Constant Current Dimmable Driver

Model:T42C300-1050N-D-4X

Model	Output Current	Input Current	Input Power	Output Power Range	PF	Efficiency (typ.)*	Output Voltage	No load Voltage
T42C300-1050N-D-4W T42C300-1050N-D-4B T42C300-1050N-D-4G	300mA	0.10A	15.00W	3.00-12.60W	0.86	84%	10-42V	59V
	350mA	0.11A	17.50W	3.50-14.70W	0.87	85%		
	400mA	0.12A	19.50W	4.00-16.80W	0.88	85%		
	450mA	0.13A	22.00W	4.50-18.90W	0.89	86%		
	500mA	0.14A	24.50W	5.00-21.00W	0.90	86%		
	550mA	0.15A	27.00W	5.50-23.10W	0.91	87%		
	600mA	0.16A	30.40W	6.00-25.20W	0.92	88%		
	650mA	0.17A	31.5W	6.50-27.30W	0.93	88%		
	700mA	0.18A	34.00W	7.00-29.40W	0.94	88%		
	750mA	0.19A	36.00W	7.50-31.50W	0.94	89%		
	800mA	0.20A	38.00W	8.00-33.60W	0.95	89%		
	850mA	0.21A	38.50W	8.50-34.00W	0.95	89%	10-40V	
	900mA	0.22A	40.5W	9.00-36.00W	0.96	89%		
	950mA	0.23A	43.00W	9.50-38.00W	0.96	90%		
	1000mA	0.24A	45.00W	10.00-40.00W	0.97	90%		
	1050mA	0.24A	47.20W	10.50-42.00W	0.97	90%		

*** Test result @230V, 50Hz, Full Load**

1. Parameters

category	Item	Technical Norm
Features	Output Type	Constant Current
	Dimming Type	DALI-2 / Push DIM
	Output current setting	Near field communication (NFC)
	Output Features	Isolation
	IP Grade	IP20
	Insulation Class	Class II
	Rated Input Voltage	220-240VAC
	Range of Input Voltage	198-264VAC
	Range of DC Input Voltage	198-280VDC （EMI not evaluated）
	Frequency	0/50/60Hz, Range:0/47-63Hz

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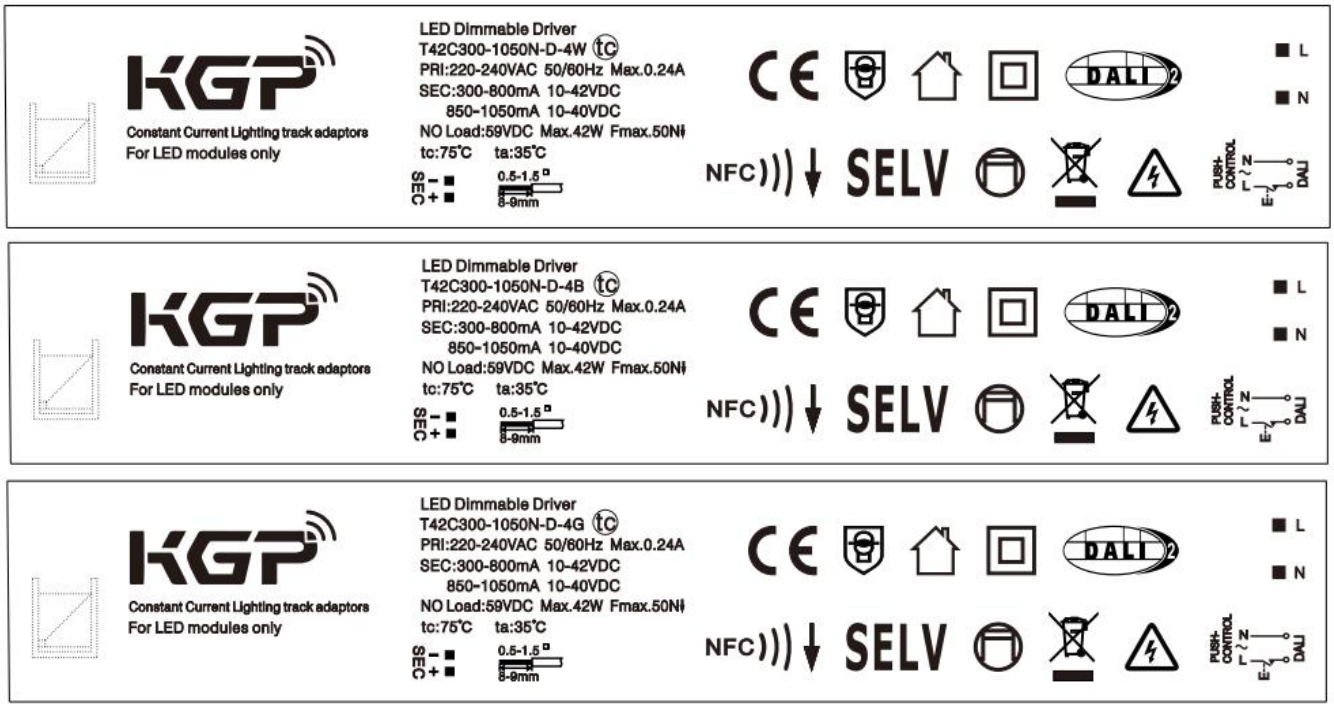
Input	Input Current	≤0.24A (230VAC，full load)
	Input Power	≤47.2W (230VAC，full load)
	Power Factor	≥0.95 (230VAC ， full load)
	THD	≤15% (230VAC ， full load)
	Standby Power Consumption	≤0.5W @230VAC Dim to OFF
Output	Output Voltage	10-42VDC@ 300-800mA 10-40VDC@ 850-1050mA
	No Load Voltage (Uout)	59VDC Max.
	Output Current	300- 1050mA (by NFC setting)
	Max. Output Power	42W
	Efficiency	≥90% (230VAC ， full load@max current)
	Output LF current ripple (< 120 Hz)	±5% (Imax-Imin) / (Imax+Imin)
	Current Accuracy	±5%
	Output PstLM (at full load)	≤ 1
	Output SVM (at full load)	≤0.4
	Starting Time (AC mode)	≤1S (230VAC ， full load, by DALI system)
Control Method	PUSH dimming	PUSH dimming (Max. lead wire length：20m,same port of DALI)
	DALI function	DALI dimming (Max. lead wire length：30m) logarithm or linear dimming curve selectable
	Dimming range	DALI dimming: 1%- 100%
	NFC current setting	The output current can be set within the total value range in 1-mA-steps. Output current is mean value. Setting is by KGP's software APP/APK/PC with FEIG equipment or mobile phone.
Protection	Short Circuit Protection	Auto Recovery
	Overload Protection	Auto Recovery (not be hot swap)
	No-load Protection	Auto Recovery
	Insulation voltage	3000V 5mA 60S between P-S
	Insulation resistance	>100M ohm @ 500VDC
	Leakage current	< 250μA, I/P to O/P or I/P to PE @230V input
Environment	Ta/Operation Temperature	-25 … .+35℃
	Ts/Storage Temperature	-40 … .+75℃
	Tc/Enclosure Temperature	75℃
	Humidity	10%.... 90%RH
	Atmosphere	86- 108KPa
Construction	Connection Method	Push-in Terminal
	Installation	Independent
	SEC Wire preparation	0.5-1.5□
	Dimension	178*31.1*46mm (L*W*H)
	Certification	CE
	Safety Standards	EN 61347-1:2015/A1:2021 EN 61347-2-13:2014/A1:2017 EN IEC 62384:2020 EN 62493:2015 AS61347.2.13:2018 AS/NZS61347.1:2016 Inc A1

		BS EN 61347-1:2015/A1:2021 BS EN 61347-2-13:2014/A1:2017 BS EN 62493:2015 BS EN IEC 62384:2020
Standards	EMC Standards	EN IEC 55015:2019 EN IEC 55015:2019/A11:2020 EN IEC 61000-3-2:2019/A1:2021 EN 61000-3-3:2013/A2:2021 EN 61547:2009
	Performance	EN62384:2020
	DALI performance	EN 62386- 101 (DALI-2) EN 62386- 102 (DALI-2) EN 62386-207 (DALI-2, including part 251, 252, 253)
	Surge	L-N/2KV
Others	RoHS	2011/65/EU
	Life Time	50000h @Ta
	Warranty	5years， F.R. < 10000ppm
Remark: 1.All Parameters, if not specified, are measured at 230VAC/50Hz and 25℃ ambient temperature. 2.LED Driver is a component of the luminaires, Luminaires and wire layout will affect the EMC, please check the EMC with end products again.		

2. Label

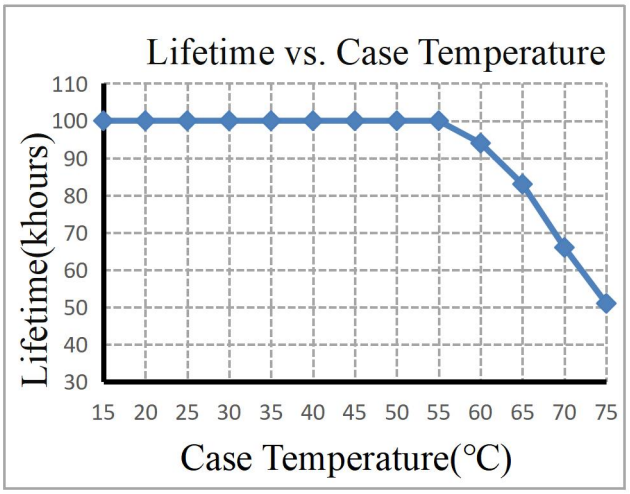


3. Connected quantities of different current Breaker

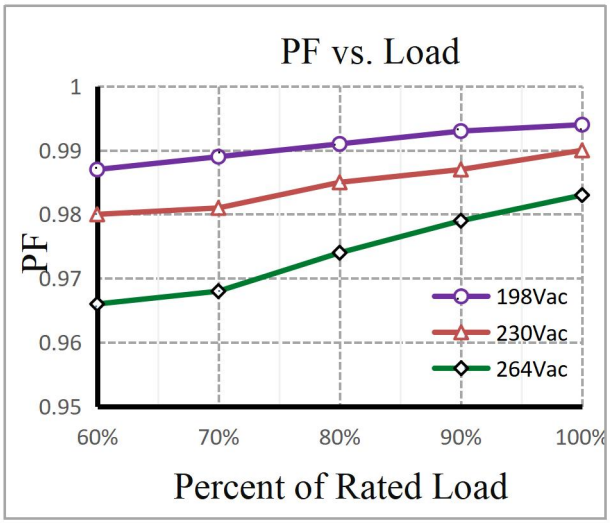
TYPE	Connected quantities of different current Breaker						Input Voltage	Inrush Current (A)	Time
	current (A)	10	13	16	20	25			
	Installation wire diameter	1.5mm²	2.5mm²	2.5mm²	4mm²	4mm²			
TYPE B		24	31	38	48	60	@230VAC	25	100us
TYPE C		38	50	61	77	96			
TYPE D		61	80	98	123	154			

