

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 rectangle with a thin teal border.

# **MXC SERIES LED DRIVERS**

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**DL-240H-A/P-MXC SPEC V1.2**

## Features

- Class I structure
- Input voltage: 100-305 V ~ 50/60 Hz  
 Rated input voltage: 200-277V ~ 50/60Hz
- 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-240H-56A/P-MXC	100-277V 50/60Hz	240W	25-56Vdc	6.0A	≥93%	≤10%	≥0.95
DL-240H-343A/P-MXC	100-277V 50/60Hz	240W	171-343Vdc	0.7A	≥93%	≤10%	≥0.95

### Note:

1. Test conditions of the above parameters: Ta=25°C, 230Vac input, full load for 30 minutes.
2. When the input is less than 165 ± 15Vac, the output power gradually decreases. When the input 200-277Vac, rated power 240W. Please refer to "THE OUTPUT POWER VS INPUT VOLTAGE" curve chart for details.

## 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 DL-240H-56A/P-MXC	-	-	1.5A	@180Vac full load
Input current DL-240H-343A/P-MXC			1.6A	@180Vac full load
Inrush current	-	-	100A	230Vac, cold start (25°C)

## Output characteristic

Parameter	Min	Typ.	Max	Note
Rated current DL-240H-56A/P-MXC	-	4.3A	-	
DL-240H-343A/P-MXC	-	0.7A	-	
Output current range DL-240H-56A-MXC	3.5A	-	6.7A	
DL-240H-56P-MXC	2.8A	-	6.7A	
DL-240H-343A/P-MXC	0.5A	-	1.05A	
Output voltage range DL-240H-56A/P-MXC	25V	-	56V	Constant power voltage range: 36-56V 228-343V
DL-240H-343A/P-MXC	171V	-	343V	
Rated power DL-240H-56A/P-MXC	-	-	240W	
DL-240H-343A/P-MXC				
No-load voltage DL-240H-56A/P-MXC	-	-	63V	
DL-240H-343A/P-MXC	-	-	365V	
Efficiency@230Vac DL-240H-56A/P-MXC	91.5%	93%	-	@230Vac full load
DL-240H-343A/P-MXC	93%	93.5%	-	
Current Accuracy	-3%	-	+3%	full load @230Vac
Output ripple current	-	-	5%	Full load@20MHZ band Wide ripple current = RMS /Mean value
Line regulation	-3%	-	+3%	full load

## Output characteristic

Parameter	Min	Typ.	Max	Note
Load regulation	-3%	-	+3%	full load
Starting time	300ms	-	1000ms	Full load@200-277Vac

**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	0	-	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 $\Omega$	-	100K $\Omega$	-
	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. The P version is 1-10V dimming (0V can be turned off). The maximum voltage of the dimming port is 12V. If the external power supply voltage exceeds 12V or the signal cable is inverted, the power supply will be damaged.
3. Dimming default setting is three in one positive logic dimming (programmable software can be set to timing dimming, 0-5V or other voltage dimming).
4. When set to positive logic dimming function, the 0V dimming is turned off, and the output voltage is  $0.46 \cdot V_{omax}$  after the dimming is turned off. Be careful when using this function, but customers are advised to use 1-10V dimming.
5. When setting negative logic dimming, the default output is 100% when the dimming is suspended. Negative logic dimming cannot be turned off. When the port voltage of the dimming is greater than 10.5V, the maximum power output of the power supply will be achieved.

## Protection

Function	Function instructions
Input under-voltage protection	When the input voltage is less than 165 ±15Vac, 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°C, 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°C of ambient temperature.
2. Including setting error, linear adjustment rate and load adjustment rate.

