

DALI-2 Dimmable LED Driver - Constant Voltage Output - KV-D4IA Series 800W&1000W

KV-D4IA Series 800W&1000W

Whole Family: KV-xxXXX-D4IA-z (xx=12/24/36/48VDC; z=YT/Y/T) [800W 1000W]



Features

Output:	Constant Voltage
Range:	120-277VAC
PFC design:	Built-in active PFC function
Efficiency:	Up to 96%
Protections:	Short circuit / Over load / Over temperature
Heat dissipation:	Cooling by free air convection
Waterproof performance:	IP66.(EU)
	Full aluminum housing, for dry, damp and wet locations.(US)
Design features:	1. The dimming curve is adjustable. Multiple frequency options. Comes with DALI bus power supply and auxiliary power supply. It has power status detection function (D4i function) and Lamp temperature detection. Driver parameters can be adjusted by APP. 2. Bus power specification: 18V, 50mA, capable of supporting approximately 25 units of our company's DALI power supplies (signal line current loss of our company's DALI power supply < 2mA) 3. Auxiliary power specification: 24V, 125mA, 3W
Dimming function:	DALI-2 dimming
Dimming range:	0.1-100% dimming depth 0.1%
Min load	Min load is 10%
Application:	Suitable for LED lighting and moving sign applications
Warranty:	5 years warranty
Others:	High power factor PF>0.95, flicker-free

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Specification

Model		KV-12800-D4iA-YT	KV-241K0-D4iA-YT	KV-361K0-D4iA-YT	KV-481K0-D4iA-YT
Certificate					
Output	DC Voltage	12V	24V	36V	48V
	Voltage Tolerance	±4%	±2%	±2%	±2%
	Voltage Regulation	≤0.5%	≤0.5%	≤0.5%	≤0.5%
	Rated current	66.67A	41.67A	27.78A	20.83A
	Rated power	800W@120-277VAC	800W@120VAC	1000W@230/277VAC	
	Load Regulation	±1%	±1%	±1%	±1%
Input	Voltage Range	120-277VAC			
	Frequency Range	50 / 60Hz			
	Power Factor (Typ.) @ full load	0.95			
	THD(Typ.) @ full load	≤5%@120VAC	≤10%@230VAC	≤10%@277VAC	
	Efficiency(Typ.) @ full load	≥93%@120VAC	≥93%@120VAC	≥93%@120VAC	≥93%@120VAC
		≥94%@230VAC	≥95.0%@230VAC	≥95.5%@230VAC	≥95.5%@230VAC
		≥94.5%@277VAC	≥95.5%@277VAC	≥95.5%@277VAC	≥95.5%@277VAC
	AC Current (Max.)	<8A@120VAC	<8A@120VAC	<8A@120VAC	<8A@120VAC
		<4.2A@230VAC	<5.2A@230VAC	<5.2A@230VAC	<5.2A@230VAC
		<3.5A@277VAC	<4.3A@277VAC	<4.3A@277VAC	<4.3A@277VAC
Protection	Inrush Current (Typ.)	39.1A, 296us @50%Ipeak 120VAC 60.6A, 1.05ms @50%Ipeak 230VAC 87.9A, 1.63ms @50%Ipeak 277VAC			
	Leakage current	<0.5mA			
	Short Circuit	Shut down o/p voltage, recovers automatically after fault condition is removed.			
Environment	Over Load	105%~120% Hiccup mode, recovers automatically after fault condition is removed.			
	Working TEMP.	-40~+50°C (see below derating curve)			
	Working Humidity	20 - 95%RH non-condensing			
	Storage TEM.,Humidity	-40 - +80°C,10 - 95% RH non-condensing			
	TEMP coefficient	±0.03%/°C(0 - 50°C)			
Safety & EMC	Vibration	10 ~ 500Hz, 5G 12 minutes/cycle, X Y Z axis 72 minutes each			
	Safety standards	EN61347-1; EN61347-2-13 UL8750; CAN/CSA-C22.2 No.250.13			
	Withstand voltage	I/P-O/P:3.75KVAC I/P-FG:1.88KVAC O/P-FG:0.5KVAC (EU) I/P-O/P:1.88KVAC I/P-FG:1.88KVAC O/P-FG:0.5KVAC (US)			
	Isolation resistance	I/P-O/P: 100MΩ/ 500VDC/ 25°C/ 70% RH			
	EMC Immunity	EN61547; EN61000-4-2,3,4,5,6,11 FCC/ICES do not request this test.			
	EMC Emission	EN55015; EN61000-3-2,3 FCC Part 15 Subpart B			
Others	Surge Immunity Test	AC Power Line:Differential Mode 4KV, Common Mode 6KV			
	Net Weight	3.59KG			
	Dimension	332.6*114*53.3mm (L*W*H)			

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	Packing	420*305*158mm 5pcs/CTN
Notes	1. All parameters NOT specially mentioned are measured at rated load and 25°C of ambient temperature. 2. Default states: Output voltage level is level 1. (see below NFC voltage regulation level table) The Internal DALI bus power of Driver is off. Output frequency is 4KHZ. The dimming curve is a logarithmic curve. 3. LED driver Meets the harmonic emissions requirements of ANSI C82.77-10.	

