



PXS SERIES LED DRIVERS

DL-320Z-X-PXS SPEC V1.2



Features

- Class I structure
- Input voltage: 100-277V ~ 50/60Hz
- Efficiency :95% (Typ.)
- Constant current output control mode,with constant power limitation.
- Metal shell structure, protection grade: IP67
- Lightning level: differential mode 6kV, Common mode 15kV
- Dimming signal input is 0V, standby power consumption $\leq 0.5W$
- Isolated auxiliary power supply: 12V 250mA
- Function selection:
 - Isolated dimming function: off-line 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



Model list

Model NO.	Input voltage	Output power	Output voltage	The default current	Eff.	THD.	PF
DL-320Z-260X-PXS	100-277V 50/60Hz	320W	180-260Vdc	1.3A	$\geq 95\%$	$\leq 10\%$	≥ 0.95

- Note :**
1. Test conditions of the above parameters: $T_a=25^{\circ}C$, 230Vac input, full load operation for 30 minutes.
 2. When the input is in the range of 100-277VAC, output the rated power of 320W, please ensure that the input voltage is within the allowable range.
- Please refer to "Output power vs Input voltage" curve chart for details.



Input characteristics

Parameter	Min	Typ.	Max	Note
Rated input voltage	100Vac	230Vac	277Vac	-
Input voltage range	90Vac	230Vac	305Vac	-
Rated frequency	47Hz	50/60Hz	63Hz	-
Power factor	-	0.97	-	@100~230Vac full load
	-	0.92	-	@277 full load
T.H.D.	-	-	10%	@100Vac/50Hz,230Vac/50Hz full load
	-	-	20%	@277Vac/50Hz 80%~100% load
Input current	-	-	4A	@100Vac full load
Inrush current	-	-	120A	@230Vac, cold start (25°C)

Output characteristic

Parameter	Min	Typ.	Max	Note
Rated current DL-320Z-260X -PXS	-	1.23A	-	-
Output current range DL-320Z-260X -PXS	0.92A	-	1.6A	-
Output voltage range DL-320Z-260X -PXS	180V	-	260V	-
Constant power output voltage range	200V	-	260V	Maximum output power 320W
Constant current output voltage range	180V	-	260V	Maximum output current 1.6A
No-load voltage DL-320Z-260X -PXS	-	-	350V	-
Efficiency@100Vac DL-320Z-260X -PXS	-	90%	-	full load
Efficiency@230Vac DL-320Z-260X -PXS	-	95%	-	full load

Output characteristic

Parameter	Min	Typ.	Max	Note
Accuracy of output current	-	5%	-	full load
Ripple of output current	-5%	-	+5%	full load
Line regulation	-3%	-	+3%	full load
Load regulation	-5%	-	+5%	full load
Starting time	100ms	-	1000ms	@100-277Vac full load

Note: The output current range is limited by the input and output Voltage, Please refers 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	Refer to note 2
	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%	-	99%	Output full power at 99% duty cycle
Resistor Dimming (Optional)	External resistance value	0KΩ	-	100KΩ	-
	Dimming output range	0%	-	100%	-
Multiple time-controlled dimming (optional)	MCU control	Set segment dimming function through program			Working mode
	Timer control	It is divided into six segments by default and can be customized			24H to achieve a cycle

Note:

1. Output current of dimming port: 100uA (typical value).
2. The X version is 0-10V dimming (0V can be turned off). The maximum voltage of the dimming port is 12V. If the external power supply voltage exceeds 12V or the signal cable is inverted, the power supply will be damaged.
3. Dimming default setting is three in one positive logic dimming (programmable software can be set to timing dimming, 0-5V or othervoltage dimming).
4. When set to positive logic dimming function, the 0V dimming is turned off, and the output voltage is $0.46 \cdot V_{omax}$ after the dimming is turned off. Be careful when using this function, but customers are advised to use 1-10V dimming.
5. When setting negative logic dimming, the default output is 100% when the dimming is suspended. Negative logic dimming cannot be turned off. When the port voltage of the dimming is greater than 10.5V, the maximum power output of the power supply will be achieved.

