



PLS SERIES LED DRIVER

DL-1200W-V300X/J-PLS SPEC V1.5

Features

- Class I type for insulation(pending)
- Input voltage range: 120-277 V ~ 50/60 Hz
- Efficiency :97%(Typ.)
- Constant current output ,with power limitation for control mode
- Metal case, protection grade against water and dust: IP67
- Surge level: differential mode :6kV, common mode :10kV
- Function selection:
 - Isolated 3 in 1 dimming
 - Auxiliary source: 12V/250mA
- Guaranteed Lifetime :5 years



Applications

Street 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-1200W-V300X-PLS	120-277V	1200W	180-300Vdc	4A	>97%	≤10%	≥0.97
DL-1200W-V300J-PLS	50/60Hz						

Note :

1. Test conditions: Ta=25°C, under 230Vac input,after running for 30 minutes with full load .
2. When the input is less than 108Vac, users must reduce the output power to 600W. When the input 120-277VAC, rated power 1200W. Please refer to “THE OUTPUT POWER VS INPUT VOLTAGE” curve chart for details.

Input characteristics

Parameter	Min	Typ.	Max	remark
Rated input voltage	120Vac	230Vac	277Vac	
Input voltage range	90Vac	230Vac	305Vac	
Rated frequency range	47Hz	50/60Hz	63Hz	
Power factor	-	0.97	-	@230Vac input ,with full load
T.H.D.	-	7%	10%	@230Vac input ,with full load
T.H.D.	-	-	20%	@230Vac input ,with 70% load
Input current	-	-	11A	@120Vac input ,with full load
Inrush current	-	-	150A	230Vac, cold start (25°C)

Output characteristics

Parameter	Min	Typ.	Max	remark
Rated current DL-1200W-V300X/J-PLS	-	4A	-	
Output current range DL-1200W-V300X/J-PLS	3.9A	-	6A	DL-1200W-V300X-PLS maximum current 6.2A (6.0A±0.2A)
Output voltage range DL-1200W-V300X/J-PLS	180V	-	300V	
Available power(120-277Vac)	-	1200W	1210W	Users must reduce the output power to 600W, when the input voltage is less than 108Vac.
Rated power(120-277Vac)	-	1200W	-	
No-load voltage DL-1200W-V300X/J-PLS	-	-	340V	
Efficiency@120Vac DL-1200W-V300X/J-PLS	-	95%	-	full load @ 120 Vac Output current 4A(300V), 1200W
Efficiency@230Vac DL-1200W-V300X/J-PLS	-	97%	-	full load @ 230 vac Output current 4A, 1200W
Accuracy of output current	N/A	N/A	N/A	no requirement
Current Accuracy	-5%	-	+5%	full load
Line regulation	-3%	-	+3%	full load
Load regulation	-3%	-	+3%	full load
Starting time	-	3000ms	-	Full load @230Vac

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

Dimming characteristics

Dimming function		Min	Typ.	Max	Instructions
0-10V Dimming (Optional)	Safe operation voltage range	1V	-	12V	Damage may occur if the external voltage is greater than or equal to 12V
	Dimming output range	10%	-	100%	-
	Rated operation voltage range	1V	-	10V	-
PWM Dimming (Optional)	PWM high level	9.5V	-	10.5V	-
	PWM low level	0V	-	0.3V	-
	Rated dimming frequency	300Hz	-	2000Hz	-
	PWM duty cycle	10%	-	99%	Full power output at 99% duty cycle
Resistor Dimming (Optional)	Rated external resistance value	10KΩ	-	100KΩ	-
	Dimming output range	10%	-	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 the range or a reverse connection may lead to a critical failure of the driver.
3. The default dimming setting of this product is three-in-one positive logic dimming (it can be set as timed dimming, 0-5V or other voltage dimming by programming software).
4. When the positive logic dimming function is set, applications within the constant power load voltage range can achieve 0V dimming off, but it is recommended that customers use 1-10V dimming;
5. When setting dimming, the default output is 100% when the dimming light is suspended. Negative logic dimming can be turned off;
6. Negative logic dimmer for PWM dimming, including 1-10V dimming and resistance dimming modes.