## Environmental

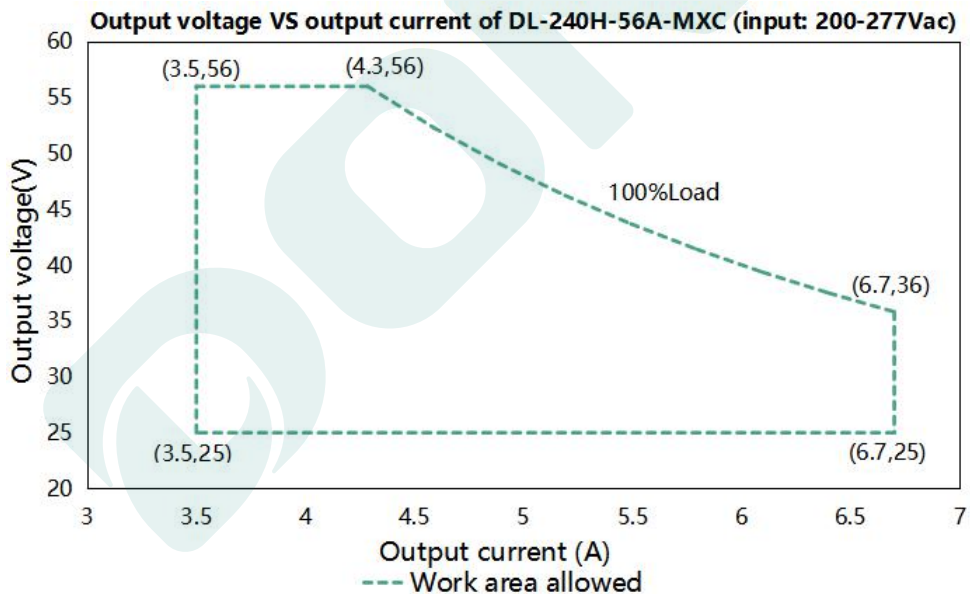
Environmental categories	Parameter
Working temperature	-40 ~ +55°C@200-277Vac (refer to "Life Curve ")
Max.Case Temp.	-40 ~ 90°C
Working humidity	20 ~ 90% RH, non condensing
Storage temperature、 humidity	-40 ~ +80°C, 10 ~ 90% RH
Resistant to vibration	10 ~ 500Hz, 5G 12 min/cycle, X, Y, Z axis 72 min each
MTBF	230Khrs min. MIL-HDBK-217F (Ta=25°C)
Lifetime	50000 hours @Tcase≤75°C,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、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 $\Omega$ ), common mode L, n-ground $\pm$ 10 KV (12 $\Omega$ ) as per IEC61000-4-5 2014
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-240H-56A/P-MXC) O/P-PE : 1.73KVac(DL-240H-343A/P-MXC) O/P-DIM:1.126KVac(DL-240H-56A/P-MXC) O/P-DIM:1.73KVac(DL-240H-343A/P-MXC)
Insulation impedance	I/P-PE:100M $\Omega$ / 500VDC; I/P-O/P:100M $\Omega$ / 500VDC / 25 $^{\circ}$ C/ 70% RH
Leakage current	<0.7mA@277Vac

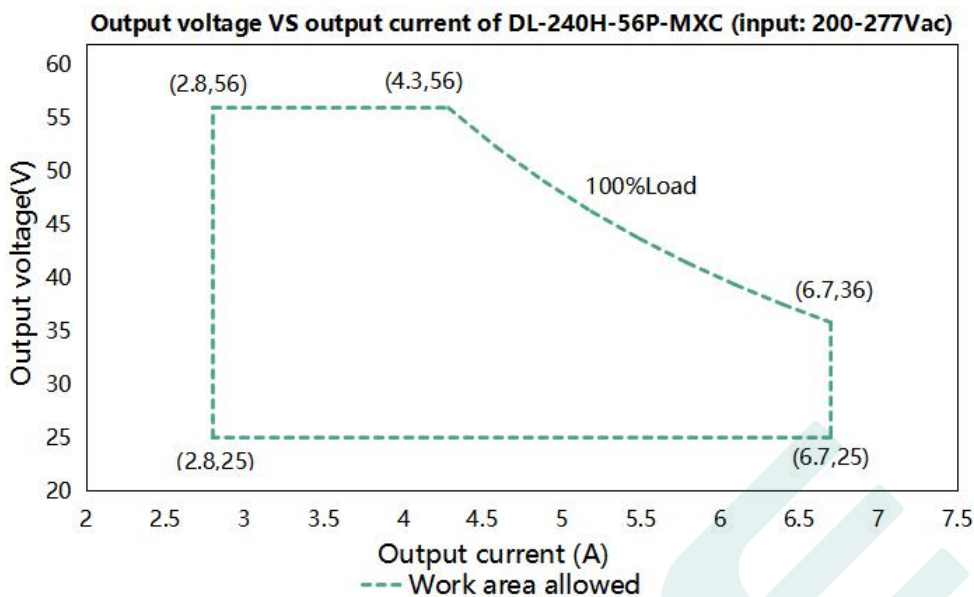
**Note:** The driver is considered as a component that will be operated in combination with the final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.

