

**DONE**

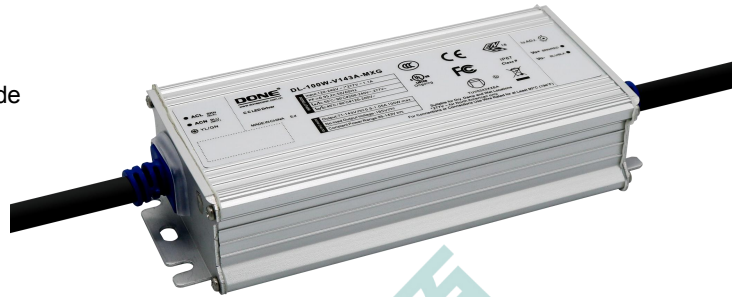
# MXG SERIES LED DRIVERS

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DL-100W-MXG SPEC V1.2

## Features

- Class I structure
- Input voltage: 120-277 V ~ 50/60 Hz
- Efficiency :91%(Typ.)
- Constant power drive and constant current output control mode
- Metal shell structure, protection grade: IP67
- Lightning protection level: differential mode 6kV, common mode 15kV
- Function selection:  
 Output current is adjusted by external potentiometer (A version only)  
 Isolated 3 in 1 dimming (P version only)
- 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-100W-V143A-MXG	120-277V	100W	71-143Vdc	0.7A	≥91%	<10%	≥0.95
DL-100W-V143P-MXG	50/60Hz						
DL-100W-V56A-MXG	120-277V	100W	25-56Vdc	2.4A	≥89.5%	<10%	≥0.95
DL-100W-V56P-MXG	50/60Hz						

### Note :

1. Test conditions of the above parameters: Ta=25℃, 230Vac input, full load operation for 30 minutes;
2. When the input is less than 108Vac,the output power range is 50W±20%.When input 120-277VAC,rated power 100W,  
 Please refer to “THE OUTPUT POWER VS INPUT VOLTAGE” curve chart for details.

## Input characteristics

Parameter	Min	Typ.	Max	Note
Rated input voltage	120Vac	230Vac	277Vac	
Input voltage range	108Vac		305Vac	
Rated frequency	47Hz	50/60Hz	63Hz	
Power factor	-	0.95	-	@230Vac full load
T.H.D.	-	-	10%	@230Vac full load
Input current	-	-	1.1A	@120Vac full load
Inrush current	-	-	70A	230Vac, cold start (25°C)

## Output characteristic

Parameter	Min	Typ.	Max	Note
Rated current				
DL-100W-V56P/A-MXG	1.3A	1.8A	2.8A	
DL-100W-V143P/A-MXG	0.5A	0.7A	1.05A	
Output current range				
DL-100W-V56P/A-MXG	1.3A	-	2.8A	
DL-100W-V143P/A-MXG	0.5A	-	1.05A	
Output voltage range				
DL-100W-V56P/A-MXG	25V	-	56V	
DL-100W-V143P/A-MXG	71V	-	143V	
Rated power(90-120Vac)	-	50W	100W	The derating begins when the input voltage is less than 108Vac
Rated power(120-277Vac)	-	100W	-	
No-load voltage				
DL-100W-V56P/A-MXG	-	-	75V	
DL-100W-V143P/A-MXG	-	-	185V	
Efficiency@120Vac				
DL-100W-V56P/A-MXG	87.5%	88%	-	full load@120Vac
DL-100W-V143P/A-MXG	88.5%	89%	-	

## Output characteristic

Parameter	Min	Typ.	Max	Note
Efficiency@230Vac				
DL-100W-V56P/A-MXG	89.5%	90%	-	full load@230Vac
DL-100W-V143P/A-MXG	90.5%	91%		
Accuracy of output current	-5%	-	+5%	full load constant-power range
Line regulation	-3%	-	+3%	full load
Load regulation	-3%	-	+3%	full load
Starting time	300ms	-	1000ms	Full load@120-277Vac

**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
1-10V Dimming ( Optional )	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	-	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 scope	300Hz	-	2000Hz	-
	PWM duty cycle	10%	-	99%	Output full power at 99% duty cycle
Resistor Dimming ( Optional )	External resistance value	10K $\Omega$	-	100K $\Omega$	-
	Dimming output range	10%	-	100%	-

**Note:**

1. Output current of dimming port: 100uA (typical value);
2. The maximum withstand voltage of the dimming port is 12V. If the external power supply voltage exceeds 12V or the signal line is reversely connected, the power supply will be damaged.
3. When Dimming input is 0V in the constant-power range, the lamp can be dim-to-off.
4. The default dimming setting is a three-in-one positive logic Dimming; timer dimming, 0-10V, 0-3.3V, 0-5V or other voltage dimming and positive or reverse Logic dimming can be completed by the Done-Power programmer with off-line or on-line mode.