MCB recommendation

When the input voltage is 120Vac, the number of LED Driver matched by circuit breakers is as follows:		
MCB Type	Level	The number of LED Driver
B type	13A	1
	16A	1
	20A	2
	25A	2
	32A	3
When the input voltage is 277Vac, the number of LED Driver matched by circuit breakers is as follows:		
MCB Type	Level	The number of LED Driver
B type	13A	0
	16A	0
	20A	0
	25A	1
	32A	1

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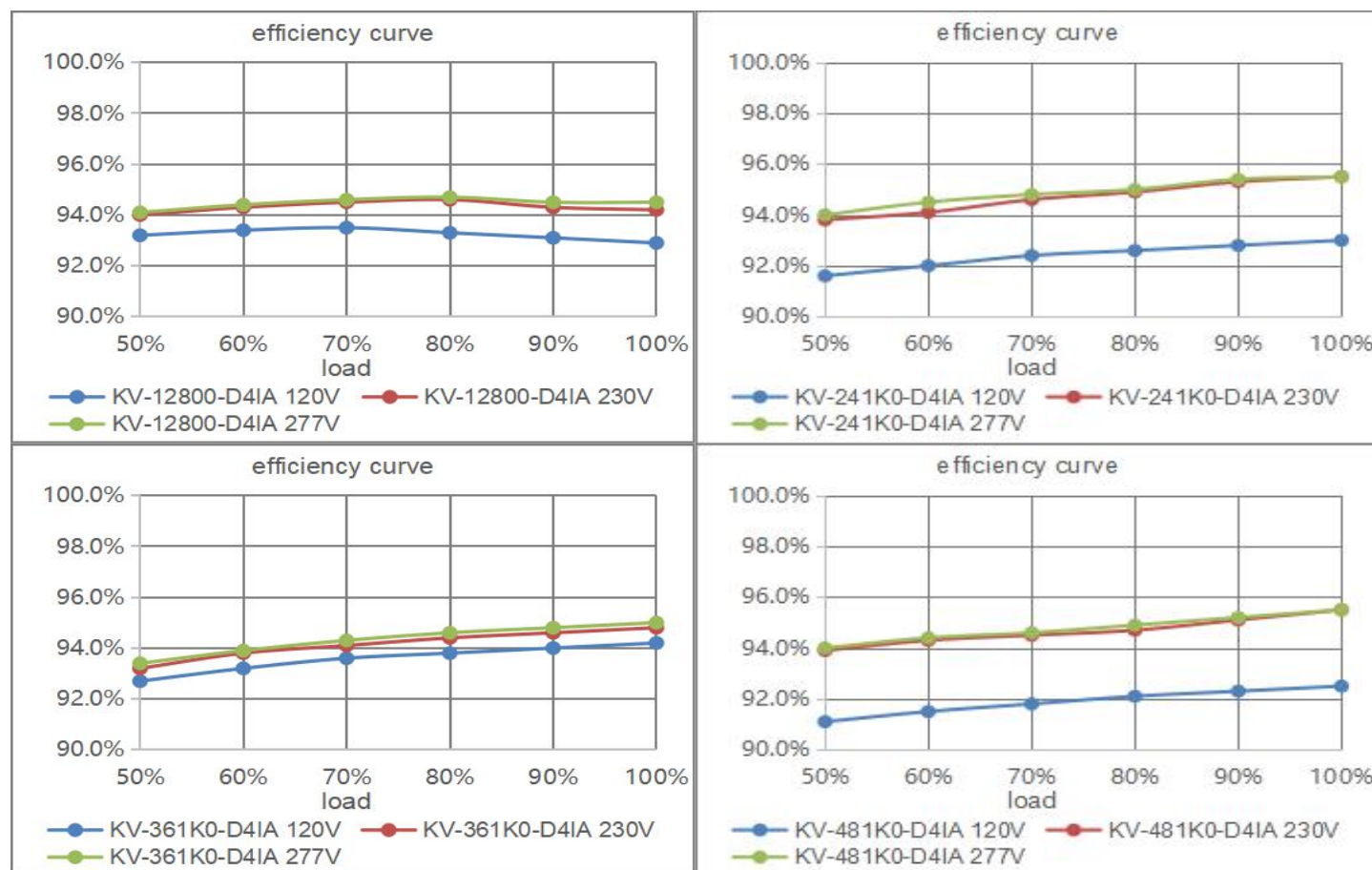
When the input voltage is 120Vac, the number of LED Driver matched by circuit breakers is as follows:		
MCB Type	Level	The number of LED Driver
C type	13A	1
	16A	1
	20A	2
	25A	2
	32A	3
When the input voltage is 277Vac, the number of LED Driver matched by circuit breakers is as follows:		
MCB Type	Level	The number of LED Driver
C type	13A	1
	16A	1
	20A	1
	25A	2
	32A	2

Note:

1. The above quantities of the led drivers connected on the Type C is recommended base on the maximum ambient temperature is 50 °C
2. The breaker should be selected according to the input rated voltage, input rated current, ambient temperature, and trip characteristic curve.

