



MXC SERIES LED DRIVERS

DL-320H-A/P-MXC SPEC V1.3



Features

- Class I structure
- Input voltage: 100-305 V ~ 50/60 Hz
 Rated input voltage: 200-277V ~ 50/60Hz 320W max. Output Power
 Available voltage: 100-150V ~ 50/60Hz 160W max.. Output Power
- 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 10kV
- Function selection:
 Isolated 3 in 1 dimming
- 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-320H-56A/P-MXC	100-277V 50/60Hz	320W	25-56Vdc	6A	≥93%	≤10%	≥0.95
DL-320H-428A/P-MXC	100-277V 50/60Hz	320W	228-428Vdc	0.75A	≥94%	≤10%	≥0.95

Note : Test conditions of the above parameters: Ta=25°C, 230Vac input, full load for 30 minutes.



Input characteristics

Parameter	Min	Typ.	Max	Note
Rated input voltage	200Vac	230Vac	277Vac	
Input voltage range	100Vac		305Vac	
Rated frequency	47Hz	50/60Hz	63Hz	
Power factor	-	0.95	-	@230Vac full load
T.H.D.	-	-	10%	@230Vac full load
Input current	-	-	2A	
Inrush current	-	-	100A	230Vac, cold start (25°C)

Note: The preceding power consumption parameters are average power consumption if not specified.

Output characteristic

Parameter	Min	Typ.	Max	Note
Rated current				
DL-320H-56A/P-MXC	-	5.71A	-	
DL-320H-428A/P-MXC	-	0.75A	-	
Output current range				Constant power range:
DL-320H-56A/P-MXC	4.2A	-	7.65A	42-56V
DL-320H-428A/P-MXC	0.5A		1.05A	304-428V
Output voltage range				
DL-320H-56A/P-MXC	25V	-	56V	
DL-320H-428A/P-MXC	228V		428V	
Rated power				
DL-320H-56A/P-MXC	-	-	320W	
DL-320H-428A/P-MXC				
No-load voltage				
DL-320H-56A/P-MXC	-	-	63V	
DL-320H-428A/P-MXC	-	-	450V	
Efficiency@230Vac				
DL-320H-56A/P-MXC	-	93%	-	@230Vac full load
DL-320H-428A/P-MXC	-	94%	-	
Current Accuracy	-3%	-	+3%	full load @230Vac
Output ripple current	-	-	5%	Full load@20MHZ band Wide ripple current = RMS /Mean value
linear adjustment rate	-3%	-	+3%	full load
Load regulation	-3%	-	+3%	full load
Starting time	-	-	0.5s	Full load@230Vac

Note: The output current range is limited by the input and output voltage, please refer to "I-V WORKING AREA" for details.

Dimming characteristic

Parameter		Min	Typ.	Max	Note
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	0	-	0.3V	-
	PWM frequency band	300Hz	-	2000Hz	-
	PWM duty cycle	10%	-	99%	Output full power at 99% duty cycle
Resistor Dimming (Optional)	External resistance value	10K Ω	-	100K Ω	-
	Dimming output range	10%	-	100%	-
Multiple time-controlled dimming (optional)	MCU control	Set segment dimming function through program			Working mode
	Timer control	It is divided into six segments by default and can be customized			24H to achieve a cycle

Note:

1. Output current of dimming port: 100uA (typical value).
2. Dimming The default setting is 3-in-1 positive logic dimming (it can be set to timing dimming, 0-5V or other voltage dimming by programming software).Dimming default setting is three in one positive logic dimming (programmable software can be set to timing dimming, 0-5V or other voltage dimming).
3. Set to positive logic dimming function, achieve 0V dimming off, dimming off after the output voltage is $0.46 \cdot V_{omax}$, pay attention to the application, but it is recommended that customers use 1-10V dimming.
4. When negative logical dimming is set, the default output is 100% when the dimming light is suspended. Negative logic dimming cannot be turned off. When the voltage of the dimming port is greater than 10.5V, the maximum power output of the power supply is generated.

Protection

Function	Function instructions
Output overload protection	Protection mode: hiccup restart mode. After abnormal load conditions are removed, the system automatically recovers
Output short circuit protection	hiccup mode mode:recovers automatically after fault condition is removed.
Output over-voltage protection	Protection mode: burp or clamp in a state of maximum output voltage, the product is not damaged, when the fault is removed, the power supply works normally
Over temperature protection	Self-recovery type : when the housing temperature is greater than 90℃, the output power decreases gradually.
Input undervoltage protection	Protection mode: When the input voltage is lower than 165Vac±15V, the output power derates to 50%±10%. See derating curve for details

Note:

1. Unless otherwise specified, all specifications are measured at 230Vac (50Hz) input, rated load and ambient temperature of 25℃.
2. Including setting error, linear adjustment rate and load adjustment rate.

