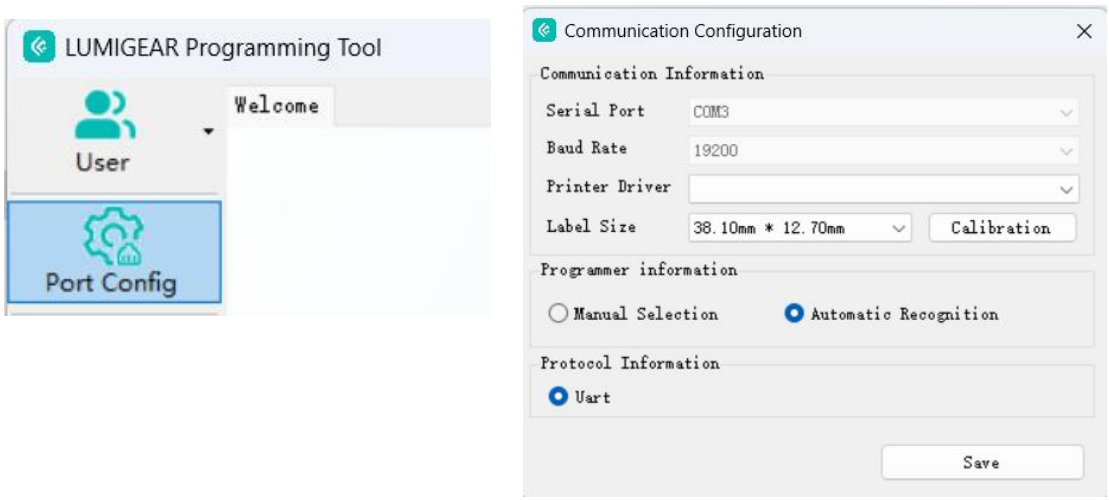


Figure 7

1. Click “Port Config”.
2. Select programmer serial port.baud rate.printer driver.label size.programming recognition mode and then click “Save”.

Note:

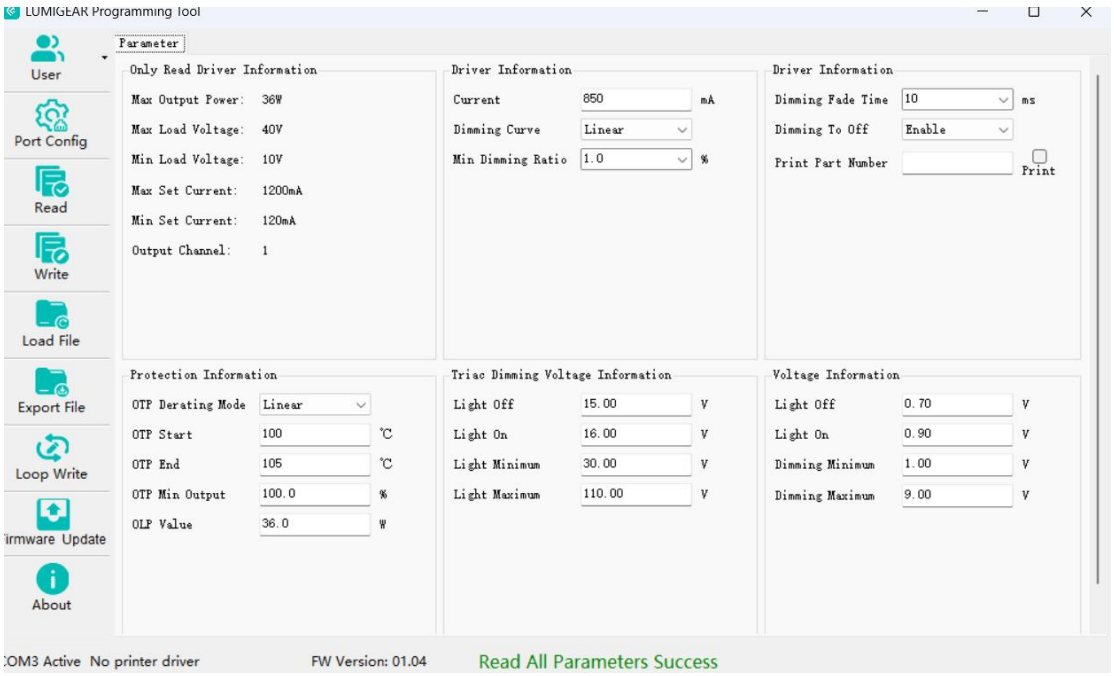
1.The baud rate needs to be selected only when choosing "Manual selection". DMX series drivers select 115200 baud rate.the other series drivers select 19200 baud rates.