## Protection

Function	Function instructions
Input under-voltage protection	When the input voltage is less than 108Vac, the output power gradually decreases.
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 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:

1. Unless otherwise specified, all specifications and parameters shall be measured at the conditions of 230Vac (50Hz), rated load and 25℃ of ambient temperature;
2. Including setting error, line regulation and load regulation.

## Environmental

Environmental categories	Parameter
Working temperature	-40 ~ +55℃@200-277Vac, -40 ~ +45℃ @120-200Vac (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℃)

## Safety and EMC

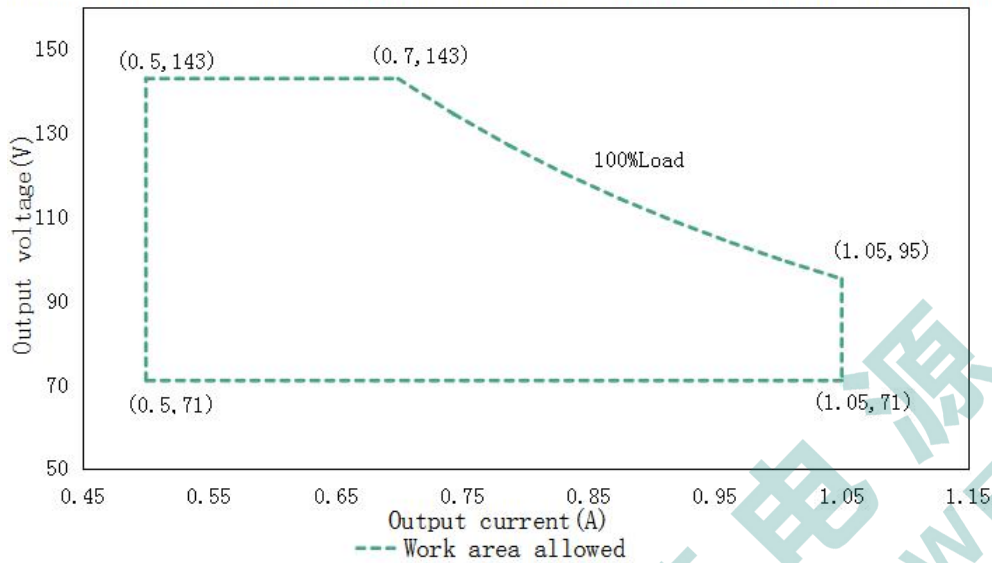
Safety categories	Standard
Safety	GB19510.1、GB19510.14、EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13 UL8750;
EMC	EN 55015、EN 61547、EN 61000-3-2、GB/T 17743、GB17625.1、EN 61000-3-3 FCC Part 15
Surge protection	Differential mode L-N $\pm 6\text{KV}$ (2 ohm) ,common mode L, N-PE $\pm 15\text{KV}$ ( 12 ohm ); Refer to IEC61000-4-5 2014 Criterion B
High-pot test	I/P-O/P:3.75KVac I/P-PE :1.5KVac O/P-PE : 0.5KVac I/P-DIM:3.75KVac O/P-DIM:1.5KVac
Insulation impedance	I/P-PE:100M $\Omega$ / 500VDC; I/P-O/P:100M $\Omega$ / 500VDC / 25 $^{\circ}\text{C}$ / 70% RH
Leakage current	<0.7mA@277Vac

### Note:

- 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.

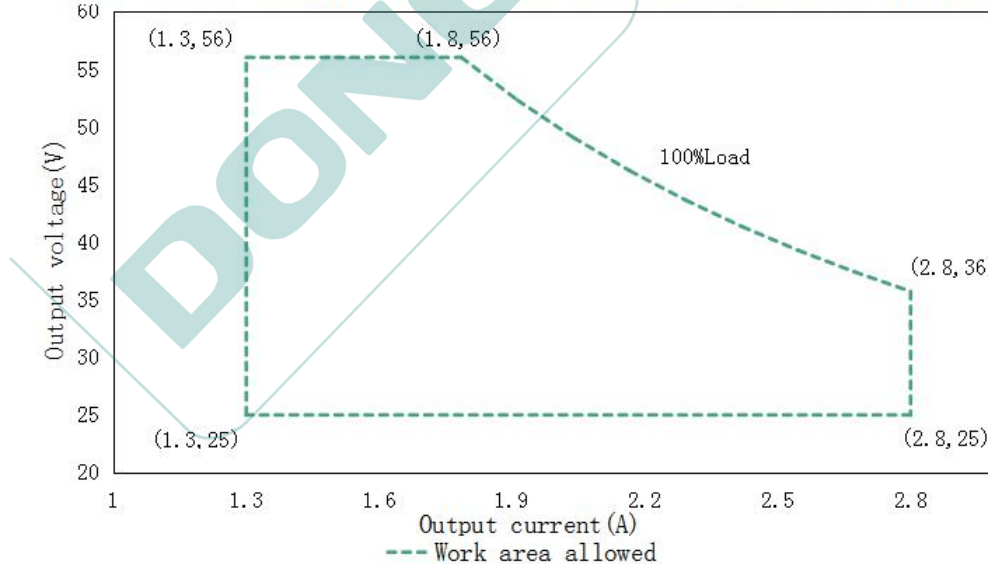
## I-V Working area

Output voltage VS output current of DL-100W-V143A/P-MXG (input: 120-277Vac)



