

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 inside its top curve. The logo is enclosed in a thin teal rounded rectangular border.

**DONE**

# PXS SERIES LED DRIVERS

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**DL-150Z-X-PXS SPEC V1.2**

## Features

- Class I structure
- Input voltage: 100-277 V ~ 50/60 Hz
- Efficiency :94%(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
- Dimming signal input is 0V, standby power consumption  $\leq 0.5W$ , (only X version)
- Isolation Auxiliary Power Supply (X version) : 12V 300mA
- Function selection:

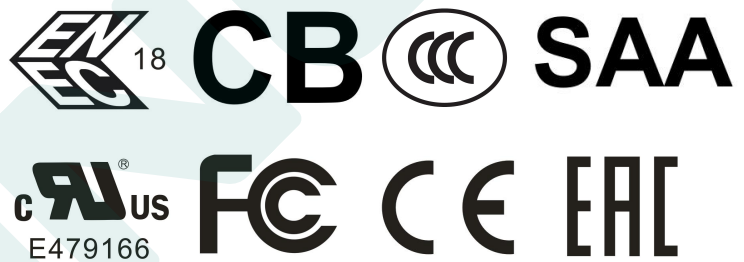


Isolated dimming function: off-line programming current regulation, programmable, compatible with analog three-in-one dimming circuit

- Life 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-150Z-260X-PXS | 100-277V<br>50/60Hz | 150W         | 180-260Vdc     | 0.7A                | $\geq 94\%$ | $\leq 7\%$ | $\geq 0.95$ |

### Note :

1. Test conditions of the above parameters:  $T_a=25^{\circ}C$ , 230Vac input, full load operation for 30 minutes;
2. When the input is 100-277Vac, the rated power is 150W, and special attention should be paid to the application;  
 Please refer to “THE OUTPUT POWER VS INPUT VOLTAGE” curve chart for details.

## Input characteristics

| Parameter           | Min    | Typ.    | Max    | Note                      |
|---------------------|--------|---------|--------|---------------------------|
| Rated input voltage | 100Vac | 230Vac  | 277Vac |                           |
| Input voltage range | 90Vac  | 230Vac  | 305Vac |                           |
| Rated frequency     | 47Hz   | 50/60Hz | 63Hz   |                           |
| Power factor        | -      | 0.95    | -      | @230Vac full load         |
| T.H.D.              | -      | 7%      | -      | @230Vac full load         |
|                     | -      | -       | 20%    | @277Vac 70% load          |
| Input current       | -      | -       | 1.7A   | @100Vac full load         |
| Inrush current      | -      | -       | 150A   | 230Vac, cold start (25°C) |

## Output characteristic

| Parameter   | Min   | Typ.  | Max   | Note               |
|---|-------|-------|-------|--------------------|
| Rated current<br>DL-150Z-260X -PXS                  | -     | 0.57A | -     | The load is 260VDC |
| Output current range<br>DL-150Z-260X -PXS           | 0.38A | -     | 0.75A | -                  |
| Output voltage range<br>DL-150Z-260X -PXS           | 180V  | -     | 260V  | -                  |
| Rated power(100-277Vac)                             | -     | 150W  | -     | -                  |
| Maximum output no-load voltage<br>DL-150Z-260X -PXS | -     | -     | 300V  | -                  |
| Efficiency @100Vac<br>DL-150Z-260X -PXS             | -     | 89%   | -     | full load          |

## Output characteristic

| Parameter                              | Min   | Typ. | Max    | Note                 |
|--|-------|------|--------|----------------------|
| Efficiency@230Vac<br>DL-150Z-260X -PXS | -     | 94%  | -      | @230Vac full load    |
| Current ripple                         | -     | 5%   | -      | full load            |
| Accuracy of output current             | -7%   | -    | +7%    | full load            |
| Line regulation                        | -3%   | -    | +3%    | full load            |
| Load regulation                        | -5%   | -    | +5%    | full load            |
| Starting time                          | 100ms | -    | 1000ms | Full load@100-277Vac |

