

The logo for 'DONE' is located in the top left corner. It consists of the word 'DONE' in a bold, teal, sans-serif font. The letter 'D' is stylized with a white circular element on its left side. The logo is enclosed in a thin teal rounded rectangular border.

MXG SERIES LED DRIVERS

DL-400W-MXG SPEC V1.0

Features

- Class I structure
- Input voltage: 120-277 V ~ 50/60 Hz
- Efficiency :93%(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:

Isolated 3 in 1 dimming

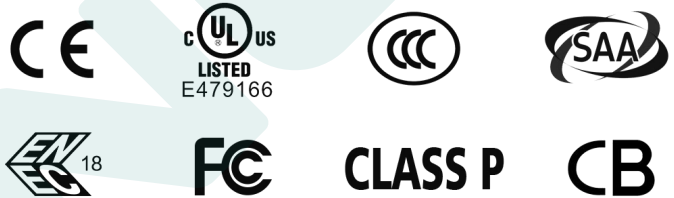
- Lifetime design: 8 years



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	NTC
DL-400W-V56X-MXG	120-277V 50/60Hz	400W	25-56Vdc	7.5A	≥93%	≤10%	≥0.95	
DL-400W-V428X-MXG	120-277V 50/60Hz	400W	228-428Vdc	1.25A	≥94%	≤10%	≥0.95	

Note :

1. Test conditions of the above parameters: Ta=25°C, 230Vac input, full load operation for 30 minutes;
2. DL-400W-V56T-MXG supports the external NTC function. When the temperature of the indicator board rises to a preset threshold, the power output decreases. 10K, BK3350-3399 is recommended for external NTC, Murate NCP18XH103J03RB is recommended (setting required temperature parameters by off-line programming).

Input characteristics

Parameter	Min	Typ.	Max	Note
Rated input voltage	120Vac	230Vac	277Vac	
Input voltage range	90Vac		305Vac	
Rated frequency	47Hz	50/60Hz	63Hz	
Power factor	-	0.95	-	@230Vac full load
T.H.D.	-	10%	-	@230Vac full load
Input current	-	-	4.4A	@120Vac full load
Inrush current	-	-	69A	230Vac, cold start (25°C)

Output characteristic

Parameter	Min	Typ.	Max	Note
Rated current DL-400W-V56X-MXG DL-400W-V428X-MXG	-	7.1A 0.93A	-	
Output current range DL-400W-V56X-MXG DL-400W-V428X-MXG	5.7A 0.75A	-	8.7A 1.4A	
Output voltage range DL-400W-V56X-MXG DL-400W-V428X-MXG	25V 228V	-	56V 428V	
Rated power(120-277Vac)	-	-	400W	
No-load voltage DL-400W-V56X-MXG DL-400W-V428X-MXG	-	-	63V 445V	
Efficiency@120Vac DL-400W-V56X-MXG DL-400W-V428X-MXG	90% 91%	91% 92%	-	@120Vac full load

Output characteristic

Parameter	Min	Typ.	Max	Note
Efficiency@230Vac DL-400W-V56X-MXG DL-400W-V428X-MXG	-	93% 94%	-	full load @230Vac
Accuracy of output current	-3%	-	+3%	full load
output ripple current	-5%		5%	100% load 20MHZ band Wide ripple current = RMS / The average
Line regulation	-3%	-	+3%	full load
Load regulation	-3%	-	+3%	full load
Starting time		-	1000ms 500ms	Full load@120Vac Full load@230Vac
Auxiliary source output voltage	10.8 V	12V	13.2V	
Auxiliary source output current	0 mA	-	250 mA	Reference ground is "Dim -"
Auxiliary source output transient peak current @6W	-	-	500 mA	In a 5.0ms cycle, the maximum duration of the maximum peak current of 500mA is 2ms, and the average value must not exceed 250mA

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
0-10V Dimming (Optional)	Safe applied voltage range	0V	-	12V	When the external voltage is $\geq 12V$, the dimming will fail
	Dimming output range	0	-	100%	-
	Rated dimming voltage range	0V	-	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 band	300Hz	-	2000Hz	-
	PWM duty cycle	0	-	99%	Output full power at 99% duty cycle
Resistor Dimming (Optional)	External resistance value	0K Ω	-	100K Ω	-
	Dimming output range	0	-	100%	-

Note:

1. Output current of dimming port: 108 μ A (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.

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 $^{\circ}$ C, the output power decreases to 50% \pm 10%.
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 $^{\circ}$ C of ambient temperature;
2. Including setting error, line regulation and load regulation.

