

The logo for DONE, featuring the word "DONE" in a bold, teal, sans-serif font. The letter "D" is stylized with a white circular element on its left side. The logo is enclosed in a thin teal rounded rectangular border.

**DONE**

# PXS SERIES LED DRIVERS

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DL-500V-X/J-PXS SPEC V1.1

## Features

- Class I structure
- Input voltage: 200-480 V ~ 50/60 Hz
- Efficiency :95%(Typ.) @380Vac
- Constant power drive and constant current output control mode
- Metal shell structure, protection grade: IP67
- Surge level: differential mode :6kV, common mode :15kV
- Only for X version: standby power≤1W@ dim-off state
- 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

Network Port Version (J version) : Dimmer knob and RJ12 interface

- Lifetime design: 5 years

## Applications

Road lighting、 Industrial lighting、 Venue lighting  
 Floodlight lighting、 Landscape lighting 、 Plant lighting



## Model list

Model NO.	Input voltage	Output power	Output voltage	The default current	Eff.	T.H.D	PF
DL-500V-260X/J-PXS	200-480V 50/60Hz	500W	180-260Vdc	2A	≥95%	≤10%	≥0.95

- Note :**
1. Test conditions of the above parameters: Ta=25℃, 380Vac input, full load operation for 30 minutes;
  2. When the input is less than 200Vac,the output power gradually decreases to 50%±20%.When the input 220-480VAC,rated power 500W.Please refer to “THE OUTPUT POWER VS INPUT VOLTAGE” curve chart for details.

## Input characteristics

Parameter	Min	Typ.	Max	Note
Rated input voltage	200Vac	380Vac	480Vac	
Input voltage range	200Vac		528Vac	
Rated frequency	47Hz	50/60Hz	63Hz	
Power factor	-	0.95	-	@380Vac full load
T.H.D.	-	-	7%	@380Vac full load
Input current	-	-	2.7A	@220Vac full load
Inrush current	-	-	120A	380Vac, cold start (25°C)

**Note:**

1. Test conditions: Ta=25°C .

## Output characteristic

Parameter	Min	Typ.	Max	Note
Rated current DL-500V-260X/J-PXS	-	1.923A	-	
Output current range DL-500V-260X/J-PXS	1.5A	-	2.5A	
Output voltage range DL-500V-260X/J-PXS	180V	-	260V	Constant power output range:200-260VDC
Rated power(200Vac)	-	250W		The derating begins when the input voltage is less than 200Vac
Rated power(220-480Vac)	-	500W	-	
No-load voltage DL-500V-260X/J-PXS	-	-	350V	
Efficiency@230Vac DL-500V-260X/J-PXS	94%	95%	-	full load

## Output characteristic

Parameter	Min	Typ.	Max	Note
Efficiency@380Vac DL-500V-260X/J-PXS	95%	96%	-	full load @230Vac
output ripple current	-	5%	-	with100% load, 20MHZ band Width, and percent of ripple current = $(I_{max}-I_{min}) / (I_{max}+I_{min}) * 100\%$
Accuracy of output current	-5%	-	+5%	full load
Line regulation	-5%	-	+5%	full load
Load regulation	-5%	-	+5%	full load
Starting time		-	1000ms	Full load@230Vac
12V output voltage	10.8 V	12V	13.2V	
12V output current	0 mA	-	300 mA	Reference ground is "Dim -"
12V output line transient peak current @6W	-	-	500 mA	In a 5.0ms cycle, the maximum duration of the maximum peak current of 500mA is 2ms, and the average value must not exceed 250mA

**Note:** The output current range is 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 $\geq 12V$ , the dimming will fail
	Dimming output range	0	-	100%	-
	Rated dimming voltage range	0V	-	10V	It can be set to negative dimming mode through program setting
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	-	99%	Output full power at 99% duty cycle
Resistor Dimming ( Optional )	External resistance value	0K $\Omega$	-	100K $\Omega$	-
	Dimming output range	0	-	100%	-

**Note:**

1. Output current of dimming port: 100uA (typical value).
2. The maximum operation voltage for the dimming port is 12V. Wrong voltage beyond this, or a reverse connection, may lead to a critical damage.
3. The default dimming setting of this product is three-in-one, positive logic dimming. Other requirement, such as time-controlled dimming, 0-5V dimming, and so on, please consult the technician for details.
4. Dim-off is only available for positive logic.