Protection

Function	Function instructions
Under voltage protect	When the input voltage is less than 85Vac±10V, The output power details, gradually. For details, see the derating curve.
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 95±5°C, the output power decreases gradually.
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: Unless otherwise specified, all specifications and parameters shall be measured at the conditions of 230Vac (50Hz), rated load and 25°C of ambient temperature;

Environmental

Environmental categories	Parameter
Working temperature	-40 ~ +40°C @100-200Vac, -40 ~ +55°C @200-277Vac(refer to "Life Curve ")
Working humidity	20 ~ 95% RH, non-condensing
Max.Case Temp.	95+/-5°C
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	100Khrs min. MIL-HDBK-217F (Ta=25°C)
Lifetime	70000H@Tcase75°C,(Please refer to Lifetime VS Tcase curve for details)

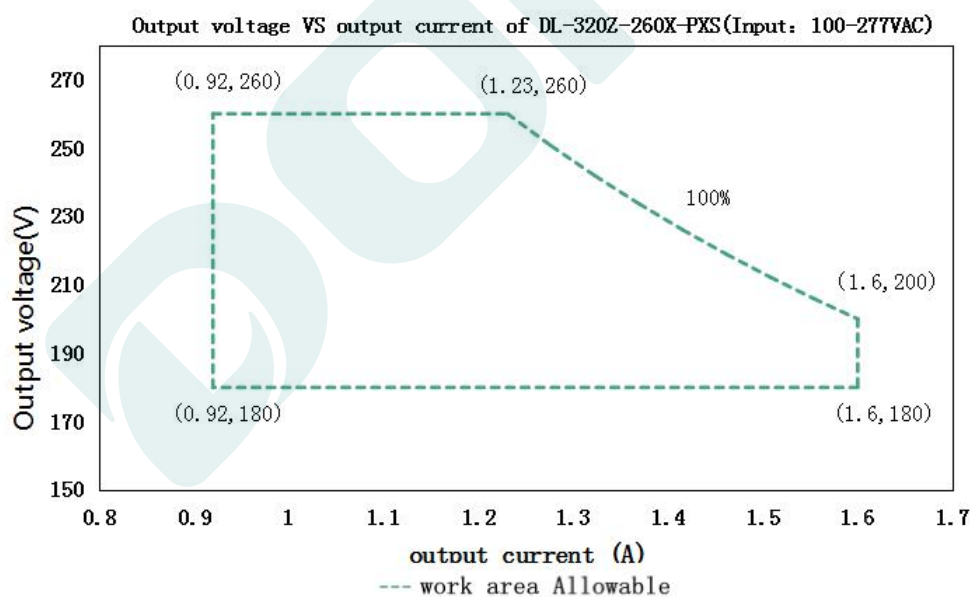
Safety and EMC

Safety categories	Standard
Safety	GB19510.1、GB19510.14、EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13、EN 62384、UL8750
EMC	EN 55015、EN 61000-3-2 、GB/T 17743、GB17625.1、EN 61000-3-3
Surge protection	Differential L/N $\pm$ 6 KV (2 Ω), Common L/N-PE $\pm$ 15 KV (12 Ω) Refer to IEC61000-4-5 2014
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-PE:100M Ω / 500VDC / 25°C/ 70% RH
Leakage current	< 0.7mA @277Vac

Note:

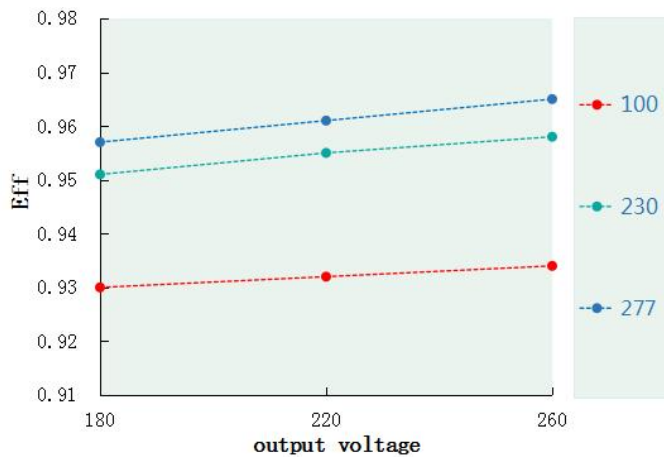
1. Attention! As a component of the whole, the EMC performance of the final product is not only decided by the driver, even if the driver is well-designed and fulfil all the required compliance. The final equipment manufacturers must re-qualify EMC Directive on the complete product.
2. Because of the restart of OVP, to keep well connection of the load is recommended.

I-V Working area

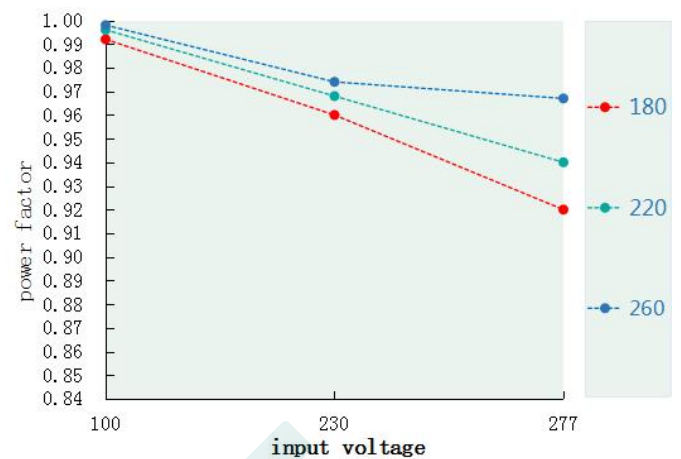


Load	Output								
Load working Voltage	180V	190V	200V	210V	220V	230V	240V	250V	260V
Io_ MAX	1.6A	1.6A	1.6A	1.52A	1.45A	1.39A	1.33A	1.28A	1.23A
Po_ MAX	288W	304W	320W	320W	320W	320W	320W	320W	320W

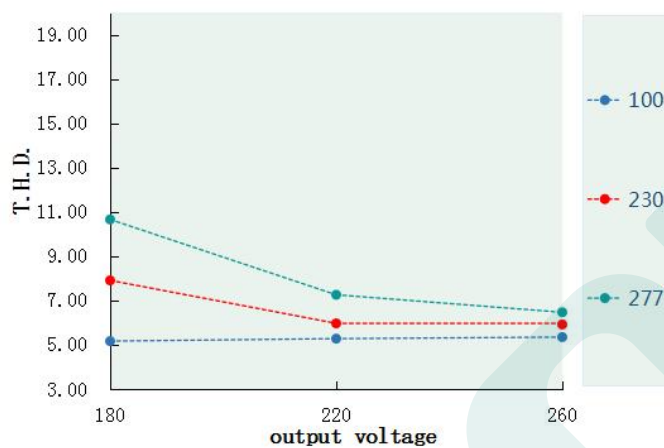
Eff. VS Output voltage (DL-320Z-260X -PXS)



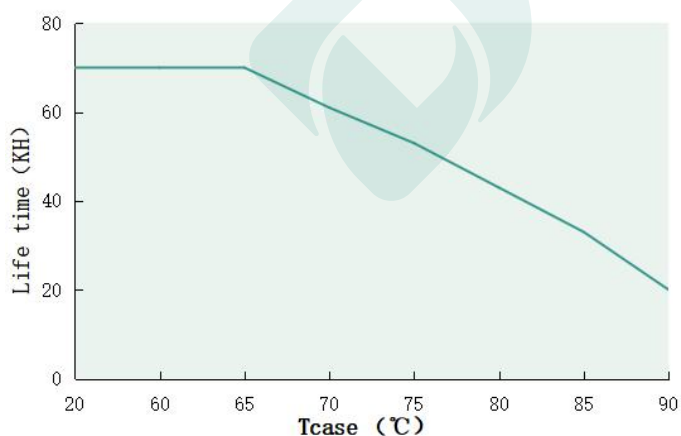
Power Factor VS Input Voltage (DL-320Z-260X -PXS)



