

# SPECIFICATION

## K1-320Y-260ZQ Series Waterproof Power Supply

**Product Name: K1-T320Y-260ZQ**

**Summarize: 320W LED Driver**

**Version: V00**

**Release date: 2022-09-30**

Customer ID: \_\_\_\_\_

Customer Model: \_\_\_\_\_

Products Code: \_\_\_\_\_

Sample Model: \_\_\_\_\_

Version: \_\_\_\_\_

| SIGNATURE AND SEAL BY US |                   |                    |
|--------------------------|-------------------|--------------------|
| <b>Date:</b>             | 2022/08/20        |                    |
| <b>Prepared By</b>       | <b>Checked By</b> | <b>Approved By</b> |
| Dingquan Lu              | Zhuanhong Wu      | Tom Wu             |

|   |           |              |
|---|-----------|--------------|
| Please sign back within 7 days after confirmation. If you do not sign back, it will be regarded as your company's default acceptance. In the event of abnormal quality, it will be implemented according to this product specification. |           |              |
| <b>CUSTOMER APPROVED SIGNATURE</b>  |           |              |
| <b>Customer Model No:</b>   |           |              |
| <b>Date:</b>  |           |              |
| <b>ENG</b>  | <b>QA</b> | <b>OTHER</b> |
|   |           |              |



### Features:

- ◆ IP65 protection grade;
- ◆ Constant current design,
- ◆ Various dimming methods: 0(1)-10V dimming, PWM, RX,
- ◆ Smooth dimming from 5% to 100%, compatible with three levels of color temperature, three levels of power adjustment;
- ◆ Surge protection: DM: 6KV, CM: 6KV;
- ◆ Protections: SCP/OVP/OTP
- ◆ Optional 12V/200mA auxiliary;
- ◆ The dimming signal is isolated from the LED output;
- ◆ 5 years warranty

### Application:

UFO lights, Industrial lights, Grow lights, Landscape lighting

### Introduction

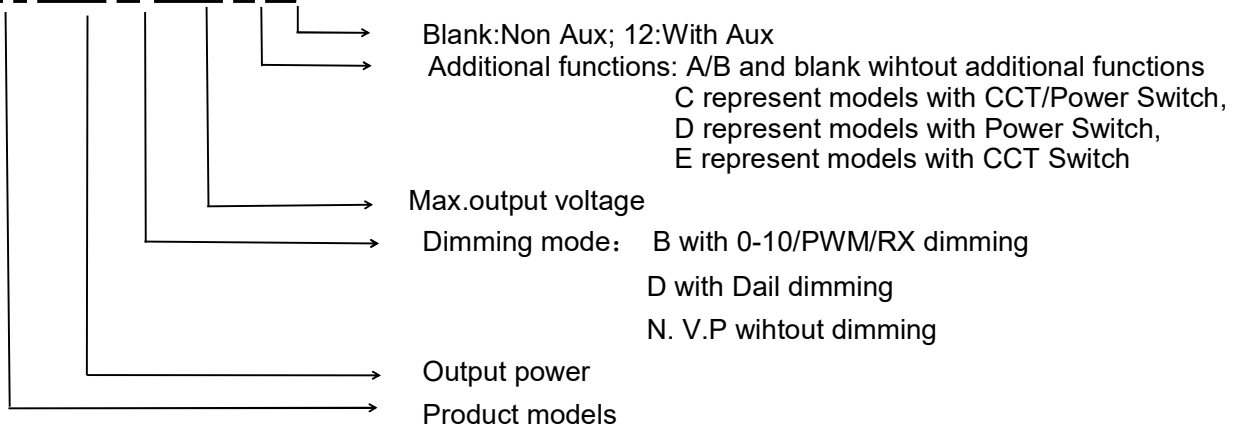
This document details the electrical performance and environmental requirements of 320W LED constant current driver with 0(1)-10V dimming. This power supply is only suitable for LED loads.

