

Upowertek NFC Programmable LED Driver Introduction

Make Smart Lighting Simple and Reliable

March, 2020



NFC Programming System

uPowerTek

NFC Programmer



NFC Programmable LED driver
30-400W



◆ **Programmability:**

Either the output current or the timing, CLO scheme can be set by PC software or NFC Smart Phone

◆ **Adjustable Current with Constant Power**

Allows user to decrease the output current setting without sacrificing the output power capability

◆ **Timing&CLO(constant lumen output) Scheme**

Allows user to set the timing/CLO profile of LED driver

Comparison With Competitors

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◆ **Passive Programming**

VS

Infrared Programming

MOSO

◆ **Wireless Programming**

VS

Cable Programming

INVENTRONICS

◆ **Simple and Reliable**

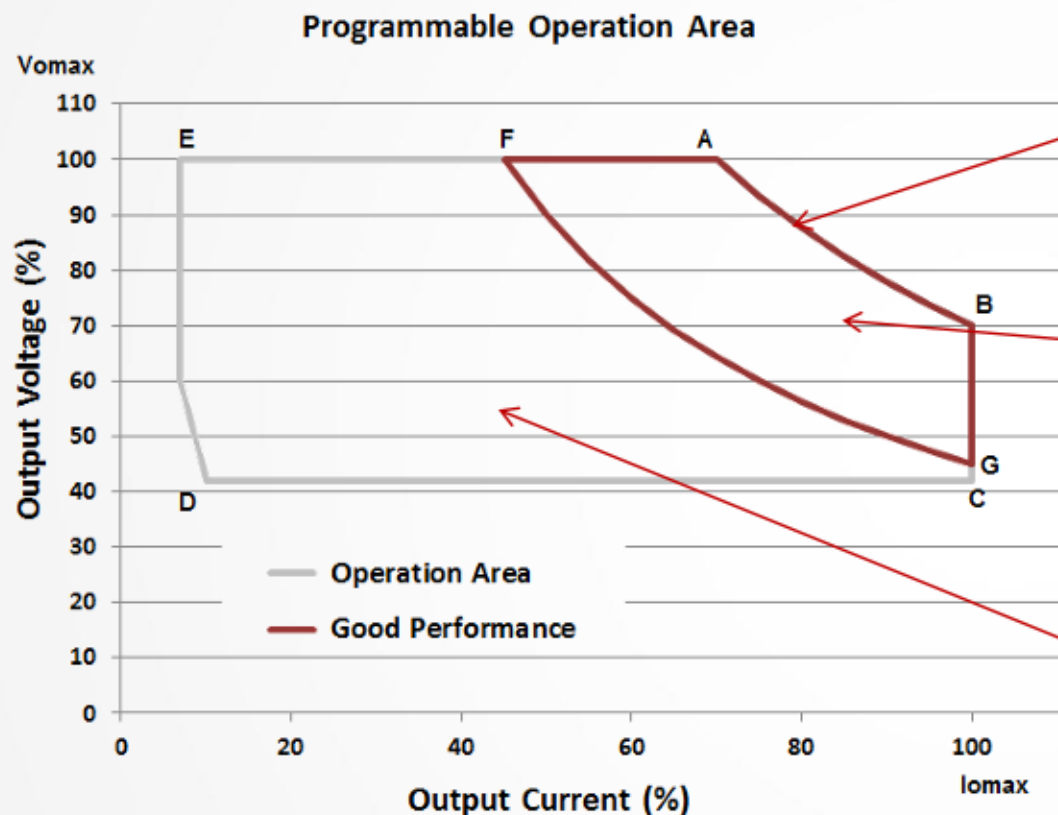
VS

Potentiometer Programming

MW
MEAN WELL



Constant Power Output



Constant Power Curve:

$$P_o = V_o \times I_o$$

Points of ABGF:

Good Performance Area:

PF > 0.9, THD < 20%

Efficiency in an optimized level

Points of ABCDEF –

Operational Area:

The driver is functional in this area including the dimming and output current set value.

*Point B has the lowest output voltage and highest output current, please choose correct LED load when programming the output current to Max. I_o . The Max. output voltage at point B is P_o/I_{omax} . Wrong LED load may cause over voltage protection.

