PXS SERIES LED DRIVERS

DL-1000V-X-PXS SPEC E2.1

广东东菱电源科技有限公司
Guangdong Done Power Technology Co.,Ltd

Features

- Class I structure
- Input voltage: 200-480V ~ 50/60Hz
- Efficiency: 96% (Typ.)
- Constant power drive and constant current output control mode
- Metal shell structure, protection grade: IP67
- Lightning protection level: differential mode 6kV, common mode10kV
- Function selection:

Isolated auxiliary power supply (X version) : 12V 300mA. Isolated dimming function: offline programming current regulation, programmable, compatible with analog three-in-one dimming circuit

- Lifetime design： 5 years

Applications

Road lighting,Industrial lighting,Venue lighting
Floodlight lighting,Landscape lighting ,Plant lighting

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E479166

Model list

Model NO.	Input voltage	Output power	Output voltage	The default current	Eff.(TYP.)	NTC
DL-1000V-400X-PXS	200-480V 50/60Hz	1000W	200-400Vdc	2.5A	>96%	-

Note:

1. Test conditions of the above parameters: Ta=25℃, 400Vac input, full load operation for 30 minutes.
2. When the input is less than 200Vac, the user should take the initiative to reduce the output power to 500W and below; When the input is 200-480Vac, the rated power is 1000W, and special attention should be paid to the application; For details, see input voltage VS output power diagram.

Input characteristics

Parameter	Min	Typ.	Max	Note
Rated input voltage	200Vac	380Vac	480Vac	-
Input voltage range	180Vac	380Vac	528Vac	-
Rated frequency	47Hz	50/60Hz	63Hz	-
Power factor	-	0.97	-	Full load, rated input voltage
T.H.D.	-	7%	10%	100% load,380Vac Input
	-	-	20%	70% load,480Vac Input
Input current	-	-	6.0A	Full load,200Vac Input
Inrush current	-	-	120A	380Vac Input，cold start（25℃）

Output characteristic

Parameter	Min	Typ.	Max	Note
rated current DL-1000V-400X-PXS	-	2.5A	-	-
current regulation range DL-1000V-400X-PXS	1.95A	-	3.5A	-
output voltage range DL-1000V-400X-PXS	200V	-	400V	-
constant power voltage range(200-480Vac)	300V	-	400V	output voltage
rated power(200-480Vac)	-	1000W	-	input voltage <200Vac, output power< 500W
No-load voltage DL-1000V-400X-PXS	-	-	450V	-
Efficiency@380Vac DL-1000V-400X-PXS	-	96%	-	100% load@380Vac current output 2.5A(400V)，1000W
Efficiency@480Vac DL-1000V-400X-PXS	-	97%	-	100% load@480Vac current output 2.5A/400V，1000W
Output ripple current (Imax-Imin)/(Imax+Imin)	-	<5%	-	-
Current accuracy	-5%	-	+5%	100% load
Linear adjustment rate	-3%	-	+3%	100% load
Load adjustment rate	-5%	-	+5%	100% load
Starting time	-	<1000ms	-	Full load@380Vac

Note: The output current range be limited by the input and output voltage, please refer to "I-V WORKING AREA" for details.

Dimming characteristic

Dimming function		Min	Typ.	Max	Instructions
0-10V Dimming (Optional)	Safe applied voltage range	0V	-	12V	When the external voltage is ≥ 12V, the dimming will fail
	Dimming output range	0%	-	100%	-
	Rated dimming voltage range	0V	-	10V	-
PWM Dimming (Optional)	PWM high level	9.5V	-	10.5V	-
	PWM low level	0V	-	0.3V	-
	PWM frequency band	300Hz	-	2000Hz	-
	PWM duty cycle	0%	-	100%	Full power output at 100% duty cycle
Resistor Dimming (Optional)	External resistance value	0KΩ	-	100KΩ	-
	Dimming output range	0%	-	100%	-