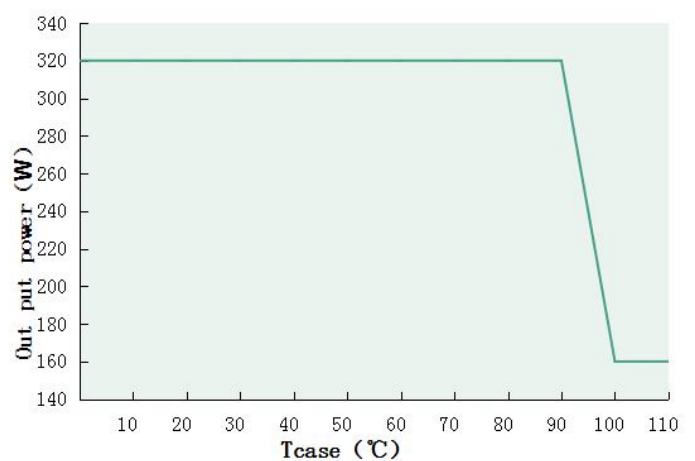
T.H.D. VS Output voltage (DL-320Z-260X -PXS)



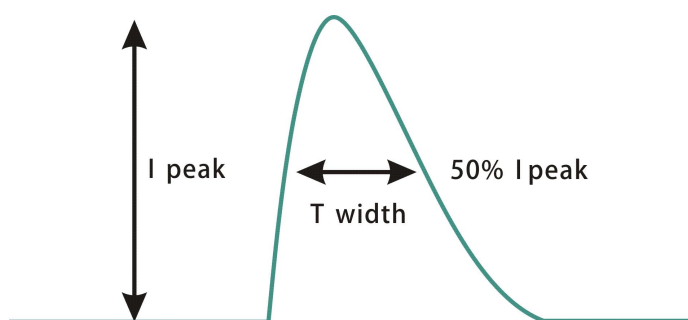
Lifetime VS Tcase (DL-320Z-260X -PXS)



Output power VS Tcase (DL-320Z-260X -PXS)

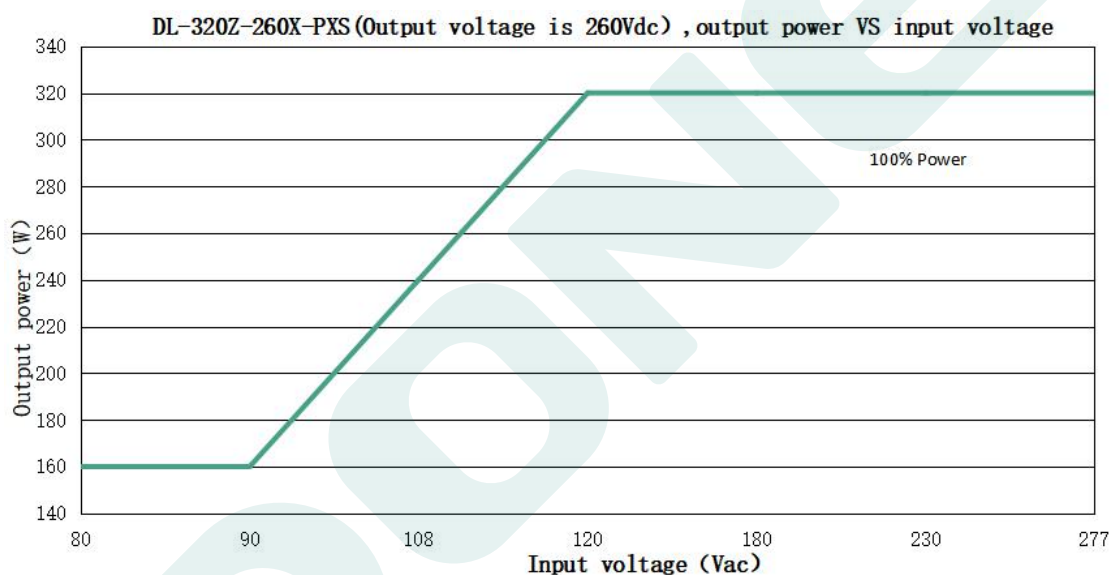


Inrush Current (DL-320Z-260X -PXS)



