

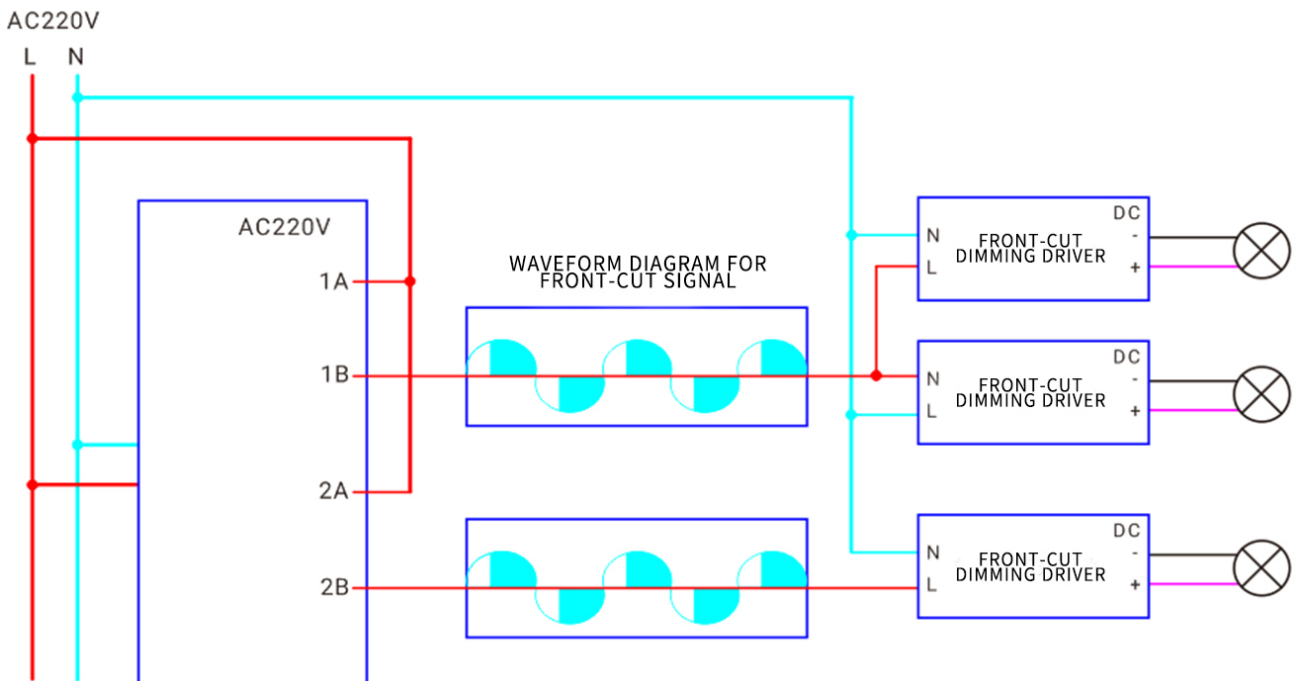


## LED Dimming Function Test Solution

The price of LED lighting has been declining rapidly year by year, making LED lighting gradually popular. Although LED lighting has been the most energy-saving lighting equipment, which has more energy saving effect than incandescent lamp and fluorescent lamp, there is still an important function of LED lighting that is not fully utilized at present, which is the dimming function. Dimming can not only save energy, but also significantly improve the comfort of lighting, conform to the sensitive dimming curve of the human eye, and significantly improve the environmental experience.

There are five control modes for LED lighting devices on the market: front-cut SCR dimming, back-cut MOS dimming, 1-10VDC, DALI and DMX512.

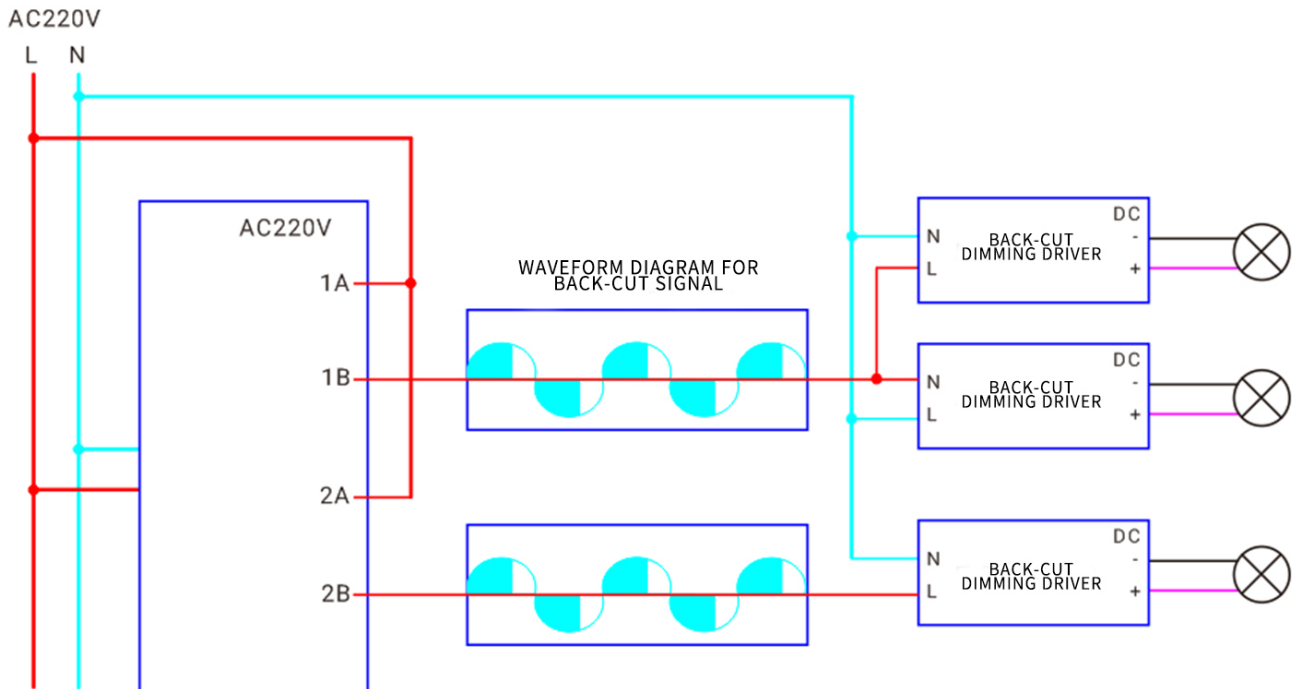
DIAGRAM FOR FRONT-CUT SCR DIMMING





Front dimming is to use SCR circuit, starting from AC phase 0, Input voltage chopper, and there is no voltage input until the SCR is turned on. Its principle is to adjust the conduction angle of each half-wave of the alternating current to change the sinusoidal waveform, thereby changing the effective value of the alternating current, so as to achieve the purpose of dimming, which plays a dominant position in the market, most manufacturers offer this type of dimmer.

### DIAGRAM FOR BACK-CUT MOS DIMMING



The trailing edge phase-cut control dimmer is made of Field Effect Transistor (FET) or Insulated Gate Bipolar Transistor (IGBT) devices. The trailing edge phase-cut dimmer generally uses MOSFET as the switching device, so it is also called MOSFET dimmer, commonly known as "MOS tube".

The Triac Dimmer function of APM SP-300 series programmable AC power supply can not only realize the accurate simulation of the dimmer function, but also be used in production and testing to simulate the actual application conditions of users, timely check the hidden



dangers of product quality, and protect the production and testing of users' products, and help save energy.

