

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.

PLS SERIES LED DRIVER

DL-500W-V260X-PLS SPEC V1.0

Features

- Class I type for insulation(pending)
- Input voltage 120-277 V ~ 50/60 Hz
- Efficiency :96%(Typ.)
- Constant power drive and constant current output control mode
- Metal case, protection grade against water and dust: IP67
- Surge level:
 - differential mode :6kV,
 - common mode :15kV
- Only for X version: standby power≤0.5W@ dim-off state
- Available version:
 - X version: 1.default dimming method of Isolated 3 in 1 dimmer
 - 2.available DC source:12V- 300mA
- Guaranteed Lifetime : 5 years



Applications

Street 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. | Power Factor |
|-------------------|---------------------|--------------|----------------|---------------------|------|------|--------------|
| DL-500W-V260X-PLS | 120-277V 50/60Hz | 500W | 180-260Vdc | 2.0A | ≥96% | ≤10% | ≥0.97 |

Note:

1. Test conditions: Ta=25℃, under 230Vac input,after running for 30 minutes with full load .
2. The output power decreases slowly to a half when the Input is below 108±10%Vac. Please refer to the curve of Input voltage VS output power for detail.

Input characteristics

| Parameter | Min | Typ. | Max | remark |
|-----------------------|--------|---------|--------|---|
| Rated input voltage | 120Vac | 230Vac | 277Vac | |
| Input voltage range | 90Vac | 230Vac | 305Vac | Output power decrease to a half below 120VAC. |
| Rated frequency range | 47Hz | 50/60Hz | 63Hz | |
| Power factor | - | 0.97 | - | @230Vac input ,with full load |
| T.H.D | - | 8% | 10% | @230Vac input ,with full load |
| T.H.D | - | - | 20% | @120-277Vac input ,with 60% load |
| Input current | - | - | 2.8A | @230Vac input ,with full load |
| Inrush current | - | - | 120A | 230Vac, cold start (25°C) |

Note:

1. Test conditions: Ta=25°C .

Output characteristics

| Parameter | Min | Typ. | Max | remark |
|---|------|-------|------|---|
| Rated current DL-500W-V260X-PLS | - | 1.92A | - | With loading 260VDC ,full load |
| Output current range DL-500W-V260X-PLS | 1.5A | - | 2.5A | |
| Output voltage range DL-500W-V260X-PLS | 200V | - | 260V | Constant power range |
| | 180V | - | 200V | Constant current range |
| Available power(90-120Vac) | - | 250W | 500W | output power decrease to a half when input voltage being less than 108VAC±10% |
| Rated power(120-277Vac) | - | 500W | - | |
| No-load voltage DL-500W-V260X-PLS | - | - | 350V | |
| Efficiency@120Vac DL-500W-V260X-PLS | - | 93% | - | full load@120Vac Output current 1.92A , 500W |

Output characteristics

| Parameter | Min | Typ. | Max | Note |
|--|--------|-------|--------|---|
| Efficiency@230Vac DL-500W-V260X-PLS | - | 96.5% | - | full load@230Vac Output current1.92A , 500W |
| Ripple current | - | 5% | - | full load |
| Current Accuracy | -5% | - | +5% | full load |
| Line regulation | -3% | - | +3% | full load |
| Load regulation | -3% | - | +3% | full load |
| Starting time | - | 500ms | - | Full load @230Vac |
| 12V output voltage | 10.8 V | 12V | 13.2V | |
| 12V output current | 0 mA | - | 250 mA | Reference ground is "Dim -" |
| 12V output line 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: The output current is limited by the input and output voltage, please refer to "I-V WORKING AREA" for details;