Environmental

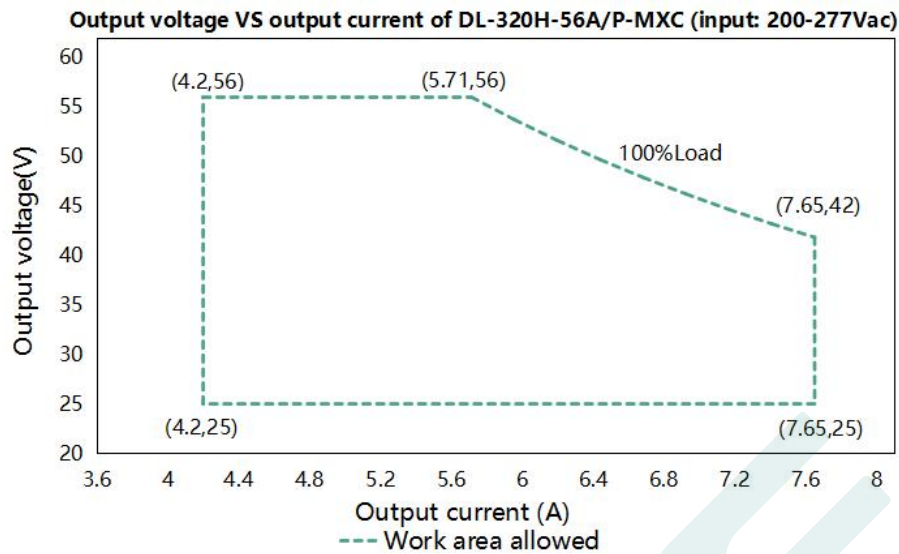
Environmental categories	Parameter
Working temperature	-40 ~ +55℃@200-277Vac(refer to "Service Life Curve ")
Max.Case Temp.	-40 ~ 90℃
Working humidity	20 ~ 90% RH, non condensing
Storage temperature、humidity	-40~+85℃, 10 ~ 95% RH
Store temperature and humidity	-40~+85℃ , 10 ~ 95% rh
MTBF	230Khrs min. MIL-HDBK-217F (Ta=25℃)
Lifetime	50000 hours @ Casing temperature ≤75℃, 230Vac, 80% load, please refer to the section "Casing Temperature and life"

Safety and EMC

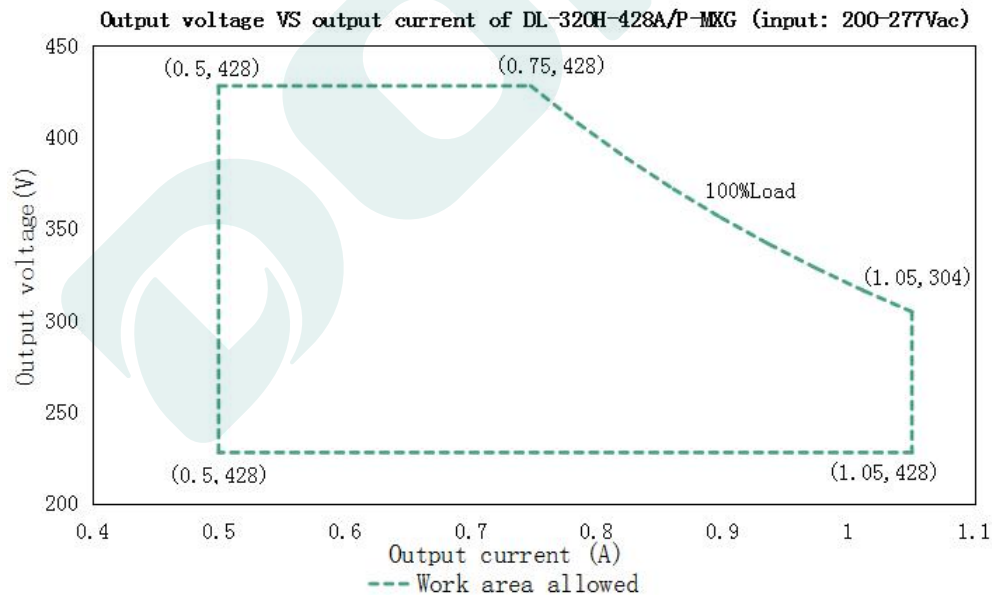
Safety categories	Standard
Safety	GB19510.1、GB19510.14、EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13、EN 62384、UL8750 ;
EMC	EN 55015、EN 61000-3-2 、GB/T 17743、GB17625.1、 EN 61000-3-3
Surge protection	Differential mode L-N $\pm$ 6 KV (2 Ω), common mode L, n-ground $\pm$ 10 KV (12 Ω) ; Refer to IEC61000-4-5 2014 Criterion B
High-pot test	I/P-O/P:3.858KVac I/P-PE :1.554KVac I/P-DIM:1.554KVac O/P-PE : 1.126KVac(DL-320H-56A/P-MXC) O/P-PE : 1.9KVac(DL-320H-428A/P-MXC) O/P-DIM:1.126KVac(DL-320H-56A/P-MXC) O/P-DIM:1.9KVac(DL-320H-428A/P-MXC)
Insulation impedance	I/P-PE:100M Ω / 500VDC; I/P-O/P:100M Ω / 500VDC / 25°C/ 70% RH
Leakage current	<0.7mA@277Vac