Input voltage	Peak current	T(@50% Peak current)
100Vac	43.8A	366us
230Vac	61.8A	370us
277Vac	100A	359us

Output power VS Input voltage



DL-320Z-260X-PXS(When the output voltage is 260Vdc, the rated output current value and output power corresponding to different input voltage)

Input Voltage	80Vac	90Vac	108Vac	120Vac	180Vac	200Vac	230Vac	277Vac
I _{out}	0.615A	0.615A	0.923A	1.23A	1.23A	1.23A	1.23A	1.23A
P _{out}	160W	160W	240W	320W	320W	320W	320W	320W

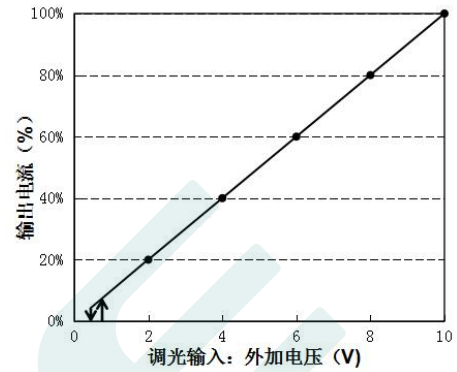
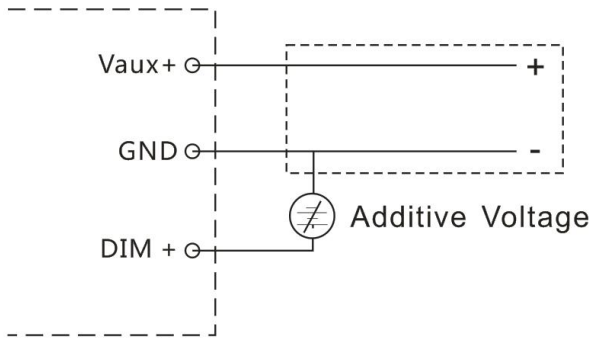
Note: When the input voltage is less than or equal to 108V for a long time at high temperature, the power should be reduced to 240W (output current is set to 0.923A).

Dimming operation

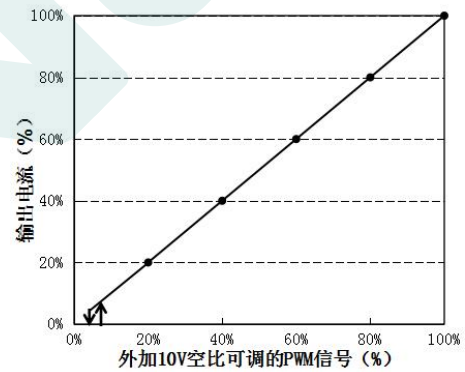
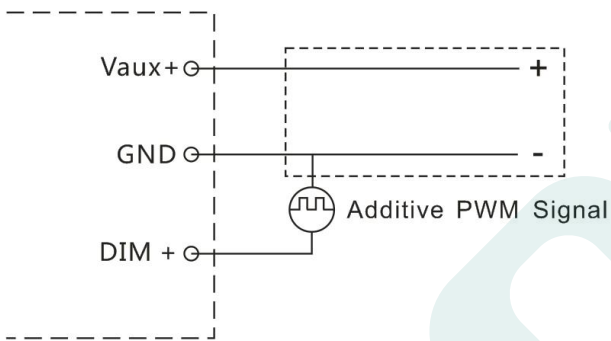
※ Three-in-one dimming function (X version)

- 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).