4. Electrical values

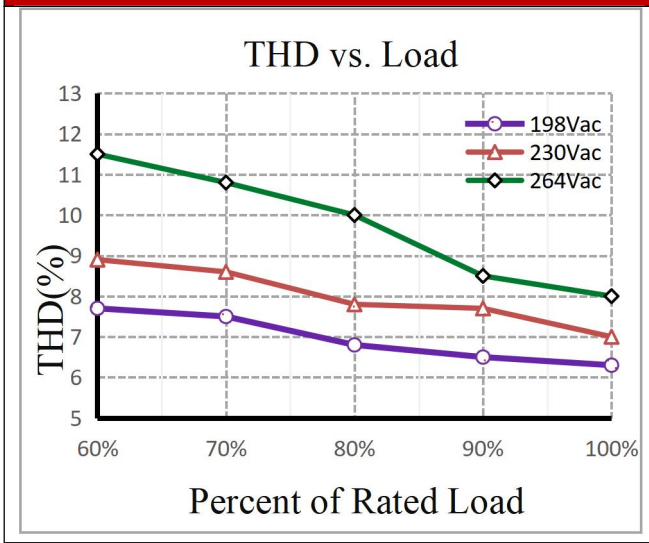
Lifetime vs. Case Temperature



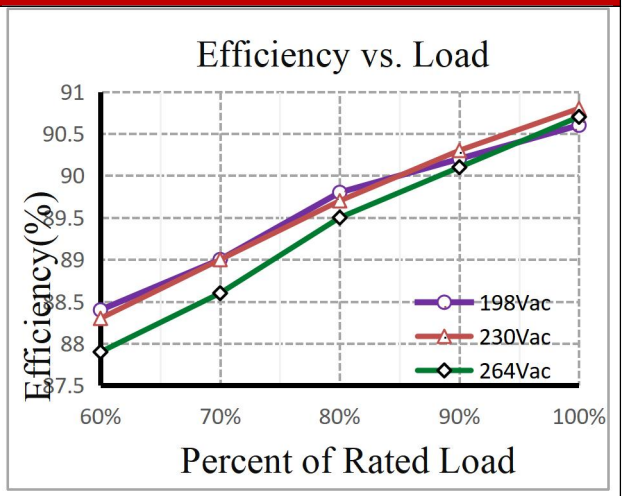
PF vs. Load

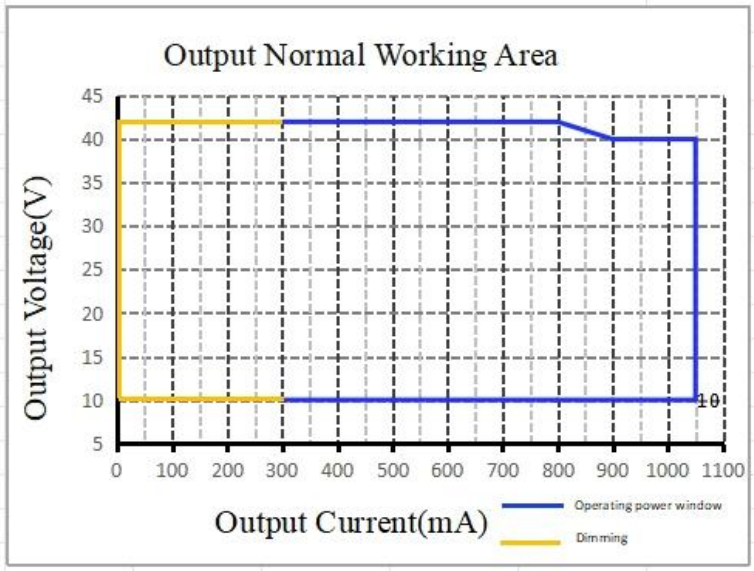


THD vs. Load



Efficiency vs. Load





Output Power Window

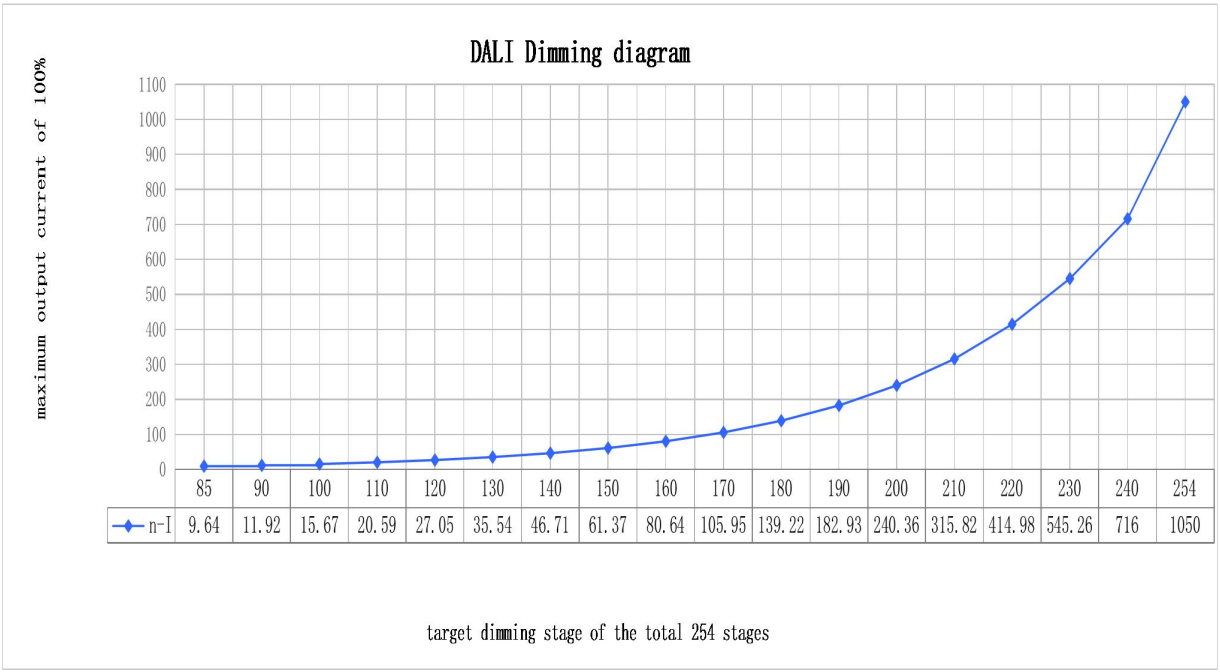
5. DALI dimming curve

formula for DALI dimming.

X(n)=10^{[(n-1)/(253/3)]-1},

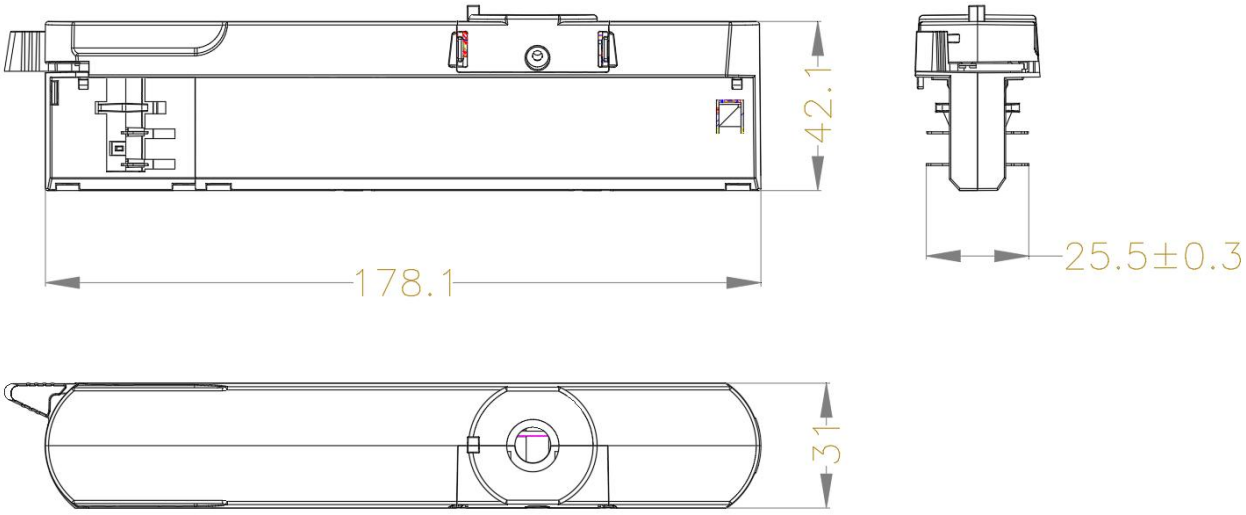
Here, n means the target dimming stage of the total 254 stages.

X(n) means the percent of the maximum output current



	85	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	254
n-I	9.64	11.92	15.67	20.59	27.05	35.54	46.71	61.37	80.64	105.95	139.22	182.93	240.36	315.82	414.98	545.26	716	1050

6. Dimension



7. Packing information

Packing way	Model	Colour	Carton L*W*H(mm)	Pcs/ Carton	Net weight/ Pcs(kg)	Net weight/ Carton(kg)	Gross weight/ Carton(kg)
industrial	T42C300-1050N-D-4W	White	515*274*370	90	0.15	13.5	14.5
	T42C300-1050N-D-4B	Black					
	T42C300-1050N-D-4G	Grey					

8. Wiring Diagram

Fig. A: Push Dimming

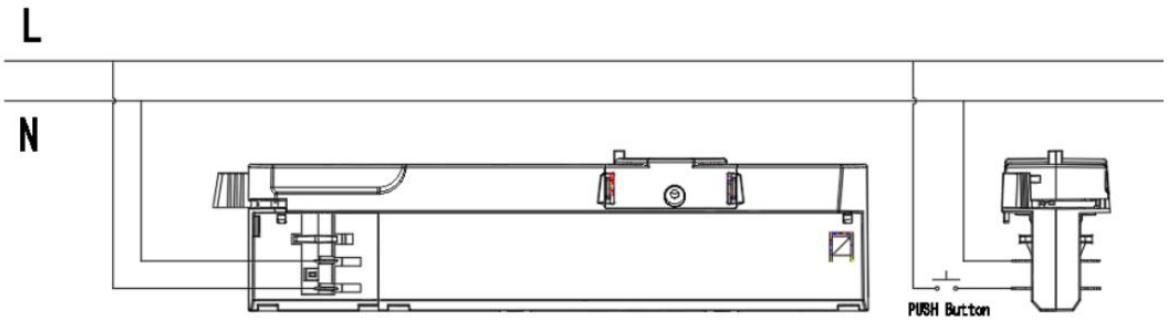
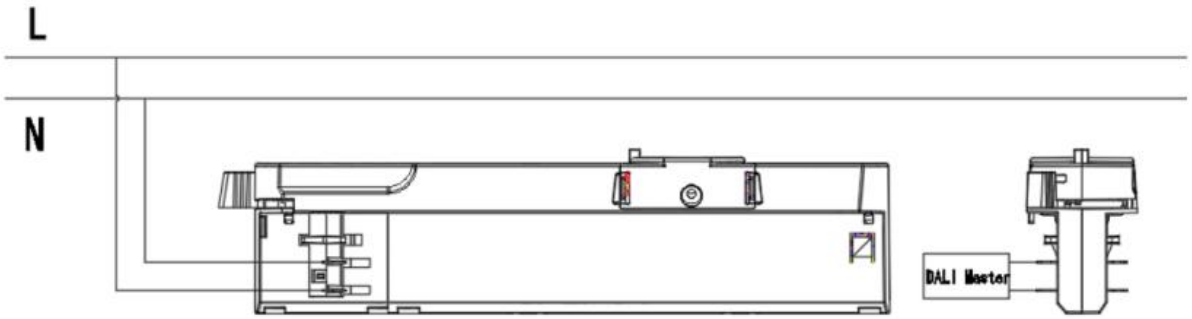


Fig. B: DALI Dimming

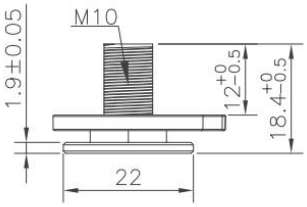


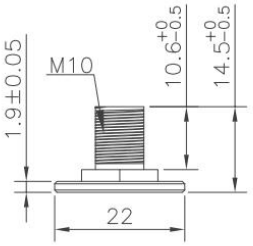
9. Lamp Screw Type

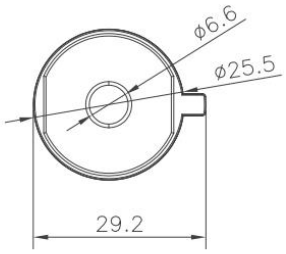
- Optional threaded sleeve for luminaire mounting
- Suitable for M10x1x8 threaded nut
- Additional mounting equipment,e.g.M10x1x12
- aluminium, black, white
- further on request

Ordering data

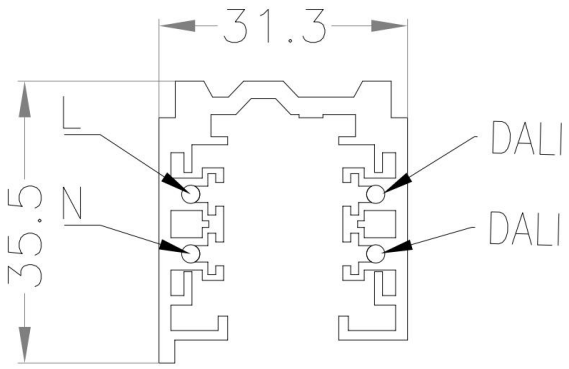
Type	Colour	Material 1	Material 2	Weight(g)/pcs
M10x8	White	AL	PC	9.04
	Black	AL	PC	9.04
	Gray	AL	PC	9.04
M10x12	White	AL	PC	9.72
	Black	AL	PC	9.72
	Gray	AL	PC	9.72







10. Phase track light rail specification:



11. Lighting track adapter and rail system installation diagram:

The adaptor shall be given that the use is limited to the track system specified.

12. Wiring instructions

• All connections must be kept as short as possible to ensure good EMI behaviour
• Mains leads should be kept apart from LED Driver and other leads (ideally 5 – 10 cm distance)
• Advice the maximum length of output wires is 3 m
• Secondary switching is not permitted（Except for constant voltage）
• Incorrect wiring can damage LED modules.
• The wiring must be protected against short circuits to earth (sharp edged metals parts, metal cable clips, louver, et

14.NFC instructions

REMARK:

You are advised to set DALI parameters when the power supply is not enabled

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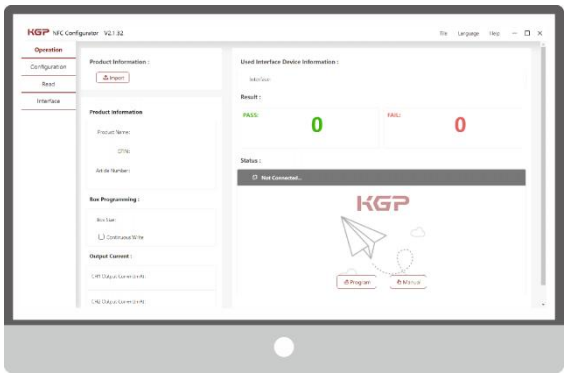
Make sure your phone has NFC capability and has it activated.

