

# RAS Series DRIVERS

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## DL-30W-RAS\_V1.0

A decorative graphic at the bottom of the page consisting of a teal wave shape. Inside the wave, there are white circuit-like patterns, including lines and small circles, suggesting a technical or electronic theme.

Guangdong DONE Electronic Technology Co., Ltd

## Features

- Input voltage:100-277Vac ~ 50/60Hz
- Maximum efficiency 88% (Typ.) Natural cooling
- Constant voltage output control
- Class II all-plastic housing structure,protection grade:IP67
- Lightning protection level: differential mode 4KV
- All-round protection: output over-temperature,output overcurrent, short circuit protection
- functional characteristics: DALI-2 communication protocol(Optional D version)  
3-in-1 dimming function(Optional S version)
  
- 5 years warranty



## Product introduction

DONE DL-30W-RAS is a series of constant voltage products with output power of 30W-RAS, operates from 90-305Vac, and offers 12/24/36/48 Vdc with different voltage. voltage output,It is equipped with perfect protection functions for over-temperature,over-current,overload and short-circuit in the output .The product is designed with IP67 protection grade. The plastic housing greatly improves the reliability of outdoor applications. Provide reliable power supply solutions for outdoor landscape lighting, architectural lighting, and advertising signage lighting.

## Model list

| Model NO.      | Rated input voltage   | Max output power | Output voltage | Output current Radius | EFF. | THD. | PF    |
|----------------|-----------------------|------------------|----------------|-----------------------|------|------|-------|
| DL-30W-V12-RAS | 100-277Vac<br>50/60Hz | 30W              | 12Vdc          | 0-2.50A               | ≥85% | <10% | >0.95 |
| DL-30W-V24-RAS | 100-277Vac<br>50/60Hz | 30W              | 24Vdc          | 0-1.25A               | ≥87% | <10% | >0.95 |
| DL-30W-V36-RAS | 100-277Vac<br>50/60Hz | 30W              | 36Vdc          | 0-0.84A               | ≥87% | <10% | >0.95 |
| DL-30W-V48-RAS | 100-277Vac<br>50/60Hz | 30W              | 48Vdc          | 0-0.63A               | ≥87% | <10% | >0.95 |

**Optional:D version(for example DL-30W-V24D-RAS)**

**S version(for example DL-30W-V24S-RAS)**

### NOTE:

1. Unless otherwise specified, all specifications are measured at 230Vac (50Hz) input, rated load, and ambient temperature of 25°C;
2. Including setting error, linear adjustment rate and load adjustment rate;
3. As the power supply is used together with the terminal device, its EMC will be affected by the entire device.

Therefore, the terminal device manufacturer needs to confirm the EMC of the entire device.

## Input characteristics

| Parameter   | MIN   | TYP     | MAX              | NOTE                            |
|---|---|---------|------------------|---------------------------------|
| Rated input voltage   | 100Vac<br>140Vdc  | 230Vac  | 277Vac<br>400Vdc | N/A                             |
| Input voltage range   | 90Vac   | -       | 305Vac           | N/A                             |
| Rated frequency   | 47Hz  | 50/60Hz | 63Hz             | N/A                             |
| Power factor  | -   | >0.95   | -                | FULL LOAD, 230Vac INPUT         |
| Input current   | -   | -       | 0.4A             | FULL LOAD, 100Vac INPUT         |
| Inrush current  | -   | -       | 70A              | 230Vac INPUT, cold start (25°C) |
| 16A Circuit breaker<br>The number of power supplies of the same model can be configured | 230Vac input can be configured with 12 (Type B circuit breaker)20(Type C circuit breaker) |         |                  |                                 |

