



MXC SERIES LED DRIVERS

DL-150H-MXC SPECV V1.6

Features

- Class I structure
- Input voltage: 100-305V ~ 50/60 Hz
 Rated input voltage: 200-277V ~ 50/60Hz
- Efficiency :91.5%(Typ.)
- Constant power drive and constant current output control mode
- Metal shell structure, protection grade: IP67
- Lightning protection level: differential mode 6kV, common mode 10kV
- Function selection:
 Output current is adjusted by external potentiometer (A version only)
 Input over-voltage protection (Only the p version is optional)
- Lifetime design: 5 years



Applications

Road lighting、Industrial lighting、 Venue lighting
 Floodlight lighting、 Landscape lighting 、 Plant lighting



型号列表

Model NO.	Input voltage	Output power	Output voltage	The default current	Eff.	T.H.D	PF
DL-150H-56P-MXC DL-150H-56A-MXC	100-277V 50/60Hz	150W	25-56Vdc	3.8A	≥90%	≤10%	≥0.95
DL-150H-214P-MXC DL-150H-214A-MXC	100-277V 50/60Hz	150W	95-214Vdc	0.7A	≥91.5%	≤10%	≥0.95

Note :

1. Test conditions of the above parameters: Ta=25°C, 230Vac input, full load operation for 30 minutes.
2. When the input voltage is less than 165 ± 15Vac, the output power is reduced to 75W ± 20%, and when the input is 200-277Vac, the rated power is 150W. Special attention should be paid to the application.
 For details, see input voltage VS output power diagram.

Input characteristics

Parameter	Min	Typ.	Max	remark
Rated input voltage	200Vac	230Vac	277Vac	-
Input voltage range	100Vac	-	305Vac	When the input voltage is less than 165±15Vac, the output power is reduced to 75W±20%
Rated frequency	47Hz	50/60Hz	63Hz	-
Power factor	-	0.95	-	@230Vac full load, rated input voltage
T.H.D.	-	10%	-	100% load , 230Vac input
Input current	-	0.9A	-	100% load , 230Vac input
Inrush current	-	100A	-	230Vac, cold start (25°C)

Output characteristic

Parameter	Min	Typ.	Max	remark
Rated current				
DL-150H-56P/A-MXC	-	2.7A	-	-
DL-150H-214P/A-MXC	-	0.7A	-	-
Output current range				
DL-150H-56P/A-MXC	1.78A	-	4.2A	-
DL-150H-214P/A-MXC	0.5A	-	1.05A	-
Output voltage range				Constant power voltage range:
DL-150H-56P/A-MXC	25V	-	56V	36-56V
DL-150H-214P/A-MXC	95V	-	214V	143-214V
Rated power(200-277Vac)	-	150W	-	-
No-load voltage				
DL-150H-56P/A-MXC	-	-	75V	-
DL-150H-214P/A-MXC	-	-	250V	-
Efficiency@200Vac				
DL-150H-56P/A-MXC	87%	89%	-	full load@200Vac
DL-150H-214P/A-MXC	88%	90%	-	
Efficiency@230Vac				
DL-150H-56P/A-MXC	88%	90%	-	full load@230Vac
DL-150H-214P/A-MXC	89%	91.5%	-	

Output characteristic

Parameter	Min	Typ.	Max	remark
Output Current Ripple	-	-	+5%	100% load,20 MHz BW ; Ripple =rms/ average
Accuracy of output current	-5%	-	+5%	full load Constant power range
Line regulation	-3%	-	+3%	full load Constant power range
Load regulation	-3%	-	+3%	full load Constant power range
Starting time	300ms	-	1000ms	Full load@200-277Vac

Note:

1. The output current range is limited by the input and output voltage, please refer to "I-V WORKING AREA" for details.
2. When the output voltage is in the constant power range, the current accuracy is -5%~+5%; when the output voltage is below the constant power range, the current accuracy is -10%~+10%.

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 $0.46 \times V_{omax}$, 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
Input under-voltage protection	When the input voltage is less than $165\pm 15V_{ac}$, 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 $90^{\circ}C$, 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 $25^{\circ}C$ of ambient temperature.
2. Including setting error, line regulation and load regulation.