Dimming characteristics

| Dimming function | | Min | Typ. | Max | Instructions |
|----------------------------------|---------------------------------|-------|------|--------|---|
| 0-10V Dimming (Optional) | Safe operation voltage range | 0V | - | 12V | The dimming voltage beyond the range may lead to a critical damage. |
| | Rated operation voltage range | 0V | - | 10V | Be negative dimming mode by program setting |
| | Dimming output range | 0% | - | 100% | Positive logic dimming can be turned off by program setting |
| PWM Dimming (Optional) | PWM high level | 9.5V | - | 10.5V | - |
| | PWM low level | 0V | - | 0.3V | - |
| | Rated dimming frequency | 300Hz | - | 2000Hz | - |
| | PWM duty cycle | 0% | - | 99% | At 99% duty cycle, output full power |
| Resistor Dimming (Optional) | Rated external resistance value | 0KΩ | - | 100KΩ | - |
| | Dimming output range | 0% | - | 100% | - |

Note:

1. Output current of dimming port: 100uA (typical value).
2. The maximum operation voltage for the dimming port is 12V. Wrong voltage beyond this, or a reverse connection, may lead to a critical damage.
3. The default dimming setting of this product is three-in-one, positive logic dimming. Other requirement, such as time-controlled dimming, 0-5V dimming, and so on, please consult the technician for details.
4. Dim-off is only available for positive logic.

Protection

| Protection | description |
|---------------------------------|--|
| Under voltage protect | When the input voltage is less than $108 \pm 10\%VAC$, the output power decreases to a half. |
| Output overload protection | hiccup mode, and automatically recovers after abnormal load conditions being removed |
| Output short circuit protection | hiccup mode, and automatically recovers after abnormal load conditions being removed |
| Over temperature protection | When the housing temperature is greater than $90^{\circ}C$, the output power decreases with the increase of the housing temperature |

Note:

1. Unless otherwise specified, all parameters should be measured at the condition of 230Vac (50Hz) input, with rated load, and ambient temperature of $25^{\circ}C$;

Environmental

| Environmental categories | Parameter |
|-------------------------------|---|
| Working temperature | -40 ~ +40°C @120-200Vac、 -40 ~ +55°C@200-277Vac(refer to "service life curve ") |
| Safety shell temperature | -40 ~ 90°C |
| Working humidity | 20 ~ 95% RH |
| 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 | 70000 h @ housing temperature ≤75 °C, 230Vac, 100% load, see section "housing temperature and life" |

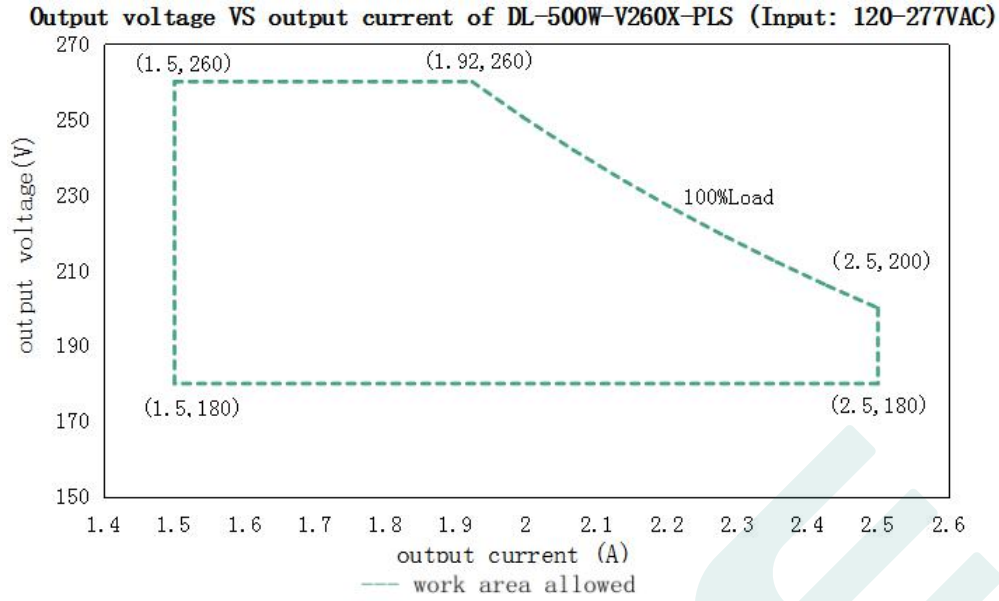
Safety and EMC

| 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 |
| Surge leve | Differential mode L-N ± 6 KV (2Ω),common mode L, N-PE± 15 KV (12Ω) ;Refer 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:100MΩ / 500VDC; O/P-PE:100MΩ / 500VDC / 25°C/ 70% RH |
| Leakage current | < 0.7mA @277Vac |