## I-V Working area

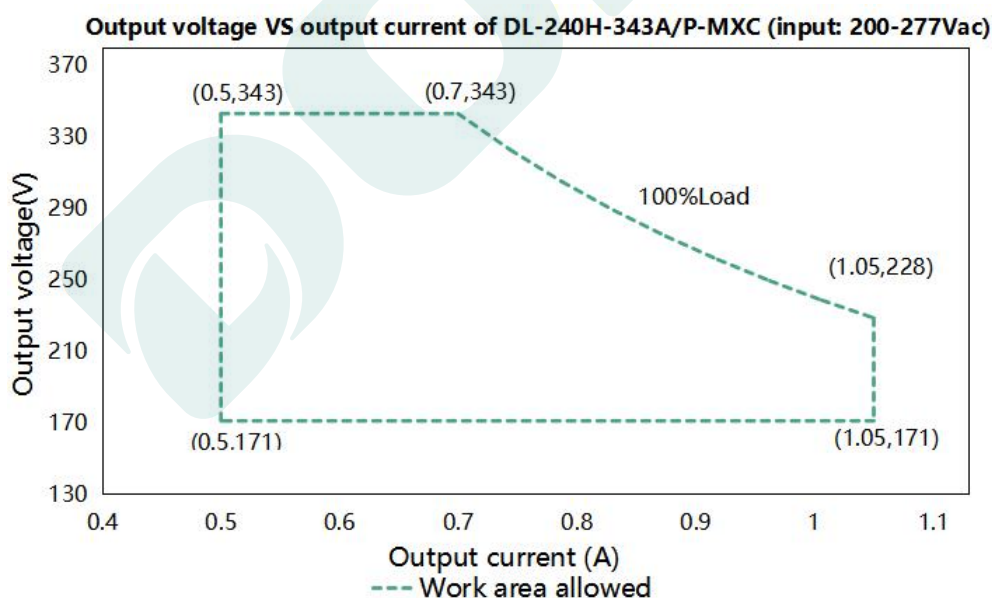


Load	Output								
Load working Voltage	25V	29V	33V	36V	42V	46V	48V	52V	56V
Io_MAX	6.7A	6.7A	6.7A	6.7A	5.7A	5.2A	5.0A	4.6A	4.3A
Po_MAX	167W	194W	221W	240W	240W	240W	240W	240W	240W

## I-V Working area

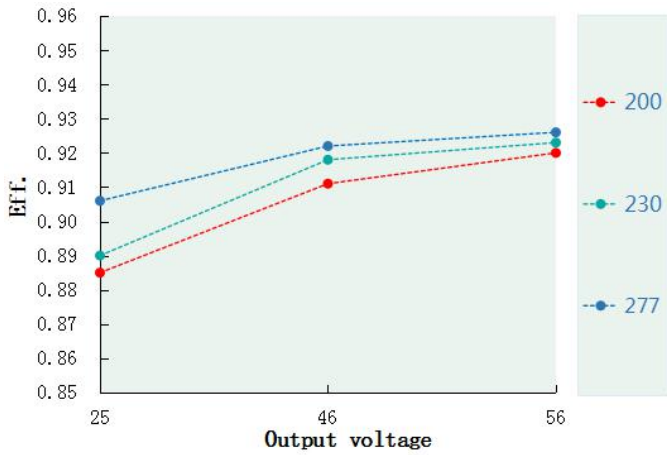


Load	Output								
Load working Voltage	25V	29V	33V	36V	42V	46V	48V	52V	56V
Io_MAX	6.7A	6.7A	6.7A	6.7A	5.7A	5.2A	5.0A	4.6A	4.3A
Po_MAX	167W	194W	221W	240W	240W	240W	240W	240W	240W

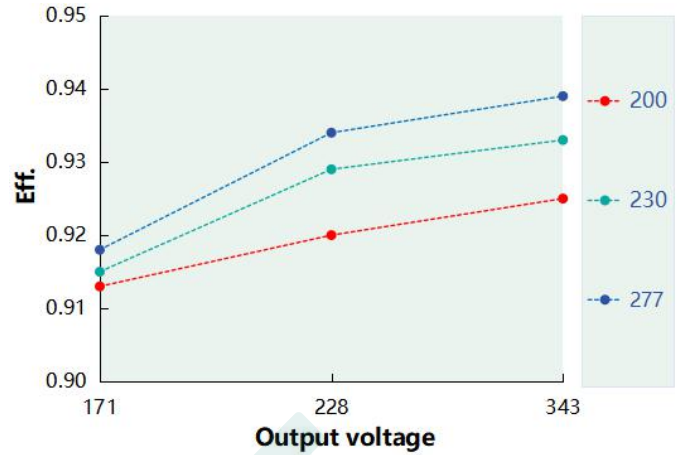


Load	Output								
Load working Voltage	171V	190V	210V	228V	240V	270V	290V	320V	343V
Io_MAX	1.05A	1.05A	1.05A	1.05A	1.0A	0.83A	0A	0.75A	0.7A
Po_MAX	179W	199W	220W	240W	240W	240W	240W	240W	240W

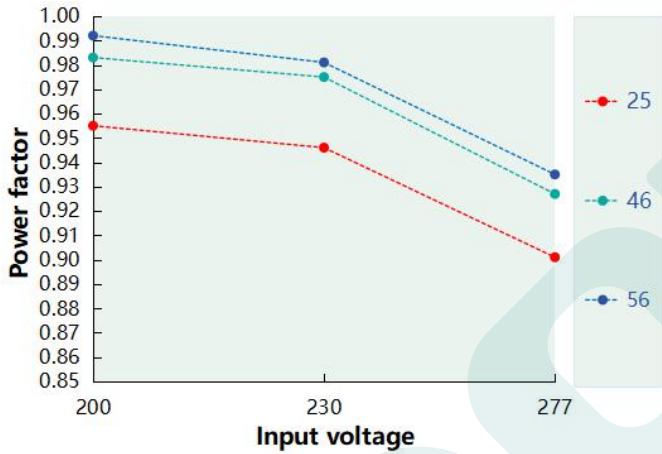
Eff. VS Output voltage(DL-240H-56P-MXC)