Note: As the power supply is used as a component with the terminal equipment, the EMC is affected by the entire device, and the terminal equipment manufacturer needs to re-confirm the EMC of the entire device.

I-V Working area

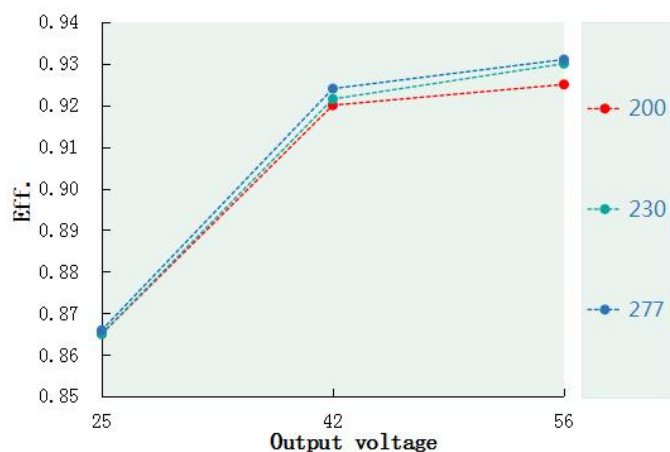


Load	Output								
Load working Voltage	25V	29V	33V	36V	42V	46V	48V	52V	56V
Io_MAX	7.65A	7.65A	7.65A	7.65A	7.65A	6.95A	6.67A	6.15A	5.71A
Po_MAX	191W	222W	252W	275W	320W	320W	320W	320W	320W

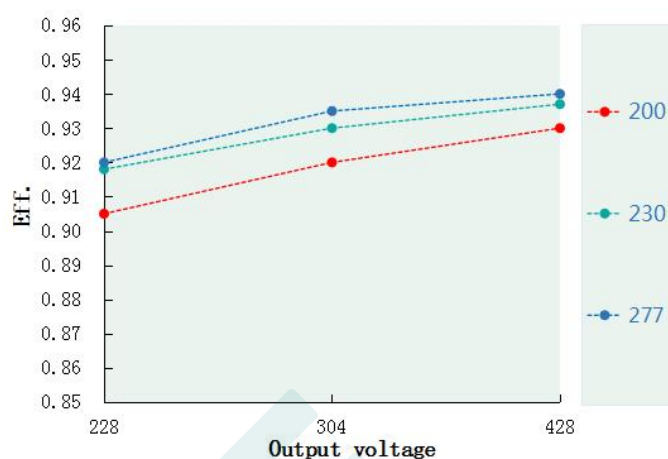


Load	Output								
Load working Voltage	228V	240V	260V	280V	304V	330V	360V	390V	428V
Io_MAX	1.05A	1.05A	1.05A	1.05A	1.05A	0.97A	0.89A	0.82A	0.75A
Po_MAX	239W	252W	273W	294W	320W	320W	320W	320W	320W

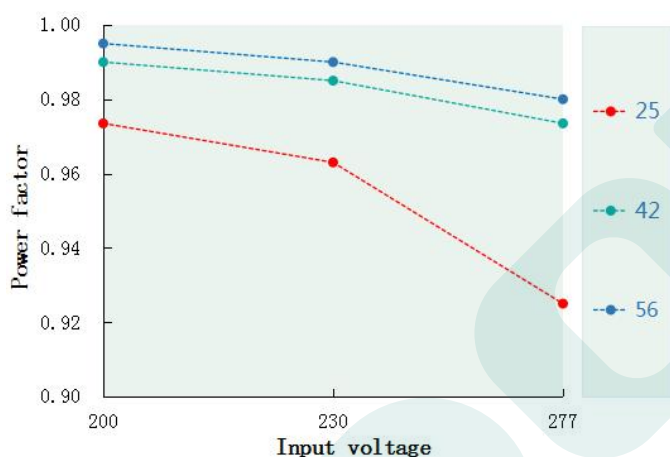
Eff. VS Output voltage(DL-320H-56A/P-MXC)



