

The logo for DONE, featuring the word "DONE" in a bold, teal, sans-serif font. The letter "D" is stylized with a circular element on its left side. The logo is contained within a white rounded square with a thin teal border.

**DONE**

# MXG SERIES LED DRIVERS

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DL-30W-DX-MXG SPEC V1.0

## Features

- Class I structure
- Input voltage: 120-277 V ~ 50/60 Hz
- Efficiency :85.5%(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:
  - DALI-2 communication protocol (IEC62386-101/102/207)
  - Linear dimming, logarithmic dimming, scene control...
  - Auxiliary source: 12V/300mA
- 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. ( Typ. ) | T.H.D | PF    |
|------------------|---------------------|--------------|----------------|---------------------|---------------|-------|-------|
| DL-30W-V56DX-MXG | 120-277V<br>50/60Hz | 30W          | 25-56Vdc       | 1.0A                | ≥85.5%        | ≤10%  | ≥0.95 |

- Note :**
1. Test conditions of the above parameters: Ta=25℃, 230Vac input, full load operation for 30 minutes;
  2. When the input is less than 108Vac±10%, the output power gradually decreases. When the input 120-277Vac, rated power 30W. 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   | 50/60Hz | 63Hz   |  |
| Power factor        | 0.95   | -       | -      | @230Vac full load, rated input voltage |
| Power factor        | 0.9    | -       | -      | 100% load, 120-277VAC input            |
| T.H.D.              | -      | -       | 10%    | @230Vac ,full load                     |
| T.H.D.              | -      | -       | 20%    | 80%-100% load, 120-277VAC input        |
| Input current       | -      | -       | 0.13A  | @120Vac ,full load                     |
| Inrush current      | -      | -       | 70A    | 230Vac, cold start (25°C)              |

## Output characteristic

| Parameter                                | Min   | Typ.  | Max  | Note   |
|--|-------|-------|------|--|
| Rated current<br>DL-30W-V56DX-MXG        | -     | 0.53A | -    |  |
| Output current range<br>DL-30W-V56DX-MXG | 0.3A  | -     | 1.0A |  |
| Output voltage range<br>DL-30W-V56DX-MXG | 25V   | -     | 56V  |  |
| Rated power(90-120Vac)                   | -     | 15W   | 30W  | The derating begins when the input voltage is less than 108Vac±10% |
| Rated power(120-277Vac)                  | -     | 30W   | -    |  |
| No-load voltage<br>DL-30W-V56DX-MXG      | -     | -     | 75V  |  |
| Efficiency@120Vac<br>DL-30W-V56DX-MXG    | 82.5% | 84%   | -    | full load @120Vac  |

## Output characteristic

| Parameter  | Min    | Typ.                | Max    | Note  |
|--|--------|---------------------|--------|---|
| Efficiency@230Vac<br>3L-50W-V56DX-MXG              | 84%    | 85.5%               | -      | full load @230Vac   |
| Output Current Ripple                              | -      | 5%I <sub>omax</sub> | -      | 100% load , 20 MHz BW ;<br>Ripple =rms/ average   |
| Accuracy of output current                         | -5%    | -                   | +5%    | full load<br>Constant power range   |
| Line regulation                                    | -3%    | -                   | +3%    | full load<br>Constant power range   |
| Load regulation                                    | -3%    | -                   | +3%    | full load<br>Constant power range   |
| Starting time                                      | 300ms  | -                   | 1000ms | Full load@120-277Vac  |
| Auxiliary source output voltage                    | 10.8 V | 12V                 | 13.2V  | -   |
| Auxiliary source output current                    | 0 mA   | -                   | 300 mA | Reference ground is "Dim -"   |
| Auxiliary source output transient peak current @6W | -      | -                   | 500 mA | In a 5.0ms cycle, the maximum duration of the maximum peak current of 500mA is 2ms, and the average value must not exceed 250mA |