Protection

Protection	description
Over Load Protection	Protection mode: hiccup restart mode, which automatically recovers after abnormal load conditions are removed
Output short circuit protection	Hiccup mode, which automatically recovers after abnormal conditions are removed
Over temperature protection	Self-recovery type; When the casing temperature is greater than 90°C, the output power decreases with the casing temperature increasing.

Note:

1. Unless otherwise specified, all parameters should be measured at the condition of 230Vac (50Hz) input ,with 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 ~ +40°C@120-200Vac, -40 ~ +55°C @200-277Vac(refer to "service life curve ")
Max.Case Temp.	shell temperature = +90°C
Working humidity	20 ~ 95% RH
Storage temperature、 humidity	-40~+80°C, 10 ~ 95% RH
Resistant to vibration	10 ~ 500Hz, 5G 12 min/cycle, X, Y, Z axis 72 min each
MTBF	50Khrs min. MIL-HDBK-217F (Ta=25°C)
Lifetime	50000 h @ housing temperature≤75°C, 230Vac, 100% load, see section "housing temperature and life"

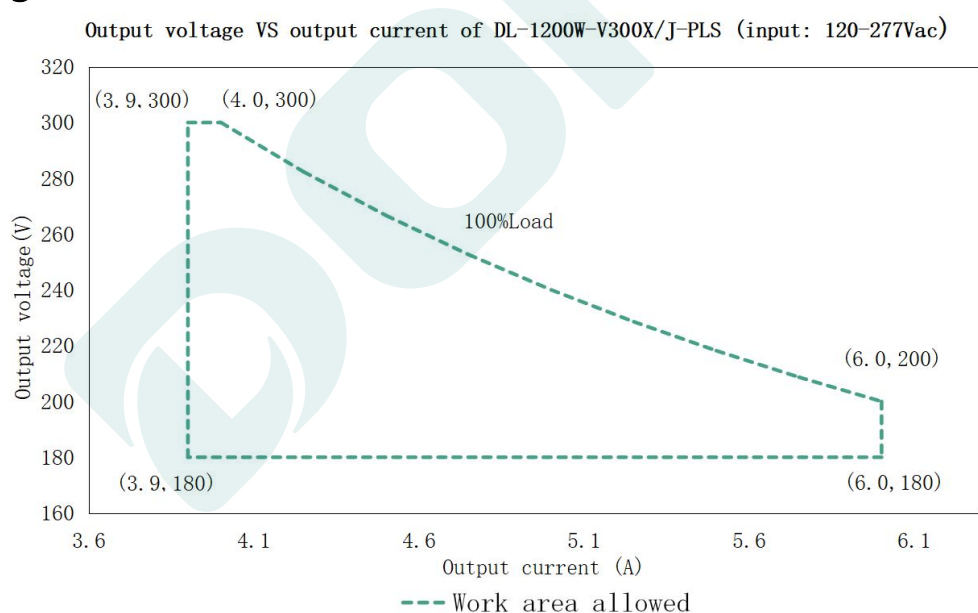
Safety and EMC

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
Surge leve	Differential mode L-N $\pm 6KV$ (2 ohm) ,common mode L , N-PE $\pm 10KV$ (12 ohm) ; Refer to IEC61000-4-5 2014 Criterion B
High-pot test	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:100M Ω / 500VDC; O/P-P/E:100M Ω / 500VDC / 25 $^{\circ}C$ / 70% RH
Leakage current	<0.7mA@277Vac

Note:

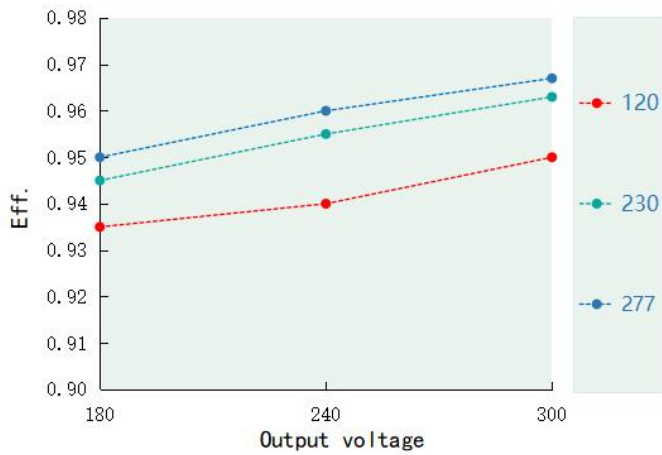
1. Attention! As a component of the whole, the EMC performance of the final product is not only decided by the driver, even if the driver is well-designed and fulfil all the required compliance. The final equipment manufacturers must re-qualify EMC Directive on the complete product.
2. The J version is externally input, and the user on the output line needs a set of nickel-zinc magnetic ring (T25.9*12.8*28.5C DN85H Dongzi RoHS) and fixed on the online material.

I-V Working area

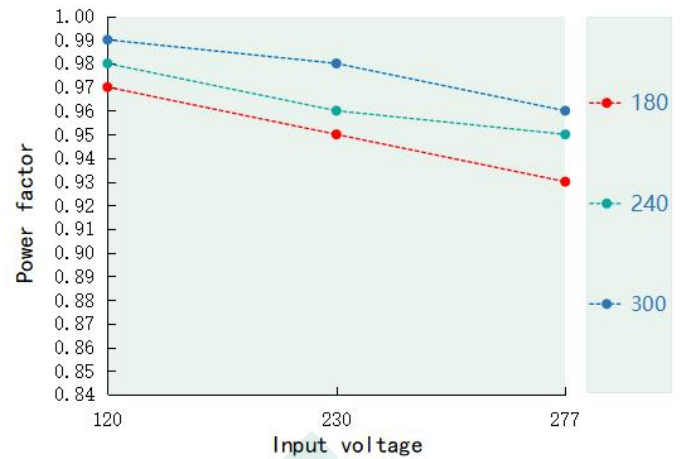


Load	Output								
Load working Voltage	180V	200V	220V	240V	250V	260V	270V	290V	300V
Io_MAX	6A	6A	5.45A	5A	4.8A	4.615A	4.44A	4.137A	4A
Po_MAX	1080W	1200W	1200W	1200W	1200W	1200W	1200W	1200W	1200W

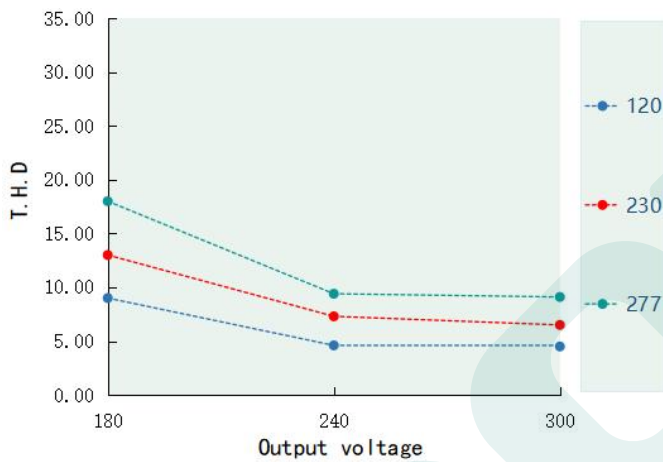
Eff. VS Output voltage(DL-1200W-V300X/J-PLS)



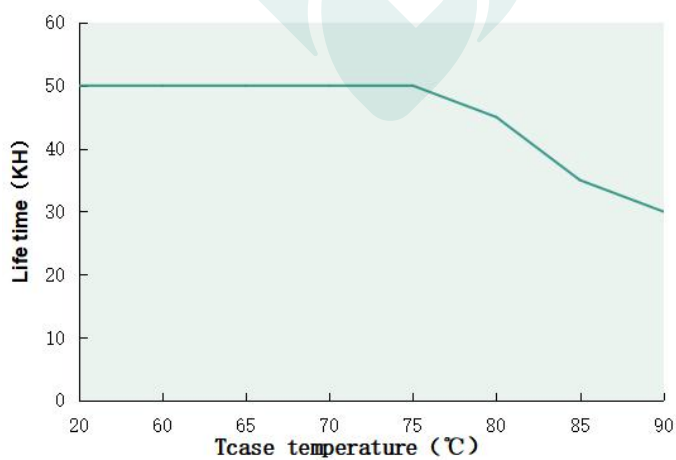
Power factor VS Input voltage(DL-1200W-V300X/J-PLS)