Environmental

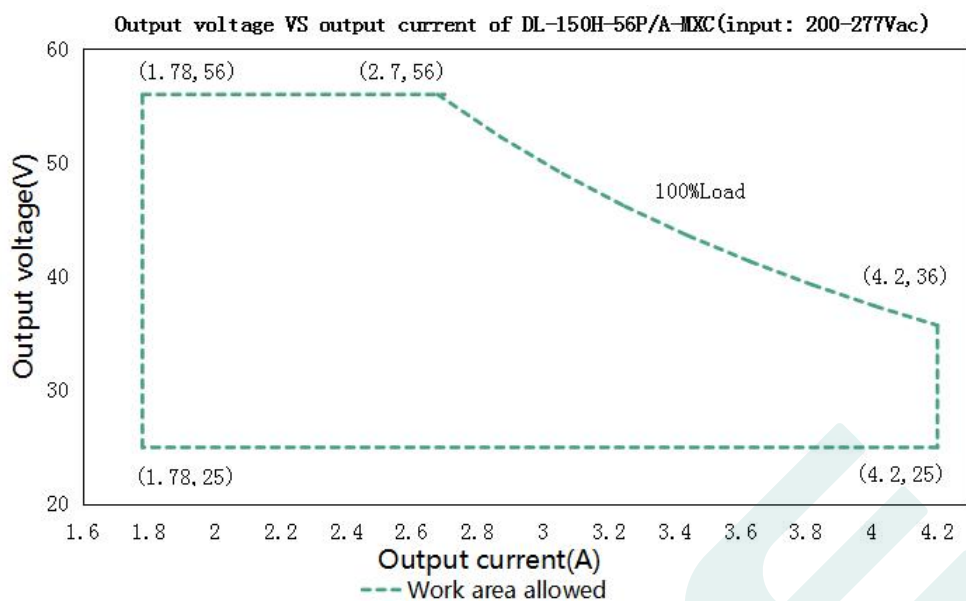
Environmental categories	Parameter
Working temperature	$-40 \sim +55^{\circ}C@200-277V_{ac}$
Max.Case Temp.	$-40 \sim 90^{\circ}C$
Working humidity	20 ~ 95% RH, non condensing
Storage temperature、 humidity	$-40\sim +80^{\circ}C$, 10 ~ 95% RH
Resistant to vibration	10 ~ 500Hz, 5G 12 min/cycle, X, Y, Z axis 72 min each
MTBF	230Khrs min. MIL-HDBK-217F ($T_a=25^{\circ}C$)
Lifetime	50000 hours @ $T_{case}\leq 75^{\circ}C$,230Vac, 80% Load, Please refer to "Tcase VS Lifetime" section

Safety and EMC

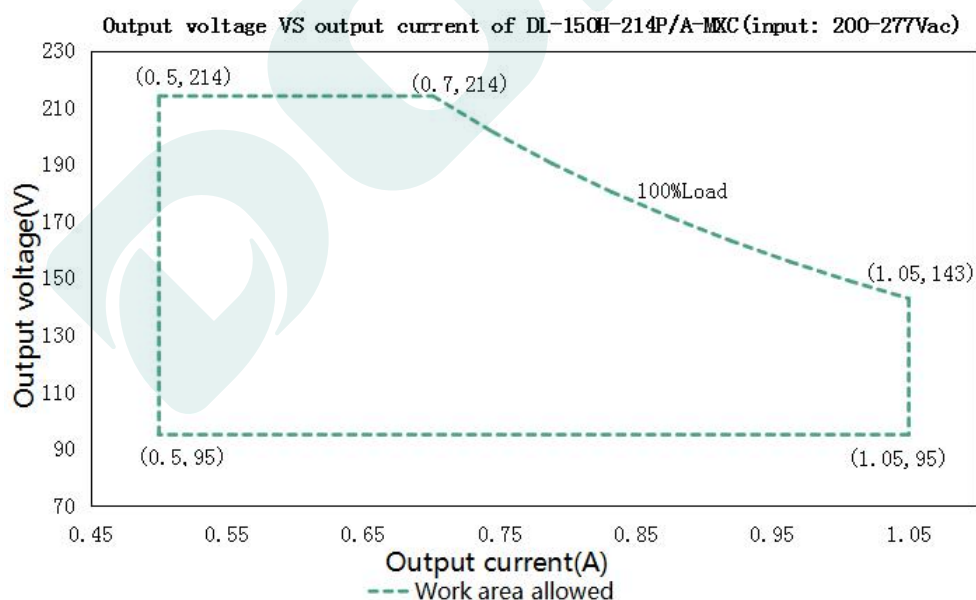
Safety categories	Standard
Safety	GB19510.1、GB19510.14、EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13、EN 62384、UL8750
EMC	EN 55015、EN 61000-3-2 、GB/T 17743、GB17625.1、EN 61000-3-3
Surge protection	Differential mode L-N $\pm 6\text{KV}$ (2 ohm) ,common mode L , N-PE $\pm 10\text{KV}$ (12 ohm) ; 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 : 1.15KVac(DL-150H-56A/P-MXC) O/P-PE : 1.5KVac(DL-150H-214A/P-MXC) O/P-DIM:1.15KVac(DL-150H-56A/P-MXC) O/P-DIM:1.5KVac(DL-150H-214A/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: 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