**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

| Dimming function            | Min     | Typ. | Max      | Instructions |
|-----------------------------|---------|------|----------|--------------|
| DA+, DA- High voltage level | 9.5V    | 16V  | 22.5V    |              |
| DA+, DA- Low voltage level  | -       | 0V   | 6.5V     |              |
| DA+, DA- Current            | -       | -    | 2mA      |              |
| Dimming output range        | 10%Iout | -    | 100%Iout |              |

**Note:**

- 1、DA+, DA- support the maximum 310Vac misconnection
- 2、The standby power consumption is less than 0.5W when it is turned off

## Protection

| Function                        | Function instructions   |
|---------------------------------|---|
| Input under-voltage protection  | When the input voltage is less than 108Vac $\pm 10\%$ , 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℃, 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;
2. Including setting error, line regulation and load regulation.

## Environmental

| Environmental categories      | Parameter  |
|-------------------------------|--|
| Working temperature           | -40 ~ +55°C @200-277Vac, -40 ~ +45°C @120-200Vac (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                          | 230Khrs min. MIL-HDBK-217F (Ta=25°C)   |
| Lifetime                      | 75,000 hours @Tcase≤75°C,230Vac, 80% Load, Please refer to "Tcase VS Lifetime" section |

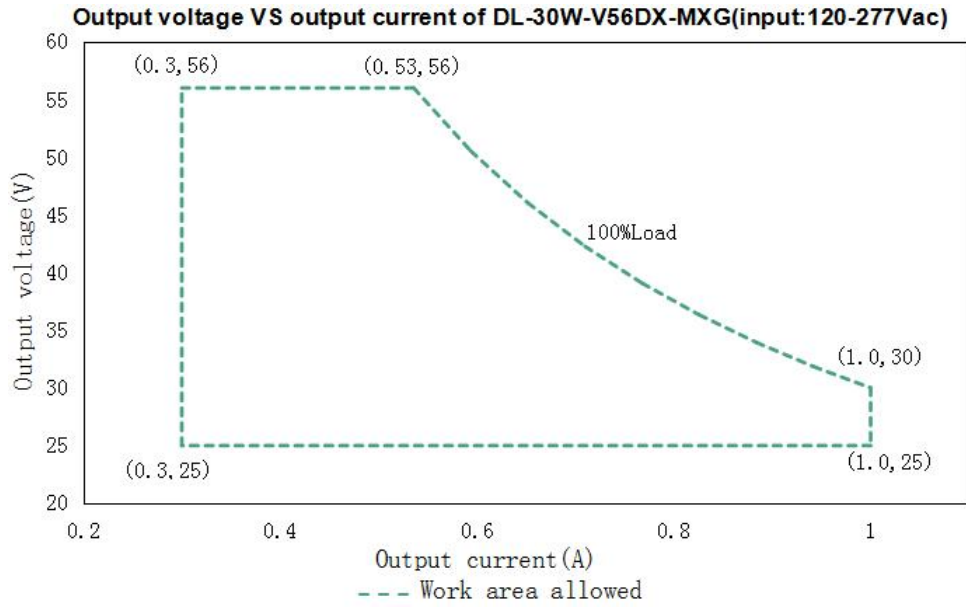
## Safety and EMC

| 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 ±6KV ( 2 ohm ) ,common mode L, N-PE± 15 KV ( 12 ohm ); Refer to IEC61000-4-5 2014 Criterion B |
| High-pot test        | I/P-O/P:3.75KVac I/P-PE :1.5KVac O/P-PE : 0.5KVac I/P-DIM:1.5KVac O/P-DIM:1.5KVac                                   |
| Insulation impedance | I/P-PE:100MΩ / 500VDC; I/P-O/P:100MΩ / 500VDC / 25°C/ 70% RH  |
| Leakage current      | <0.7mA@277Vac   |
| DALI-2 standards     | Instruction   |
| DALI-2               | IEC 62386-101、 IEC 62386-102、 IEC 62386-207   |