## Protection

Function	Function instructions
Input under-voltage protection	When the input voltage is less than 200Vac, the output power decreases to 50%±20%.
Output overload protection	Protection mode:hiccup mode,recovers automatically after fault condition is removed.
Output short circuit protection	Hiccup mode:recovers automatically after fault condition is removed
Over temperature protection	Self-recovery type: when the housing temperature is greater than 90℃, the output power decreases to 50%±20%.
Output over-voltage protection	Protection mode: Hiccup mode or clamped in output highest voltage , the product is not damaged, LED driver works normally after fault condition is removed.

**Note:**

1. Unless otherwise specified, all specifications and parameters shall be measured at the conditions of 380Vac (50Hz), rated load and 25℃ of ambient temperature;
2. Including setting error, line regulation and load regulation.

## Environmental

Environmental categories	Parameter
Working temperature	-40 ~ +50℃@220-480Vac, -40 ~ +40℃ @200-528Vac (refer to "Life Curve ")
Working humidity	20 ~ 95% RH, non condensing
Tc temperature	90℃
Storage temperature, humidity	-40~+85℃, 10 ~ 95% RH
Resistant to vibration	10 ~ 500Hz, 5G 12 min/cycle, X, Y, Z axis 72 min each
MTBF	230Khrs min. MIL-HDBK-217F (Ta=25℃)
Lifetime	70000 hours @Tcase≤75℃,380Vac, 80% Load, Please refer to "Tcase VS Lifetime" curve

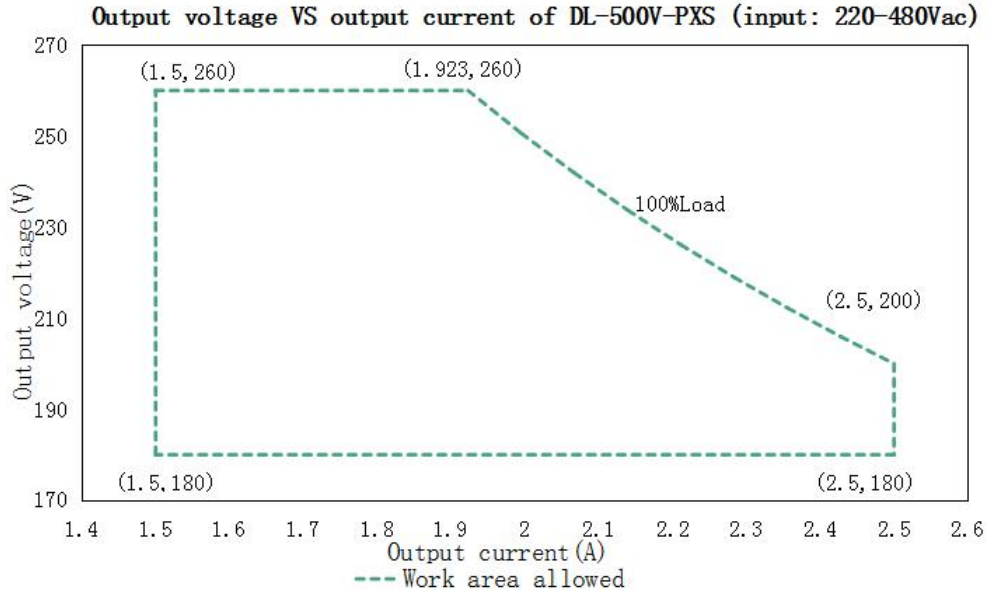
## Safety and EMC

Safety categories	Standard
Safety	GB19510.1、GB19510.14、EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13 UL8750;
EMC	EN IEC 55015、EN IEC 61000-3-2 、GB/T 17743、GB17625.1、 EN 61000-3-3、EN 61547
Surge protection	Differential mode L-N $\pm 6KV$ (2 ohm) ,common mode L, N-PE $\pm 15 KV$ ( 12 ohm ); Refer to IEC61000-4-5 2014 Criterion B
High-pot test	I/P-PE :1.5KVac O/P-PE : 0.5KVac I/P-DIM:1.5KVac O/P-DIM:1.5KVac
Insulation impedance	I/P-PE:100M $\Omega$ / 500VDC/ 500VDC / 25 $^{\circ}C$ / 70% RH
Leakage current	<0.7mA@480Vac

