



As people become more concerned about their health and comfort, they demand higher quality lamps. Flickering lamps may cause problems such as eye fatigue, dryness and vision loss. Especially for people who work or study under lights for long periods of time, stable lighting is crucial. For some sensitive people, such as migraine sufferers and epileptics, frequent flickering lights may induce seizures. Conducting flicker tests can avoid such potential risks and provide a safe lighting environment for special populations.

In the industrial field, stable lighting can provide a clear view, and good lighting conditions can improve the accuracy and safety of workers' operation. Light strobe characteristic test is an important test for lamps, and all types of lamps need to be tested for relevant regulations.

National Standard Test Method for Flicker Characteristics

The national standard GB/T 42064 -2022 Light Flicker Meter Test Method for Flicker Characteristics of Equipment Used for General Lighting describes an objective light flicker meter that can be used for the testing of lamps and luminaires connected to low-voltage grid systems, and the testing conditions include:

- Measuring the inherent performance of lighting equipment under voltage fluctuations associated with non-induced illuminance flicker, during which the lighting equipment is provided with a stabilized power supply.

- Testing the immunity performance of lighting equipment to (unintentional) voltage fluctuations applied to the AC power supply with respect to illuminance flicker, during which a prescribed set of voltage fluctuations is applied to the AC power supply and the immunity of the lighting equipment to the disturbance is determined.

The light flicker meter and voltage fluctuation immunity methods described in the code are based on the international commonly used codes such as IEC 61000-3-3 Voltage Fluctuation Limits and IEC 61000-4-15 Flicker Meter Standards, and have wide applicability.