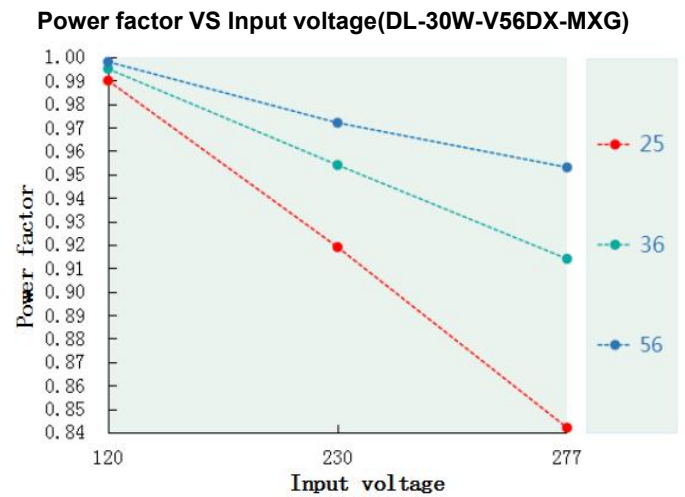
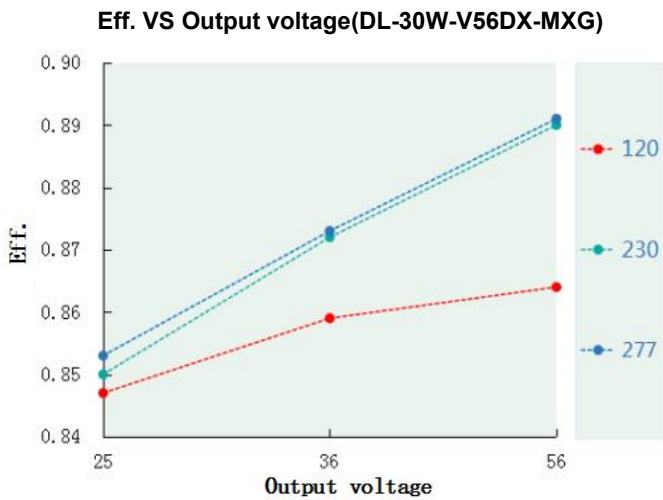
### Note:

- 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.
- DALIpart:101、 102、 207