**Note:**

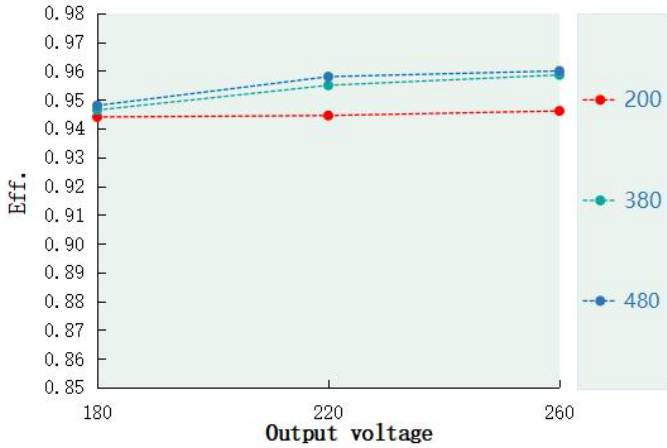
1.The driver is considered as a component that will be operated in combination with the final equipment. Since EMC performance will be affected by the complete installation,the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.

## I-V Working area

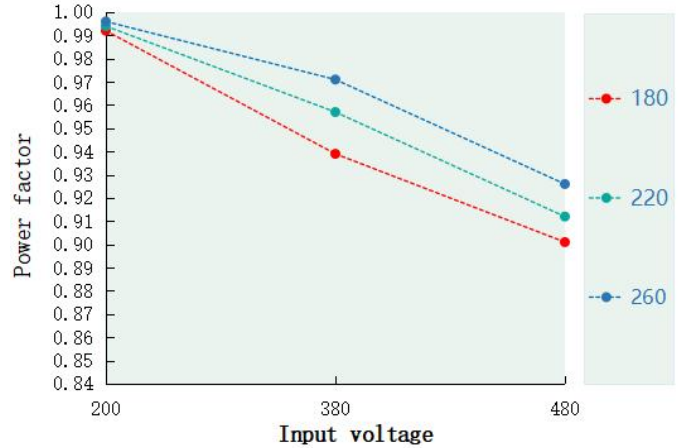


Load	Output								
Load working Voltage	180V	190V	200V	210V	220V	230V	240V	250V	260V
Io_MAX	1.923A	1.923A	2.5A	2.38A	2.27A	2.17A	2.08A	2A	1.92A
Po_MAX	450W	475W	500W	500W	500W	500W	500W	500W	500W

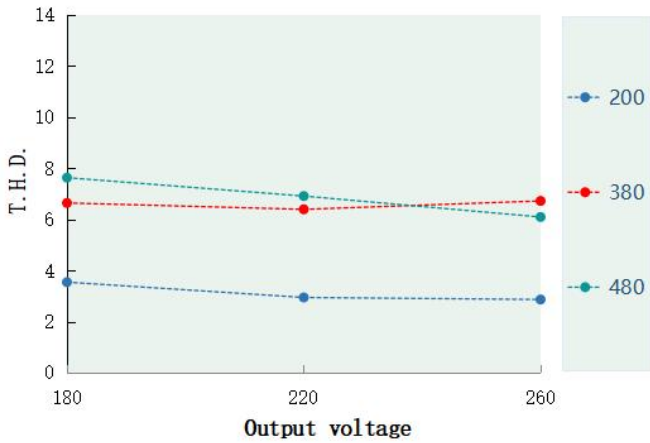
**Eff. VS Output voltage(DL-500V-PXS)**



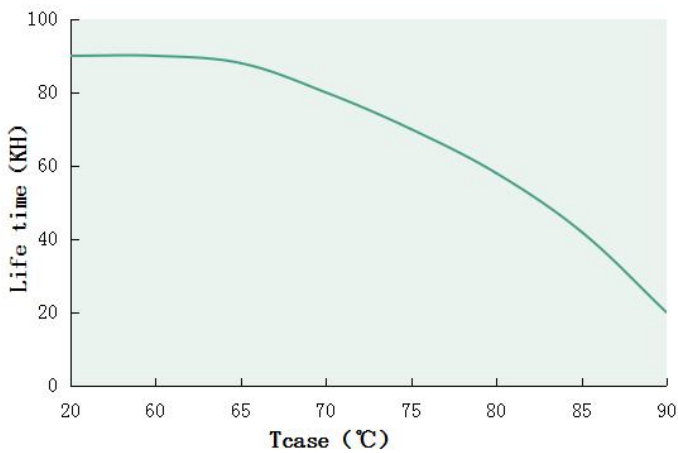
**Power factor VS Input voltage(DL-500V-PXS)**