Products Range

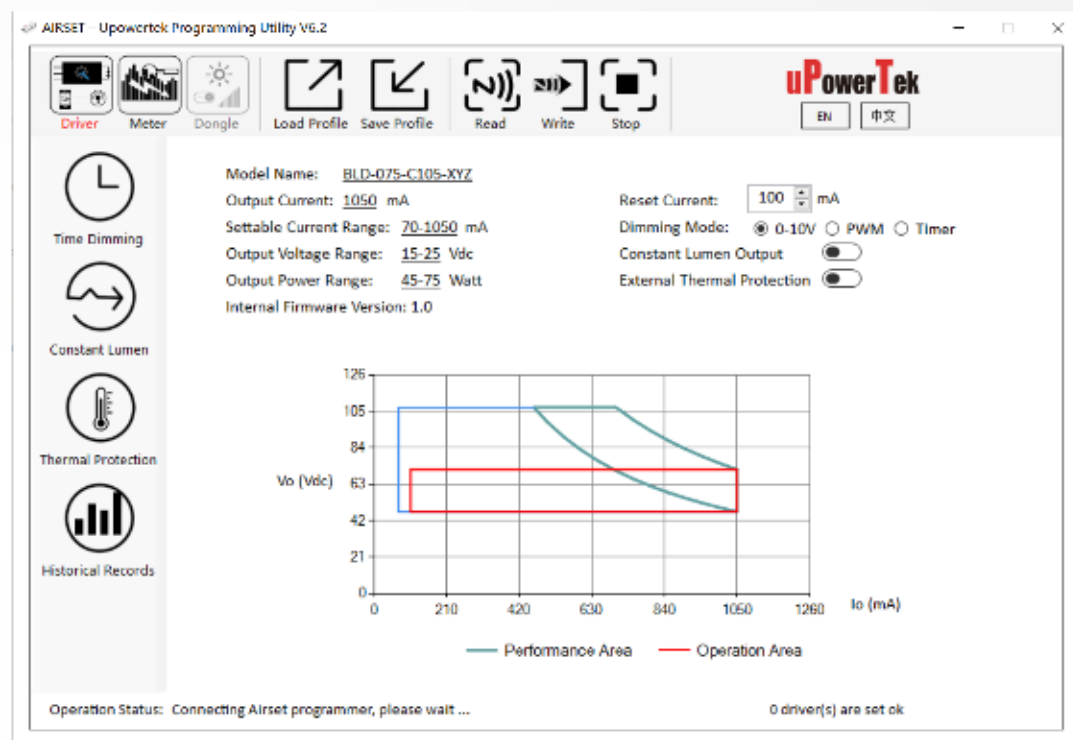
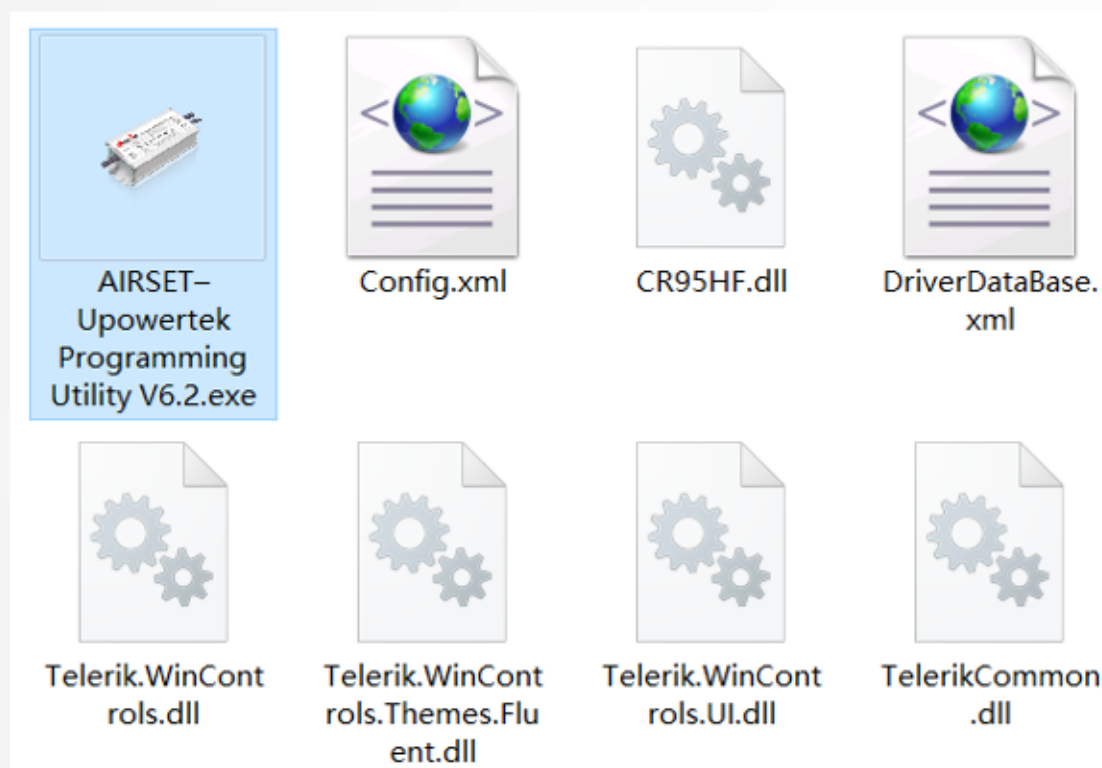
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Major Product Series	Input Voltage Range / Vac	Output Power / Watt	Full Power Settable Current Range / mA	Dimension (L*W*H)mm
BLD-050-CXXX-XYZ	90-305	50	700-2100	131*67.5*33.5
BLD-075-CXXX-XYZ	90-305	75	700-2800	131*67.5*33.5
BLD-096-CXXX-XYZ	90-305	96	700-2800	161*67.5*33.5
BLD-120-CXXX-XYZ	90-305	120	700-2800	161*67.5*33.5
BLD-150-CXXX-XYZ	90-305	150	700-6300	161*67.5*33.5
BLD-200-CXXX-XYZ	90-305	200	700-4200	225*67.5*33.5
BLD-240-CXXX-XYZ	90-305	250	700-4200	225*67.5*33.5
BLD-320-CXXX-XYZ	90-305	320	1400-4200	224*90.0*42.0
BLD-400-CXXX-XYZ	90-305	400	1400-4200	224*90.0*42.0
TLD-240-CXXX-XYZ	180-528	250	700-4200	232*67.5*33.5
TLD-320-CXXX-XYZ	180-528	320	1400-4200	249*90.0*42.0
TLD-400-CXXX-XYZ	180-528	400	1400-4200	249*90.0*42.0
TLD-600-CXXX-XYZ	180-528	600	2800-12500	237*125.0*43.0