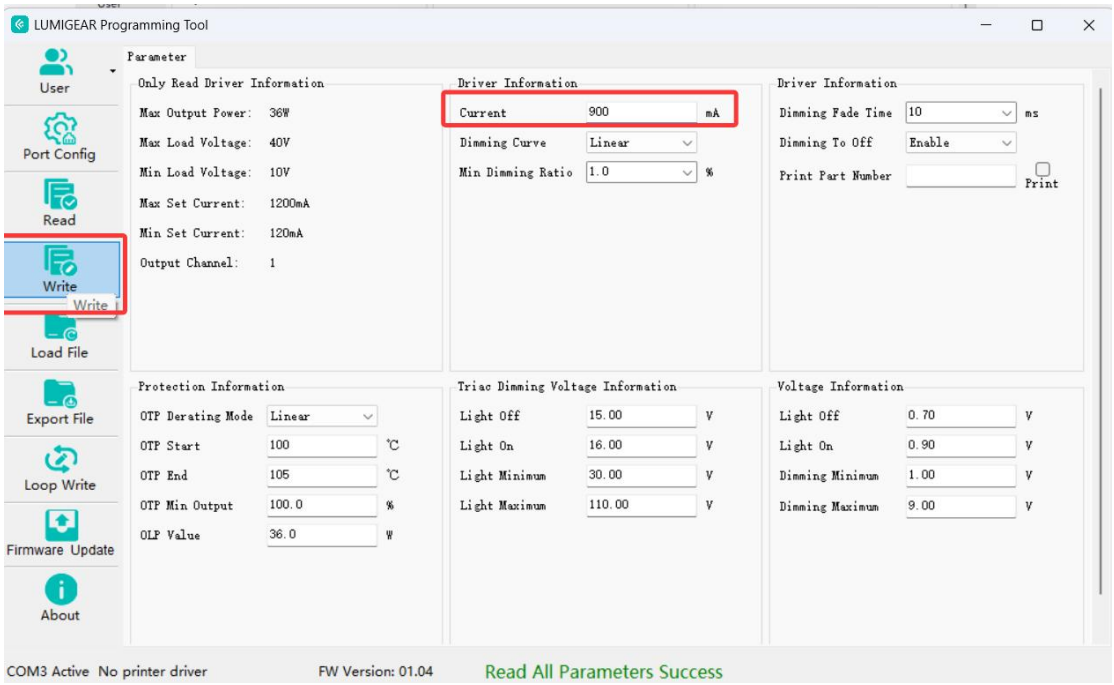
2.If no printer driver is installed.do not select the printer driver.

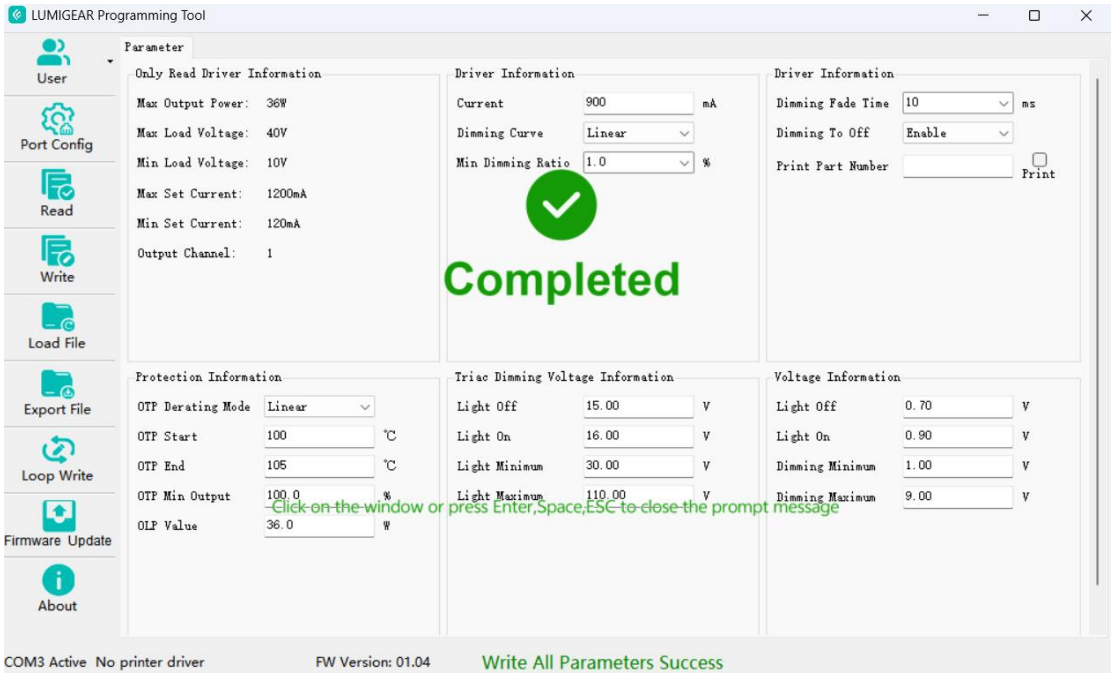
3.Older programmers select the Manual selection option.and newer programmers select the Automatic Recognition option.after selecting “Automatic Recognition”.there is no need to configure “serial port” and “baud rate”.