Note:

1. dimming port output current: 100uA(typical value).
2. The maximum voltage of the dimming port is 12V. If the voltage of the external power supply exceeds 12V or the signal cable is reversed, the power supply may be damaged.
3. The dimming default setting of this product is 3-in-1 positive logic dimming (it can be set to timing dimming, 0-5V or other voltage dimming by programming software);
4. Set to positive/negative logic dimming function, applications in the constant power load voltage range can achieve 0V dimming off.
5. When setting dimming, the default output is 100% when the dimming light is suspended. Negative logic dimming can be turned off; negative logic dimmer for PWM dimming, including 0-10V dimming and resistance dimming mode.

Protection

Function	Function instructions
Input Overvoltage Protection	Off mode,when the input voltage is higher than 600AC, the power supply turns off the output. When the AC voltage returns to the normal voltage of 380VAC, the power supply returns to normal operation.
Over Load Protection	Hiccup restart mode,after abnormal load conditions are removed, the system automatically recovers
Over Voltage Protection	Hiccup mode, automatically recovered after abnormal conditions are removed
Over temperature protection	Self-restorable type,when the casing temperature is greater than 95°C, the output power decreases with the casing temperature increasing.

Note:

1. Unless otherwise specified, all specifications are measured at 380Vac (50Hz) input, rated load and ambient temperature of 25°C.
2. Including setting error, linear adjustment rate and load adjustment rate.

Environmental

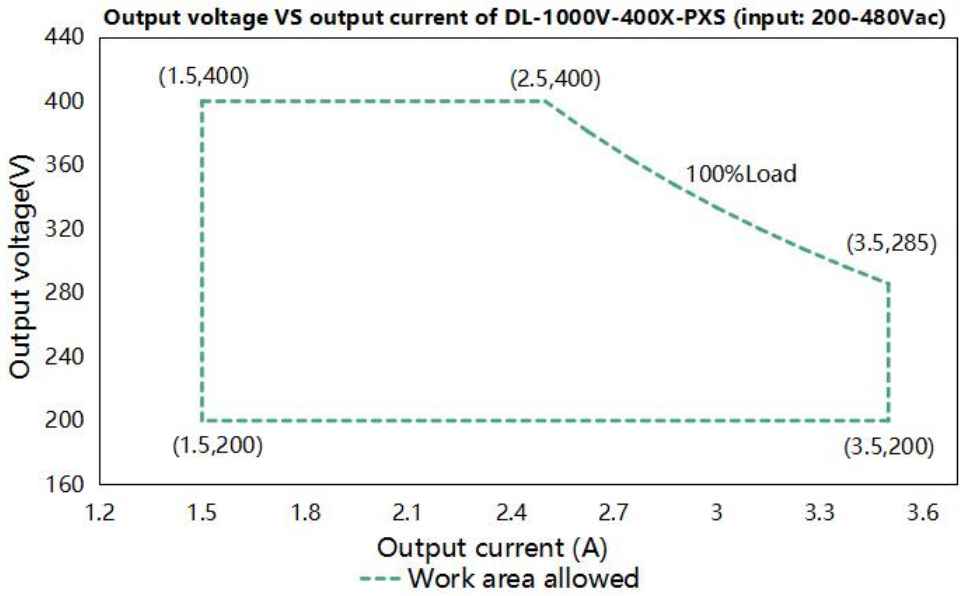
Environmental categories	Parameter
Working temperature	-40 ~ +55℃ @100-277Vac (refer to "Life Curve ")
Tcase	Tcase=+90℃
Working humidity	20 ~ 95% RH, non condensing
Storage temperature、humidity	-40~+80℃, 10 ~ 95% RH
Resistant to vibration	10 ~ 500Hz, 5G 12min/cycle, X, Y, Z axis 72 min each
MTBF	50Khrs min. MIL-HDBK-217F (Ta=25℃)
Lifetime	70000H@Tcase≤75℃,230Vac, 100% load,refer to the section "Housing Temperature and Life"

