

**DONE**

# PXS SERIES LED DRIVERS

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DL-100Z-X-PXS SPEC V1.4

## Features

- Class I structure
- Input voltage: 100-277 V ~ 50/60 Hz
- Efficiency :93.5%(Typ.)
- Constant power drive and constant current output control mode
- Metal shell structure, protection grade: IP67
- Lightning protection level: differential mode 6kV, common mode 15kV
- Function selection:

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

- 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-100Z-260X-PXS | 100-277V<br>50/60Hz | 100W         | 180-260Vdc     | 0.4A                | ≥93.5% | ≤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 100-277VAC, rated power 100W.

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.              | -      | -       | 10%    | @230Vac full load         |
|                     | -      | -       | 20%    | @277Vac/50Hz 80% load     |
| Input current       | -      | -       | 1.2A   | @100Vac full load         |
| Inrush current      | -      | -       | 80A    | 230Vac, cold start (25°C) |

## Output characteristic

| Parameter                                | Min   | Typ.   | Max  | Note                                             |
|------------------------------------------|-------|--------|------|--------------------------------------------------|
| Rated current<br>DL-100Z-260X-PXS        | -     | 0.384A | -    | load is 260Vdc                                   |
| Output current range<br>DL-100Z-260X-PXS | 0.28A | -      | 0.5A |                                                  |
| Output voltage range<br>DL-100Z-260X-PXS | 180V  | -      | 260V | Constant power range:<br>200-260Vdc              |
| Rated power(100-277Vac)                  | -     | 100W   | -    |                                                  |
| No-load voltage<br>DL-100Z-260X-PXS      | -     | -      | 350V |                                                  |
| Efficiency@100Vac<br>DL-100Z-260X-PXS    | -     | 88.5%  | -    | 100% load @100Vac<br>Output current 0.384A, 100W |
| Efficiency@230Vac<br>DL-100Z-260X-PXS    | -     | 93.5%  | -    | 100% load @230Vac<br>Output current 0.384A, 100W |
| Output Current Ripple                    | -     | 5%     | -    |                                                  |
| Accuracy of output current               | -8%   | -      | +8%  | 100% load                                        |
| Line regulation                          | -3%   | -      | +3%  | 100% load                                        |
| Load regulation                          | -5%   | -      | +5%  | 100% load                                        |

**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 |
|                                                | Dimming output range        | 0%                                                               | -    | 100%          | Positive logic dimming can be turned off by program setting     |
|                                                | Rated dimming voltage range | 0V                                                               | -    | 10V           | -                                                               |
| 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 time-controlled dimming<br>(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 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, applications in the constant power load voltage range can achieve 0V dimming off.
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                                                                                         |
|---------------------------------|---------------------------------------------------------------------------------------------------------------|
| 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. |

### 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 ~ +40°C@100-200Vac, -40 ~ +45°C @200-277Vac (refer to "Life Curve ")                |
| Max.Case Temp.               | -40 ~ 90°C                                                                              |
| Working humidity             | 20 ~ 95% RH, non condensing                                                             |
| 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                         | 50Khrs min. MIL-HDBK-217F (Ta=25°C)                                                     |
| Lifetime                     | 70,000 hours @Tcase≤75°C,230Vac, 100% Load, Please refer to "Tcase VS Lifetime" section |