### Model and Key parameters Table 1

| Model         | Max. output Power | Nominal input voltage | Input Voltage Range | Output Voltage Range | Max output Voltage | Max. Output current | Full-power Current range | Default output current | Efficiency @120V | Efficiency @277V |
|---------------|-------------------|-----------------------|---------------------|----------------------|--------------------|---------------------|--------------------------|------------------------|------------------|------------------|
| K1-320Y-260ZQ | 320W              | 120-277               | 108-305             | 180-260              | 310V               | 1.6A                | 1.0-1.45A                | 1.32A                  | 92%              | 94%              |

### Mode code naming rules

**R1 - 320 Y-260 Z Q**



## Technical Data

| Input characteristics             |  |
|-----------------------------------|--|
| Input voltage                     | 120-277Vac   |
| Input Frequency                   | 50/60Hz  |
| Input Current (Typ.)              | 3.7 A @ 120Vac , 100% load   |
| Standby power consumption         | 2.5W MAX   |
| Inrush current                    | 75A max. @ 120Vac, 25°C cold start   |
| Power factor (Typ.)               | PF>0.90 @ 120-277Vac ,100% load, see chart 2   |
| THD                               | THD<20% @ 120-277Vac,100% load, see chart 3  |
| Output characteristics            |  |
| Current accuracy                  | ± 5%   |
| Efficiency                        | ≥92% @120Vac, ≥95% @277Vac   |
| Output Voltage                    | 180-260V   |
| Ripple current                    | <5%  |
| Linear adjustment rate            | 3%   |
| Load Regulation                   | 3%   |
| Boot delay                        | Max 1.0 seconds@230VAC   |
| Programmable current output range | Nominal voltage and current range can be adjusted by controller programming; The total output power does not exceed 320W (actual output voltage x actual output current = power).  |
| Protective function               |  |
| Open circuit protection           | When the LED is open, the product enters the protection state, such as hiccup or clamping at the highest output voltage state, the product will not be damaged, and the power supply will resume normal operation when the fault is eliminated or restarted. |
| Short circuit protection          | When the output is short-circuited, the input power will be reduced accordingly. After the short-circuit condition is removed, the power supply will automatically return to normal.   |
| Over temperature protection       | Drop current mode. When the over temperature is removed, the current will automatically resume.  |
| Environmental conditions          |  |
| Operating temperature             | -40°C - +50°C  |
| Humidity                          | 10% - 90% RH, (not condensed)  |
| Storage temperature               | -40°C to +85°C   |
| Storage humidity                  | 10% - 90%RH, Non-condensing (sea level to 2000 meters)   |
| vibration                         | 10 - 500HZ X, Y, Z vertical axes vibrate at a constant acceleration of 1.0G (depth 3.5mm) for 1 hour   |
| Protection class                  | IP65   |
| Safety standard                   |  |
| Dielectric strength               | Primary--Dim: 1560VAC/10mA/3S Primary--ground: 1560Vac/10mA/3S   |
| Insulation resistance             | I/P-O/P: >10MΩ@500VDC (Control terminal)   |

|  |   |
|--|---|
| <b>Leakage current</b>   | At the maximum input voltage, the leakage current of the product should be less than 0.75mA   |
| <b>Safety standards</b>  | UL:UL8750   |
| <b>Electromagnetic interference</b>  | FCC: PART 15B Subpart B; ANSI C63.4:2014  |
| <b>ESD Electrostatic Discharge (Electrostatic) Immunity</b>  | Electrostatic discharge/immunity level 3 air discharge: $\pm 8\text{KV}$<br>Level 2 Contact discharge: $\pm 4\text{KV}$ Performance standard: B |
| <b>RF field strength</b>   | Radio frequency electromagnetic field drug susceptibility test, 80-1000MHZ; level 2, 3V/M; Performance standard: A                              |
| <b>Group pulse</b>   | 1.0KV (performance standard: B)   |
| <b>Surge lightning strike</b>  | Differential mode: 6kV<br>Common mode :6KV<br>Performance Standard: C   |
| <b>Reliability</b>   |   |
| <b>Lifespan</b>  | $\geq 5$ years @230Vac, 100% load. See Life Cycle and Tc Curves for details   |
| <b>Mean time between failures</b>  | $\geq 200,000\text{H}$ @ 25 °C, 230Vac, 80% load. (MIL-HDBK-217F)   |
| <b>Warranty</b>  | 5 years (at 80% continuous load)  |
| <b>Other</b>   |   |
| <b>Size</b>  | 150*64.5mm  |
| <b>Weight</b>  | 1060g+/-10g   |
| <b>Remark</b>  |   |
| <p>1. It is recommended that customers install over-voltage protection and surge protection devices in the power supply circuit of lamps to ensure the safety of electricity use.</p> <p>2. The power supply is used as a component of the whole lamp in combination with the terminal equipment. Because the EMC performance is affected by the LED lamps and wiring, the terminal equipment manufacturing The manufacturer needs to re-confirm the EMC of the whole device.</p> <p>3. Please use a special programmer to adjust the current of the power supply, and program and write through the dimming light.</p> <p>4. When adjusting the output current of the power supply, please ensure that the total output power does not exceed the rated maximum power.</p> <p>5. Unless otherwise specified, the above parameters are the test results under the conditions of ambient temperature 25°C, humidity 50%, 100% load, and input voltage 277Vac.</p> |   |