## Output characteristics

| Parameter                           | MIN   | TYP   | MAX   | NOTE             |
|-------------------------------------|-------|-------|-------|------------------|
| <b>Rated current</b>                |       |       |       |                  |
| DL-30W-V12-RAS                      |       | 2.50A |       |                  |
| DL-30W-V24-RAS                      | -     | 1.25A | -     | N/A              |
| DL-30W-V36-RAS                      |       | 0.84A |       |                  |
| DL-30W-V48-RAS                      |       | 0.63A |       |                  |
| <b>Output current range</b>         |       |       |       |                  |
| DL-30W-V12-RAS                      |       |       | 2.50A |                  |
| DL-30W-V24-RAS                      | 0     | -     | 1.25A | N/A              |
| DL-30W-V36-RAS                      |       |       | 0.84A |                  |
| DL-30W-V48-RAS                      |       |       | 0.63A |                  |
| <b>Output voltage range</b>         |       |       |       |                  |
| DL-30W-V12-RAS                      | 11.4V | 12V   | 12.6V |                  |
| DL-30W-V24-RAS                      | 23.4V | 24V   | 24.6V | N/A              |
| DL-30W-V36-RAS                      | 35.4V | 36V   | 36.6V |                  |
| DL-30W-V48-RAS                      | 47.4V | 48V   | 48.6V |                  |
| <b>Rated power<br/>(100-277Vac)</b> | -     | 30W   | -     | N/A              |
| <b>EFF.@230Vac</b>                  |       |       |       |                  |
| DL-30W-V12-RAS                      | 84%   | 85%   |       |                  |
| DL-30W-V24-RAS                      | 86%   | 87%   | -     | FULL LOAD@230Vac |
| DL-30W-V36-RAS                      | 86%   | 87%   |       |                  |
| DL-30W-V48-RAS                      | 86%   | 87%   |       |                  |

## Output characteristic

| Parameter                     | MIN                                 | TYP  | MAX   | NOTE                |
|-------------------------------|-------------------------------------|------|-------|---------------------|
| <b>Ripple voltage</b>         | 240mV@UP-12/24VDC/360mV@UP-36/48VDC |      |       | FULL LOAD           |
| <b>Voltage accuracy</b>       | -2%                                 | -    | +2%   | FULL LOAD           |
| <b>Linear adjustment rate</b> | -2%                                 | -    | +2%   | 50-100% LOAD@230Vac |
| <b>Load adjustment rate</b>   | -2%                                 | -    | +2%   | 50-100% LOAD@230Vac |
| <b>Start-up time</b>          | -                                   | -    | 500ms | FULL LOAD@230Vac    |
| <b>Rise time</b>              | -                                   | 50ms | -     | FULL LOAD           |
| <b>Holding time</b>           | -                                   | 20ms | -     | FULL LOAD           |

## Safety and environmental reliability

| category                                 | Inclusive function                | Function description  |
|--|-----------------------------------|---|
| Protection                               | Output overload protection        | Protection mode: hiccup restart mode. After abnormal load conditions are removed, the system automatically recovers             |
|  | Output short-circuit protection   | Hiccup mode, automatically recovered after abnormal conditions are removed  |
|  | Over temperature protection       | Self-recovery mode:When the housing temperature is greater than 90°C, the output is turned off as the housing temperature rises |
|  | Output overcurrent protection     | Output current >1.4-1.8 times off   |
| Safety and electromagnetic compatibility | Safety regulation                 | EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、EN 62384、EN 62493   |
|  | EMC electromagnetic compatibility | 符合 GB17743/EN 55015、EN 61000-3-2 CLASSB ; EN 61000-4-2,3,4,5,6,8,11;EN 61547 CLASSB   |
|  | Lightning protection class        | Differential mode L-N $\pm 4$ KV (2 $\Omega$ ), according to IEC61000-4-5 2014  |
|  | Withstand voltage                 | I/P-O/P:3.75KVac  |
|  | Insulation impedance              | I/P-PE:100M $\Omega$ / 500VDC; I/P-O/P:100M $\Omega$ / 500VDC / 25°C/ 70% RH  |
|  | Leakage current                   | <0.7mA@277Vac   |
| Environmental reliability                | Operating temperature             | -40~50°C @230VAC; -40~45°C @120VAC (Please refer to the temperature curve for details)  |
|  | Insulation shell temperature      | -40~90°C  |
|  | Working humidity                  | 20 ~ 90% RH,non-condensing  |
|  | Store temperature and humidity    | -40~+80°C, 10 ~ 90% RH  |
|  | Resistance to 5G vibration        | 10 ~ 500Hz, 5G 12 minutes/cycle, X, Y, Z axis 72 minutes each   |
|  | MTBF                              | 230Khrs min. MIL-HDBK-217F (Ta=25°C)  |
|  | Life time                         | 70000 hours, 230Vac, 100% load, TC 75°C   |