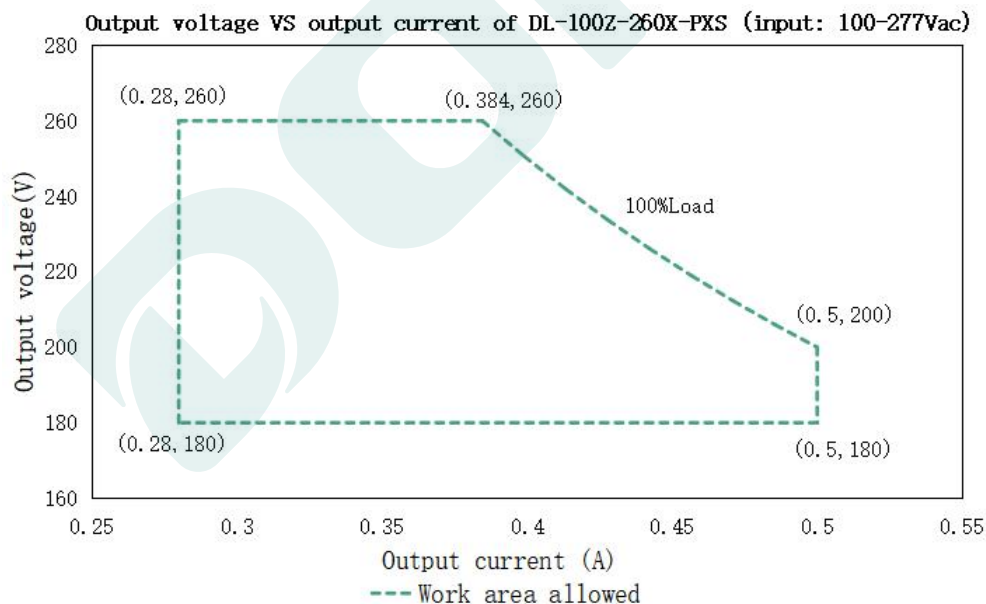
## Safety and EMC

| 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                                                                                             |
| Surge protection     | 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°C/ 70% RH                                                      |
| Leakage current      | <0.7mA@277Vac                                                                                                                    |

### Note:

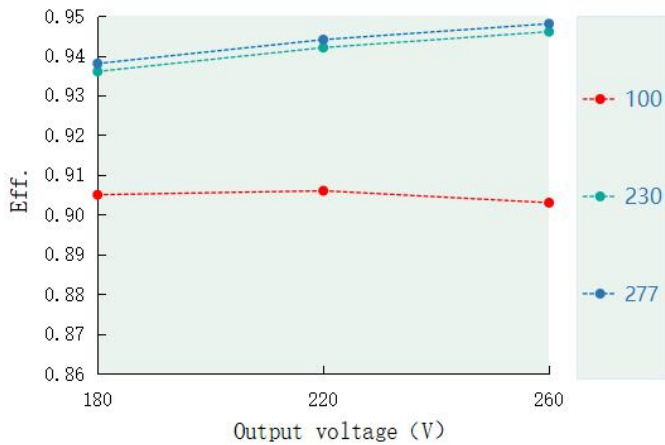
1. The driver is considered as a component that will be operated in combination with the final equipment. Since EMC performance will be affected by the complete installation,the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.
2. Because of the restart of OVP, to keep well connection of the load is recommended.

## I-V Working area

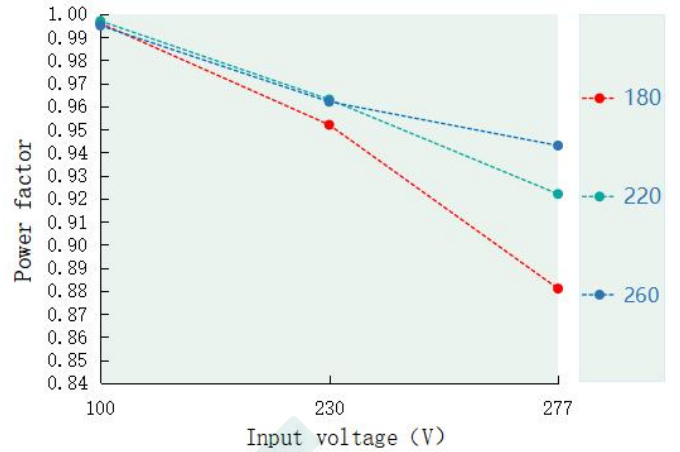


| Load                 | Output |      |      |        |        |        |        |      |        |
|----------------------|--------|------|------|--------|--------|--------|--------|------|--------|
| Load working Voltage | 180V   | 190V | 200V | 210V   | 220V   | 230V   | 240V   | 250V | 260V   |
| Io_MAX               | 0.5A   | 0.5A | 0.5A | 0.476A | 0.454A | 0.434A | 0.416A | 0.4A | 0.384A |
| Po_MAX               | 90W    | 95W  | 100W | 100W   | 100W   | 100W   | 100W   | 100W | 100W   |