4. Click the “Calibration” button to test the position of the printed label.

2.3 Read Write Parameters




LUMIGEAR Programming Tool
Parameter
User
Port Config
Read
Write
Load File
Export File
Loop Write
Firmware Update
About
Only Read Driver Information
Max Output Power: 36W
Max Load Voltage: 40V
Min Load Voltage: 10V
Max Set Current: 1200mA
Min Set Current: 120mA
Output Channel: 1
Driver Information
Current 900 mA
Dimming Curve Linear
Min Dimming Ratio 1.0 %
Driver Information
Dimming Fade Time 10 ms
Dimming To Off Enable
Print Part Number
Print
Protection Information
OTP Derating Mode Linear
OTP Start 100 ℃
OTP End 105 ℃
OTP Min Output 100.0 %
OLP Value 36.0 W
Triac Dimming Voltage Information
Light Off 15.00 V
Light On 16.00 V
Light Minimum 30.00 V
Light Maximum 110.00 V
Voltage Information
Light Off 0.70 V
Light On 0.90 V
Dimming Minimum 1.00 V
Dimming Maximum 9.00 V
COM3 Active No printer driver
FW Version: 01.04
Read All Parameters Success


LUMIGEAR Programming Tool
Parameter
User
Port Config
Read
Write
Load File
Export File
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Firmware Update
About
Only Read Driver Information
Max Output Power: 36W
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Min Set Current: 120mA
Output Channel: 1
Driver Information
Current 900 mA
Dimming Curve Linear
Min Dimming Ratio 1.0 %
Completed
Driver Information
Dimming Fade Time 10 ms
Dimming To Off Enable
Print Part Number
Print
Protection Information
OTP Derating Mode Linear
OTP Start 100 ℃
OTP End 105 ℃
OTP Min Output 100.0 %
OLP Value 36.0 W
Triac Dimming Voltage Information
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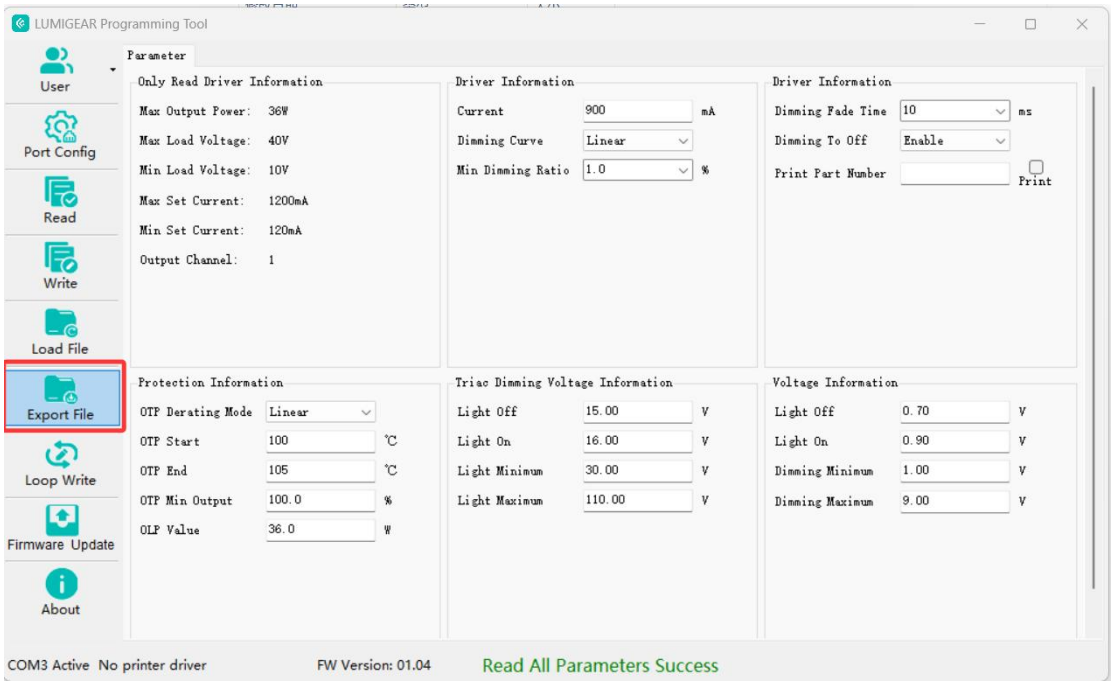
Light Minimum 30.00 V
Light Maximum 110.00 V
Voltage Information
Light Off 0.70 V
Light On 0.90 V
Dimming Minimum 1.00 V
Dimming Maximum 9.00 V
Click on the window or press Enter,Space,ESC to close the prompt message
COM3 Active No printer driver
FW Version: 01.04
Write All Parameters Success


