VS iProgrammer Streetlight 2
V0.4.43.7 PRO 5

PROGRAMMING SOFTWARE
TECHNICAL APPLICATION GUIDE
VOSSLOH-SCHWABE

CONTENT

1   GENERAL INFORMATION

The "iProgrammer Streetlight 2 Software" with the "iProgrammer Streetlight 2" programming device (Ref. No.: 187125) enables a simple and quick configuration of operating parameters as well as data transfer (programming) to the driver, for which purpose the driver must be disconnected from any voltage supply.

The iProgrammer Streetlight 2 programming device is made for offline programming. The USB port must be connected to a computer and the other end must be connected to the dimming terminal of the LED drivers.

The configuration of the software as well as programming itself can be carried out only offline, so please make sure the drivers are not connected to the mains voltage. The ability to save several configuration profiles makes the system highly flexible, which in turn lets manufacturers quickly respond to customer requirements. In combination with the offline programming box, the configuration in production lines can be done even without a computer.

1.1   CONFIGURATION PARAMETERS

1. **Output Current**
    Individual control of output current in mA.

2. **Dimming Function (1–10V or 7-step dimming)**
    The driver can be operated with two different dimming settings. Either dimming with via the analog 1–10 V interface or with a 7-step timing dimming schedule.

3. **Constant Lumen Output (CLO)**
    The lumen output of an LED module decreases gradually over the course of its service life. To guarantee a constant lumen output, the output of the control gear must be gradually increased over the course of the module's service life.

4. **Data Record**
    The data record section is not a programming function but this enables for the customers regarding maintenance and quality management to read out several parameters out of the LED drivers.

1.2   TECHNICAL DETAILS AND SAFETY NOTES

iProgrammer Streetlight 2	187125
Dimensions (LxWxH)	165 x 43 x 30 mm
Temperature range	0 to 40 °C (max. 90% r.h.)
Function	Sending and receiving settings

Safety Information

➢ Please check the device for any damage before to using it. The device is not allowed to be used if the casing is damaged. The device must then be replaced by a non-damaged device.
➢ The USB port is exclusively designed to operate the iProgrammer Streetlight 2 device (USB 1/USB 2). Inserting non-USB cables or conductive objects is not permitted and can damage the device. Never use the device in environments that are humid or pose a risk of explosion.
➢ Never use the device for any purpose other than the one for which it was designed, to configure programmable VS 1-10 V LED drivers.
➢ LED drivers must not be connected to mains voltage during the programming.

1.3   OVERVIEW OF A SYSTEM SETUP

The iProgrammer Streetlight 2 programming device must be connected with USB cable to the USB port of the computer. The pre-mounted cable on the other end of the programming device must be connected to the dimming interface of the LED drivers. Please take care that the drivers are not connected to the mains voltage during the programming process. Please mention that you connect the dimming interface of the programming interface in the right polarity (purple terminal "DIM +", the grey terminal is "DIM –") to the drivers dimming terminals or wires.

1.3.1   COMFORTLINE PROG S 1-10V MIDNIGHT

VS iProgrammer Streetlight 2
Ref.-No.: 187125

VS ComfortLine Prog S 1–10 V MidNight

1.3.2   COMFORTLINE PROG S 100V 1-10V IP

VS iProgrammer Streetlight 2
Ref. No.: 187125

VS ComfortLine Prog S-100 V 1–10 V IP

2 INTRODUCTION – SOFTWARE OPERATING ENVIRONMENT

The following subchapters describe the hardware and software environment. Furthermore is explained where the software can be downloaded and which files are included in the software installation package.

2.1 HARDWARE ENVIRONMENT

CPU: 2 GHz and above (32-bit or more)

RAM: 2 GB and above

HD: 20 GB and above

I/O: mouse, keyboard

2.2 SOFTWARE ENVIRONMENT

Operating system: Windows XP, Win 7, Win 10 or above

Component: Microsoft.NET Framework 4.0 or above

2.3 DOWNLOAD THE SOFTWARE

The iProgrammer Streetlight 2 software can be downloaded on our website via the following link:

https://www.vossloh-schwabe.com/en/service-downloads/software

2.4 SOFTWARE PACKAGES

The downloaded folder contains the files of the software that are needed to install the software on your computer and to install the necessary drivers. Before you start the installation, please open read the "readme.txt" file and follow the advice.