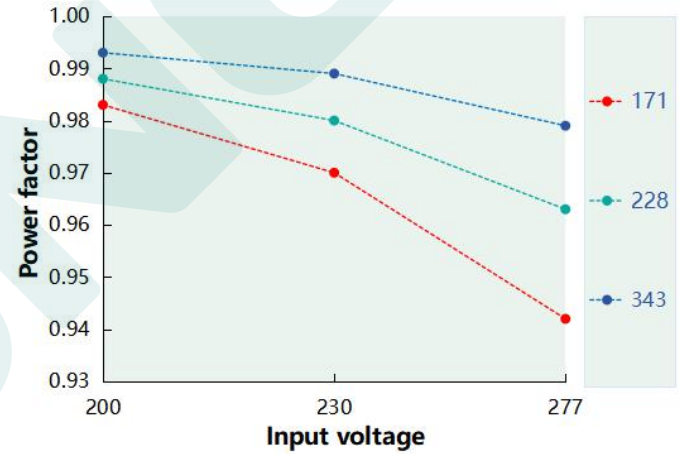
Eff. VS Output voltage(DL-240H-343P-MXC)



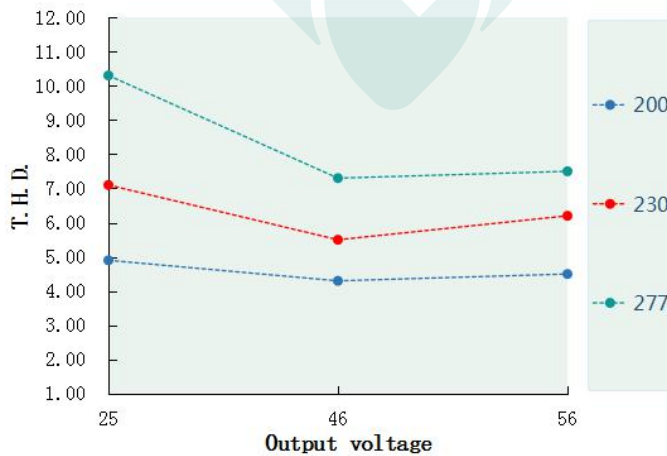
Power factor VS Input voltage(DL-240H-56P-MXC)



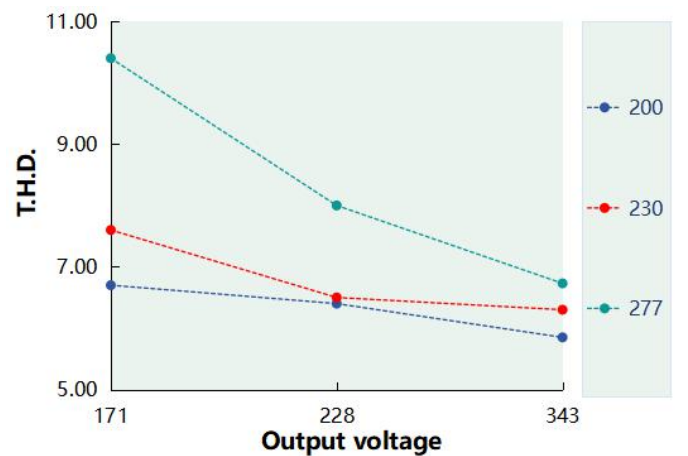
Power factor VS Input voltage(DL-240H-343P-MXC)



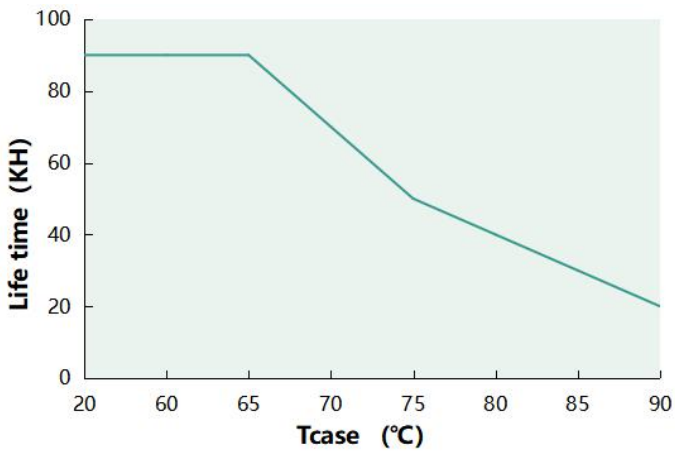
T.H.D. VS Output voltage(DL-240H-56P-MXC)