LUMIGEAR Programming Tool
User
Port Config
Read
Write
Load File
Export File
Loop Write
Firmware Update
About
Parameter
Only Read Driver Information
Max Output Power: 36W
Max Load Voltage: 40V
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Output Channel: 1
Driver Information
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Dimming Curve Linear
Min Dimming Ratio 1.0 %
Driver Information
Dimming Fade Time 10 ms
Dimming To Off Enable
Print Part Number
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OTP Derating Mode Linear
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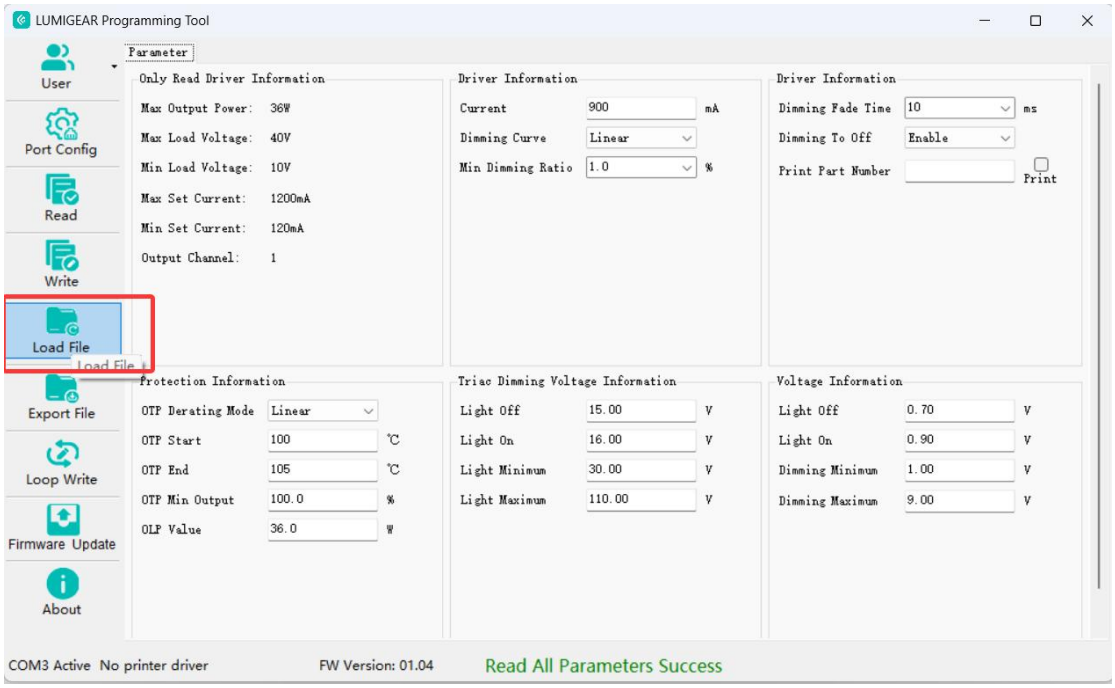
Light Off 0.70 V
Light On 0.90 V
Dimming Minimum 1.00 V
Dimming Maximum 9.00 V
COM3 Active No printer driver
FW Version: 01.04
Read All Parameters Success