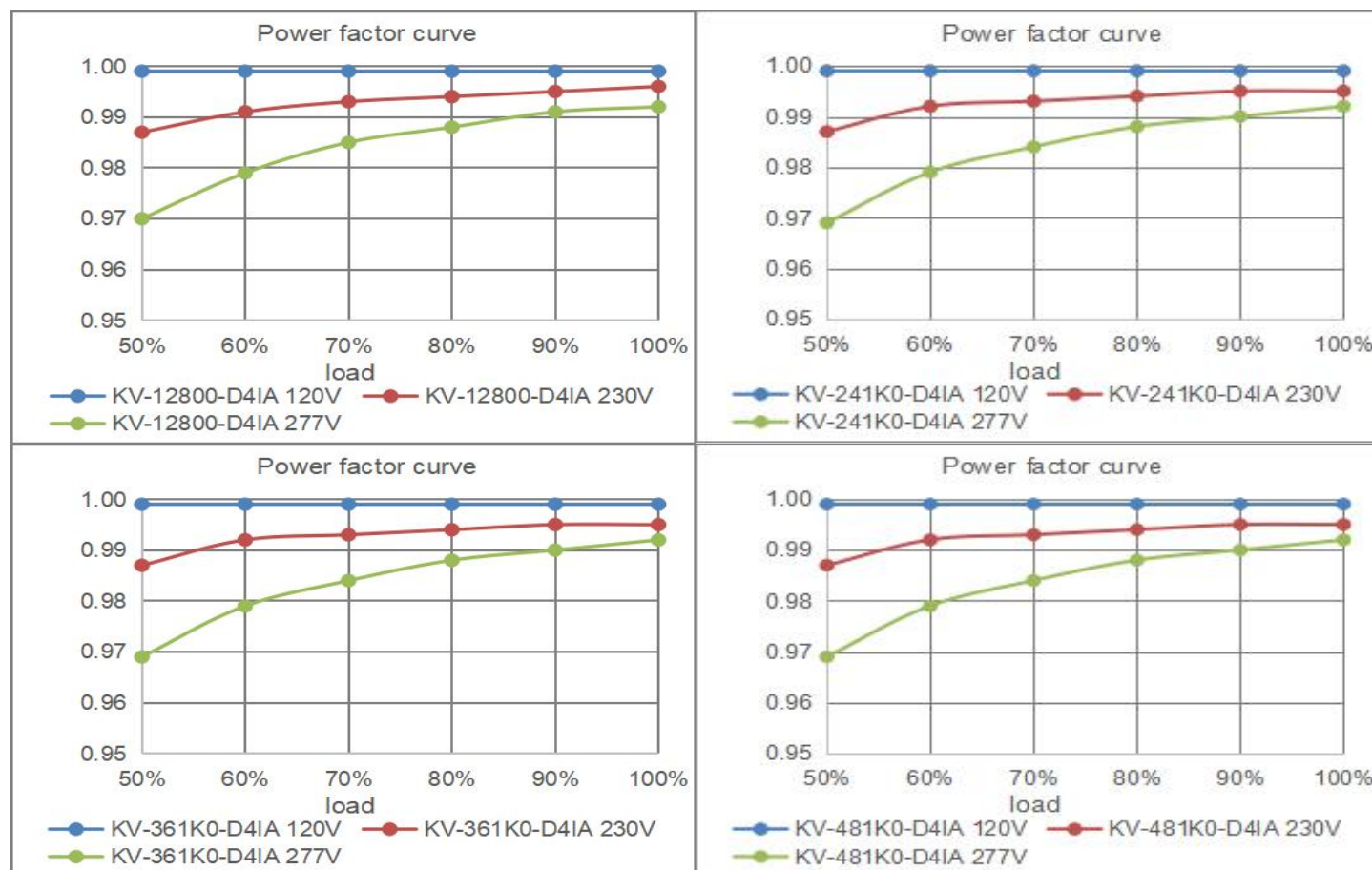
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Efficiency Curve (efficiency vs output load)

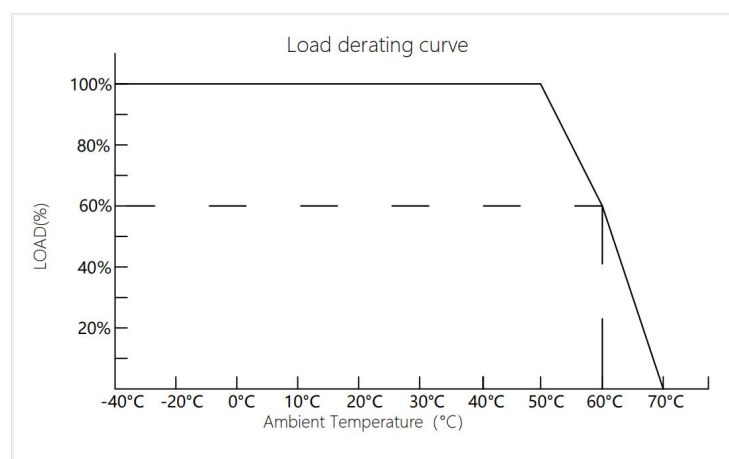


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Power factor curve(Power factor vs output load)



Derating Curve (output load vs TEMP.)