NFC Reader (optional)

Feature:

Easily on-line read a output current from a driver or write a new current data to a driver throughout KGP NFC reader within few seconds.



Product	Description	Interface	Matching antenna	Zhaga approval	Usage
ID CPR30+ 	Desktop programmer	USB	Integrated	Yes	Single Programming on Desktop
ID ISC.PRH101-USB 	Handheld programmer	USB	Integrated	Yes	Single Programming by Handheld
ID ISC.MR102-USB 	Middle range programmer , for connecting external antenna	USB	RF-MANT12786 	Yes	Single Programming on Product line
ID ISC.LR1002-E 	Long range programmer , for connecting external antenna	USB,RS232,TCP/IP	ID ISC.ANT310/310	Yes	Multi Programming System

Step 1:Connect FEIG reader

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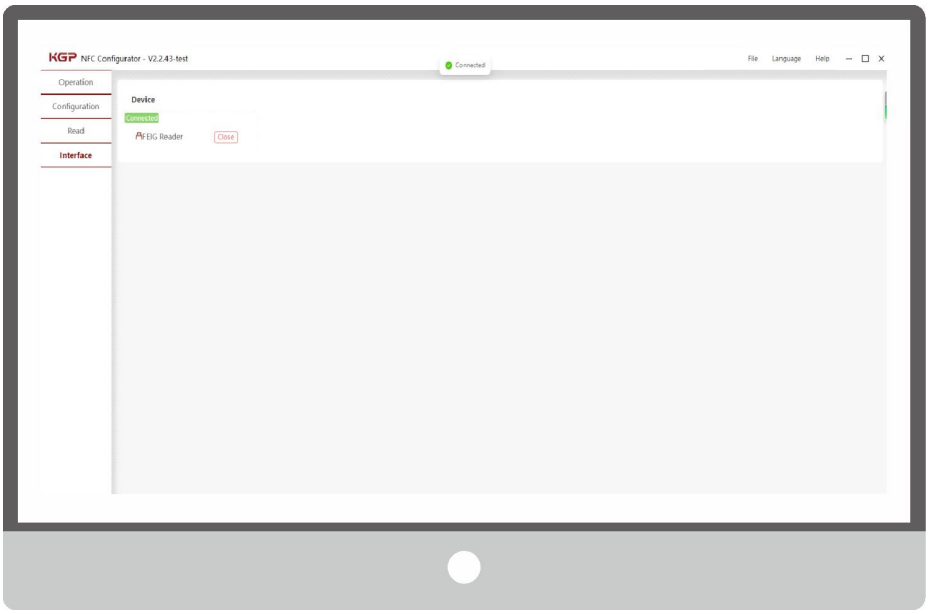
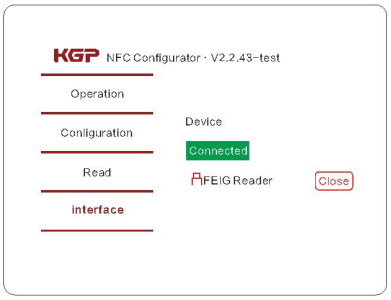
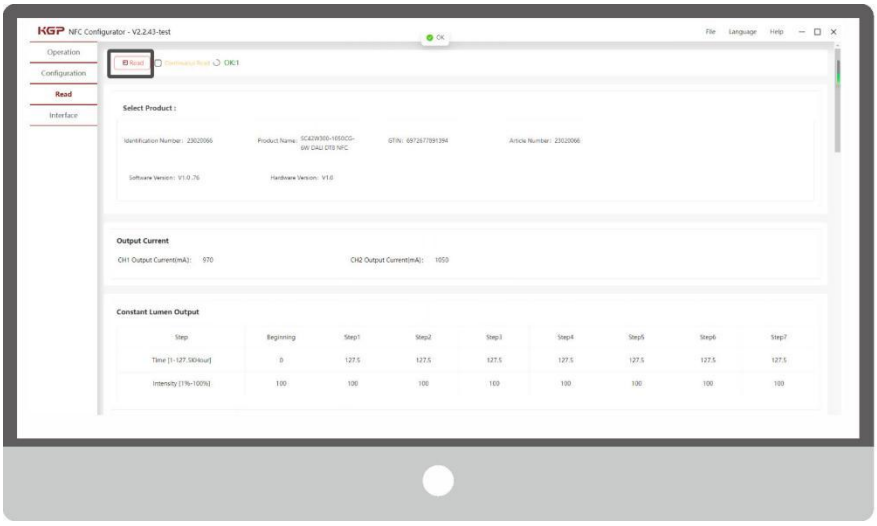




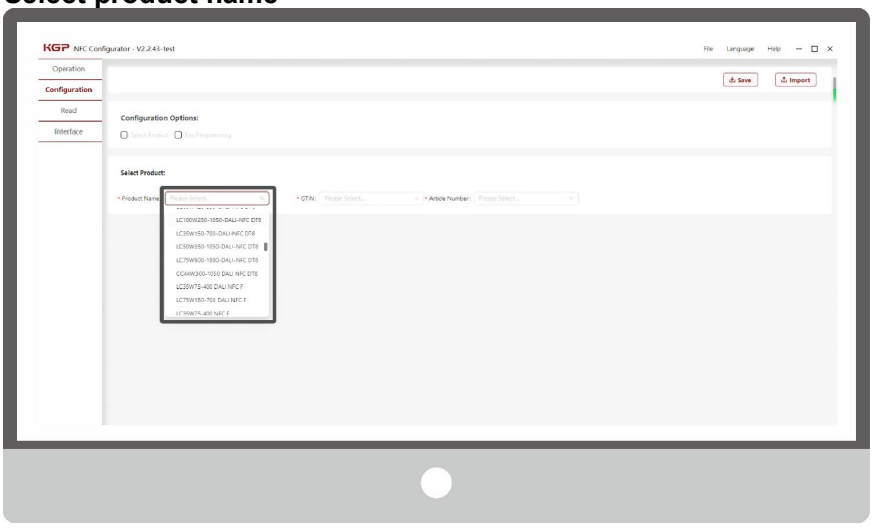
Step 2: Read product information

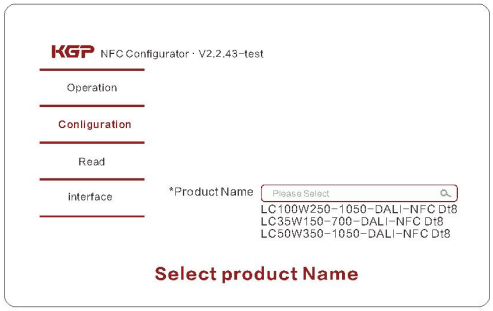
Click “Read” button to read



Step 3: Few parameter interface, you can choose the setting based on your requirements.

Select product name





Output current setting:

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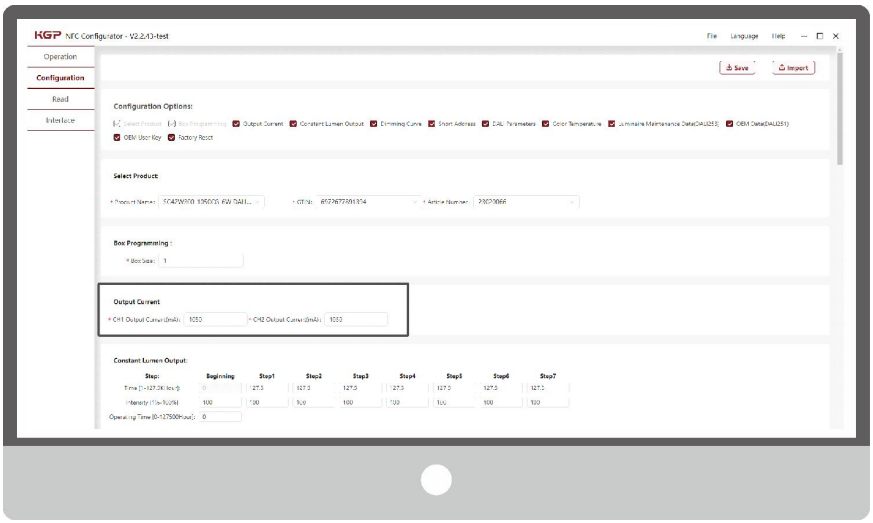
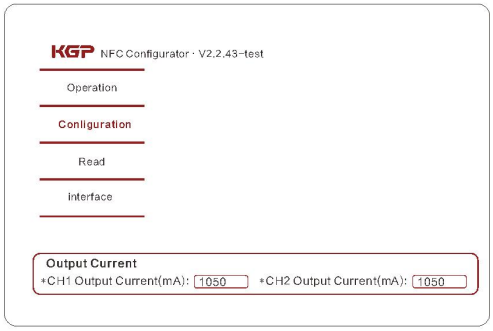
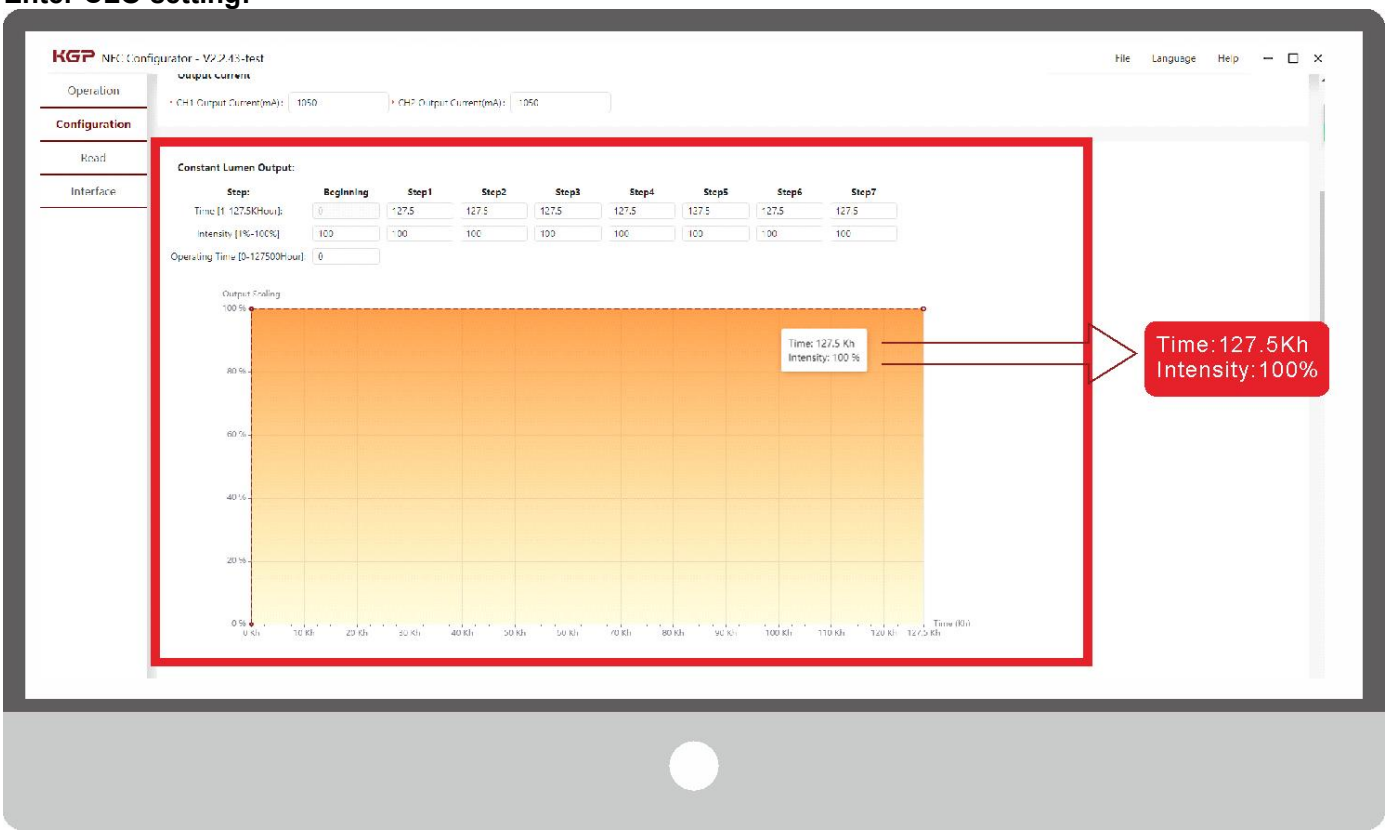




Enter CLO setting:



Dimming curve setting：

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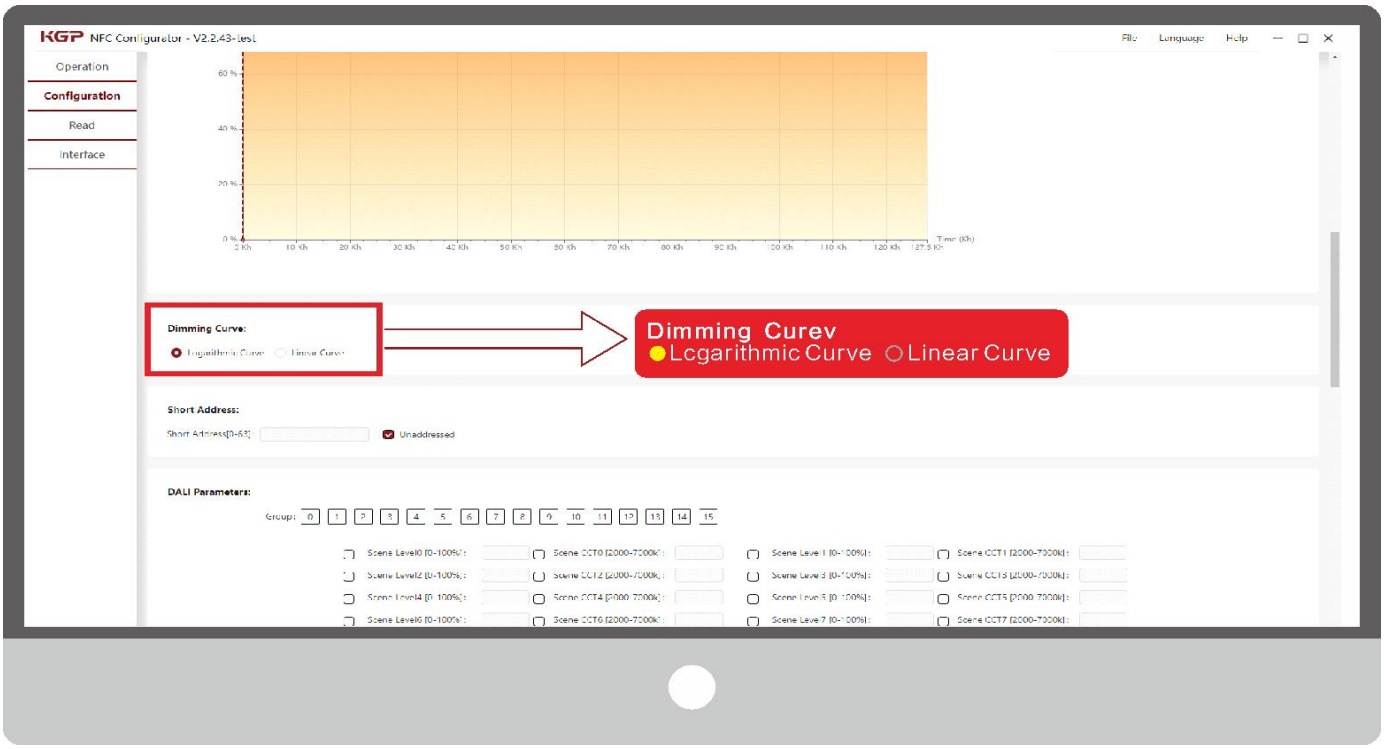
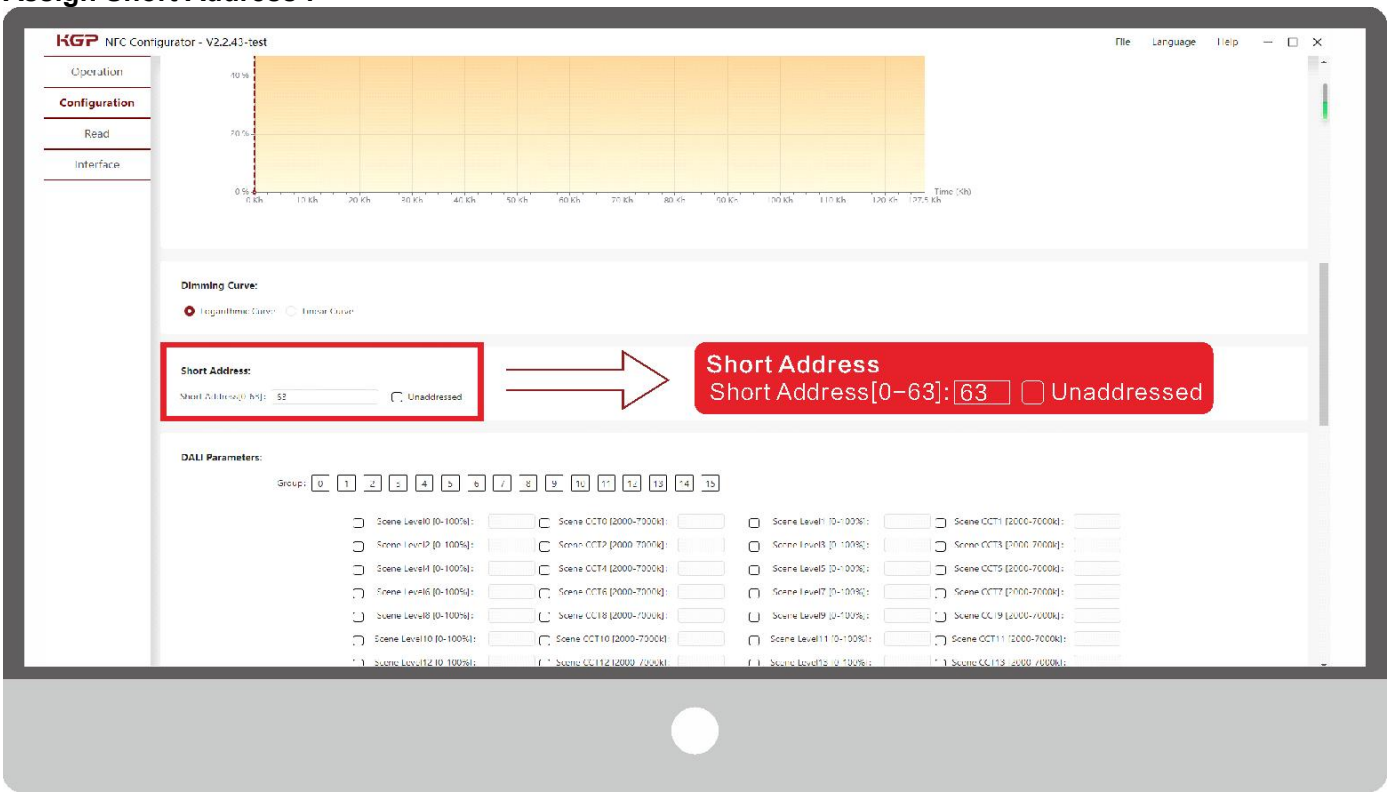
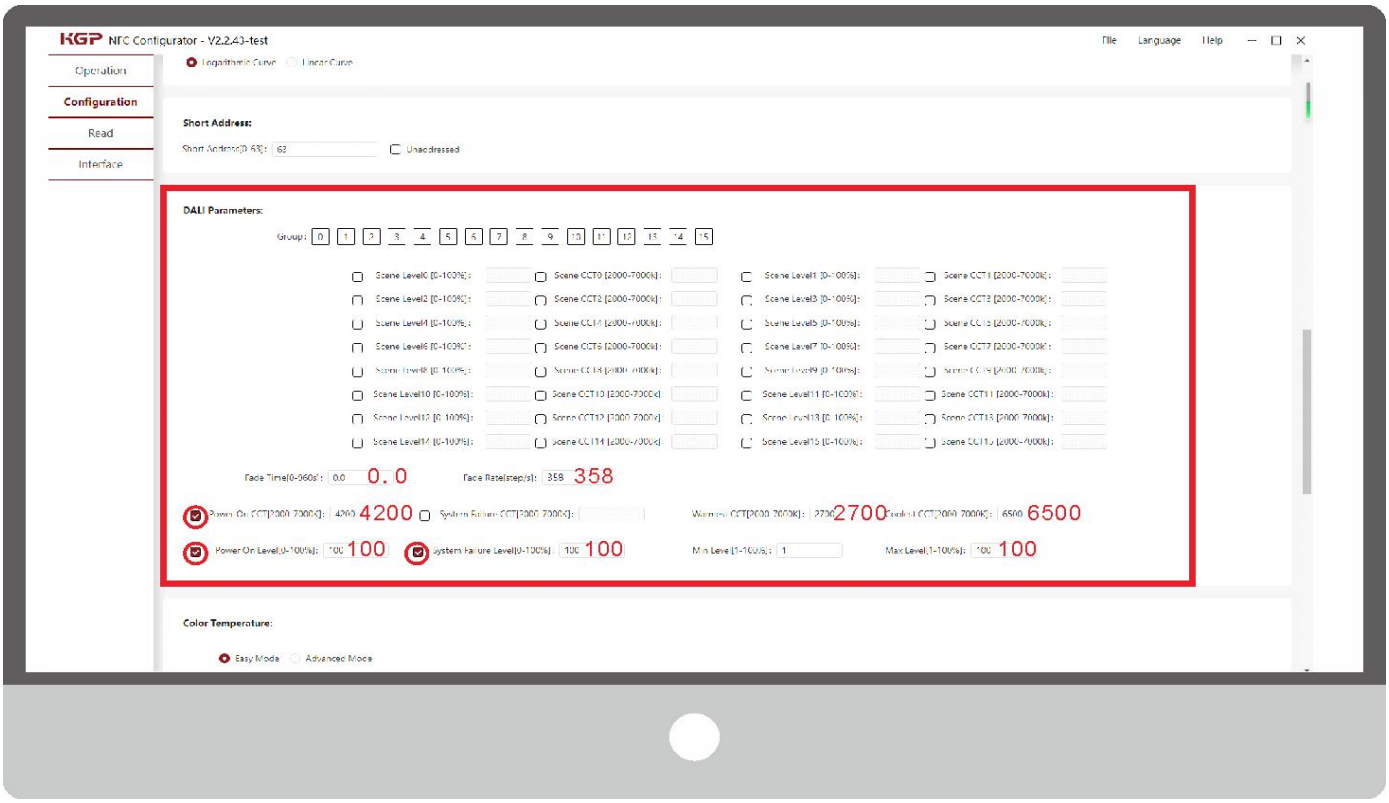


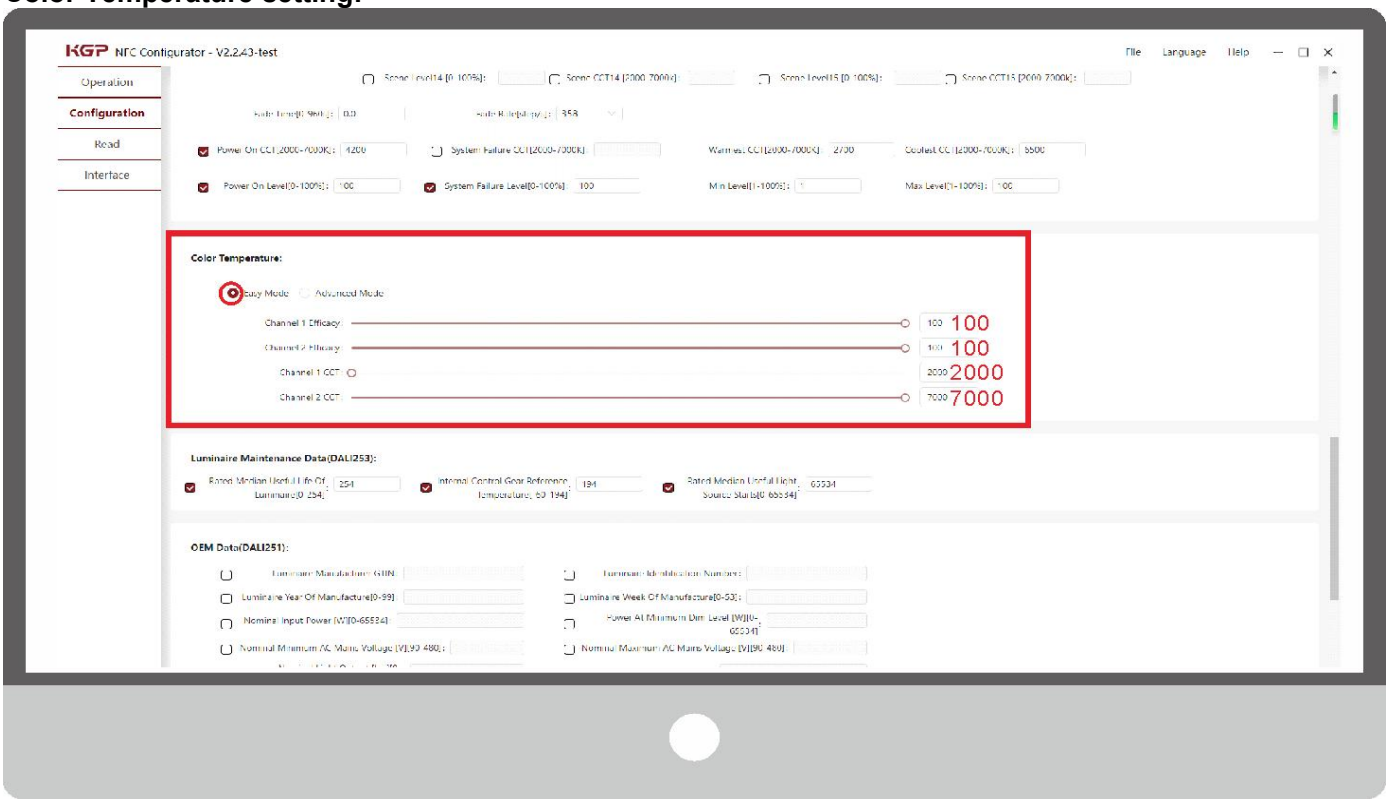
Assign Short Address :