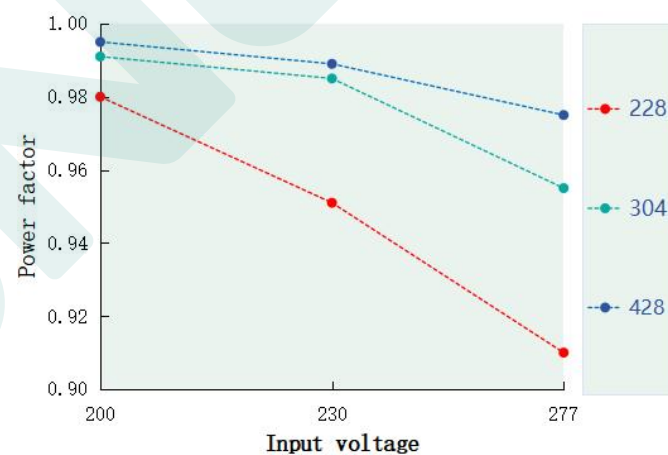
Eff. VS Output voltage(DL-320H-428A/P-MXC)



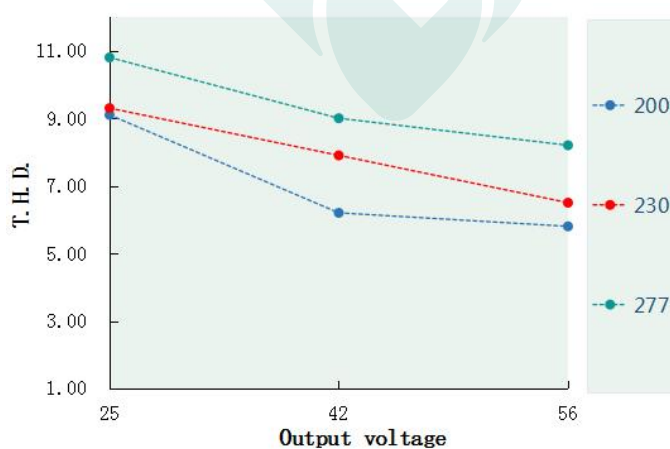
Power factor VS Input voltage(DL-320H-56A/P-MXC)



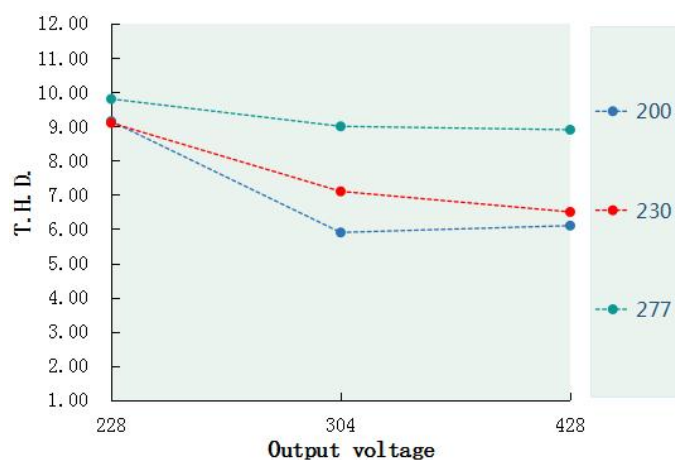
Power factor VS Input voltage(DL-320H-428A/P-MXC)



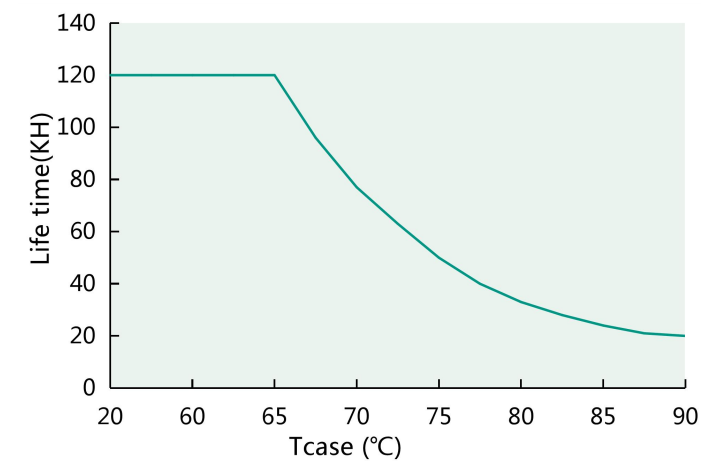
T.H.D. VS Output voltage(DL-320H-56A/P-MXC)