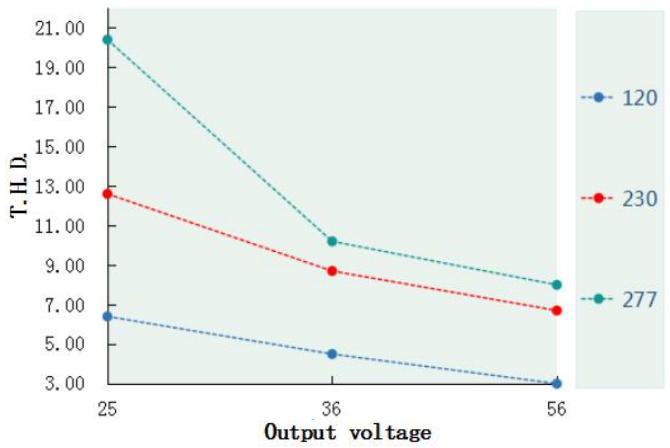
## I-V Working area



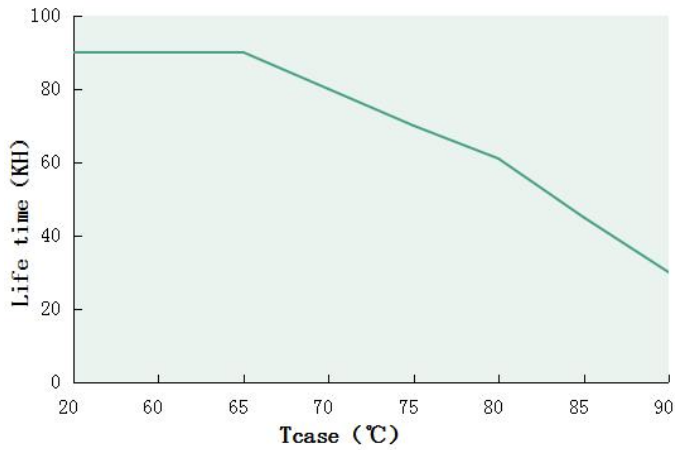
| Load                 | Output |       |       |       |       |       |       |       |       |
|----------------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| Load working Voltage | 25V    | 30V   | 33V   | 36V   | 40V   | 44V   | 48V   | 52V   | 56V   |
| Io_MAX               | 0.55A  | 0.55A | 0.55A | 0.55A | 0.55A | 0.54A | 0.54A | 0.53A | 0.53A |
| Po_MAX               | 14W    | 16W   | 18W   | 19.5W | 22W   | 24W   | 26W   | 28W   | 30W   |



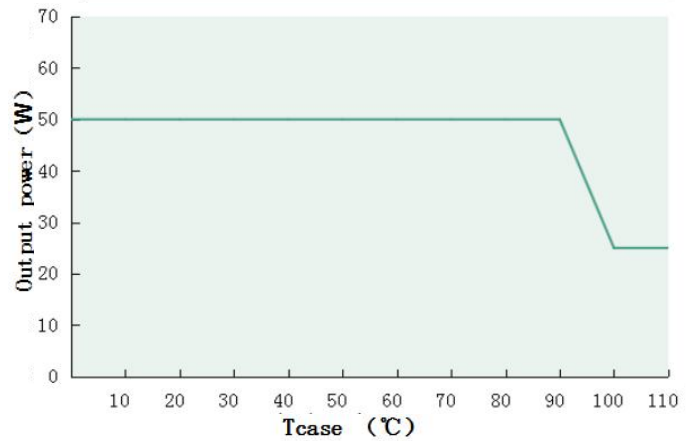
**T.H.D. VS Output voltage(DL-30W-V56DX-MXG)**