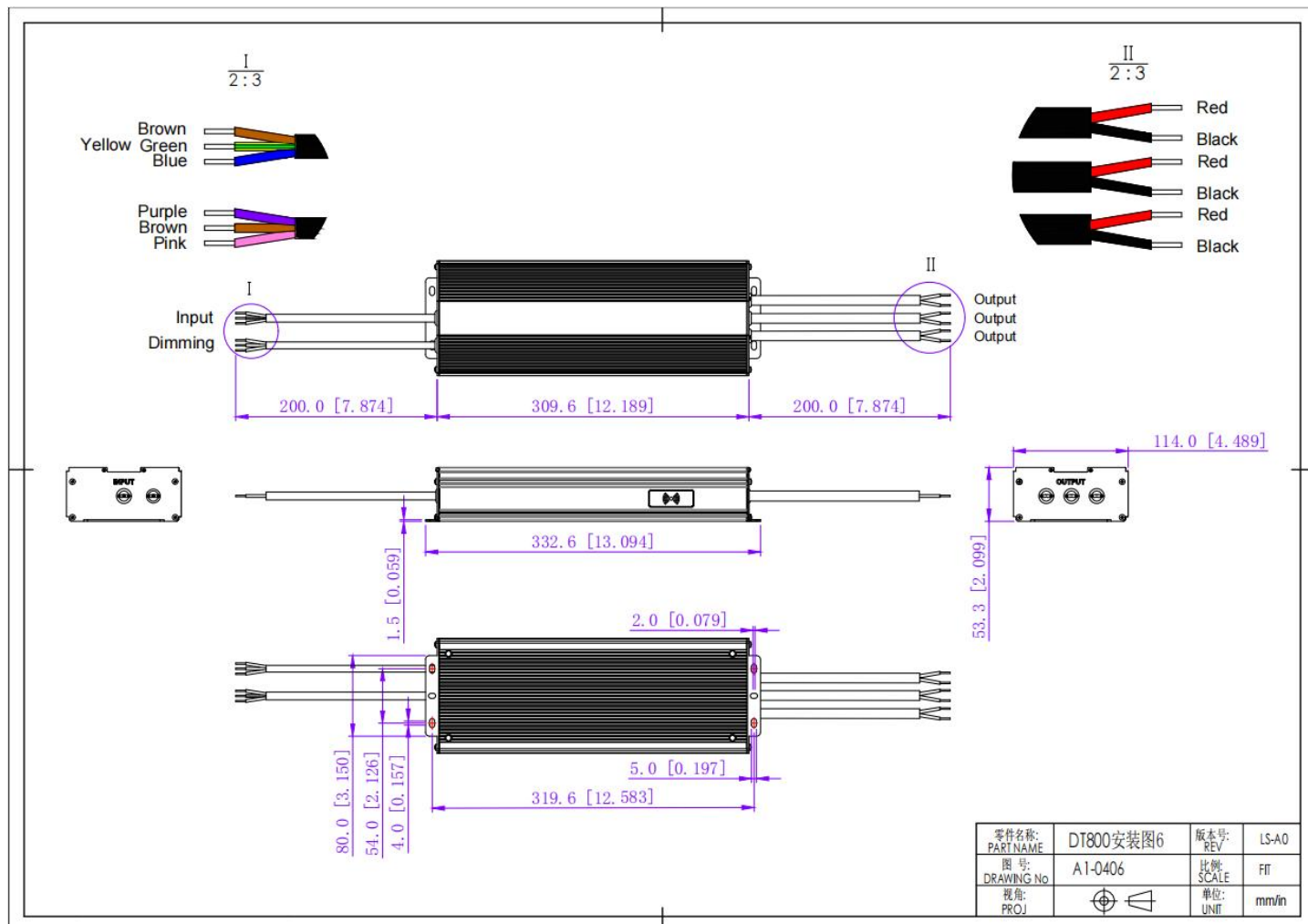


1. To extend their life, please refer to the Derating Curve and derate according to the temperature.
2. The output current of the LED driver should be selected according to the rated current of the lamp and the ambient temperature.
Normally, we recommend the power supply to reserve a certain amount of load to extend LED driver's life .

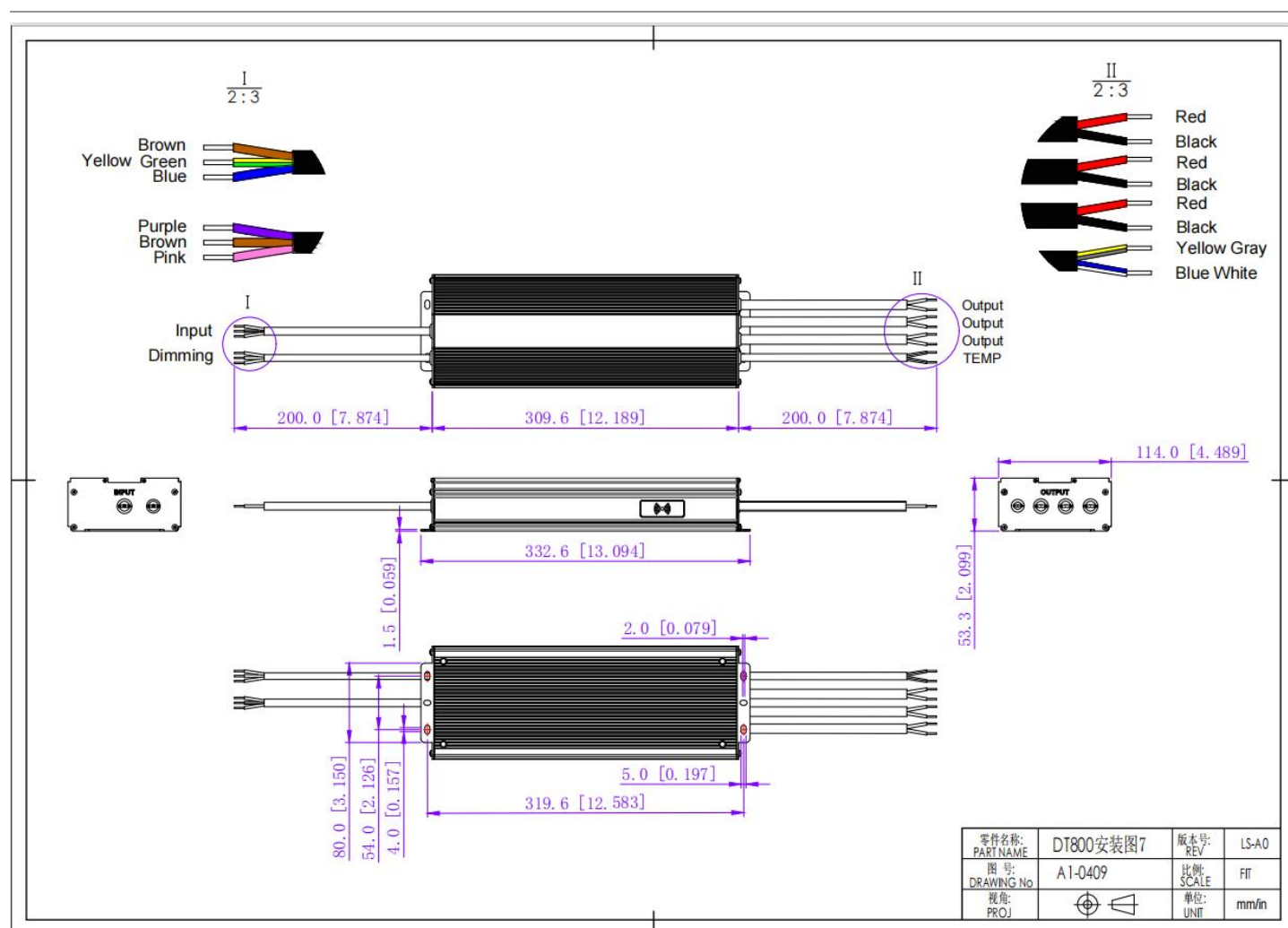
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Mechanical Specification