**Programming by
NFC Programmer**

1. Open Software

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- ◆ Download PC Software at <https://www.upowertek.com/download-2/>
- ◆ Click AIRSET-Upowertek Programming Utility V6.2.exe in Windows 7/8/10 System
- ◆ The GUI start and wait for connecting NFC programmer (The latest version GUI maybe different from this picture.)

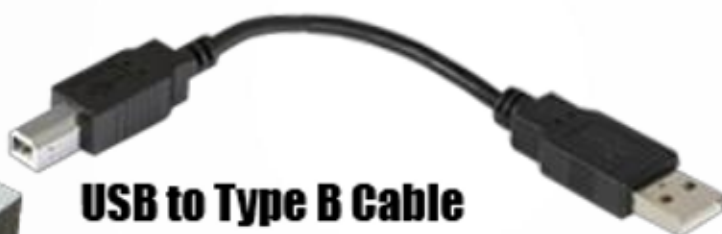
2. Connect NFC Programmer to Computer

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NFC Programmer



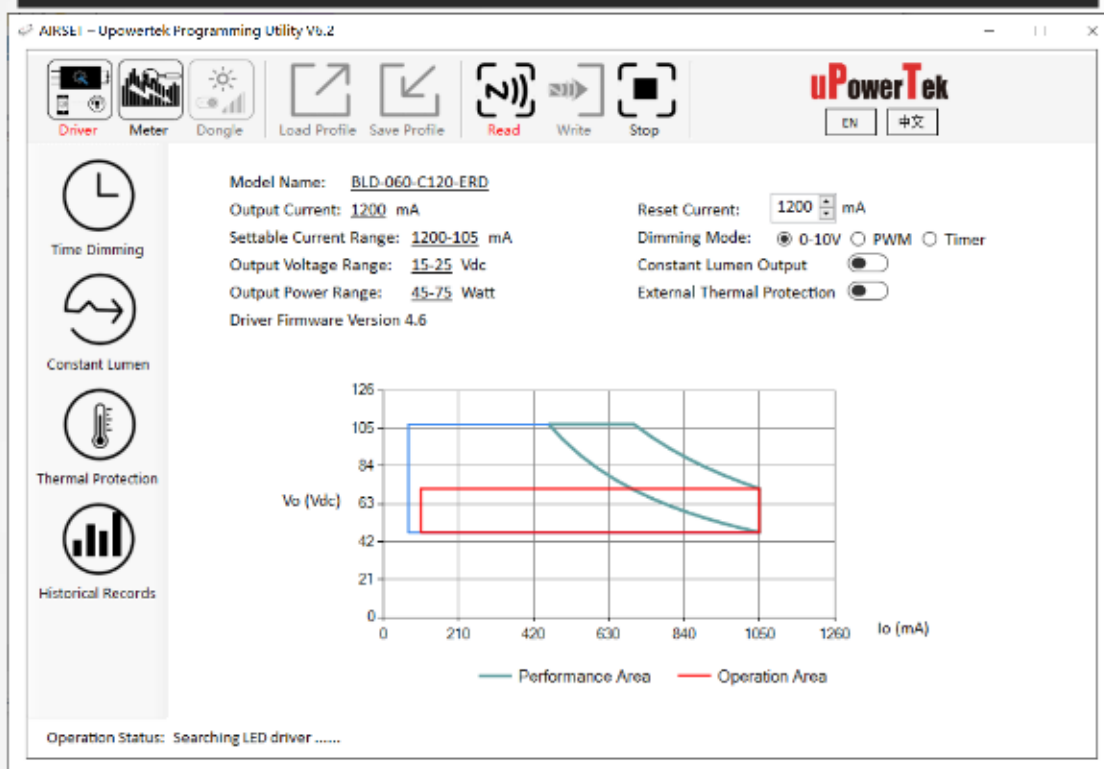
USB to Type B Cable



Computer/Windows 7/8/10

3. Read the Spec of the LED Driver

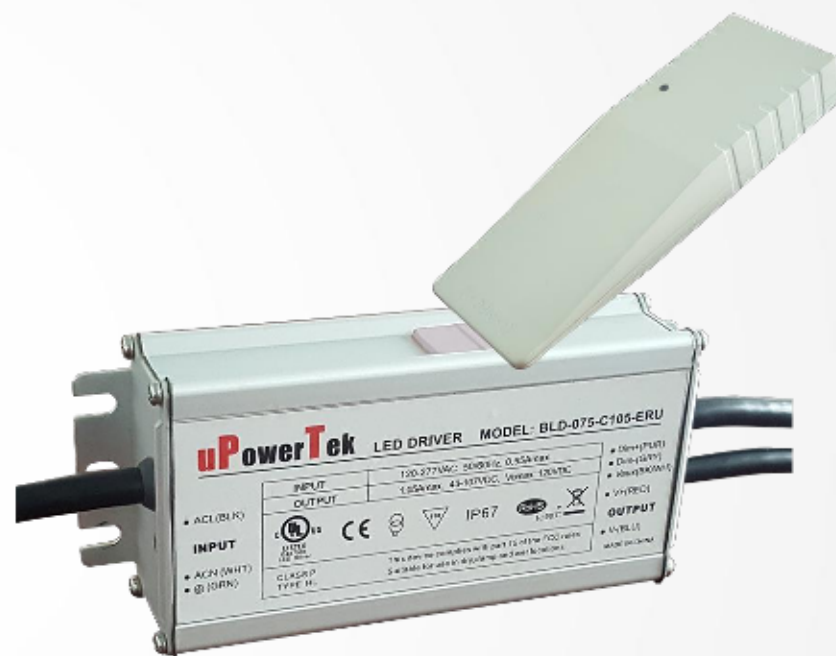
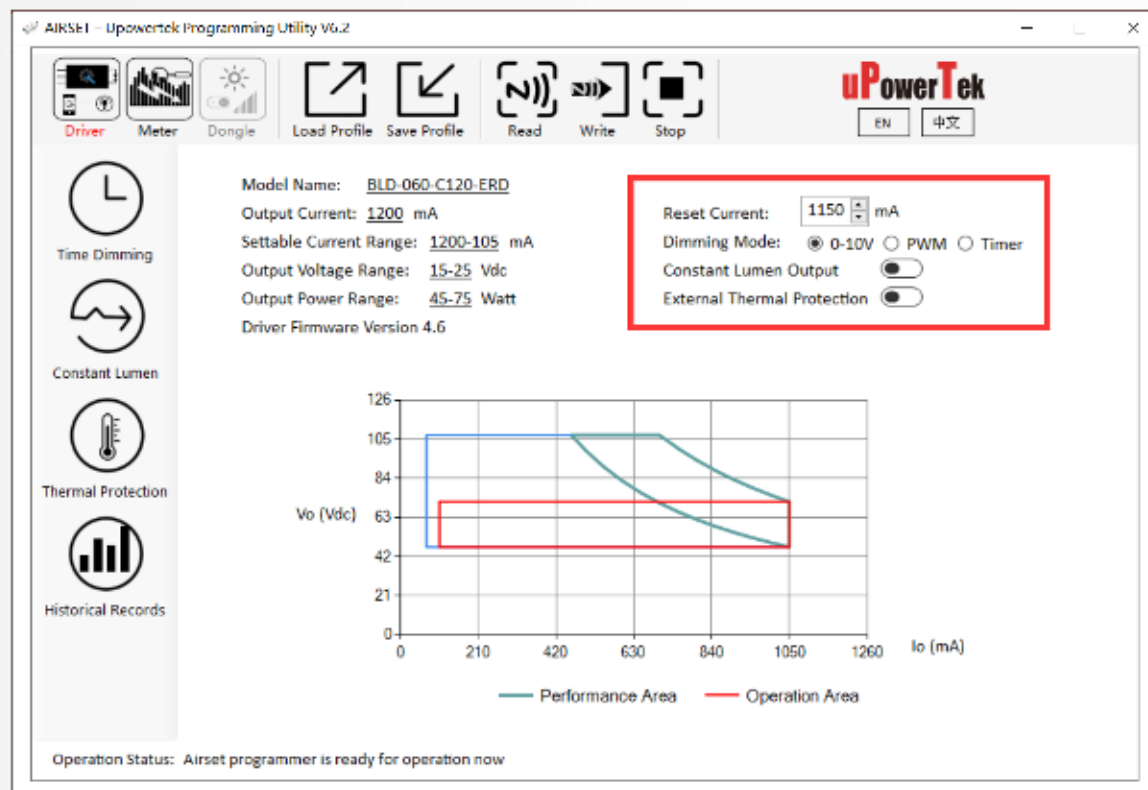
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- ◆ Click Read button
- ◆ Get programmer close to programming window as the direction showing in the picture
- ◆ Click Stop button after reading Ok.
- ◆ The LED Driver should be power off while programming