**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  |
|------------------------------------|------------------------------|--|------|---------------|---|
| 0-10V Dimming<br>( Optional )      | Safe applied voltage range   | 0V   | -    | 12V           | When the external voltage is $\geq 12V$ , the dimming will fail |
|                                    | Rated dimming voltage range  | 0V   | -    | 10V           | -   |
|                                    | Dimming output range         | 0  | -    | 100%          | Positive logic dimming can be turned off by program setting     |
| PWM Dimming<br>( Optional )        | PWM high level               | 9.5V   | -    | 10.5V         | -   |
|                                    | PWM low level                | 0V   | -    | 0.3V          | -   |
|                                    | PWM frequency band           | 300Hz  | -    | 2000Hz        | -   |
|                                    | PWM duty cycle               | 0  | -    | 99%           | Output full power at 99% duty cycle                             |
| Resistor Dimming<br>( Optional )   | External resistance value    | 0K $\Omega$  | -    | 100K $\Omega$ | -   |
|                                    | Dimming output range         | 0  | -    | 100%          | -   |
| Multiple timing dimming (optional) | Single-chip computer control | Step dimming function is set by program                  |      |               | Three working modes are available                               |
|                                    | Timer control                | The default value is 6 segments, which can be customized |      |               | 24H to achieve a cycle  |

**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 dimming is set to 3-in-1 positive logic dimming (it can be set to timing dimming, 0-10V or other voltage dimming, etc.) by programming software;
4. When the positive logic dimming function is set, the 0V dimming can be turned off in the range of constant power load voltage.

## 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℃, 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;

## Environmental

| Environmental categories      | Parameter   |
|-------------------------------|---|
| Working temperature           | -40 ~ +55℃@100-277Vac (refer to "Life Curve ")                                      |
| Safe shell temperature        | -40 ~ 90℃   |
| Working humidity              | 20 ~ 90% RH, non condensing   |
| Storage temperature, humidity | -40~+90℃, 10 ~ 90% RH   |
| Resistant to vibration        | 10 ~ 500Hz, 5G 12 min/cycle, X, Y, Z axis 72 min each                               |
| MTBF                          | 50Khrs min. MIL-HDBK-217F (Ta=25℃)  |
| Life span                     | 70000 hours @ Tc s75℃, 230Vac, 100% load, see section "Casing Temperature and Life" |

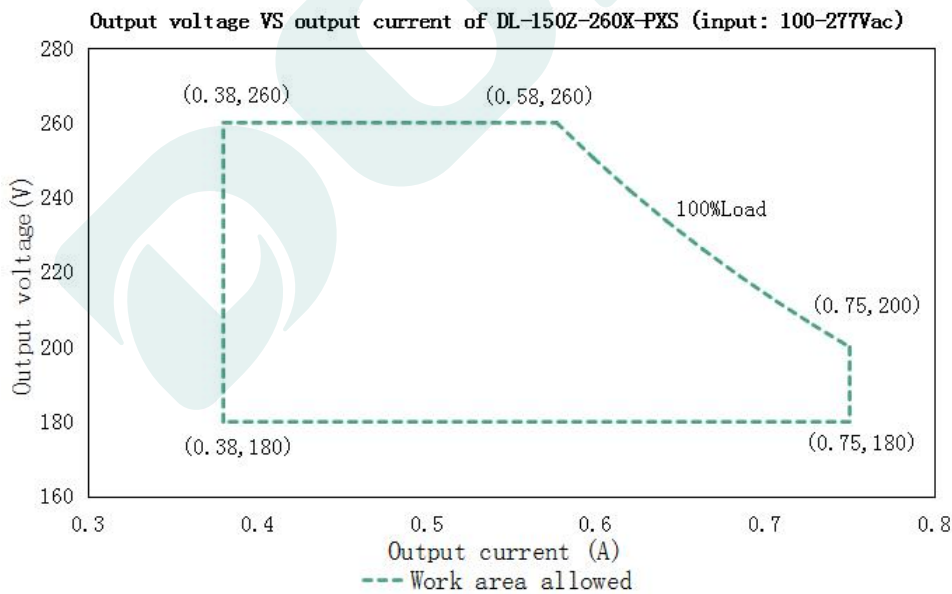
## Safety and EMC

| Safety categories          | Standard   |
|----------------------------|--|
| Safety                     | 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 、 EN 61000-3-3   |
| Lightning protection class | 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 |
| High-pot test              | I/P-PE :1.5KVac O/P-PE : 1.5KVac I/P-DIM:1.5KVac O/P-DIM:1.5KVac   |
| Insulation impedance       | I/P-PE:100M $\Omega$ / 500VDC; O/P-PE:100M $\Omega$ / 500VDC / 25 $^{\circ}\text{C}$ / 70% RH                                |
| Leakage current            | <0.7mA@277Vac  |