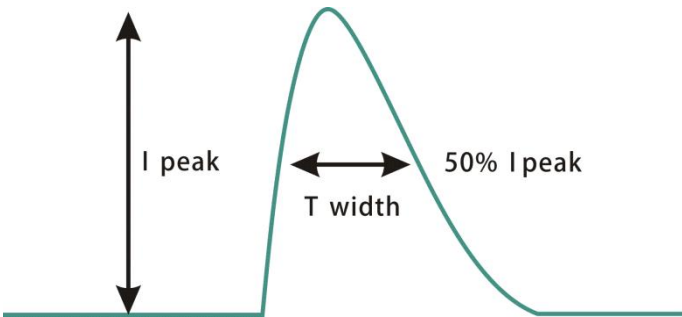
## Dimming characteristic

| Dimming function                                 |  | Min          | Typ. | Max           | Instructions  |
|--|--|--------------|------|---------------|---|
| 0-10V dimming<br>(optional) S<br>version         | Safe applied<br>voltage range          | 1V           | -    | 12V           | When the external voltage<br>is greater than or equal to<br>12V, the dimming will be<br>damaged |
|  | Dimming output<br>range                | 10%          | -    | 100%          | -   |
|  | Rated dimming<br>voltage range         | 1V           | -    | 12V           | -   |
| PWM dimming<br>(optional) S<br>version           | PWM High level                         | 9.5V         | -    | 10.5V         | -   |
|  | PWM Low level                          | 0            | -    | 0.3V          | -   |
|  | PWM Frequency<br>band                  | 300Hz        | -    | 2000Hz        | -   |
|  | PWM Duty cycle                         | 10%          | -    | 99%           | Full power output at 99%<br>duty cycle  |
| Resistance<br>dimming<br>(optional) S<br>version | Resistance of the<br>external resistor | 10K $\Omega$ | -    | 100K $\Omega$ | -   |
|  | Dimming output<br>range                | 10%          | -    | 100%          | -   |

### Note:

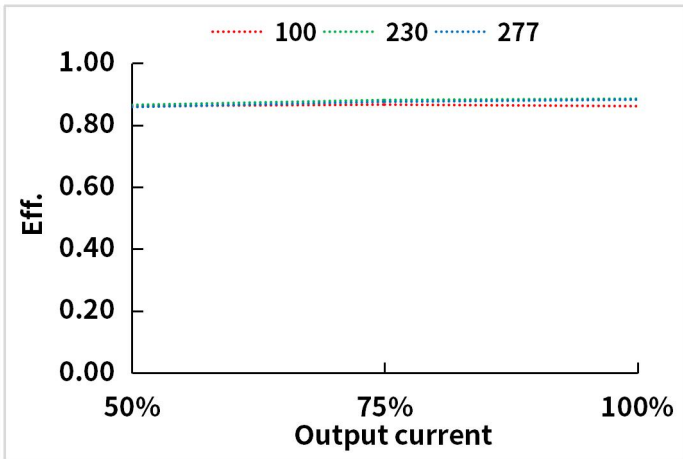
1. Dimming port output current: 108uA(typical value).
2. The dimmer port can withstand a maximum voltage of 12V. If the voltage of the external power supply exceeds 12V or the signal cable is reversed, the power supply may be damaged.
3. The minimum dimming ratio column time; Extinguishable lamp.