4-A. Setting current and dimming mode

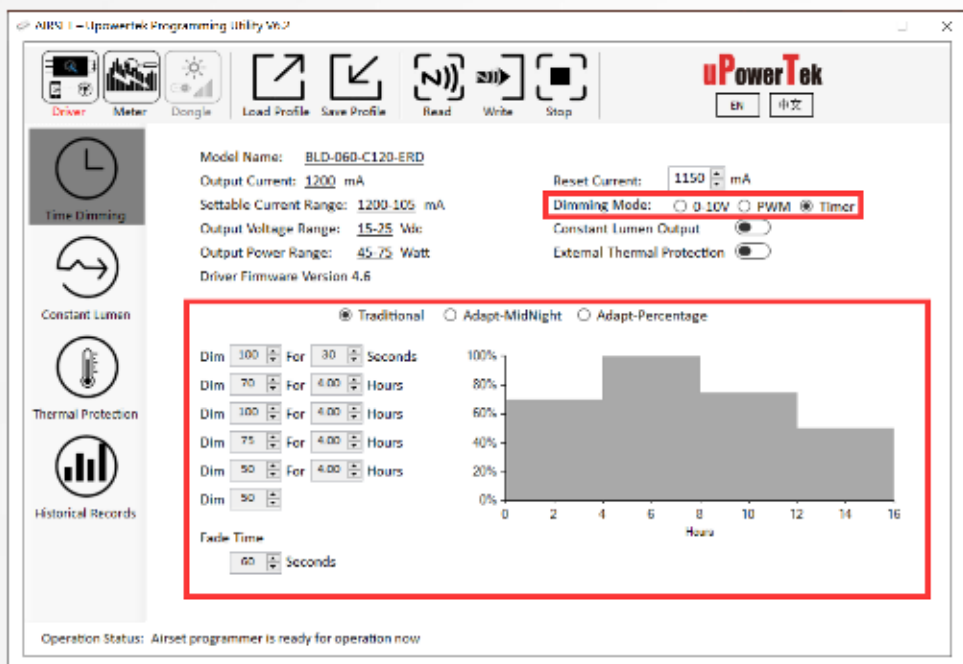
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- ◆ Reset Current and choose Dimming Mode, then click WRITE button
- ◆ Get programmer close to programming window as the direction showing in the picture
- ◆ There will be a  to indicate that the programming is done and Ok.

4-B. Timer Dimming Setting

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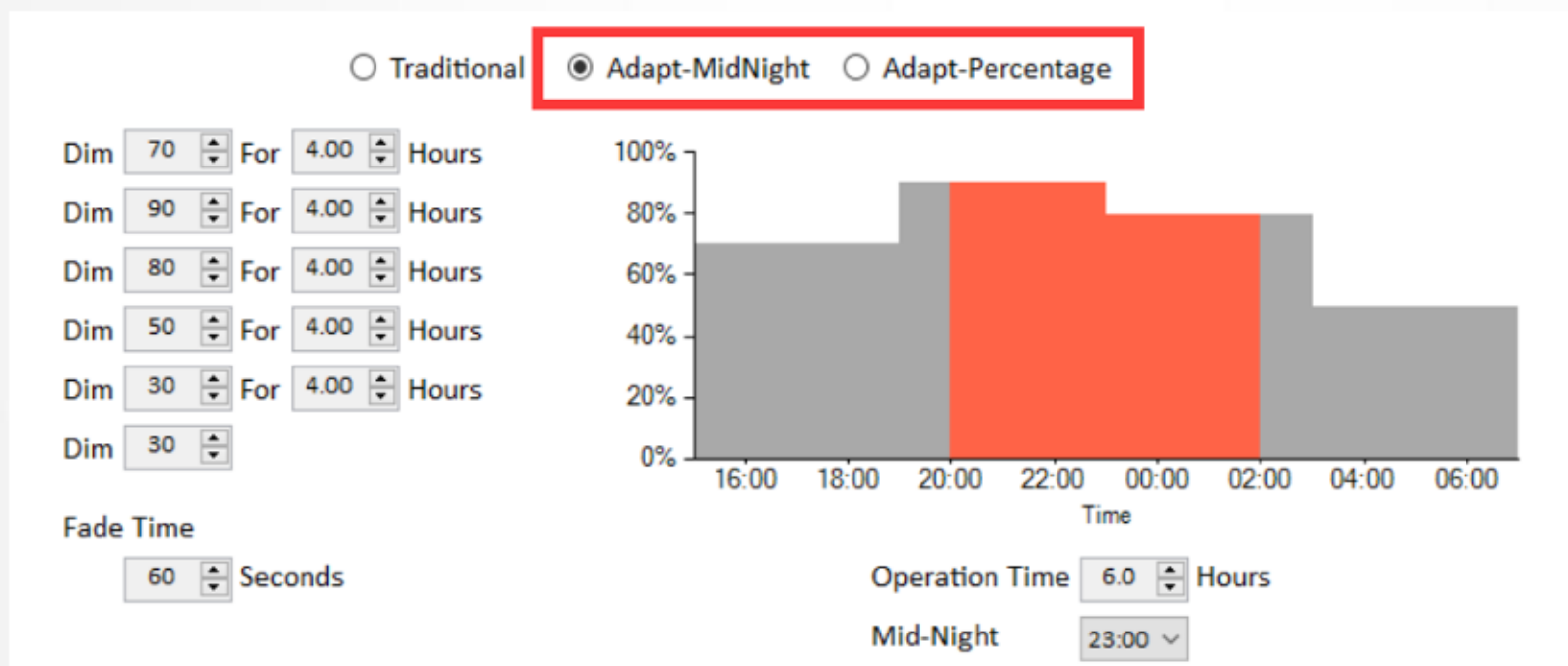
- ◆ Click Time Dimming button on the left menu, Reset Current and choose Timer dimming mode,
- ◆ Set the output current percentage and Time, then click WRITE button.
- ◆ Get programmer close to programming window as the direction showing in the picture
- ◆ There will be a  to indicate that the programming is done and Ok.