**Note:**

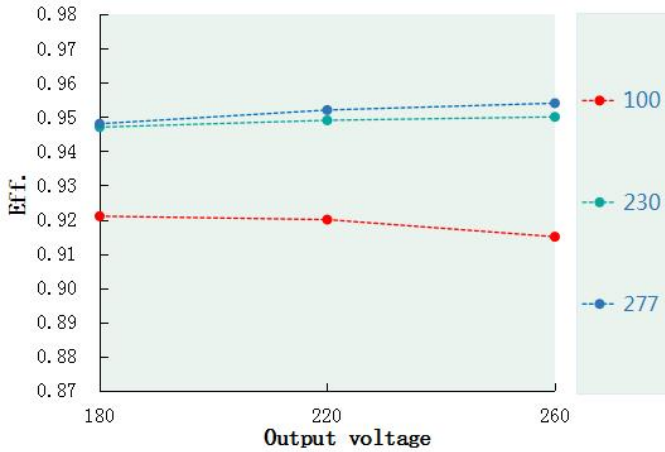
- The driver is considered as a component that will be operated in combination with the final equipment. Since EMC performance will be affected by the complete installation,the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.
- No load is recommended because the power supply is in OVP protected restart mode when unloaded.

## I-V Working area

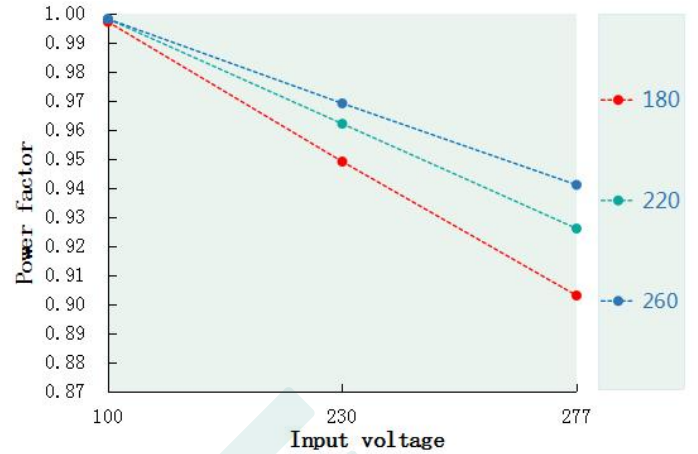


| Load                 | Output |        |       |       |       |       |       |      |       |
|----------------------|--------|--------|-------|-------|-------|-------|-------|------|-------|
| Load working Voltage | 180V   | 190V   | 200V  | 210V  | 220V  | 230V  | 240V  | 250V | 260V  |
| Io_MAX               | 0.75A  | 0.75A  | 0.75A | 0.71A | 0.68A | 0.65A | 0.62A | 0.6A | 0.58A |
| Po_MAX               | 135W   | 142.5W | 150W  | 150W  | 150W  | 150W  | 150W  | 150W | 150W  |

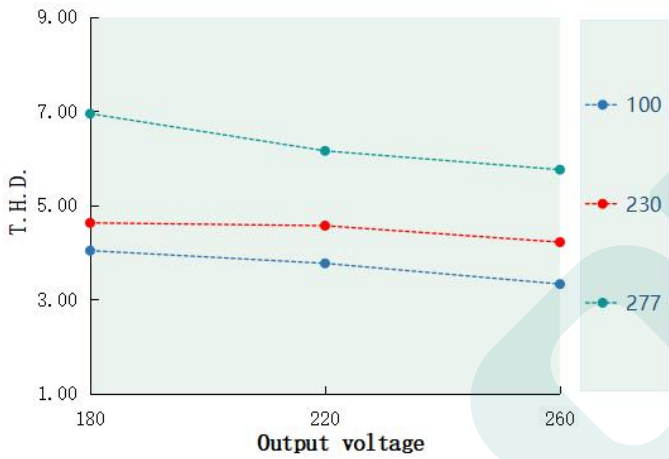
Eff. VS Output voltage(DL-150Z-260X-PXS)