12V Version



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12V Version

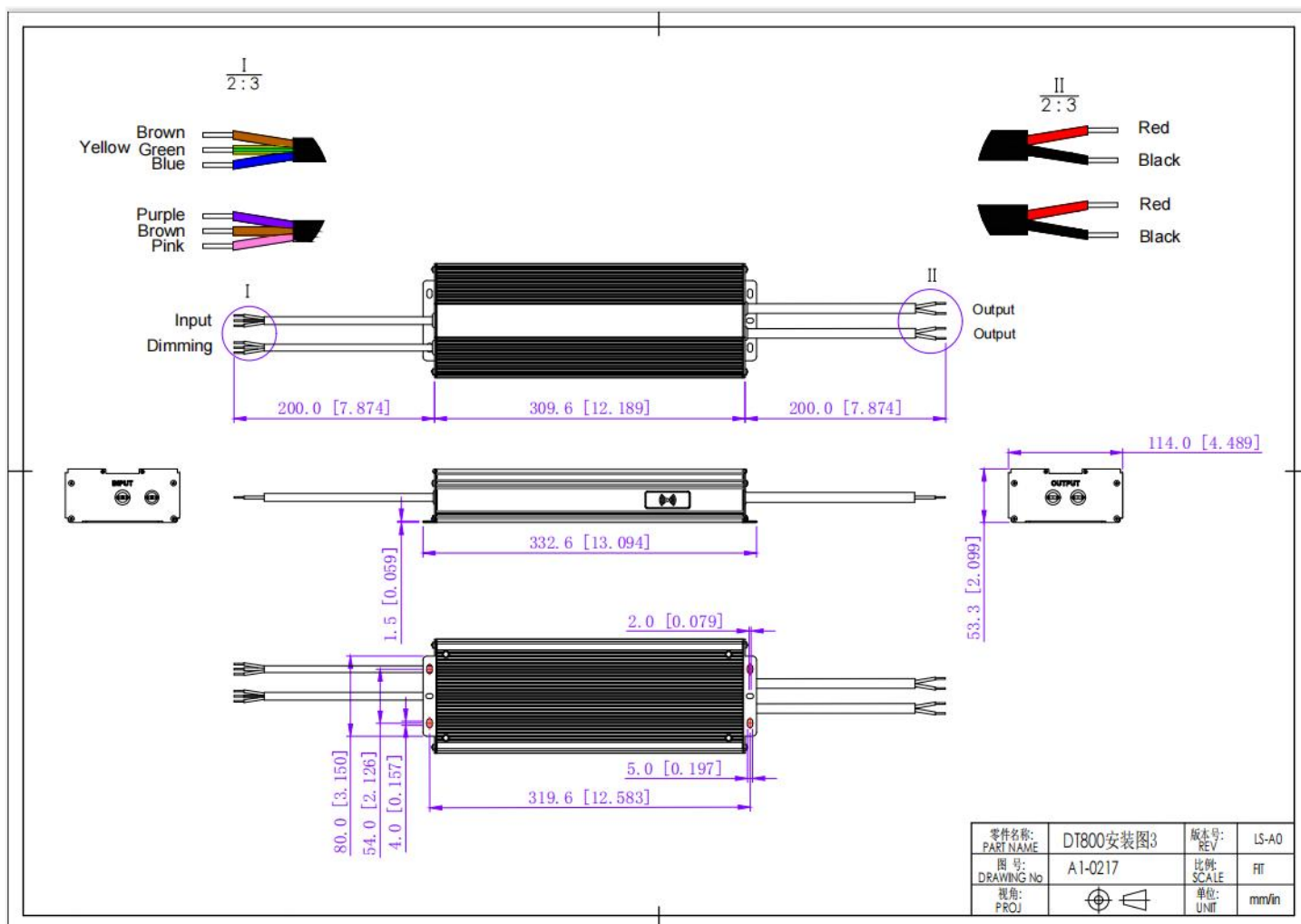
Global wire gauge	
DT800	
Input wire	Brown(L) Blue(N) Yellow Green(G) (3*17AWG/3*1.026mm²)*1
Output wire (12V)	Red(V+) Black(V-) (2*12AWG/2*3.31mm²)*3
Dimming wire	Purple(DA+) Brown(AUX 24V+) Pink(DA-/AUX 24V-) (3*18AWG/3*0.823mm²)*1
External temperature wire	Yellow gray(TEMP+) Blue white(TEMP-) (2*18AWG/2*0.823mm²)*1

Warm tips:

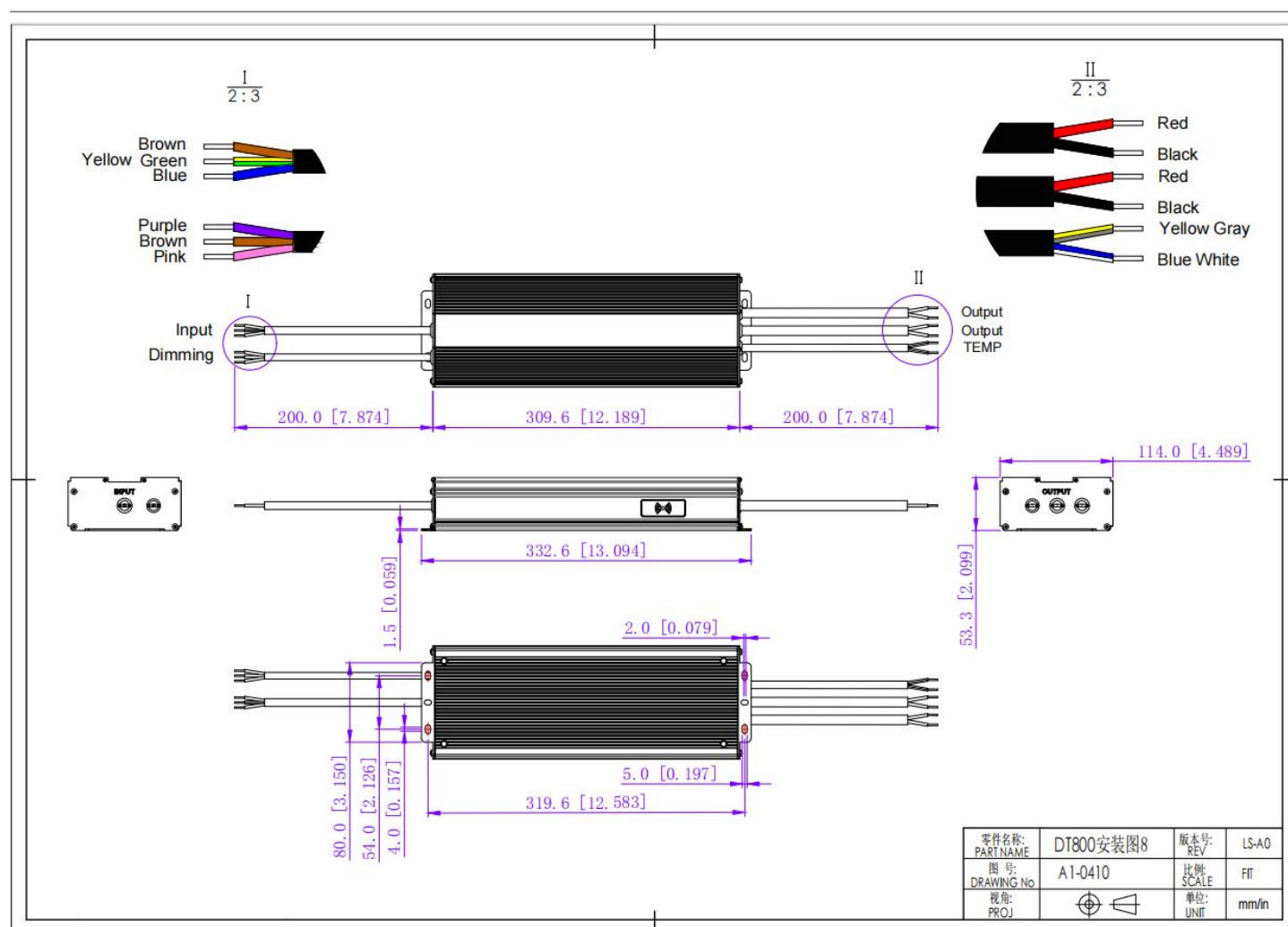
- Please make sure you connect these correctly otherwise your product will not function correctly and could be damaged.
- Any other requests for, we can customize.

