

The logo for Done Power Technology, 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.

**DONE**

# MCK SERIES LED DRIVERS

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**DL-200W-MCK SPEC V1.4**

## Features

- Built-in LED driver
- Class I structure
- Input voltage: 120-277V ~ 50/60Hz
- Efficiency :95% (Typ.)
- Constant power drive and constant current output control mode
- Metal shell structure, protection grade: : IP42
- Lightning protection level: differential mode 6kV, Common mode 10kV
- When the dimming signal input is 0V, 0% and 0KΩ , standby power consumption is less than or equal to 0.5W.(X version only)
- Function selection:
  - Output current is adjusted by external potentiometer (full series)
  - Isolation dimming function: 3-in-1 dimming (0-10V, PWM, resistance) (S version)
  - Online programming dimming :(P version)
  - Isolation Auxiliary Power supply (X version, P version) : provides 12V200mA to users
- 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.	THD.	PF
DL-200W-V260A-MCK	120-277V 50/60Hz	200W	180-260Vdc	1.05A	≥95%	≤10%	≥0.95
DL-200W-V260S-MCK							
DL-200W-V260P-MCK							
DL-200W-V260X-MCK							

### Note :

1. Test conditions of the above parameters: Ta=25℃, 230Vac input, full load operation for 30 minutes;
2. While the input 120-277VAC, rated power 200W, please ensure that the input voltage is within the allowable range. 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	50Hz	63Hz	-
Power factor	-	0.95	-	@120~230Vac full load
	-	0.92	-	@277 full load
T.H.D.	-	-	10%	@120Vac/60Hz,230Vac/50Hz full load
	-	-	20%	@277Vac/60Hz 80%~100% load
Input current	-	-	2.1A	@120Vac full load
Inrush current	-	-	150A	@230Vac, cold start (25°C)

## Output characteristic

Parameter	Min	Typ.	Max	Note
Rated current DL-200W-V260A/S/P/X -MCK	-	0.77A	-	-
Output current range DL-200W-V260A/S/P/X -MCK	0.55A	-	1.05A	-
Output voltage range DL-200W-V260A/S/P/X -MCK	180V	-	260V	-
Constant power output voltage range	200V	-	260V	Maximum output power 200W
Constant current output voltage range	180V	-	260V	Maximum output current 1.05A
No-load voltage DL-200W-V260A/S/P/X -MCK	-	-	300V	-
Efficiency@120Vac DL-200W-V260A/S/P/X -MCK	-	92%	-	full load

## Output characteristic

Parameter	Min	Typ.	Max	Note
Efficiency@230Vac DL-200W-V260A/S/P/X -MCK	-	95%	-	full load
Accuracy of output current	-5%	-	+5%	full load
Ripple of output current	-	5%	-	full load
Line regulation	-3%	-	+3%	full load
Load regulation	-3%	-	+3%	full load
Starting time	100ms	-	1000ms	@120-277Vac full load

**Note:** 1.The output current range is limited by the input and output Voltage, Please refers 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	0	-	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 $\Omega$	-	100K $\Omega$	-
	Dimming output range	0	-	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 Connected reversely, 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°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, line regulation and load regulation.

## Environmental

Environmental categories	Parameter
Working temperature	-40 ~ +45°C @120-200Vac, -40 ~ +50°C @200-277Vac (refer to "Life Curve ")
Working humidity	20 ~ 95% RH, non-condensing
Tcase	90°C
Storage temperature、humidity	-40~+80°C, 10 ~ 95% RH
Resistant to vibration	10 ~ 500Hz, 5G 12 min/cycle, X, Y, Z axis 72 min each
MTBF	100Khrs min. MIL-HDBK-217F (Ta=25°C)
Lifetime	70000H@Tcase75°C,(Please refer to <b>Lifetime VS Tcase</b> curve for details)