Name	Änderungsdatum	Typ	Größe
USB driver	11.06.2024 10:55	Dateiordner	
readme.txt	22.10.2021 09:41	Textdokument	1 KB
setup.exe	11.06.2024 11:08	Anwendung	552 KB
VS iProgrammer Streetlight 2（V0.4....	11.06.2024 11:08	Windows Installer-Paket	2.021 KB

Figure 1 – Files in the installation folder

3 STEP 1 – SOFTWARE INSTALLATION

For installation of the VS iProgrammer Streetlight 2 software, please double click **setup.exe** or the **VS iProgrammer Streetlight 2 (V0.4.43.7 Pro5).msi** file.
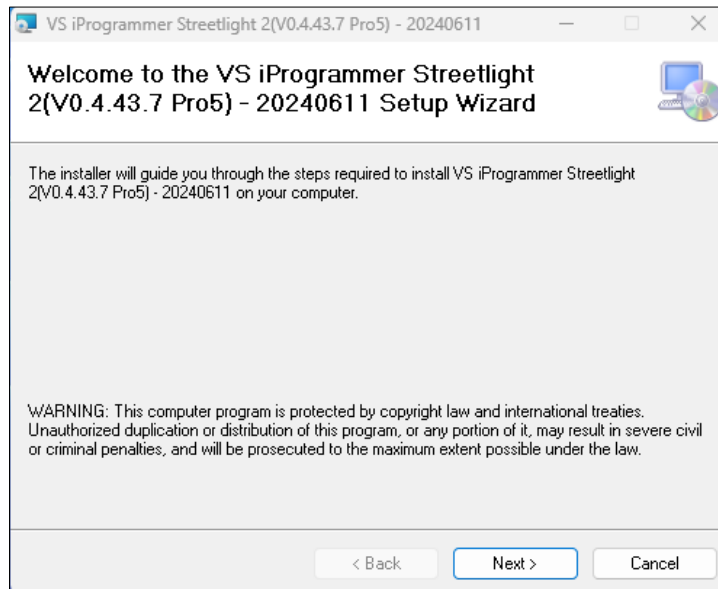
3.1 WELCOME SCREEN

Figure 2 –Welcome screen

Click **Next** to enter the next step.
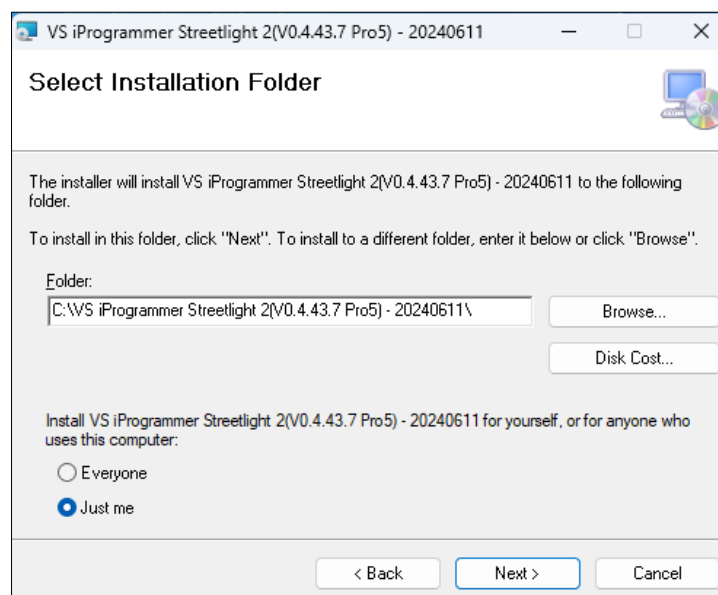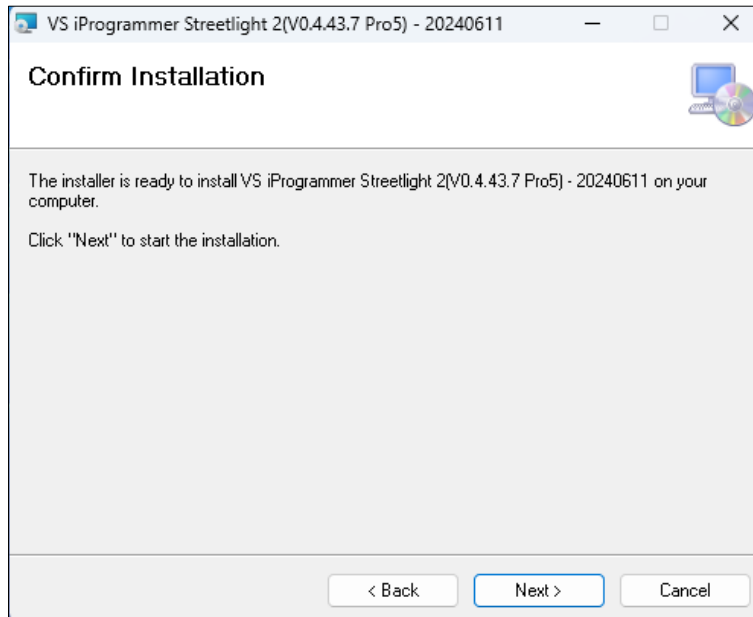
3.2 SELECT INSTALLATION FOLDER