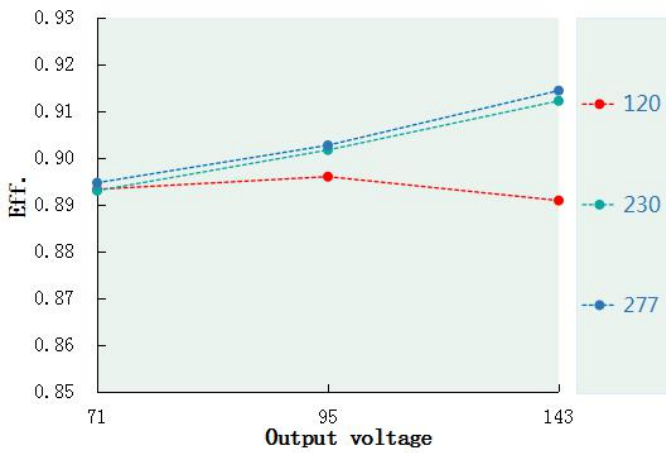
Load	Output								
Load working Voltage	71V	80V	89V	95V	107V	116V	125V	134V	143V
Io_MAX	1.05A	1.05A	1.05A	1.05A	0.93A	0.86A	0.8A	0.74A	0.7A
Po_MAX	74.5W	84W	93.5W	100W	99.51W	99.76W	100W	99.16W	100W

Output voltage VS output current of DL-100W-V56A/P-MXG (input: 120-277Vac)

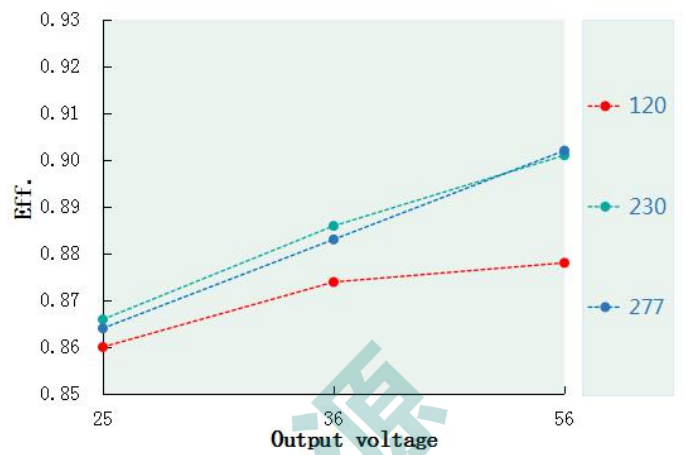


Load	Output								
Load working Voltage	25V	28V	32V	36V	40V	43V	48V	52V	56V
Io_MAX	2.8A	2.8A	2.8A	2.8A	2.5A	2.32A	2.08A	1.92A	1.8A
Po_MAX	70W	78.4W	89.6W	100W	100W	100W	99.84W	99.84W	100W

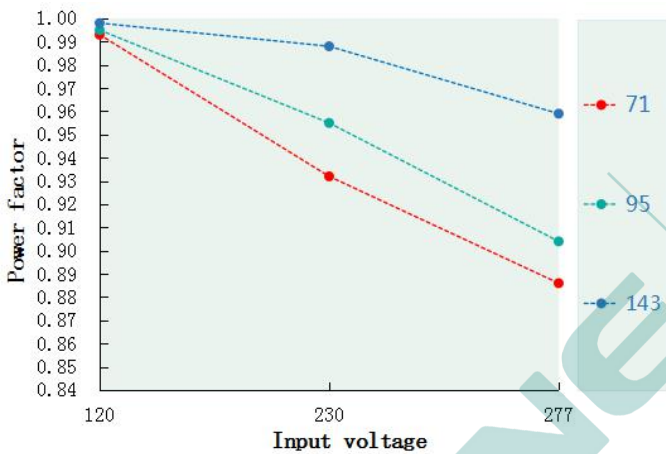
Eff. VS Output voltage(DL-100W-V143P/A-MXG)