LUMIGEAR Programming Tool
User
Port Config
Read
Write
Load File
Load File
Export File
Loop Write
Firmware Update
About
Parameter
Only Read Driver Information
Max Output Power: 36W
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Output Channel: 1
Driver Information
Current 900 mA
Dimming Curve Linear
Min Dimming Ratio 1.0 %
Driver Information
Dimming Fade Time 10 ms
Dimming To Off Enable
Print Part Number
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Protection Information
OTP Derating Mode Linear
OTP Start 100 ℃
OTP End 105 ℃
OTP Min Output 100.0 %
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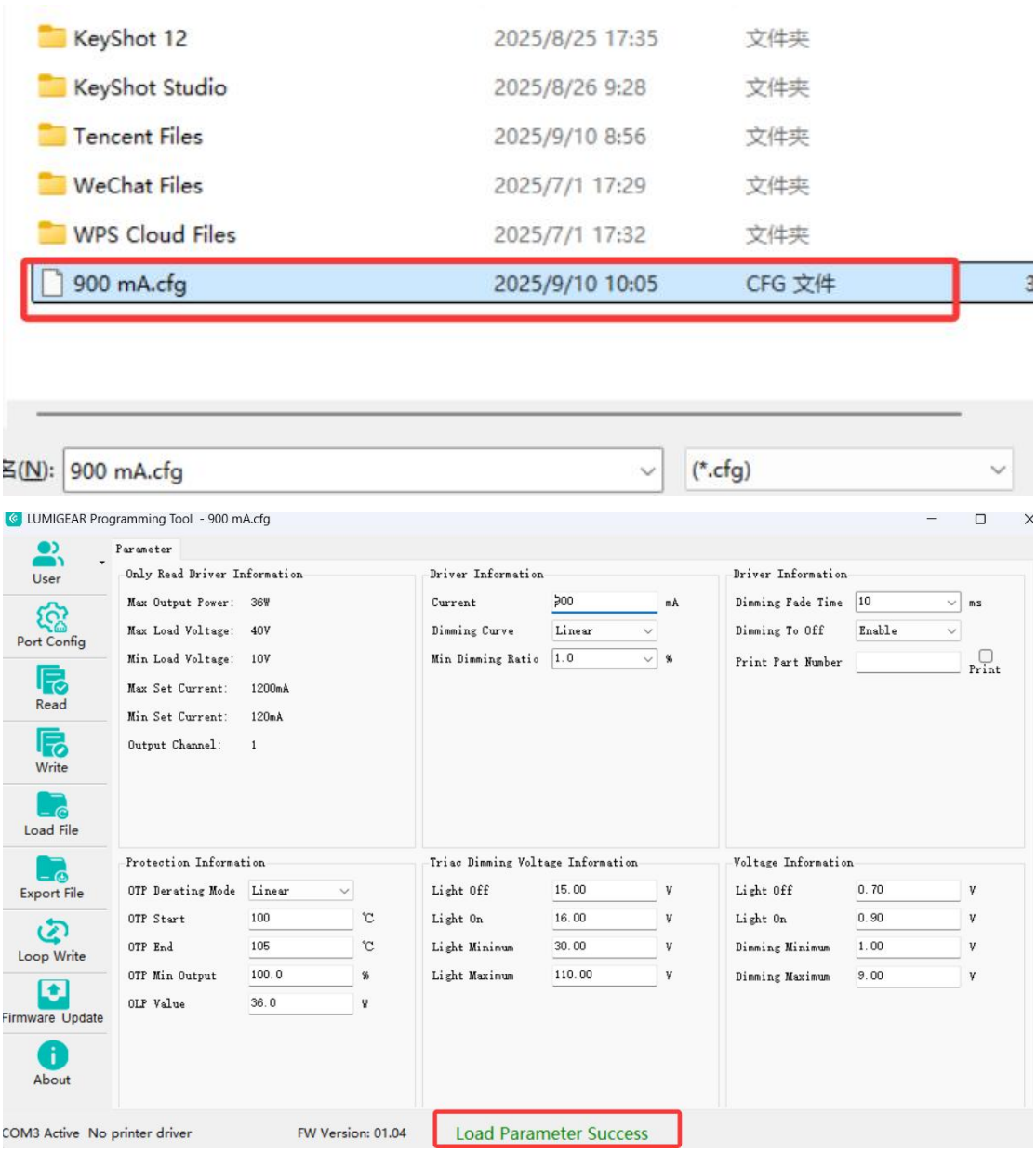
Voltage Information
Light Off 0.70 V
Light On 0.90 V
Dimming Minimum 1.00 V
Dimming Maximum 9.00 V
COM3 Active No printer driver
FW Version: 01.04
Read All Parameters Success


