

# RXG SERIES LED DRIVERS

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## DL-320W-RXG V1.0

Guangdong DONE Electronic Technology Co., Ltd

## Features

- Class I structure
- Input voltage: 100-277Vac ~ 50/60Hz
- Efficiency :93%(Typ.)
- Constant voltage output control mode .
- Class I 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: ≤3W
- 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-320W-RXG is a series of constant voltage products with output power of 320W. 320W-RXG operates from 100-277Vac, and offers 12、24、36、48Vdc with different mode. The also provide perfect OTP、OVP、OLP、SCP ,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-320W-V12-RXG	100-277Vac 50/60Hz	320W	12Vdc	0-26.67 A	≥91%	<10%	≥0.97
DL-320W-V24-RXG	100-277Vac 50/60Hz	320W	24Vdc	0-13.34 A	≥92%	<10%	≥0.97
DL-320W-V36-RXG	100-277Vac 50/60Hz	320W	36Vdc	0-8.89A	≥92%	<10%	≥0.97
DL-320W-V48-RXG	100-277Vac 50/60Hz	320W	48Vdc	0-6.67A	≥92%	<10%	≥0.97

Optional:D version(for example DL-320W-V24D-RXG)

S version(for example DL-320W-V24S-RXG)

### Note:

1. Test conditions of the above parameters: Ta=25℃, 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	N/A
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	-	0.9	-	75% load, 230Vac input
T.H.D.	/	-	10%	100% load, 230Vac input
T.H.D.	/	-	20%	75% load, 230Vac input
Input current	-	-	3.9A	@108Vac full load
Inrush current	-	-	160A	230Vac, cold start (25°C)
16A Circuit breaker The number of power supplies of the same model can be configured	5pcs (Type B circuit breaker) 10pcs (Type C circuit breaker) for 230Vac input			

## Output characteristics

Parameter	Min	Typ.	Max	Note
Rated current DL-320W-V12-RXG DL-320W-V24-RXG DL-320W-V36-RXG DL-320W-V48-RXG	0	-	26.67A 13.34A 8.89A 6.67A	N/A
Output Voltage range DL-320W-V12-RXG DL-320W-V24-RXG DL-320W-V36-RXG DL-320W-V48-RXG	-	12V 24V 36V 48V	-	N/A
Rated power(108-277Vac)	-	320W	-	the output power is actively derated by 80% when the Input less than 108Vac
Output voltage regulation range DL-320W-V12-RXG DL-320W-V24-RXG DL-320W-V36-RXG DL-320W-V48-RXG	-	-	12.5V 24.5V 36.7V 48.9V	N/A
Efficiency @100Vac DL-320W-V12-RXG DL-320W-V24-RXG DL-320W-V36-RXG DL-320W-V48-RXG	89% 90% 90% 90%	90% 91% 91% 91%	91% 92% 92% 92%	80% Load @230Vac
Efficiency @230Vac DL-320W-V12-RXG DL-320W-V24-RXG DL-320W-V36-RXG DL-320W-V48-RXG	91% 92% 92% 92%	92% 93% 93% 93%	93% 94% 94% 94%	100% 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	-	-	500ms	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
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 $\pm 4\text{KV}$ ( 2 ohm ) ,common mode L, N-PE $\pm 6\text{KV}$ ( 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:0.5KVac O/P-DIM:1.5KVac
Insulation impedance	I/P-PE:100M $\Omega$ / 500VDC; I/P-O/P:100M $\Omega$ / 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 $\leq$ 75℃,230Vac, 100% Load, Please refer to "Tcase VS Lifetime" section

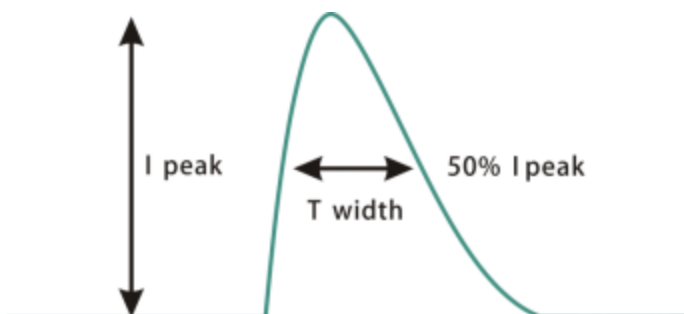
## Dimming characteristics

Dimming function		Min	Typ.	Max	Instructions
0-10V Dimming function (optional) S version	Safe applied voltage range	1V	-	12V	When the external voltage is greater than or equal to 12V, the dimming will be damaged
	Dimming output range	10%	-	100%	-
	Rated dimming voltage range	1V	-	12V	-
PWM Dimming function (optional) S version	PWM High level	9.5V	-	10.5V	-
	PWM Low level	0	-	0.3V	-
	PWM frequency	300Hz	-	2000Hz	-
	PWM duty cycle	10%	-	99%	Full power output at 99% duty cycle
Resistance Dimming function (optional) S version	Resistance of the external resistor	10K $\Omega$	-	100K $\Omega$	-
	Dimming output range	10%	-	100%	-