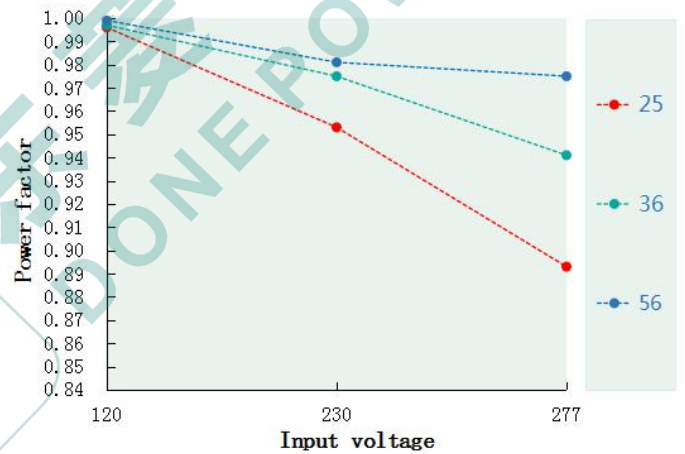
Eff. VS Output voltage(DL-100W-V56P/A-MXG)



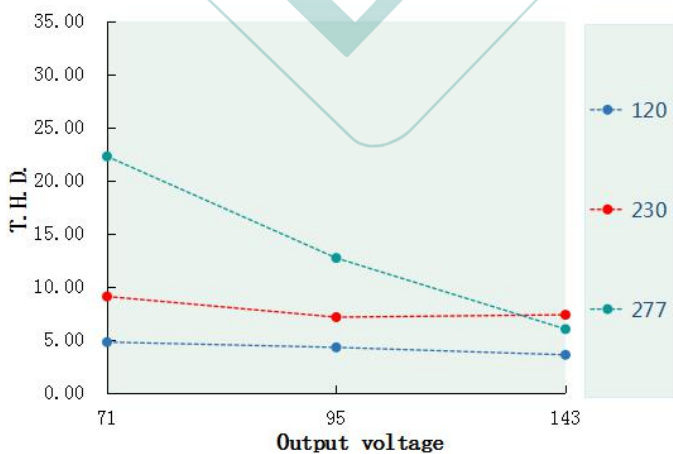
Power factor VS Input voltage(DL-100W-V143P/A-MXG)



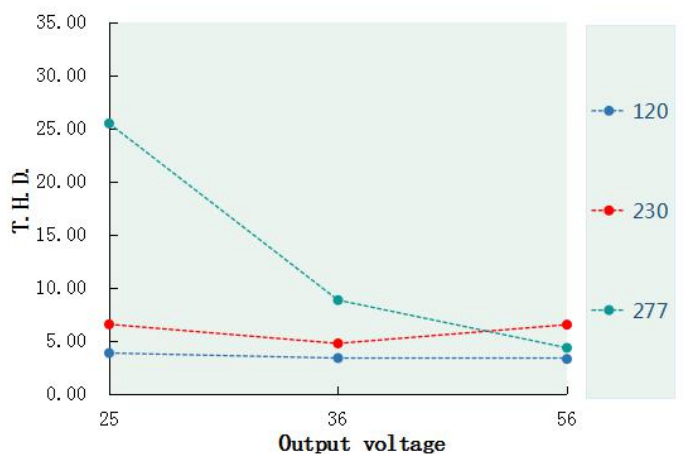
Power factor VS Input voltage(DL-100W-V56P/A-MXG)



T.H.D. VS Output voltage(DL-100W-V143P/A-MXG)

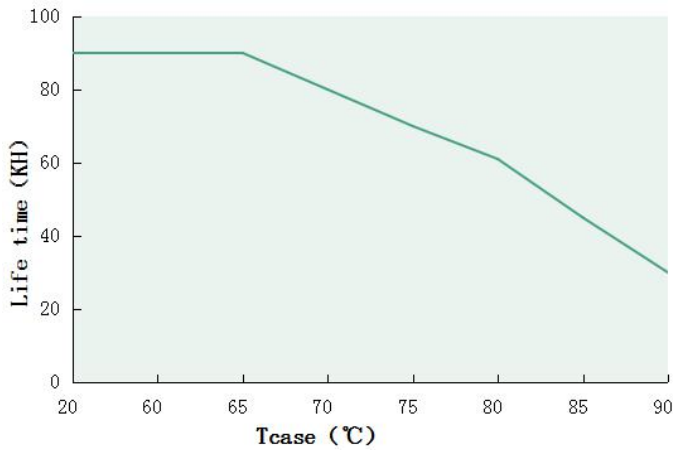


T.H.D. VS Output voltage(DL-100W-V56P/A-MXG)