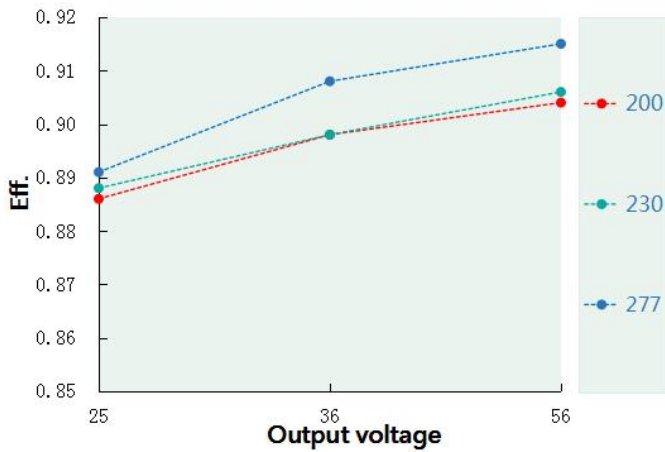


Load	Output								
Load working Voltage	25V	28V	32V	36V	40V	43V	48V	52V	56V
Io_MAX	4.2A	4.2A	4.2A	4.17A	3.75A	3.48A	3.13A	2.88A	2.7A
Po_MAX	105W	117.6W	134.4W	150W	150W	150W	150W	150W	150W

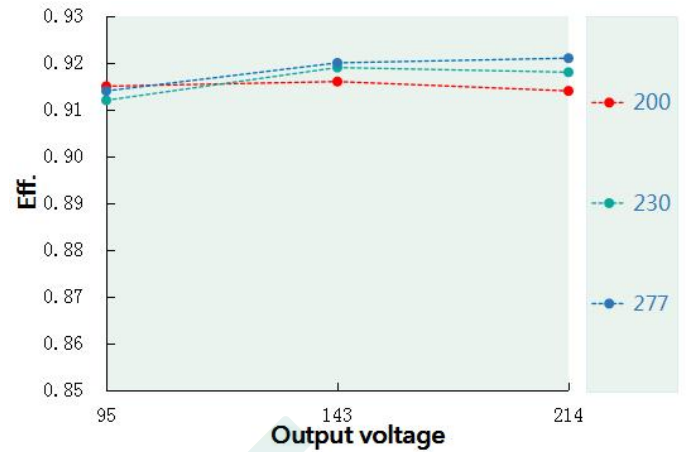


Load	Output								
Load working Voltage	95V	120V	135V	143V	165V	180V	190V	200V	214V
Io_MAX	1.05A	1.05A	1.05A	1.05A	0.91A	0.83A	0.79A	0.75A	0.7A
Po_MAX	99.75W	126.0W	141.75W	150W	150W	150W	150W	150W	150W

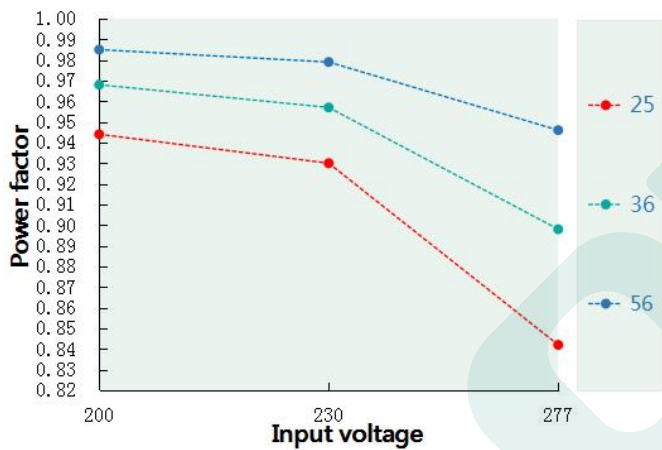
Eff. VS Output voltage DL-150H-56P/A-MXC



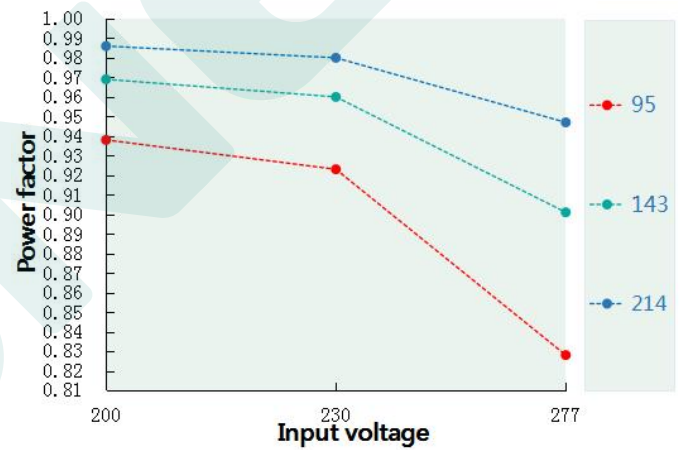
Eff. VS Output voltage DL-150H-214P/A-MXC