Tips: AC power must be cut off during days to apply the same dimming curve each night.

4-B Timer Dimming-Self Adapt

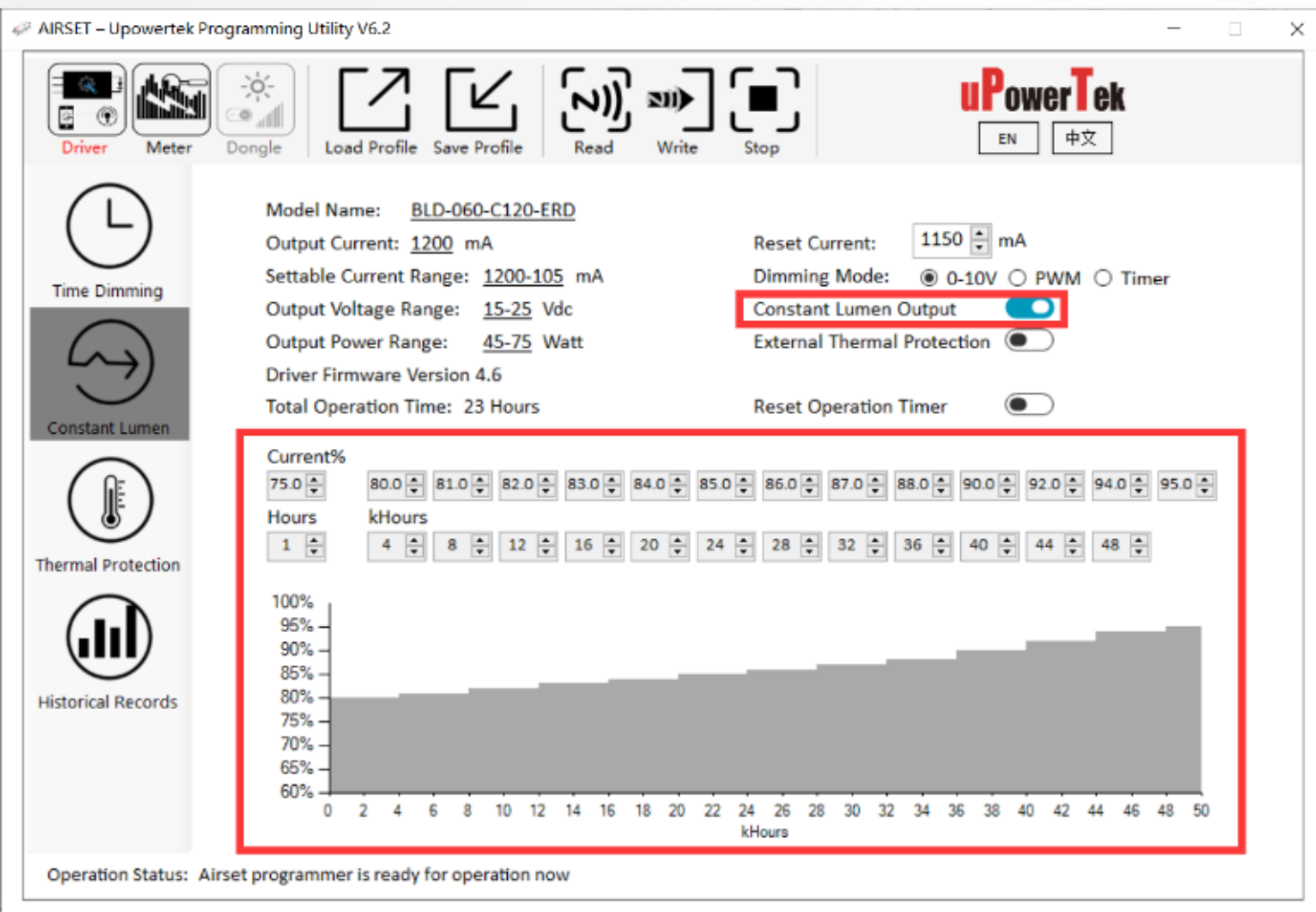
- ◆ Adapt-Midnight or Adapt-Percentage function is used to balance the dimming curve between different seasons.
- ◆ The LED driver auto adjusts the dimming curve based on the lights on time in the past two days.