## Dial the code function

| Type                   | Gears | Min              | Iout             | Max              | Remarks  |
|------------------------|-------|------------------|------------------|------------------|--|
| <b>power regulator</b> | A     | $0.95 \cdot I_o$ | $I_o$            | $1.05 \cdot I_o$ | $I_o$ is rated output current value, rated value set in A position |
|                        | B     | $0.70 \cdot I_o$ | $0.75 \cdot I_o$ | $0.80 \cdot I_o$ |  |
|                        | C     | $0.45 \cdot I_o$ | $0.50 \cdot I_o$ | $0.55 \cdot I_o$ |  |

|                    |    |             |       |                          |                                  |
|--------------------|----|-------------|-------|--------------------------|----------------------------------|
| <b>Temperature</b> | CW | Cold light  | 6000K | Red LED+/Black LED-      | Common male connection, rated CW |
|                    | NW | white light | 4500K | Red LED+/Black/Pink LED- |                                  |
|                    | WW | Warm light  | 3000K | Red LED+/PinkLED-        |                                  |

## ■ Dimming function

| Dimming type   | parameter        | minimum | Typical value | maximum | Remark                    |
|----------------|------------------|---------|---------------|---------|---------------------------|
| 0-10V<br>1-10V | signal level     | 0V      |               | 10V     |                           |
|                | Dimming range    | 10%     |               | 100%    | Output current percentage |
|                | shutdown level   | 0.6V    | 0.7V          | 0.8V    |                           |
|                | turn on level    | 0.75V   | 0.85V         | 0.95V   |                           |
| PWM            | signal level     | 0V      |               | 10V     |                           |
|                | signal frequency | 200Hz   | 1KHz          | 2KHz    |                           |
|                | duty cycle       | 5%      |               | 100%    |                           |
| Resistor       | resistance       | 10kΩ    |               | 100kΩ   |                           |
|                | Dimming range    | 10%     |               | 100%    | Output current percentage |