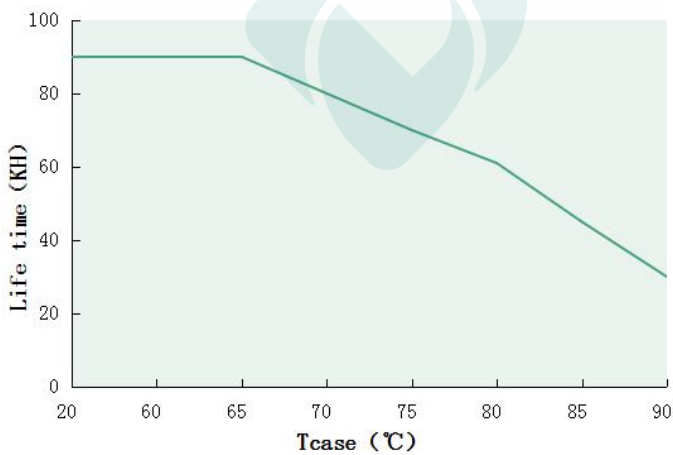
Power factor VS Input voltage(DL-150Z-260X-PXS)



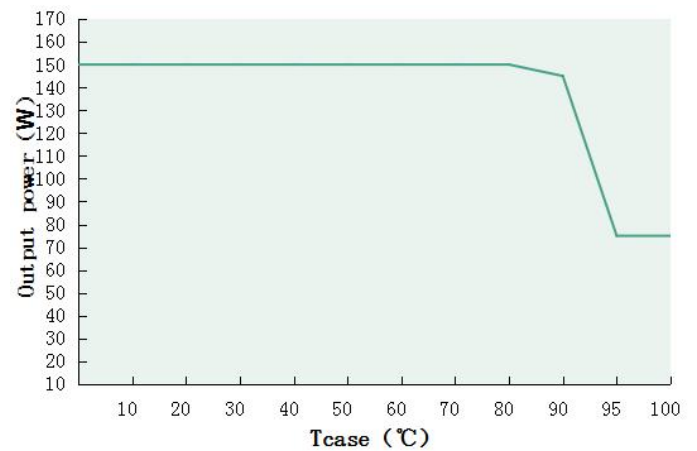
T.H.D. VS Output voltage(DL-150Z-260X-PXS)



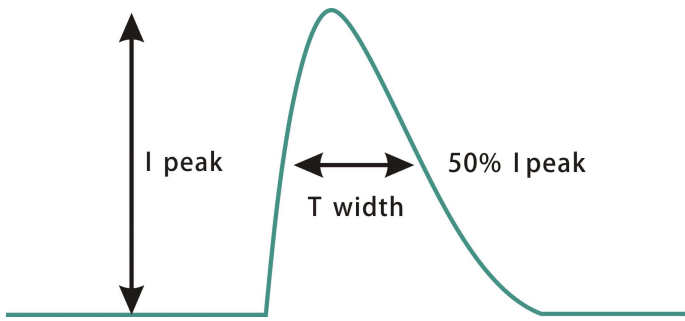
Tc VS Lifetime(DL-150Z-260X-PXS)



Output power VS Tc(DL-150Z-260X-PXS)