Figure 3 – Select installation folder

After selected installation folder click **Next** to enter next step.

VS LIGHTING SOLUTIONS

3.3 CONFIRM AND COMPLETE INSTALLATION

Figure 4 – Confirm installation
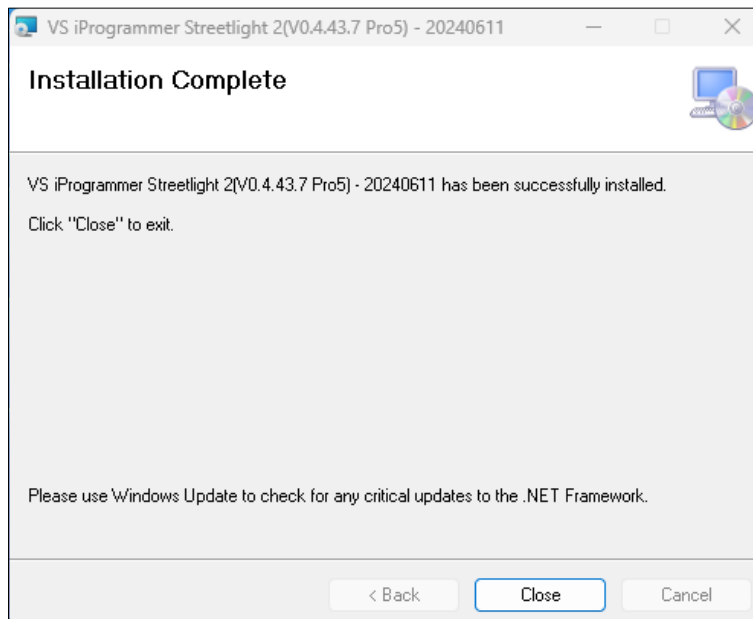
Figure 5 – Complete installation

After clicking on **Close** the installation is completed and the shortcut icon will appear on your desktop.

4   STEP 2 – USB DRIVER INSTALLATION

Open the "USB driver" folder in the software installation files.

Figure 6 – List of USB driver files

For Windows XP, please install CDM20824_Setup.exe.

For Win 7 to Win 10, please install CDM21228_Setup.exe.