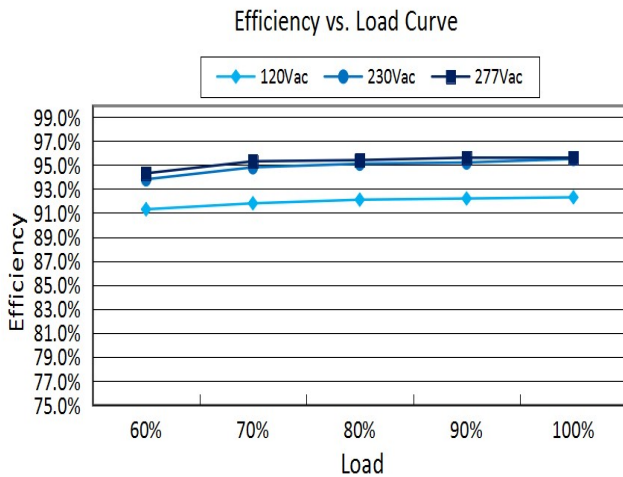
## ■ Dimming range

| Function  |    |       | 0-10V |       |       |       | PWM   |       |       | RX    |        |      |
|-----------|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|------|
| Yes Or No |    |       | Y     |       |       |       | Y     |       |       | Y     |        |      |
| 0-10V     | 0  | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10     | open |
| Ir        | 0  | 10%   | 20%   | 30%   | 40%   | 50%   | 60%   | 70%   | 80%   | 90%   | 100%   | 100% |
| PWM       | 0% | 10%   | 20%   | 30%   | 40%   | 50%   | 60%   | 70%   | 80%   | 90%   | 100%   | open |
| Ir        | 0  | 10%   | 20%   | 30%   | 40%   | 50%   | 60%   | 70%   | 80%   | 90%   | 100%   | 100% |
| RX        | 0Ω | 10K Ω | 20K Ω | 30K Ω | 40K Ω | 50K Ω | 60K Ω | 70K Ω | 80K Ω | 90K Ω | 100K Ω | open |
| Ir        | 0  | 10%   | 20%   | 30%   | 40%   | 50%   | 60%   | 70%   | 80%   | 90%   | 100%   | 100% |

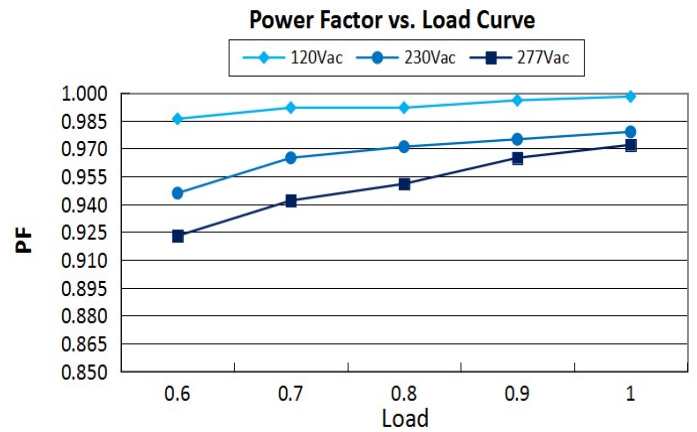
Remark:

1. the percentage of output current
2. typical values

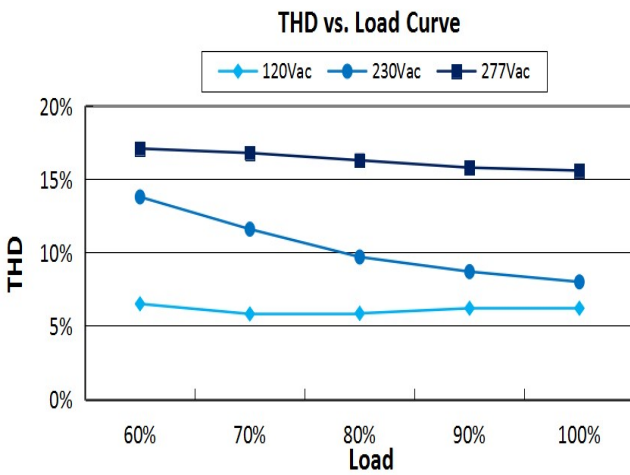
## Efficiency VS. Load



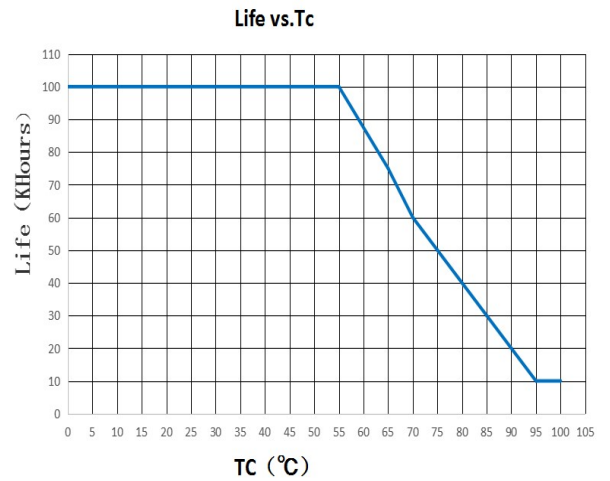
## Power Factor



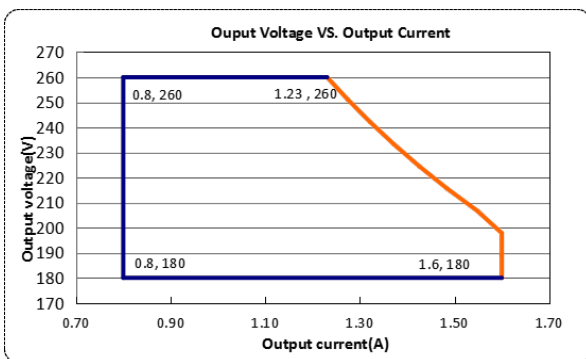
## THD VS. load



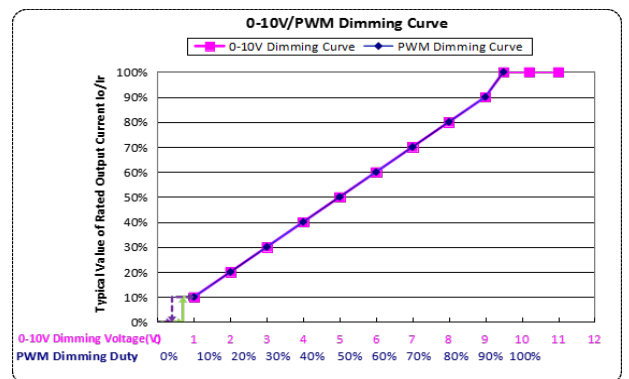
## life and temperature



## Power curve



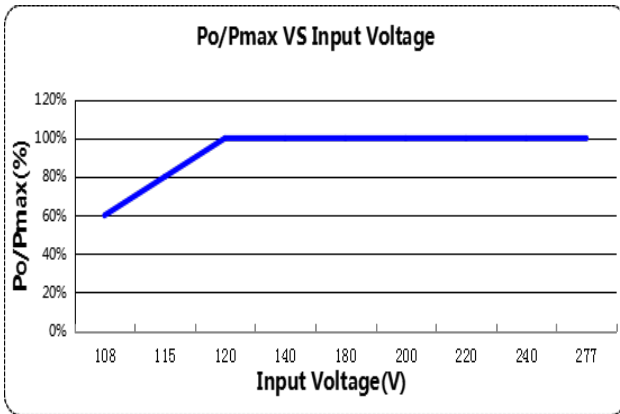
## Dimming curve



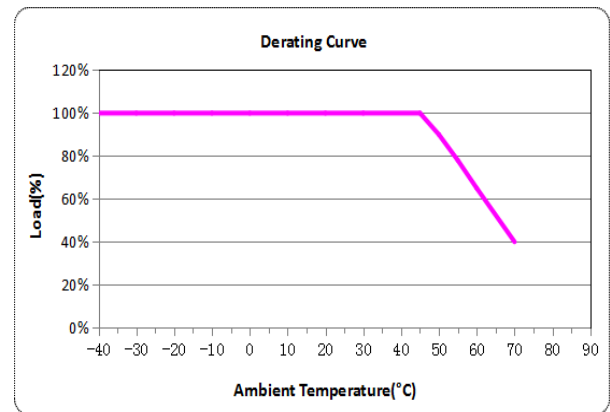
Remark:

- 1: Load 1 --- 60% Load
- 2: Load 2 --- 70% Load
- 3: Load 3 --- 80% Load
- 4: Load 4 --- 90% Load
- 5: Load 5 --- 100% Load

