

RXG SERIES LED DRIVERS

DL-600W-RXG_V1.0

Guangdong DONE Electronic Technology Co., Ltd

Features

- Class I structure
- Input voltage: 100-277Vac ~ 50/60Hz
- Maximum Efficiency :95%
- Constant power drive and constant voltage output control mode
- Metal housing structure, protection grade: IP67
- Lightning protection level: differential mode 4KV, common mode 6KV
- All-round protection: output temperature, output over-voltage, output over-current, short circuit protection
- stand-by power consumption: ≤6W
- functional characteristics: Output voltage potentiometer can be adjusted
 - DALI-2 communication protocol(Optional D version)
 - 3-in-1 dimming function(Optional S version)
- 5 years warranty



Product introduction

DONE DL-600W-RXG is a series of constant voltage products with output power of 600W. 600W-RXG operates from 90-305Vac, and offers 24、36、48Vdc with different voltage. provide DALI-2 communication protocol(Optional D version) and 3-in-1 dimming function(Optional S version) The also provide perfect OTP、 OVP、 OLP、 OCP ,and the product is designed with IP67 protection. The aluminum housing greatly improves the heat dissipation efficiency of the product and increases the reliability of outdoor applications. Provide reliable power supply solutions for outdoor landscape lighting, architectural lighting, and advertising signage lighting.

Model list

Model NO.	Input voltage	Output power	Output voltage	The default current	Eff. (Typ.)	T.H.D	PF
DL-600W-V24-RXG	100-277Vac 50/60Hz	600W	24Vdc	0-25A	≥94%	< 10%	0.97
DL-600W-V36-RXG	100-277Vac 50/60Hz	600W	36Vdc	0-16.67A	≥94%	< 10%	0.97
DL-600W-V48-RXG	100-277Vac 50/60Hz	600W	48Vdc	0-12.5A	≥94%	< 10%	0.97

Optional:D version(for example DL-600W-V24D-RXG)

S version(for example DL-600W-V24S-RXG)

Note:

1. Test conditions of the above parameters: Ta=25°C, 230Vac input, full load operation for 30 minutes;
2. Including setting error, linear adjustment rate and load adjustment rate;
3. Power supply is used as a component with terminal equipment. EMC is affected by the whole set of devices. Terminal equipment manufacturers need to re-confirm the EMC for the whole set of devices.

Input characteristics

Parameter	Min	Typ.	Max	Note
Rated input voltage	100Vac 140Vdc	230Vac	277Vac 400Vdc	If the input voltage is lower than 108VAC that the output power should be derated to 80% load
Input voltage range	90Vac	-	305Vac	N/A
Rated frequency	47Hz	50/60Hz	63Hz	N/A
Power factor	-	0.97	-	100% load, 230Vac input
Power factor	-	0.90	-	75% load, 230Vac input
T.H.D.	-	-	10%	100% load, 230Vac input
T.H.D.	-	-	20%	75% load, 230Vac input
Input current	-	-	7A	@100Vac full load
Inrush current	-	-	130A	230Vac, cold start (25°C)
16A Circuit breaker The number of power supplies of the same model can be configured	1pcs (Type B circuit breaker) 2pcs (Type C circuit breaker) for 230Vac input			

Output characteristics

Parameter	Min	Typ.	Max	Note
Output current range DL-600W-V24-RXG DL-600W-V36-RXG DL-600W-V48-RXG	0	-	25A 16.67A 12.5A	N/A
Output voltage range DL-600W-V24-RXG DL-600W-V36-RXG DL-600W-V48-RXG	-	24V 36V 48V	-	N/A
Output voltage regulation range DL-600W-V24-RXG DL-600W-V36-RXG DL-600W-V48-RXG	22V 33V 44V	-	26V 39V 52V	External adjustable resistor to fine tune the section output voltage
Output voltage range DL-600W-V24-RXG DL-600W-V36-RXG DL-600W-V48-RXG	-	24V 36V 48V	-	N/A
Rated power(108-277Vac)	-	600W	-	If the input voltage is lower than108VAC that the output power should be derated to 80% load
No-load voltage DL-600W-V24-RXG DL-600W-V36-RXG DL-600W-V48-RXG	- - -	- - -	24.5V 36.7V 48.9V	N/A
Efficiency@100Vac DL-600W-V24-RXG DL-600W-V36-RXG DL-600W-V48-RXG	90% 90% 90%	91% 91% 91%	92% 92% 92%	80% load @100Vac
Efficiency@230Vac DL-600W-V24-RXG DL-600W-V36-RXG DL-600W-V48-RXG	93% 93% 93%	94% 94% 94%	95% 95% 95%	full load @230Vac

Output characteristics

Parameter	Min	Typ.	Max	Note
Output voltage Ripple	-	<3%	-	100% load
Accuracy of output voltage	-2%	-	+2%	100% load
Line regulation	-2%	-	+2%	50-100% load@230Vac
Load regulation	-2%	-	+2%	50-100% load@230Vac
Starting time	-	-	500 ms	Full load@230Vac

Protection

Function	Function instructions
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 off.
Output over-voltage protection	output voltage > working voltage 1.08-1.2 times turn-off
Output over-current protection	Output current >1.1-1.5 times turn-off