The data will not be calculated If the lights on time is less than 6 hours or the lights one time difference between two days is less than 15 minutes



5. Optional: Enable CLO Mode

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- ◆ Click Constant Lumen Menu
- ◆ Enable Constant Lumen Output
- ◆ Set the Parameters, then Click WRITE Button.

Reset Operation Timer: Reset CLO Time to 0 Hour

Current %: Output current percentage of the setting current

Hours: Working hours.

Take this setting for example, Output current is 75% for the first 1hour (for testing), it is 80% for the next 4K hours, then 81% for the 4K hours. Maximum 50K Hours.

6. Optional: External Thermal Protection

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AIRSET - Upowertek Programming Utility V6.2

Driver Meter Dongle Load Profile Save Profile Read Write Stop

Model Name: BLD-060-C120-ERD
Output Current: 1200 mA
Settable Current Range: 1200-105 mA
Output Voltage Range: 15-25 Vdc
Output Power Range: 45-75 Watt
Driver Firmware Version 4.6

Reset Current: 1150 mA
Dimming Mode: ☒ 0-10V ☐ PWM ☐ Timer
Constant Lumen Output: ☐
External Thermal Protection: ☒

Resistor Value

Resistor Value	Derated Value
8000 Ω	50 %
6500 Ω	10 %
4500 Ω	
2700 Ω	

100%
80%
60%
40%
20%
0%

0 2000 4000 6000 8000 10000 12000 14000 16000 Ω

Operation Status: Airset programmer is ready for operation now

- ◆ Click Thermal Protection Menu
- ◆ Enable Lamp External Thermal Protection
- ◆ Set the Parameters
- ◆ Click WRITE Button.