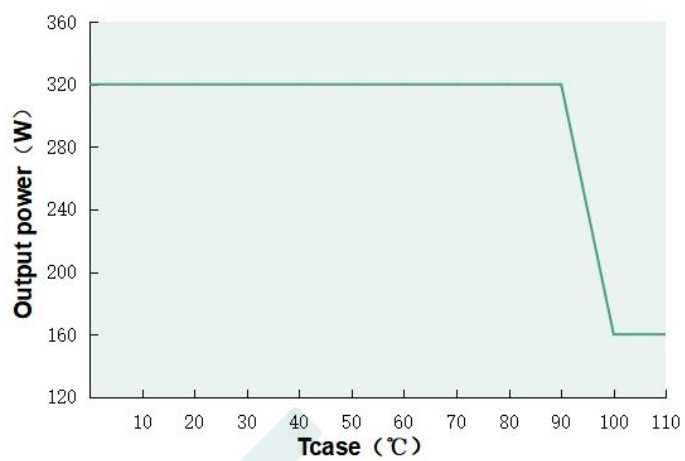
T.H.D. VS Output voltage(DL-320H-428A/P-MXC)



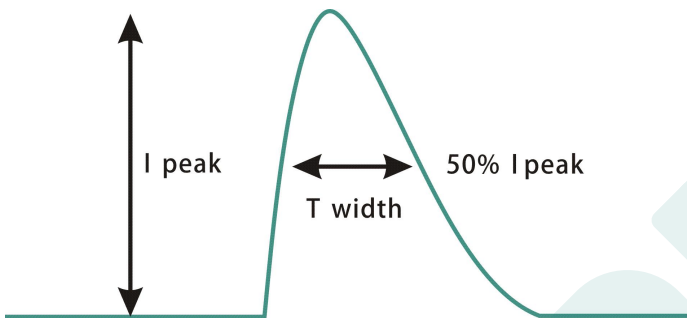
Tcase VS Lifetime(DL-320H-MXC)



Output power VS Tcase (DL-320H-MXC)

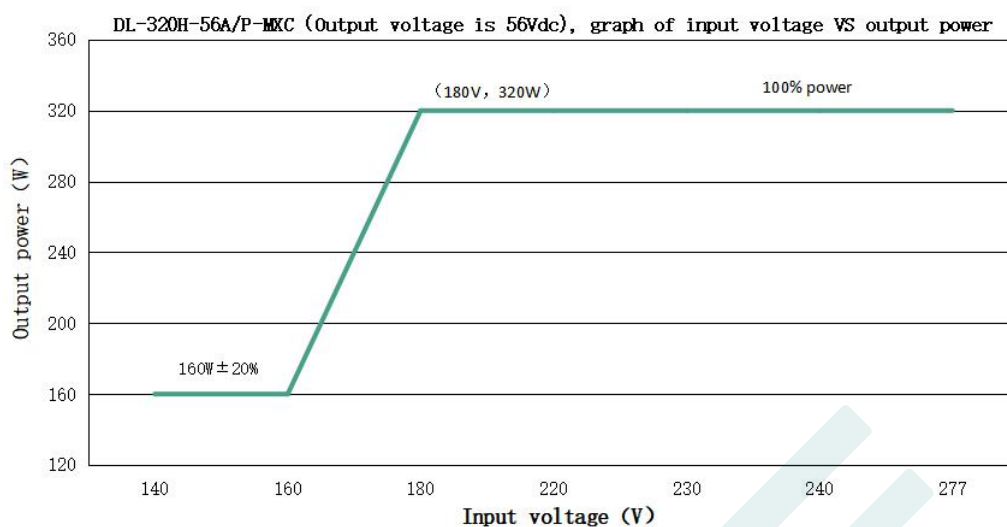


Inrush Current(DL-320H-MXC)



Input voltage	Peak current	T(@50% Peak current)
230Vac	95A	7.14us

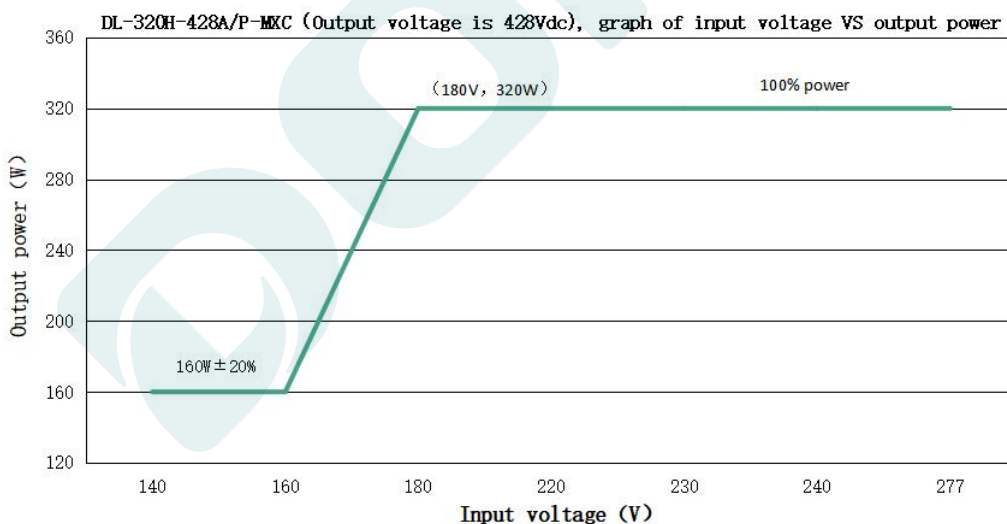
input voltage VS output power



DL-320H-56A/P-MXC (When the output voltage is 56Vdc, the rated output current value and output power corresponding to different input voltage)