## Safety and EMC

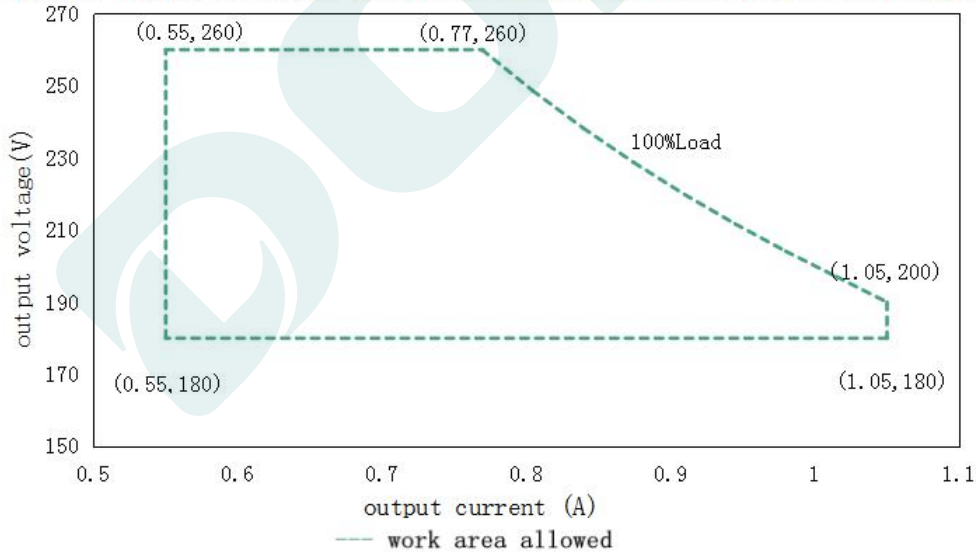
Safety categories	Standard
Safety	GB19510.1、GB19510.14、EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13、EN 62384、UL8750;
EMC	EN 55015、EN 61000-3-2 、GB/T 17743、GB17625.1、 EN 61000-3-3
Surge protection	Differential L/N ± 6 KV (2Ω), Common L/N-地± 10 KV (12Ω) Refer to IEC61000-4-5 2014
High-pot test	I/P-PE :1.5KVac I/P-DIM:1.5KVac
Insulation impedance	I/P-PE:100MΩ / 500VDC; 25°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.
- 2.Because the driver will be in OVP restart model when it works in no-load, so the driver on-load is recommended.

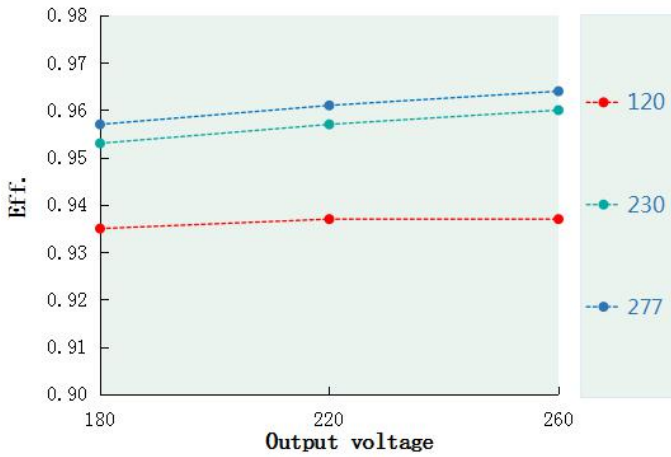
## I-V Working area

Output voltage VS output current of DL-200W-V260X-MCK (Input: 120-277VAC)