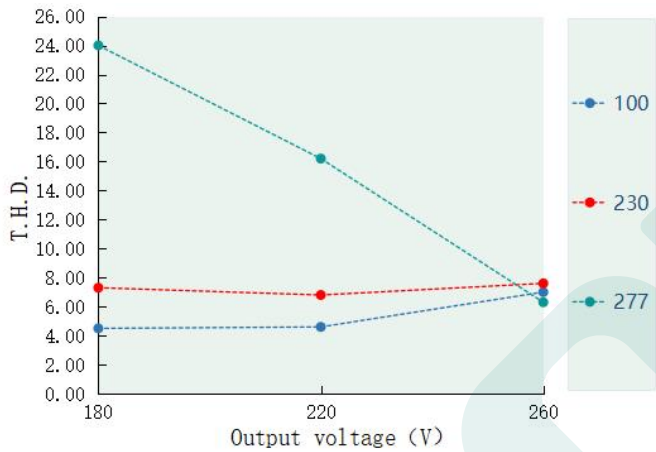
Eff. VS Output voltage(DL-100Z-260X-PXS)



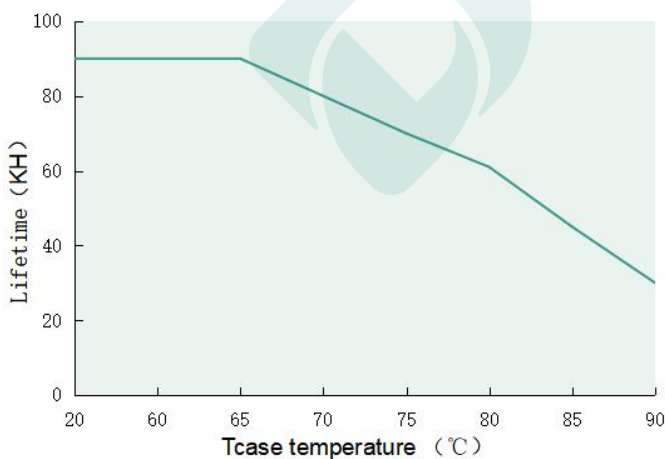
Power factor VS Input voltage(DL-100Z-260X-PXS)



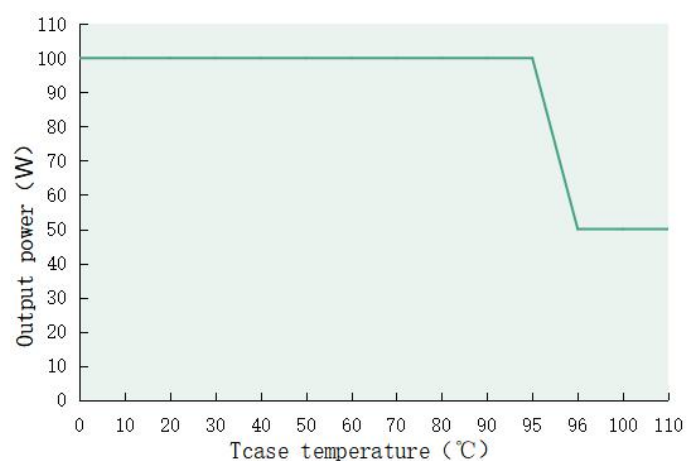
T.H.D. VS Output voltage(DL-100Z-260X-PXS)