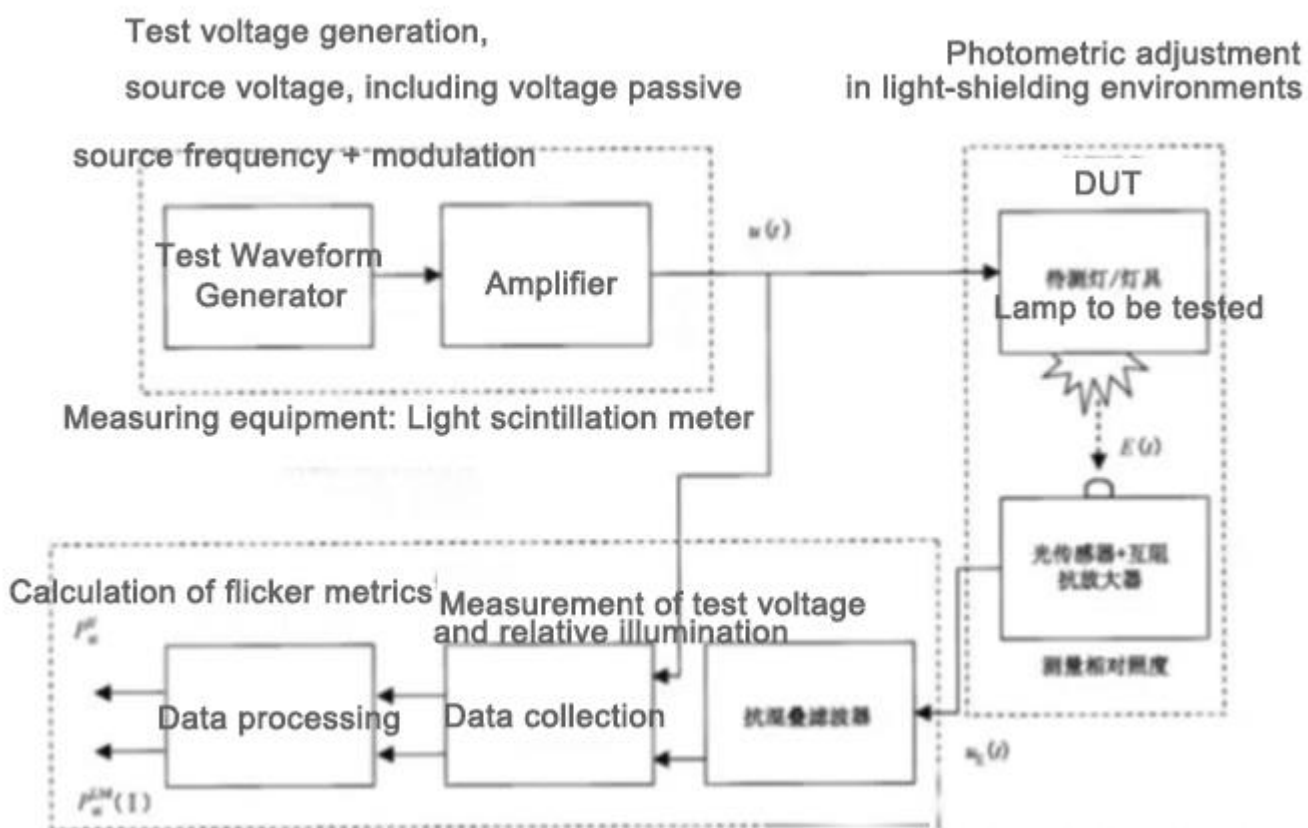
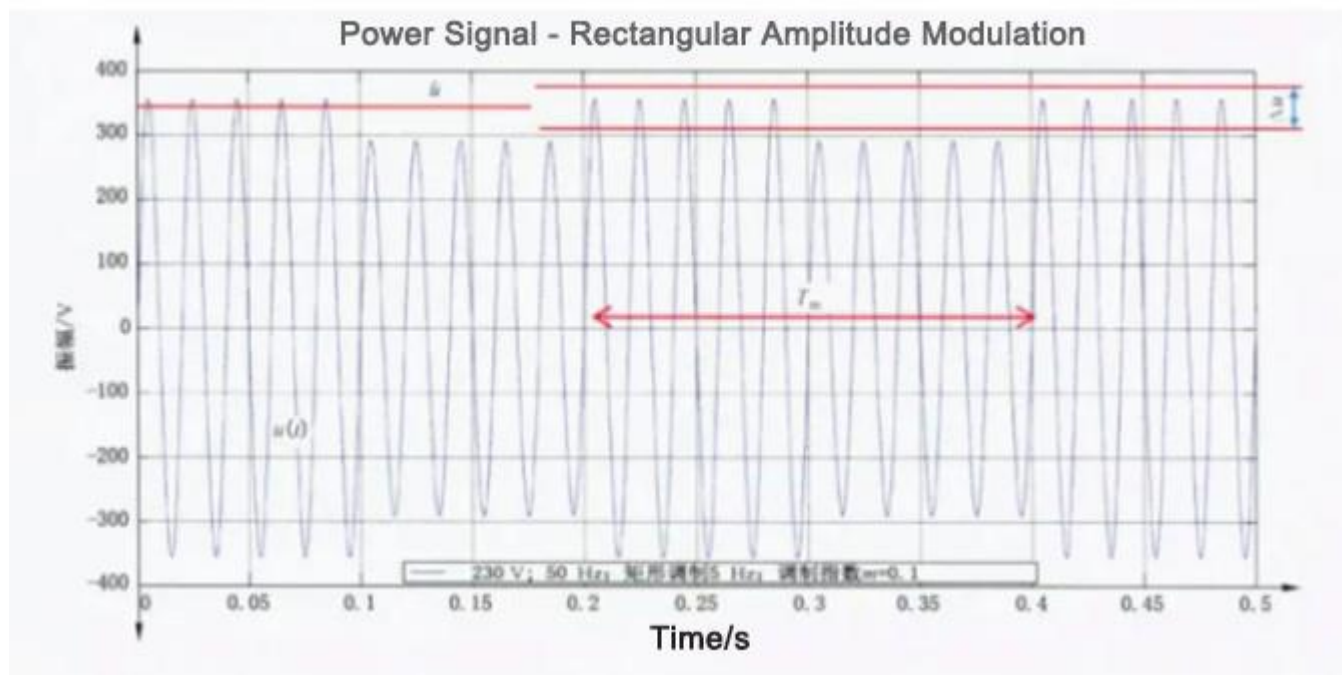