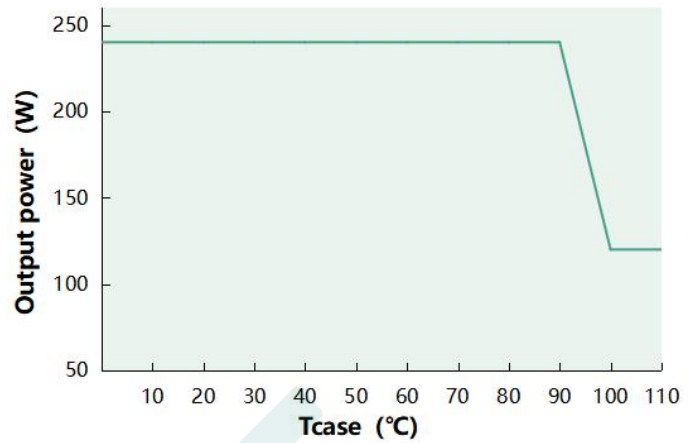
T.H.D. VS Output voltage(DL-240H-343P-MXC)



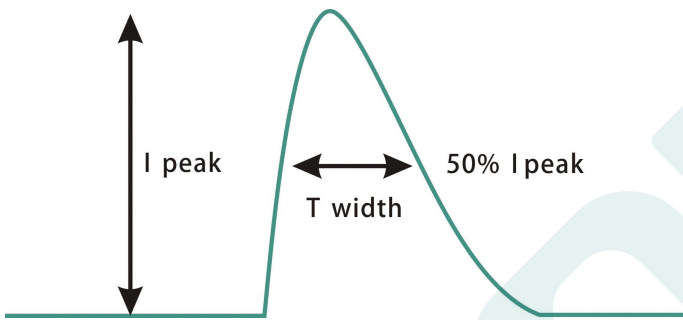
Tcase VS Lifetime(DL-240H-MXC)



Output power VS Tcase (DL-240W-MXC)

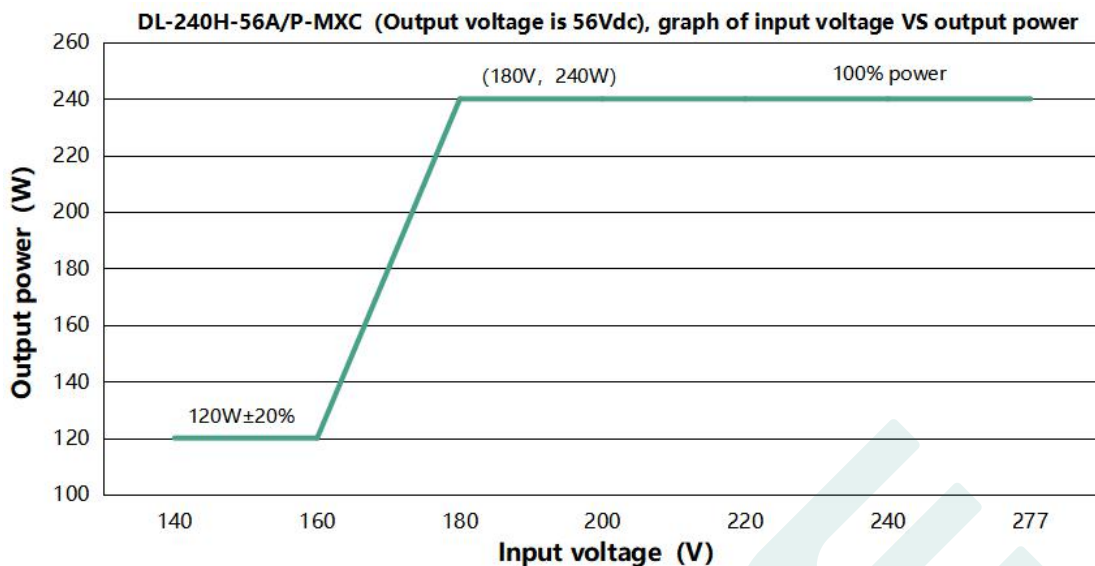


Inrush Current(DL-240H-A/P-MXC)



Input voltage	Peak current	T(@50% Peak current)
200Vac	58A	29US
230Vac	65A	32US
277Vac	85A	150US