KeyShot 12 2025/8/25 17:35 文件夹
KeyShot Studio 2025/8/26 9:28 文件夹
Tencent Files 2025/9/10 8:56 文件夹
WeChat Files 2025/7/1 17:29 文件夹
WPS Cloud Files 2025/7/1 17:32 文件夹
900 mA.cfg 2025/9/10 10:05 CFG 文件
(N): 900 mA.cfg
(*.cfg)
LUMIGEAR Programming Tool - 900 mA.cfg
User
Port Config
Read
Write
Load File
Export File
Loop Write
Firmware Update
About
Parameter
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Max Output Power: 36W
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Driver Information
Current 900 mA
Dimming Curve Linear
Min Dimming Ratio 1.0 %
Driver Information
Dimming Fade Time 10 ms
Dimming To Off Enable
Print Part Number
Print
Protection Information
OTP Derating Mode Linear
OTP Start 100 ℃
OTP End 105 ℃
OTP Min Output 100.0 %
OLP Value 36.0 W
Triac Dimming Voltage Information
Light Off 15.00 V
Light On 16.00 V
Light Minimum 30.00 V
Light Maximum 110.00 V
Voltage Information
Light Off 0.70 V
Light On 0.90 V
Dimming Minimum 1.00 V
Dimming Maximum 9.00 V
COM3 Active No printer driver
FW Version: 01.04
Load Parameter Success

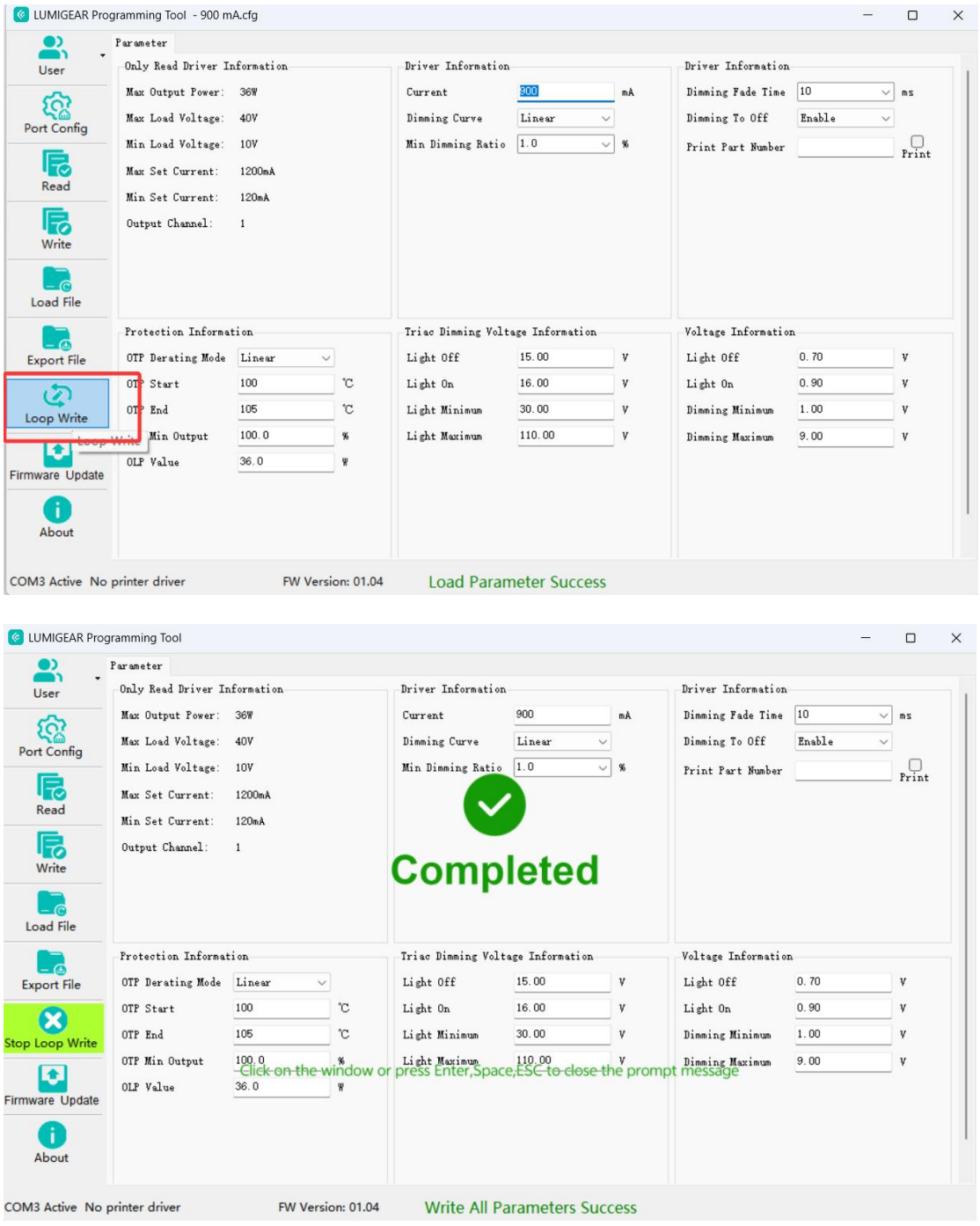


Figure 8 Driver Parameters UI

1.Click Read button. Read all parameters.
2.Click Write button. Write all parameters to driver.
3.Click Export File button. Export all parameter to file.
4.Click Load File button. Load external parameter file.
5.Click Loop Write button. Write all parameters to driver every 2.5s.