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24V 36V 48V Version



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24V 36V 48V Version

Global wire gauge	
DT800	
Input wire	Brown (L) Blue(N) Yellow-green(G) (3*17AWG/3*1.026mm²)*1
Output wire (24V)	Red(V+) Black(V-) (2*12AWG/2*3.31mm²)*2
Output wire (36V 48V)	Red(V+) Black(V-) (2*14AWG/2*2.075mm²)*2
Dimming wire	Purple(DA+) Brown(AUX 24V+) Pink(DA-/AUX 24V-) (3*18AWG/3*0.823mm²)*1
External temperature wire	Yellow gray(TEMP+) Blue white(TEMP-)(2*18AWG/2*0.823mm²)*1

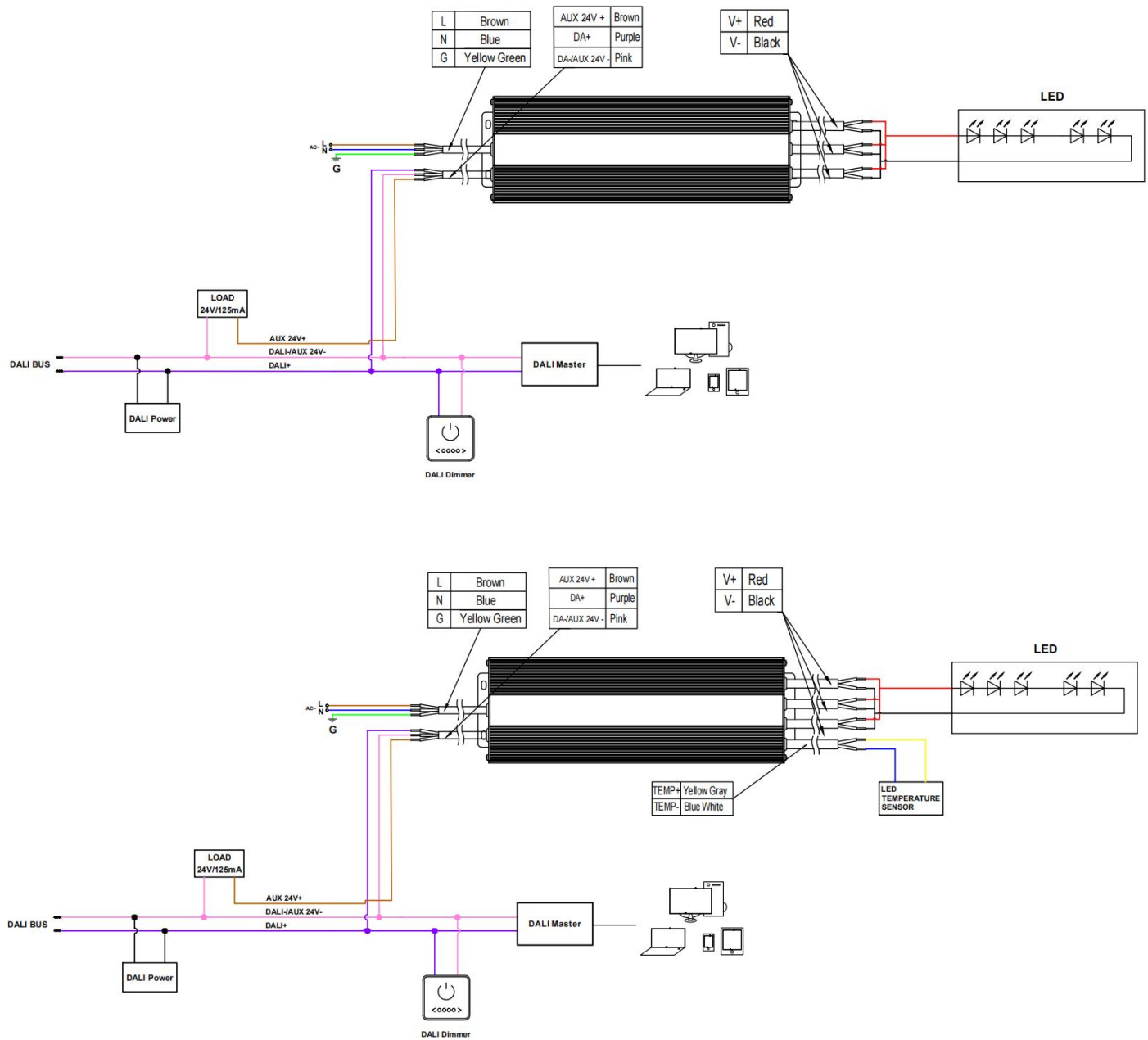
Warm tip:

- Please make sure you connect these correctly otherwise your product will not function correctly and could be damaged.
- Any other requests for, we can customize.