Note:

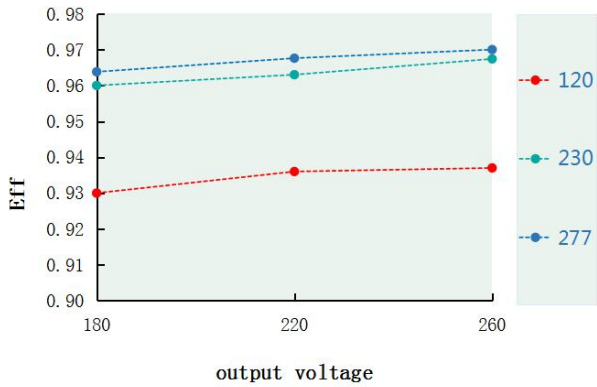
- 1.Attention! As a component of the whole, the EMC performance of the final product is not only decided by the driver, even if the driver is well-designed and fulfil all the required compliance. The final equipment manufacturers must re-qualify EMC Directive on the complete product.
- 2.For the driver will be in OVP restart model when it works in no-load, so the driver on-load is recommended.

I-V Working area

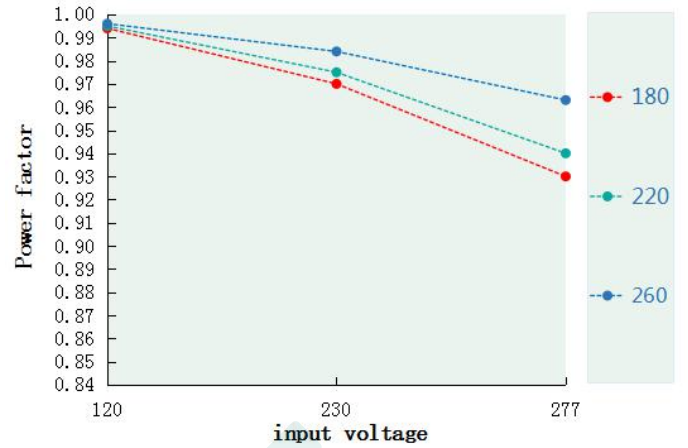


| Load | Output | | | | | | | | |
|----------------------|--------|------|------|-------|-------|-------|-------|------|-------|
| Load working Voltage | 180V | 190V | 200V | 210V | 220V | 230V | 240V | 250V | 260V |
| Io_MAX | 2.5A | 2.5A | 2.5A | 2.38A | 2.27A | 2.17A | 2.08A | 2A | 1.92A |
| Po_MAX | 450W | 475W | 500W | 500W | 500W | 500W | 500W | 500W | 500W |

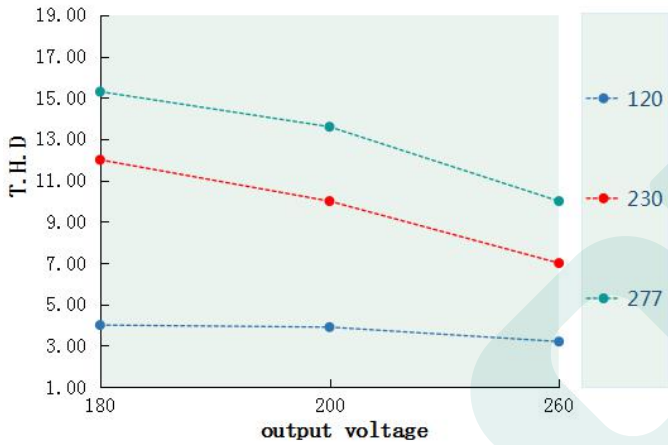
Eff. VS Output voltage DL-500W-V260X-PLS