Safety and EMC

Safety categories	Standard
Safety	EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、EN 62384、EN 62493、GB19510.14
EMC	EN 55015、EN 61000-3-2 、EN 61000-3-3、EN 61547、GB/T 17743、GB 17625.1
DALI-2 protocol standard	IEC62386-101/102/207 (D version)
Surge protection	Differential mode L-N ±4KV (2 ohm) ,common mode L, N-PE± 6 KV (12 ohm); Refer to IEC61000-4-5 2014
High-pot test	I/P-O/P:3.75KVac 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:100MΩ / 500VDC; I/P-O/P:100MΩ / 500VDC / 25℃ / 70% RH
Leakage current	<0.75mA@277Vac

Environmental

Environmental categories	Parameter
Working temperature	-40 ~ +55℃@108-277Vac, (refer to "Life Curve ")
Working humidity	20 ~ 95% RH, non condensing
Storage temperature、 humidity	-40 ~ +80℃, 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	70,000 hours @Tcase≤75℃,230Vac, 100% Load, Please refer to "Tcase VS Lifetime" section

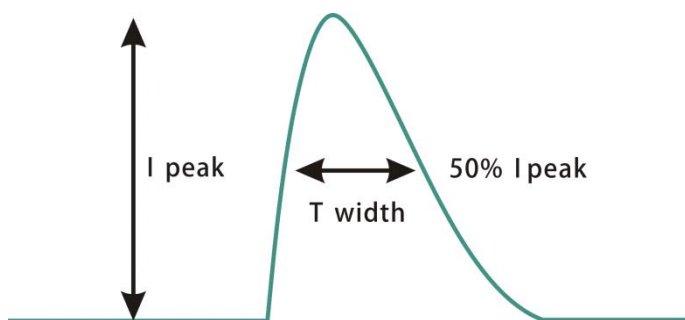
Dimming characteristic

Dimming function		Min	Typ.	Max	Instructions
1-10V Dimming (Optional) S version	Safe applied voltage range	1V	-	12V	When the external voltage is $\geq 12V$, the dimming will fail
	Dimming output range	10%	-	100%	-
	Rated dimming voltage range	1V	-	12V	-
PWM Dimming (Optional) S version	PWM high level	9.5V	-	10.5V	-
	PWM low level	0V	-	0.3V	-
	PWM frequency band	300Hz	-	2000Hz	-
	PWM duty cycle	10%	-	99%	Output full power at 99% duty cycle
Resistor Dimming (Optional) S version	External resistance value	10K Ω	-	100K Ω	-
	Dimming output range	10%	-	100%	-

Note:

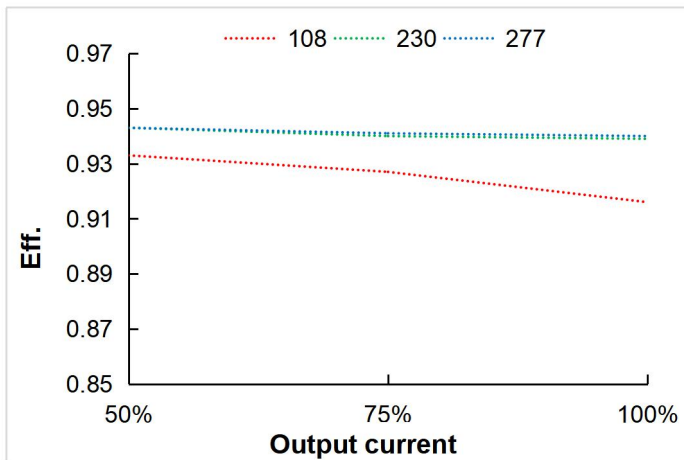
1. Output current of dimming port: 108 μ A (typical value);
2. The maximum operation voltage for the dimming port is 12V. Wrong voltage beyond the range or a reverse connection may lead to a critical failure of the driver;
3. Minimum dimming ratio column time : Extinguishable lamp;

Inrush current

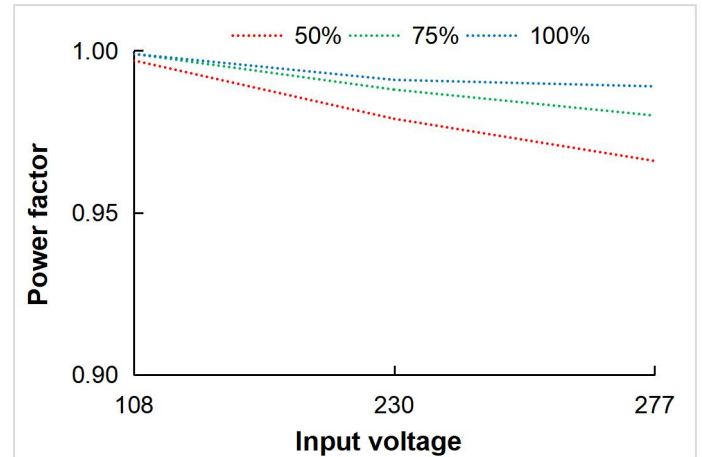


Input voltage	Peak current	T(@50% Peak current)
108Vac	88A	544us
230Vac	117A	568us
277Vac	140A	668us