Safety and EMC

Safety categories	Standard
Safety	EN61347-1、EN61347-2-13、EN62384、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13、EN 62384、UL8750;
EMC	EN IEC 55015、EN IEC 61000-3-2、EN 61000-3-3
Lightning protection level	Differential mode L/N ± 6 KV (2Ω), common modeL/N-ground ± 10 KV (12Ω) Refer to IEC61000-4-5 2014
Withstand voltage	I/P-PE :1.5KVac O/P-PE : 1.5KVac I/P-DIM:1.5KVac O/P-DIM:1.5KVac
Insulation impedance	I/P-PE:100MΩ / 500VDC; O/P-PE:100MΩ / 500VDC / 25℃/ 70% RH
Leakage current	<0.75mA@230Vac

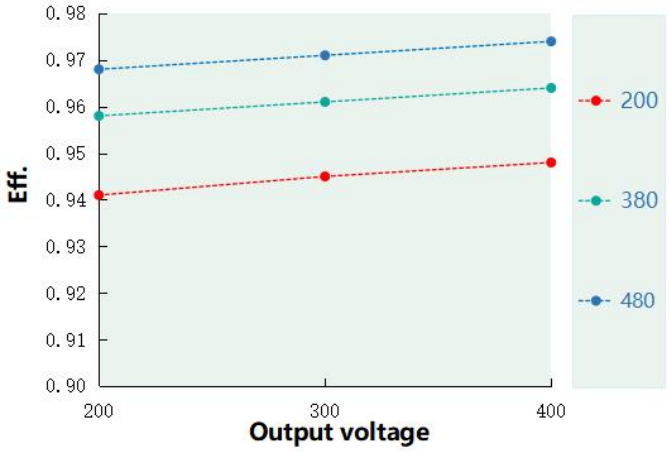
Note: The driver is considered as a component that will be operated in combination with the final equipment. Since EMC perf ormance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on t he complete installation again.

I-V Working area

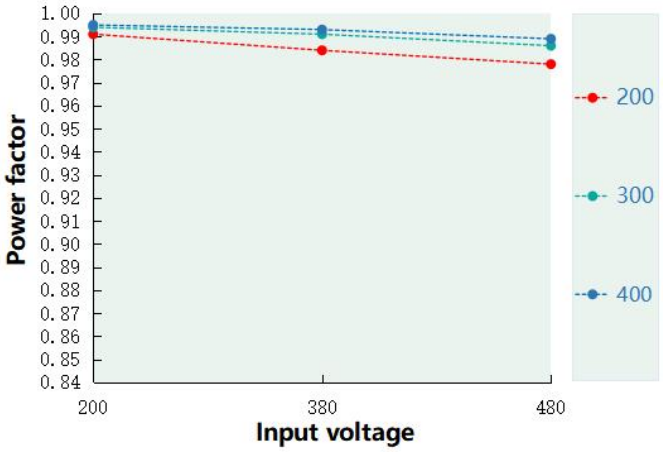


Load	Output								
Load working voltage	200V	250V	285V	300V	320V	340V	360V	380V	400V
Power current Io_ MAX	3.5A	3.5A	3.5A	3.33A	3.12A	2.94A	2.77A	2.64A	2.5A
Power supply Po_ MAX	700W	875W	1000W	1000W	1000W	1000W	1000W	1000W	1000W