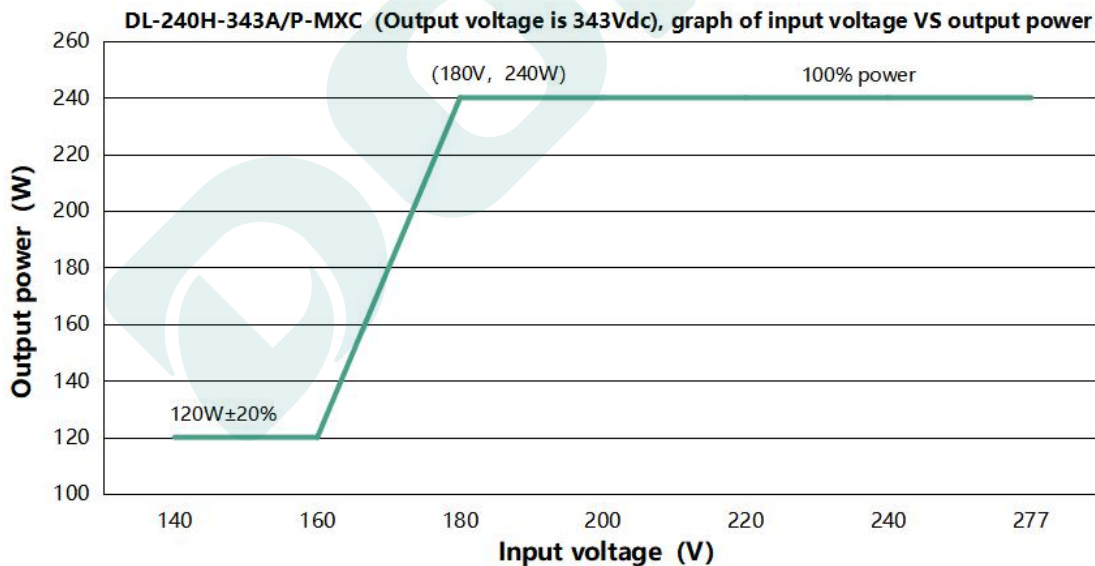
输出功率 VS 输入电压



**DL-240H-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	200Vac	220Vac	240Vac	277Vac
Iout	2.15A	2.15A	4.3A	4.3A	4.3A	4.3A	4.3A
Pout	120W	120W	240W	240W	240W	240W	240W

**Note:** When the input voltage less than 180 Vac, the output power gradually decreases.



**DL-240H-343A/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	200Vac	220Vac	240Vac	277Vac
Iout	0.35A	0.35A	0.7A	0.7A	0.7A	0.7A	0.7A
Pout	120W	240W	240W	240W	240W	240W	240W

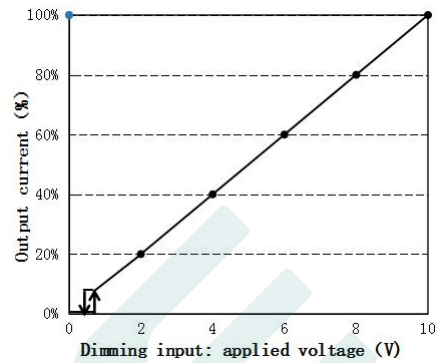
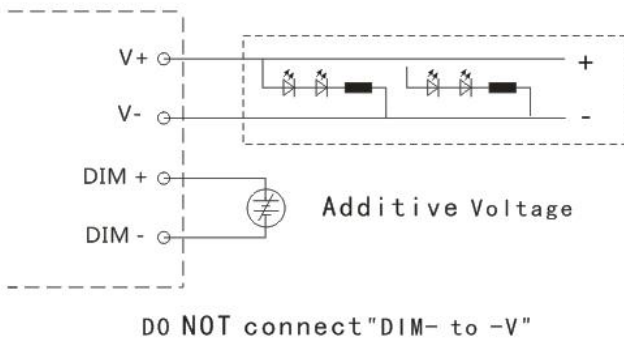
**Note:** When the input voltage less than 180 Vac, the output power gradually decreases.

## Dimming operation

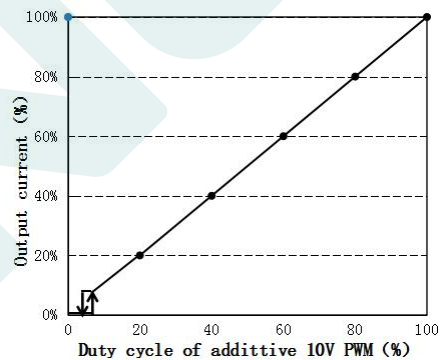
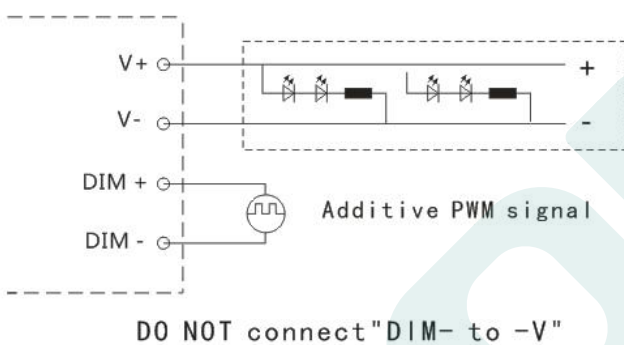
### ※ Three-in-one dimming function (P version)

- 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).