Environmental

Environmental categories	Parameter
Working temperature	-40 ~ +55°C @200-277Vac, -40 ~ +45°C @120-200Vac (refer to "Life Curve ")
Working humidity	20 ~ 95% RH, non condensing
Tc temperature	90°C
Storage temperature, humidity	-40~+85°C, 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°C)
Lifetime	70000 H @ Tcase ≤75 °C, 230Vac, 80% load, Please refer to "Tcase VS Lifetime" curve

Safety and EMC

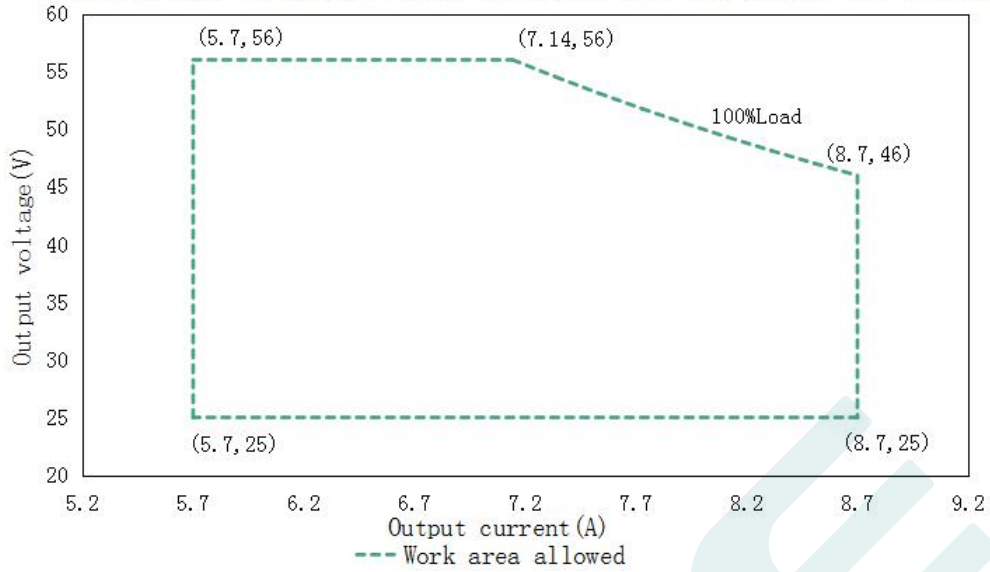
Safety categories	Standard
Safety	GB19510.1、GB19510.14、EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13 UL8750;
EMC	EN 55015、EN 61547、EN 61000-3-2、GB/T 17743、GB17625.1、EN 61000-3-3 FCC Part 15
Surge protection	Differential mode L-N ±6KV (2 ohm), common mode L, N-PE± 15 KV (12 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 :1.5KVac O/P-DIM:1.5KVac
Insulation impedance	I/P-PE:100MΩ / 500VDC; I/P-O/P:100MΩ / 500VDC / 25°C/ 70% RH
Leakage current	<0.75mA@220Vac

Note:

1.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.