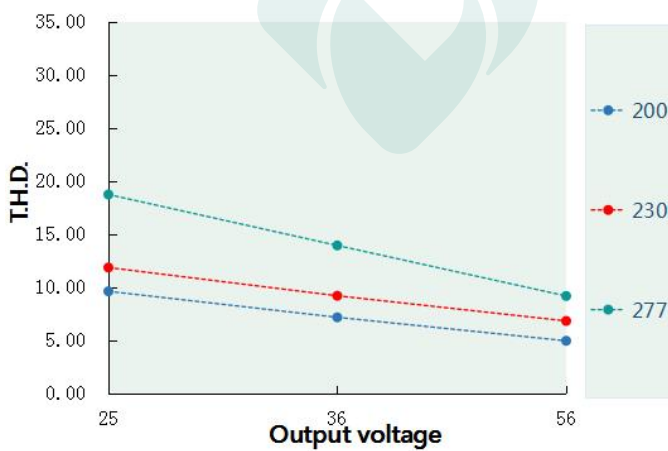
Power factor VS Input voltage DL-150H-56P/A-MXC



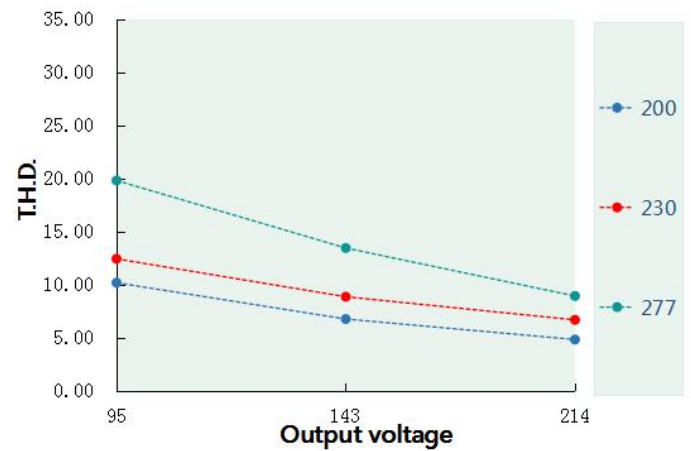
Power factor VS Input voltage DL-150H-214P/A-MXC



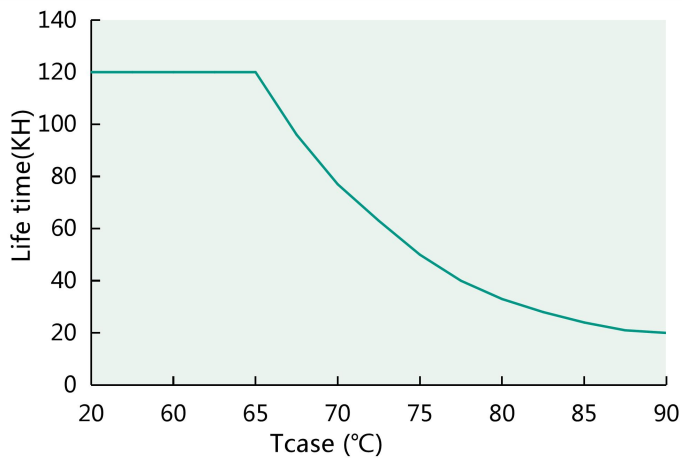
T.H.D. VS Output voltage DL-150H-56P/A-MXC



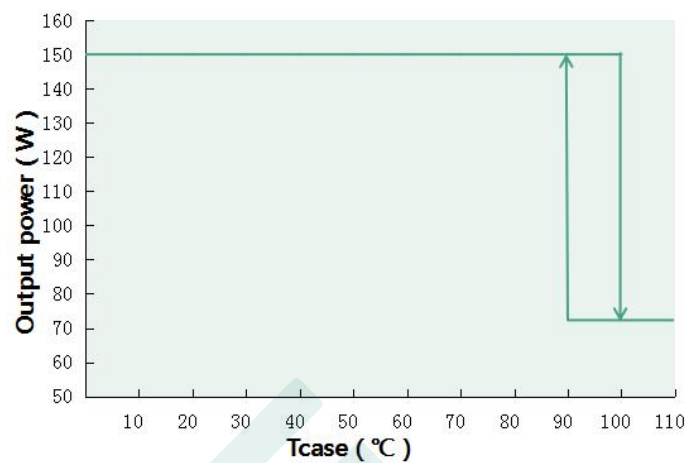
T.H.D. VS Output voltage DL-150H-214P/A-MXC