Only Read Driver Information	
Max Output Power	Maximum output power of the driver
Max Load Voltage	Maximum load voltage of the driver
Min Load Voltage	Minimum load voltage of the driver
Max Set Current	Maximum settable current of the driver
Min Set Current	Minimum settable current of the driver
Max CCT Ratio	Maximum settable CCT of the driver
Min CCT Ratio	Minimum settable CCT of the driver
Output Channel	Number of drive output channels
CCT Information	
Level1 - Level5	Configuration the CCT ratio of CCT switch.
Physical Warmest	Configuration the physical warmest color temperature of the lamp.
Physical Coolest	Configuration the physical coolest color temperature of the lamp.
Logical Warmest	Configuration the logical warmest color temperature of the lamp. The logical warmest color temperature should be greater than or equal to the physical warmest color temperature.
Logical Coolest	Configuration the logical coolest color temperature of the lamp. The logical coolest color temperature should be less than or equal to the physical coolest color temperature.
Current Information	
Current	Configuration output current.
Level1 - Level5	Configuration the current of current switch.
Warm Current	Configuration the current of warm channel. When “Dual Dimming” or “Solo Dimming” of Dimming Mode is selected.Warm and cool current sum cannot be greater than max set current.
Cool Current	Configuration the current of cool channel. When “Dual Dimming” or “Solo Dimming” of Dimming Mode is selected.Warm and cool current sum cannot be greater than max set current.

Device Information		
Min Dimming Ratio		Minimum dimming ratio.1% to 10% is optional.there are some drives that can be edited.
Dimming To Off		Enable or disable dimming to OFF
Dimming Mode		Configuration dimming mode: Static White: use "0-10v CH1" control the intensity of both channels simultaneously. Warm dimming: use "0-10V CH1" or one DALI address control the intensity and color temperature simultaneously. Tunable White: use "0-10V CH1" or DALI address one control the intensity and "0-10V CH2" or DALI address two control the color temperature. Solo Dimming: use "0-10V DIM1" or one DALI address control the intensity of both channels simultaneously. Dual Dimming: use "0-10V CH1" or DALI address one control the warm channel/CH1 and "0-10V CH2" or DALI address two control the cool channel/CH2. DT8 Dimming: use one DALI address control the intensity and color temperature.
Output CH Enable		Enable output channel, "Warm and Cool"."Warm"."Cool" optional or "CH1 And CH2". "CH1"."CH2" optional. When "Warm" or "Cool" is selected.the color temperature is invalid.
OTP		Configuration the driver overtemperature protection temperature.
Dimming Curve		Configuration dimming curve."Logarithmic"."Linear". "Square"."Customer" is optional. Some drivers do not "Customer" option.
Intensity Fade Time		Configuration the fade time of intensity
CCT Fade Time		Configuration the fade time of color temperature. This option is editable.when "Tunable White" of dimming mode is selected.
0-10V	Light off	Configuration dimming off voltage.
	Light on	Configuration dimming on voltage.
	Dimming Minimum	Configuration dimming minimum voltage.
	Dimming Maximum	Configuration dimming maximum voltage.
End Life		Enable or disable the end life hint function.
End Life Time		Configuration end life time. If End Life is set to Enable.when the driver running time is longer than the End Life Time and the power on.the output current is 10% and return to normal 10 minutes later.

