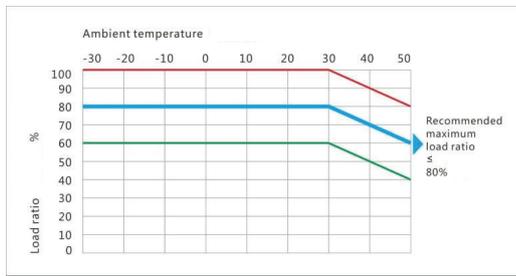




IV - Derating Curve



Triac and 0-10V constant voltage dimming driver Installation Manual

Before installation, please read this manual carefully and save it for reference in future.

I - Brief instruction of product

1. Slim type design so as to install easier.
2. Dimming options have triac (leading edge dimming, adjustable AC range 50V~240V) and 0-10V(or 1-10V) dimming mode, automatic compatibility and automatic identification, Don't switch by hand.
3. At the input side, there are anti-surge, anti-lightning and anti-interference protective circle. At the output side, there are overload, over-current and over-voltage protection. The safe installation transformer is installed between input and output sides. The ground wire connects with outer case to prevent case from electricity.
4. Stable output voltage and output current, flicker free. Stable dimming effects, no shaking, sensitive and smooth.

Notice:

Be only applied to Triac (leading edge, adjustable voltage range AC 50-240V) and 0-10V(or 1-10V) dimming mode. If you use the trailing edge triac dimming such as the adjustable voltage range AC 180-240V, there is a very short adjustable range and don't feel any dimming effect. 0-10V means dimming effect from 0% to 100%, 1-10V means from 10% to 100%, it depends on the dimmer signal, the dimming driver is passive to receive the dimming signal and adjust the output brightness accordingly.

II - Safe usage and notice

1. Be notice to install, dismount and replace convenience, keep the good condition for heat dissipation and ventilation. Don't be hide in the wall, buried in soil and put under water, don't be set in the sealed and in-ventilated condition.
2. Please install onto solid surface, keep away from the flammable and combustible materials, keep out of distance from children and old man, prevent from electric shock.
3. Please do the standard installation and connection, make sure the stable and endurable connections at input and output sides, keep the ground wire to connect with outer case steady.
4. Manufacturers and suppliers are limited responsible for replaced goods and repaired products. Don't be responsible for other obligation.

III - 4 Key requirements for usages

1. Input voltage:
About AC 100-120V or AC200-240V, please refer to the sticker on driver. Triac dimming driver depends on the input voltage to adjust the dimming effects, so it needs to set the dimming effect according to input voltage, it is objective not to do the full range input voltage adjust. It is okay to do the full range input voltage dimming functions for 0-10V or 1-10V drivers.

2. About DC12V, DC24V, DC36V or DC48V, please refer to the sticker of the driver. Make sure to match between the driver and LED strip, 12V driver meets to 12V strips, Be sure to keep the same DC voltage for led driver and led strips, otherwise it doesn't work or burnt down

3. How to match for rated wattage and load wattage?

- A.** It is actual power for rated wattage, For example 12V100W, we arrange the burnt-in test by 12V100W.
- B.** Please be advised to keep some deviation wattage if you will use them for long time, It's better to use the 80% rated wattage of the driver, and keep the good ventilation and heat-dissipation conditions.

4. Installation condition requirements

A. Please select the right IP level drivers according to your used conditions, IP20 for indoor usages and IP67 for outdoor usages, please refer to the sticker for actual IP level.

B. Normal ambient temperature is 0-30°C. the driver has a good working performance for stability and long life at the normal working temperature.

C. Abnormal ambient temperature is below -30°C or over 50°C, it is prohibited ambient temperature for led driver. It is improper temperature for -30°C~0°C and +30°C~+50°C(colder or hotter temperature), some features and stability will be impacted differently, it has to adjust the actual load rate, so that the driver can keep steady output power.

1. Why to advise use the 80% rated wattage if long-term usage?

- A.** Normally, we can only calculate the nominal power for led strips or led modules, we don't know the actual power of them, there are some deviation between nominal power and actual power.
- B.** For extra power consumption of wires and contact, we can't calculate.
- C.** There is a big change about ambient temperature and humidity.
- D.** It is a big factor if there is a good ventilation and heat-dissipation for the installation condition.

In a word, Keeping sufficient margin to ensure that the driver can work steady and long life span.