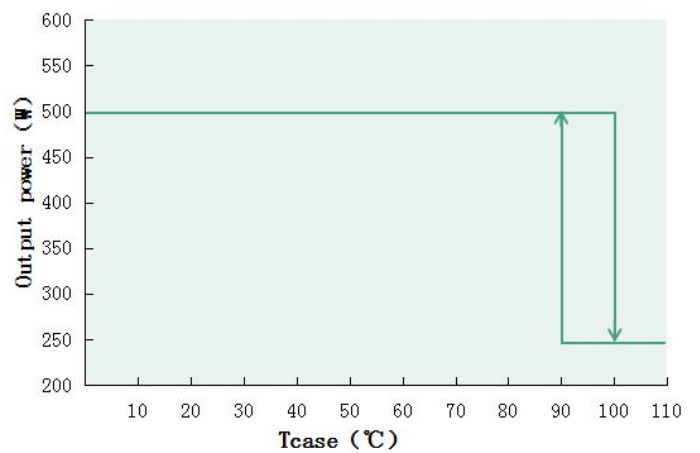
**T.H.D. VS Output voltage(DL-500V-PXS)**



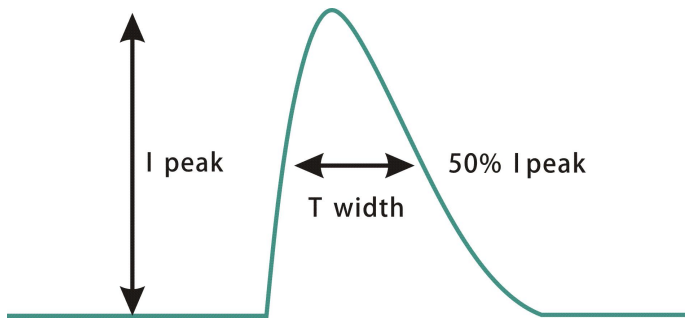
**Tcase VS Lifetime(DL-500V-PXS)**



**Output power VS Tcase(DL-500V-PXS)**

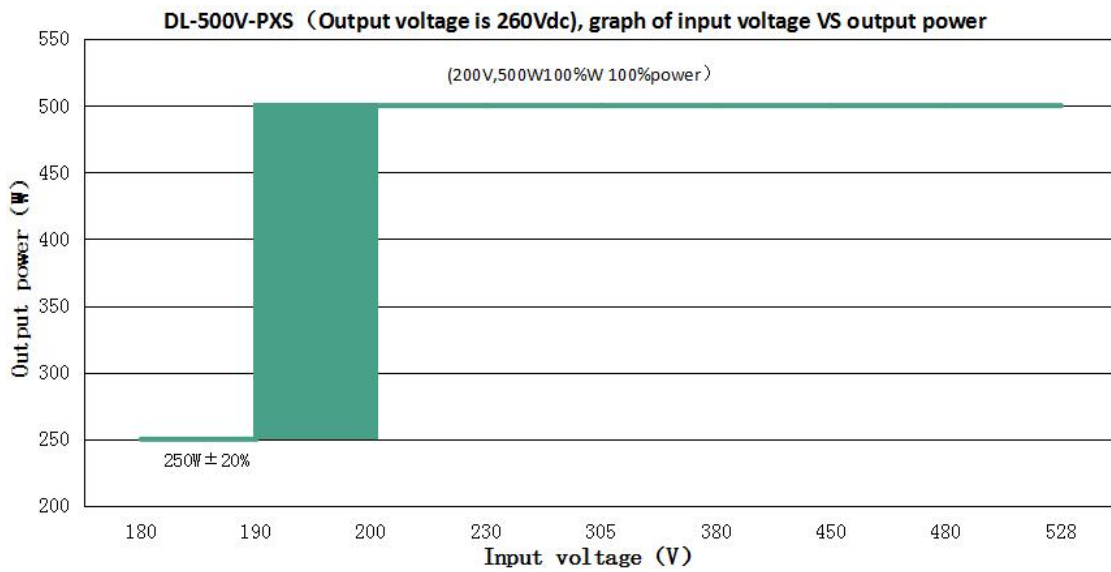


**Inrush Current(DL-500V-PXS)**



Input voltage	Peak current	T(@50% Peak current)
230Vac	64.5A	2.16us
380Vac	91A	2.24us
480Vac	110A	2.4us