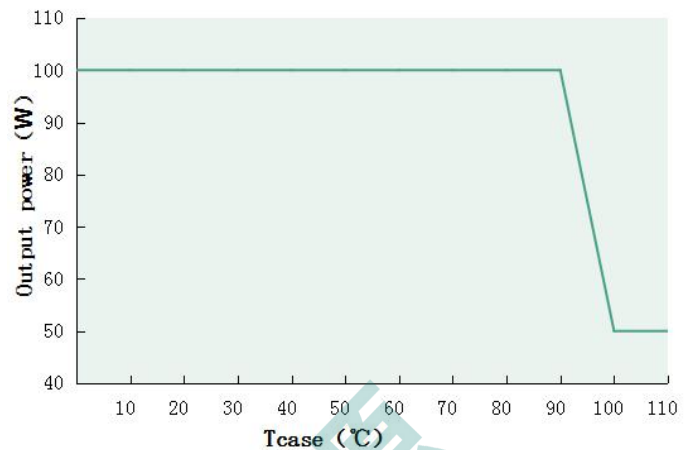




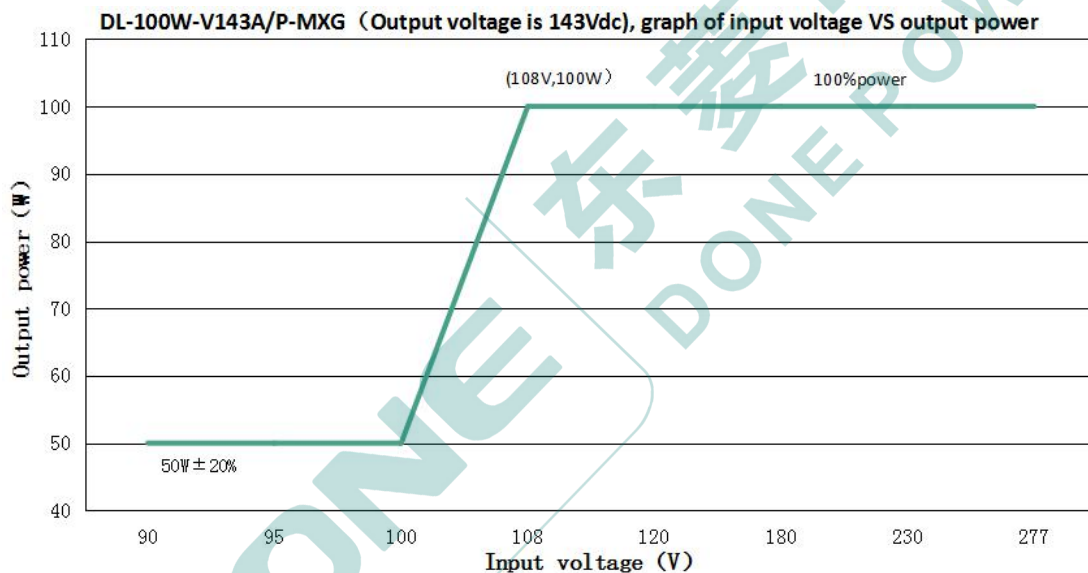
**Tcase VS Lifetime (DL-100W-P/A-MXG)**



**Output power VS Tcase (DL-100W-P/A-MXG)**



**Output power VS Input voltage**



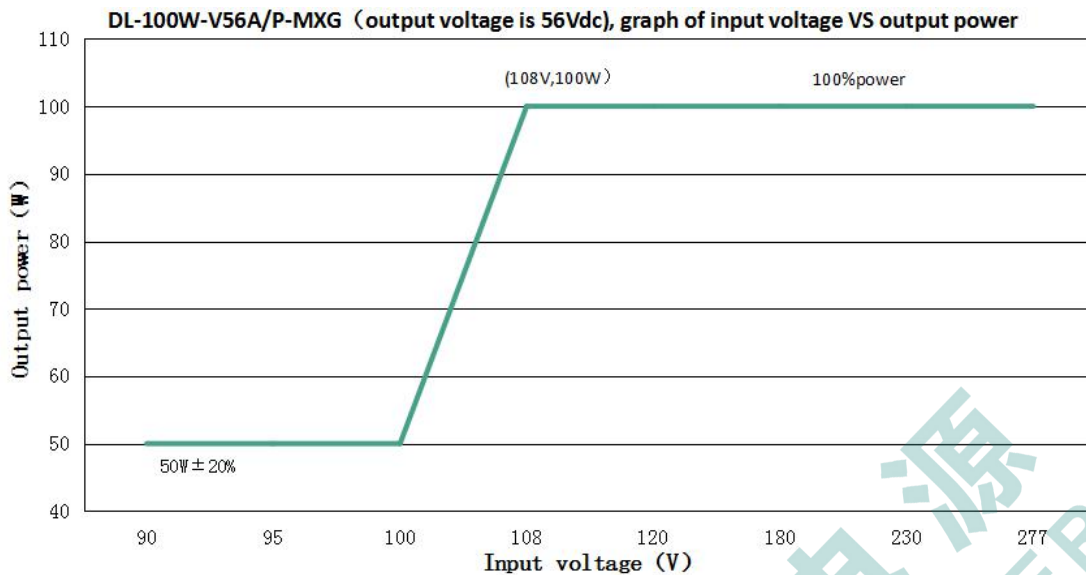
**DL-100W-V143P-MXG (When the output voltage is 143Vdc, the rated output current value and output power corresponding to different input voltage)**