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Connecting Diagram

12V Version

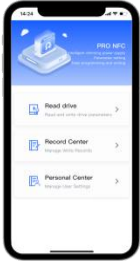


Note:

1. When the internal DALI bus power is turned on, no external bus power is required.
2. The model name KV-xxXXX-D4IA-Y means that there is an auxiliary power supply but no lamp temperature detection, so the LED driver has no lamp temperature detection wiring.
3. The model name KV-xxXXX-D4IA-T means that there is no auxiliary power supply but there is lamp temperature detection, so the LED driver has no auxiliary power wiring.
4. The model name KV-xxXXX-D4IA-YT means that there is an auxiliary power supply and lamp temperature detection.

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NFC Function



ProNFC APP



NFC Handheld devices



iOS Download

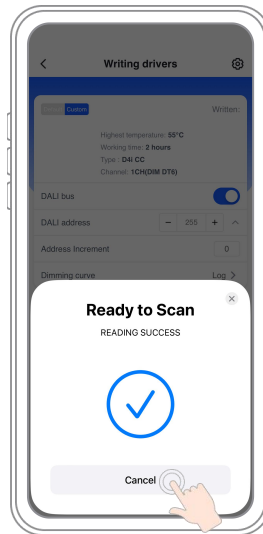
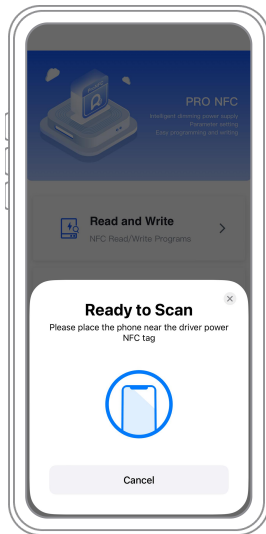
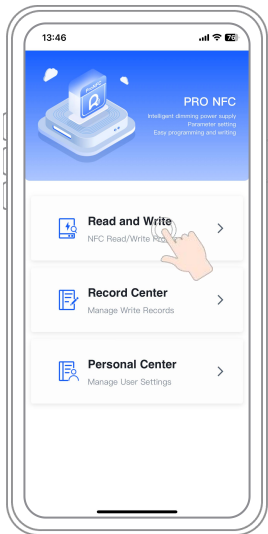


Android Download

Open the ProNFC APP. Click on the "Read and Write".

Use the phone's NFC sensing area close to the driver's NFC marking area.

Wait for the successful reading.



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DALI address & DALI bus

1. **DALI address:** Click the "+" or "-" sign of DALI address in the main page to set the address, and click the value box in the middle to input the value 0~63; 255 (255 means delete address).(Figure 1)
2. **Address Increment:** There is an arrow symbol next to the DALI address, click on it to collapse or expand the address auto-increment setting below, input the value 0~10 to auto-increment the address after successful writing. 0 is to close the auto-increment.(Figure 1)
(Example: Address Increment is 1, DALI address is 2, then the address of the selected driver will be changed to 3 automatically after successful writing.)
3. **DALI bus:** Click on the DALI bus switch to enable or disable the DALI bus setting.
Click "Write All" to program and write the set parameters and take effect after the driver power supply is re-powered.(Figure 2)

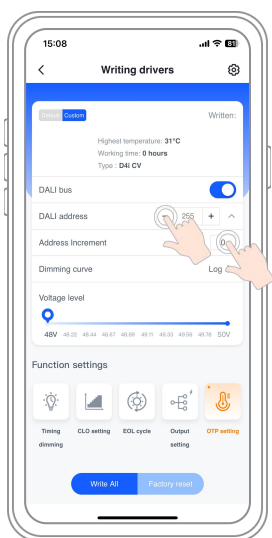


Figure 1

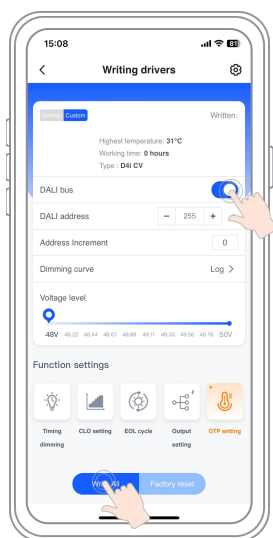
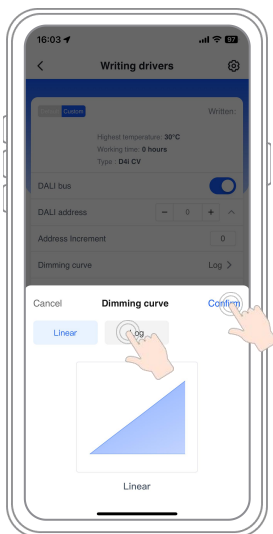
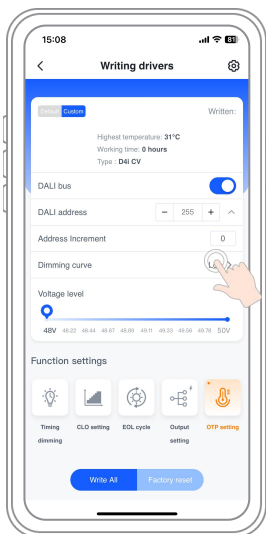


Figure 2

Dimming curve (Linear/Log curve)

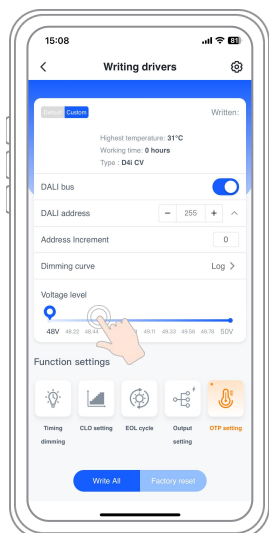
1. Click on the current dimming curve in the function homepage to activate the pop-up window to change the dimming curve parameters.
2. Select the dimming curve you want to set in the pop-up window page.
3. Click "Confirm" to save the current settings and close the pop-up window.