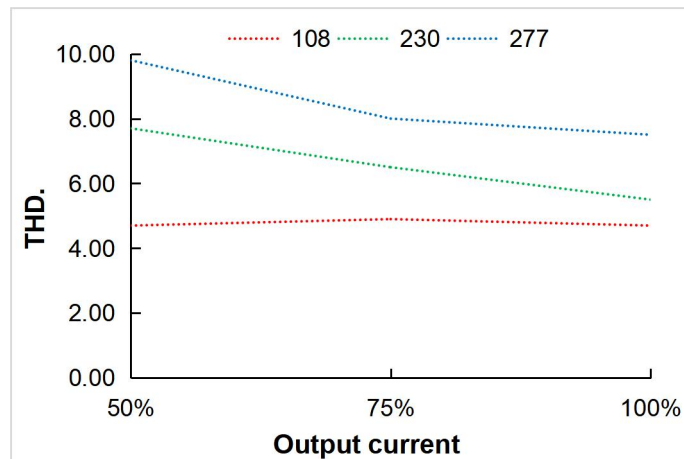
Parametric curves



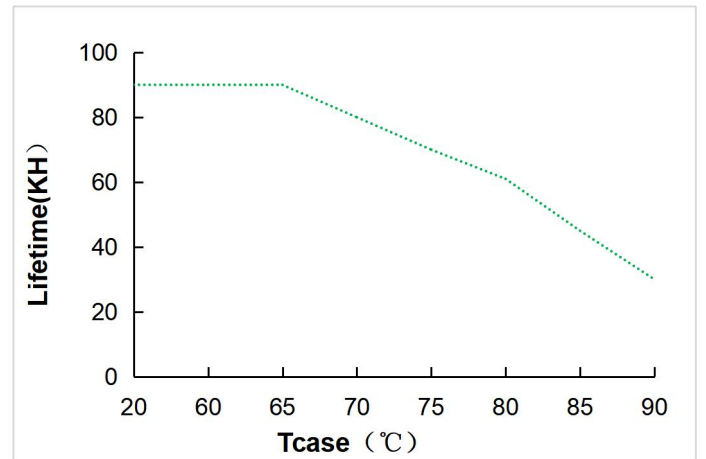
Eff. VS Output current



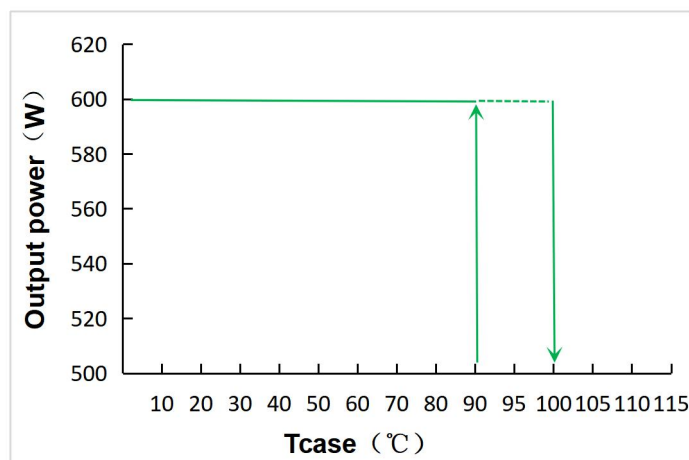
Power factor VS Input voltage



T.H.D. VS Output current

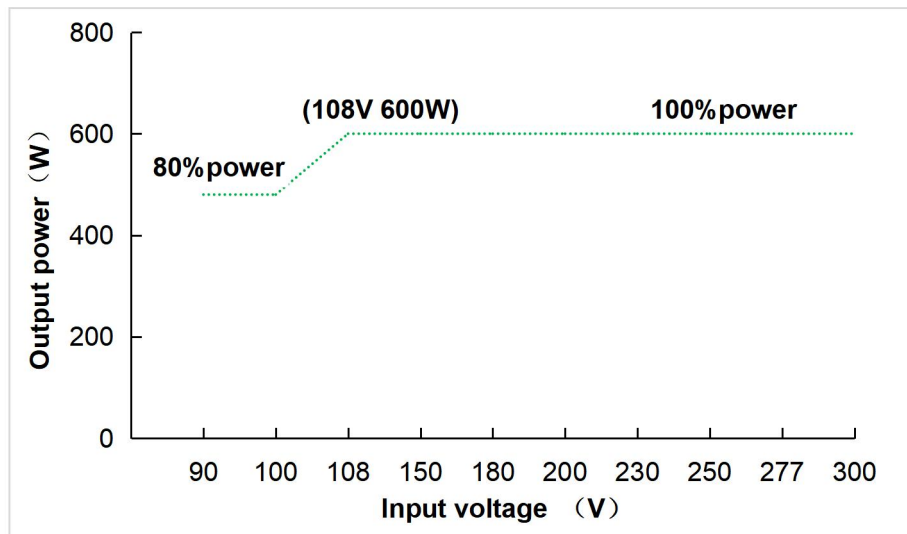


Lifetime VS Tcase



Output power VS Tcase

Parametric curves



Output power VS Input voltage

Note: If the input voltage is lower than 108Vac, the output power should be derated to 80% of the load.