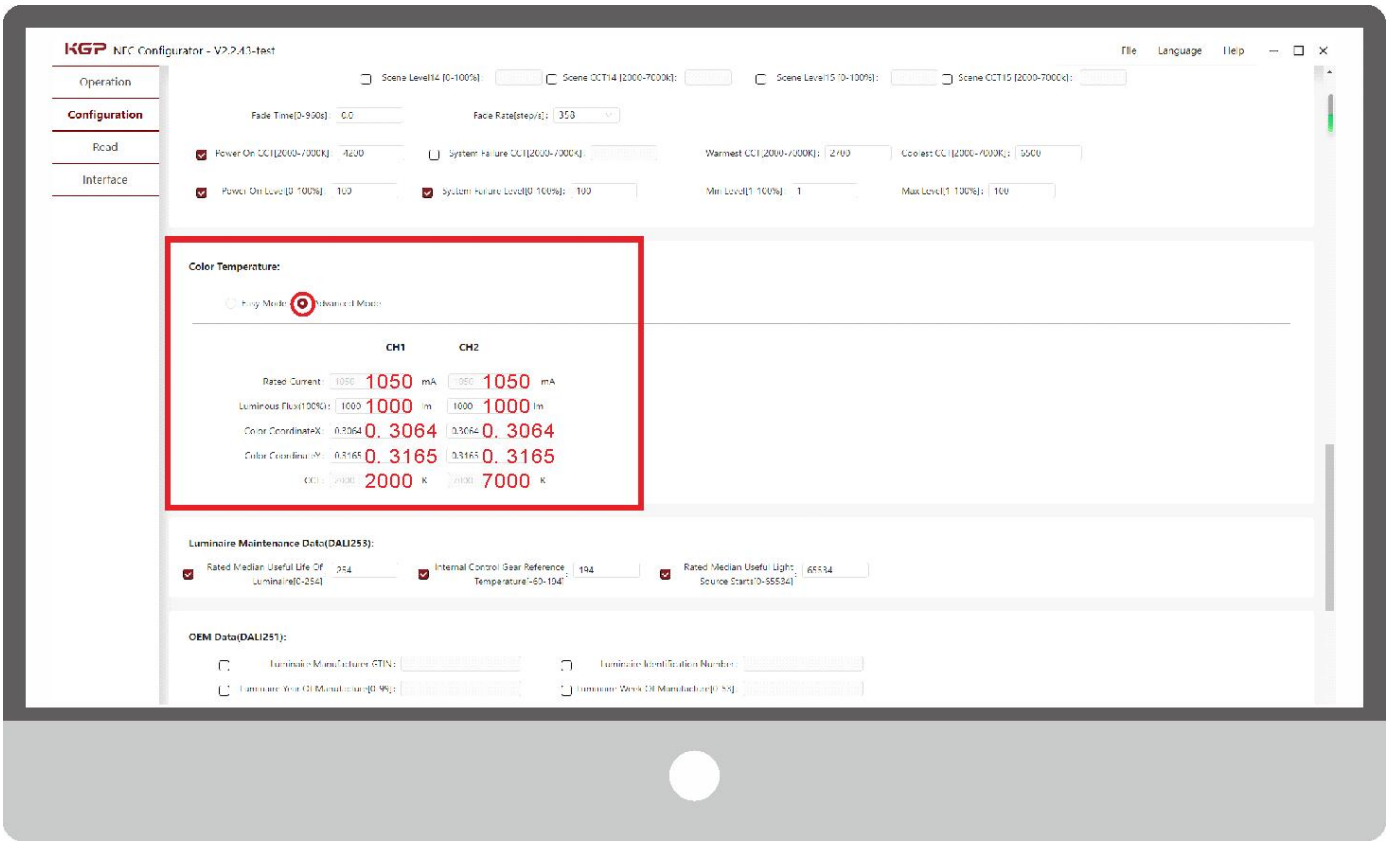


DALI Parameters setting:

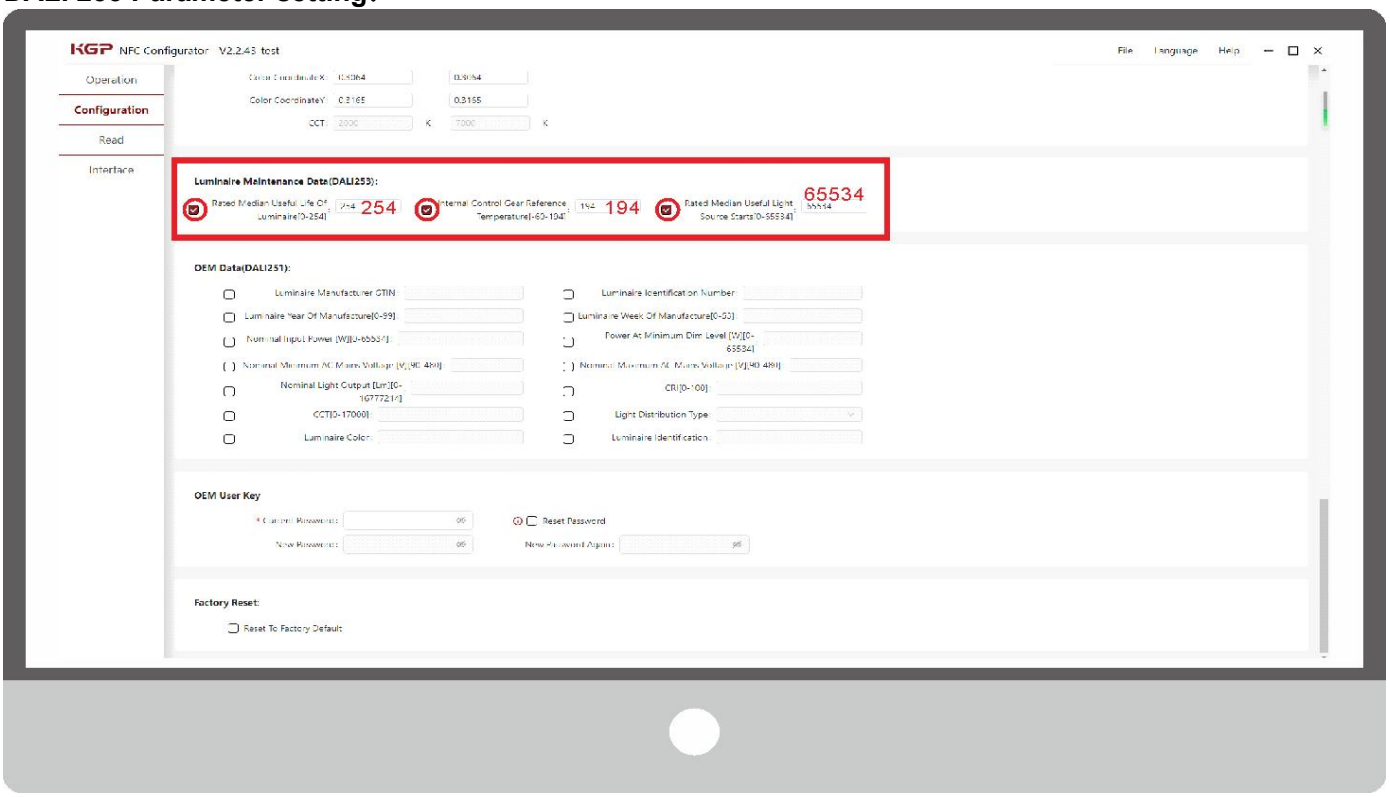


Color Temperature setting:

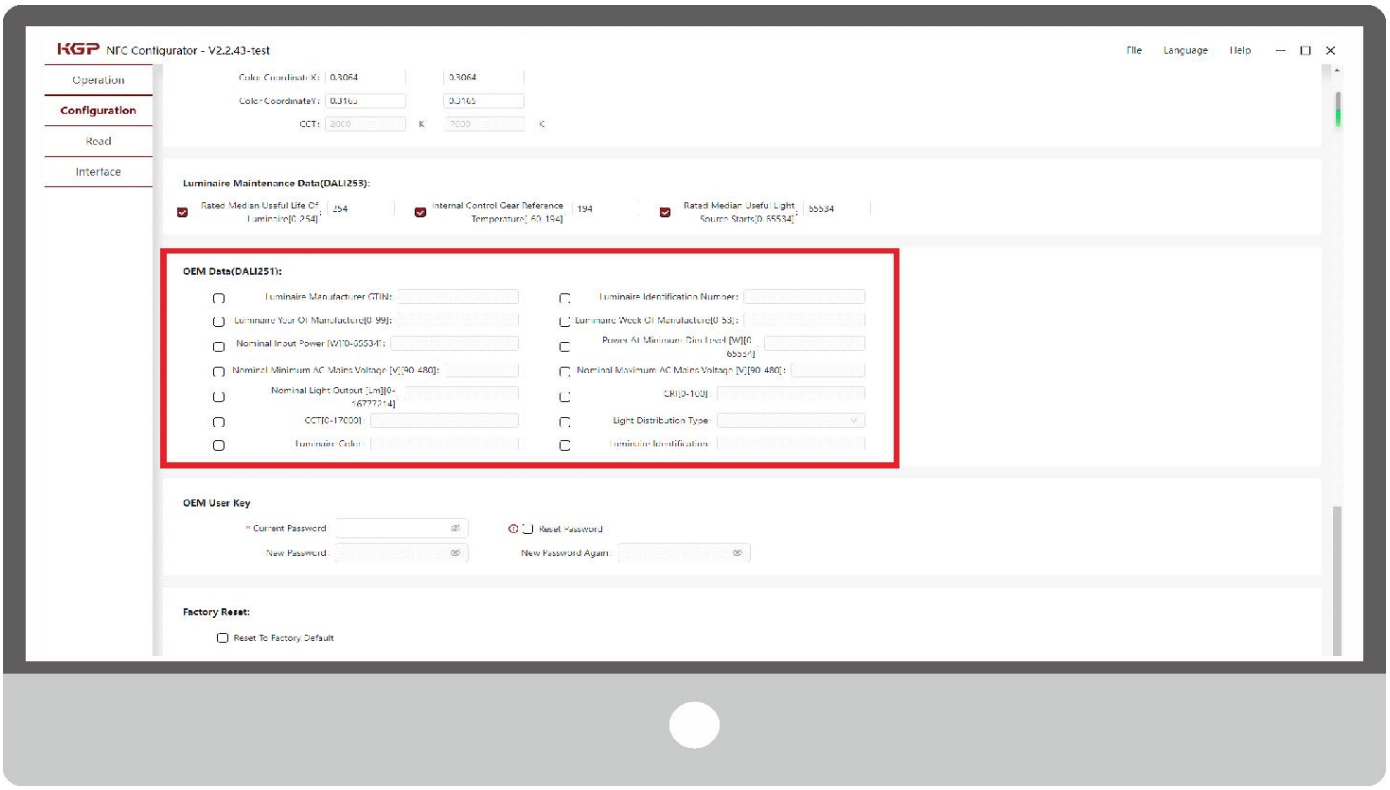




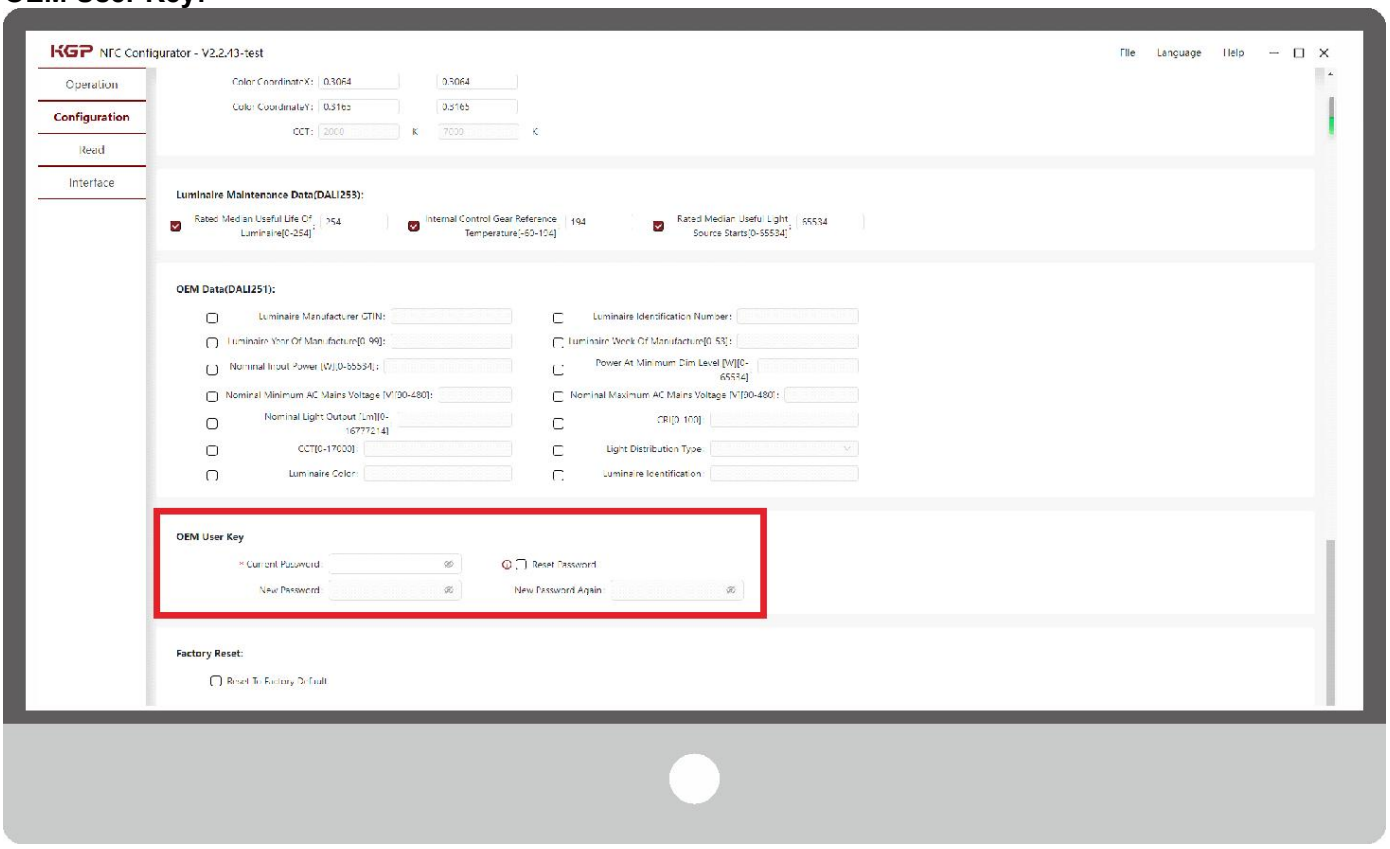
DALI 253 Parameter setting：



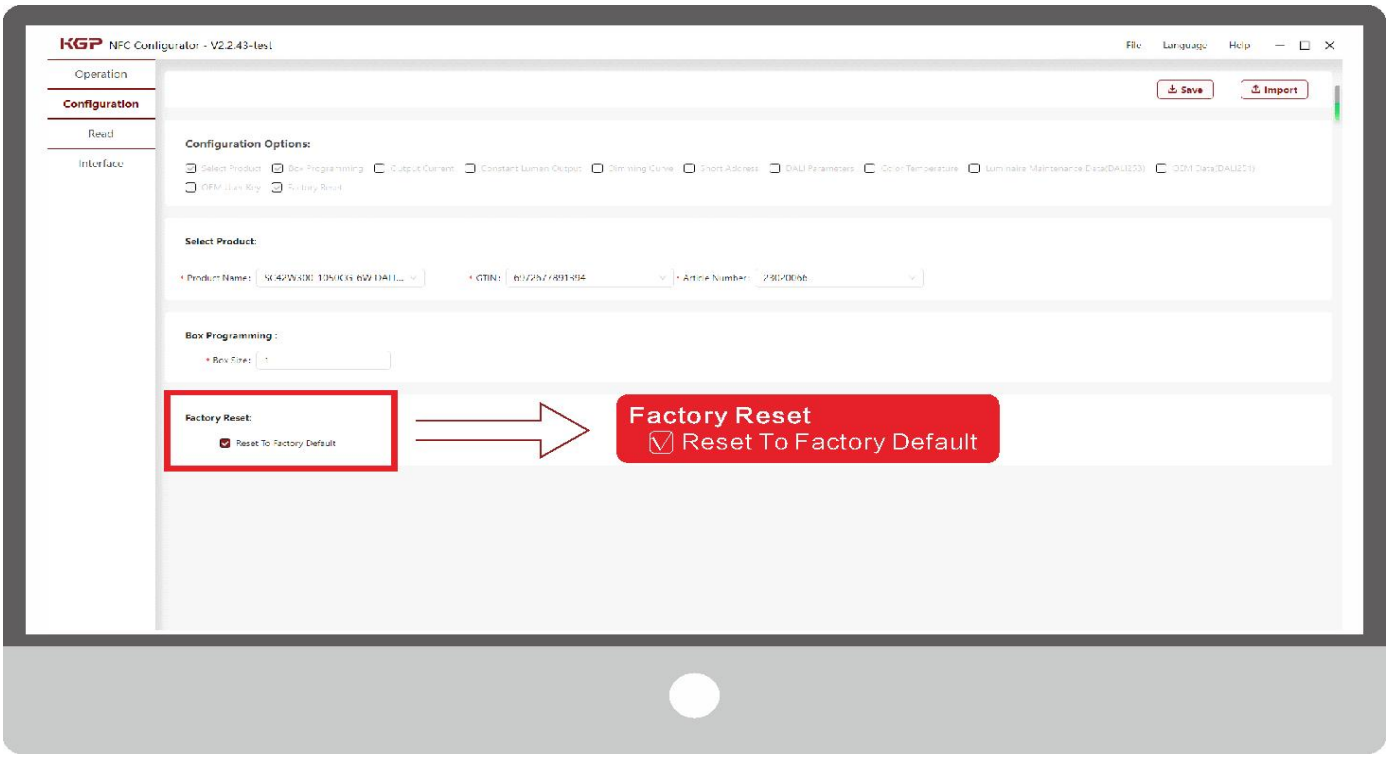
DALI 251 OEM Data setting：



OEM User Key:

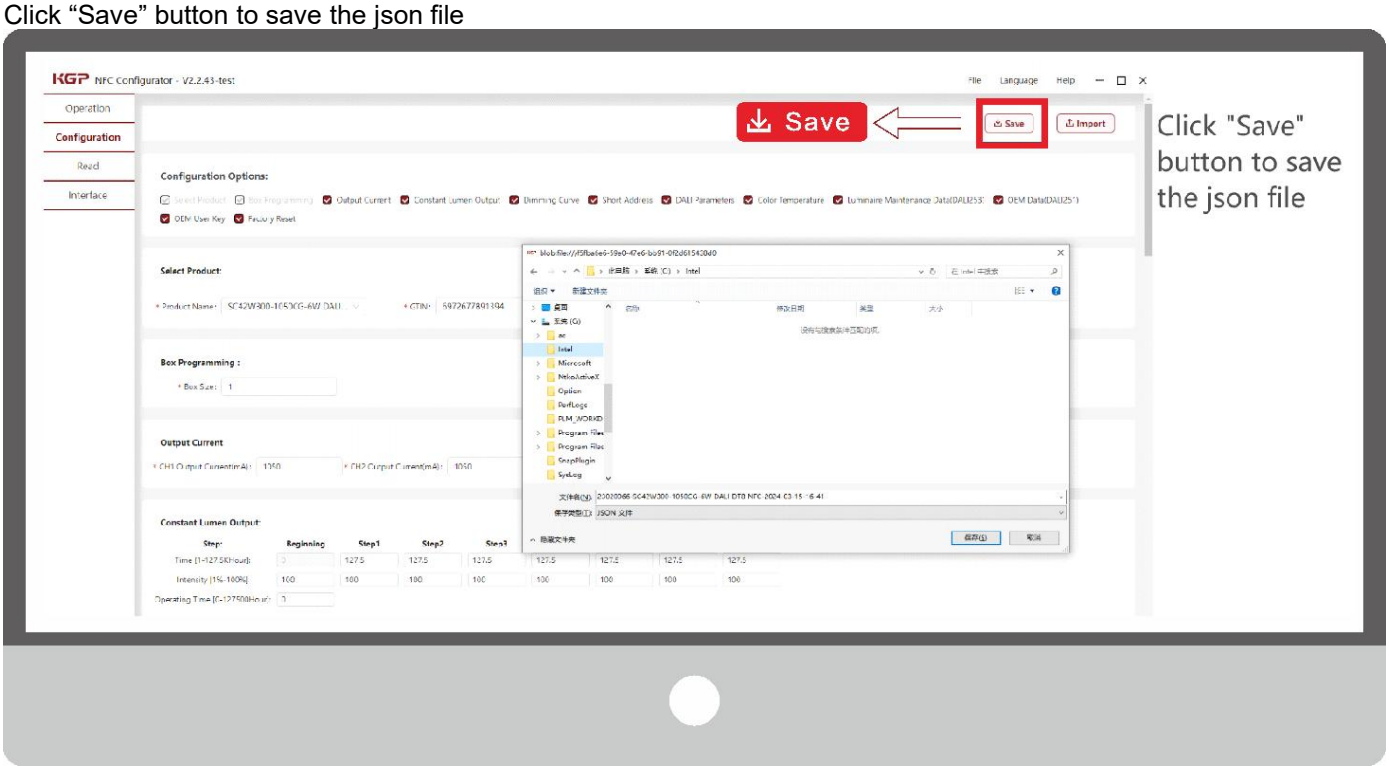


Factory Reset:



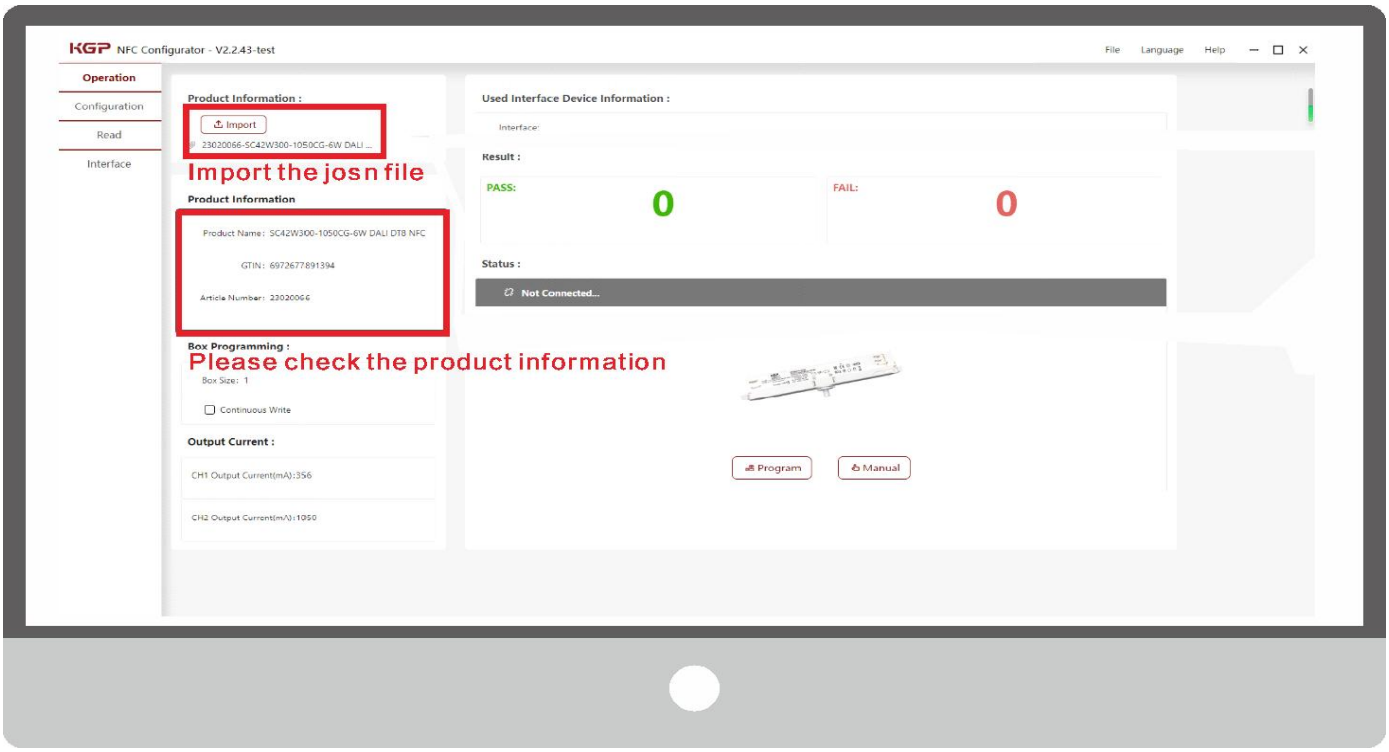
Step 4: Save the configuration file to a local directory