2. Besides of ambient temperature to adjust the load rate, what's other factors?

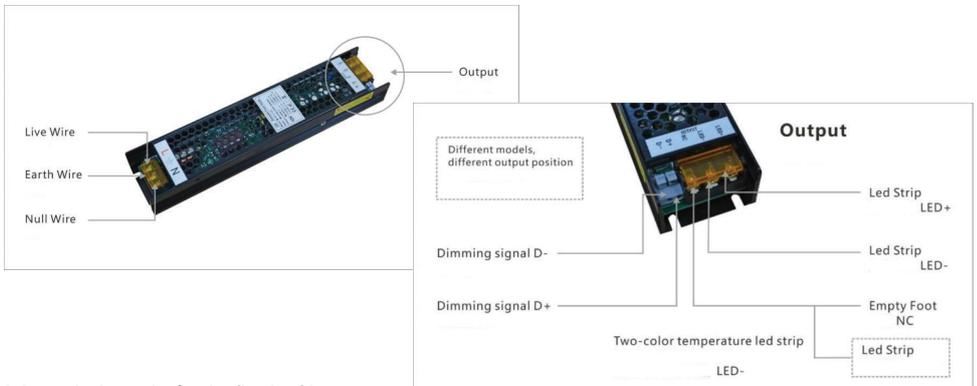
- A.** Input voltage: It's better to load 70%~75% rated power when you use AC100~120V.
- B.** It's better to load 50%~70% rated power for not good ventilation and heat-dissipation condition.
- C.** It's better to load 50%~70% rated power for difficult installation and high cost projects.

V - Diagrams for Triac and 0-10V dimming

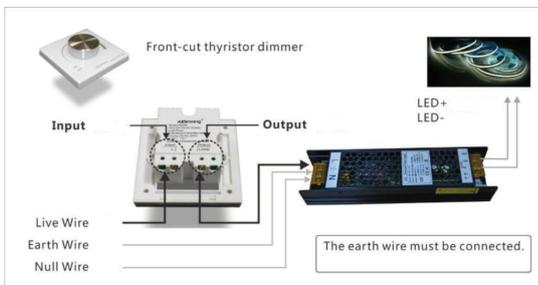
1. Notice

- A.** For triac dimming mode, one dimmer controls a set of driver and led strips, don't control more than 2 sets of driver and led strips, it maybe have interference and not-stable brightness
- B.** For triac dimming mode, please be advised to use 50%~80% nominal power for one dimmer channel no matter it is triac dimmer or triac dimming system
- C.** For 0-10V mode, It can control series of dimming drivers and led strips, one dimmer can connect 30~50 sets of dimmer and led strips theoretically, please refer to the dimmer brand and actual load capacity.
- D.** When to adapt triac or 0-10V dimmer, there is a certain vacancy at the beginning and ending side, means brightness does not change synchronously, but 0-10V dimmer has less vacancy than triac dimmer, it depends on different brand dimmers.
- E.** When to adapt triac or 0-10V dimming system, please set the minimum brightness start value at 600mv or over 12%, to ensure stability and flicker free. No matter how much is the start value, it is similar process from deep darkness to top brightness, steady, sensitive and smooth dimming process.

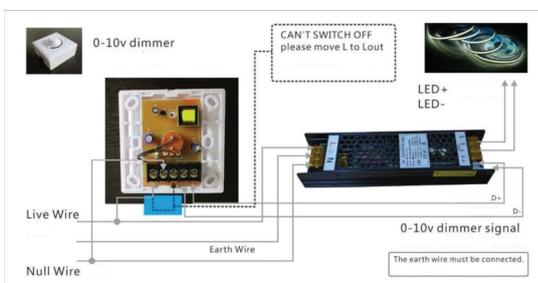
2. Connection instruction between input and output



3. Connection instruction for triac dimming driver



4. Connection instruction for 0-10V dimming driver



VI - Common questions

- 1. Doesn't work, or does work but it can't be adjusted brightness.**
Reply: Maybe dimmer and dimming driver don't match, or mistake connection, or it is a too long distance between dimmer and dimming driver, so as to big signal attenuation. Please recheck the dimmer types, correct connects way, or use thicker signal wires and so on.
- 2. It can be adjust brightness, but not stable, alternate brighter and darker as like breath.**
Reply: Maybe triac dimmer is too heavy load, or too heavy load of dimming driver, try to lighten the load, to find the right cause.
- 3. It can be adjust brightness, but it has flicker and not stable brightness.**
Reply: Maybe the dimmer has unstable output signal at certain point, please replace a new dimmer.
- 4. It can be adjust brightness, it has little flicker at darkness stage.**
Reply: Maybe the dimmer causes, try to change a new dimmer. Or too small signal wires, try to replace the thick signal wires.
- 5. Rhythmic flicker**
Reply: Maybe overload or short circuit protection. Please check if the driver and led strips match? Is there short circuit protection.