### Note:

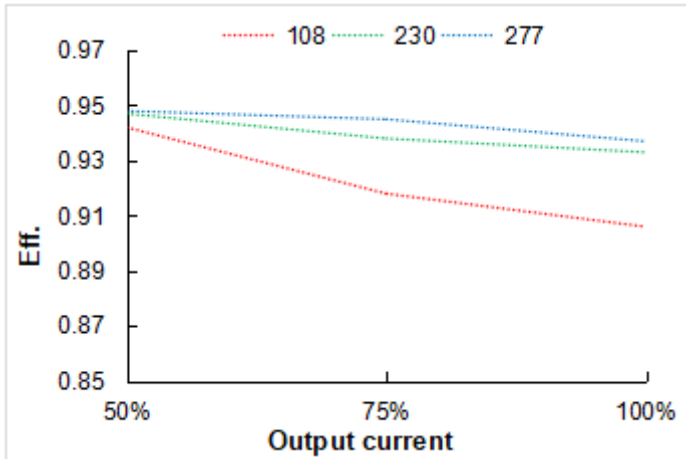
1. Dimming port output current: 108 $\mu$ A(typical value);
2. The dimmer port can withstand a maximum voltage of 12V. If the voltage of the external power supply exceeds 12V or the signal cable is reversed, the power supply may be damaged.
3. Minimum dimming ratio column time; Extinguishable lamp

## Inrush current

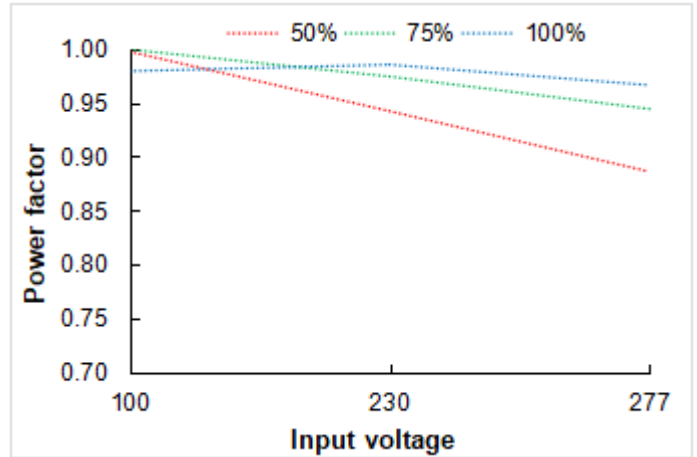


Input voltage	Peak current	T(@50% Peak current)
108Vac	65.33	115 $\mu$ S
230Vac	127	145 $\mu$ S
277Vac	148.2	146.2 $\mu$ S