5   STEP 3 – CONNECTION OF LED DRIVER

First, insert the VS iProgrammer Streetlight 2 programming device into the USB port of the computer, and connect the other end to the LED driver dimming terminal. Please take care of the correct polarity, if this is not done correct, the driver can't be read out of the software. If everything is connected correctly open software and click **Connect** to connect the software to the LED driver, as shown in the figure below.
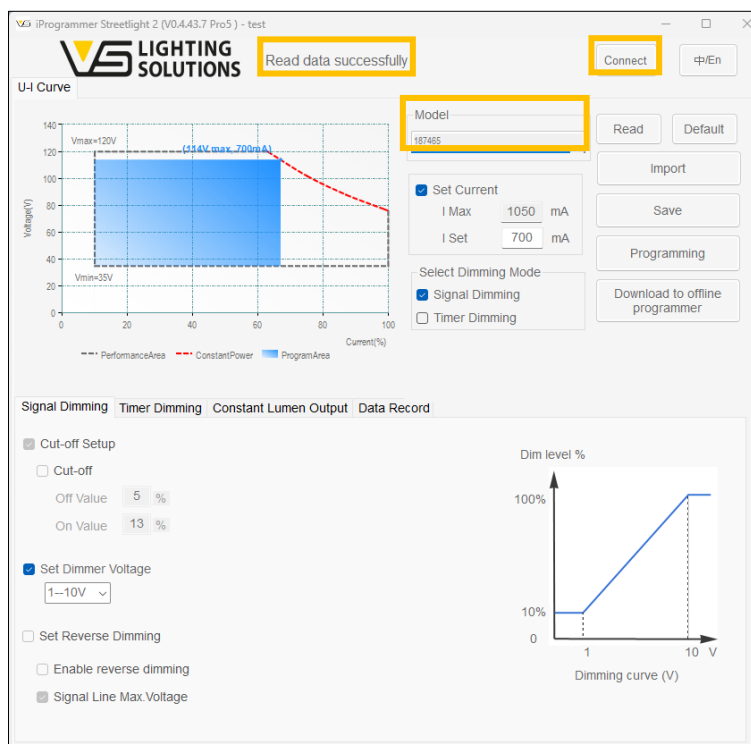
Figure 7 – Connect to LED driver – Working area

If the connection is successful, the note "Read data succesfully" will be displayed at the top of the user interface. Product type and corresponding default setting will be automatically read and shown by the software.

5.1 DESCRIPTION U-I CURVE

The U-I curve of the corresponding driver is read out according to the default or programmed settings and will be displayed on the left side of the user interface.

The curve displays:

➢ working area (grey dotted box)
➢ programming working area (blue area)
➢ constant power curve (red dotted line)
➢ output voltage range (Vmin. ~ Vmax.)
➢ full power voltage range and

The programming working area changes acc. to the set current.

5.2 DESCRIPTION OF FUNCTION BUTTONS

On the right side of the U-I curve there are several buttons with different functions.
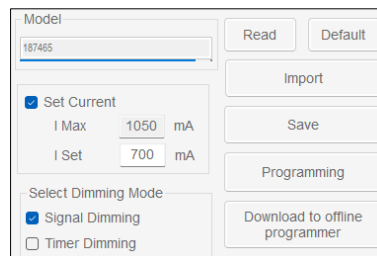
Figure 8 – Function buttons

The buttons fulfill following functions:

➢ Read: Reading driver configuration parameters and display to the U-I
➢ Default: Restoring the UI parameters to the factory default values
➢ Import: Importing the saved parameter values from a configuration file
➢ Save: Saving the configured parameter values to a configuration file
➢ Programming: Writing the configured parameters to the driver
➢ Download to offline programmer: Write the configured driver parameters to the offline programmer

Note: The offline programmer is a programming tool kit to help integrate the driver configuration in (mass) production lines. The kit is easy to use and quick to program and the offline programmer enables the complete driver programming without the need of a computer. For detailed information about this product, please consult the VS sales team.

6   STEP 4 – PROGRAMMING INSTRUCTIONS

In the following the different functions will be described and the configuration of different functions and parameter values will be explained.