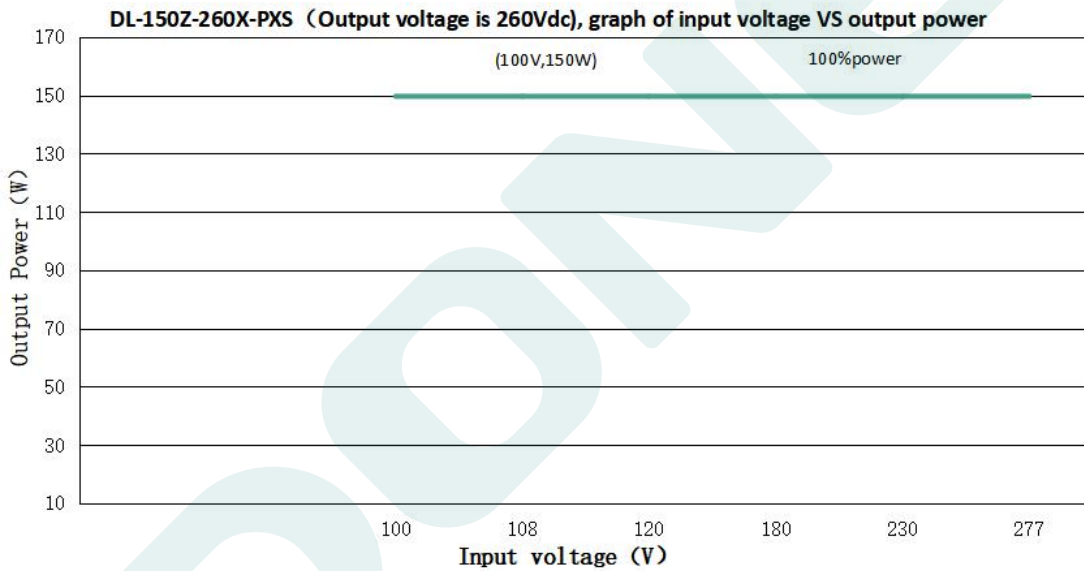


**Input Surge Current (DL-150Z-260X-PXS)**



| Input voltage | peak current | T (@ 50% peak current) |
|---------------|--------------|------------------------|
| 100Vac        | 48A          | 2.68us                 |
| 230Vac        | 93.33A       | 2.68us                 |
| 277Vac        | 97.33A       | 2.75us                 |

**Output power VS Input voltage**



**DL-150Z-260X-PXS (When the output voltage is 260Vdc, the rated output current value and output power corresponding to different input voltage)**

| Input Voltage | 100Vac  | 120Vac  | 180Vac  | 230Vac  | 277Vac  |
|---------------|---------|---------|---------|---------|---------|
| $I_{out}$     | 0.574A  | 0.574A  | 0.577A  | 0.577A  | 0.579A  |
| $P_{out}$     | 149.13W | 149.13W | 150.01W | 150.08W | 150.52W |

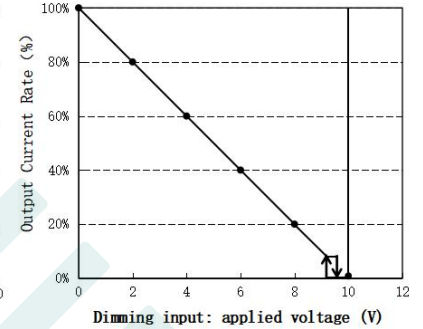
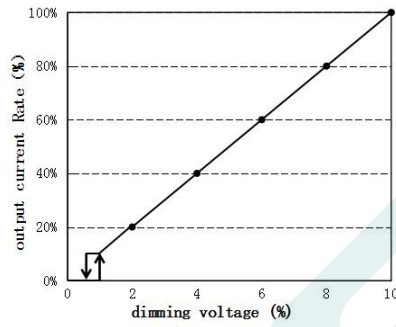
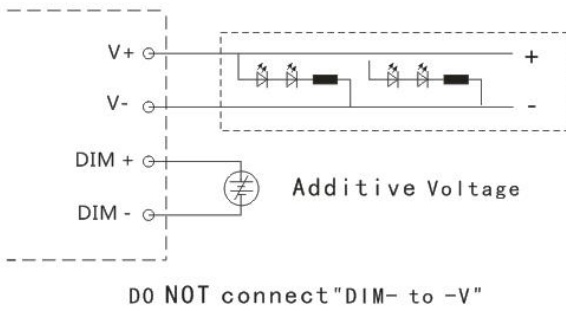
## Dimming operation

### ※ Three-in-one dimming function

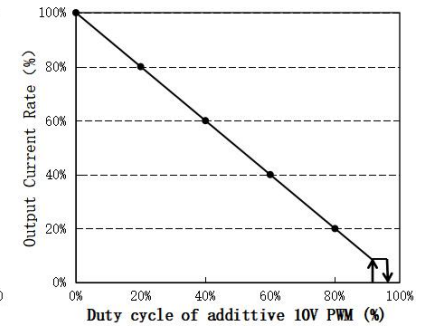
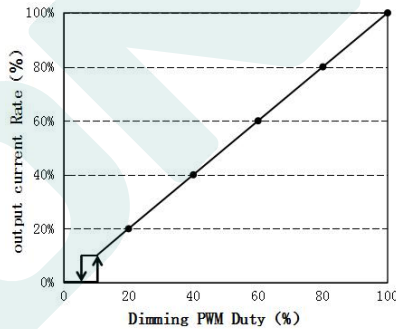
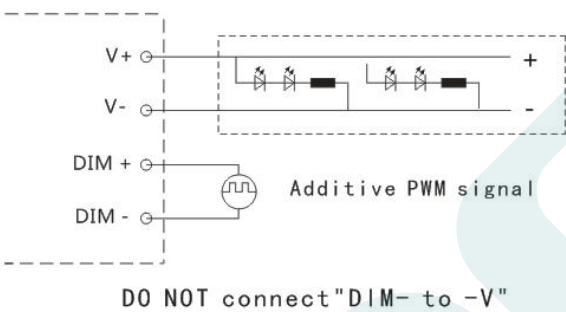
A. connect a resistor 0-100K or 0-10V DC voltage or 10V PWM signal between DIM+ and DIM- to adjust the output current.