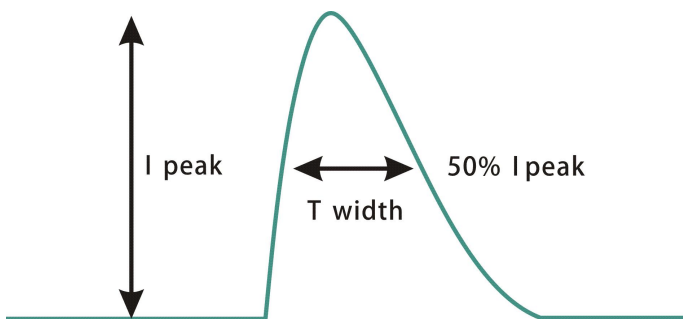
**Tcase VS Lifetime(DL-30W-V56DX-MXG)**



**Output power VS Tcase (DL-30W-V56DX-MXG)**



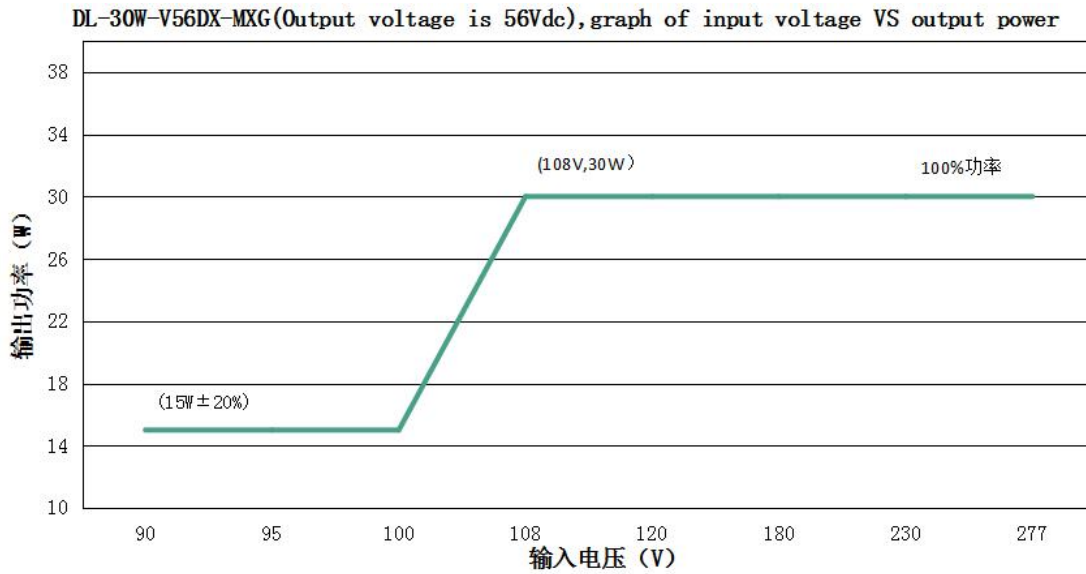
**Inrush Current(DL-30W-DX-MXG)**



| Input voltage | Peak current | T(@50% Peak current) |
|---------------|--------------|----------------------|
| 120Vac        | 13.7A        | 132us                |
| 230Vac        | 27.2A        | 138us                |
| 277Vac        | 33.6A        | 126us                |



**Output power VS Input voltage**



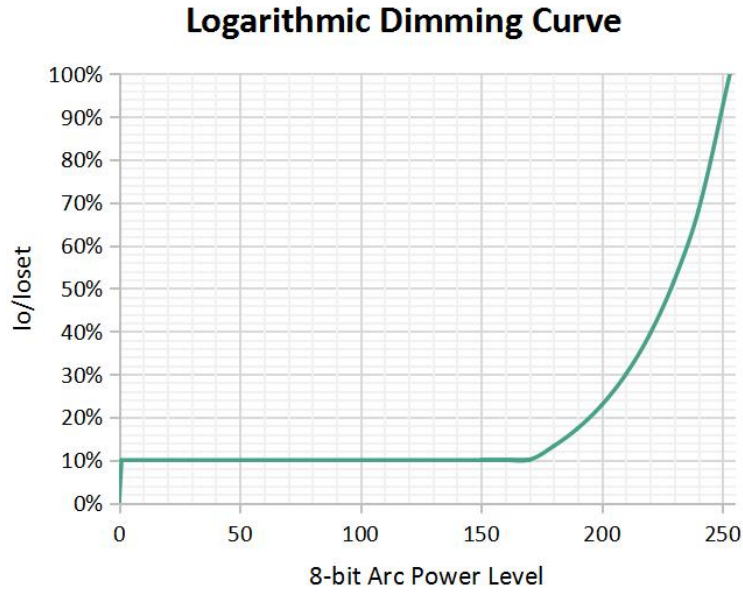
**DL-30W-V56DX-MXG (When the output voltage is 56Vdc, the rated output current value and output power corresponding to different input voltage)**

| Input Voltage | 90Vac | 95Vac | 100Vac | 108Vac | 120Vac | 180Vac | 230Vac | 277Vac |
|---------------|-------|-------|--------|--------|--------|--------|--------|--------|
| Iout          | 0.24A | 0.24A | 0.53A  | 0.53A  | 0.53A  | 0.53A  | 0.53A  | 0.53A  |
| Pout          | 13.8W | 13.8W | 30W    | 30W    | 30W    | 30W    | 30W    | 30W    |