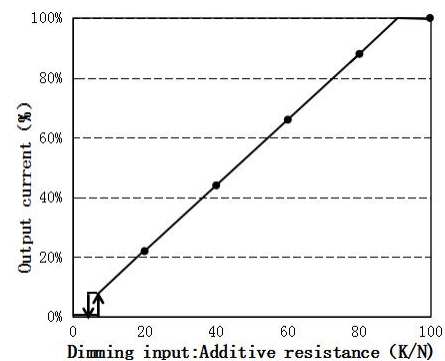
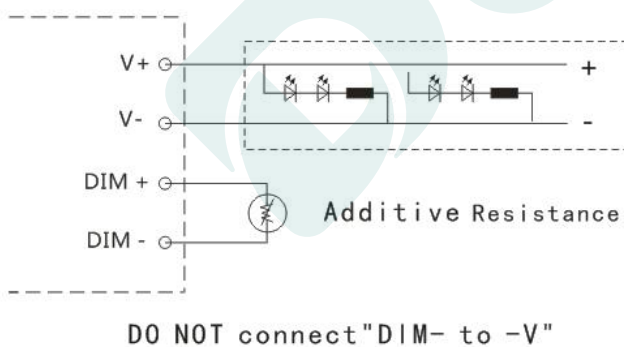
#### ● With an applied voltage of 1-10V:



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



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



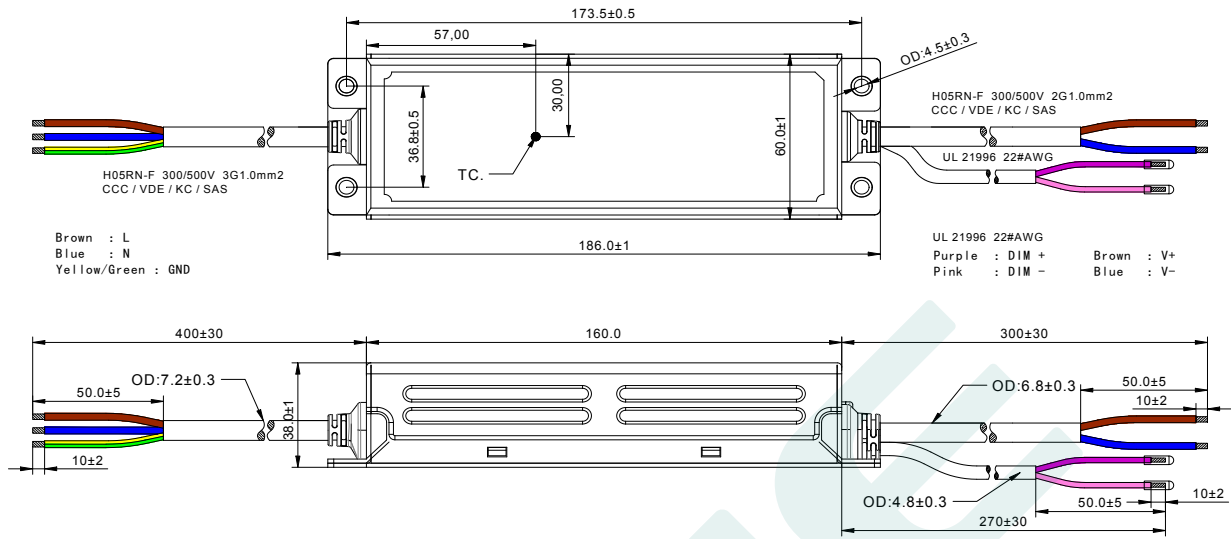
### Note:

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.