Input Voltage	90Vac	95Vac	100Vac	108Vac	120Vac	180Vac	230Vac	277Vac
Iout	0.35A	0.35A	0.35A	0.7A	0.7A	0.7A	0.7A	0.7A
Pout	50W	50W	50W	100W	100W	100W	100W	100W

**Note:**

1. Input voltage will fluctuate, resistance error and other factors. At the decrease or increase of power (Vin=108Vac), it will move left and right, with the range of 108V.
2. When the input voltage is 90-108Vac, the output power range is 50W±20%.

**Output power versus Input voltage**



**DL-100W-V56P-MXG (When the output voltage is 56Vdc, the rated output current value and output power corresponding to different input voltage)**

Input Voltage	90Vac	95Vac	100Vac	108Vac	120Vac	180Vac	230Vac	277Vac
Iout	0.9A	0.9A	0.9A	1.8A	1.8A	1.8A	1.8A	1.8A
Pout	50W	50W	50W	100W	100W	100W	100W	100W

**Note:**

1. Input voltage will fluctuate, resistance error and other factors. At the decrease or increase of power ( $V_{in}=108V$ ), it will move left and right, with the range of 108V .
2. When the input voltage is 90-108Vac, the output power range is 50W±20%.

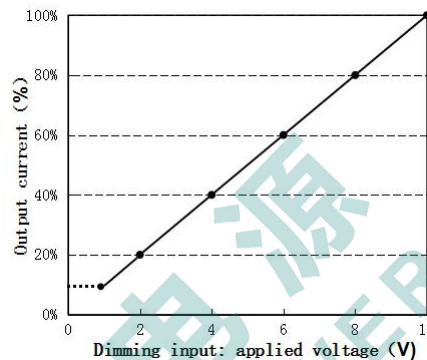
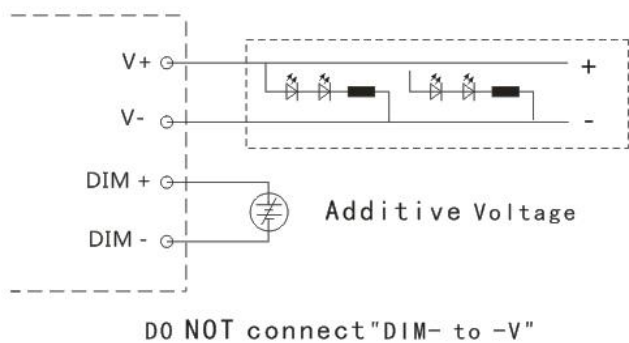
## Dimming operation

※ **Three-in-one dimming function (P version only)**

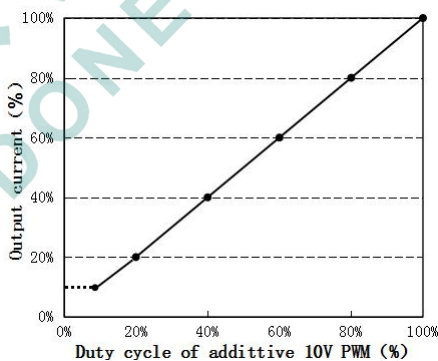
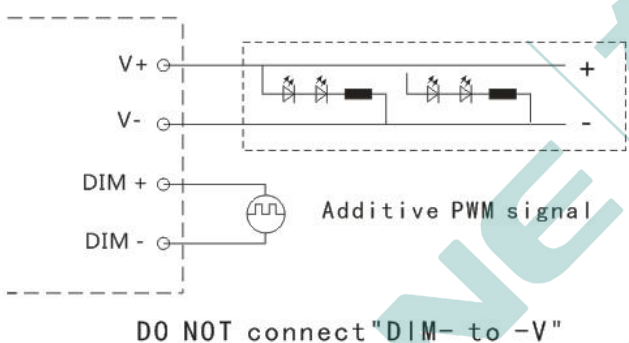
A. connect a resistor 10-100K or 1-10V DC voltage or 10V PWM signal between DIM+ and DIM- to adjust the output current.