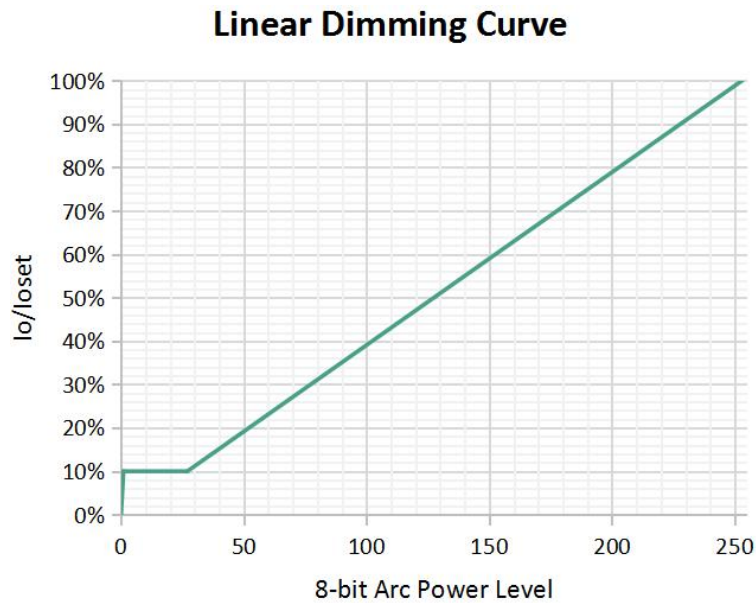
**Note:**  
 Output power will decrease gradually when input voltage less than 108Vac; when the input voltage is 90Vac,the output power range is 15W±20%.