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Adjust output voltage slightly

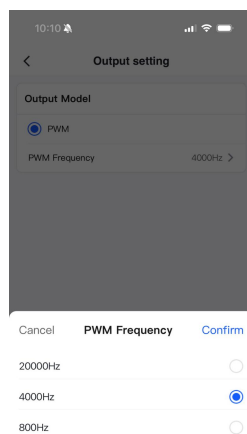
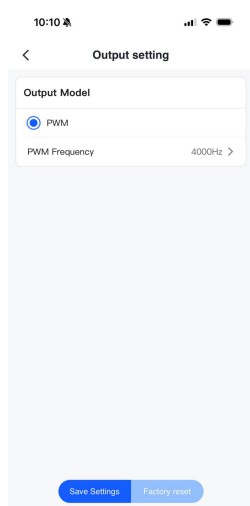
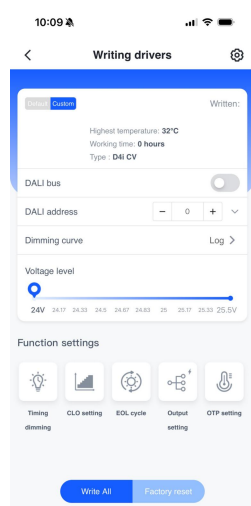
The output voltage can be read and written by a mobile with ProNFC APP or NFC handheld device (NFC read & write device: NFC-RW) by close to the NFC signal area of the Dimmable LED driver.



NFC voltage regulation level										
	level 1	level 2	level 3	level 4	level 5	level 6	level 7	level 8	level 9	level 10
12V	12.0V	12.11V	12.22V	12.33V	12.44V	12.56V	12.67V	12.78V	12.89V	13.0V
24V	24.0V	24.2V	24.3V	24.5V	24.7V	24.8V	25.0V	25.2V	25.3V	25.5V
36V	36.0V	36.22V	36.44V	36.67V	36.89V	37.11V	37.33V	37.56V	37.78V	38.0V
48V	48.0V	48.2V	48.4V	48.7V	48.9V	49.1V	49.3V	49.6V	49.8V	50.0V

Output Setting/PWM Frequency

1. Click "Output setting" on the main page of the function to enter the Output setting.
2. Click on the "PWM Frequency", and select the corresponding PWM frequency according to the demand. Click "Confirm" to complete the setting.



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Timing dimming

Timing dimming control includes 3 kinds of modes, they are self adapting-midnight, self adapting percentage and traditional timer. Three modes can be set via NFC.

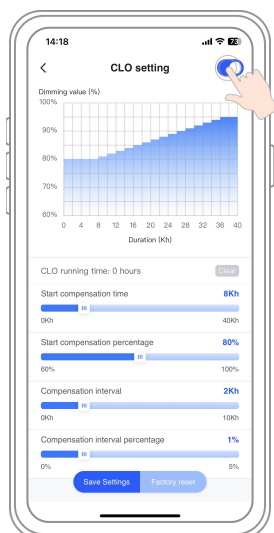


1. **Traditional Timer:** Follows the programmed timing curve after power on with no changes.
2. **Self Adapting-Midnight:** Set the midpoint time of the dimmer curve, the dimmer will automatically adjust the working curve according to the total working time of the past few days, if difference <30 minutes. (The midpoint is set at 0 point, the user can set the offset, can be positive and negative offset for 4 hours.)
3. **Self Adapting-Percentage:** Automatically adjust the working hours according to the last few days. (Increase or decrease according to the initialization time and effective working time.)

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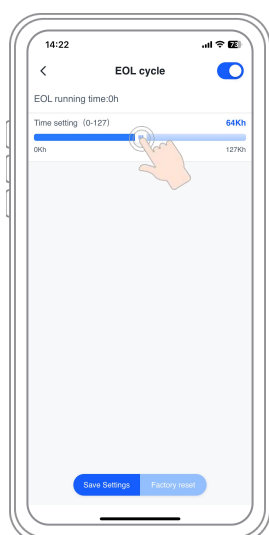
CLO setting (Constant Lumen Output setting)

This function is mainly used to maintain the constant brightness output of the LED. During the life cycle of LED, by gradually increasing the driving current of LED, to compensate for the light decay caused by the long operation of LED, thus ensuring the constant optical flux output of LED.



EOL cycle (End-Of-Life cycle)

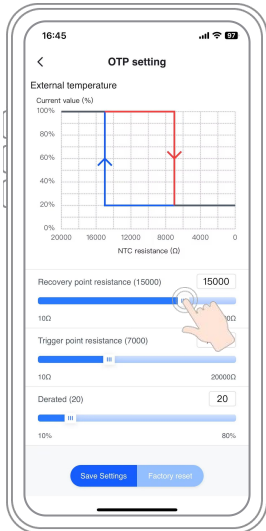
Once this function is started, the output current of the LED drive automatically decreases to 1% of the total current and lasts for 1 minute, reminding the user to replace the LED lamp and reaching the service life designed by the supplier.



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OTP setting (Over-Temperature Protection setting)

During use, if the power supply detects that the external temperature of the luminaire exceeds the preset threshold, it will automatically trigger the over-temperature protection and reduce the power supply current value to avoid the luminaire from overheating and causing damage.



Instructions

1. This driver should be installed by qualified and professional person.
2. Please make sure the driver is installed with adequate ventilation around it to allow for heat dissipation.
3. Ensure that wiring is correct before test in order to avoid light and power supply damage.
4. If driver Cannot work normally, don't maintain privately.

Have any questions, please contact Zhuhai Shengchang.

Please visit our website or contact us for more information! www.scpower.net.cn/en.