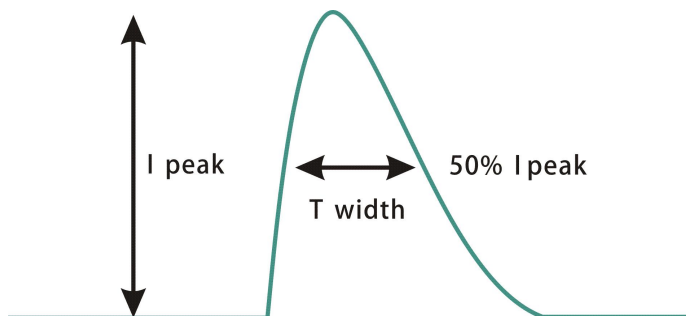
Tcase temperature VS Lifetime(DL-100Z-260X-PXS)



Output power VS Tcase temperature(DL-100Z-260X-PXS)

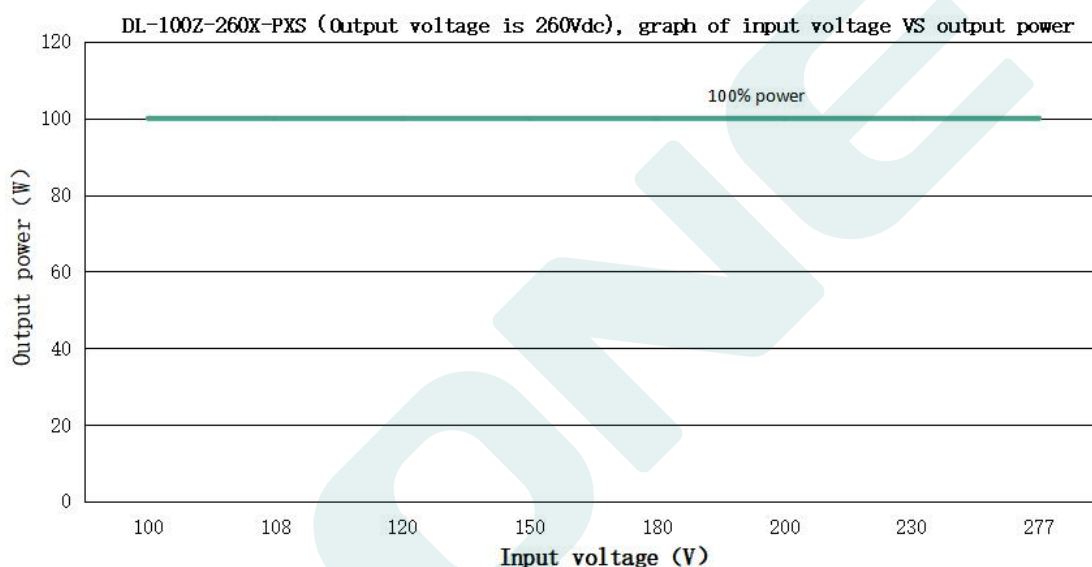


### Inrush current(DL-100Z-260X -PXS)



| Input voltage | Peak current | T(@50% Peak current) |
|---------------|--------------|----------------------|
| 100Vac        | 78.4A        | 25us                 |
| 230Vac        | 78.4A        | 305us                |
| 277Vac        | 79A          | 359us                |

### Output power VS Input voltage



DL-100Z-260X-PXS (When the output voltage is 260Vdc, the rated output current value and output power corresponding to different input voltage)