## Dali-2 dimming curve

### Logarithmic Dimming Curve



### Linear Dimming Curve



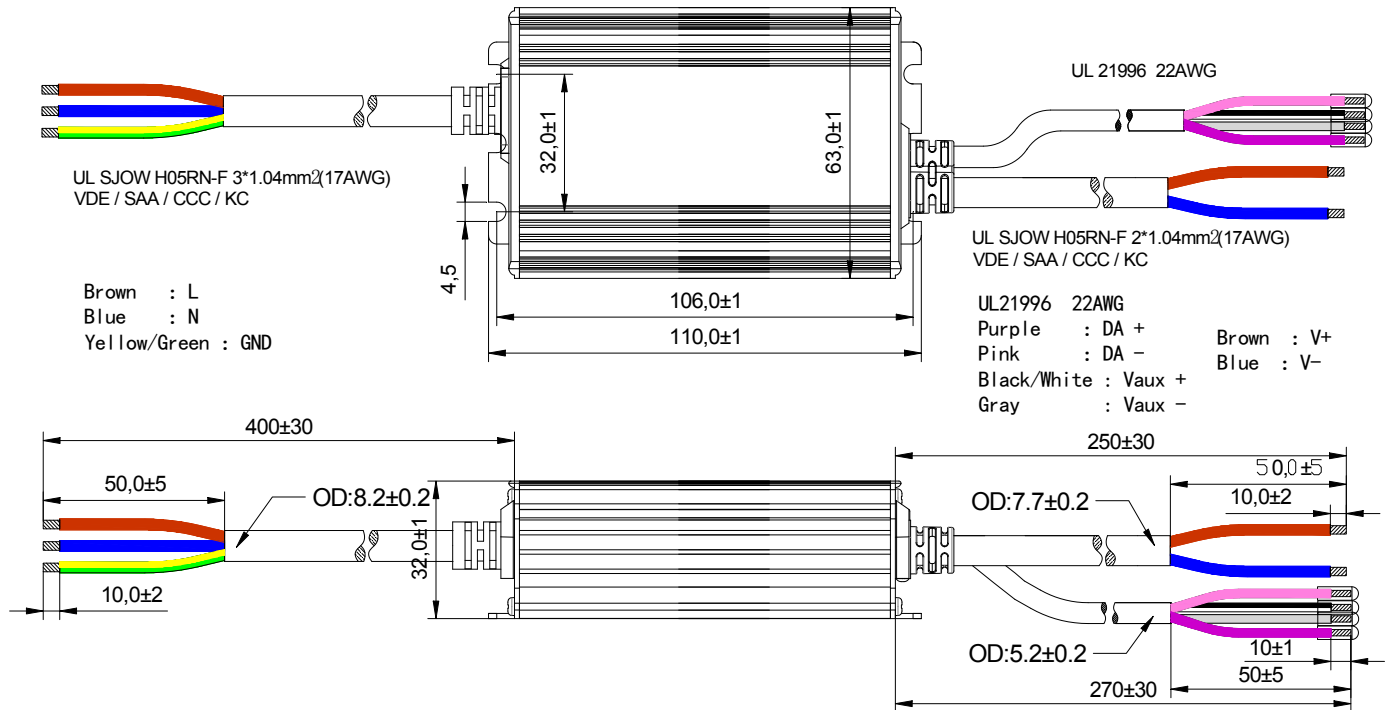
**Note:**

- 1.Factory default logarithmic dimming.

## Mechanical specification

Size (mm) L110mm\*W63mm\*H32mm

**DL-30W-V56DX-MXG**

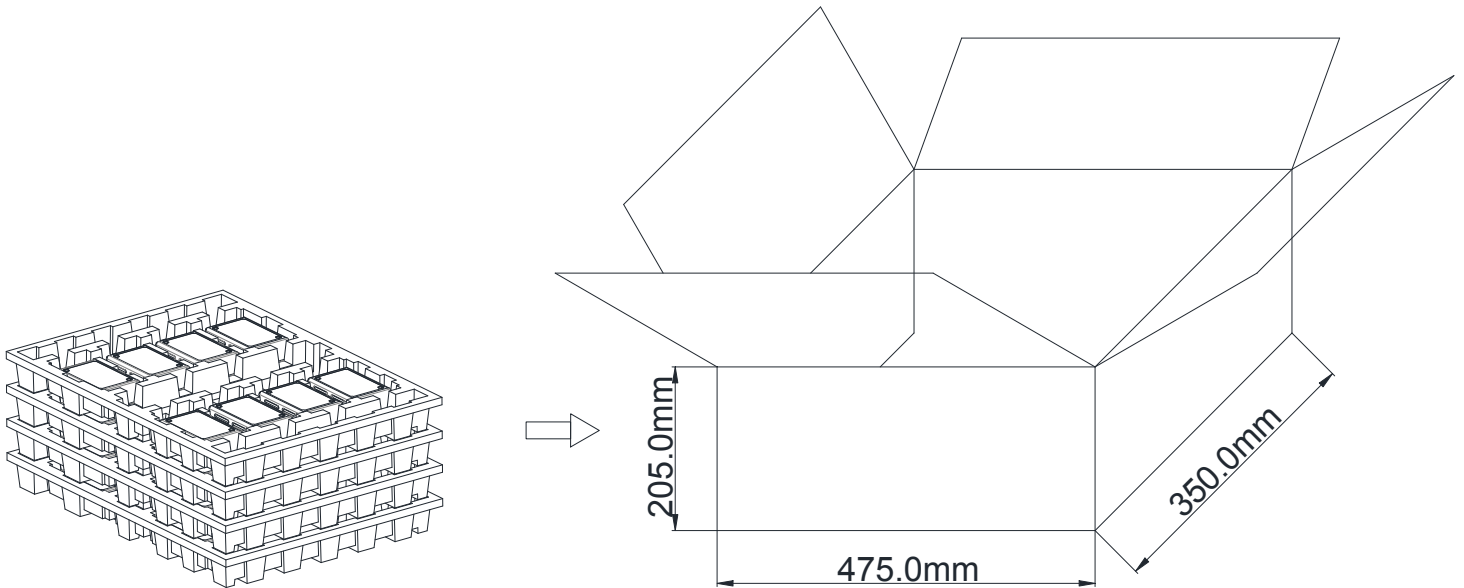


## Weight

Weight 430 g

## Packaging

Packaging (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.

**Version**

| DATE      | DESCRIPTION      | REV. | CHECK |
|-----------|------------------|------|-------|
| 2022.12.9 | Initial version. | V1.0 |       |
|           |                  |      |       |
|           |                  |      |       |
|           |                  |      |       |
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| MANUFACTURER |       |         |
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