

The logo for DONE, featuring 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 contained within a white rounded square with a thin teal border.

MXG SERIES LED DRIVERS

DL-200W-MXG SPEC V1.5

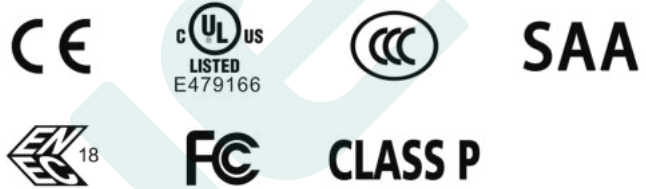
Features

- Class I structure
- Input voltage: 120-277 V ~ 50/60 Hz
- Efficiency :93.5%(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-200W-V56A-MXG	120-277V	200W	25-56Vdc	5.5A	≥92%	≤10%	≥0.95
DL-200W-V56P-MXG	50/60Hz						
DL-200W-V286A-MXG	120-277V	200W	143-286Vdc	0.7A	≥93.5%	≤10%	≥0.95
DL-200W-V286P-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 gradually decreases.When the input 120-277VAC,rated power 200W.
 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	-	-	2.0A	@120Vac full load
Inrush current	-	-	110A	230Vac, cold start (25°C)

Output characteristic

Parameter	Min	Typ.	Max	Note
Rated current				
DL-200W-V56P/A-MXG	-	3.6A	-	
DL-200W-V286P/A-MXG	-	0.7A	-	
Output current range				
DL-200W-V56P/A-MXG	2.6A	-	5.6A	
DL-200W-V286P/A-MXG	0.5A	-	1.05A	
Output voltage range				
DL-200W-V56P/A-MXG	25V	-	56V	
DL-200W-V286P/A-MXG	143V	-	286V	
Rated power(90-120Vac)	-	100W	200W	The derating begins when the input voltage is less than 108Vac
Rated power(120-277Vac)	-	200W	-	
No-load voltage				
DL-200W-V56P/A-MXG	-	-	75V	
DL-200W-V286P/A-MXG	-	-	343V	
Efficiency@120Vac				
DL-200W-V56P/A-MXG	89.5%	90%	-	full load
DL-200W-V286P/A-MXG	90.5%	91%	-	

Output characteristic

Parameter	Min	Typ.	Max	Note
Efficiency@230Vac				
DL-200W-V56P/A-MXG	91.5%	92%	-	full load@230Vac
DL-200W-V286P/A-MXG	92.5%	93.5%		
Accuracy of output current	-5%	-	+5%	full load constant-power range
Output Current Ripple	-	5%I _{omax}	-	100% load , 20 MHz BW ; Ripple = rms/ average
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 ≥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	10KΩ	-	100KΩ	-
	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. 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
Max.Case Temp.	Tcase=+90℃
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, 80%Load,Please refer to "Tcase VS Lifetime" section

Safety and EMC

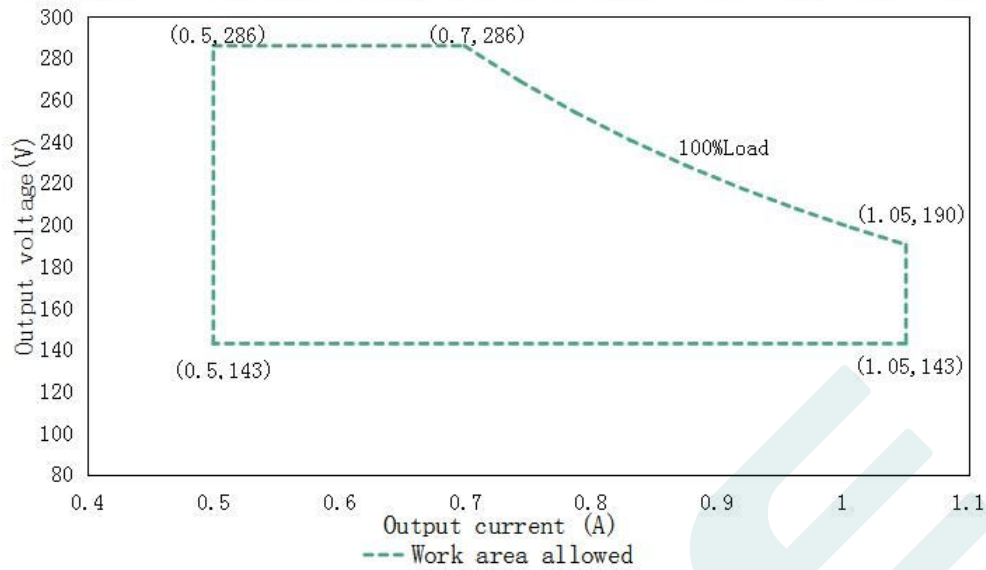
Safety categories	Standard
Safety	GB19510.1、GB19510.14、EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13 UL8750;
EMC	EN 55015、EN 61547、EN 61000-3-2、GB/T 17743、GB17625.1、EN 61000-3-3 FCC Part 15
Surge protection	Differential mode L-N $\pm 6\text{KV}$ (2 ohm) ,common mode L, N-PE $\pm 15\text{KV}$ (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 Ω / 500VDC; I/P-O/P:100M Ω / 500VDC / 25 $^{\circ}\text{C}$ / 70% RH
Leakage current	<0.7mA@277Vac