B. output current of dimming port: 100uA (typical value).

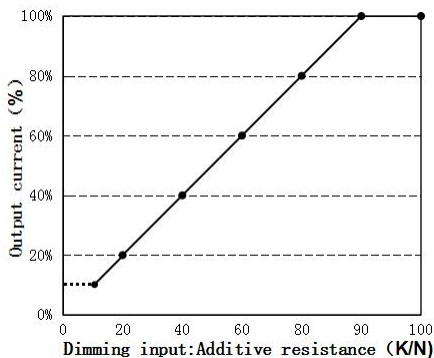
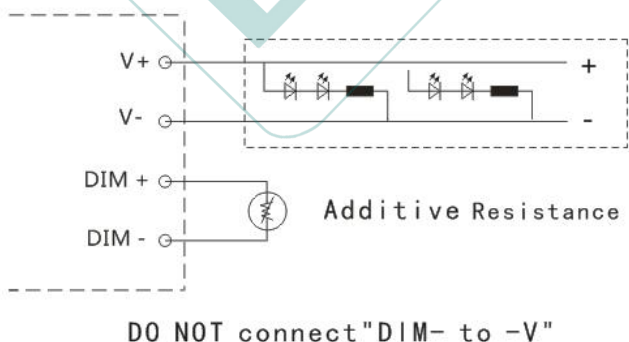
◎ **With an applied voltage of 1-10V:**



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



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



**Remark:**

When Dimming input is 0V in the constant-power range, the lamp can be dim-to-off.