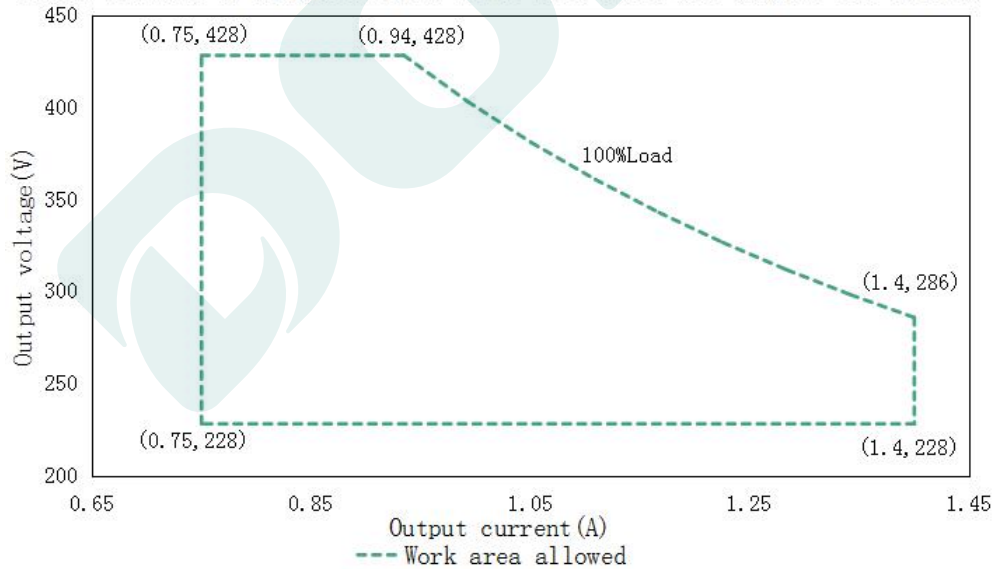
I-V Working area

Output voltage VS output current of DL-400W-V56X-MXG (input: 120-277Vac)



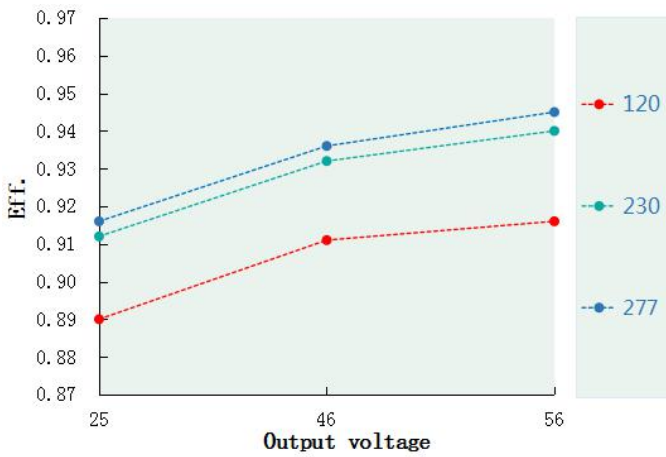
Load	Output								
Load working Voltage	25V	29V	33V	37V	42V	45V	48V	52V	56V
Io_MAX	8.7A	8.7A	8.7A	8.7A	8.7A	8.7A	8.3A	7.7A	7.1A
Po_MAX	217.5W	252W	287W	323W	365W	400W	400W	400W	400W

Output voltage VS output current of DL-400W-V428X-MXG (input: 120-277Vac)

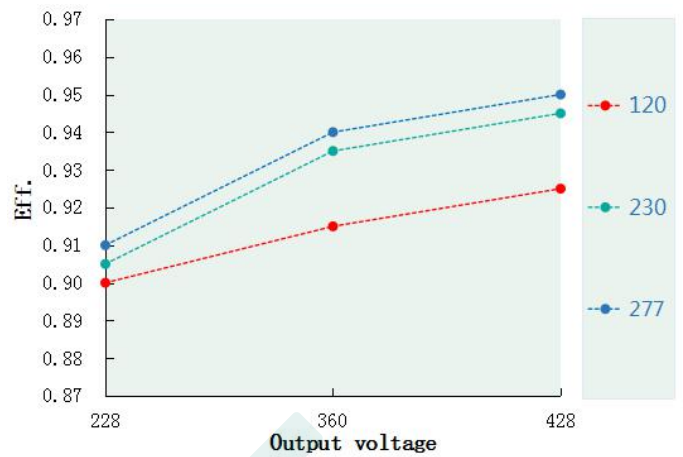


Load	Output								
Load working Voltage	228V	250V	280V	305V	333V	360V	380V	400V	428V
Io_MAX	1.05A	1.05A	1.05A	1.05A	0.96A	0.89A	0.84A	0.8A	0.75A
Po_MAX	239W	262W	294W	320W	320W	320W	320W	320W	320W