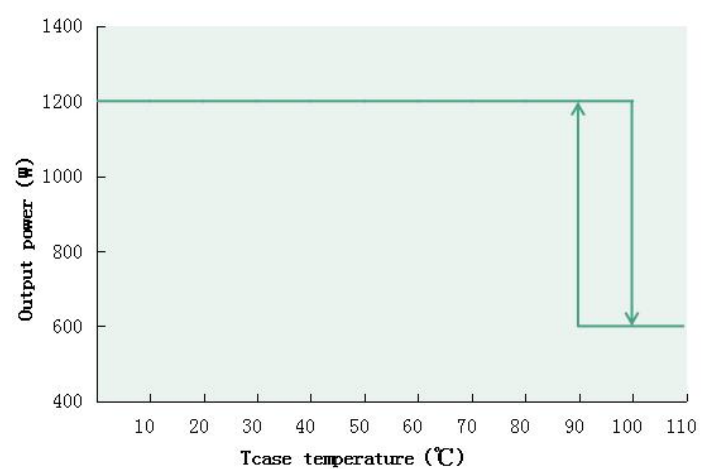
T.H.D. VS Output power(DL-1200W-V300X/J-PLS)



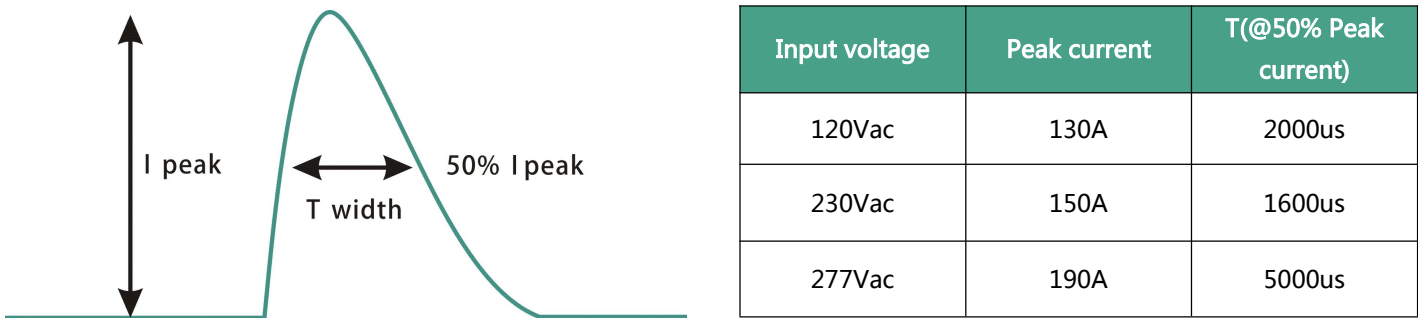
Tcase VS Lifetime(DL-1200W-V300X/J-PLS)