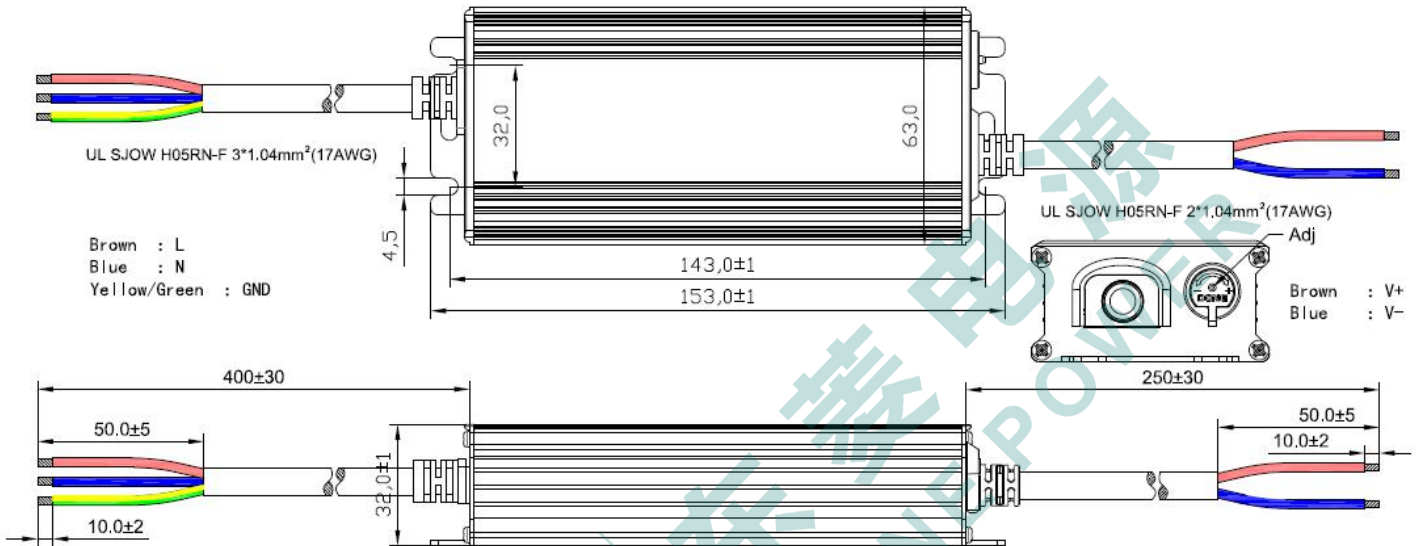
## Mechanical specification

Size (mm) L150\*W63\*H32

### General product dimension drawing

**DL-100W-V56A-MXG**

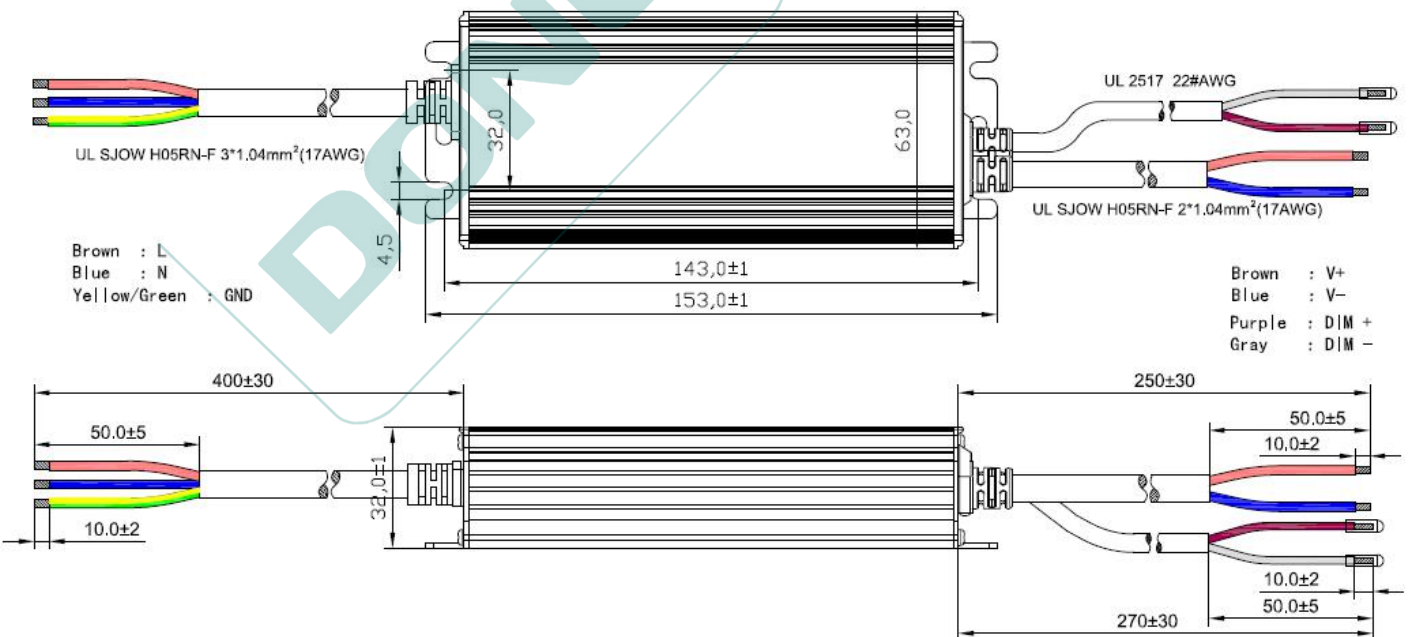
**DL-100W-V143A-MXG**



### General product dimension drawing

**DL-100W-V56P-MXG**

**DL-100W-V143P-MXG**

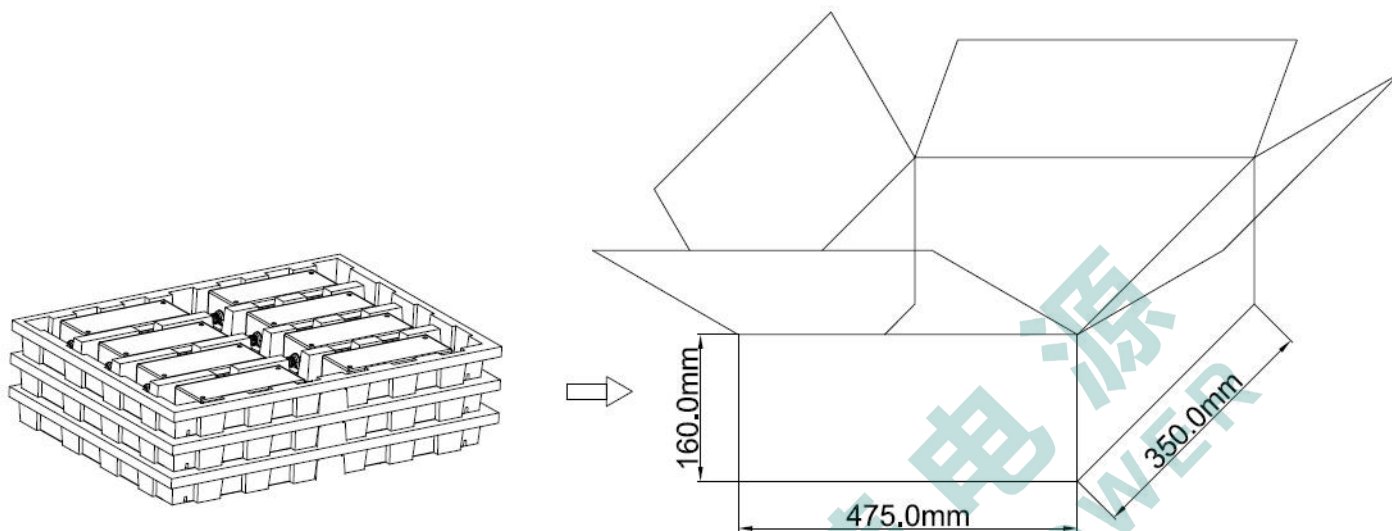


## Weight

Weight 545 g

## Packaging

Packaging (mm) L475\*W350\*H160



Note: One Carton 3 layers and 8 pcs each layer, total 24pcs/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
2021.4.7	Initial version.	V1.0	
2021.5.28	1、 Update the 1-10V dimming function on page 4; 2、 Update the dimming chart on page 11; 3、 Add product drawings and safety information drawings.	V1.1	
2021.08.13	1.Change current accuracy comment in page 4,add constant power range; 2.Update dimming drawing in page 11; 3.Update mechanical dimension drawing and packing drawing	V1.2	

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