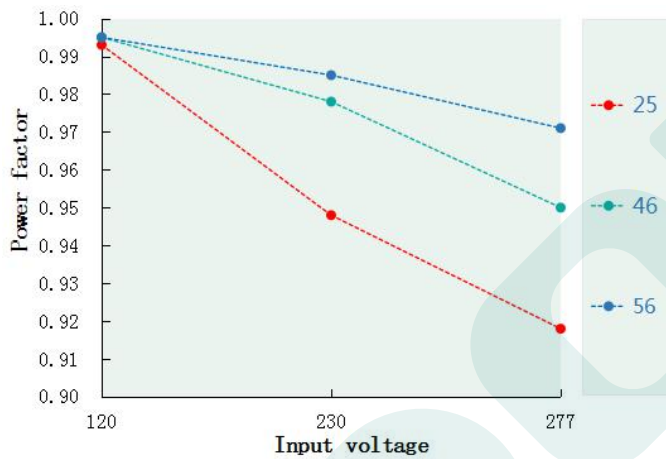
Eff. VS Output voltage(DL-400W-V56X-MXG)



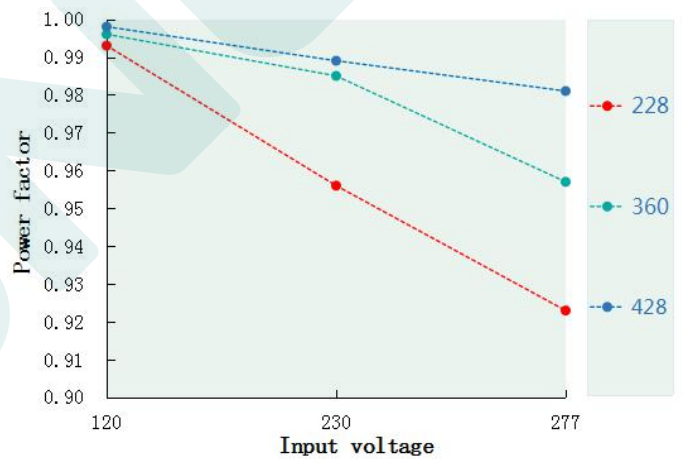
Eff. VS Output voltage(DL-400W-V428X-MXG)



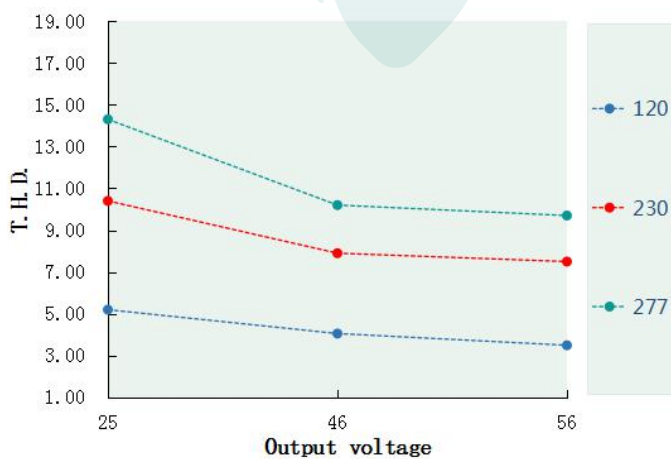
Power factor VS Input voltage(DL-400W-V56X-MXG)



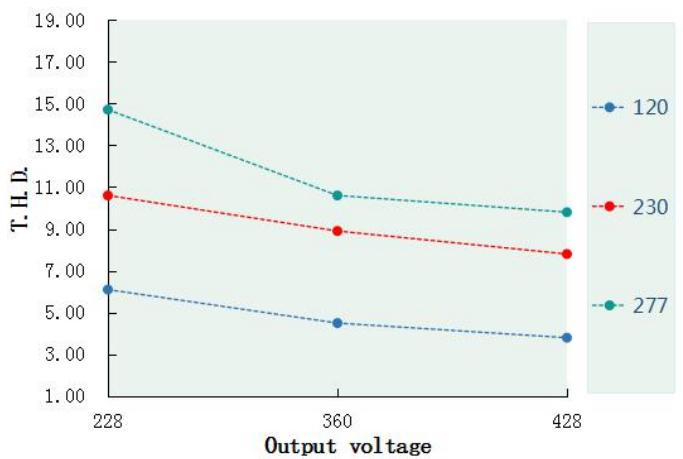
Power factor VS Input voltage(DL-400W-V428X-MXG)