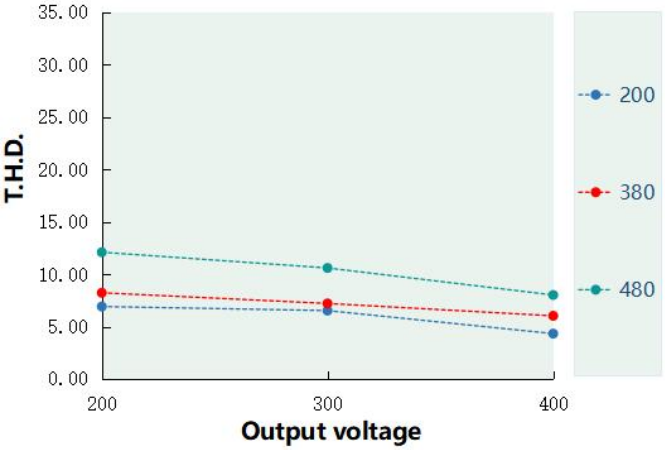
Efficiency VS output voltage DL-1000V-400X-PXS



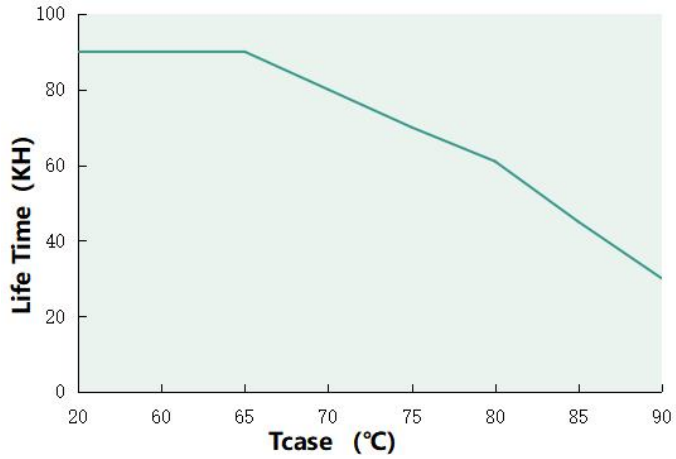
Power factor VS input voltage DL-1000V-400X-PXS



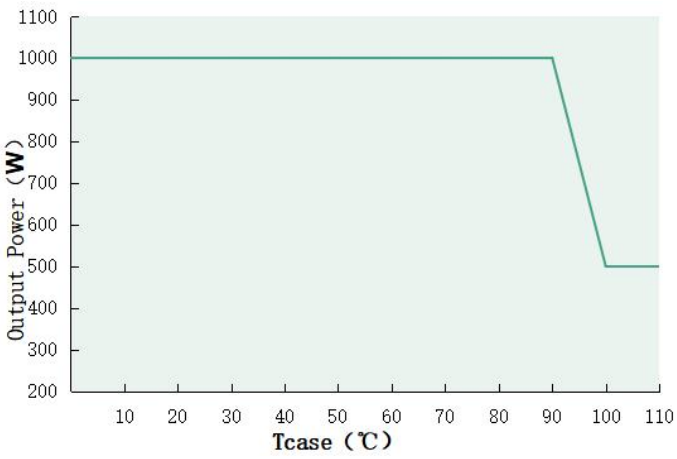
T.H.D VS output voltage DL-1000V-400X-PXS