**Output power VS Input voltage**



**DL-500V-260X/J-PXS(When the output voltage is 260Vdc, the rated output current value and output power corresponding to different input voltage)**

Input Voltage	180Vac	190Vac	200Vac	230Vac	305Vac	380Vac	480Vac	528Vac
Iout	0.96A	0.96A	0.96A	1.923A	1.923A	1.923A	1.923A	1.923A
Pout	250W	250W	250W	500W	500W	500W	500W	500W

**Note:** 1.When the input voltage is below 200Vac,the output power decreases to 250W±20%.

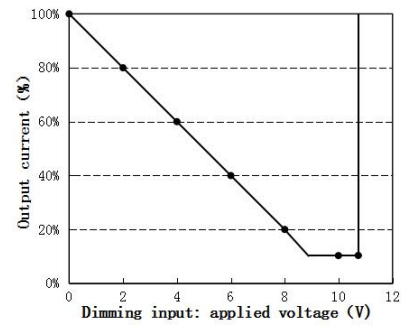
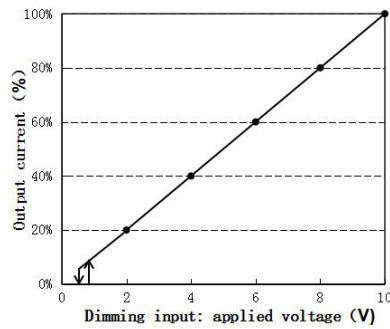
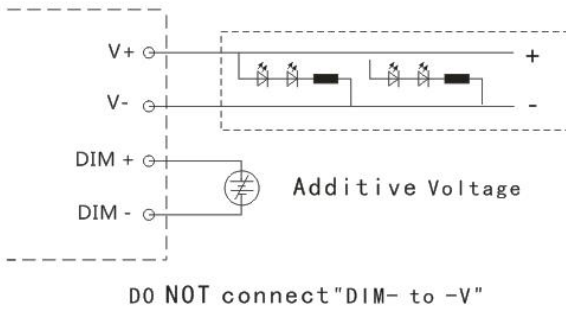
Output power versus Input voltage

## Dimming function

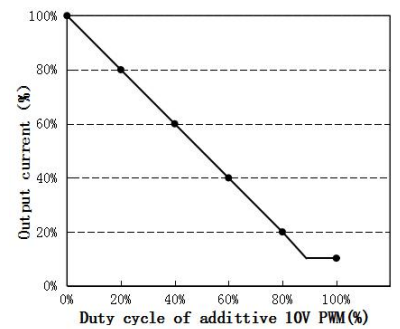
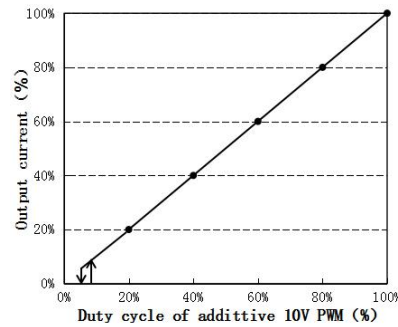
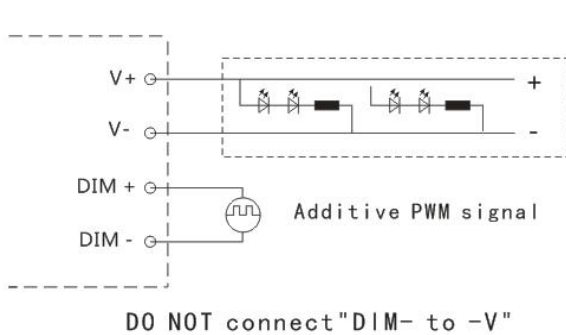
### Three-in-one dimming function (X version only)

- A. To adjust the output current, applying one of the three methods between DIM+ and DIM- : a resistor of 0-100K, or any voltage of 0-10V , or a PWM signal with amplitude of 10V. .
- B. output current of dimming port: 100uA (typical value).

