



Advantages of SP-3U/6U Series Power Supply for Electrical Tools

Test objects: power tools, DC motors, micro motors, etc.

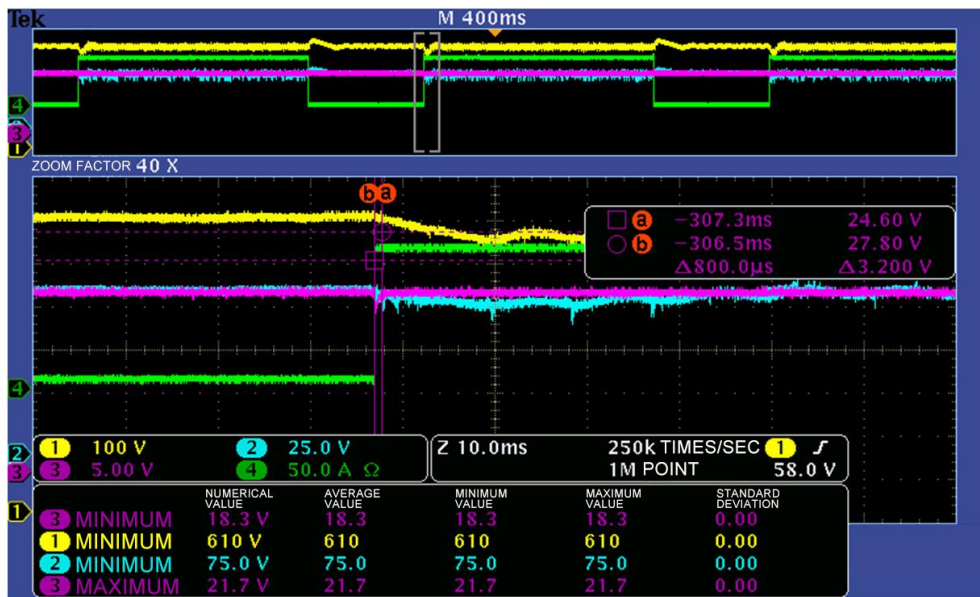
1. Internal resistance simulation function, easily simulate the internal resistance changes of rechargeable batteries, fuel cells, etc.;

Handheld power tools are mostly powered by batteries. SP-3U/6U series power supplies can simulate batteries to supply power to motors. This series of power supplies have internal resistance simulation function and provide an internal resistance setting interface with a resolution up to 0.0001Ω, which can easily achieve battery internal resistance simulation requirements.



2. The 100kHz switching frequency improves the response speed of the power supply hardware loop;

This hardware architecture can effectively solve the problem of voltage overshoot caused by frequent startup of motor equipment (excessive instantaneous current) and long load line inductance. As below, the power supply voltage is set to 20V, the load current is dynamically switched between 0A and 160A, and the output is stable within the setting parameters 800μs.



3. The sink mode can effectively absorb the reverse electromotive force and provide a safety test guarantee;

When the motor speed changes, reverse electromotive force will be generated. There are roughly two ways to deal with this reverse electromotive force, one is to prevent irrigation, and the other is to absorb it. The former can effectively prevent the back electromotive force from damaging the power supply, and the latter can absorb the back electromotive force to protect the DUT. The traditional reverse electromotive force absorption scheme is mostly carried out in the form of diode (anti-reverse) + capacitor/resistor (absorption), but this method needs to be selected according to the actual situation, the implementation method is more complicated and difficult to maintain, once the capacitor box fails, may damage the DUT. The optional Sink mode of APM SP-3U/6U series power supplies solves this problem fundamentally, providing convenient operation and effective protection to the greatest extent.



According to the actual test requirements, the working CC current under the sink mode can be adjusted to effectively absorb the back electromotive force and make the voltage curve smoother.