Input Voltage	140Vac	160Vac	180Vac	220Vac	230Vac	240Vac	277Vac
Iout	2.86A	2.86A	5.71A	5.71A	5.71A	5.71A	5.71A
Pout	160W	160W	320W	320W	320W	320W	320W

Note: When the input voltage is 180 Vac, the output power gradually decreases.



DL-320H-428A/P-MXC (When the output voltage is 428Vdc, the rated output current value and output power corresponding to different input voltage)

Input Voltage	140Vac	160Vac	180Vac	220Vac	230Vac	240Vac	277Vac
Iout	0.375A	0.375A	0.75A	0.75A	0.75A	0.75A	0.75A
Pout	160W	160W	320W	320W	320W	320W	320W

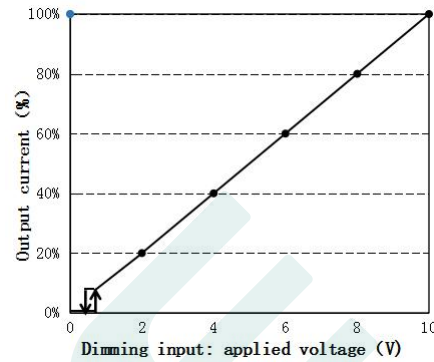
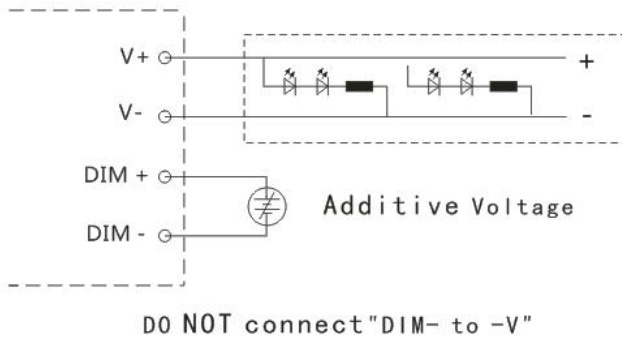
Note: When the input voltage is 180 Vac, the output power gradually decreases.

Dimming operation

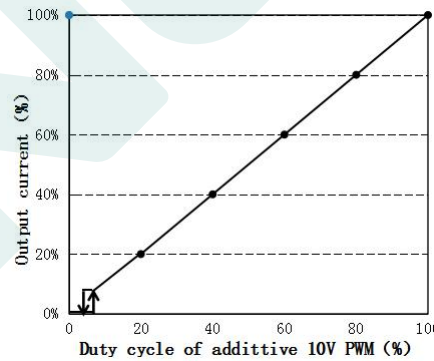
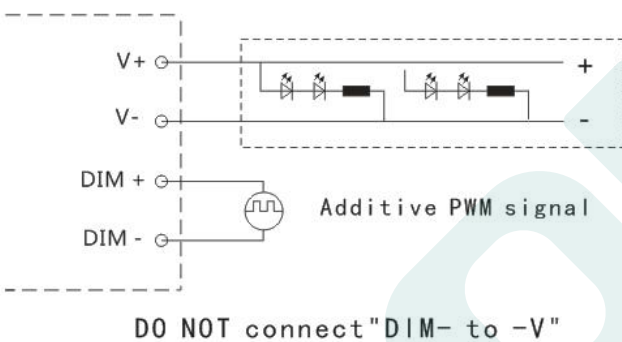
※ Three-in-one dimming function (P version)

- 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).

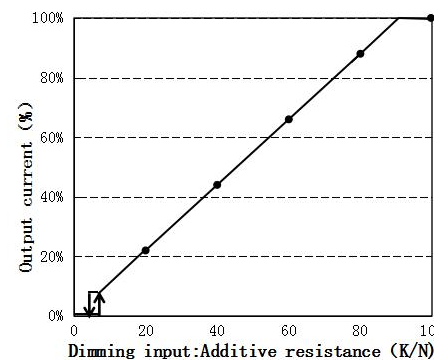
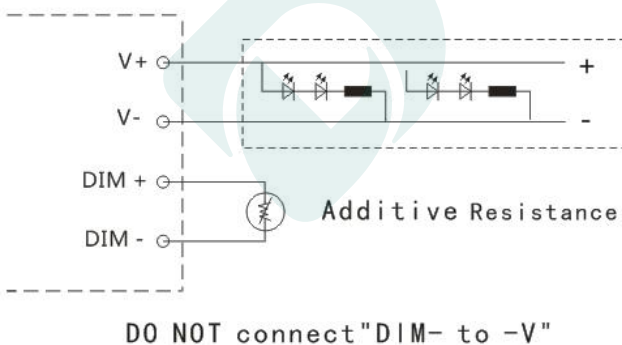
• With an applied voltage of 1-10V:



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



• With an additional 0-100K resistor:



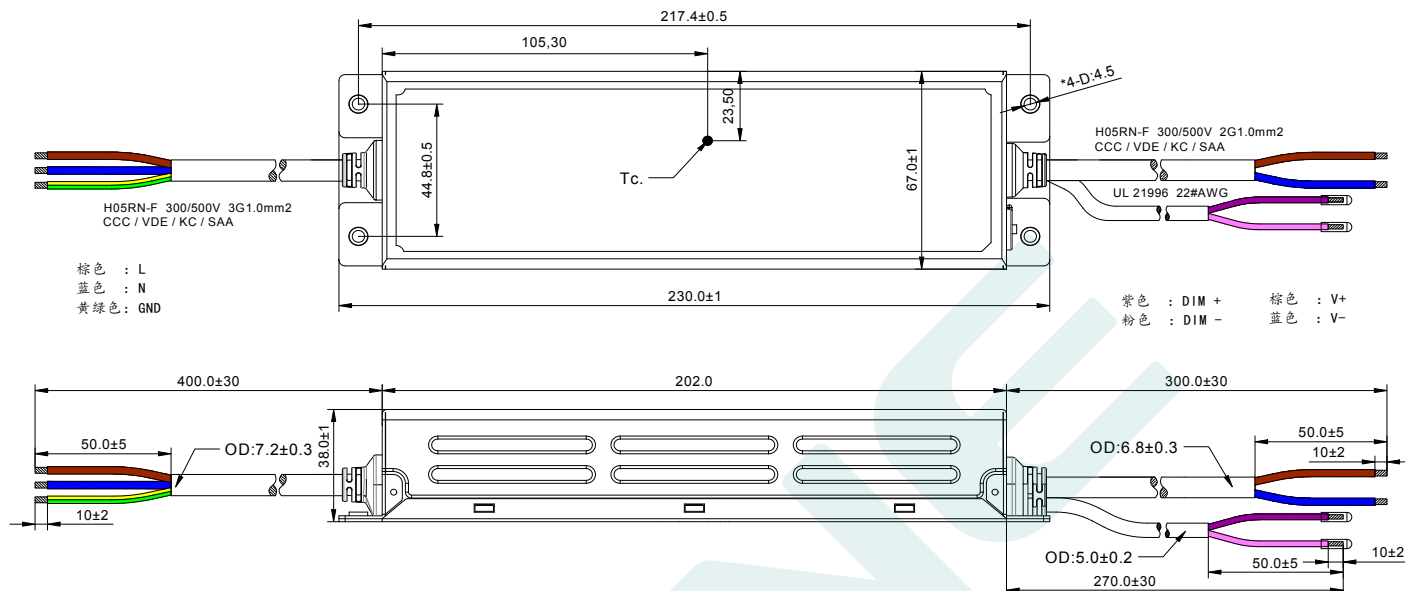
Note:

1. Positive and negative logic dimming can be set through the program.
2. Dimming off applies only to positive logic. For other requirements, contact technical support.
3. After the overtemperature protection is enabled, the dimming power is 50% of the original when the P version is 5-10V.
When the dimming power is less than 5V, the dimming power is changed according to the 0-5V dimming power.