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.

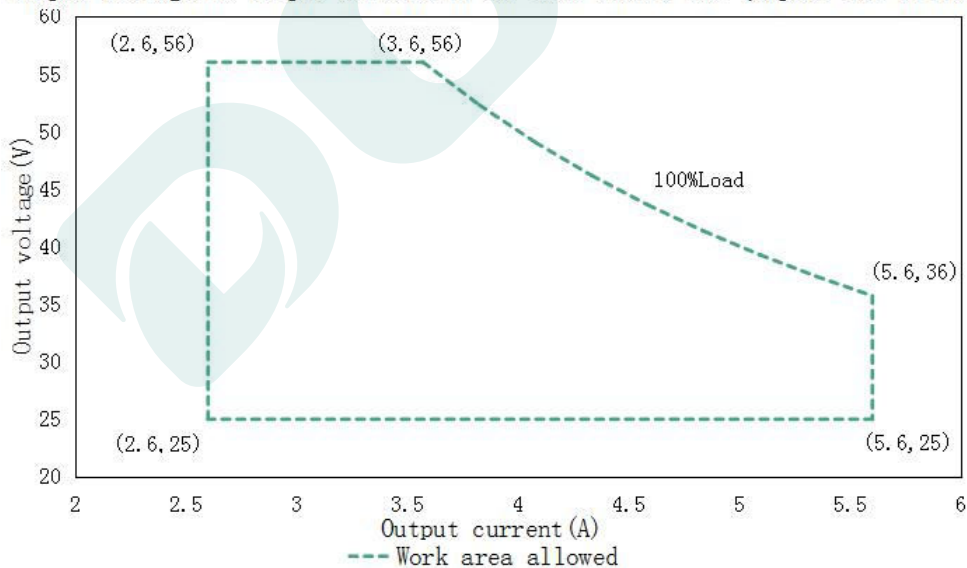
I-V Working area

Output voltage VS output current of DL-200W-V286A/P-MXG (input: 120-277Vac)



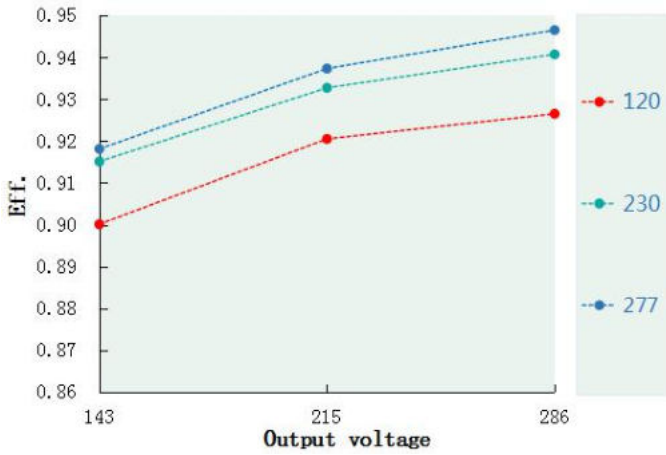
Load	Output								
Load working Voltage	143V	160V	178V	190V	214V	232V	250V	268V	286V
Io_MAX	1.05A	1.05A	1.05A	1.05A	0.94A	0.87A	0.80A	0.75A	0.7A
Po_MAX	150.15W	168W	186.9W	200W	200W	200W	200W	200W	200W