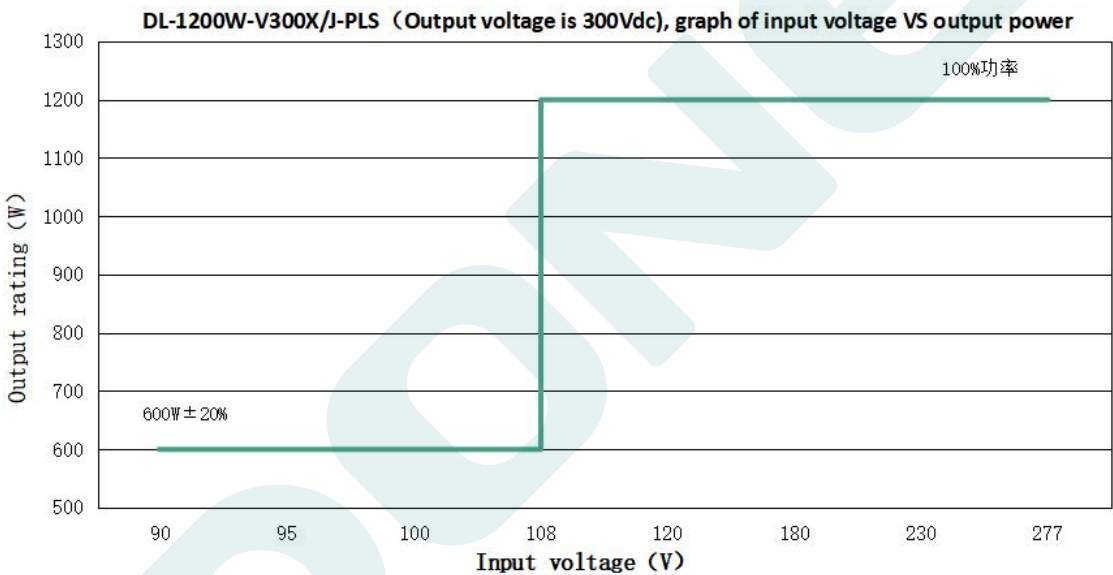
Output power VS Tcase (DL-1200W-V300X/J-PLS)



Input surge current(DL-1200W-V300X/J-PLS)



Output power VS Input voltage



DL-1200W-V300X/J-PLS (For output 300Vdc, the rated output current & power under different input voltage)								
Input Voltage	108Vac	120Vac	150Vac	180Vac	200Vac	230Vac	250Vac	277Vac
Iout	2A	4A	4A	4A	4A	4A	4A	4A
Pout	600W	1200W	1200W	1200W	1200W	1200W	1200W	1200W

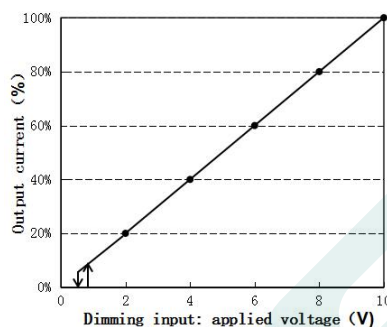
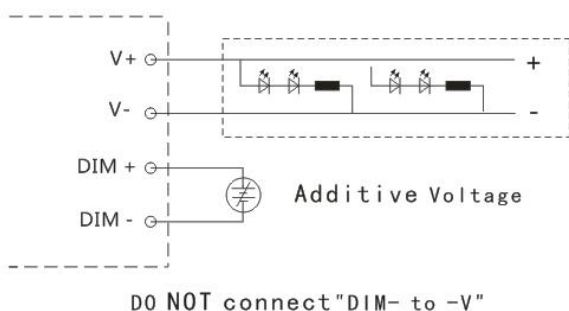
Note: When the input voltage less than 108Vac, users must reduce the output power to 600W.

Dimming function

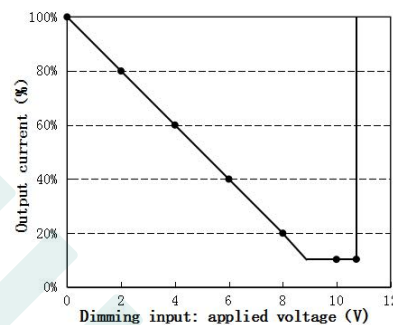
※ Three-in-one dimming function

- 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(for both logic,negative and positive):