### Inrush current

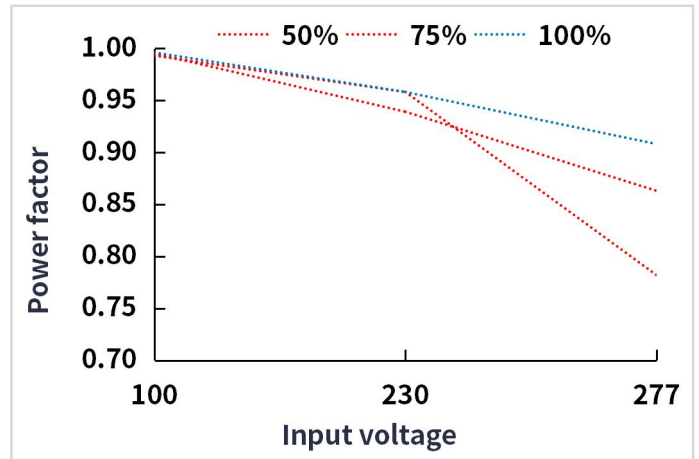


| Input voltage | Peak current | T(@50% Peak current) |
|---------------|--------------|----------------------|
| 100Vac        | 20.9A        | 125us                |
| 230Vac        | 56.67A       | 128us                |
| 277Vac        | 67.67A       | 132us                |