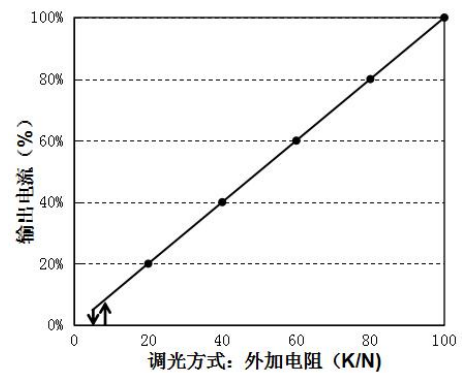
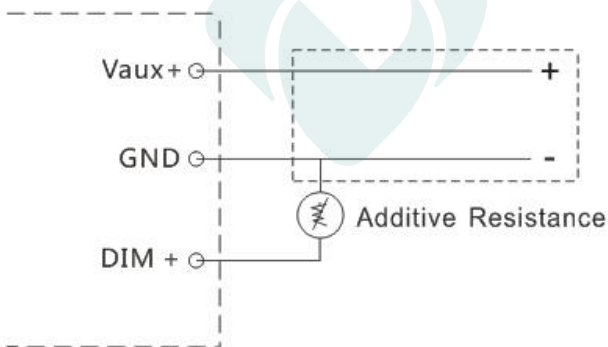
◉Applied voltage of 0-10V:



◉ Applying additive 10V PWM signal (Frequency range : 300Hz-2K Hz) :



◉Applied an additional 0-100K resistor:



Note:

1. Positive and negative logic dimming can be programmed.
2. Dimming off only applies to positive logic. For other requirements, please contact technical personnel.



Caution:

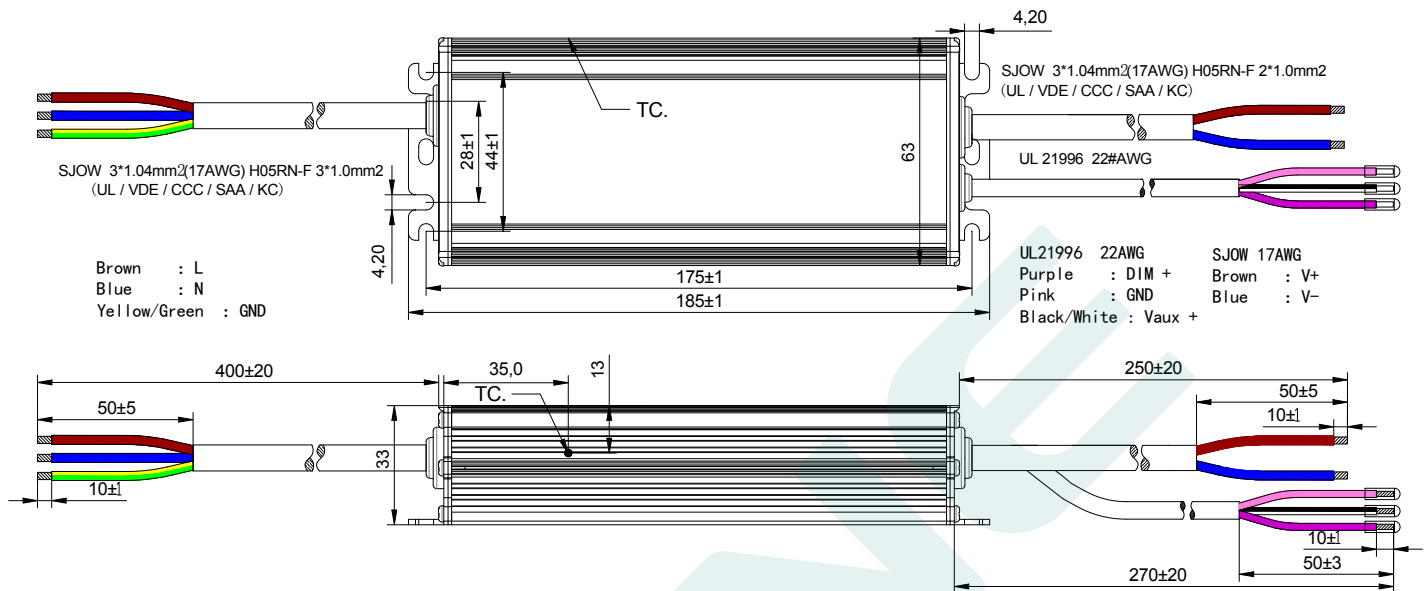
1. It is recommended to design LED beads in series first and then in parallel.
2. There is no excessive heat-dissipating copper foil left on the aluminum substrate.
3. The creepage distance of the aluminum substrate wiring > 5mm.
4. The creepage distance between LED+ and LED- on the aluminum substrate > 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