Click “Save” button to save the json file

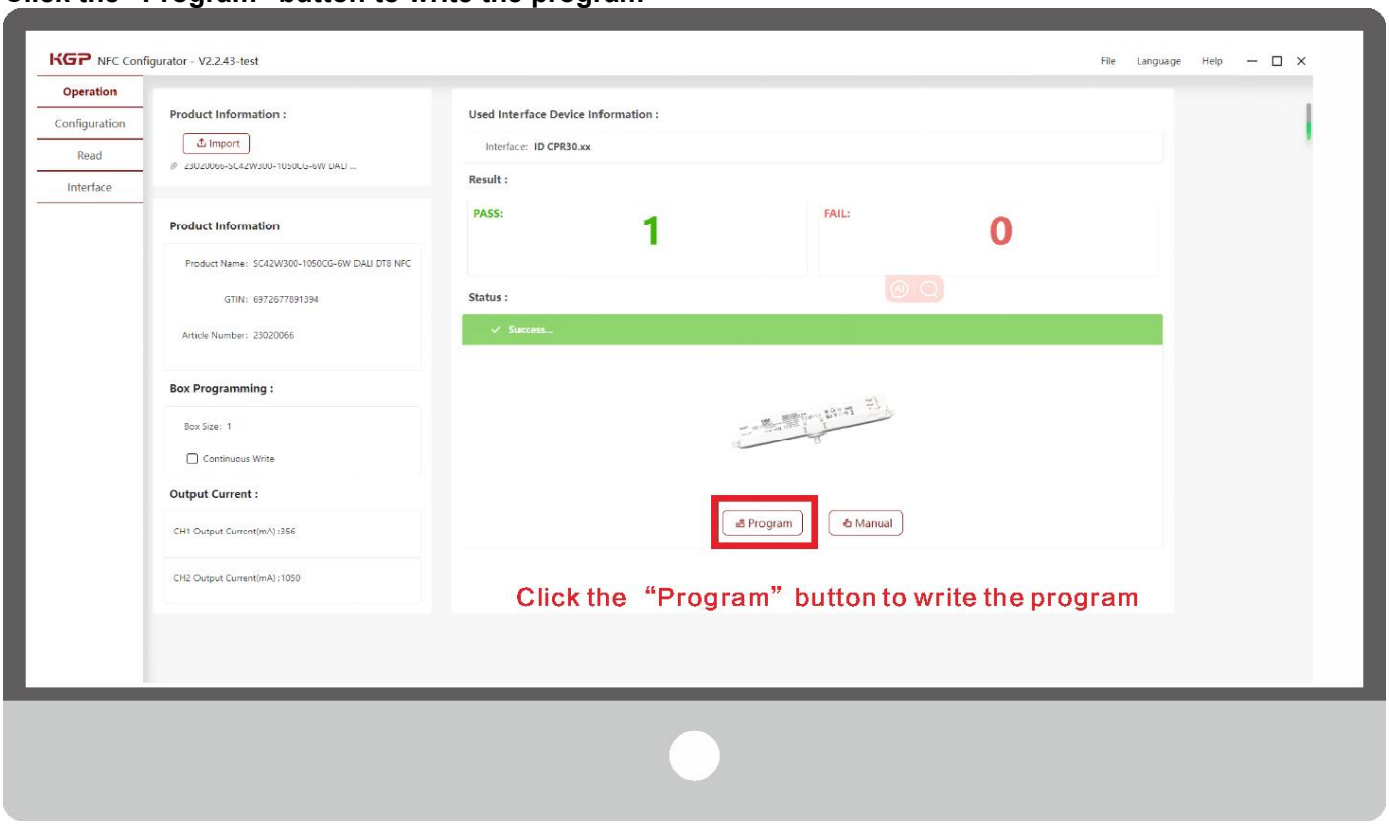


Step 5: Import configuration files for programming

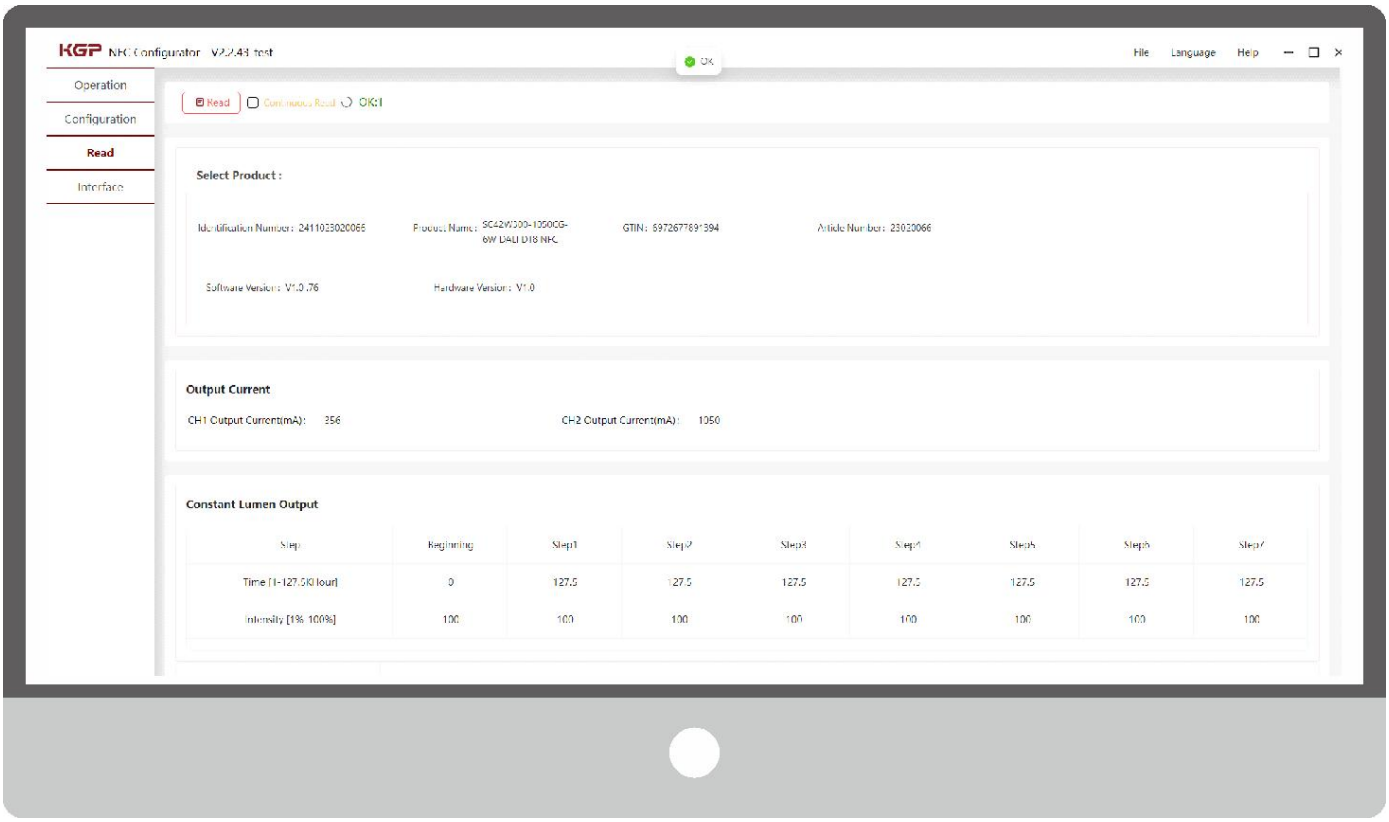
Import the json file,check the product information



Click the “Program” button to write the program



Step 6: Check that the parameters you just wrote are correct



1.Mobile client:

Step 1: Download the APP (searching “KGP NFC" from App Store).
Then open the APP

Note:
1. Please Make sure that you have enabled NFC function with your mobile phone/ tablet.

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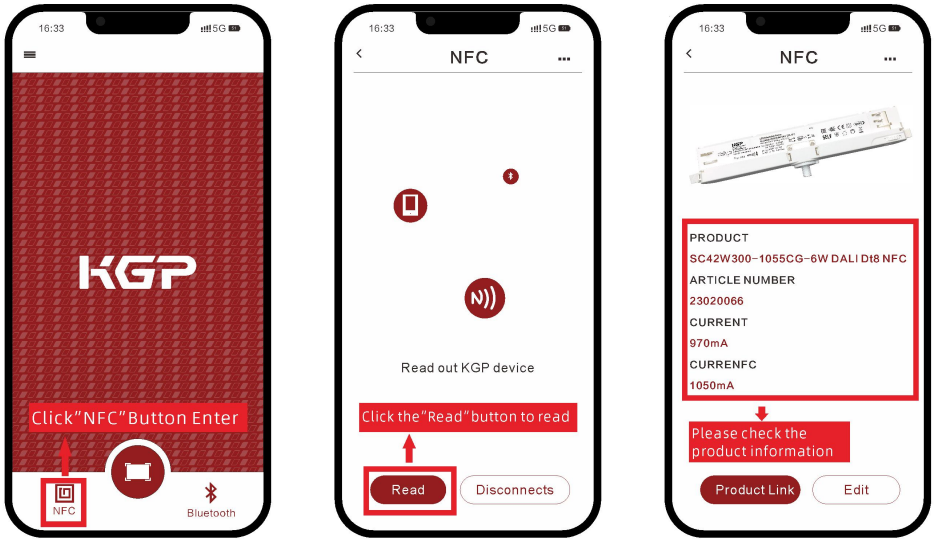
2.Please Make sure that the"NFC position"is matched.
3.Please do not power on the device before setting.

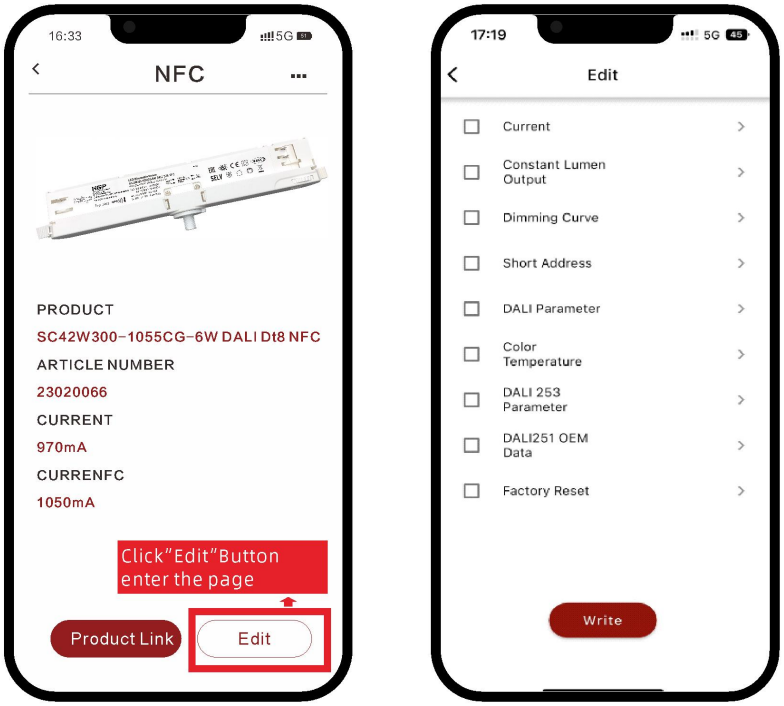
Step2:Enter the software and enter parameters configuring page.

1）Click “NFC” button Enter
2）Click the “Read” button to read
3）Check the product information

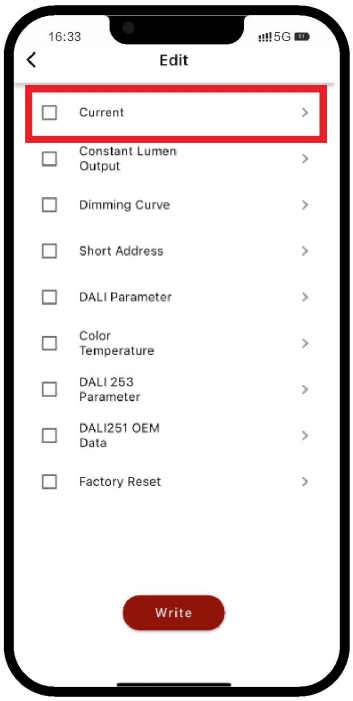


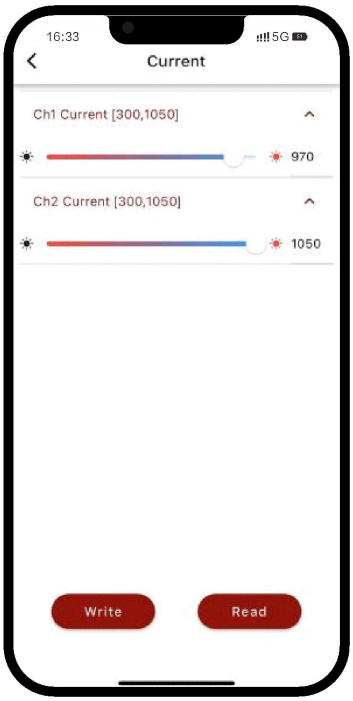
Step 3: Few parameter interface, you can choose the setting based on your requirements.