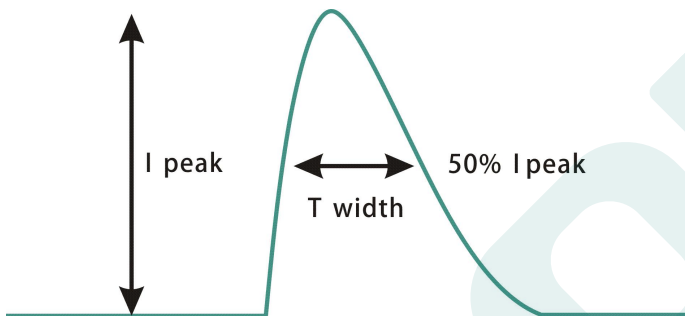
Tcase VS Lifetime(DL-150H-MXC)



Output power VS Tcase(DL-150H-MXC)

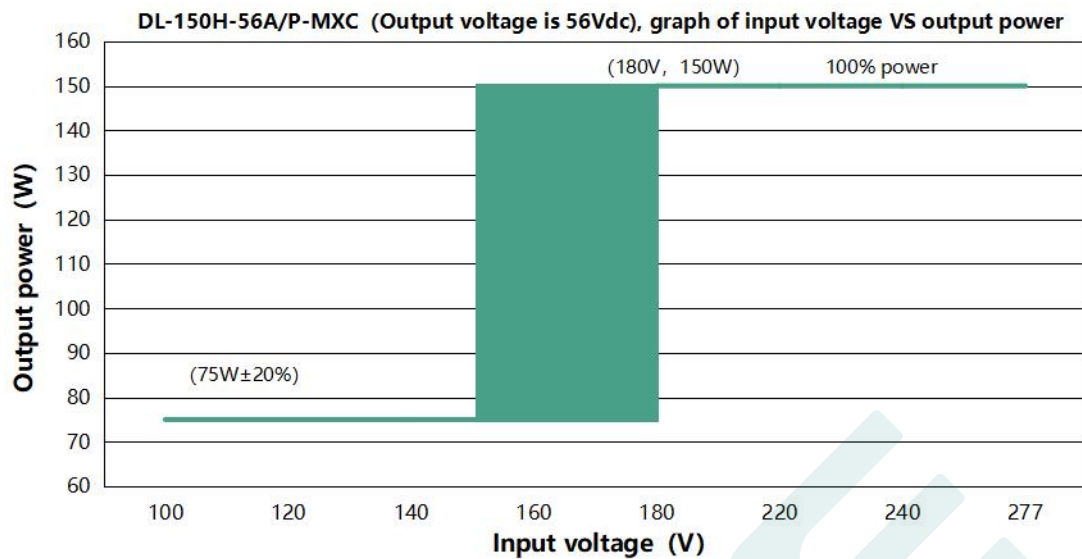


Inrush Current (DL-150H-MXC)



Input voltage	Peak current	T(@50% Peak current)
200Vac	74A	1.94us
230Vac	80A	2.02us
277Vac	104A	1.74us

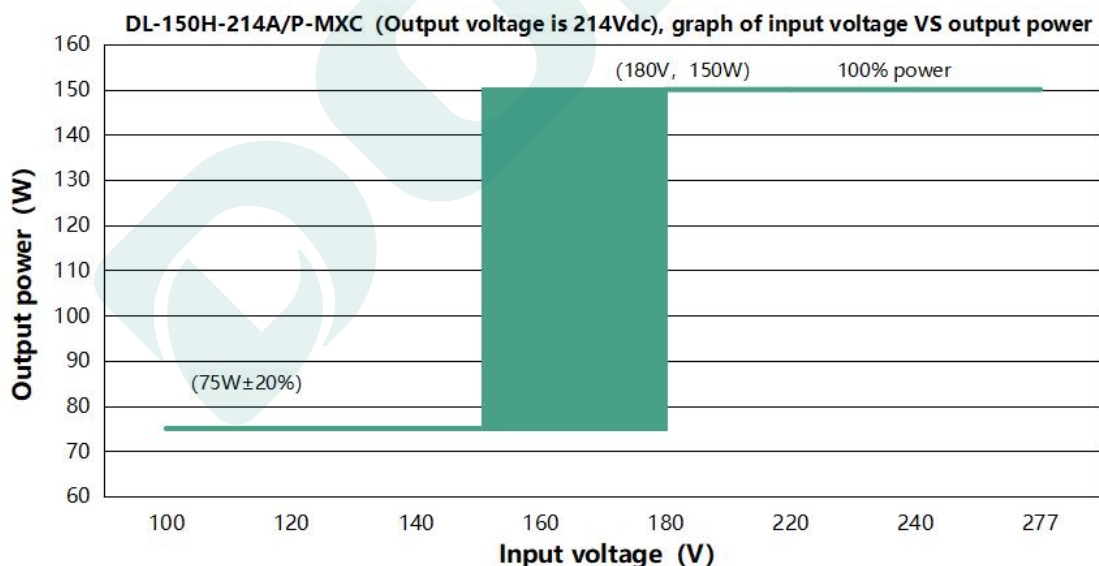
Output power VS Input voltage



DL-150H-56P/A-MXC(When the output voltage is 56Vdc, the rated output current value and output power corresponding to different input voltage)