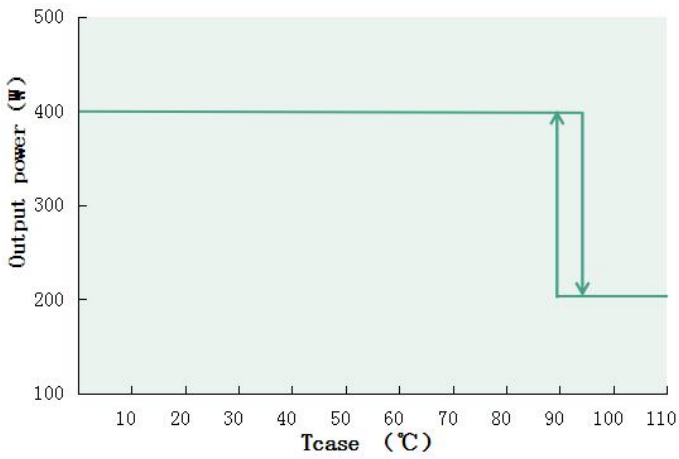
T.H.D. VS Output voltage(DL-400W-V56X-MXG)



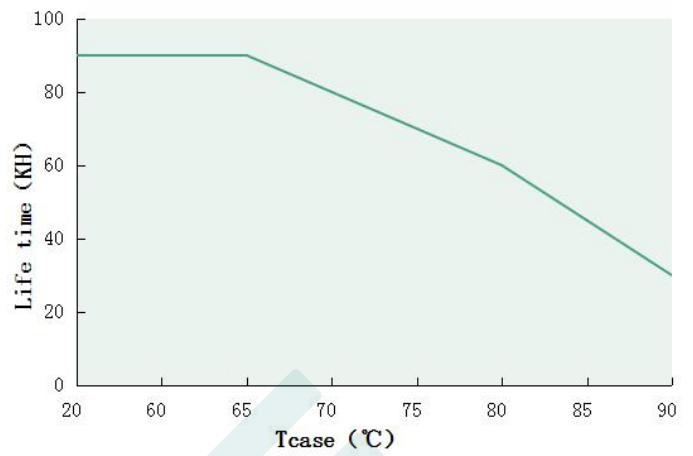
T.H.D. VS Output voltage(DL-400W-V428X-MXG)



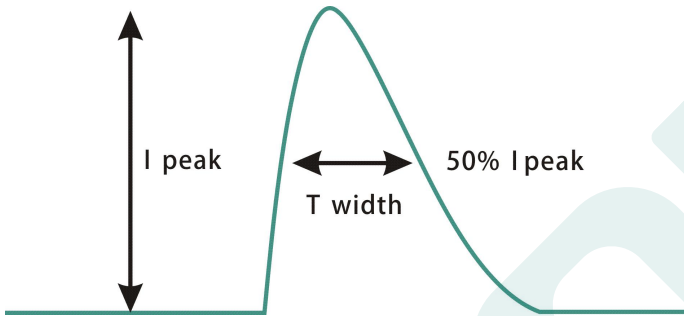
Tcase VS Lifetime(DL-400W-MXG)



Output power VS Tcase (DL-400W-MXG)



Inrush Current(DL-500W-MXG)



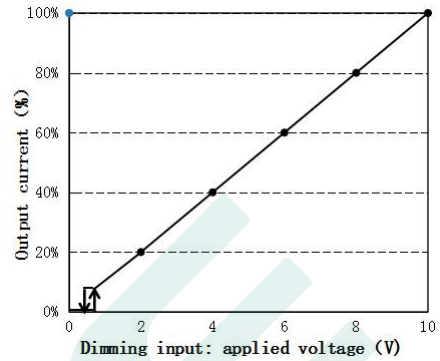
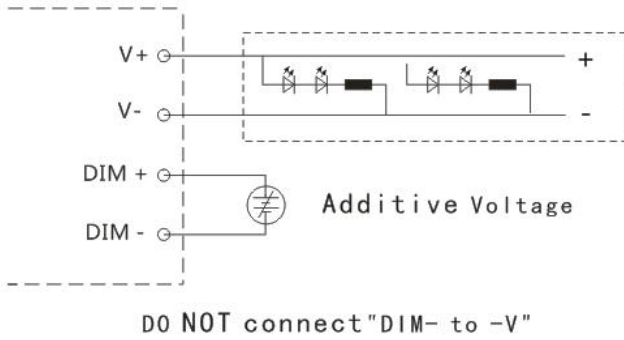
Input voltage	Peak current	T(@50% Peak current)
120Vac	28A	530us
230Vac	69A	556us
277Vac	96A	536us