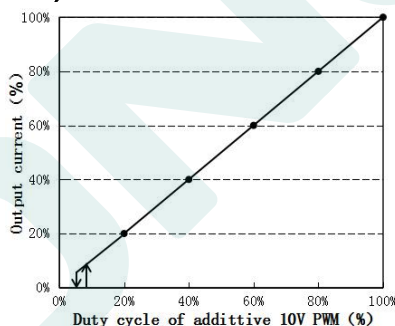
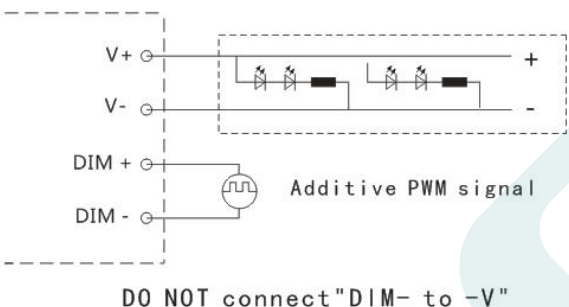


Positive logic dimming curve

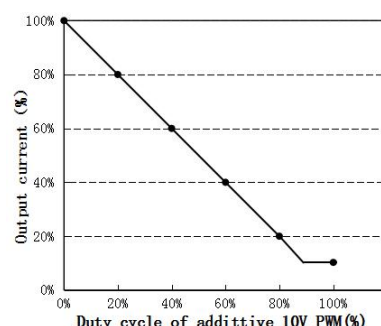


Negative logic dimming curve

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

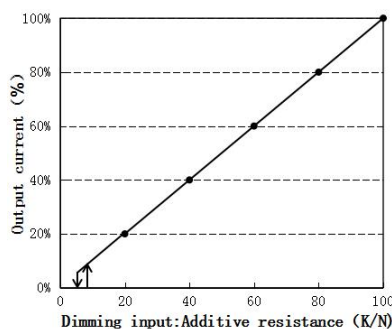
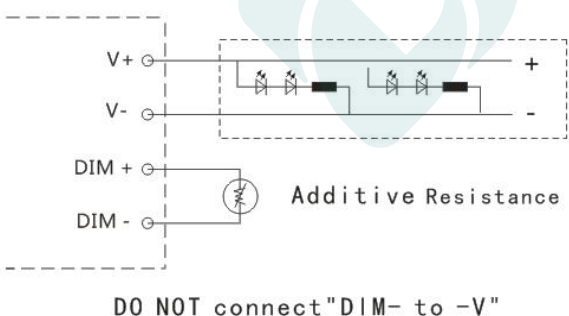


Positive logic dimming curve

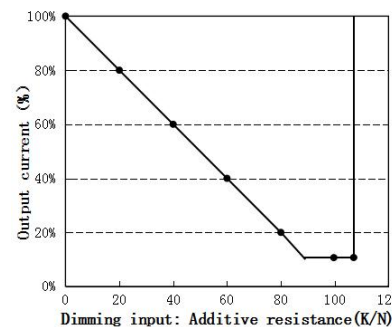


Negative logic dimming curve

• With an additional 0-100K resistor:



Positive logic dimming curve



Negative logic dimming curve

Remark:

- Both operation way, of positive logic or negative logic, can be selected by program.
- 0-10V dimming includes positive and negative logic, which is also for PWM dimming.
- Dimmer turn-off applies to positive and negative logic. For other requirements, contact technical support.



Caution:

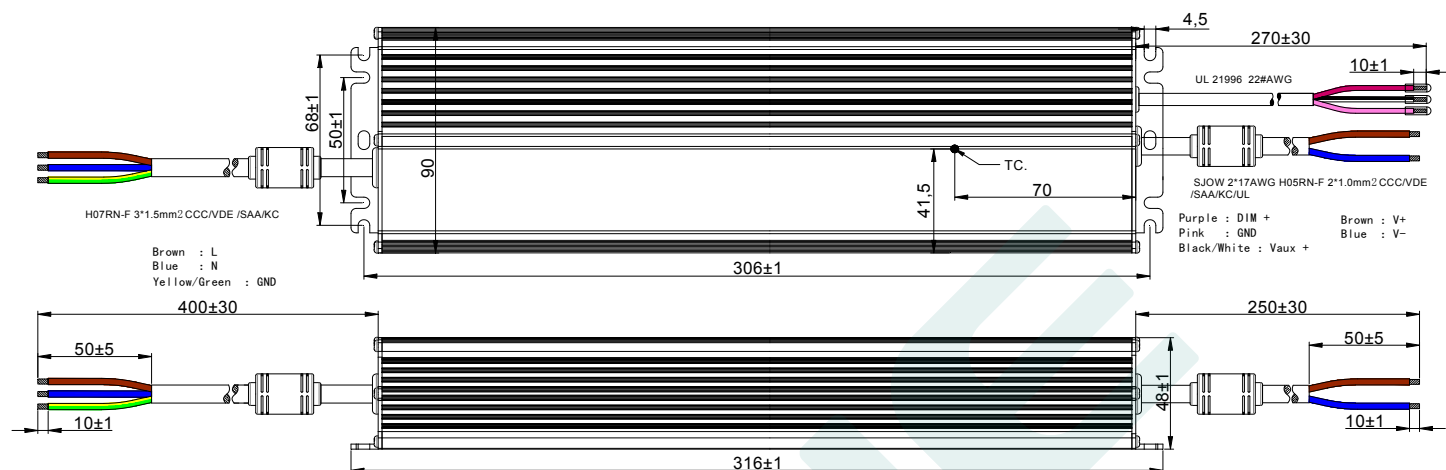
1. It is recommended to design LED beads in series first and then in parallel.
2. There is no excessive heat-dissipating copper foil left on the aluminum substrate.
3. The creepage distance of the aluminum substrate wiring > 5mm.
4. The creepage distance between LED+ and LED- on the aluminum substrate > 2.5mm.
5. The insulation level of the LED lamp board should meet the requirements of reliability design. The recommended withstand voltage between the LED lamp beads and the aluminum substrate is 100% full inspection > 3.5KVAC.
6. The final right of interpretation of the parameters above belongs to Guangdong Done Power Technology Co., Ltd.



