

## How to test inrush current?

Almost all of AC power equipment need power adapter, such as household appliance, office and computer equipment, AC/DC power adapter, etc. If you design and manufacture power adapter, charger, or the like checking the peak inrush current is an essential test. For example, you need to make sure your adapters start up properly without blowing fuses, damaging switch contacts, or affecting the operation of the equipment connected to the same AC line. You may also need to measure input voltage, input current and input power at a variety of frequencies to make sure the power is within your specified range. Think of a car parked on the road and engine is shut down, we need a lot of effort to drive if we want to move the car without using engine. When the car starts to move, the wheels of the car help us to save strength, so our initial strong drive is the equivalent of inrush current.

The examples above show that testing inrush current is a very important indicator for many electrical devices.

Multiple devices are required to measure the inrush current in traditional testing methods, such as power supply, digital converter and diverter or power source, oscilloscope and current probe. When users perform a high-speed test on the production line, these methods are not only with high cost, but also complex and time-consuming.

ITECH IT7600 series high performance programmable ac power sources can measure the inrush current easily and efficiently. IT7600 series high-power AC / DC power supply can set the start phase and stop phase of the sinusoidal output waveform to meet the test requirements under different test conditions as shown below. The start phase and the stop phase are set from 0 to 360°. Inrush current of products can be tested by adjusting the phase angle, which can be applied to test switching inrush current and debug rectifiers.



90° starting phase angle



90° stop phase angle