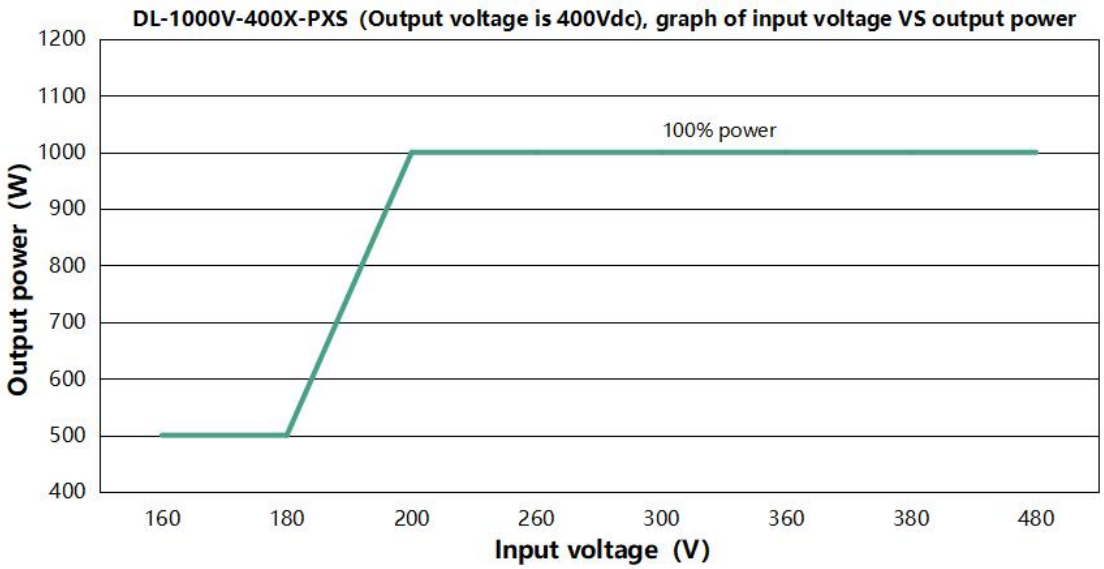
Tc VS Lifetime DL-1000V-400X-PXS



Output power VS casing temperature DL-1000V-400X-PXS



Output power VS input voltage (derating curve)



DL-1000V-400X-PXS(When the output voltage is 400Vdc, the rated output current and output power corresponding to different input voltages)								
Input voltage	180Vac	200Vac	240Vac	300Vac	340Vac	360Vac	380Vac	480Vac
Power output current Io	1.25A	2.5A	2.5A	2.5A	2.5A	2.5A	2.5A	2.5A
Power output power Po	500W	1000W	1000W	1000W	1000W	1000W	1000W	1000W

Note: When the input voltage is lower than 200Vac, the user must actively derate the output power to 600W or less.

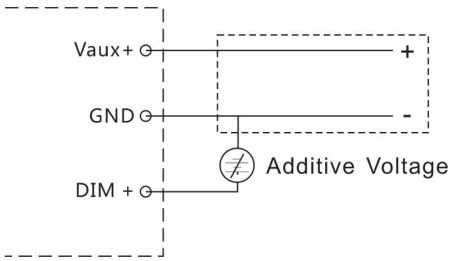
Dimming operation

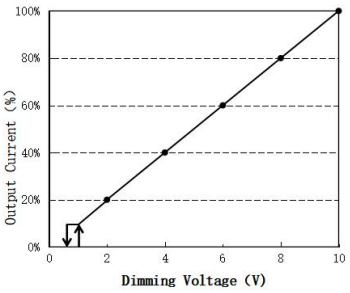
※ Three-in-one dimming function

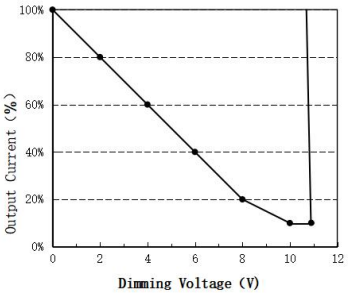
A. Connect a resistor 0-100K or 0-10V DC voltage or 10V PWM signal between DIM+ and GND to adjust the output current.

B. Output current of dimming port: 100uA (typical value).

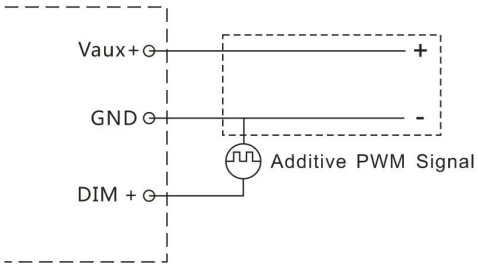
◎Applied voltage of 0-10V:

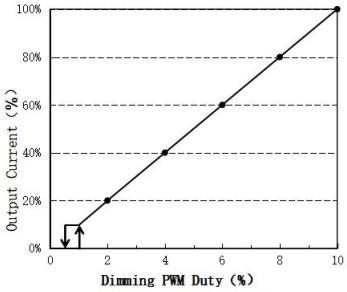


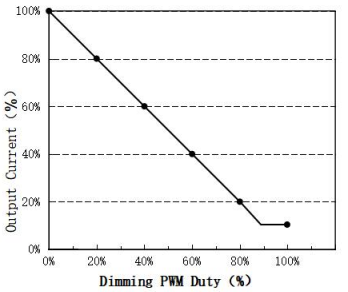




◎ Applying additive 10V PWM signal（Frequency range：300Hz-2KHz）：







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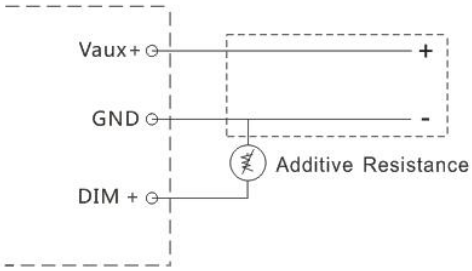
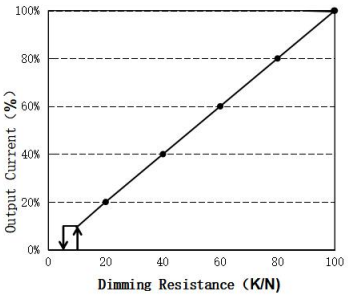
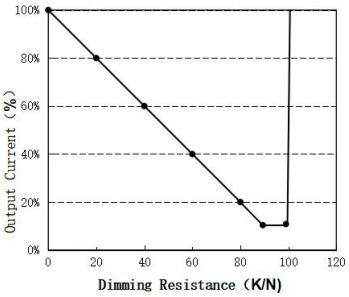