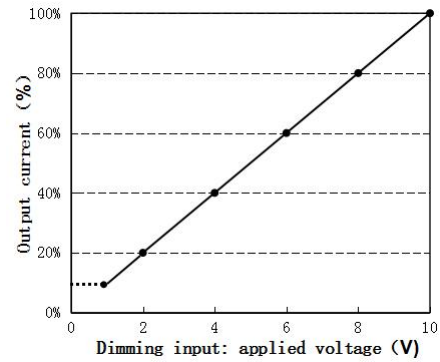
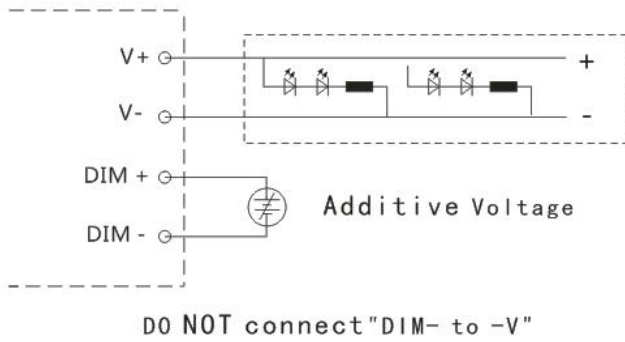
Dimming operation

※ Three-in-one dimming function (S version only)

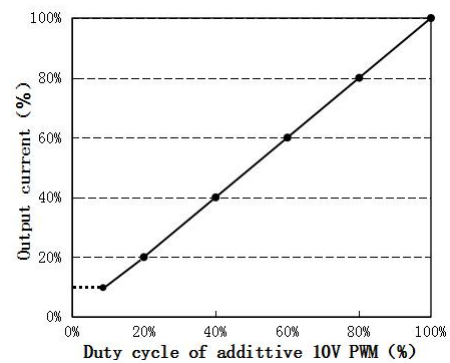
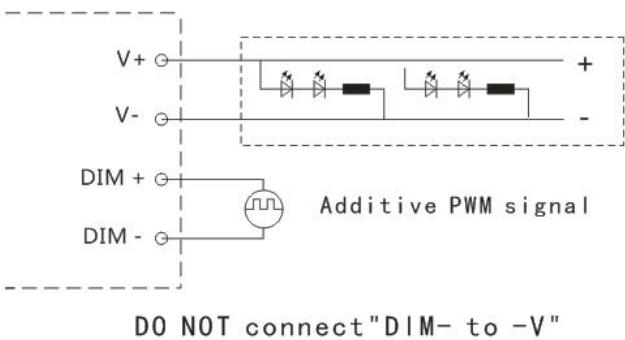
A. connect a resistor 10-100K or 1-10V DC voltage or 10V PWM signal between DIM+ and DIM- to adjust the output current.

B. output current of dimming port: 108uA (typical value).

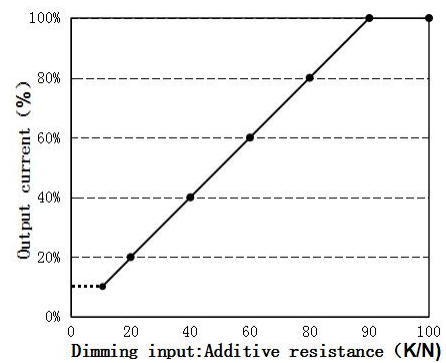
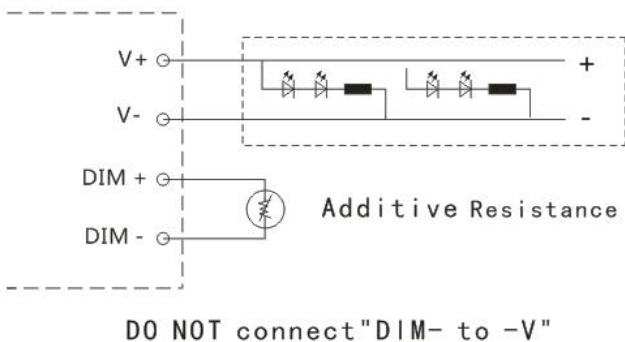
◎ With an applied voltage of 1-10V:



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



◎ With an additional 10-100K resistor:



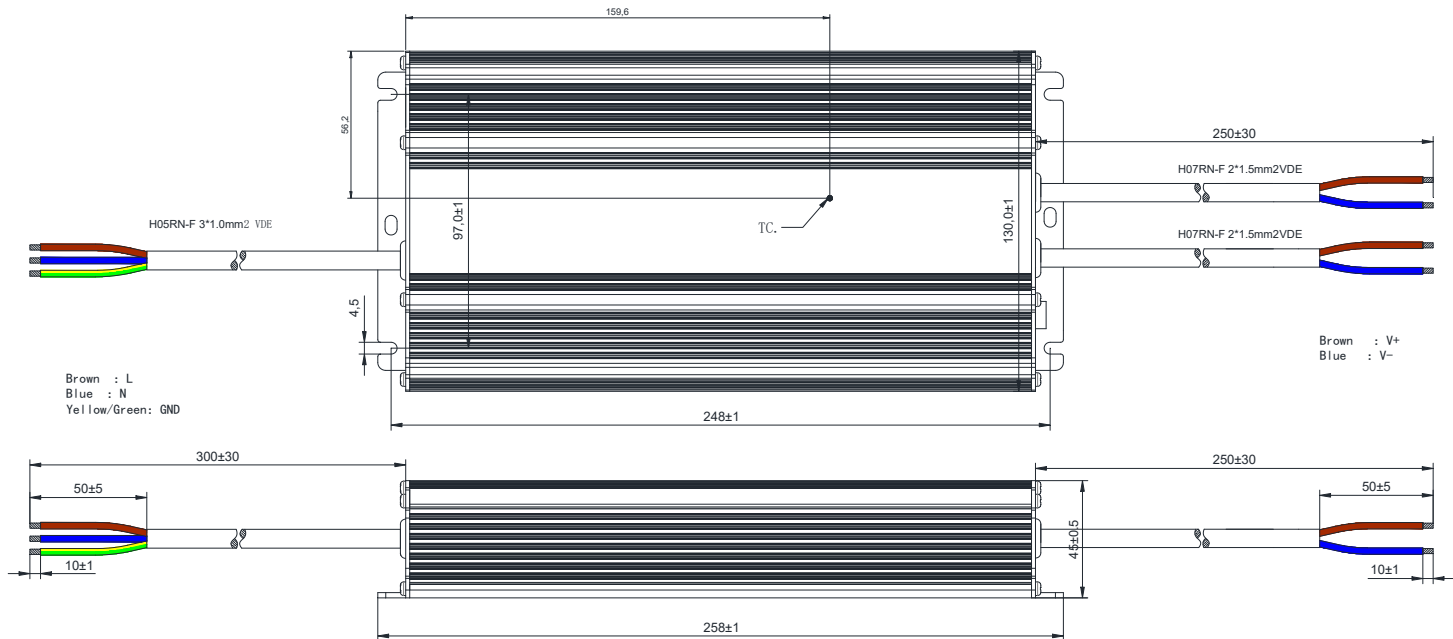
Mechanical specification

Size (mm)