Dimension (mm) L185*W63*H33

DL-320Z-260X-PXS

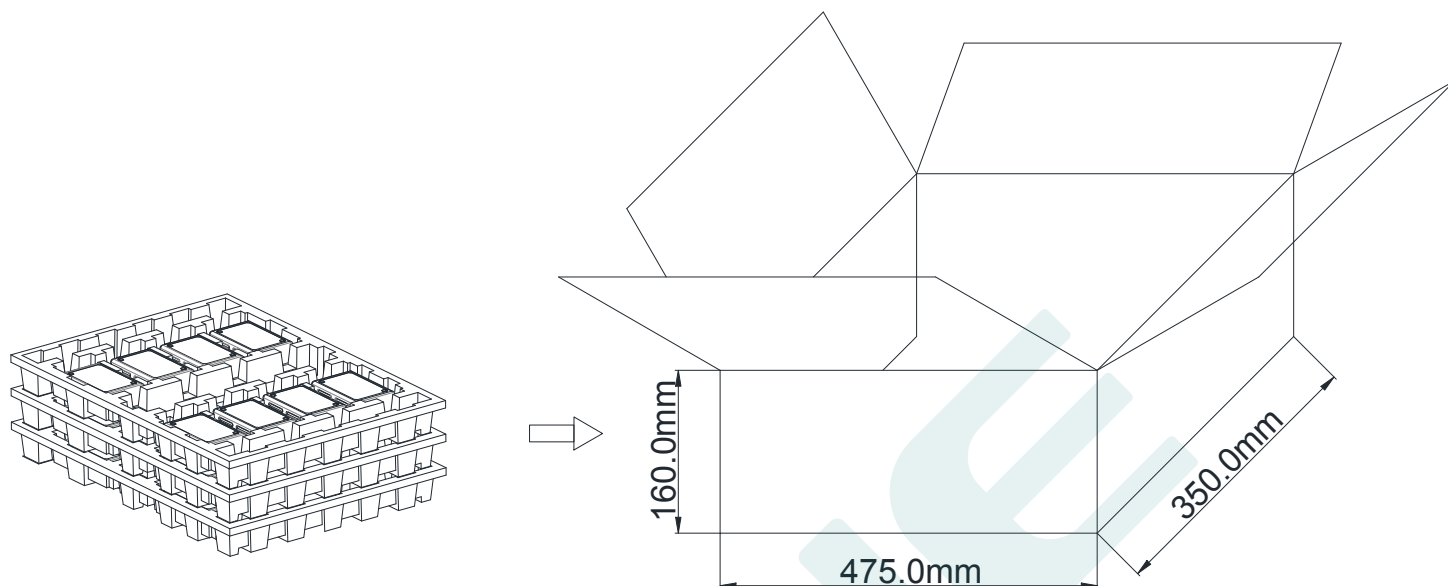


Weight

Weight 735 g

Packaging

BOX (mm) L475*W350*H160



Note : One Carton 3 layers and 8 pcs each layer, total 24 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.

Revise & Version

DATE	DESCRIPTION	REV.	CHECK
2024.11.4	Initial version.	V1.0	
2025.1.2	Modify no-load voltage	V1.1	
2025.7.28	Add caution on page 11	V1.2	

MANUFACTRUER		
EDIT	CHECK	APPROVE