Input Voltage	100Vac	120Vac	140Vac	150Vac	180Vac	220Vac	240Vac	277Vac
Iout	1.34A	1.34A	1.34A	1.34A	2.7A	2.7A	2.7A	2.7A
Pout	75W	75W	75W	75W	150W	150W	150W	150W

Note:When the input voltage is less than 165 ± 15 Vac, the output power is reduced to $75W \pm 20\%$



DL-150H-214P/A-MXC(When the output voltage is 214Vdc, the rated output current value and output power corresponding to different input voltage)

Input Voltage	100Vac	120Vac	140Vac	150Vac	180Vac	220Vac	240Vac	277Vac
Iout	0.35A	0.35A	0.35A	0.35A	0.7A	0.7A	0.7A	0.7A
Pout	75W	75W	75W	75W	150W	150W	150W	150W

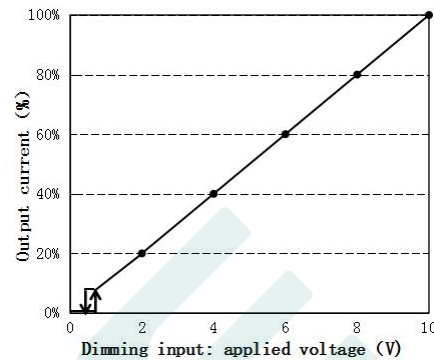
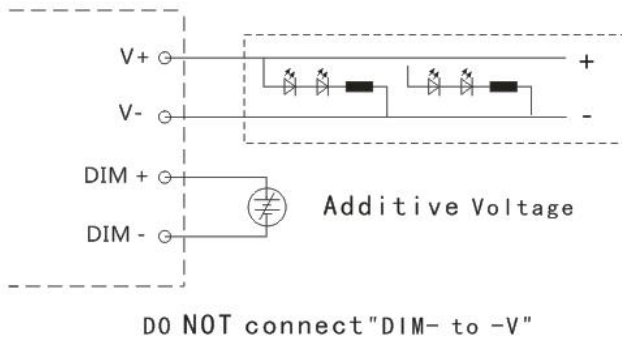
Note: When the input voltage is less than 165 ± 15 Vac, the output power is reduced to $75W \pm 20\%$

Dimming operation

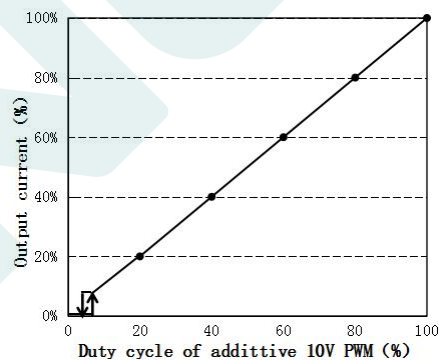
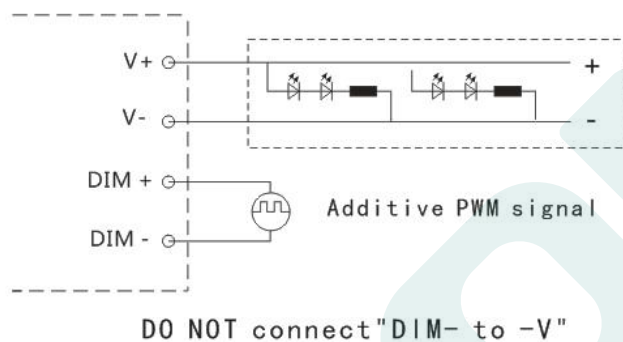
※ Three-in-one dimming function (P version only)

- 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).

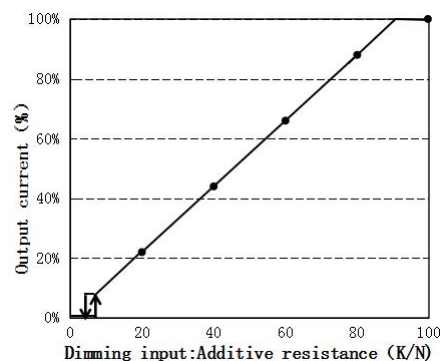
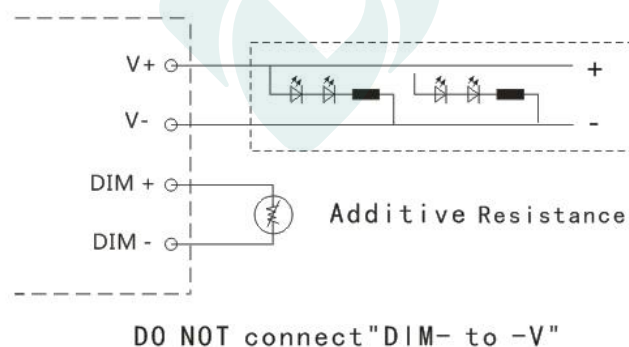
• With an applied voltage of 1-10V:



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



• With an additional 10-100K resistor:



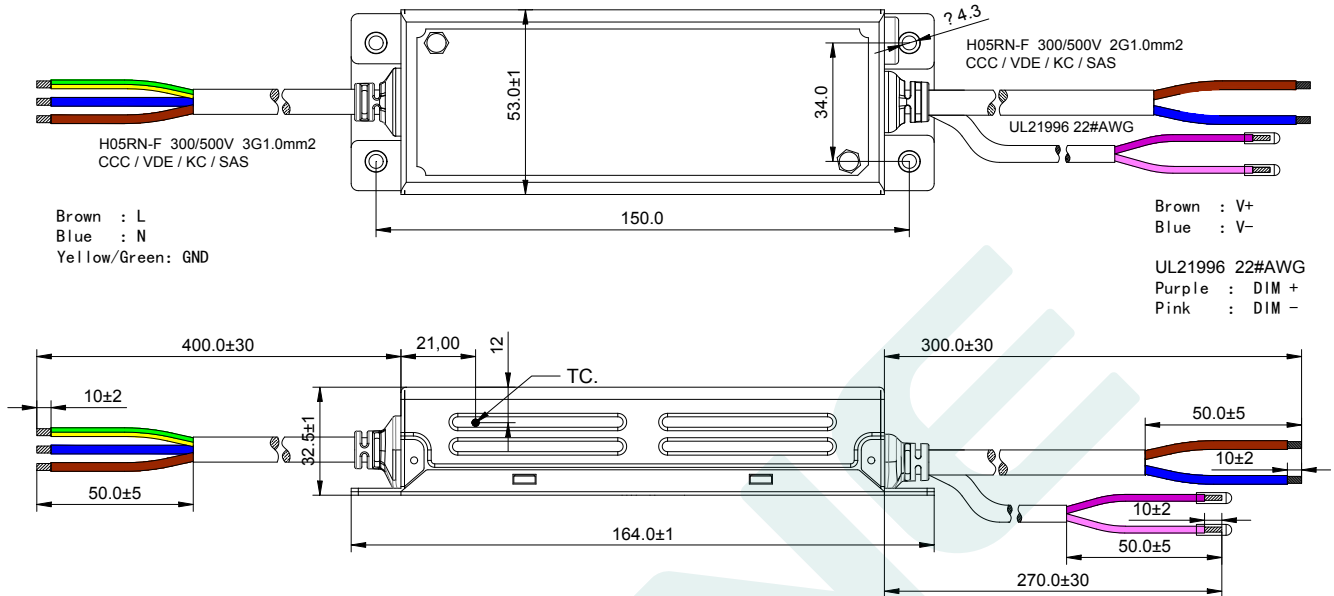
Note:

1. Positive and negative logic dimming can be programmed.
2. Dimming off only applies to positive logic. For other requirements, please contact technical personnel.