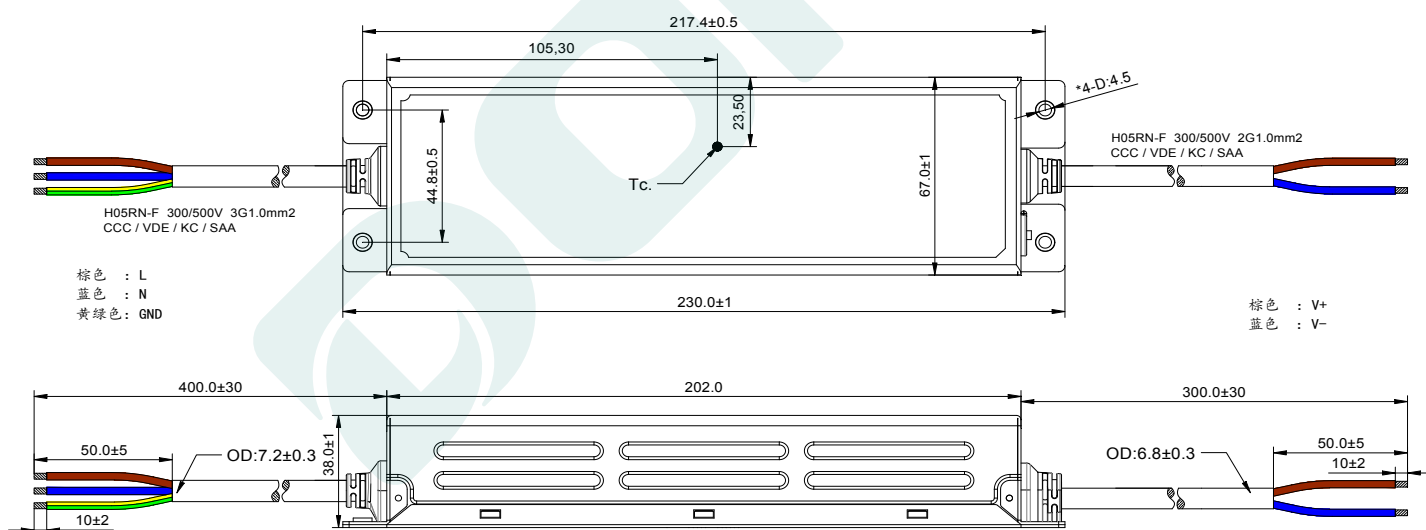
Mechanical specification

Size (mm) L230*W67*H38

DL-320H-56P/428P-MXC



DL-320H-56A/428A-MXC

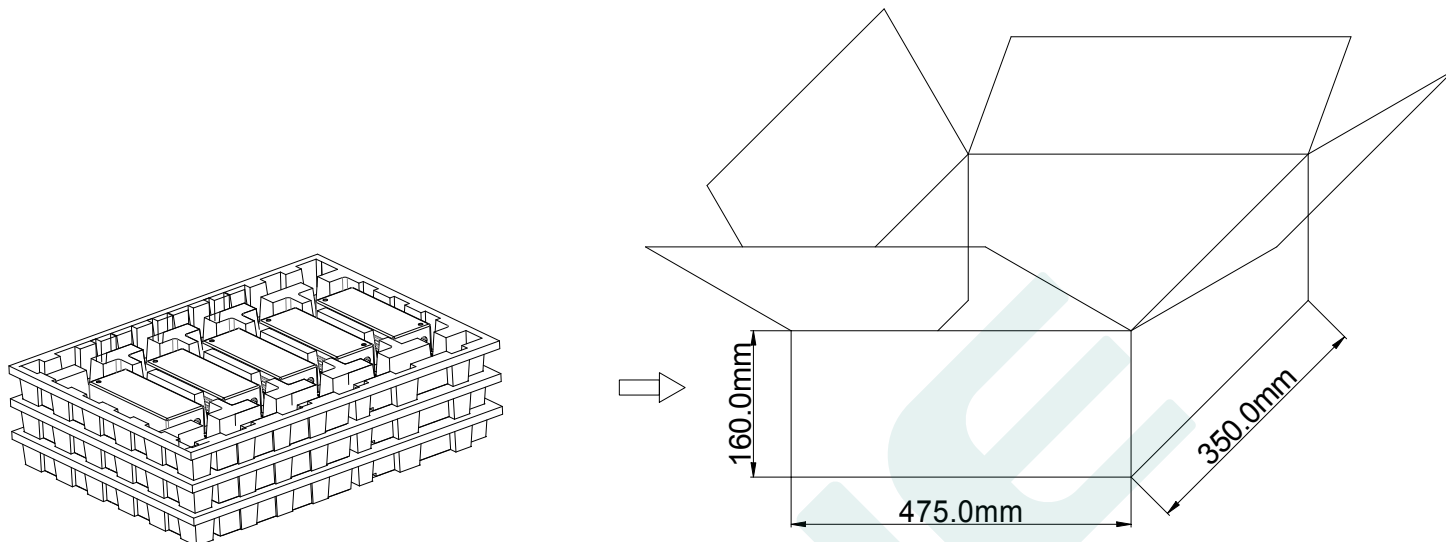


Weight

Weight 1140 g

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
2024.12.4	Initial version.	V1.0	
2025.8.9	1. Add 320H-428A/P-MXC model 2. Modify input voltage on page 2 and High-pot test on page 7. 3. Modify default current on page 2 4. Modify the Tcase VS Lifetime curve graph	V1.1	
2025.8.14	Update Dimming characteristic on page 4, and Tcase VS Lifetime curve	V1.2	
2025.12.19	Lightning protection level: common mode change to 10kV	V1.3	

MANUFACTRUER		
EDIT	CHECK	APPROVE