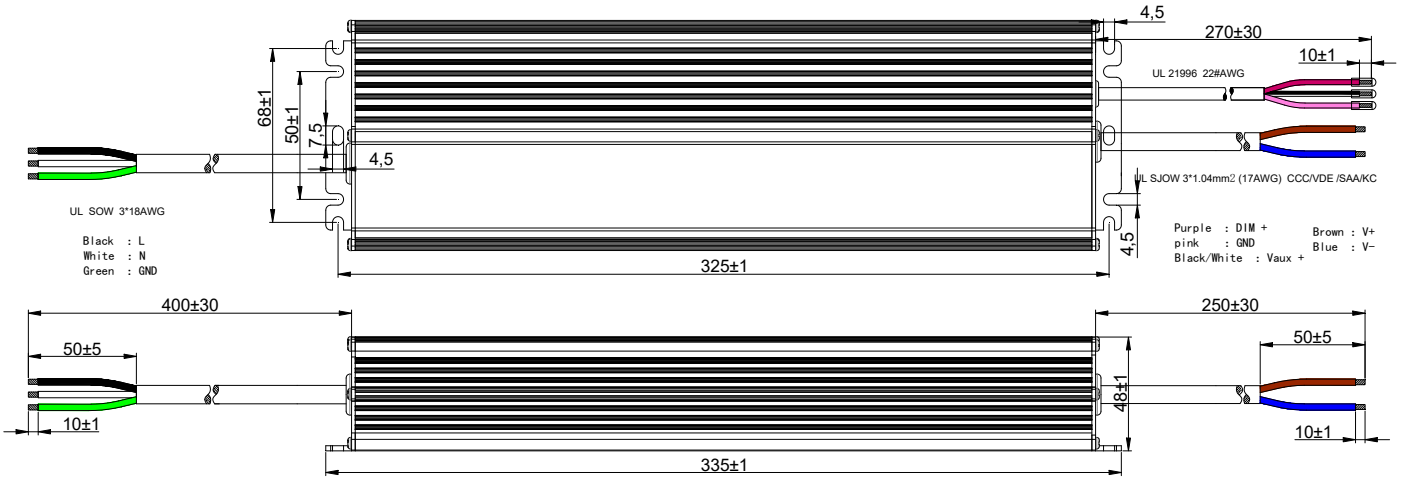




Mechanical specification

size（mm）	L335*W90*H48

DL-1000V-400X-PXS

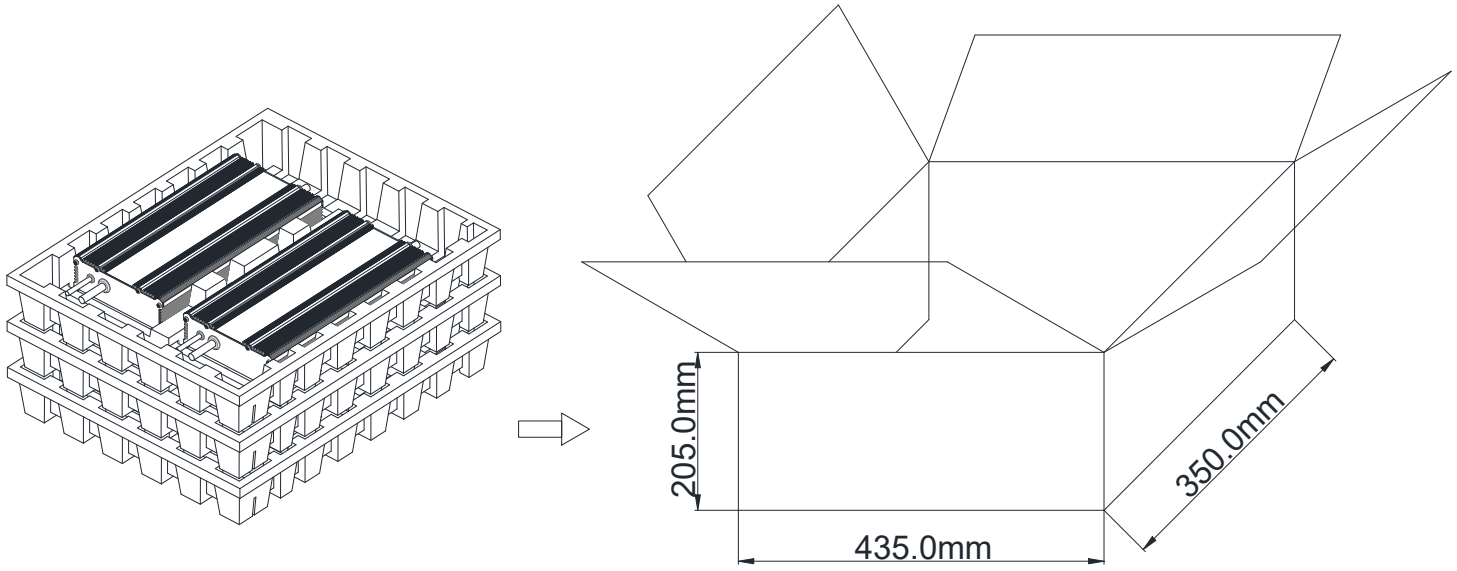


Weight

Weight	2166 g

Packaging

Packaging (mm)	435*350*205



Note: One Carton 3 layers and 2 pcs each layer, total 6 pcs/carton.

Note:

1. According to the certificate obtained by the LED DRIVER, the LED DRIVER with the English label is sold in Europe, America and India.
2. The LED DRIVER with Chinese label is only used for China market.

Version

DATE	DESCRIPTION	REV.	CHECK
2024.5.18	Initial version.	E2.0	
2024.11.9	Modify model type.	E2.1	

MANUFACTRUER

EDIT	CHECK	APPROVE