This function is only available for LED drivers which has lamp OTP function

Programming by NFC Smart Phone

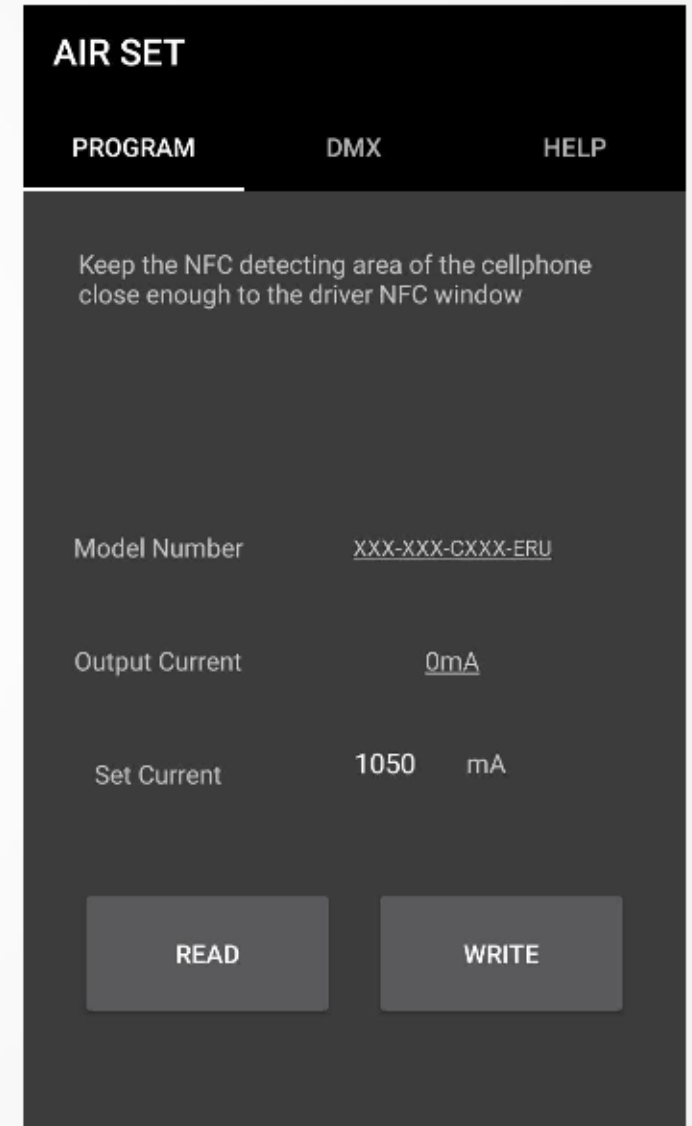
1. Install Android APP and Open

- ◆ Download Android APP at <https://www.upowertek.com/download-2/>
- ◆ Only available on Android cellphone(iPhone is not supported)
- ◆ The cellphone should have NFC function.
- ◆ Turn on NFC switch of cellphone, then open the APP



Tips: Check on this site to find out if your cellphone has NFC function

https://en.wikipedia.org/wiki/List_of_NFC-enabled_mobile_devices



2. NFC Antenna Location

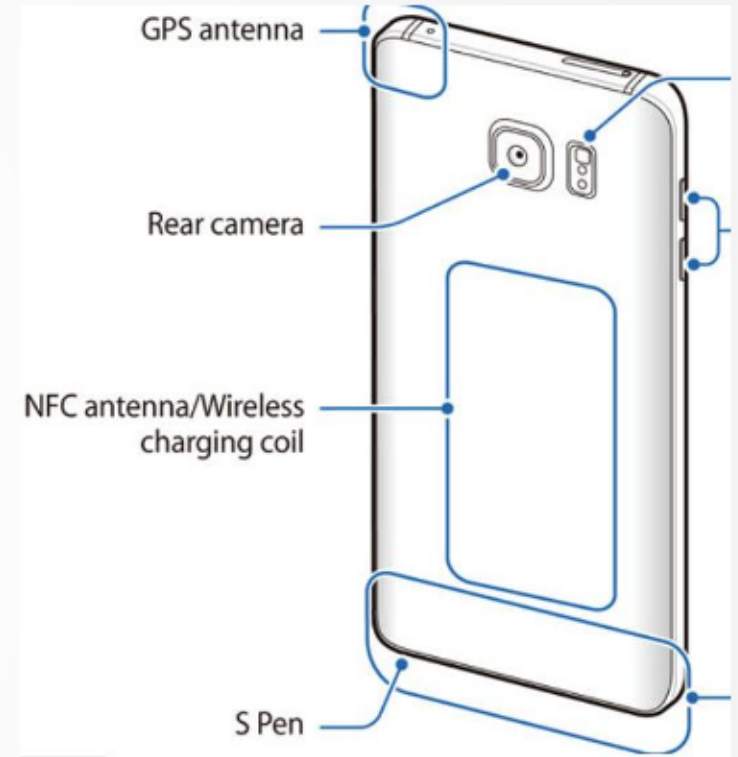
- ◆ Find out the NFC antenna location of your cellphone
- ◆ The antenna location is different by cellphone models
- ◆ Get this info from internet or cellphone user manual

Samsung https://www.samsung.com/hk_en/nfc-support/

Google <https://support.google.com/pixelphone/answer/7157629>

LG https://www.lg.com/hk_en/nfc

Huawei & Honor <https://consumer.huawei.com/en/support/huaweishare/specs/>



3-A. Read Spec

- ◆ Tap Read button
- ◆ Get the NFC antenna of cellphone close enough to the LED Driver NFC window (**less than 2mm**)
- ◆ Try several times to find the right position of cellphone NFC antenna

Tips:

Increase your cellphone's volume to maximum, you can hear a warning tone when the cellphone detects the LED driver

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3-A. Set Output Current



- ◆ Type the output current
- ◆ Tap Write button
- ◆ Get the NFC antenna of cellphone
close enough to the LED Driver NFC window (**less than 2mm**)
- ◆ There will be a notification of programming success

Tips: Only the output current can be set on APP, please use NFC programmer for other functions.

Set Address for DMX Drivers

3-B. Set DMX Address

The screenshot shows the 'AIR SET' application interface. At the top, there are three tabs: 'PROGRAM', 'DMX' (which is selected and underlined), and 'HELP'. Below the tabs, a message reads: 'Keep the NFC detecting area of the cellphone close enough to the driver NFC window'. The interface displays three fields: 'Model Number' with the value 'XXX-XXX-CXXX-ERU', 'DMX Address' with the value '1', and 'Set Address' with the value '1'. At the bottom, there are two buttons: 'READ' and 'WRITE'.

- ◆ Change to DMX tab.
- ◆ Read the Address from the LED driver
- ◆ Type the Address you want to set
- ◆ Tap Write button
- ◆ Get the NFC antenna of cellphone
close enough to the LED Driver NFC window (**less than 2mm**)
- ◆ There will be a notification of programming success

Thank you for your attention!

Contact: sales@upowertek.com