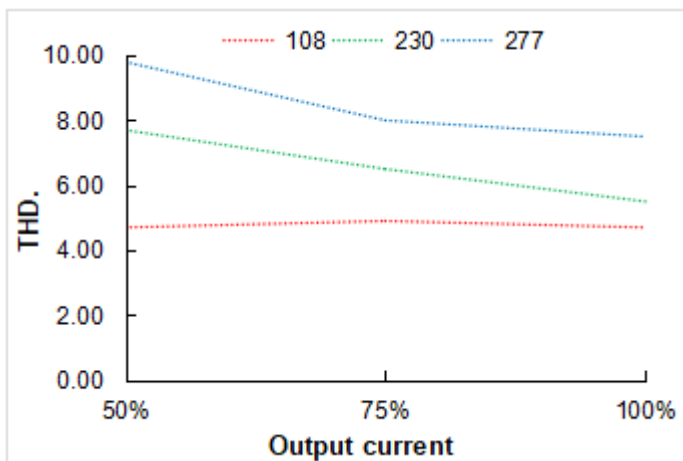
**DL-320W-RXG Parametric curves**



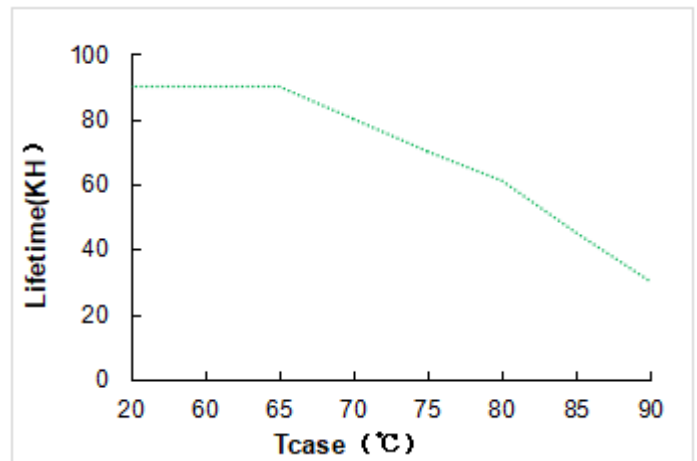
**Eff. VS Output current**



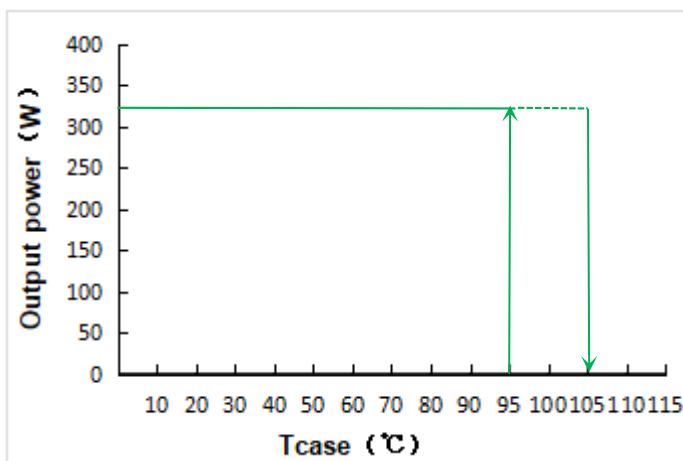
**Power factor VS Input voltage**



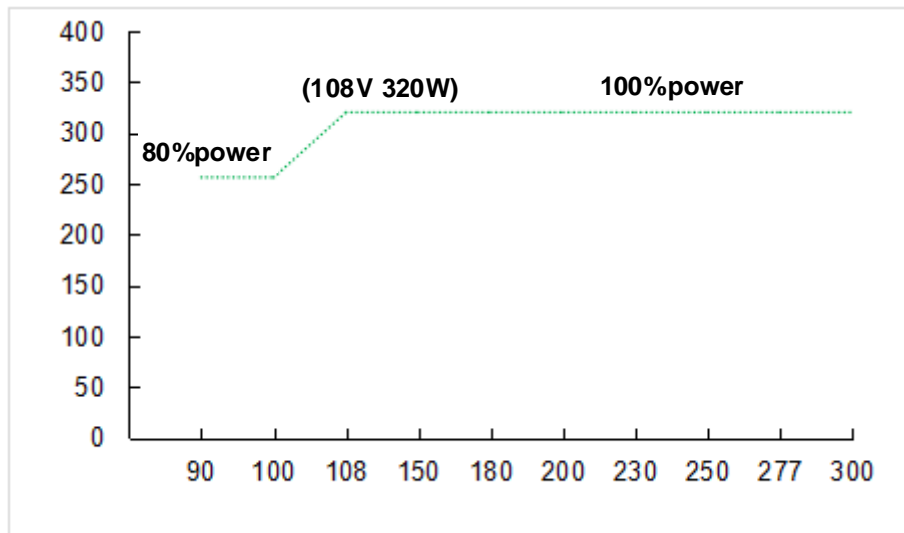
**T.H.D. VS Output current**



**Lifetime VS Tcase**



**Output power VS Tcase**



**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.

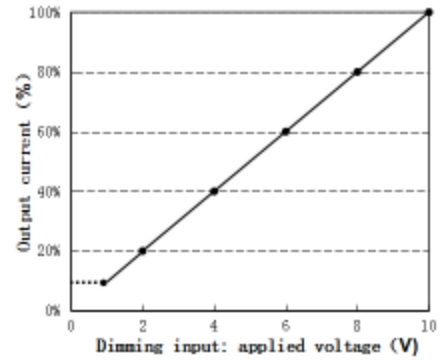
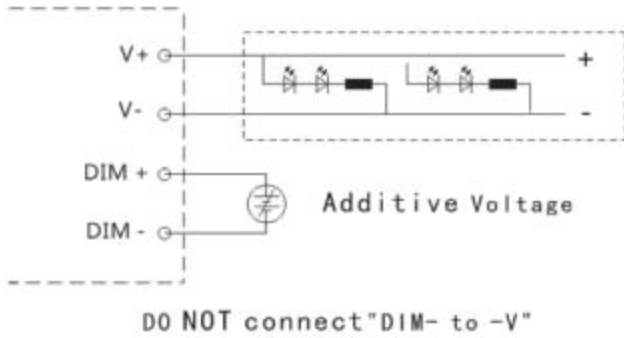
## Dimming operation