Click “Edit” button enter the page

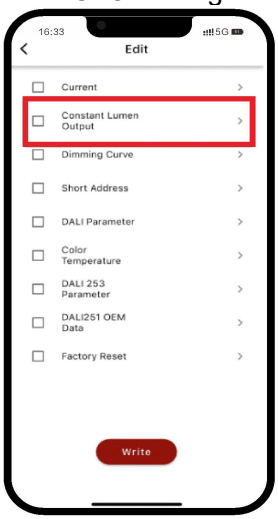


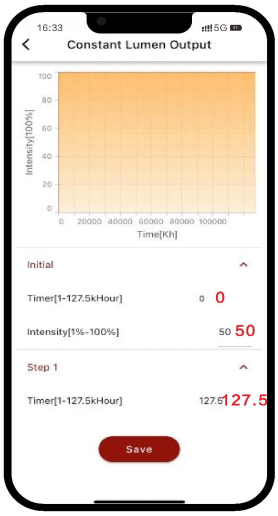
Output current setting：

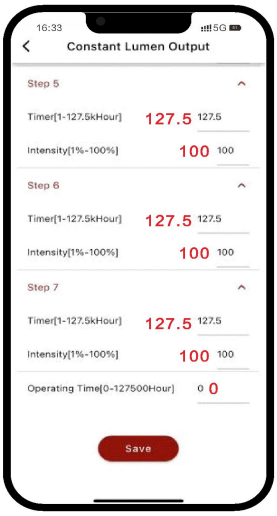




Enter CLO Setting:







Dimming curve setting：

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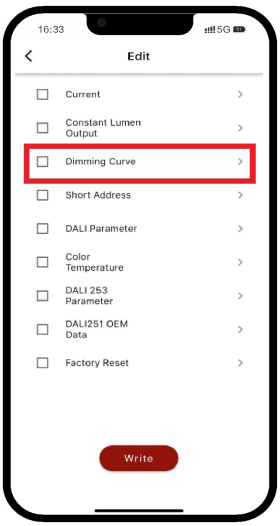
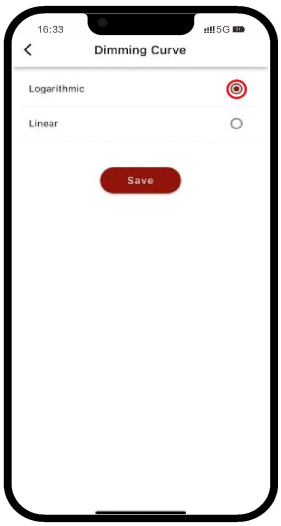
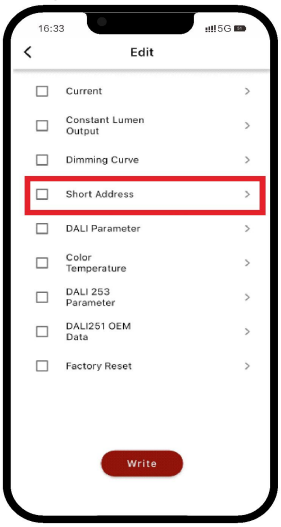
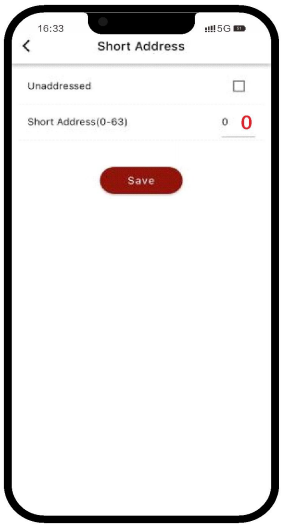


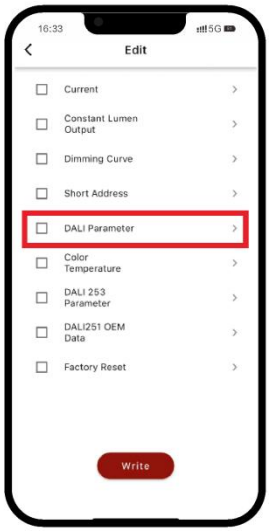


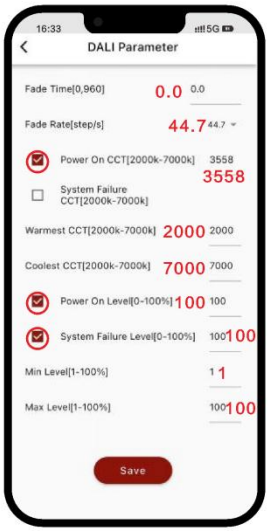
Assign Short Address：





DALI Parameter setting：





Color Temperature setting：

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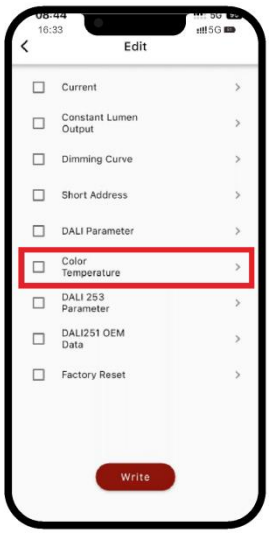
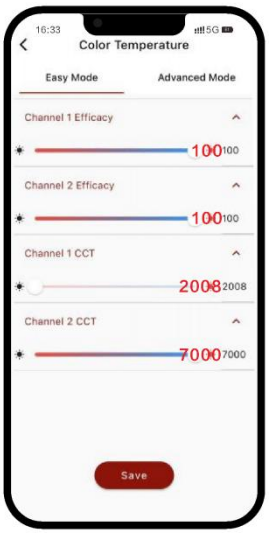
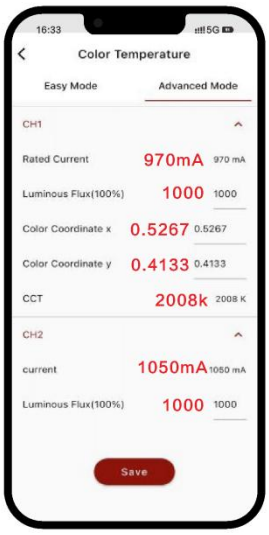
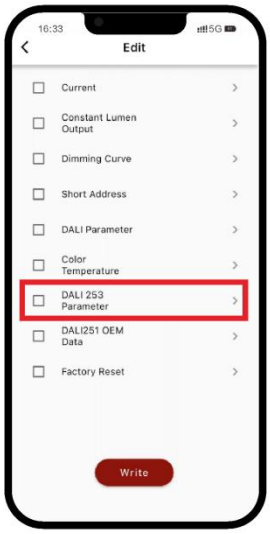
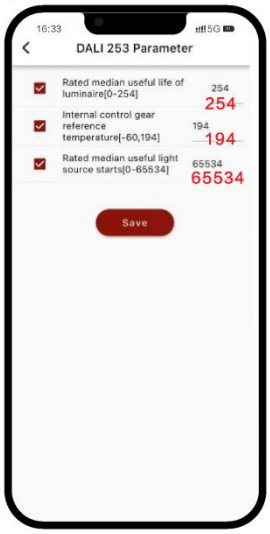




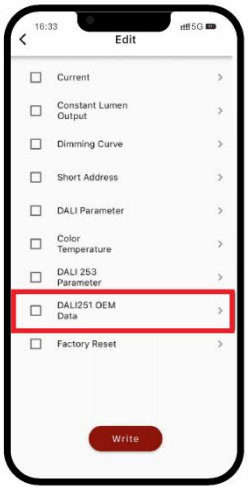


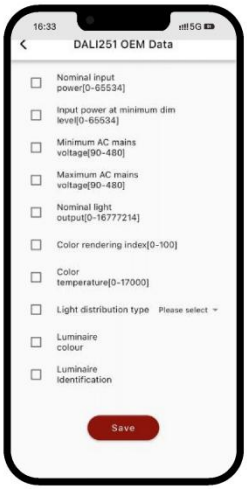
DALI 253 Parameter setting：





DALI 251 OEM Data setting：





Factory Reset：

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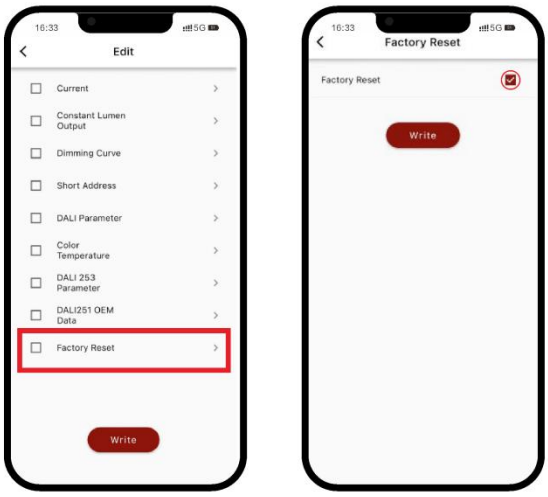
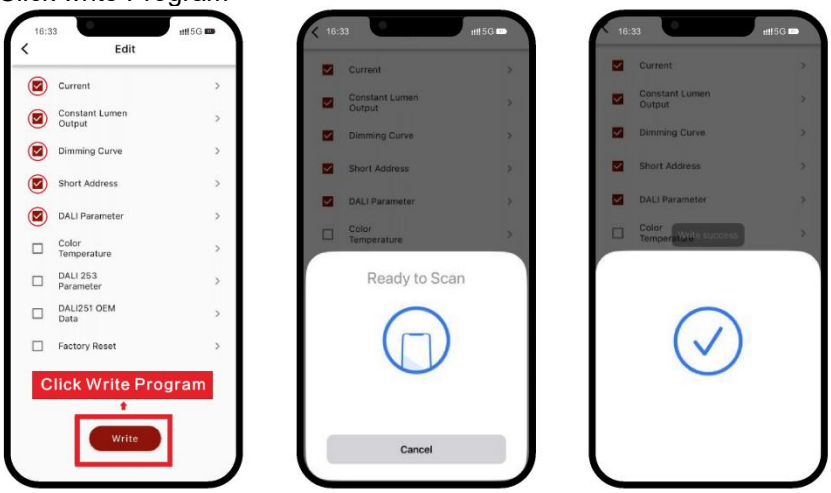


Step4： After the configuration is complete, save the selected configuration using NFC, write the configuration, and power on the device

Click write Program



Tips：

1.NFC function doesn't require any power driver.

2. Many functions can be configured by NFC.Kindly check your desired functions.

2.Functions

16.1 OEM Identification

The OEM (Original Equipment Manufacturer) can set his own identification number.

DALI Part 251: Memory bank 1 extension.

16.2 OEM GTIN

The Original Equipment Manufacturer (OEM) can set his own Global Trade Item Number (GTIN).

DALI Part 251: Memory bank 1 extension.

16.3 Luminaire data

This function provides the asset management with accurate data about the luminaire.

DALI Part 251: Memory bank 1 extension.

DALI Part 253: Luminaire maintenance data.

16.4 LED current

The LED output current must be adapted to the connected LED module.

The value is limited by the current range of the respective device.

The output current of the LED driver can be adjusted in a certain range.

Adjustment is done by KGP Configurator via NFC.

16.5 Switch DIM

Integrated Switch DIM function allows a direct connection of a push button for dimming and switching.
Brief push (< 0.6 s) switches LED driver ON and OFF. The dim level is saved at power-down and restored at power-up. When the push button is held, LED modules are dimmed. After repush the LED modules are dimmed in the opposite direction.
In installations with LED drivers with different dimming levels or opposite dimming directions (e.g. after a system extension), all LED drivers can be synchronized to 50 % dimming level by a 10 s push.
Use of push button with indicator lamp is not permitted.

16.6 Corridor FUNCTION
With the Corridor FUNCTION and a commercially available motion detector, it is easy to adapt the lighting in one area to its use.
That is, when the area is entered by a person, the lighting dims instantly to the desired brightness and is available in full strength.
After the area is left by the person, the brightness dims slowly to a smaller value or switches off completely.
The individual parameters of the desired profile, such as brightness values or delay times, can be adjusted flexibly and individually.

16.7 Constant Light Output (CLO)
With this function the light output of the LED module can be kept equal over the lifetime.
The light output of an LED module reduces over the course of its lifetime.
The Constant Light Output (CLO) function compensates for this natural decline by constantly increasing the output current of the LED driver throughout its lifetime.
CLO shall be achieved by limitation of the LED current at the commissioning of the LED driver and providing a linear interpolation of the current over the time, depending on the data points given by the user.
The user has to insert up to eight pairs of data (time, level).
The output curve is the result of connecting the user data points linear.
Detailed description for CLO see product manual.
The minimal CLO starting point is limited by the smallest output current of the LED driver.

16.8 Dimming curve
DALI:The desired dimming behaviour is selected via two different dimming curves (logarithmic or linear).DALI:The desired dimming behaviour is selected via two different dimming curves (logarithmic or linear).
The default setting of the dimming behaviour is logarithmic.

13. REVISION HISTORY

DATE	REV	Modification details
2024-4-17	V1.0	Initial release.
2024-8-16	V1.1	Update Efficiency ,Tc and Life Time