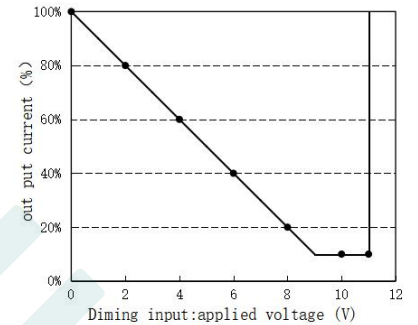
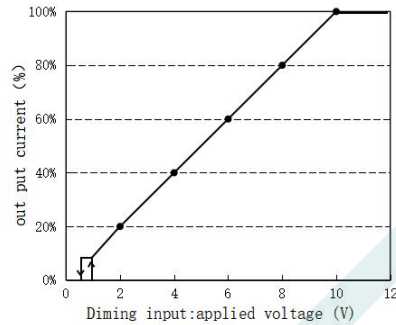
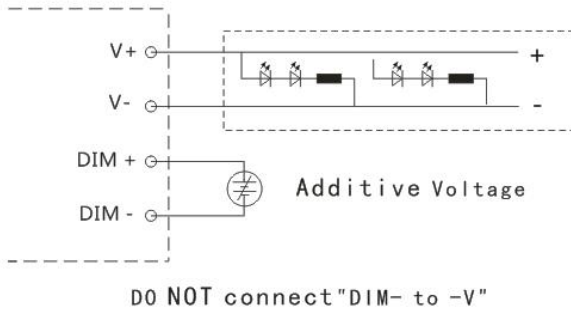
| Input Voltage | 100Vac | 108Vac | 120Vac | 180Vac | 200Vac | 230Vac | 277Vac | 100Vac |
|---------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Iout          | 0.384A | 0.384A | 0.384A | 0.384A | 0.384A | 0.384A | 0.384A | 0.384A |
| Pout          | 100W   | 100W   | 100W   | 100W   | 100W   | 100W   | 100W   | 100W   |

## Dimming operation

### ※ Three-in-one dimming function (X version only)

- 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).

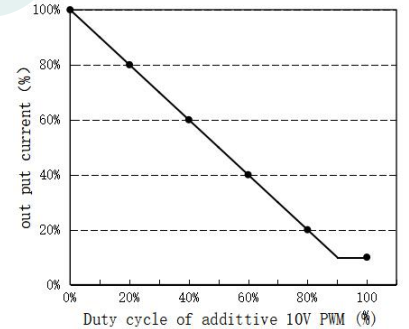
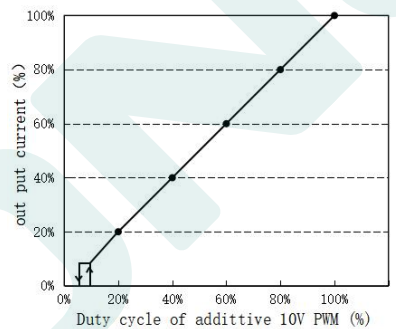
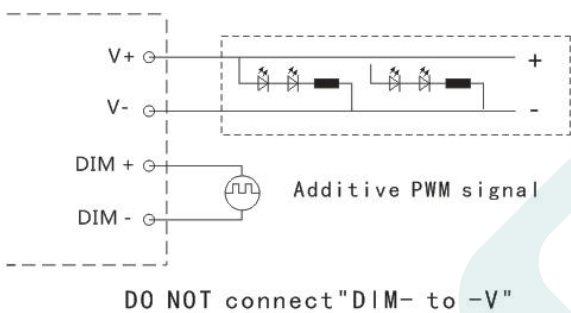
#### • With an applied voltage of 0-10V:



positive logic dimming curve

negative logic dimming curve

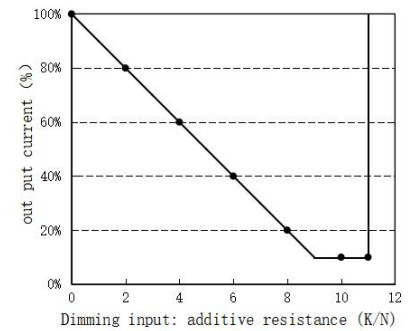
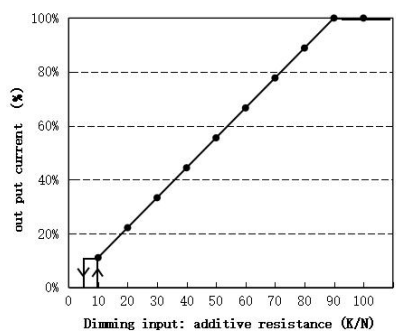
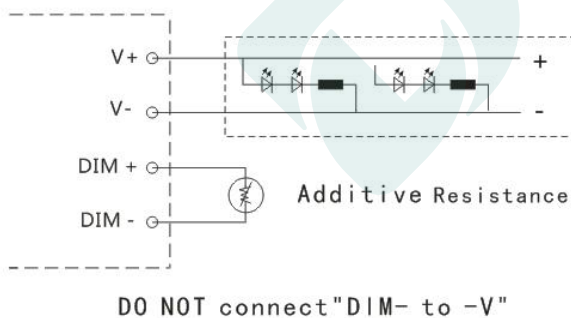
#### • Applying additive 10V PWM signal ( Frequency range : 300Hz-2K Hz ) :