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

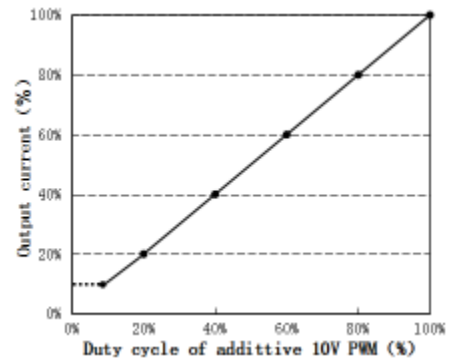
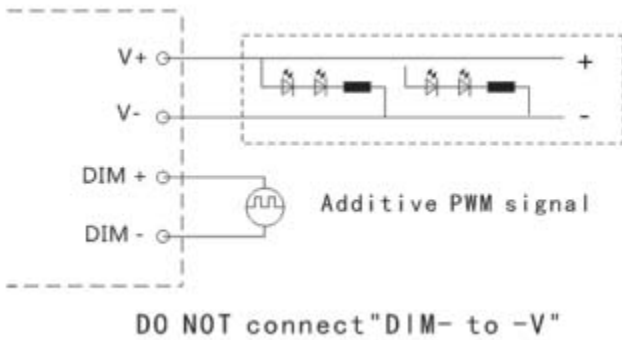
A. connect a resistor 10-100K or 1-10V DC voltage or 10V PWM signal between DIM+ and DIM- to adjust the output current.

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

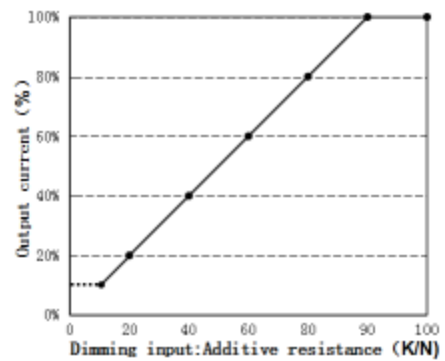
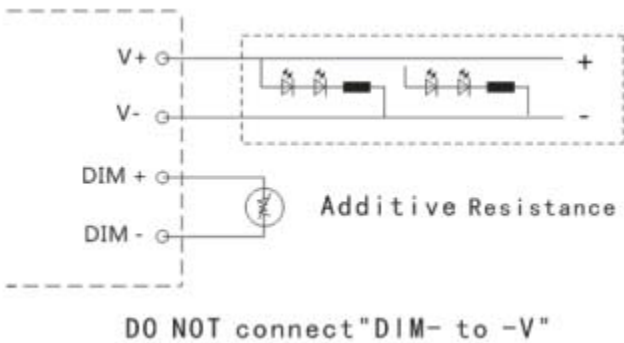
#### ◎ With an applied voltage of 1-10V:



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



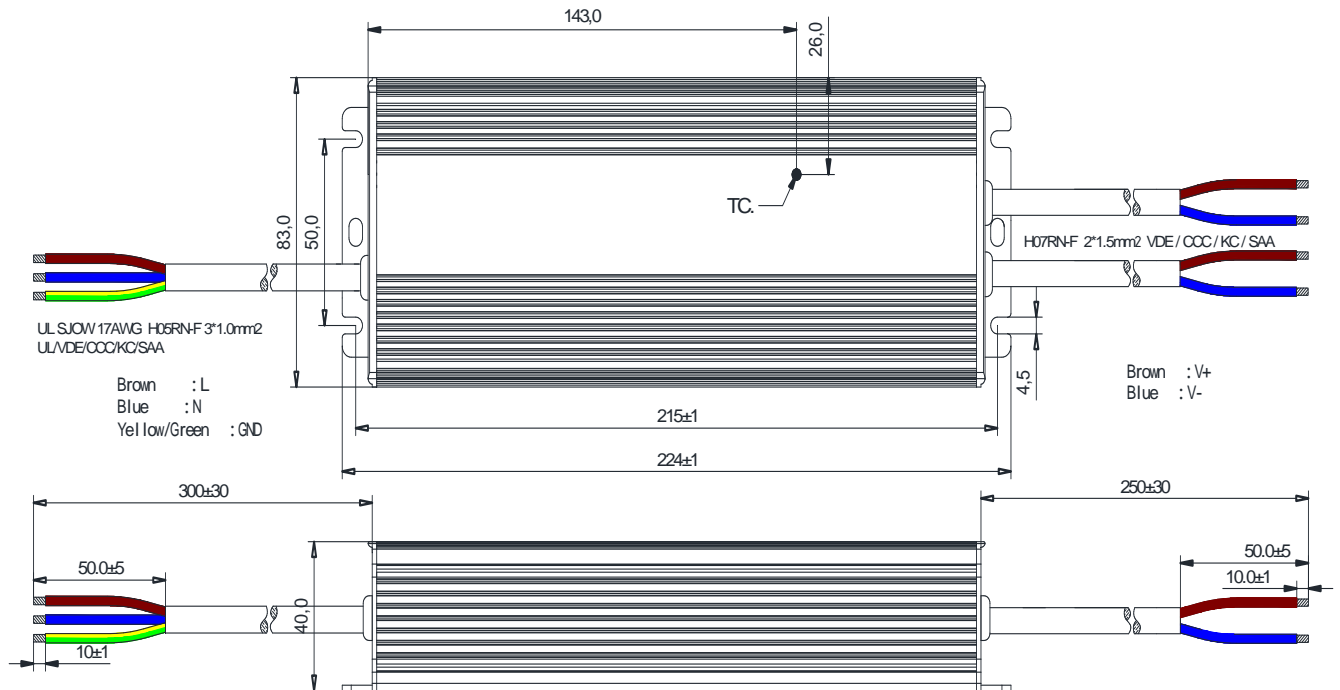
#### ◎ With an additional 10-100K resistor:



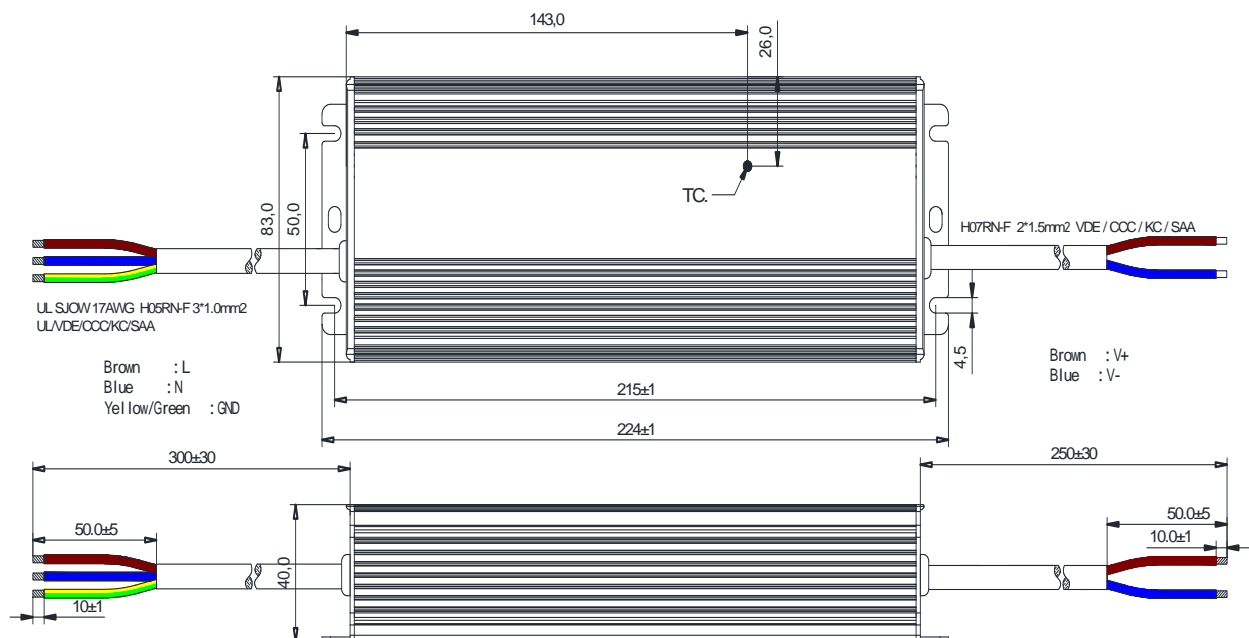
## Mechanical specification

Size (mm)	L224mm*W83mm*H40mm	1.42KG
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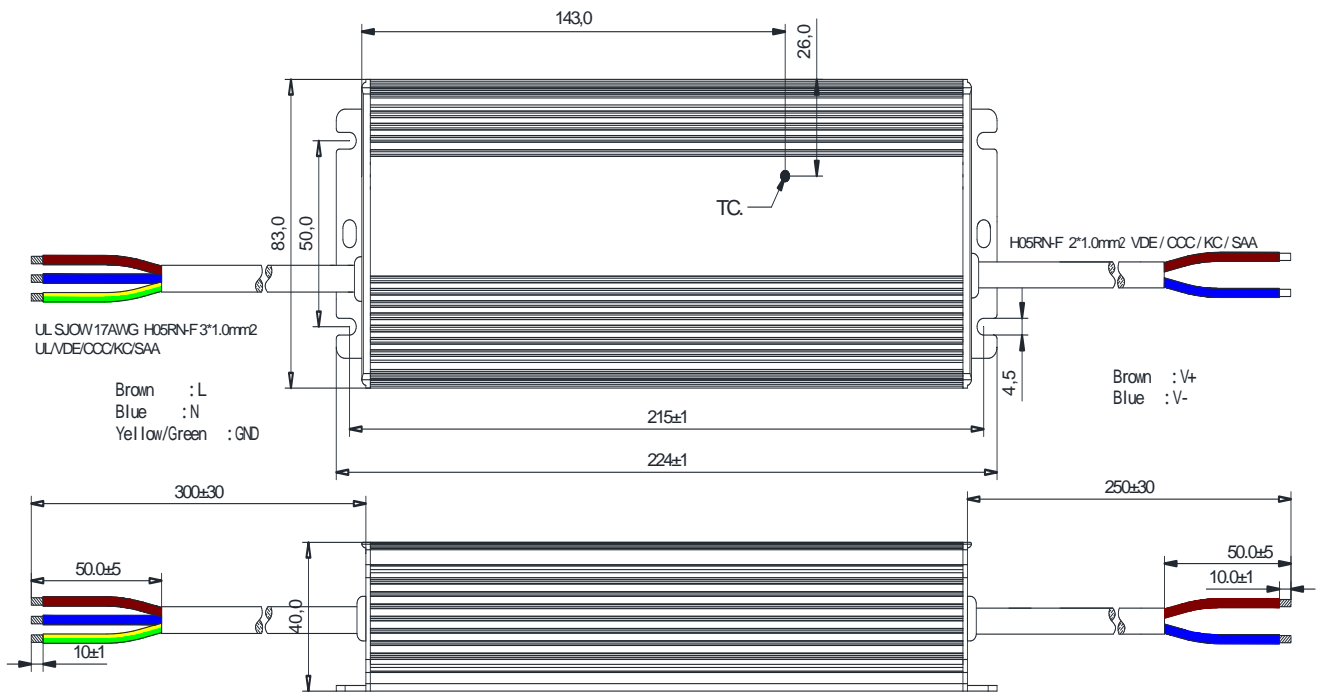
### DL-320W-V12-RXG