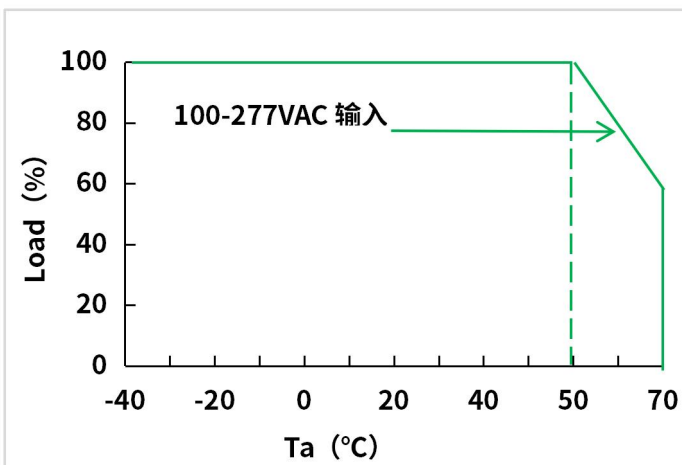
### DL-30W-RAS Parametric curves



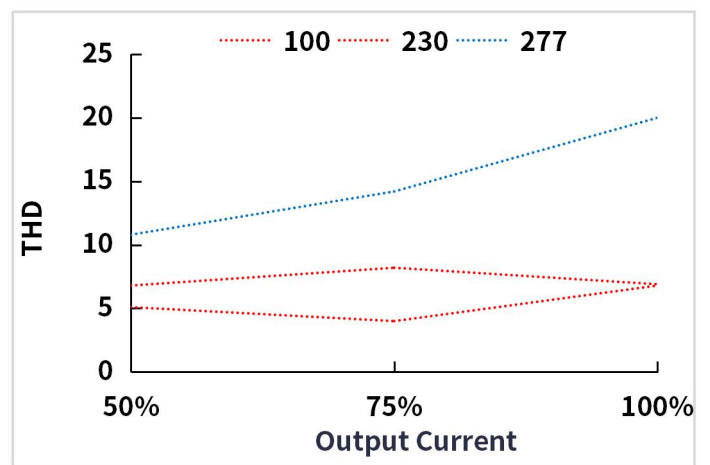
Eff. VS Output current



Power factor VS Input voltage

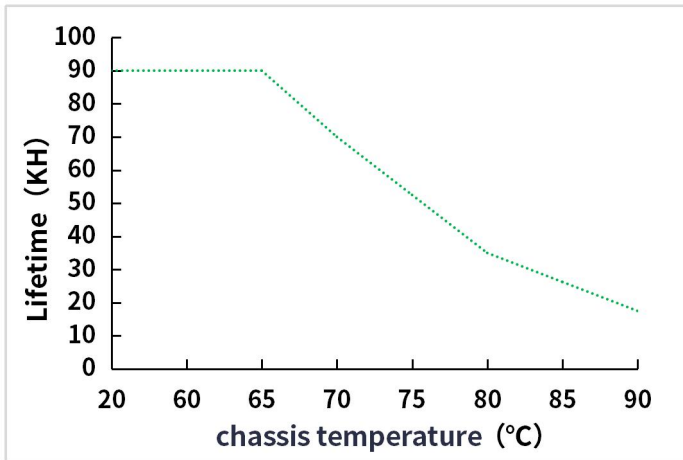


Load VS Ta

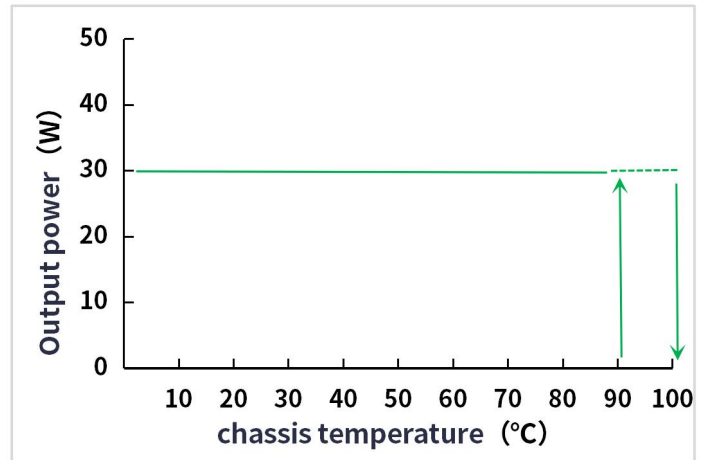


THD VS Output Current

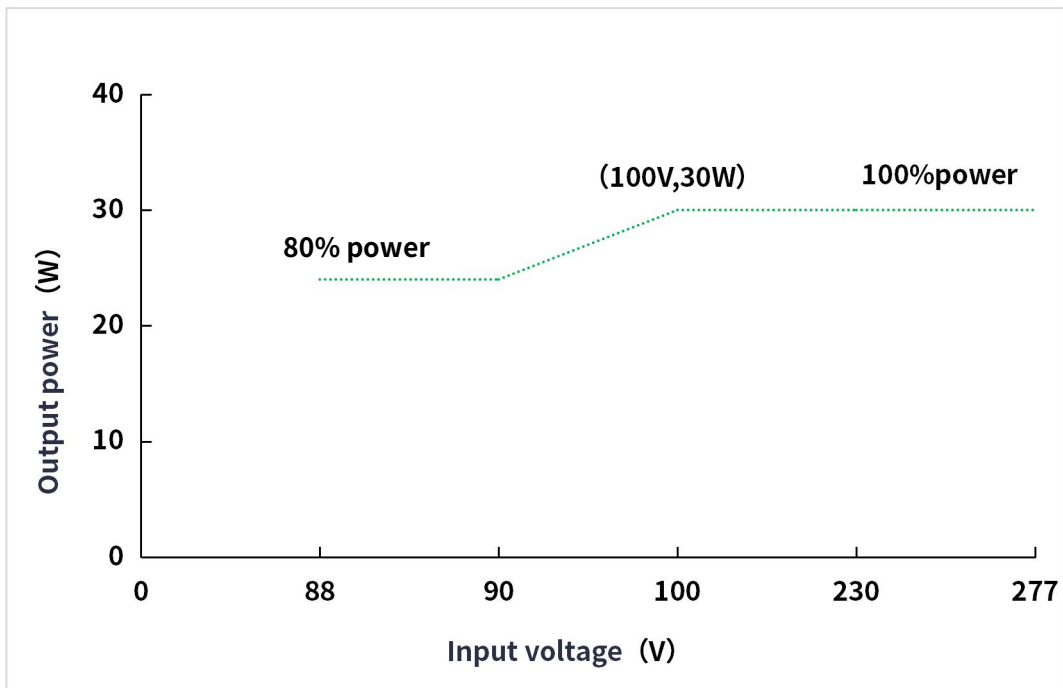
## DL-30W-RAS Parametric curves



**Lifetime VS chassis temperature**



**Output power VS chassis temperature**



**Output power VS Input voltage**

**Note:** If the input voltage is lower than 100V, for every 1V drop, the load will decrease by 2%. If the input voltage is lower than 88Vac, the output will be shut down.