6.1   OUTPUT CURRENT

The value written in I_{MAX} is fixed and depends on the driver design, and the customer is not able to change this parameter. The value I_{SET} should be defined based on customer's needs. To program a different current than default settings, just input the values, then click "Programming", when the notification "Succeed" shows up, the current setting was successfully done. The blue operation range changes while the I_{SET} is done.
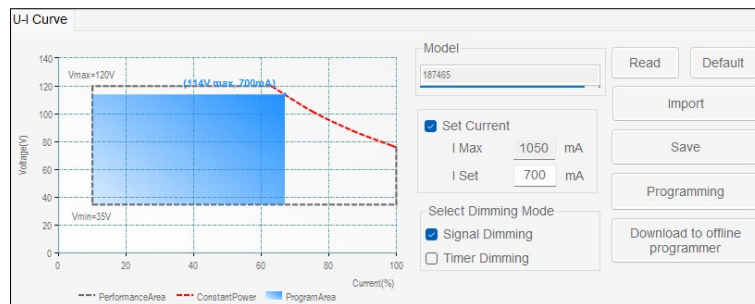
Figure 9 – Current setting

6.2   DIMMING MODE

The iProgrammer Streetlight 2 software enables the selection between two different dimming modes via checkboxes. You can either select "Signal Dimming" or the "Timer Dimming". In the following the configuration of the two dimming modes will be explained.
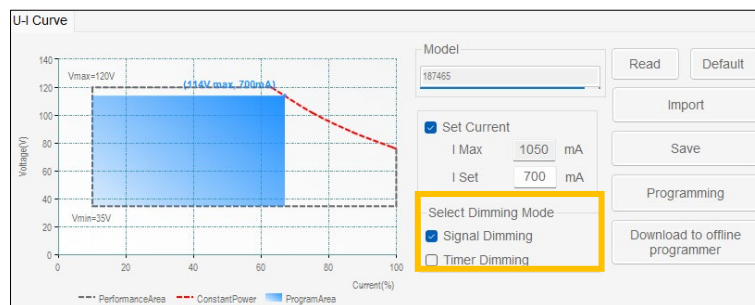
Figure 10 – Dimming modes

6.2.1   SIGNAL DIMMING

When the checkbox "Signal Dimming" is selected, the analogue dimming of the LED drivers is enabled. The drivers can then be dimmed by applying a voltage between 1-10 V on the dimming terminals.

Furthermore, you have the possibility to set the dimmer voltage over a dropdown field, the default settings are 1-10V and Vossloh-Schwabe has specified the drivers for 1-10V dimming applications.
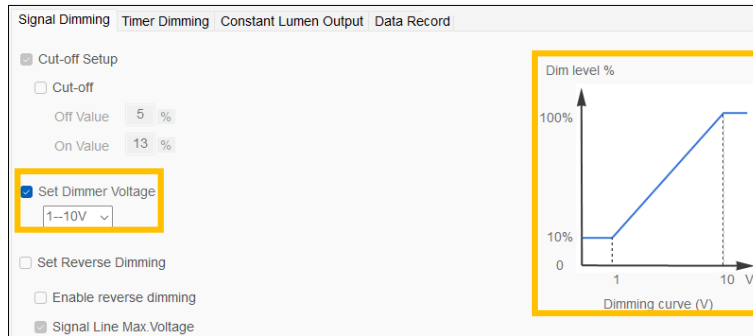
Figure 11 – Signal dimming mode

Figure 12 – Signal dimming window and dimmer voltage selection

6.2.2 TIMER DIMMING

When the checkbox "Timer Dimming" is selected, the dimming of the LED drivers over a pre-configured dimming schedule is enabled. The dimming can be set individually as time schedule for dimming over the night.

Figure 13 – Timer dimming mode

When "Timer Dimming" is selected you have the choice between 3 different modes: Traditional timing, Self-adapting timing and Midnight timing function.