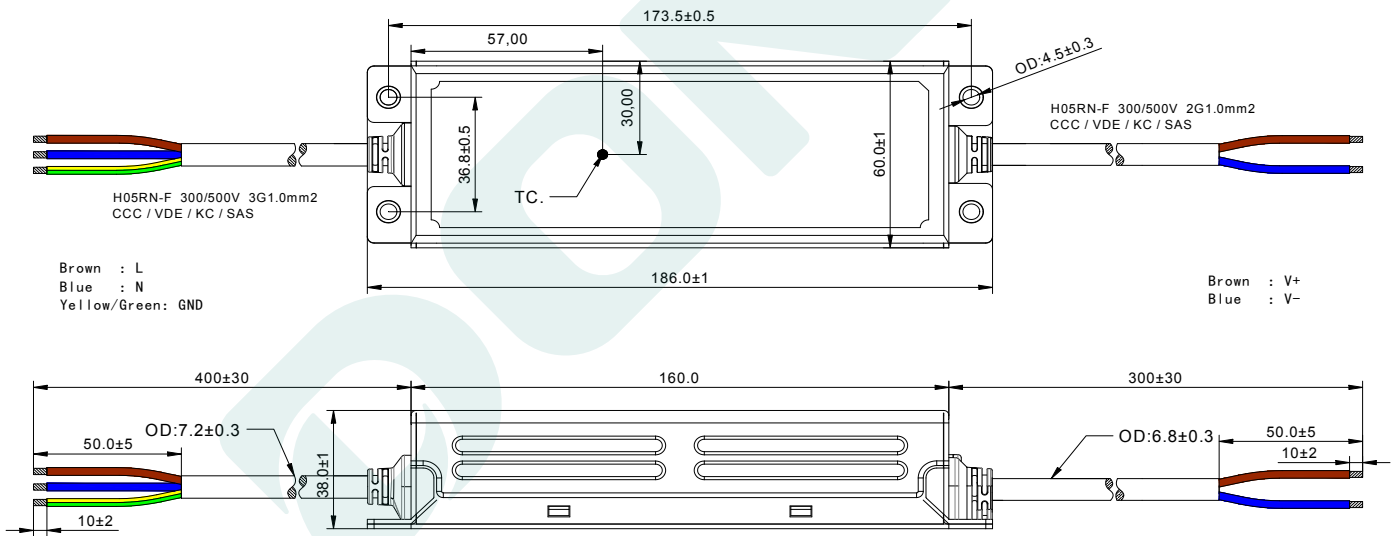
# Mechanical specification

Size ( mm ) L186\*W60\*H38

## DL-240H-56P/343P-MXC



## DL-240H-56A/343A-MXC

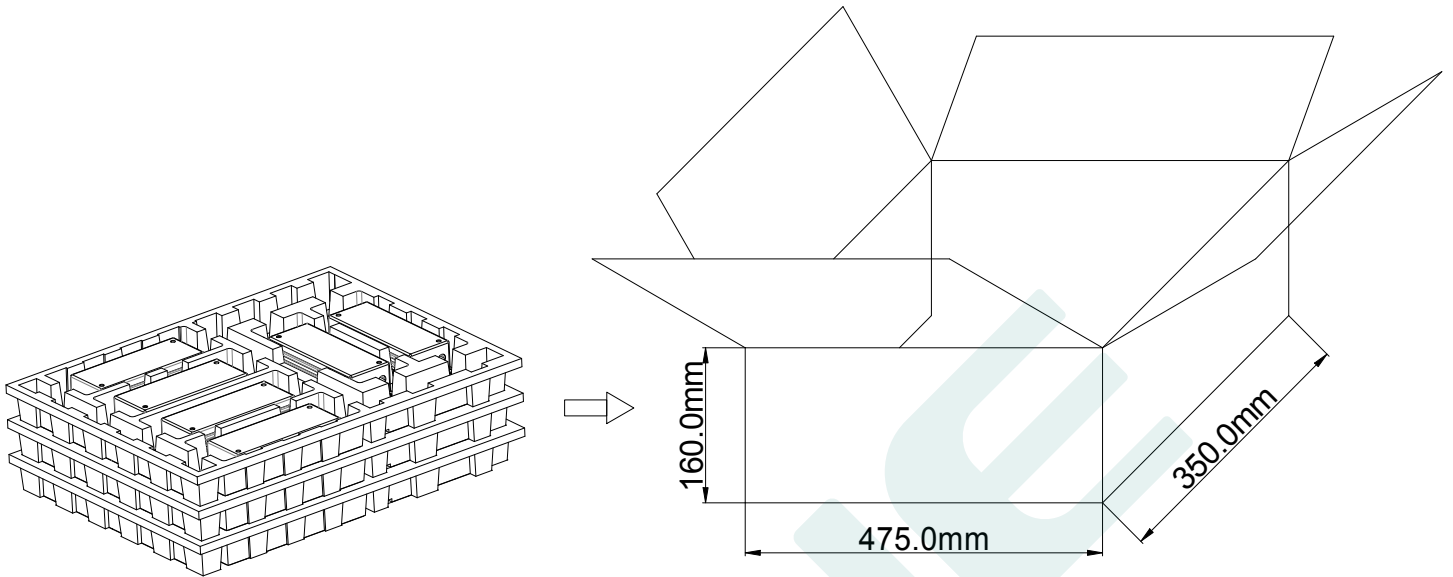


# Weight

Weight 780 g

## Packaging

Packaging ( mm ) L475\*W350\*H160



Note: One Carton 3 layers and 6 pcs each layer, total 18pcs/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	
2025.1.11	1. Add 240H-343A/P-MXC model 2. Modify input voltage on page 2 and High-pot test on page 7.	V1.1	
2025.5.12	1. Adjust 240H-56P-MXC output current range from '3.5A-6.7A' to '2.8A-6.7A'. 2. Lightning protection level : CM changed to 10KV	V1.2	

**MANUFACTURER**

EDIT	CHECK	APPROVE