Fig. 1 Block diagram of voltage-fluctuation immunity test

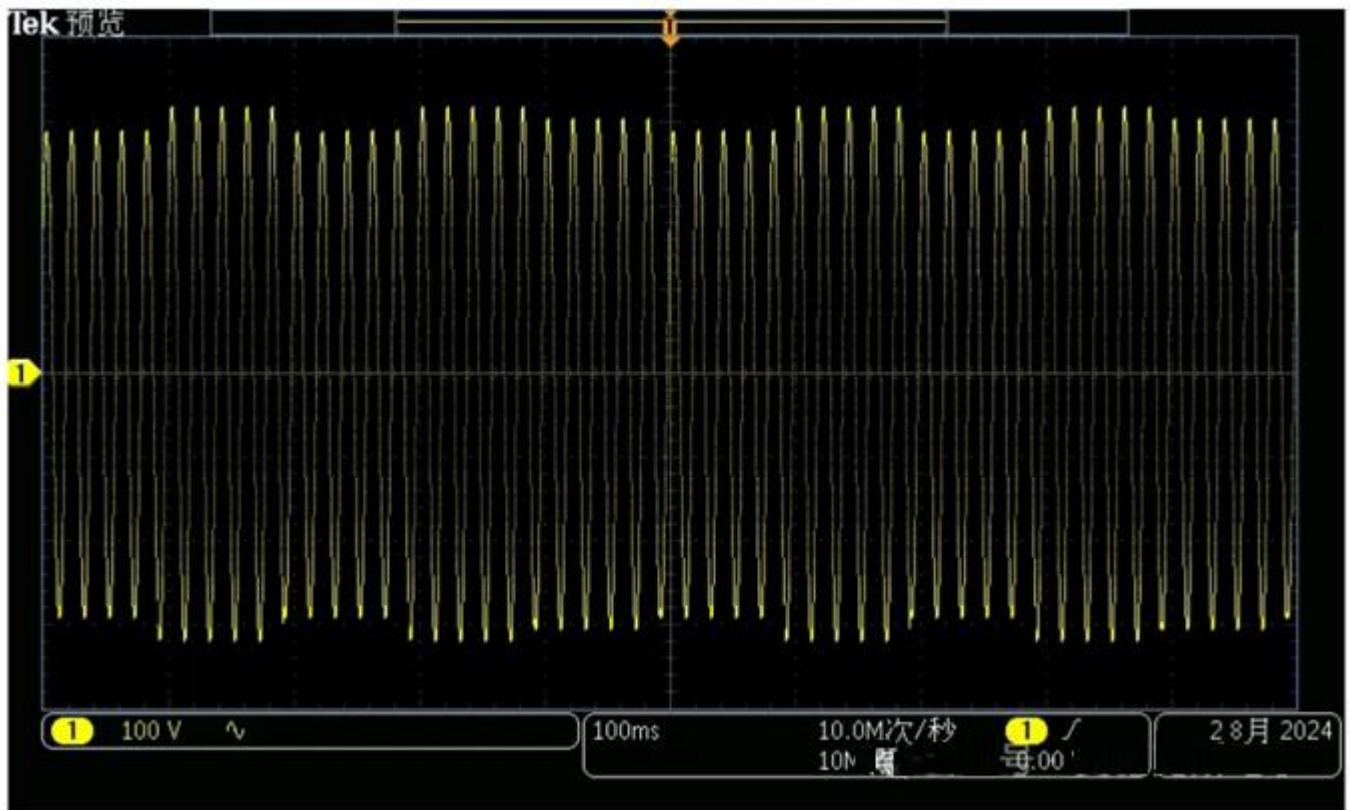
In the test method for immunity to voltage fluctuations, the disturbing signal is a rectangular amplitude modulation superimposed on the AC power signal. The power supply signal is amplitude modulated by a rectangular signal with a frequency of approximately 0.3 Hz to 40 Hz, an example of which is shown below:



IT7800 AC Power Supplies Test Applications

A lighting manufacturer has selected ITECH's high performance AC power supply IT7800 for voltage immunity testing of some lamps and lanterns. IT7800 has a wide range of models from 2kVA-2MW, high power density design with 3U up to 15kVA and 1U/2U up to 6kVA, output frequency up to 2.4kHz and resolution of 0.01Hz. 1U ATE model and 2U touch screen model can provide high performance testing of small power and can also efficiently complete a variety of general electrical performance testing. touch screen models can provide high-performance testing with low power, and can efficiently complete a variety of routine electrical performance testing while realizing some of the testing needs.

In the test using the IT7800's LIST function for waveform generation, the operation is simple and convenient, and the output waveform is good.



Features of IT7800 AC power supply

The IT7800 series is a new generation of high power programmable AC/DC power supply that combines humanized programming functions, a new touch interface and rich data waveform analysis capabilities. The full range of measurement functions make the IT7800 series widely used in new energy, power electronics, scientific research institutions and other fields of research and development, production, quality control and other stages.



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