6.2.2.1 TRADITIONAL TIMING FUNCTION

If neither the Self-adapting mode nor the Midnight timing function is selected the traditional timing function active. When the LED driver is powered on, it works according to the defined steps of the dimming schedule (duration and output level). In this mode, the number of steps, steps time and output power are always the same. In the set-up of the timing schedule, the duration and the output level of each step can be defined individually.
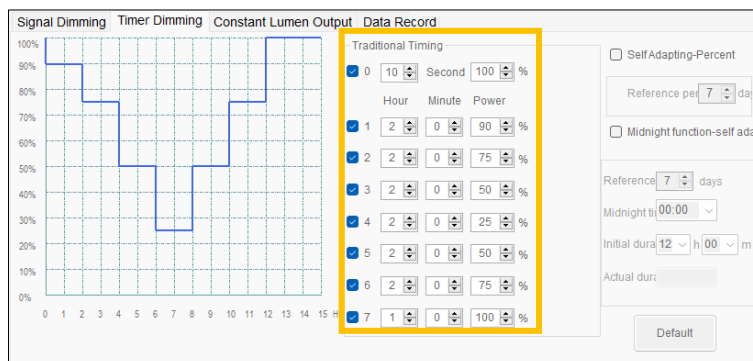

Figure 14 – Traditional timing function

6.2.2.2 SELF-ADAPTING TIMING FUNCTION

If you click the checkbox for "Self-Adapting-Percent" the Self-adapting timing function is activated. This function is to adapt the timing schedule to the case that the nighttime changes with the seasons, and the duration of each configured step of the timing schedule changes accordingly to the change of the length of the night. Therefore, it is mandatory to define a reference period (between 1 – 14 days) where the LED driver will calculate the average nighttime. When you click on "Default" you can reset the Self-adapting timing function set-up to the default settings.
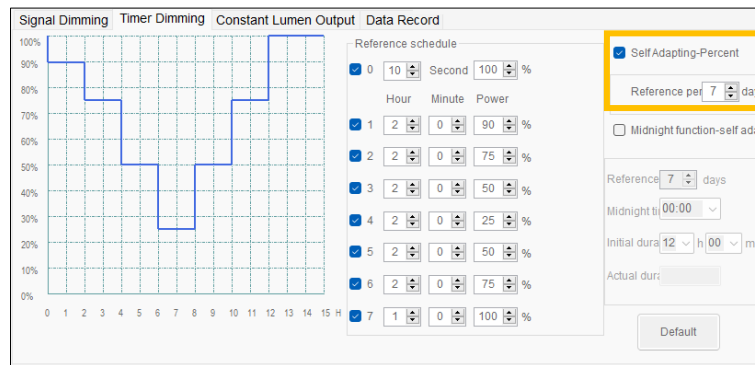
Figure 15 – Self-Adapting timing function

After setting the reference period the LED driver will calculate the average night length. According to the new average night length, the timing schedule will be adjusted. The longer/shorter the night becomes the timing dimming schedule will be adapted (stretched/ compressed) by the percentual change of the night.

Example:

Assuming that the reference period is set to 7 days and the night length in the beginning 12:00 hours. When the LED driver would now calculate after the reference period the average night length of 11:30 hours then each step will become shorter by 95,83 % (see calculation below) because the night has become shorter. The timing dimming schedule will automatically adjust (according to the proportion of steps) the working time of each step (except step 0) according to the new average nighttime.

Initial nighttime:	12:00 hrs
Reference period nighttime:	11:30 hrs
Percentual change per step:	690 min/720 min = **95,93%**
Step X at initial nighttime:	3:00 hrs
Step X after reference period:	3:00 hrs x 95,93% = 2:53 hrs

6.2.2.3 MIDNIGHT TIMING FUNCTION

If you click the checkbox for "Midnight function" the Midnight timing function is activated. This function is to adapt the timing schedule to the case that the nighttime changes with the seasons, and the duration of each configured step of the timing schedule changes accordingly to the change of the length of the night. Therefore, it is mandatory to define a reference period (between 1–14 days) where the LED driver will calculate the average nighttime. When you click on "Default" you can reset the Midnight timing function set-up to the default settings.
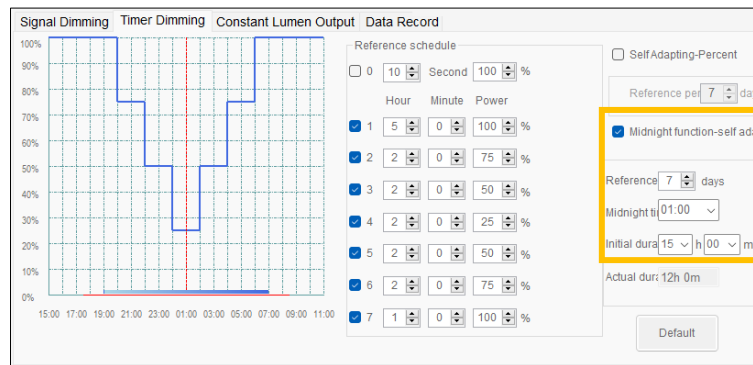