Output voltage VS output current of DL-200W-V56A/P-MXG (input: 120-277Vac)

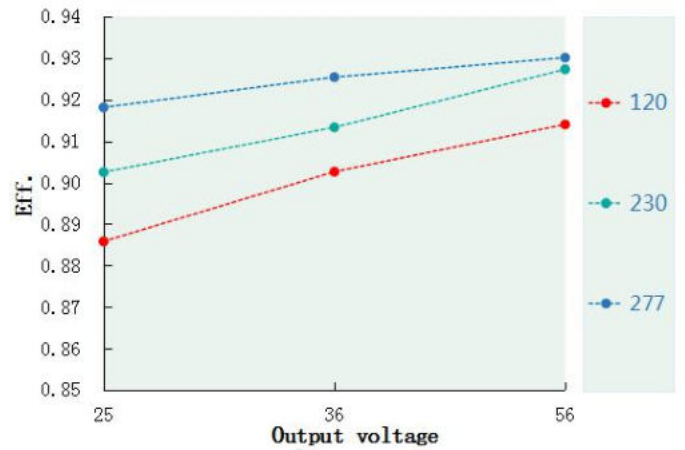


Load	Output								
Load working Voltage	25V	29V	32V	36V	40V	44V	48V	52V	56V
Io_MAX	5.6A	5.6A	5.6A	5.6A	5.0A	4.56A	4.17A	3.85A	3.6A
Po_MAX	140W	162W	180W	200W	200W	200W	200W	200W	200W

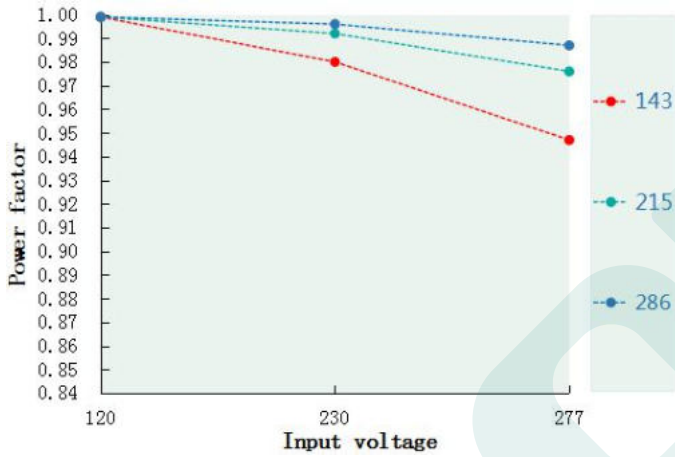
Eff. VS Output voltage(DL-200W-V286P/A-MXG)



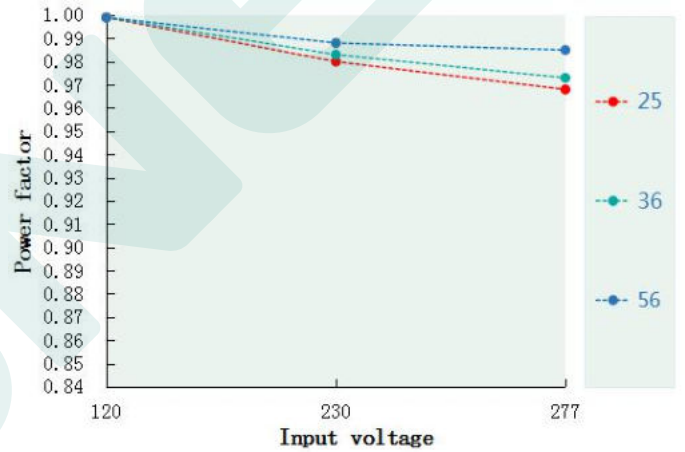
Eff. VS Output voltage(DL-200W-V56P/A-MXG)