positive logic dimming curve

negative logic dimming curve

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



positive logic dimming curve

negative logic dimming curve

### 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.



## Caution:

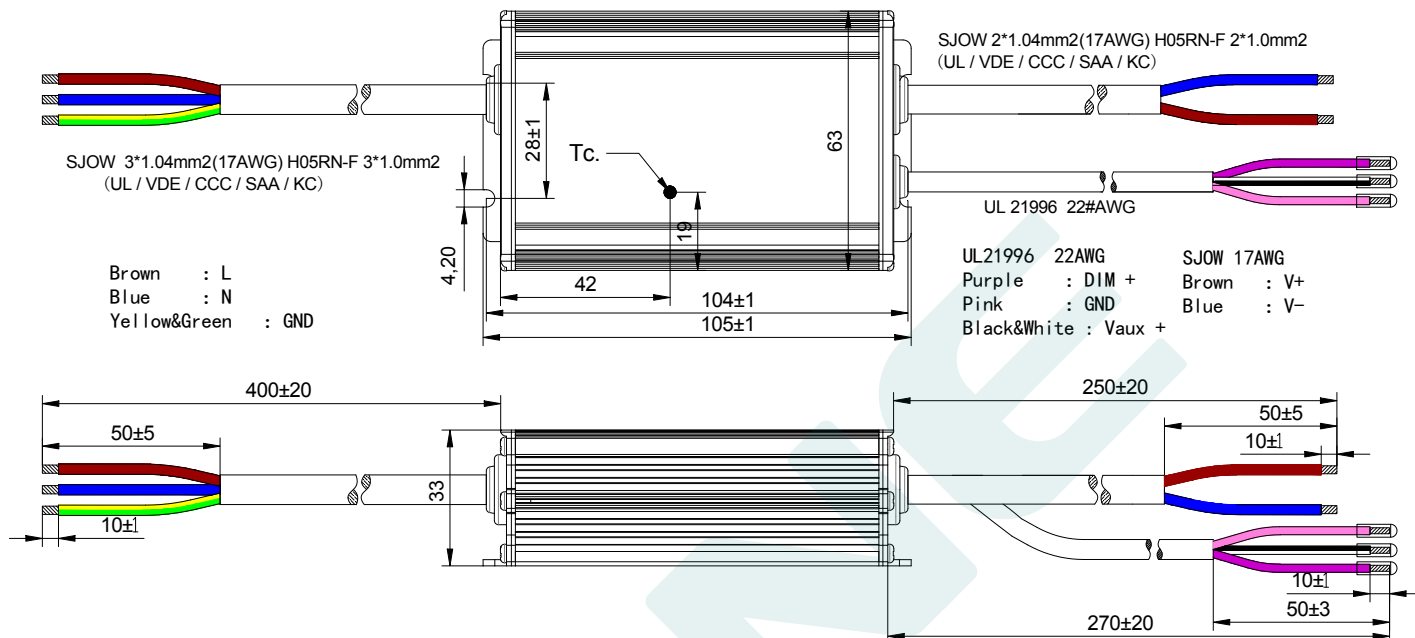
1. It is recommended to design LED beads in series first and then in parallel.
2. There is no excessive heat-dissipating copper foil left on the aluminum substrate.
3. The creepage distance of the aluminum substrate wiring > 5mm.
4. The creepage distance between LED+ and LED- on the aluminum substrate > 2.5mm.
5. The insulation level of the LED lamp board should meet the requirements of reliability design. The recommended withstand voltage between the LED lamp beads and the aluminum substrate is 100% full inspection > 3.5KVAC.
6. The final right of interpretation of the parameters above belongs to Guangdong Done Power Technology Co., Ltd.