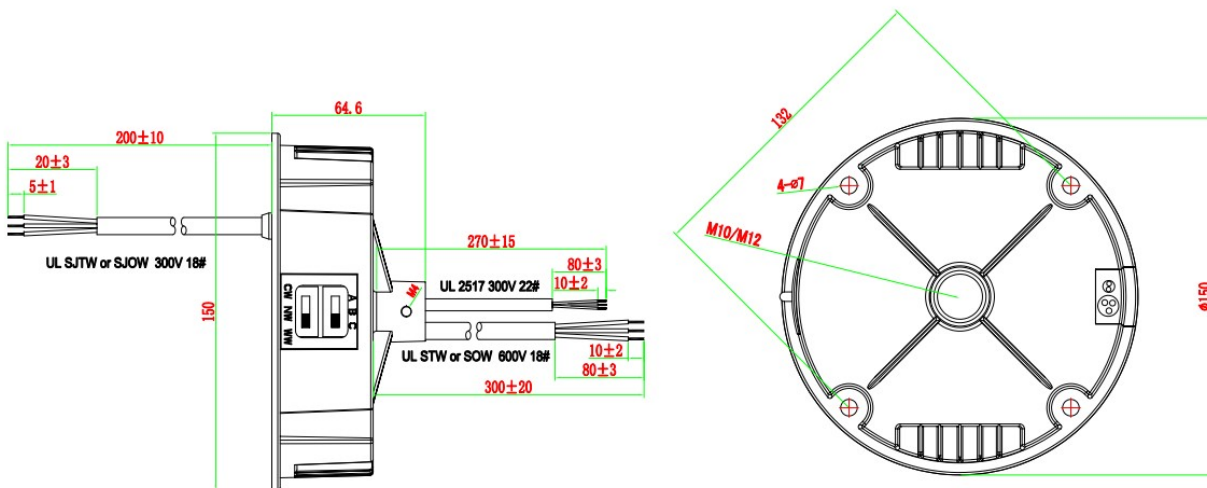
## Output power Vs. Input voltage



## Output power vs. Ta



## Schematic diagram of appearance size



- Input Wire      UL SJTW or SJOW 300V 18#, Black-L, White-N, Green-PG
- Output Wire    UL SJTW or SJOW 300V 18#, Red\_LED+, Black\_LED-, Pink\_LED-
- Dimming Wire   UL 2517 300V 22#, Purple\_DIM+, Pink\_DIM-/12V-

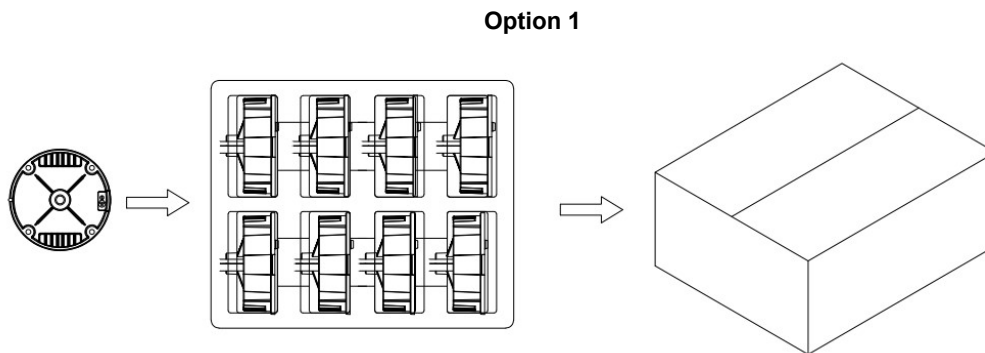


## Installation considerations

1. The lightning protection level of the power supply meets the standard requirements of IEC61000-4-5 and other countries. If it is used in lightning-prone areas or areas with relatively complex power grid environment, it is recommended to install a professional lightning protection module on the AC input end of the power supply.

## Packaging, Transportation & Storage

### 1. Packaging



|          |                                  |
|----------|----------------------------------|
| Box size | 400mmx330mmx148mm (L×W×H)        |
| quantity | 8PCS/Tier; 1 Tier/Box; 8 PCS/Box |
| weight   | 950kg±5%/PCS; 8.4Kg±5%/Box       |

### 2. Shipping

It is suitable for transportation by car, ship and plane. It should be covered with awning, sun protection and civilized loading and unloading during transportation.

### 3. Storage

Product storage should comply with the provisions of GB3873-83.

Products with a storage period of more than one year should be re-inspected and can only be used after passing the test.

## Disclaimer:

The content of this manual is made based on the existing information of the product. Due to product version upgrade or other reasons, its content may be changed. The company reserves the right to improve the product without prior notice, and reserves the right of final interpretation for the performance description of the company's products. , The company is committed to improving the quality of products, and constantly upgrade and optimize products.

### Product installation and use precautions

- Do not connect the AC power supply to the DC output port and dimming port.
- Do not use more than the nominal power of the power supply.
- Do not use the power supplies in parallel on the same lamp.
- This product is a constant current LED power supply, only suitable for LED lamps.

### Safety and Precautions

To reduce the risk of personal injury, electric shock, fire, and damage to the power supply, please read the following specifications carefully and follow these rules to prevent danger.

- Do not install the power supply in an area with inflammable and explosive materials to avoid explosion and fire.
- Do not disassemble the power supply or replace the device without permission to avoid electric shock.