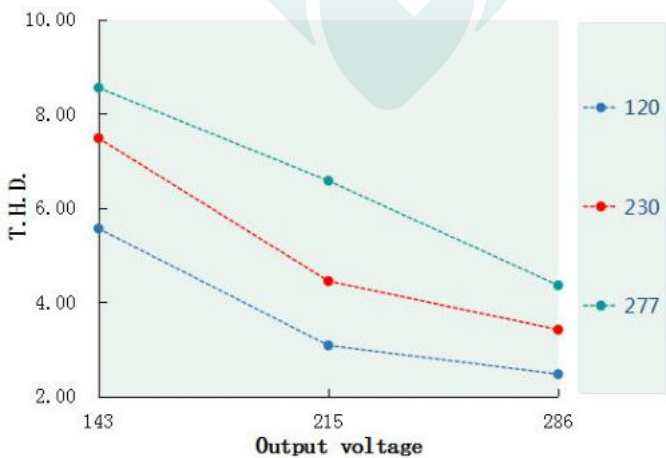
Power factor VS Input voltage(DL-200W-V286P/A-MXG)



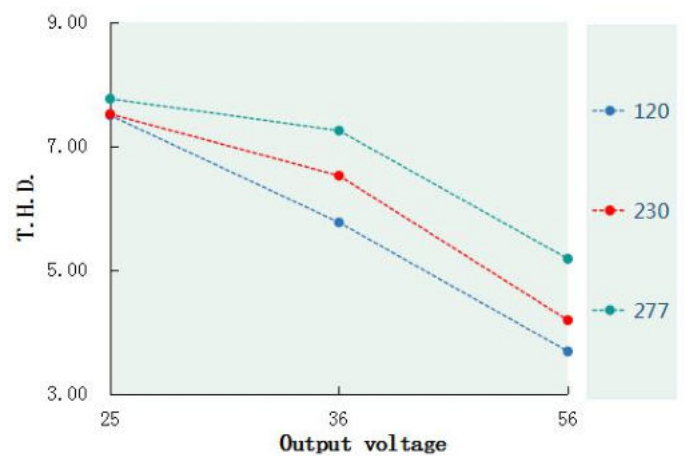
Power factor VS Input voltage(DL-200W-V56P/A-MXG)



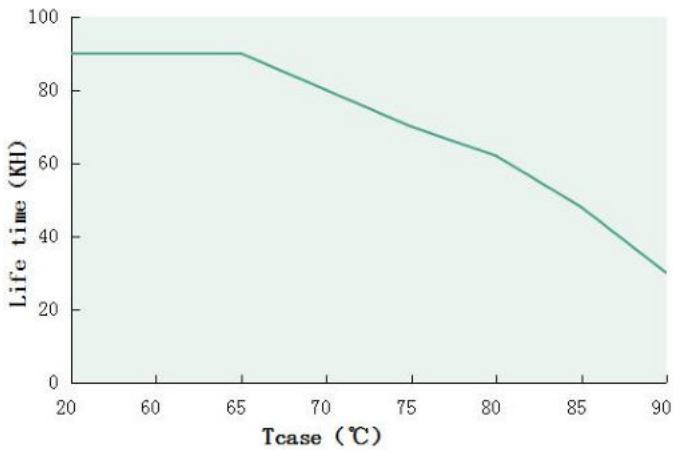
T.H.D. VS Output voltage(DL-200W-V286P/A-MXG)



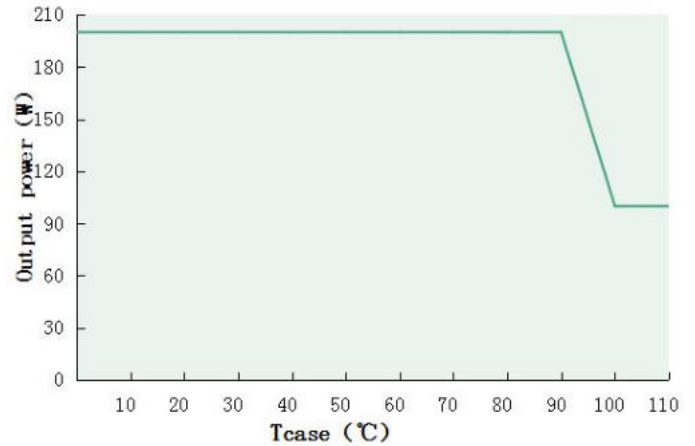
T.H.D. VS Output voltage(DL-200W-V56P/A-MXG)