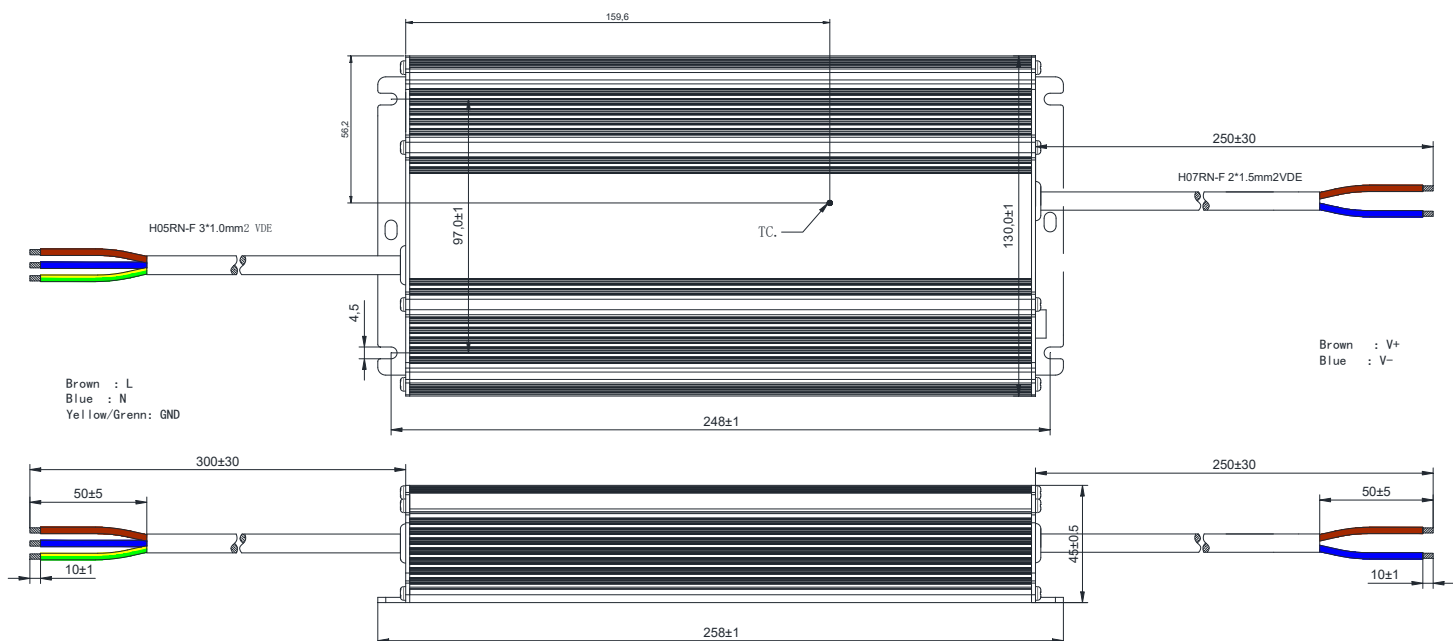
L258mm*W130mm*H45mm

2.66KG

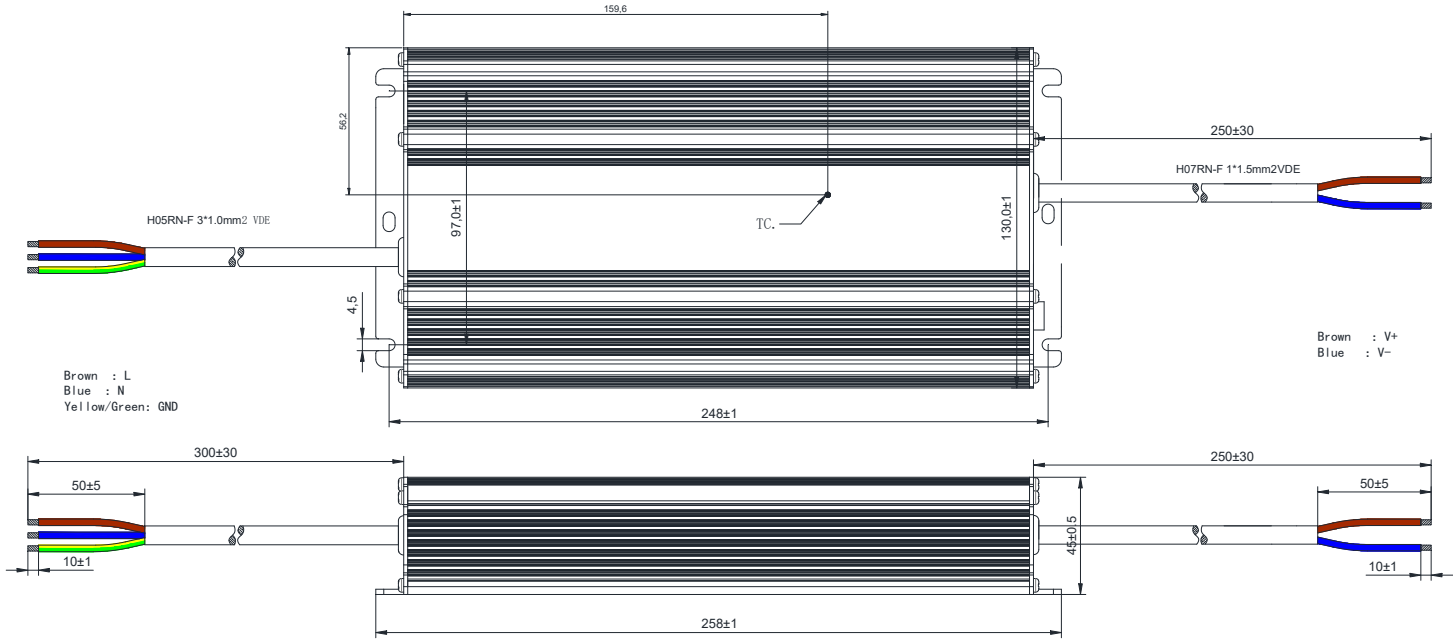
DL-600W-V24-RXG



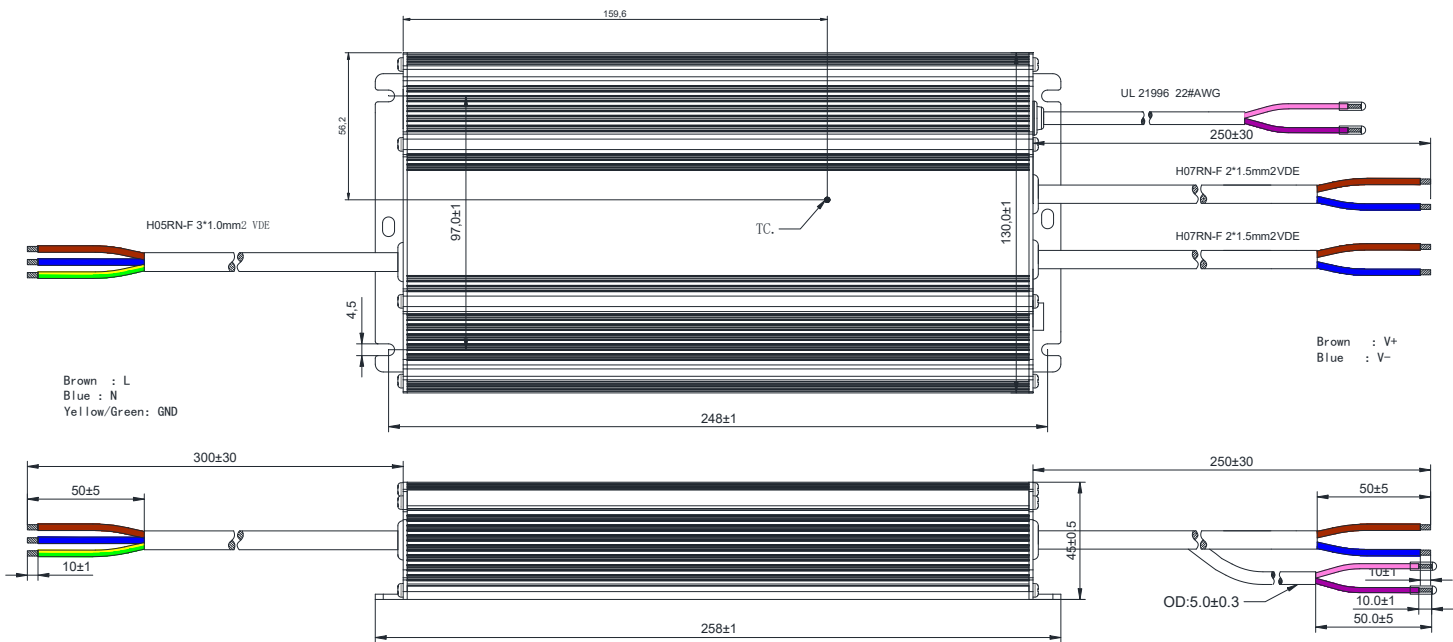
DL-600W-V36-RXG