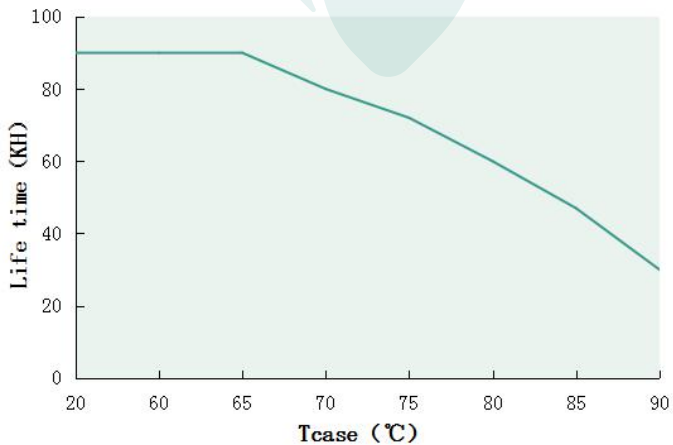
Power factor VS Input voltage DL-500W-V260X-PLS



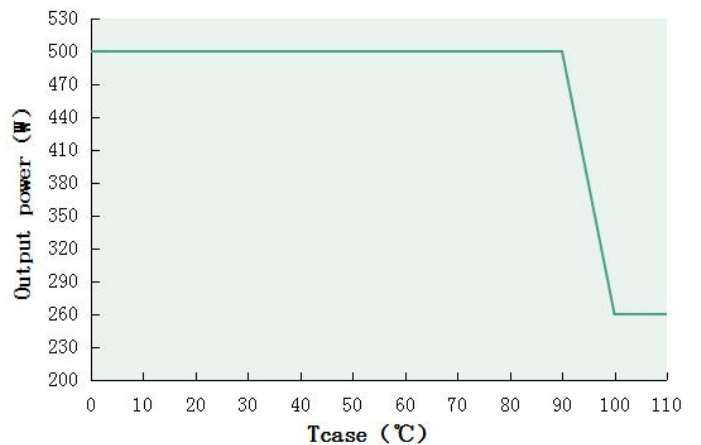
T.H.D VS Output power DL-500W-V260X-PLS



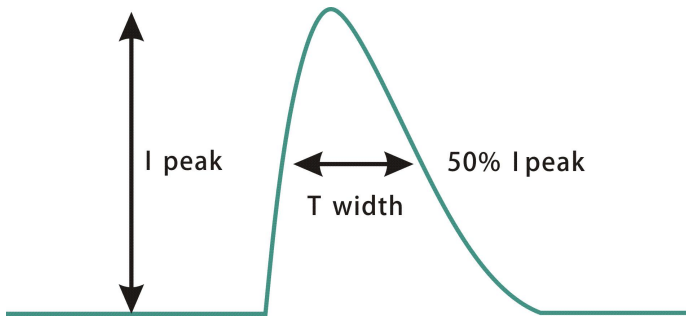
Tcase VS Lifetime(DL-500W-V260X-PLS)



Output power VS Tcase(DL-500W-V260X-PLS)