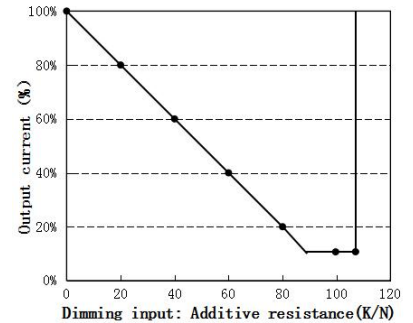
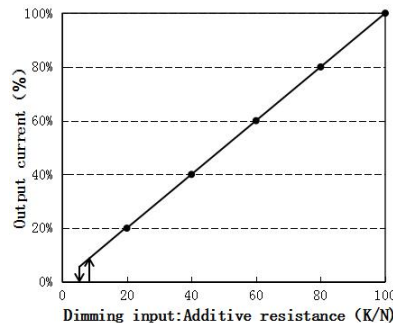
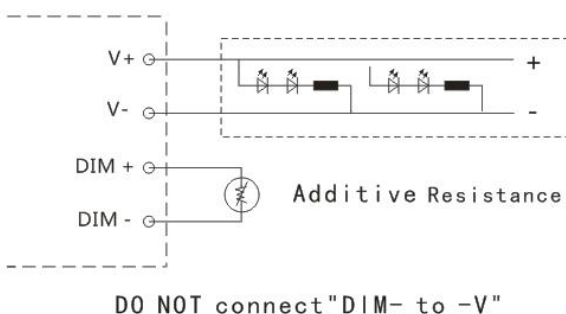
#### ◎ With 0-10V dimming voltage:



#### ◎ With 10V PWM signal (Frequency range: 300Hz-2K Hz) :



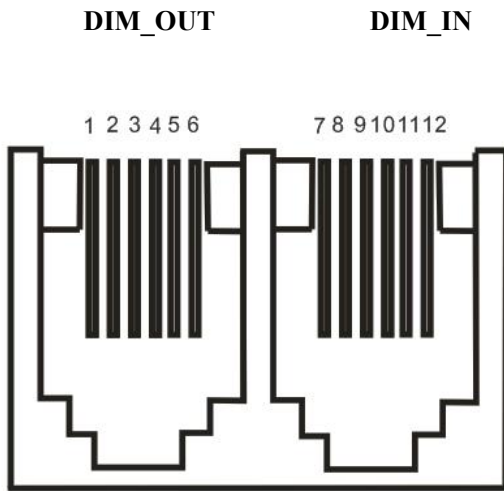
#### ◎ With an additional 0-100K resistor:



#### Note:

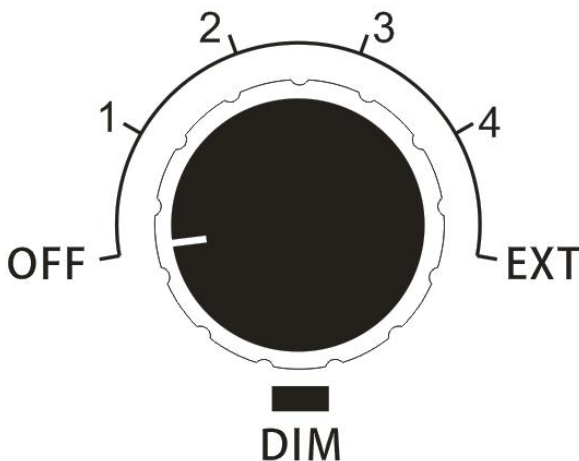
- Both operation way, of positive logic or negative logic, can be selected by program.
- The dimming-off suits for positive logic only. The other requests could contact the technician.

## J-type dimming mode



RJ12 PIN	定义
3	TXD
9	RXD
5/11	DIM+
2/8	Communication COM
6/12	Vaux+
1/4/7/10	Vaux-/DIM-

RJ12 JACK



开关	定义
Off	Turn off
1	25%loset
2	50%loset
3	75%loset
4	100%loset
EXT	External dimming

The J-type power supply does not have light dimming, but only has dimming knob and RJ12 interface. When the dimming knob is not set to EXT in master-slave cascading mode, the RJ12 interface can receive 3-in-1 dimming signal. The function of the RJ12 interface is the same as that of the X/T type light dimming.