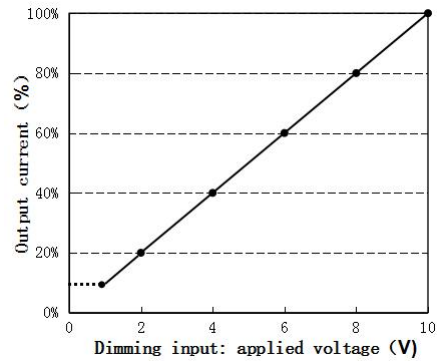
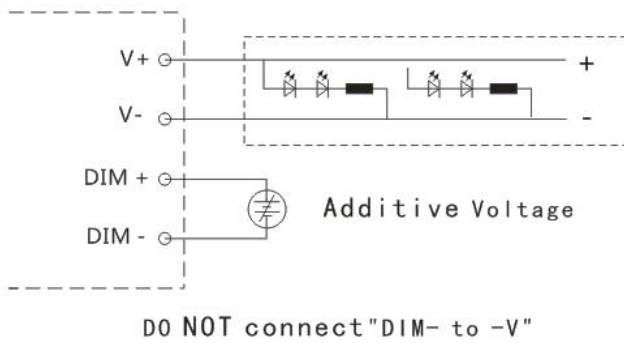
## Dimming operation

### 3-in-1 Dimming function (S version)

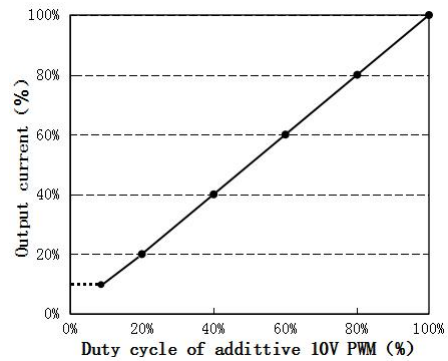
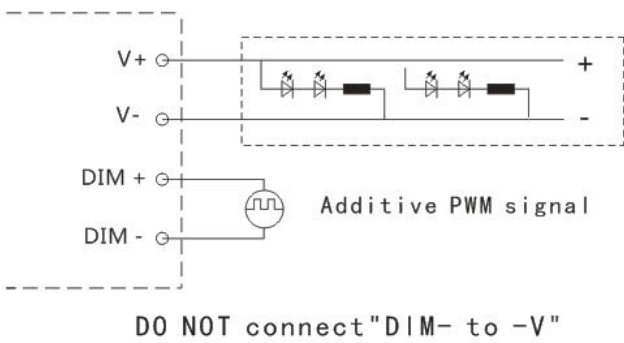
a.The output current can be adjusted by connecting a resistor 10-100K or 1-10V DC voltage or 10V PWM signal between DIM+ an DIM-.

b.Dimmer port output current: 108uA(typical value).

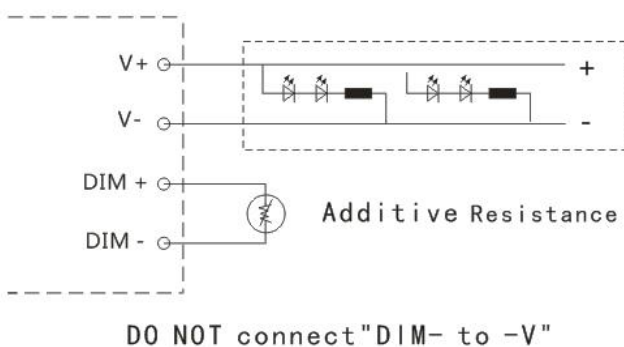
◎ With applied 0-10V voltage:



◎ With an external 10V PWM signal (frequency range: 300Hz-2K Hz) :