Figure 16 – Midnight timing function

After setting the reference period, the actual midnight point, and initial duration of the nighttime the LED drivers are ready to operate in the Midnight timing mode. This dimming profile is referenced to the average middle of the night, calculated based on the average operation time over the defined reference period. According to the new average night length, the timing schedule will be adjusted.

The longer/shorter the night becomes the timing dimming schedule will be adapted by the change of the night. In the Midnight timing function the duration of each step in the dimming schedule remains the same, except the first and last step. According to the change of the nighttime the time is added or cut off from the first and last step.

Example:

Assuming that the reference period is set to 7 days and the night length in the beginning 12:00 hours. When the LED driver would now calculate after the reference period the average night length of 11:30 hours then the first and last step will be 15 minutes shorter because the night has become shorter by 30 minutes.

6.3 CONSTANT LUMEN OUTPUT (CLO)

If you click the checkbox "Enabled" you can configure the operation time and the corresponding output level according to the expected LED module performance over the time. The output level is set in percentage of the output current. The time unit is 1k hours and the maximum is 100k hours, which must be arranged in ascending order. When you click on "Default" you can reset the CLO function set-up to the default settings.
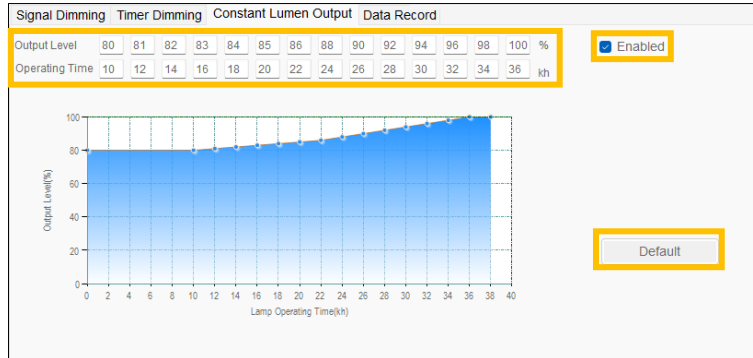

Figure 17 – Constant Lumen Output function

6.4 READ PRODUCT DATA RECORD

Click "Read" to read the driver work log and the product data record will be read out and shown in the blank fields:

> ➤ Current tc: Current driver's casing temperature (tc)
> ➤ Historical tc max.:   The highest tc temperature recorded in history
> ➤ Previous time tc max.:   Record of the highest tc temperature during the previous use
> ➤ This time tc max.:   Record of the highest tc temperature during this use
> ➤ Total working time: Record of the total working time
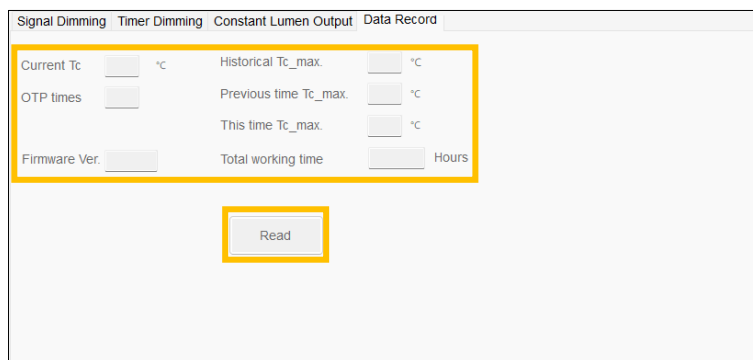> ➤ Firmware Ver.:   LED driver's firmware version

Figure 18 – Data record