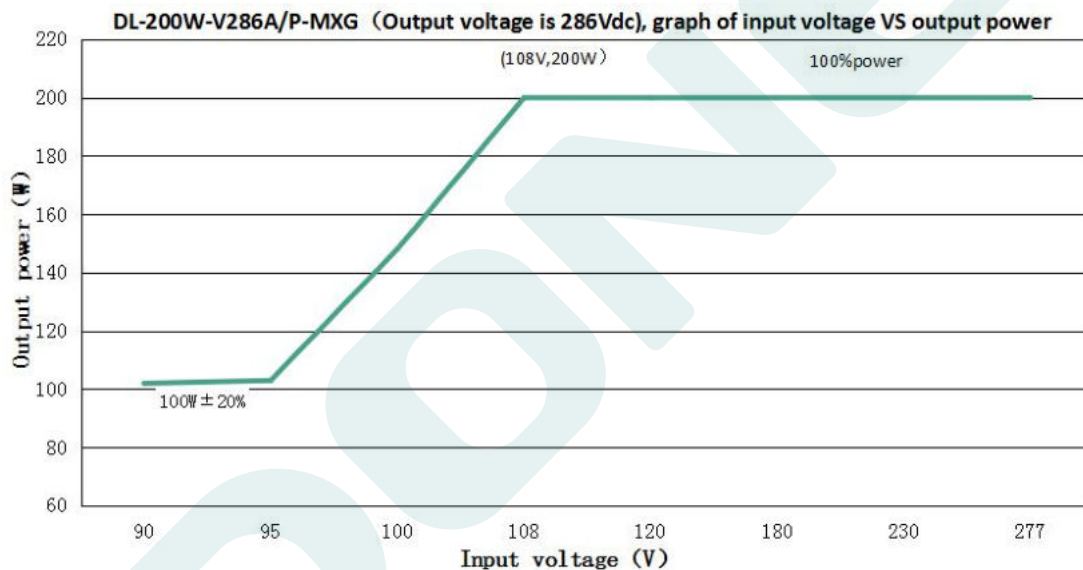
Tcase VS Lifetime(DL-200W-P/A-MXG)



Output power VS Tcase (DL-200W-P/A-MXG)



Output power VS Input voltage



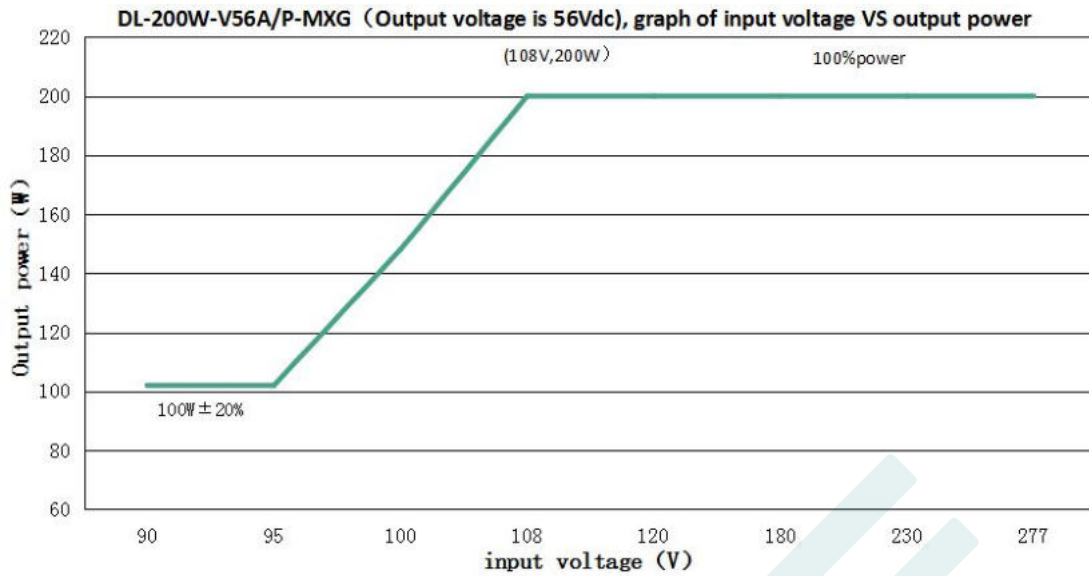
DL-200W-V286P-MXG (When the output voltage is 286Vdc, the rated output current value and output power corresponding to different input voltage)

Input Voltage	90Vac	95Vac	100Vac	108Vac	120Vac	180Vac	230Vac	277Vac
Iout	0.35A	0.36A	0.52A	0.7A	0.7A	0.7A	0.7A	0.7A
Pout	102W	103W	148W	200W	200W	200W	200W	200W

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 100W±20%.