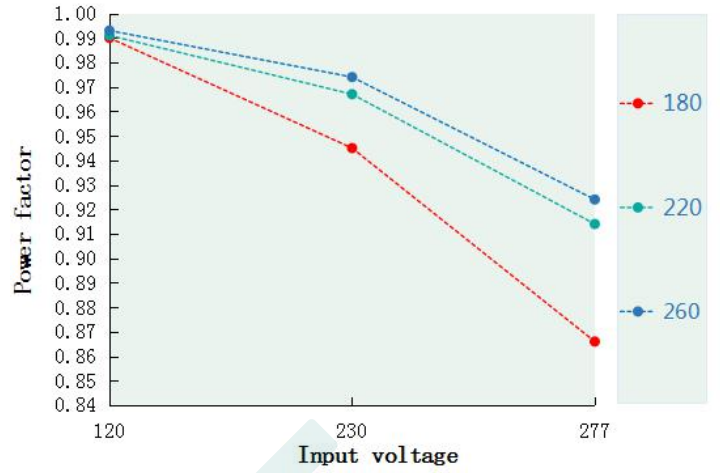


Load	Output								
Load working Voltage	180V	190V	200V	210V	220V	230V	240V	250V	260V
Io_MAX	1.05A	1.05A	1.0A	0.952A	0.909A	0.87A	0.833A	0.80A	0.77A
Po_MAX	189W	199W	200W	200W	200W	200W	200W	200W	200W

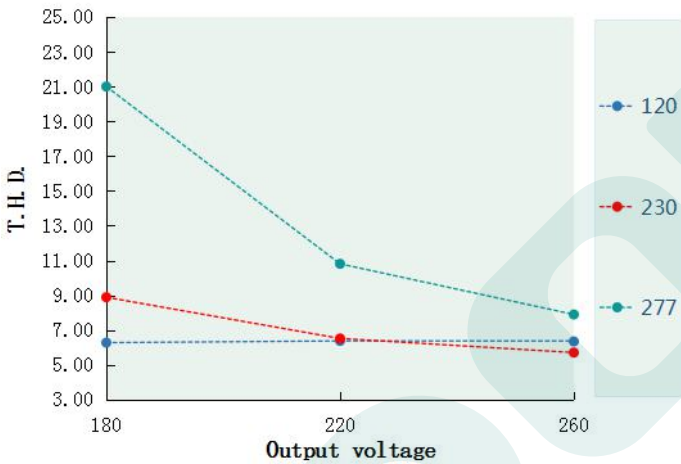
**Eff. VS Output voltage (DL-200W-V260A/S/P/X -MCK)**



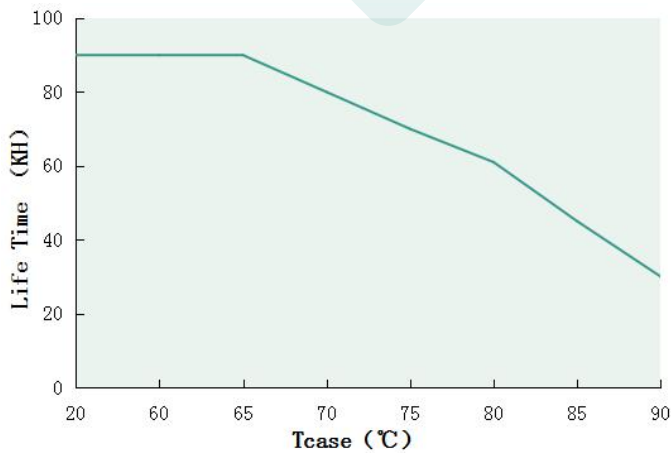
**Power Factor VS Input Voltage (DL-200W-V260A/S/P/X -MCK)**



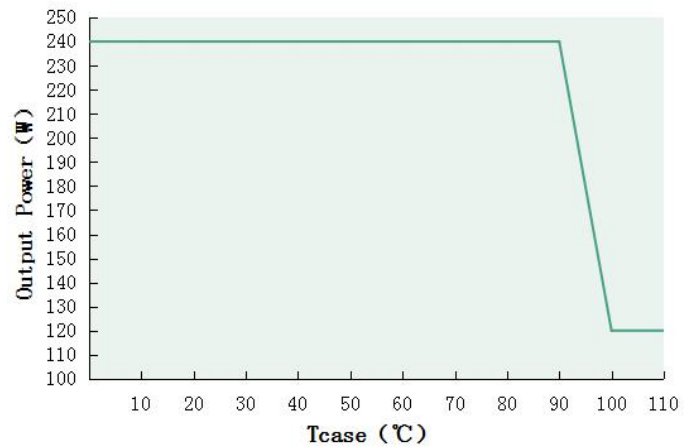
**T.H.D. VS Output voltage (DL-200W-V260A/S/P/X -MCK)**



