



LED Driver Instruction

First, thank you for your trust in SOSEN and choose SOSEN LED driver. Before you using our product, please read following content.

Product Theory

Our product is new type of constant current LED driver with built-in Active PFC circuit and soft switch technology(QR or LLC) Input AC voltage with Rectifier - filter, it can achieve higher PF and lower THD under the control of special Active PFC chip; The Pre-amplifier uses soft switch and is control LED by special IC to get lower dissipation and higher transfer efficiency. It has high precised and stable DC current after getting through the transformer and the secondary rectifier tube. The newest product has constant power output features in a certain range. And parts of the product is with programmable function which can program the output voltage and current.

Features

1. Compact size, light weight, high efficiency, long life span, meet the standard of energy saving.
2. Wide range of working voltage: Input voltage: 100-277Vac/120-347Vac/277-480Vac.
3. Complete certification: can satisfy UL/cUL(Class P), TUV, ENEC, CB, CE, RCM, BIS, CQC/CCC, Dali-2
4. Consistent with safety and regulatory requirements around the world.
5. Start up time: less than 500ms, programmable driver can be set within 1-30S
6. Protection: Short circuit protection(SCP), Over current protection(OCP), Over voltage protection(OVP), Over temperature protection(OTP), Over load protection.
7. Easy Installation: Standard housing dimension in the field, suitable for all kinds of lighting fixtures.
8. High Protection: Outdoor waterproof LED driver satisfy IP67 standard; Surge protection level: 10kV/6kV; Industrial high bay LED driver satisfy IP65 protection and surge protection level: 4kV/4kV or 6kV/6kV.
9. Lifetime can reach to 50k-72k hours under the application of corresponding LED Driver specification.

Attention

- (1) The input voltage should be within the range of working voltage in corresponding specification. Exceeding the standard voltage range may make the driver enter protection status or damaged.
- (2) Connect output lines correctly first before connecting input wire. Please make sure that every line is connected correctly and tightly before power-on test.
- (3) Avoid high temperature and airtight environment. LED driver needs good heat dissipation or it may enter OTP(over temperature protection) stage even be damaged.
- (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. A shelter or exclusive driver compartment is needed. The driver compartment should have drain holes.
- (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) Safety space between aluminum base and LED coppers >5mm.
- (11) Safety space/coppers between LED+ and LED- >1.8mm.
- (12) Minimize the copper area on the aluminum PCB to reduce parasitic capacitance and leakage current.
- (13) It is recommended to design LED beads in parallel first and then in series.
- (14) The Withstand Voltage of aluminum PCB should follow the priciple of no damage of LED.

Installation method

- (1) Connect wires in accordance with the identification on the LED Driver label strictly. Ensure wire is connected firmly. Do NOT connect the input and out put wires in reverse. ACL, CAN wires shall be connected to mains, ⊕ or PE shall be connected to ground; Output + connect to load + and output - connect to load -
- (2) Use multimeter to check if the input voltage and frequency are consistent with the working voltage and frequency range on the label before power on.
- (3) Install and fix LED Driver with screws horizontally. It is strictly prohibited to modify or damage the structure of LED Driver and strictly prohibited to overlaps and install two or more LED Drivers without gaps.
- (4) The output wire of Aux. and dimming wire should NOT parallel with AC wire to avoid interference.
- (5) The round wire of driver and power grid must form a loop directly and should avoid forming this by pole or fixture's housing as grounding medium.
- (6) When LED lamp is during aging test, avoid the direct illumination of one lamp on another lamp, which might cause the high temperature of the lamp and lead to the Tc of the LED Driver exceeding the maximum temperature requirement.
- (7) Do NOT connect two or more LED Drivers' output terminals or dimming terminals in parallel.

Test and installation Notice

- (1) Do NOT connect output terminals of LED Driver wrongly. 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 power supply positive and negative respectively.
- (2) Do NOT have input wire, output wire, dimming wire, programming wire and auxiliary power supply wire connect with each others or connect to any other charged (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 power supply 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.

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 problem 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 LED Driver stored within 0.5-2 years must be charged and discharged before using(Method: first powered on for 2 hours with low voltage and then powered on for 3 hours with high voltage). Drivers which stored over 2 years must be scrapped.
 - (11) Beyond the warranty of the LED Driver.