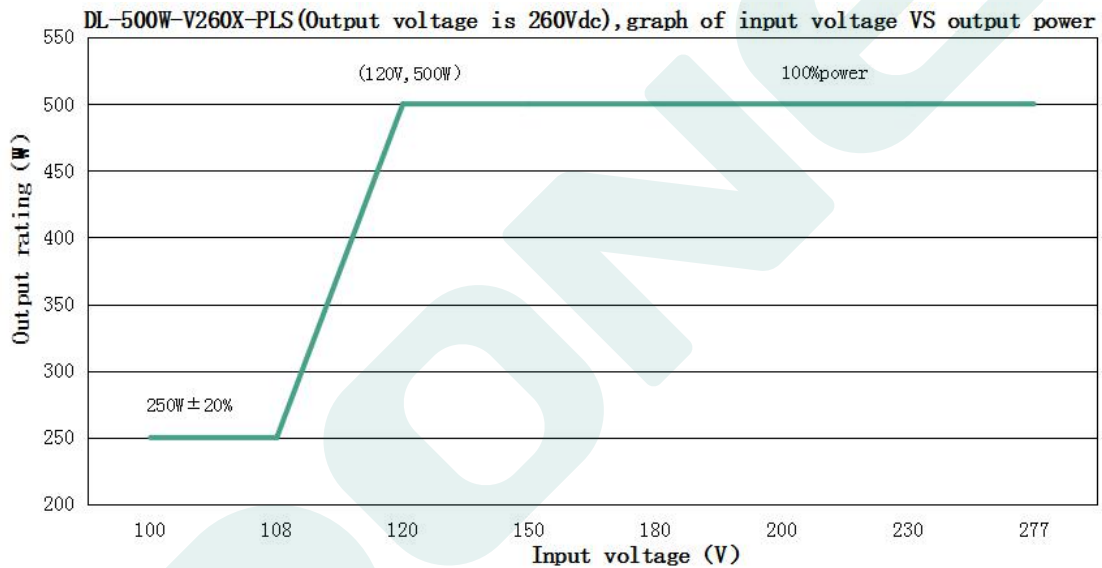


Input Inrush current(DL-500W-V260X -PLS)



| Input voltage | Peak current | T (@50% Peak current) |
|---------------|--------------|-----------------------|
| 120Vac | 40.8A | 456us |
| 230Vac | 56.7A | 460us |
| 277Vac | 96A | 470us |

Output power VS Input voltage



DL-500W-V260X-PLS(For output 260Vdc, the rated output current & power under different input voltage)

| Input Voltage | 108Vac | 120Vac | 150Vac | 180Vac | 200Vac | 230Vac | 250Vac | 277Vac |
|---------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Iout | 0.96A | 1.92A | 1.92A | 1.92A | 1.92A | 1.92A | 1.92A | 1.92A |
| Pout | 250W | 500W | 500W | 500W | 500W | 500W | 500W | 500W |

Note : When the input voltage is below 108±10Vac,the output power decreases to 250W±20%.

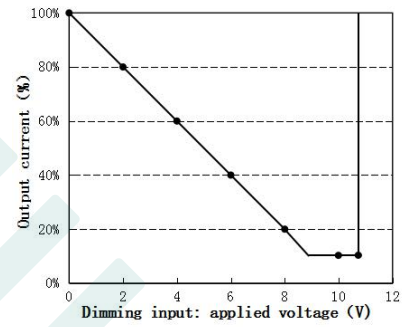
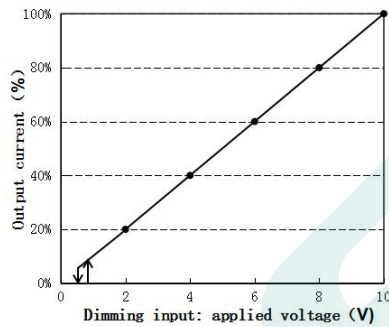
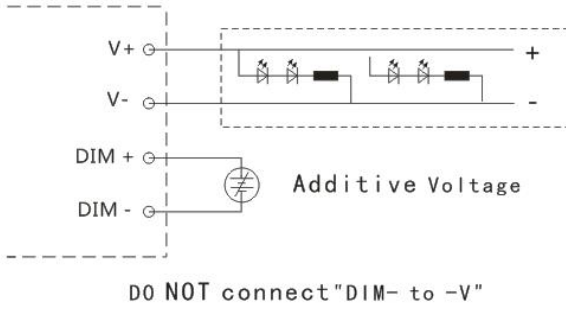
Dimming function