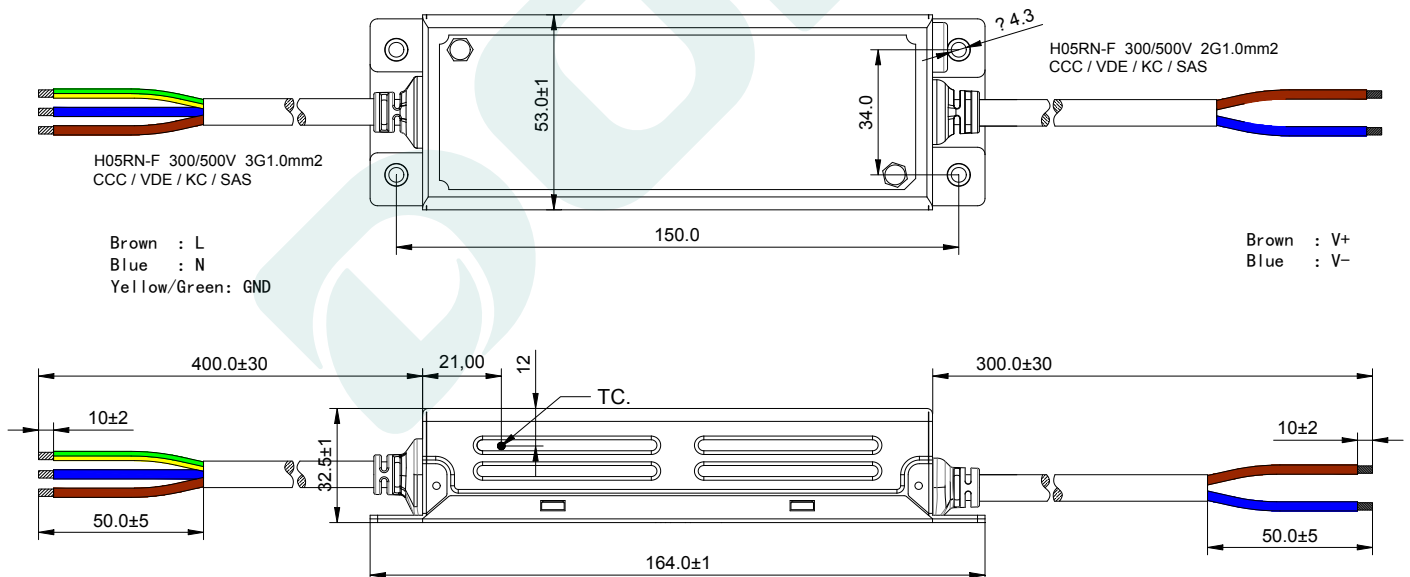
Mechanical specification

Size (mm) L164*W53*H32.5

DL-150H-56/214P-MXC



DL-150H-56/214A-MXC

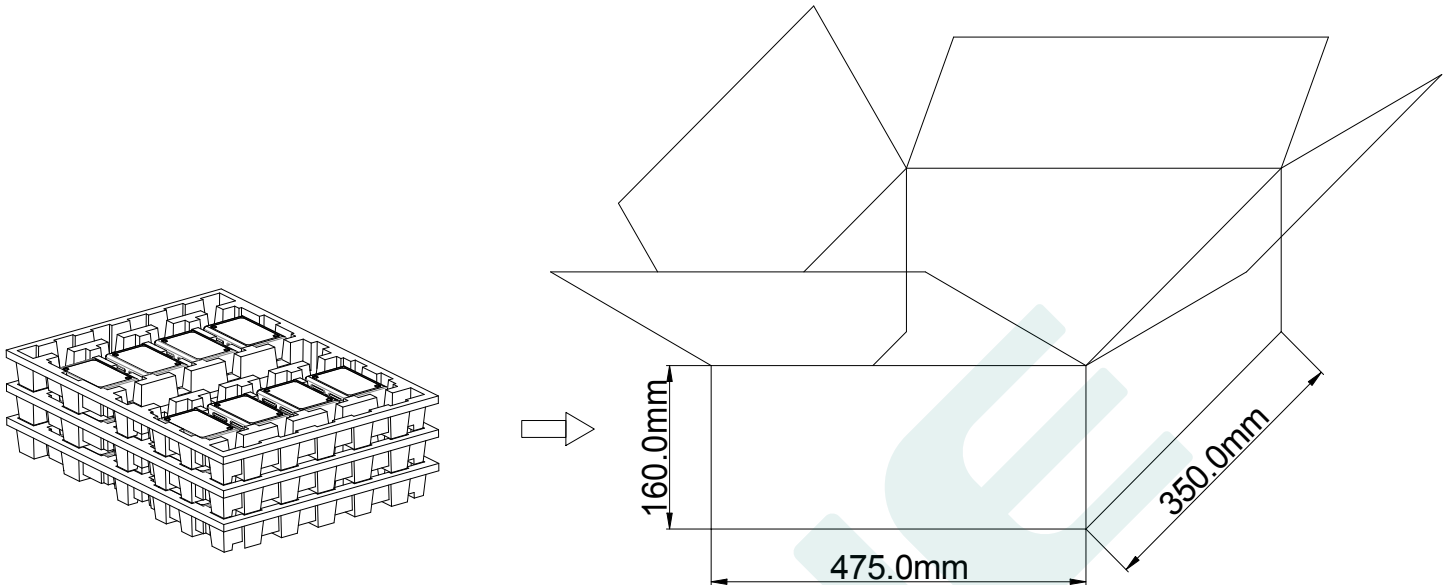


Weight

Weight 565g

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
2024.1.18	Initial version.	V1.0	
2024.3.18	Modify the input voltage range to add the full power operating voltage range	V1.1	
2025.1.9	Modify input voltage on page 2 and High-pot test on page 7.	V1.2	
2025.7.19	The default current of DL-150H-214A/P-MXC change to 0.7A	V1.3	
2025.8.14	Update Tcase VS Lifetime curve	V1.5	
2025.12.19	Lightning protection level: common mode change to 10kV	V1.6	

MANUFACTRUER		
EDIT	CHECK	APPROVE