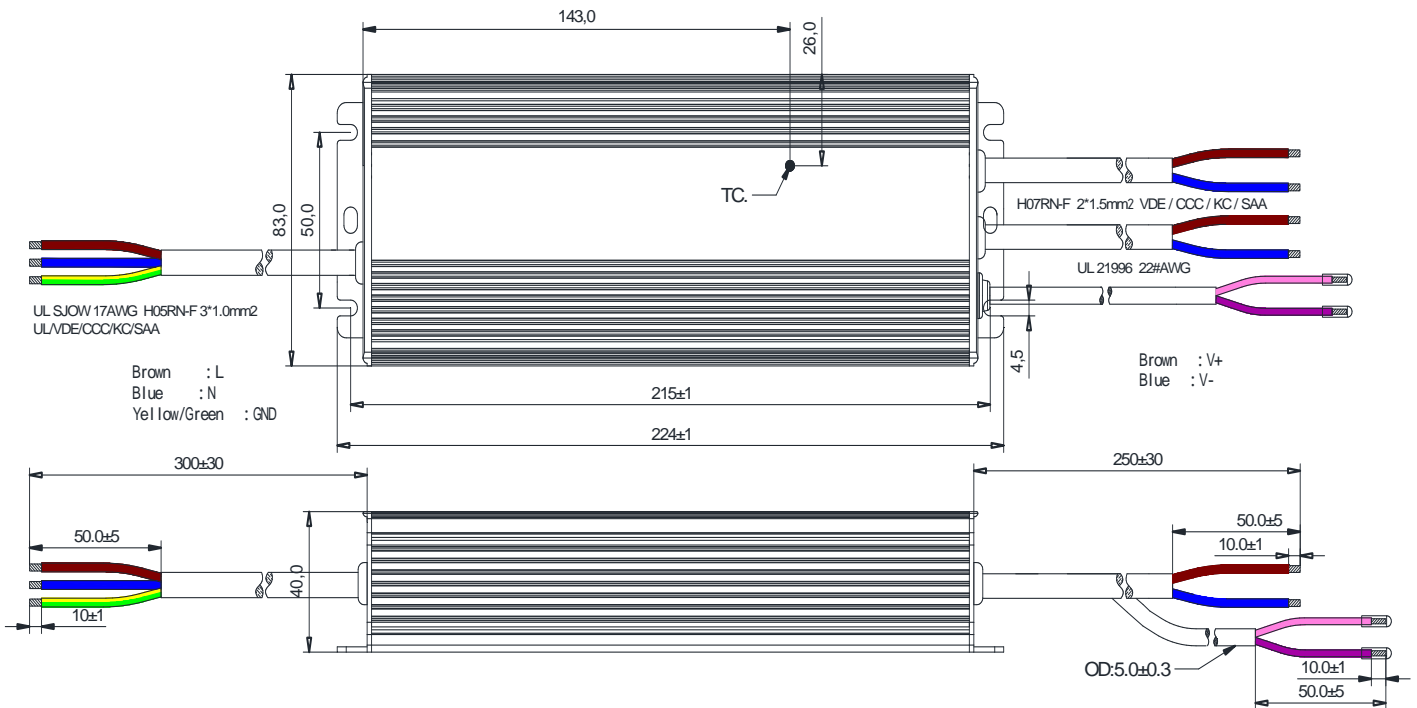
### DL-320W-V24-RXG



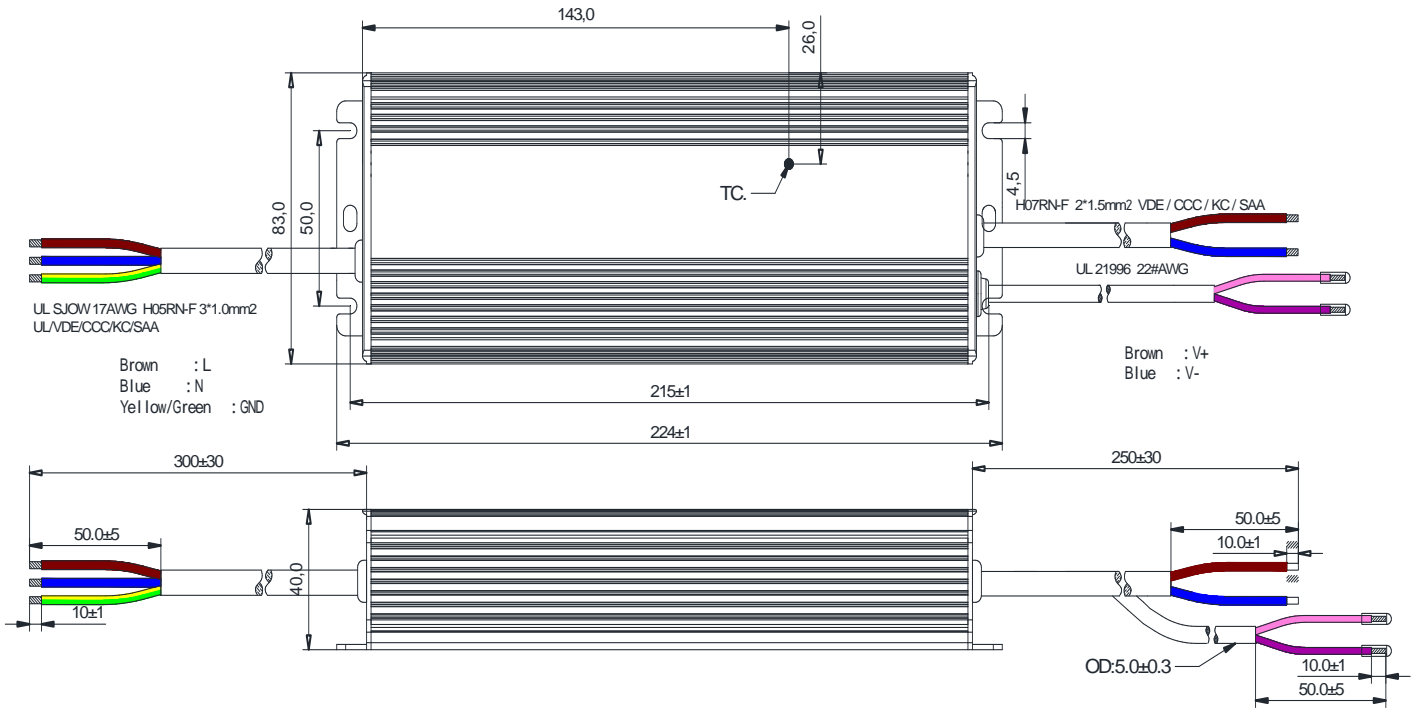
## DL-320W-V36/V48-RXG



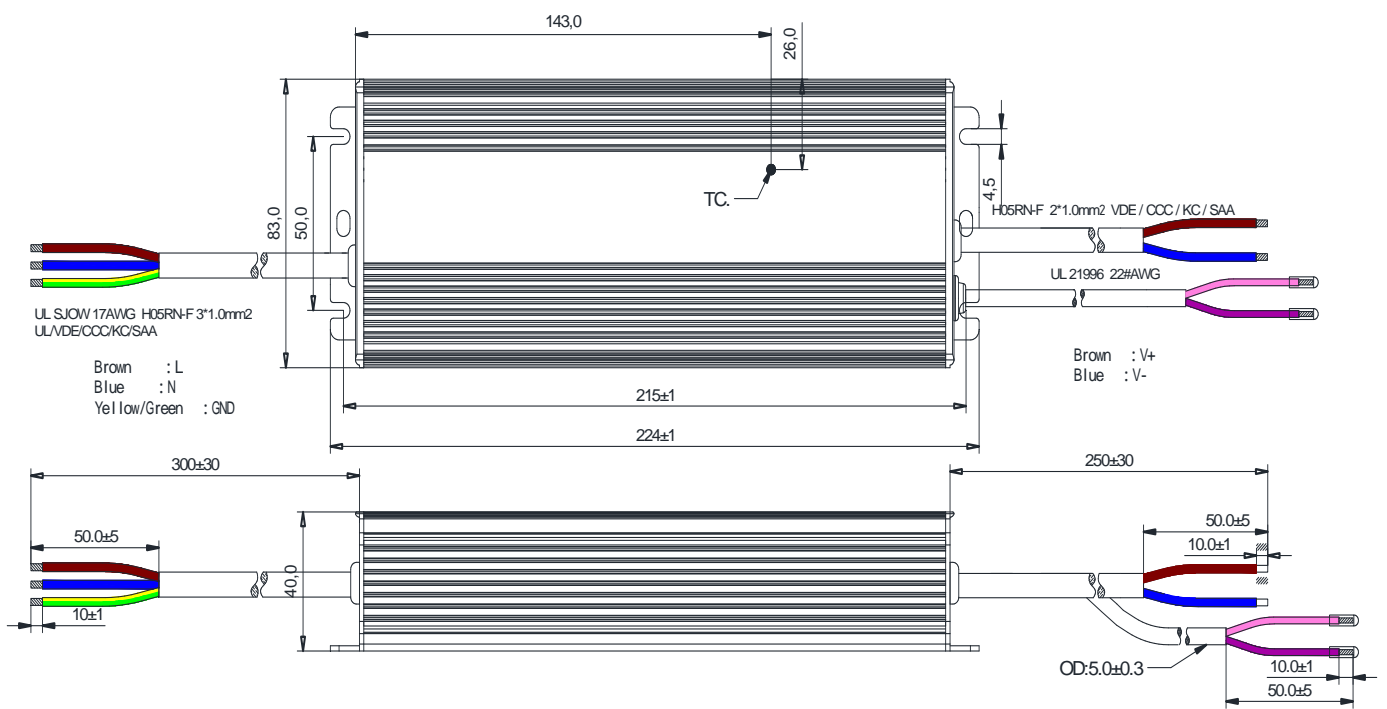