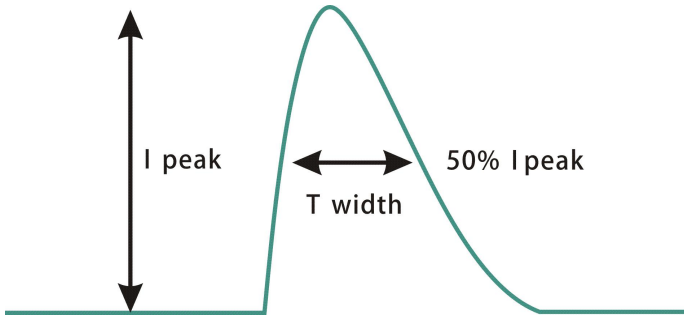
**Lifetime VS Tcase (DL-200W-V260A/S/P/X -MCK)**



**Output power VS Tcase (DL-200W-V260A/S/P/X -MCK)**

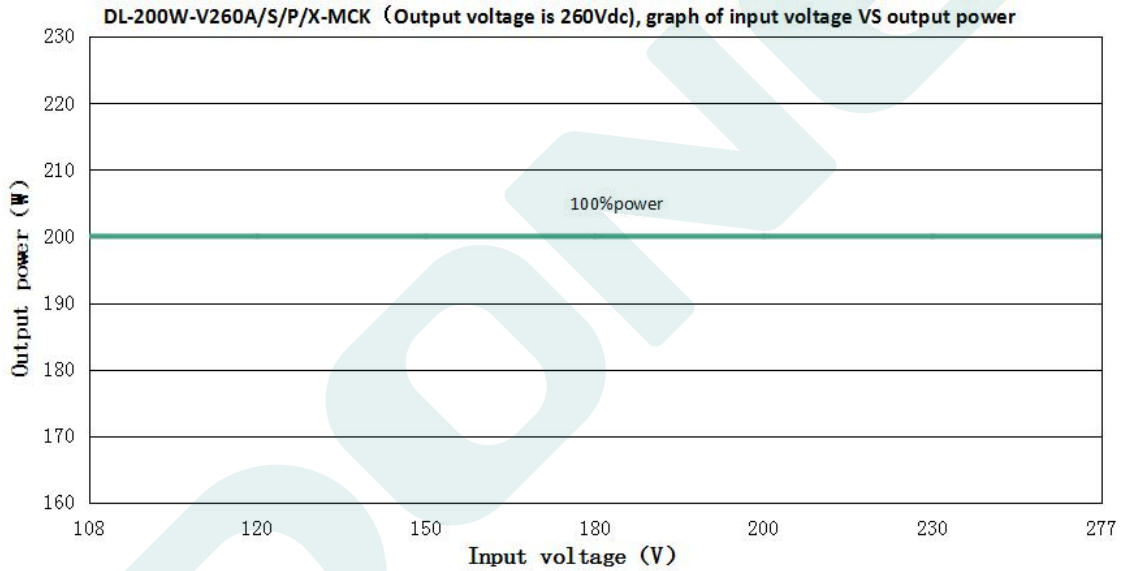


**Inrush Current (DL-200W-V260A/S/P/X -MCK)**



Input voltage	Peak current	T(@50% Peak current)
120Vac	95A	185us
230Vac	100A	175us
277Vac	95A	185us

**Output power VS Input voltage**



**DL-200W-V260A/S/P/X-MCK AC-Vin VS Output Voltage(Vo=260Vdc) VS Output Power**

Input Voltage	108Vac	120Vac	150Vac	180Vac	200Vac	230Vac	277Vac
I out	0.77A	0.77A	0.77A	0.77A	0.77A	0.77A	0.77A
Pout	200W	200W	200W	200W	200W	200W	200W