Mechanical specification

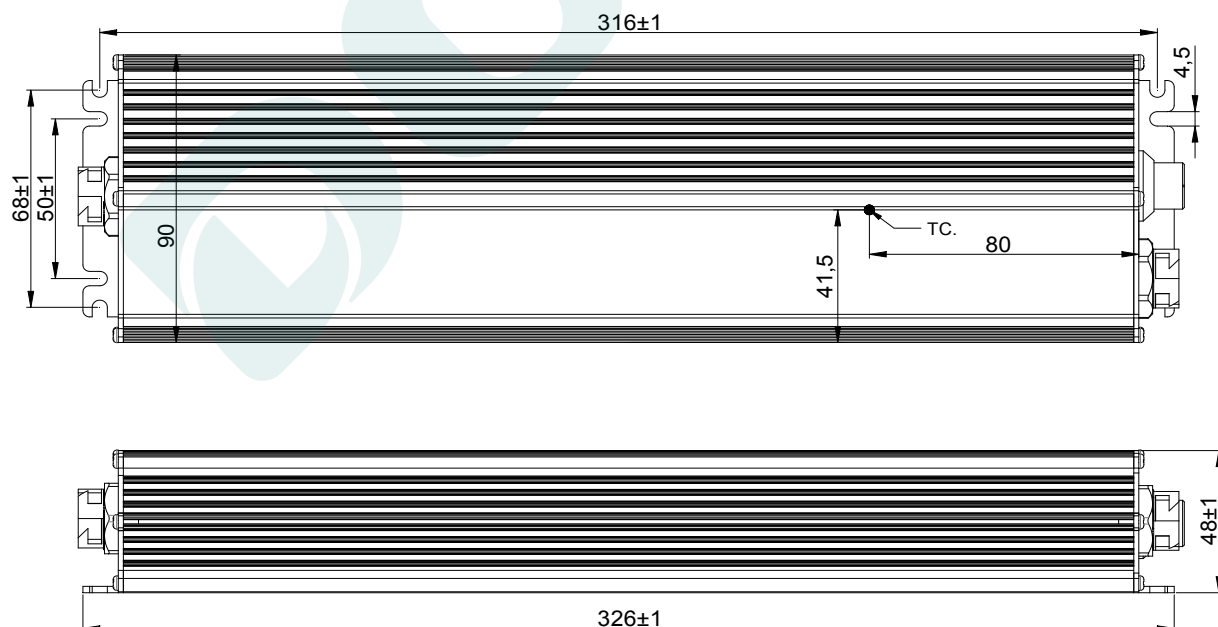
Size (mm) L316*W90*H48

DL-1200W-V300X-PLS



Size (mm) L326*W90*H48

DL-1200W-V300J-PLS

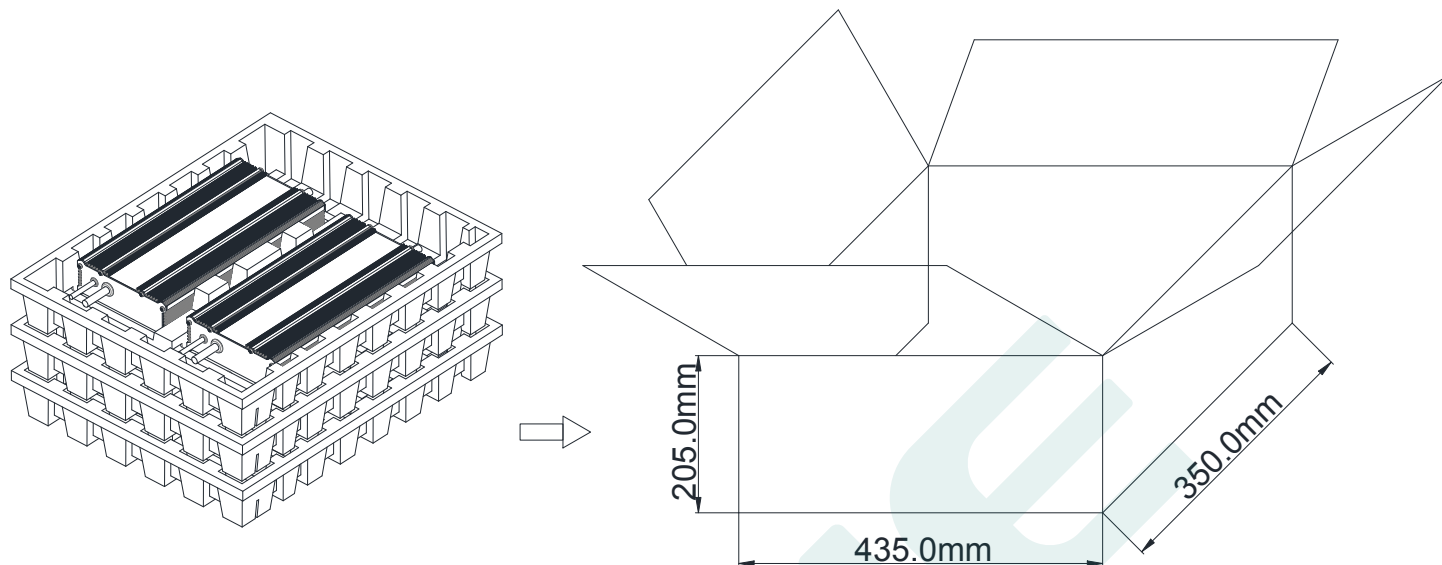


Weight

Weight 2900g

Packaging

Packaging (mm) L435*W350*H205



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

Note:

1. According to the qualified certificate of the LED DRIVER, that with English label is for sale in Europe, America and India.
2. That with Chinese label are used for Chinese market.

Version

DATE	DESCRIPTION	REV.	CHECK
2023.11.27	Initial version.	V1.0	
2024.04.25	Cancel the T version and add the content of the J version.	V1.1	
2024.05.06	Correct the name error of the reduction curve	V1.2	
2024.06.22	Add the TC point position.	V1.3	
2024.12.25	Modify the DL-1200W-V300X-PLS maximum current	V1.4	
2025.7.22	Add caution on page Ten	V1.5	

MANUFACTRUER		
EDIT	CHECK	APPROVE