## Mechanical specification

Size ( mm ) L105\*W63\*H33

### DL-100Z-260X-PXS

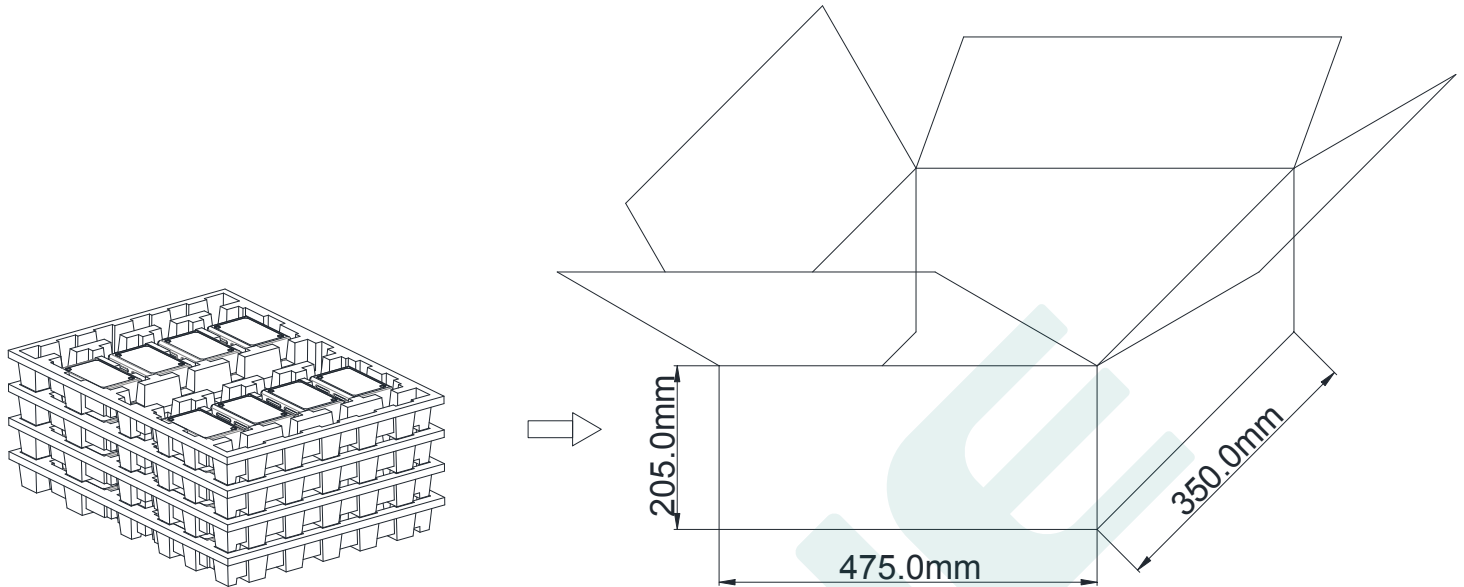


## Weight

Weight 440 g

## Packaging

Packaging ( mm ) L475\*W350\*H205



Note: One Carton 4 layers and 8pcs 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 and India.
2. The LED DRIVER with Chinese label is only used for China market.

Version

| DATE       | DESCRIPTION                                 | REV. | CHECK |
|------------|---------------------------------------------|------|-------|
| 2024.6.5   | Initial version.                            | V1.0 |       |
| 2024.11.6  | Increase TC., change installation hole size | V1.1 |       |
| 2024.11.26 | Modify weight.                              | V1.2 |       |
| 2025.4.11  | Update cable description                    | V1.3 |       |
| 2025.7.28  | Add caution on page 10                      | V1.4 |       |

| MANUFACTRUER |       |         |
|--------------|-------|---------|
| EDIT         | CHECK | APPROVE |
|              |       |         |