Dimming operation

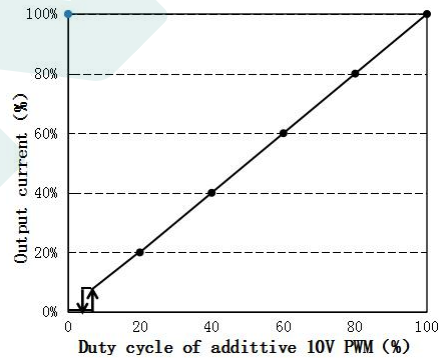
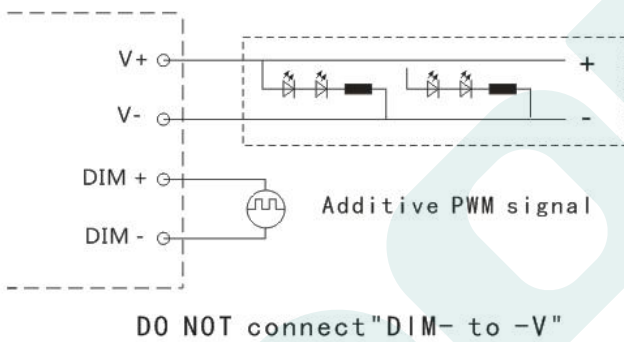
※ Three-in-one dimming function (X version)

- A. connect a resistor 0-100K or 0-10V DC voltage or 10V PWM signal between DIM+ and DIM- to adjust the output current.
- B. output current of dimming port: 108uA (typical value).

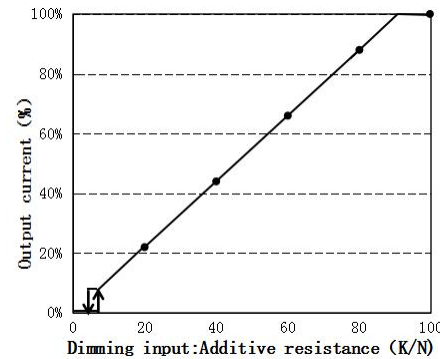
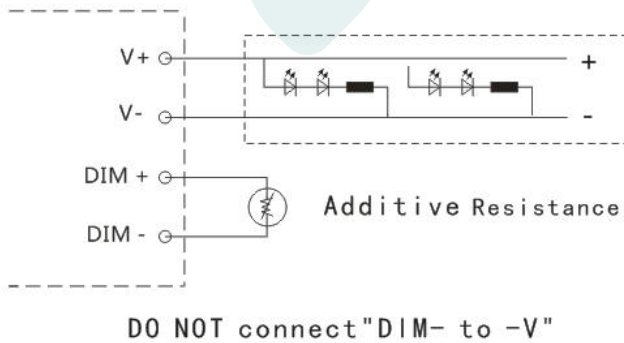
◎ With an applied voltage of 0-10V:



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



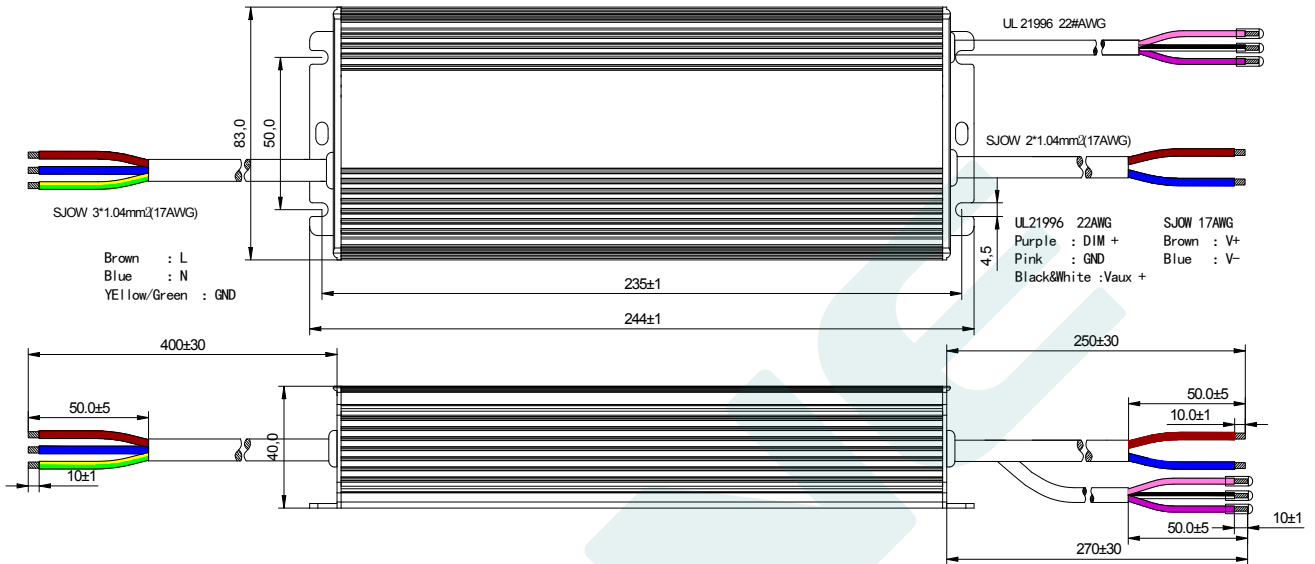
◎ With an additional 0-100K resistor:



Mechanical specification

Size (mm) L244mm*W83mm*H40mm

DL-400W-V56X/V428X-MXG

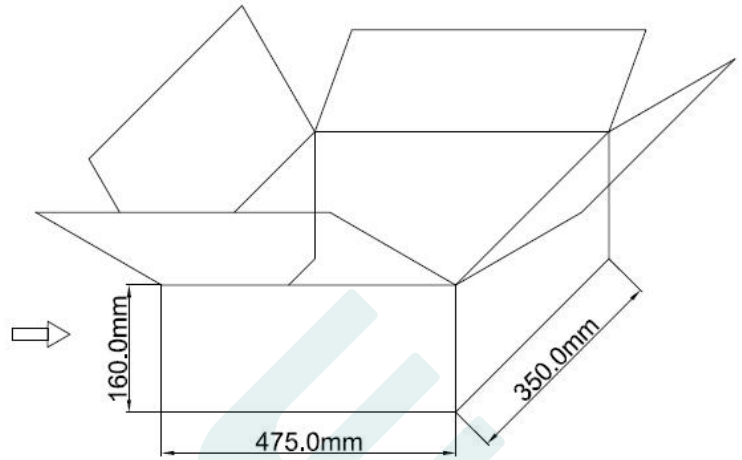
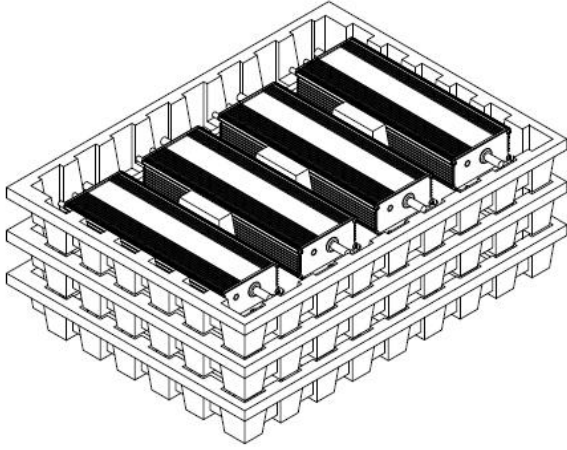


Weight

Weight 1530 g

Packaging

Packaging (mm) L475*W350*H160



Note: One Carton 3 layers and 4 pcs 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
2023.9.15	Initial version.	V1.0	

MANUFACTRUER

EDIT	CHECK	APPROVE