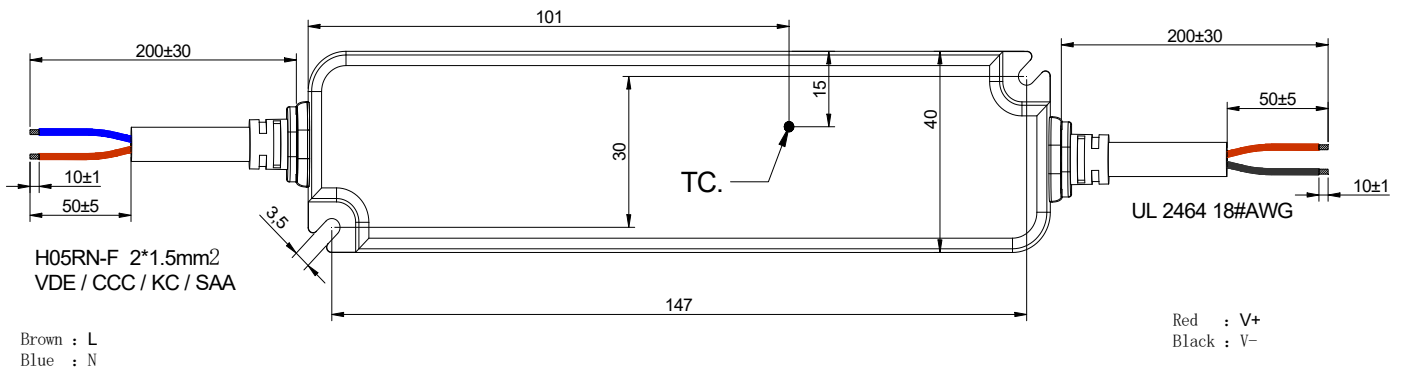
◎ With an external 0-100K resistor:



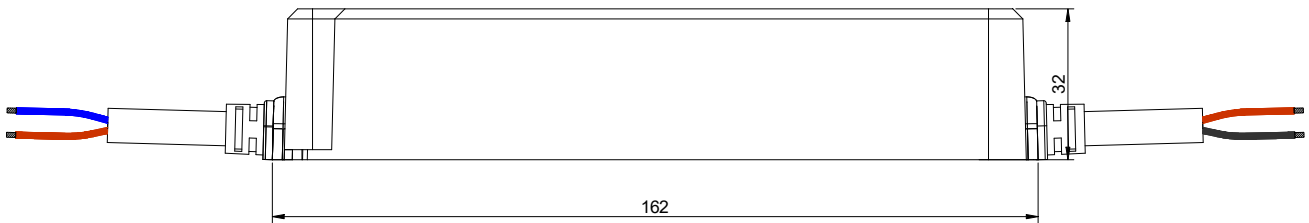
## Mechanical specification

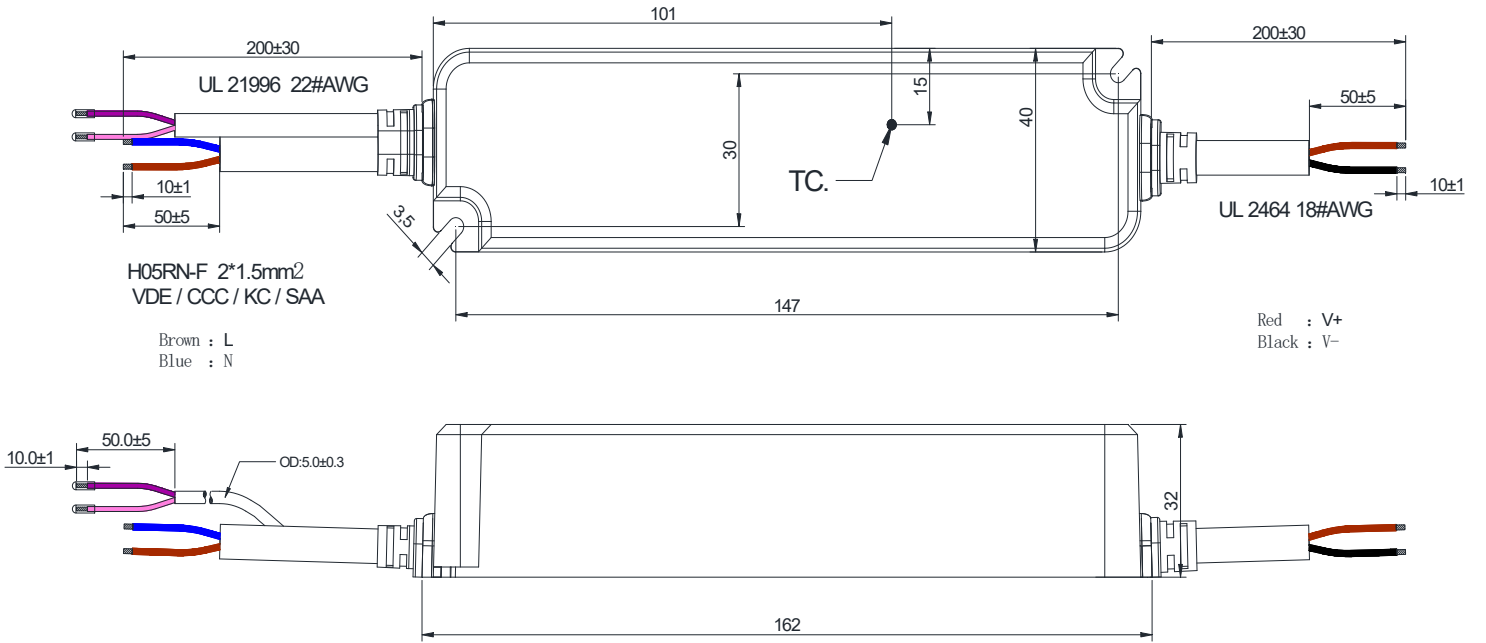
|                    |                           |
|--------------------|---------------------------|
| <b>Size (mm)</b>   | <b>L162mm*W40mm*H32mm</b> |
| <b>Weight (kg)</b> | <b>0.43KG</b>             |