B. output current of dimming port: 100uA (typical value).

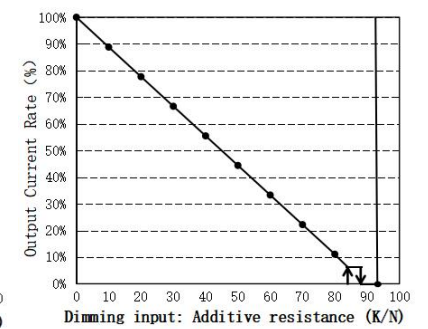
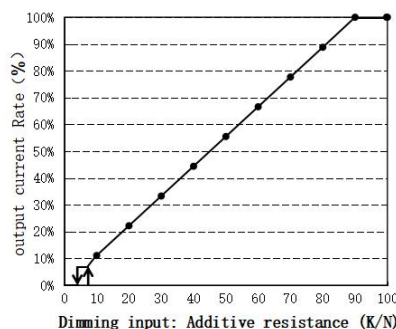
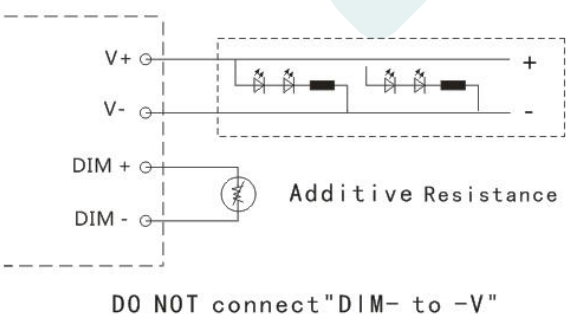
#### ◎ With an applied voltage of 0-10V:



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



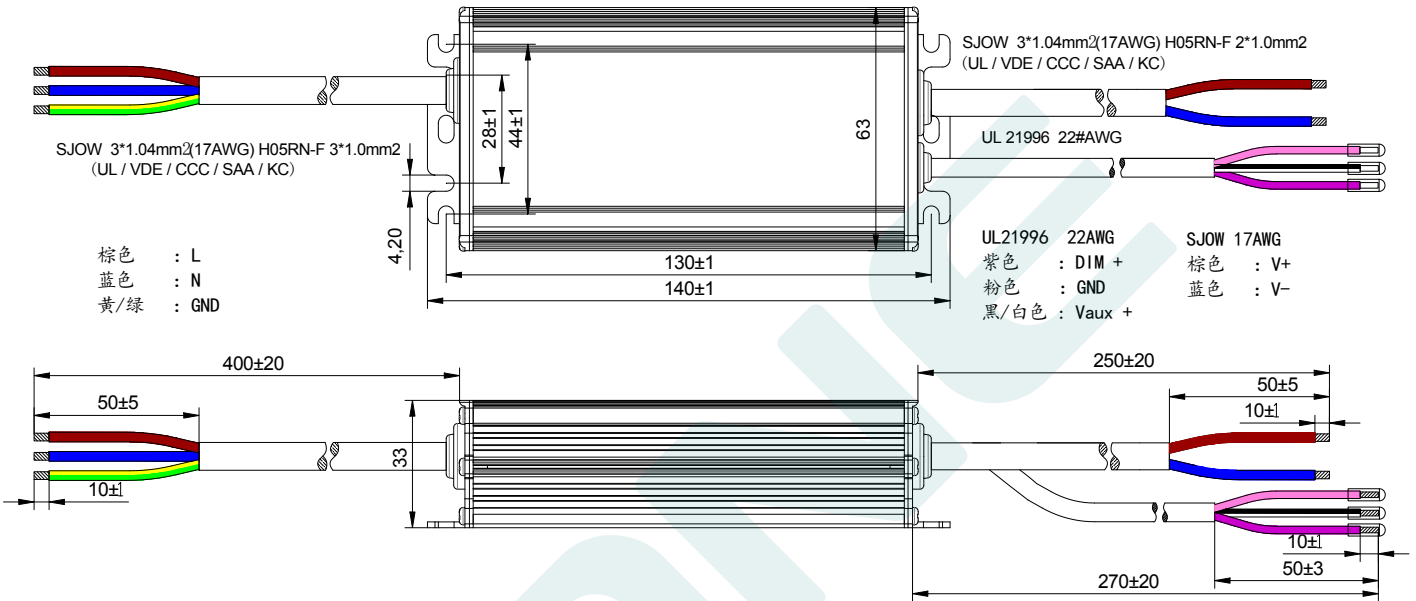
#### ◎ With an additional 0-100K resistor:



## Mechanical specification

Size (mm) L162\*W63\*H32

### DL-150Z-260X-PXS

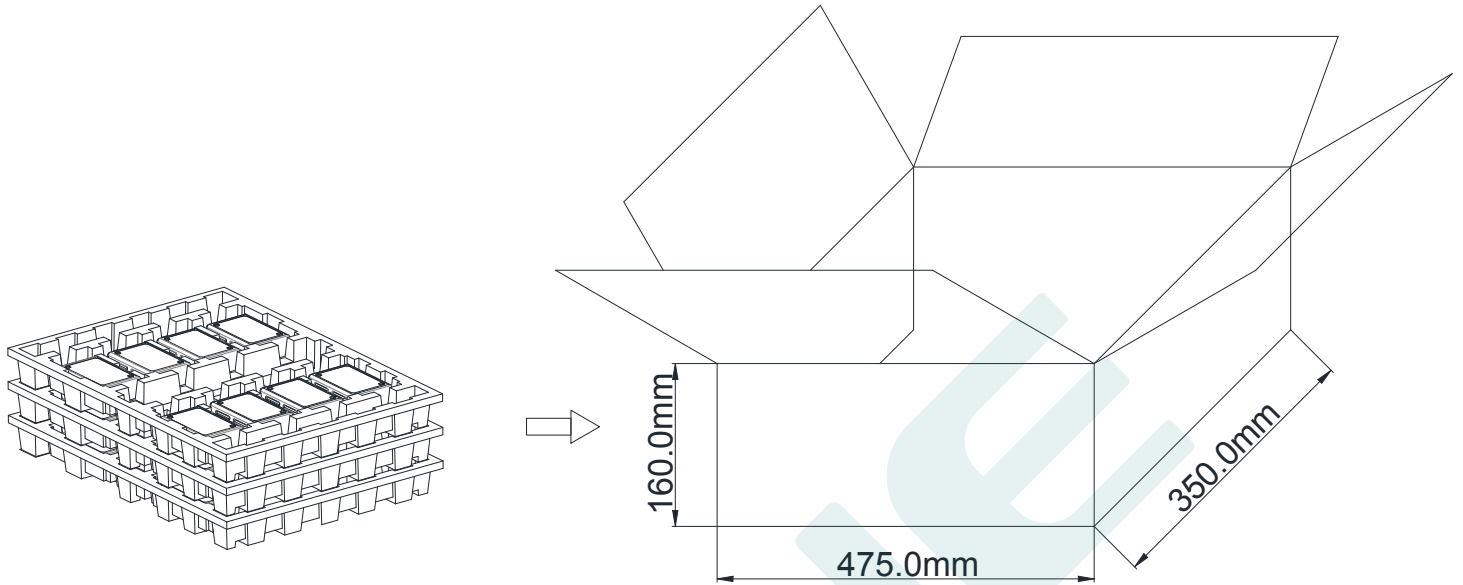


## Weight

Weight 540 g

## Packaging

Packaging (mm) L475\*W350\*H160



Note: A box has 3 layers, 8 pieces per layer, a total of 24 pieces/box.

### 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 |
|-----------|--|------|-------|
| 2024.5.29 | Initial version.                       | V1.0 |       |
| 2024.6.14 | Modify maximum output no-load voltage. | V1.1 |       |
| 2024.7.11 | Modify dimming curve                   | V1.2 |       |
|           |  |      |       |
|           |  |      |       |

**MANUFACTURER**

| EDIT | CHECK | APPROVE |
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