Output power versus Input voltage



DL-200W-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	1.82A	1.82A	2.64A	3.6A	3.6A	3.6A	3.6A	3.6A
Pout	102W	102W	148W	200W	200W	200W	200W	200W

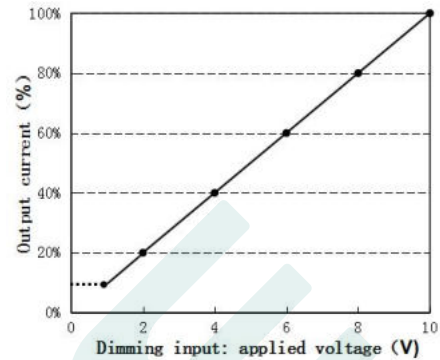
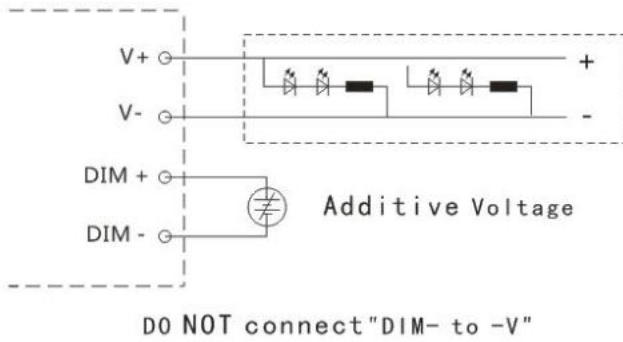
- Note:**
1. Input voltage will fluctuate, resistance error and other factors. At the decrease or increase of power ($V_{in}=108Vac$), it will move left and right, with the range of 108V .
 2. When the input voltage is 90-108Vac, the output power range is 100W±20%.

Dimming operation

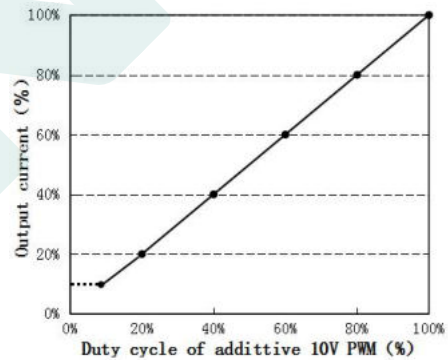
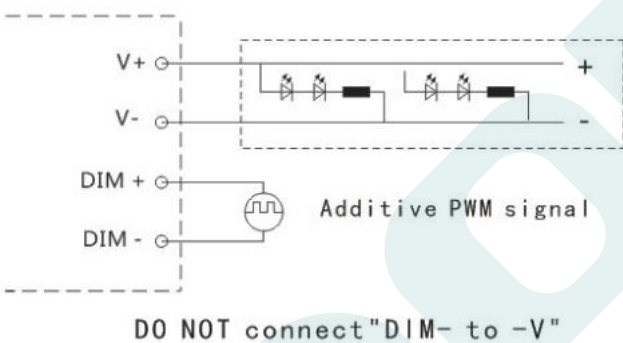
※ Three-in-one dimming function (P version only)

- 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).

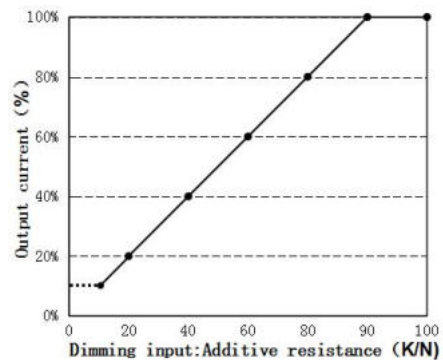
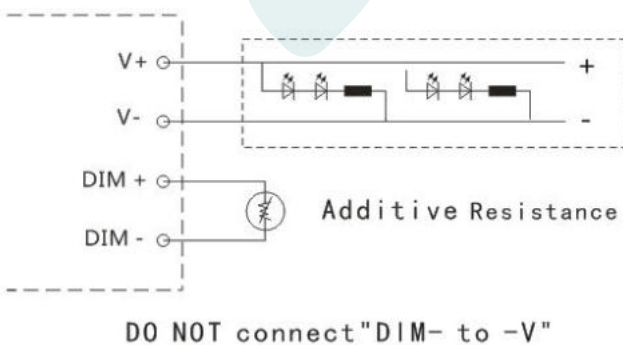
◎ With an applied voltage of 1-10V:



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



◎ With an additional 10-100K resistor:



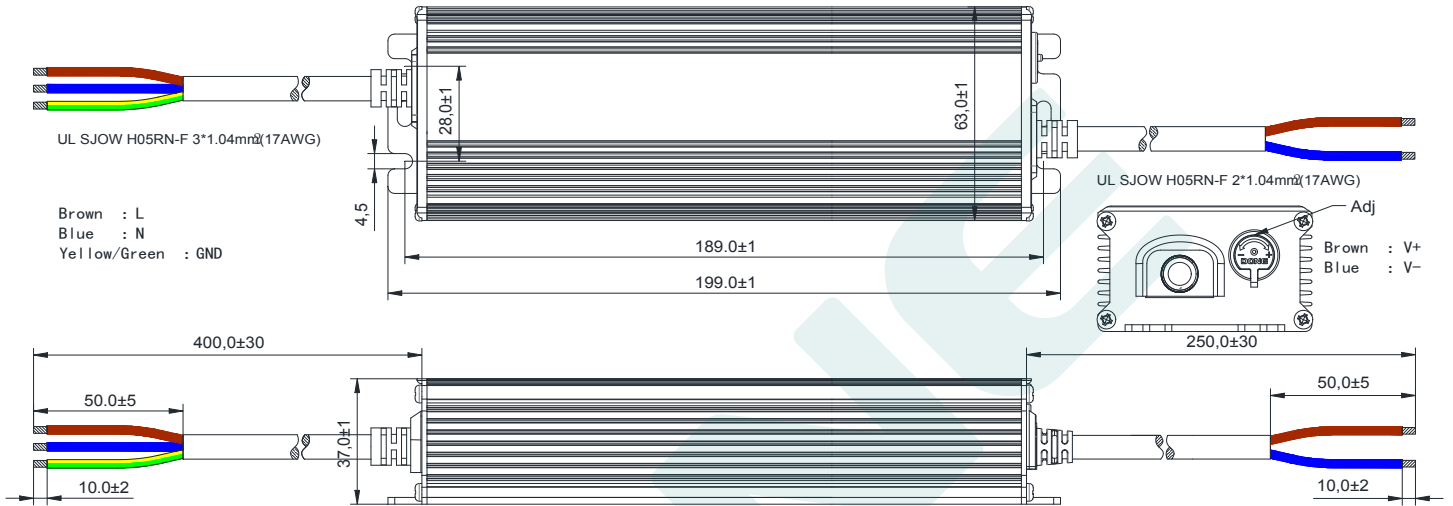
Mechanical specification

Size (mm) L199*W63*H37

General product dimension drawing

DL-200W-V56A-MXG

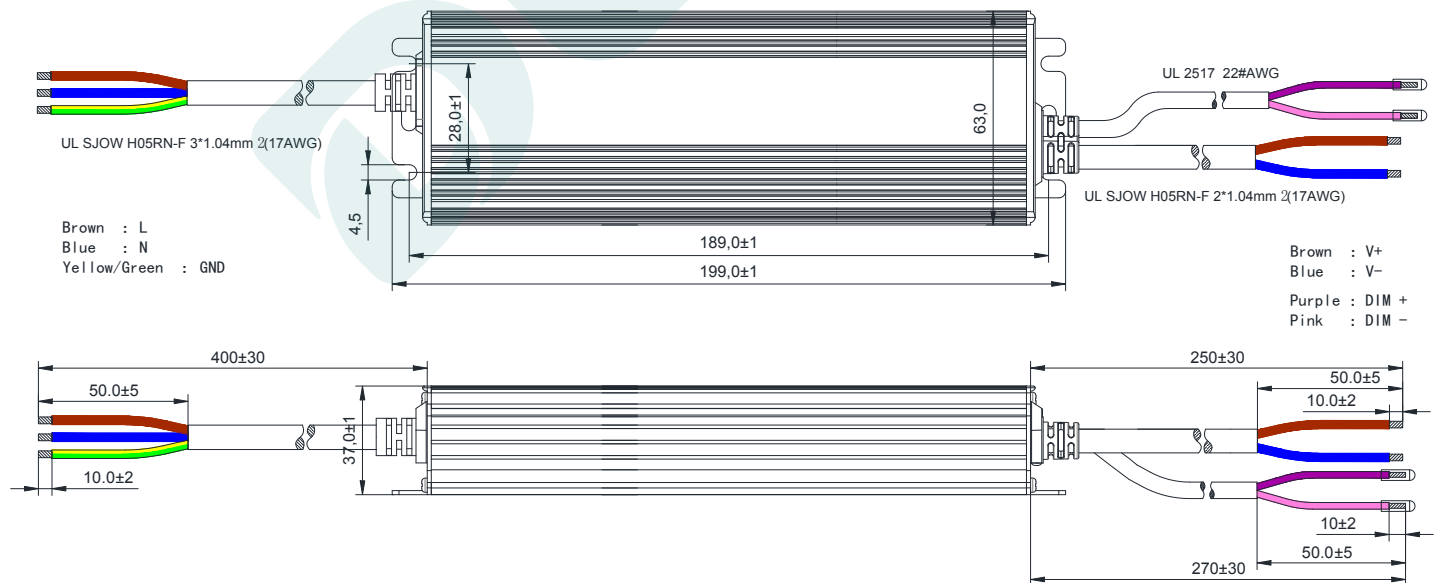
DL-200W-V286A-MXG



General product dimension drawing

DL-200W-V56P-MXG

DL-200W-V286P-MXG



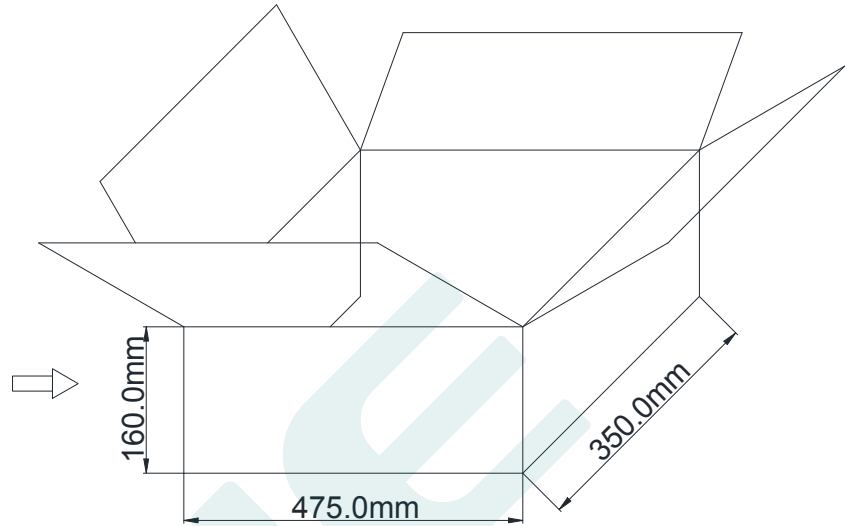
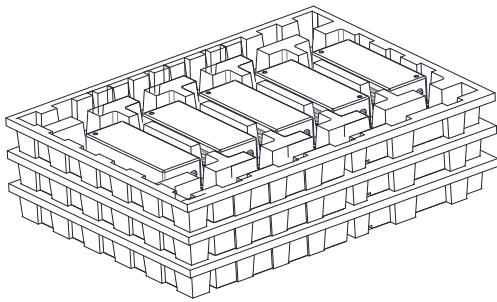
Weight

Weight 850 g

Twelve

Packaging

Packaging (mm) L475*W350*H160





Note: One Carton 3 layers and 5 pcs each layer, total 15pcs/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 10-100K resistance diagram on page 11; 2、 Add product drawings and safety information drawings; 3、 Page 7 updates the graph of 56V output voltage versus output current	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	
2021.11.05	1.Add output current ripple in page 4; 2.Add lifetime description in page 5; 3.Add maximum case temperature description in page 5; 4.Update mechanical dimension drawing and packing drawing	V1.3	
2021.11.30	Update LOGO	V1.4	
2021.12.22	Update mechanical dimension drawing	V1.5	 2021.12.23 08:20:14 +08'00'  ZHANGTINGWEI 2021.12.23 10:40:50 +08'00'

MANUFACTURER

EDIT	CHECK	APPROVE
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