## DL-320W-V12S/D-RXG



**DL-320W-V24S/D-RXG**

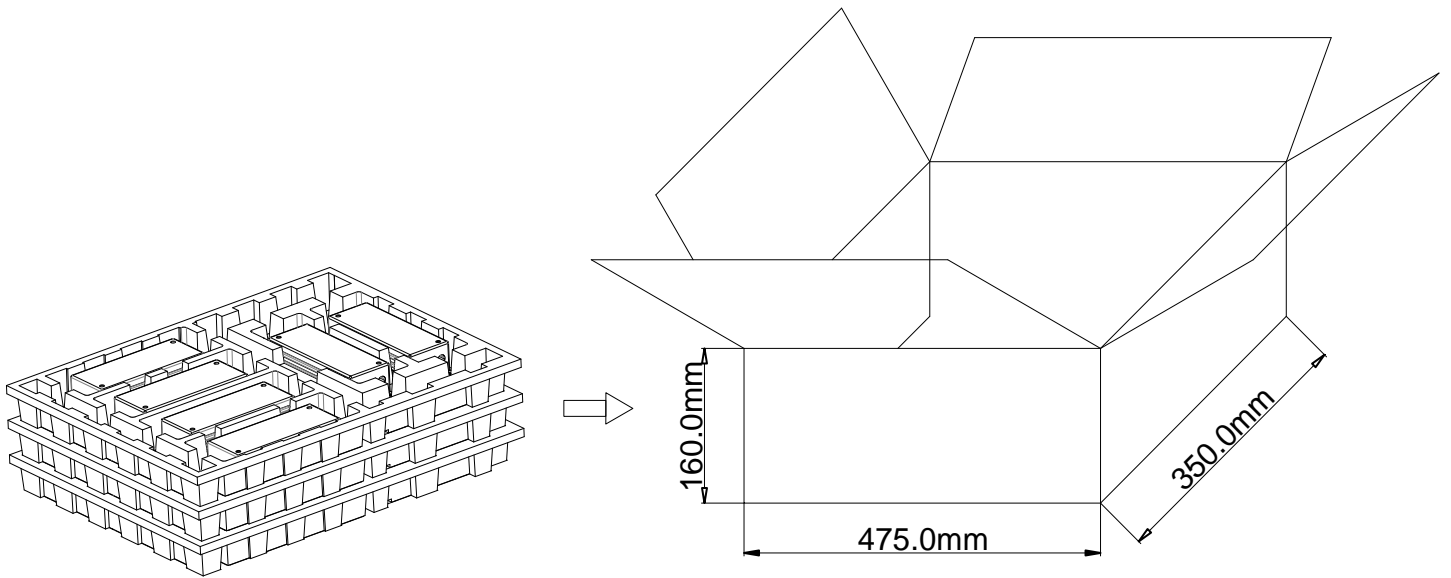


**DL-320W-V36/V48S/D-RXG**



## Packaging

Packaging (mm) L475\*W350\*H160



Note: One Carton 3 layers and 4pcs 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
2024.09.30	Initial version.	V1.0	

**MANUFACTURER**

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