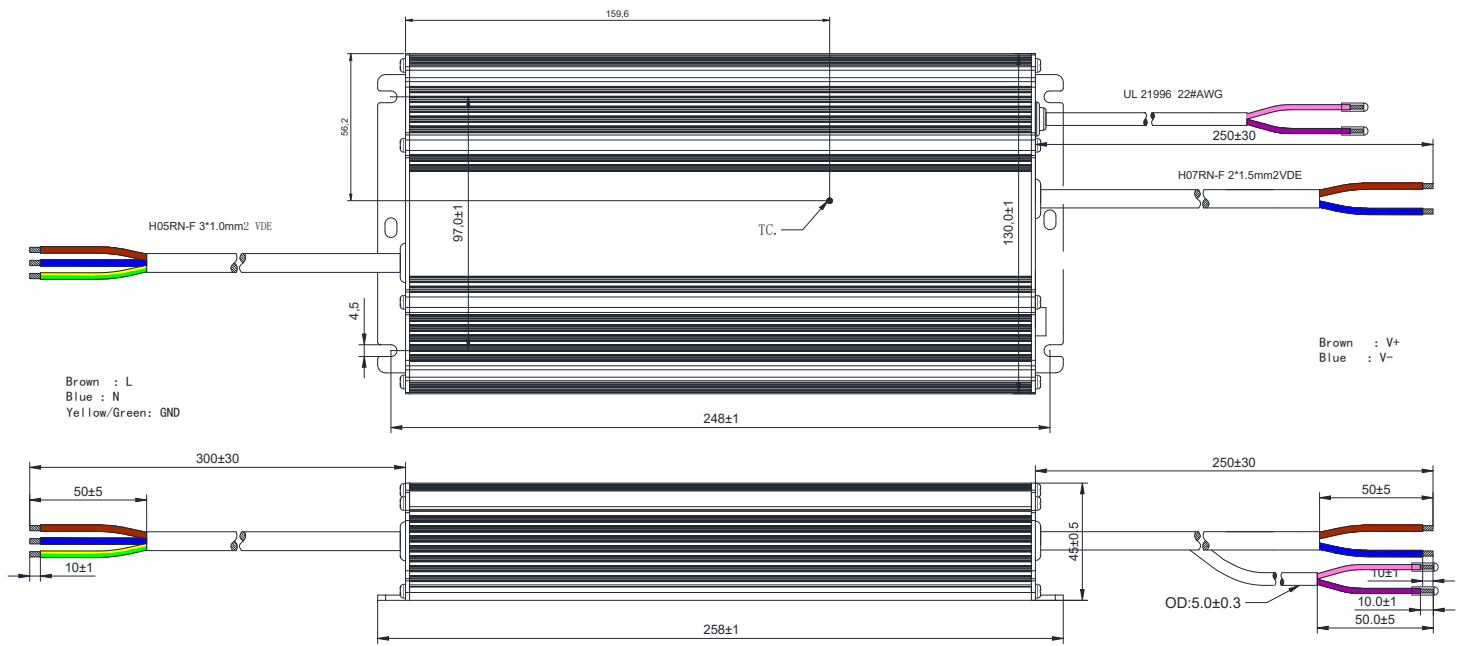
DL-600W-V48-RXG



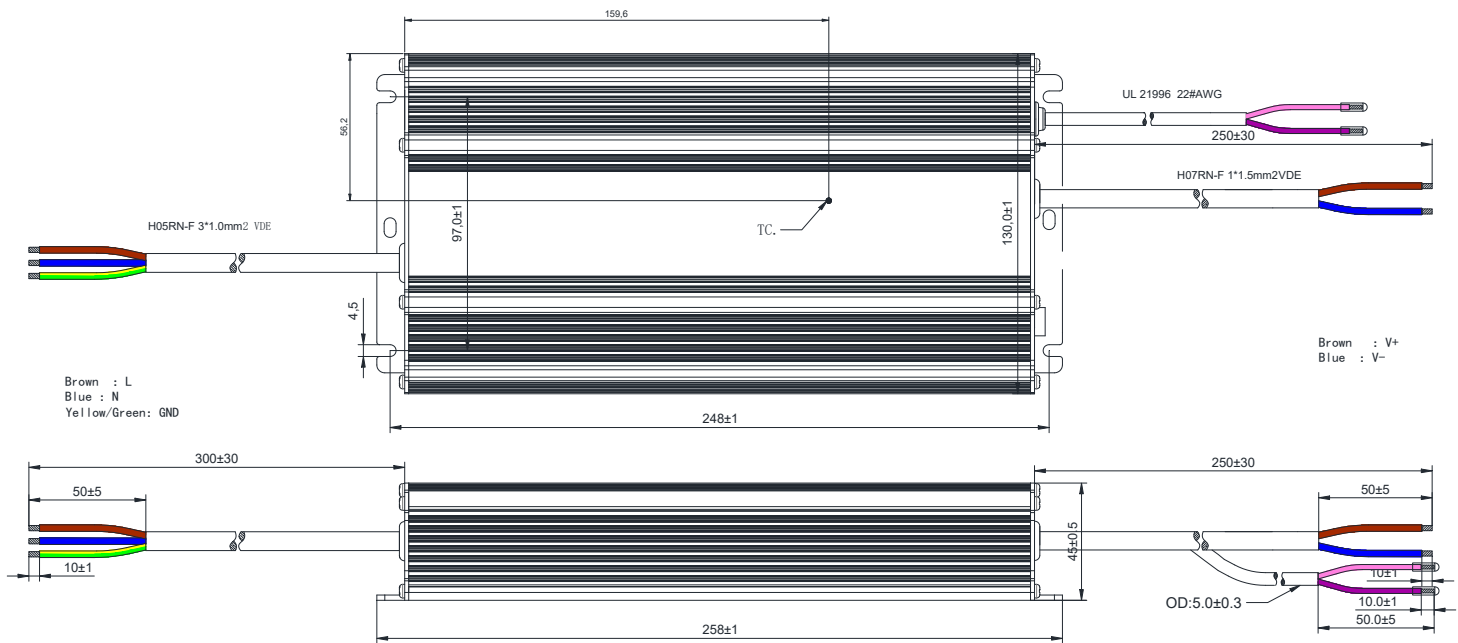
DL-600W-V24S/D-RXG



DL-600W-V36S/D-RXG

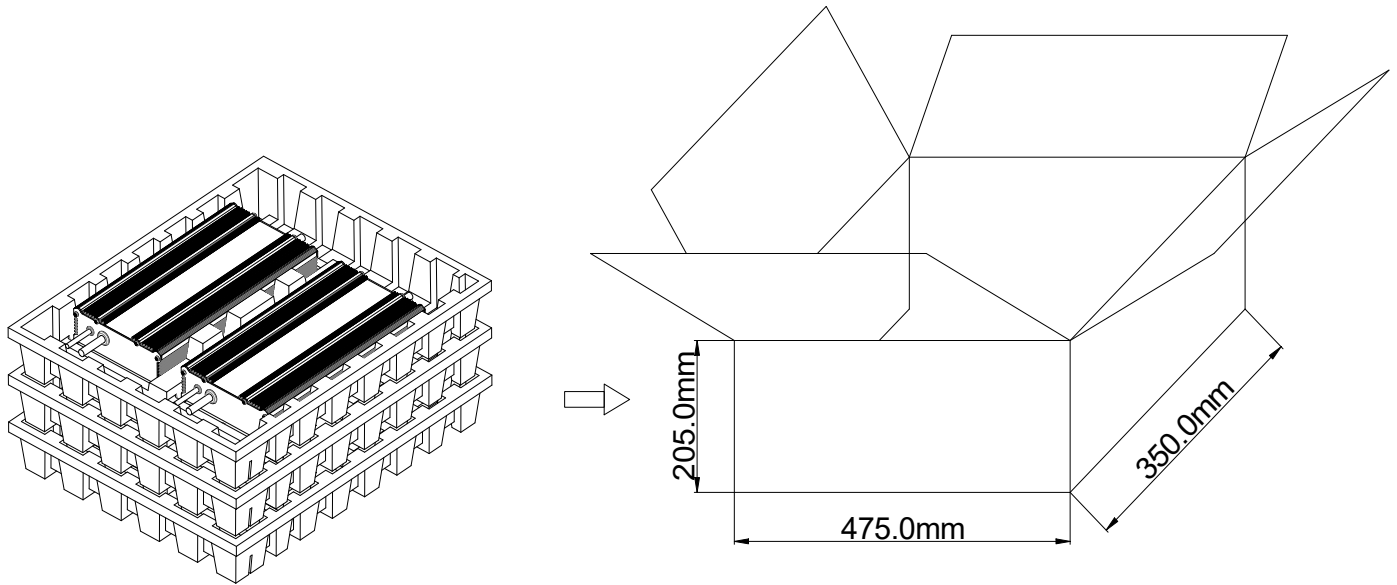


DL-600W-V48S/D-RXG



Packaging

Packaging (mm) L475*W350*H205



Note: One Carton 3 layers and 2pcs each layer, total 6pcs/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
2024.08.15	Initial version.	V1.0	

MANUFACTURER

EDIT

CHECK

APPROVE