Connect multiple power supplies that have an RJ12 port to each other in the following mode: Connect the DIM\_OUT port to the DIM\_IN port of the next power supply. The power supply that is not connected to the DIM\_OUT port is the host. The power supply that is connected to the DIM\_OUT port is the slave power supply. Adjust the dimming knob of the host, and other slave power sources will also be dimmed along with the host power supply. Regardless of the slave knob switch in any state, all states of the slave as the master.

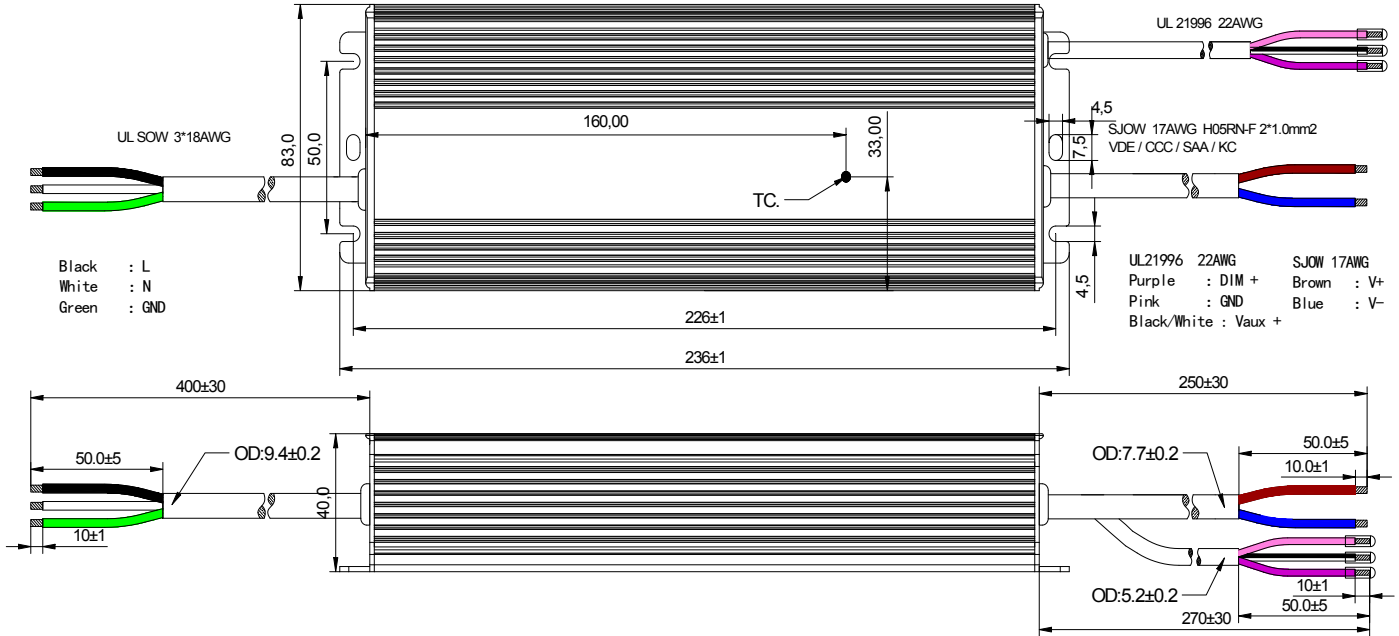
### NOTICE:

1. RJ12 port is not waterproof. Pay attention to the operating environment to avoid the influence of water on the power supply.
2. The J-type power supply can only be cascaded with the same defined parameters as RJ12. When the number of cascades exceeds 6, do not short-circuit the output of the auxiliary power supply (Vaux+,Vaux-); otherwise, the expansion ports and cables may be damaged.