### DL-30W-RAS



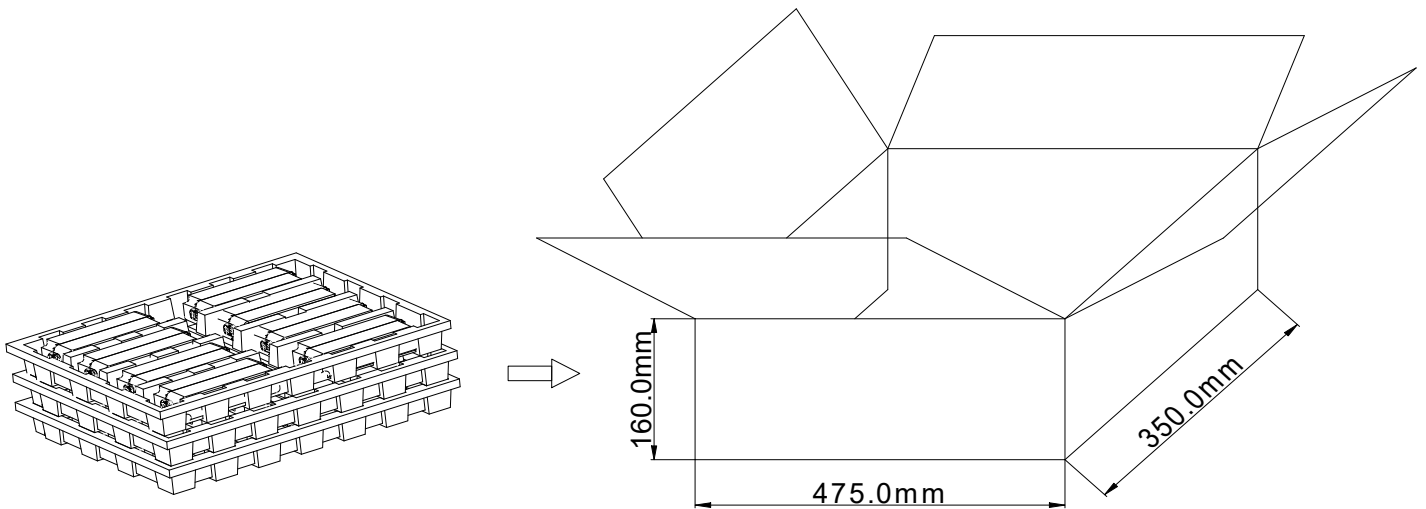
### DL-30W-S/D-RAS





## Packaging

|                       |                         |
|-----------------------|-------------------------|
| <b>Packaging (mm)</b> | <b>L475*W350*H160mm</b> |
|-----------------------|-------------------------|



**Note: One Carton 3 layers and 16pcs each layer, total 48pcs/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 |
|------------|------------------|------|-------|
| 2025.03.14 | Initial version. | V1.0 |       |

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