

*Acknowledgement: Thank you for selecting SOSEN LED drivers. To ensure operational safety and warranty validity, thoroughly review this manual prior to installation.*

## Product Theory

This constant-current LED driver employs active PFC circuits and soft-switching technology (QR or LLC) control. Input AC voltage is rectified and filtered. Under control of a dedicated active PFC chip, high PF value and low THD are achieved. Primary-stage soft-switching minimizes switching losses, enabling high efficiency. The transformer and secondary rectifier deliver high-precision, stable DC current. Output voltage varies within a defined range relative to load voltage. Latest products feature constant-power output characteristics within a specific range. Some models offer programmable output voltage/current.

## Features

1. Compact size, light weight, high efficiency, long lifespan, Energy-saving compliant.
2. Input voltage: 100-277Vac/120-277Vac/120-347Vac/200-480Vac/277-480Vac.
3. Certifications: UL/cUL(Class P), TUV, ENEC, CB, CE, RCM, BIS, CQC/CCC, Dali-2.
4. Safety compliant (global standards) . High reliability.
5. Start up time<500ms (Programmable models: 1-30s adjustable).
6. Protection: Short circuit protection(SCP), Over current protection(OCP), Over voltage protection(OVP), Over temperature protection(OTP), Over load protection(OLP).
7. Easy Installation: Industry-standard housing mounting dimensions compatible with various luminaire types.
8. Outdoor waterproof drivers satisfy IP67, Surge protection: 10KV/6KV; Industrial high bay drivers meet IP65 and surge protection: 4KV/4KV or 6KV/6KV.
9. Lifetime can reach to 50k-72k hours under the application of corresponding LED Driver specification.

## Usage Precautions and Installation Methods

### 1. Usage Precautions

- (1) The input voltage of the LED driver must be within the nominal operating voltage range specified in the datasheet. Exceeding this range may trigger protection or cause damage.
- (2) Connect output wires to the load BEFORE connecting input wires. Only power on after ensuring all connections are secure.
- (3) Strictly prohibit use in enclosed high-temperature environments. Ensure adequate heat dissipation space. Otherwise, OTP or damage may occur.
- (4) Do NOT install LED driver on flammable material, such as wood products, inflammable plastics, etc.(except for products with explosion-proof safety certification). Keep away from the gas station or places where fireworks are forbidden.
- (5) Do NOT expose LED driver to direct sunshine or rain. Rain covers or dedicated enclosures are required.
- (6) Do NOT install the indoor LED driver outdoors. When needed, a lightning protection device of no less than 10KV must be installed at the AC input port of LED driver, and rain protection measures must be taken.
- (7) Ground wire of Class I LED Driver must be grounded and ensure good connection between LED Driver housing and lighting fixture.
- (8) According to safety standards of IEC/EN60598-1, IEC/EN61347 or requirements of GB4706.1, GB7000.1, the current capacity of grounding wire needs more than 25A and the grounding resistance needs less than 0.5Ω.
- (9) Do NOT install LED Driver on pole upright, or suspend LED Driver with input and output wires. Make sure to install LED Driver horizontally and fixed with screws.
- (10) Aluminum substrate: string creepage > 5mm; Per-LED spacing > 1.8mm; Aluminum substrate withstand voltage shall prevent LED damage during surge testing.
- (11) LED arrays should adopt parallel-first-then-series topology; PCB copper coverage must be minimized while meeting current-carrying capacity requirements.
- (12) Strictly prohibit parallel connection of output terminals or auxiliary sources across two or more LED drivers.

### 2. Installation Procedure

- (1) Strictly wire according to the labels on the LED driver - ensure secure connections and never reverse input ("ACL/ACN" connect to mains/ground) and output ("V+/V-" connect to load).
- (2) Before power on, verify input voltage/frequency matches the driver's labeled specifications - only connect and energize after confirmation.
- (3) The LED driver must be securely mounted horizontally using screws. Modification or damage to the power supply structure is strictly prohibited. Stacking two or more power supplies directly without any gap is strictly prohibited.
- (4) Avoid routing auxiliary power output wires and dimming wires parallel and in close proximity to AC power lines to prevent interference.
- (5) Connect driver ground directly to grid ground, never use poles or luminaire housings as ground path.
- (6) During luminaire aging, prevent direct light exposure between fixtures to avoid overheating and exceeding TC point limits.

### 3. Testing and Assembly Precautions

- (1) Do NOT miswire LED Driver output. V+ and V- shall be connected to the positive and negative of loads respectively. DIM+ and DIM- shall be connected to positive and negative of dimmer respectively, Vaux+, Vaux- shall be connected to the auxiliary LED Driver positive and negative respectively.
- (2) It is strictly prohibited for the LED driver input wires, output wires, dimming wires, programming wires, and auxiliary power wires to touch each other or come into contact with any other live (AC or DC) objects.
- (3) Protect dimming wire of non-isolated dimming LED Driver. It is forbidden to remove cap when the dimming wire is not used. Keep the dimming wire in short-circuit condition when it is not used for reverse dimming. And use a cap to protect dimming wire for normal dimming.
- (4) When dimming wire, programming wire and auxiliary LED Driver wire are not used, it is required to take separate insulation and waterproof measures.
- (5) Potentiometer adjustment: adjustment force NOT allowed to exceed 500g.cm min. and it is recommended to use plastic screwdriver for adjustment.

### 4. Installation Diagram



## Warranty Explanation

1. With normal using on the condition of LED Driver specifications, in case of failure within the warranty period from the date of marked producing, SOSEN will provide free repair/replacement if verified it is a quality issue caused by SOSEN.
2. Provide quality assurance services in strict accordance with the company's quality assurance agreement.
3. Following conditions are not covered by the warranty.
  - (1) Breakdown caused by improper use, installation or not following the instructions;
  - (2) Breakdown caused by dismantling the power supply without authorization from SOSEN;
  - (3) Breakdown caused by not following installation requirements;
  - (4) Severe damage or distortion on the appearance of product;
  - (5) Erasing or altering the QR code on product artificially;
  - (6) The input or output terminals are burnt;
  - (7) Breakdown caused by reverse connection of input and output ;
  - (8) Modify the product, or privately change the power supply installation method and use conditions without permission from SOSEN;
  - (9) Breakdown caused by force majeure or natural disasters.
  - (10) For Driver stored between 6 months and 2 years must be charged and discharged before using (power on for 2 hours with low voltage and then power on for 3 hours with high voltage). Storage >2 years: Mandatory scrapping.
  - (11) Beyond the warranty of the LED Driver.