Fade In		Enable or disable fade in function.
Fade In Time		Configuration fade in time. If Fade In is set to Enable.When the driver is power on.use Fade In Time fade to target current.
Dimming Fade Time		Configuration the fade time of dimming
Up Fade Time		Configuration the fade time of Up dimming
Down Fade Time		Configuration the fade time of Down dimming
OTP Derating Mode		Configuration OTP Derating Mode.“linear”.“fold back” optional。
OTP Start		Configuration the OTP start derating temperature.
OTP End		Configuration the OTP end derating temperature.
OTP Min Output		Configuration minimum output ratio of OTP.
NTC		Enable or disable external NTC function.
NTC Start		Configuration start derating resistance of external NTC.
NTC End		Configuration end derating resistance of external NTC.
NTC Min Output		Configuration minimum output ratio of external NTC.
OLP Value		Configuration the overload protection power.
AUX Voltage		Configuration the auxiliary power supply voltage.
Constant Lumen		Enable or disable constant lumen function.
Constant Lumen Level 1-7 Ratio		Configuration constant lumen output ratio
Constant Lumen Level 1-7 Time		Configuration constant lumen time
Warm Lumen		Warm channel LED lumen.
Cool Lumen		Cool channel LED lumen.
Constant Luminous Flux		Enable or disable constant luminous flux function. When constant luminous flux is enabled.the lowest lumen between the warm and cool channels are used.
TRIAC	Light off	Configuration the TRIAC dimming off voltage.
	Light on	Configuration the TRIAC dimming on voltage.
	Light Minimum	Configuration the TRIAC dimming minimum voltage.
	Light Maximum	Configuration the TRIAC dimming maximum voltage.

Note:

1. Read button and export file button are valid only under engineer privilege.
2. Under operator permissions.the external parameter needs to be loaded.

3. Some drivers support only some of the parameters listed above.

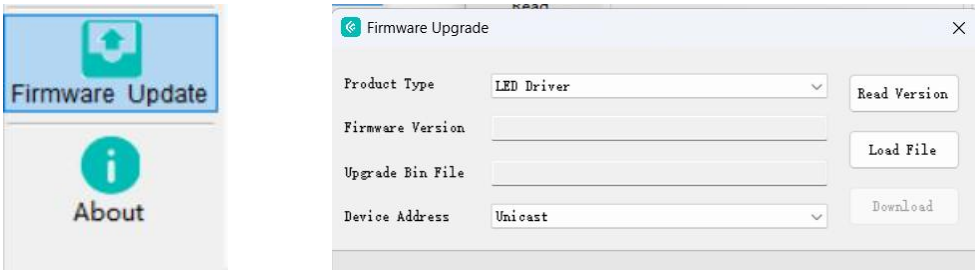
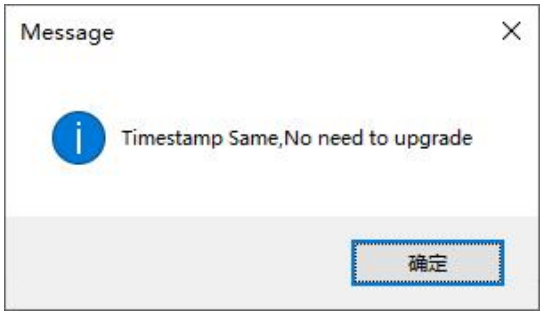
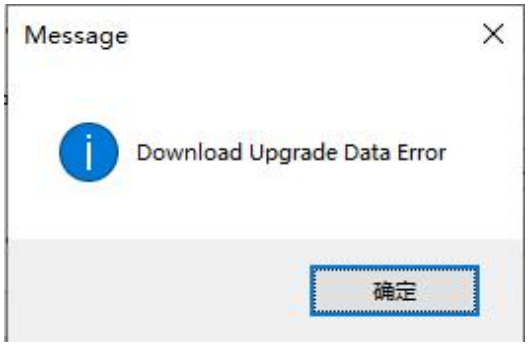
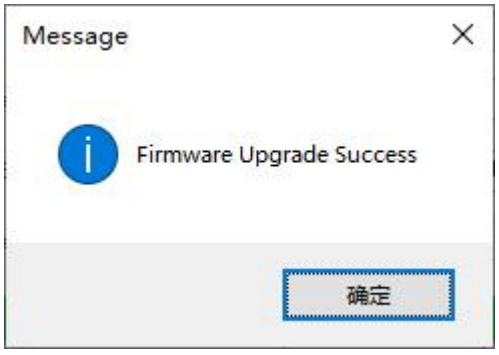


Figure 9

2.4 Firmware Update

1.Click “Firmware Update” button.open firmware upgrade UI.see Figure 9.
2.Select the product type to upgrade as “LED Driver” or “Programmer”.
3.Click the “Read Version” button to read the product version.
4.Click the “Load File” button and select upgrade bin file.
5.Click the “Download” button to begin the upgrade.

Prompt message description:

	
The upgrade file information is incorrect. Select a correct upgrade bin file.	The current product information is the same as the upgrade file information.no upgrade is required.
	
The communication is abnormal during the upgrade	Upgrade success message

2.5 About

Figure 10

Click About button.open software information UI.see Figure 10.