## Mechanical specification

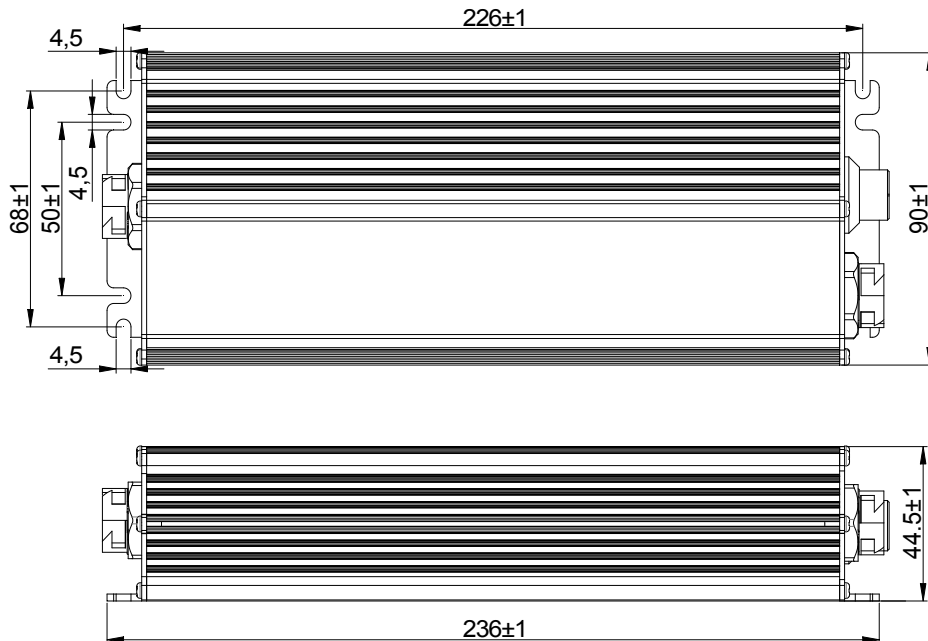
Size (mm) L236mm\*W83mm\*H40mm

### DL-500V-260X-PXS



Size (mm) L236mm\*W90mm\*H44.5mm

### DL-500V-260J-PXS

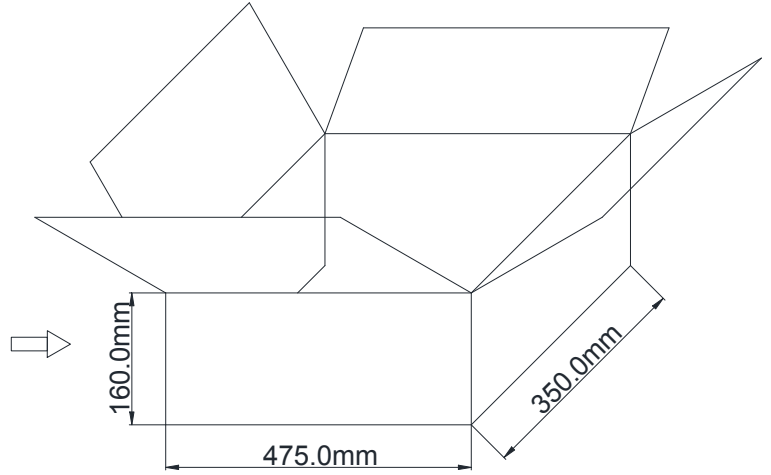
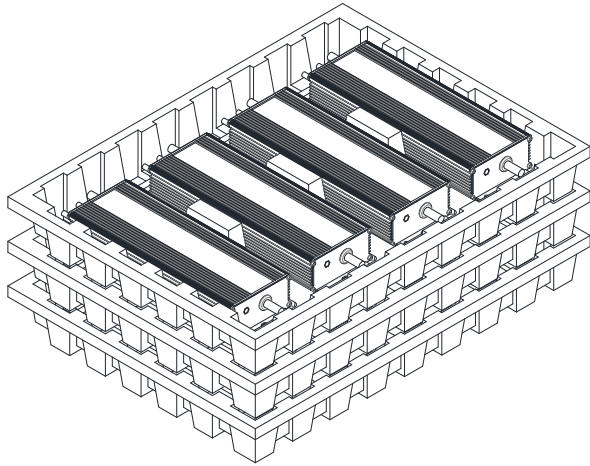


## Weight

Weight 1440g

## Packaging

Packaging (mm) L435\*W350\*H160



Note: One Carton 3 layers and 4 pcs each layer, total 12pcs/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
2024.1.4	Initial version.	V1.0	
2024.6.1	Added J version	V1.1	

**MANUFACTURER**

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