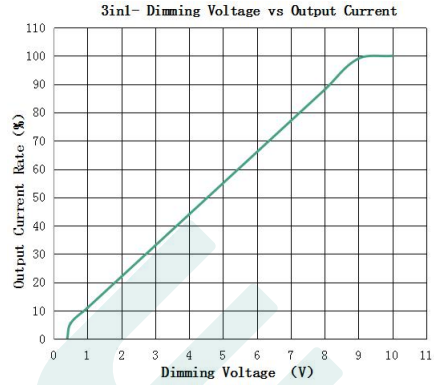
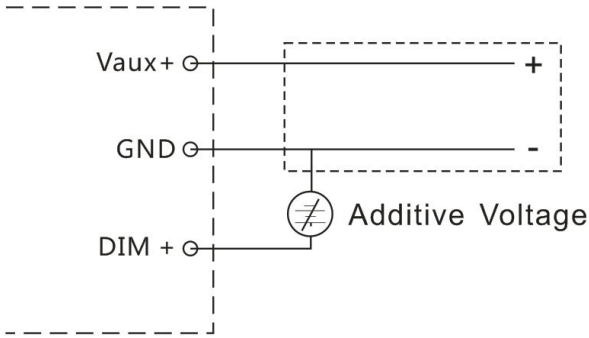


## Dimming operation

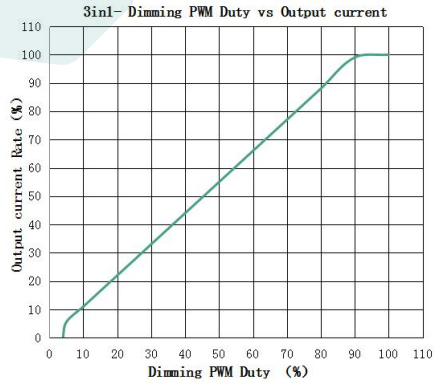
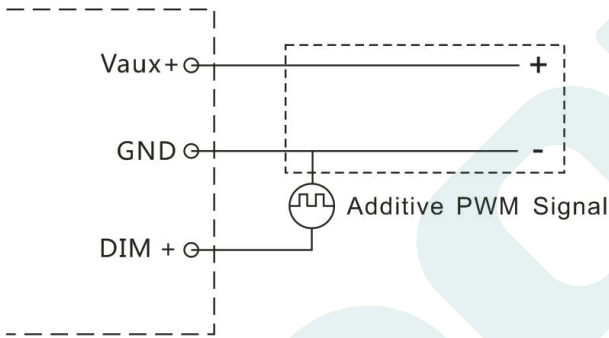
### ※ Three-in-one dimming function (S/P/X version )

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

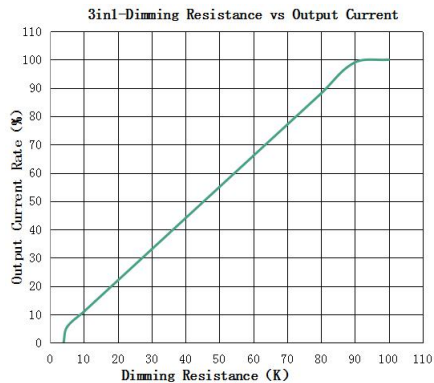
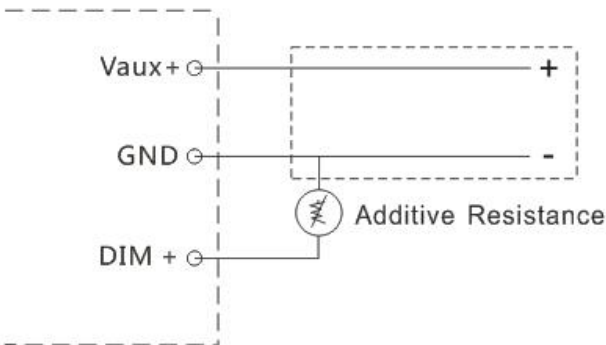
#### ◎Applied voltage of 0-10V:



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



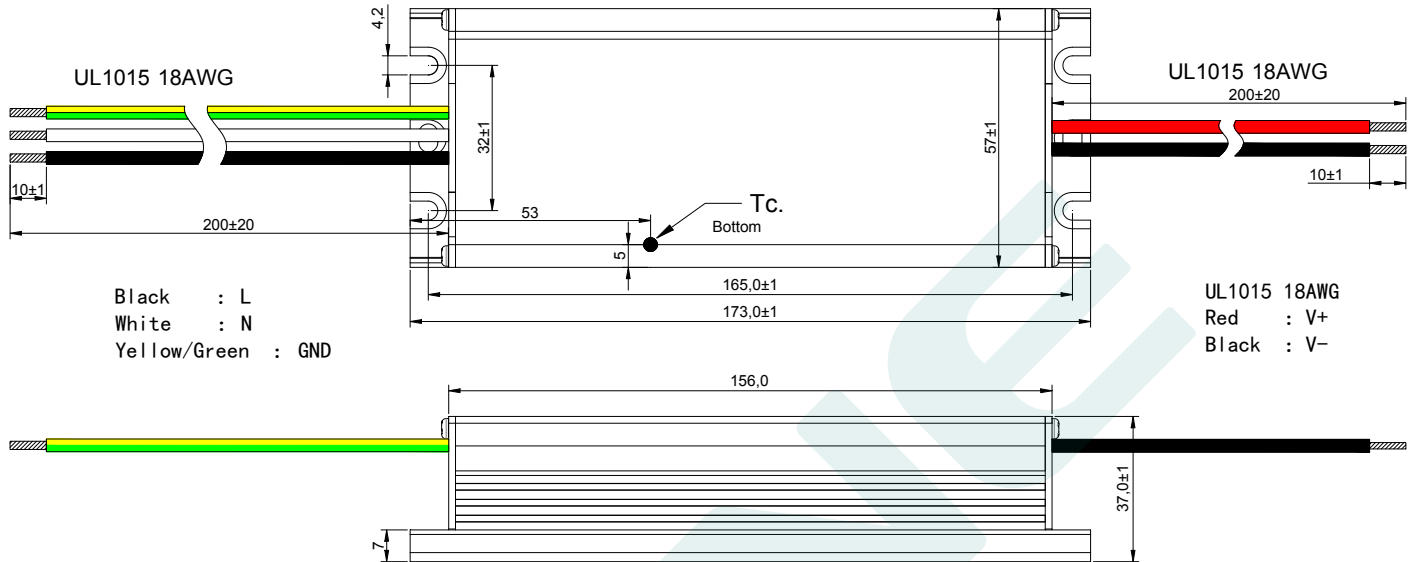
#### ◎Applied an additional 0-100K resistor:



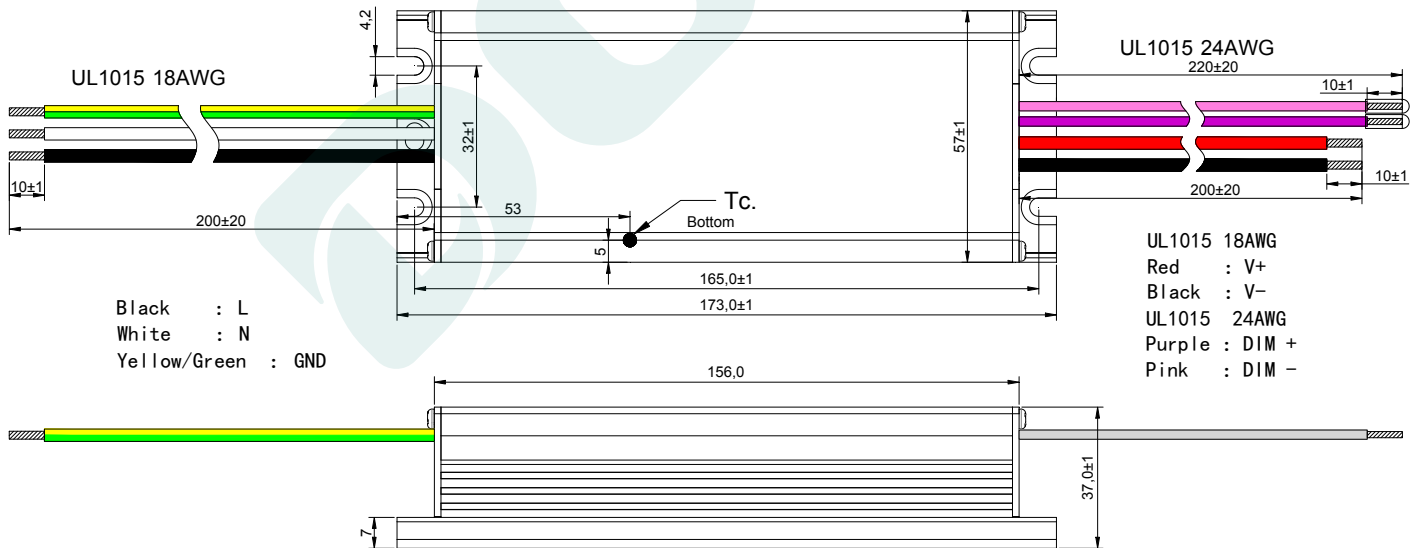
# Mechanical Specification

Dimension (mm) L173\*W57\*H37

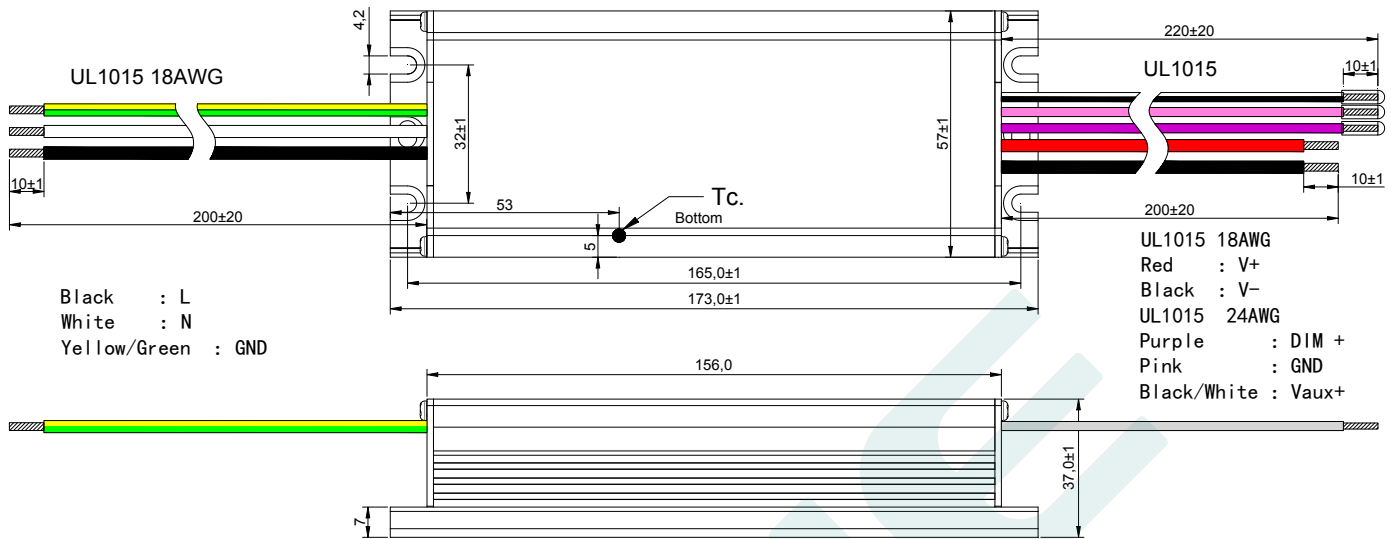
## DL-200W-V260A-MCK



## DL-200W-V260S-MCK



DL-200W-V260X/P-MCK



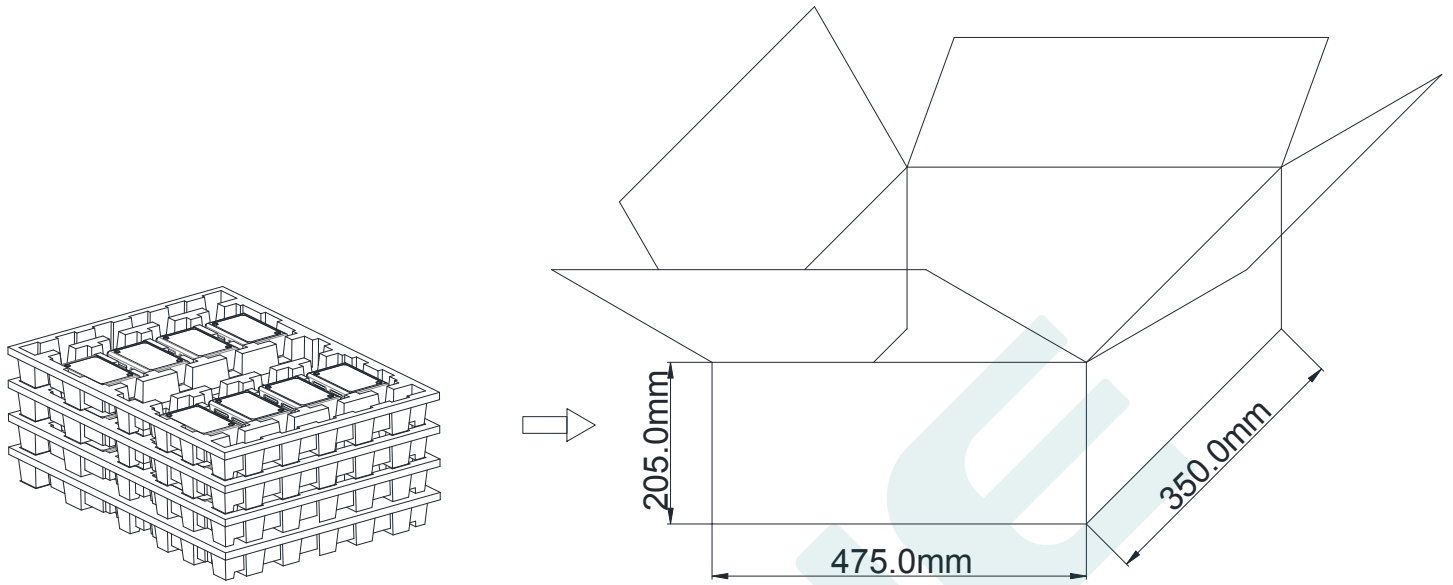
**Weight**

Weight	580 g
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## Packaging

BOX (mm)

L475\*W350\*H205



Note: One Carton 4 layers and 8 pcs each layer, total 32pcs/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.

**Revise & Version**

DATE	DESCRIPTION	REV.	CHECK
2022.4.26	Initial version.	V1.0	
2022.5.12	1.Update: When the dimming signal input is 0V, 0% and 0K $\Omega$ , standby power consumption is less than or equal to 0.5W.(X/P version only). 2.Add TC point position on the shell.	V1.1	
2022.5.17	Change: When the dimming signal input is 0V, 0% and 0K $\Omega$ , standby power consumption is less than or equal to 0.5W.(X version only).	V1.2	
2022.8.4	Update: .Because the driver will be in OVP restart model when it works in no-load, so the driver on-load is recommended.	V1.3	
2022.11.8	Updated: Graph of output power VS input voltage.	V1.4	

**MANUFACTURER**

EDIT

CHECK

APPROVE

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