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

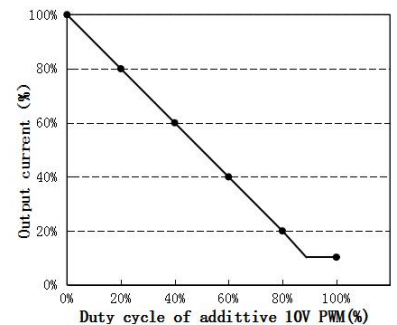
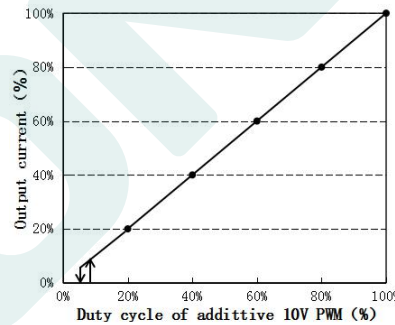
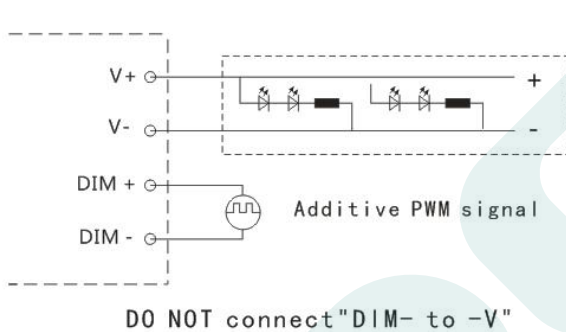
A. To adjust the output current, applying one of the three methods between DIM+ and DIM- : a resistor of 0-100K, or any voltage of 0-10V , or a PWM signal with amplitude of 10V. .

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

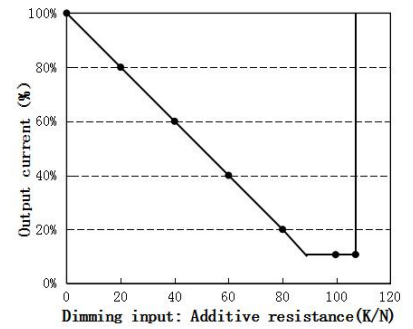
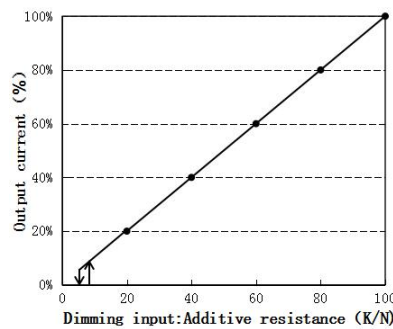
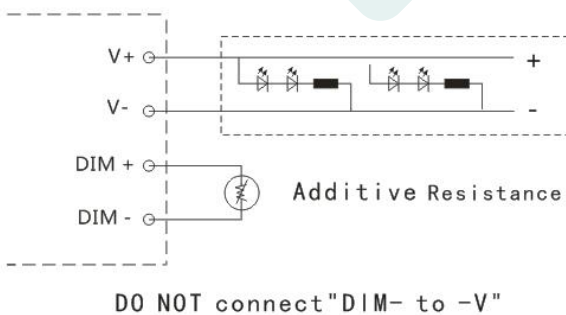
◎ With 0-10V dimming voltage:



◎ With 10V PWM signal (Frequency range: 300Hz-2K Hz) :



◎ With an additional 0-100K resistor:



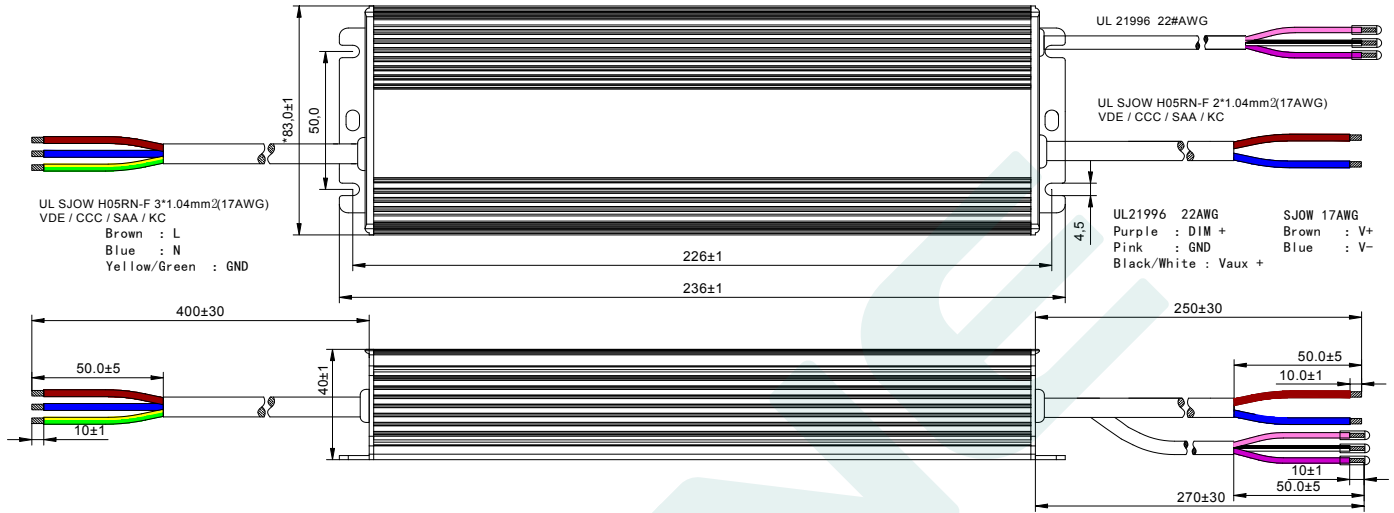
Note:

1. Both operation way, of positive logic or negative logic, can be selected by program.
2. The dimming-off suits for positive logic only. The other requests could contact the technician.

Mechanical specification

Size (mm) L236mm*W83mm*H40mm

Dimension drawing DL-500W-V260X-PLS

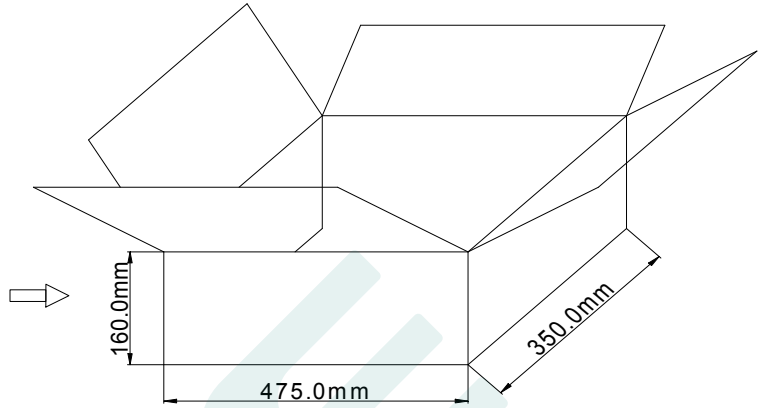
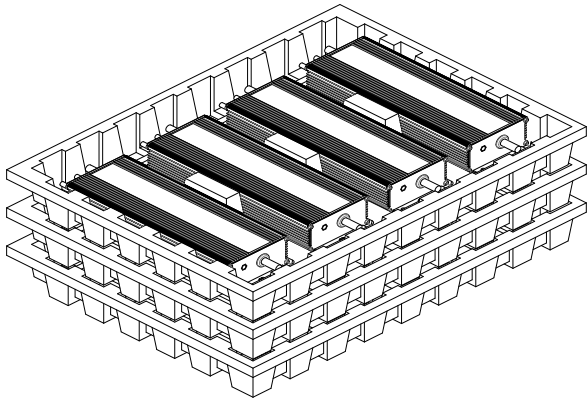


Weight

Weight 1450 g

Packaging

Packaging (mm) 475*350*160



Note: One Carton 3 layers and 4 pcs each layer, total 12pcs/carton.

Note:

1. According to the qualified certificate of the LED DRIVER, that with English label is for sale in Europe, America and India.
2. That with Chinese label are used for Chinese market.

Version

| Date | Description | REV. | Check |
|----------|-----------------|------|-------|
| 2023.1.2 | Initial version | V1.0 | |
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MANUFACTRUER

EDIT

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