

BriPower Power Grid Simulator ----- Output Short-Circuit Test

To ensure the safety and reliability of photovoltaic inverters and energy storage converters when facing power grid short-circuit faults, short-circuit tests are required. According to Article 7.11 of GB/T37409, shortcircuit tests include inter-phase short circuits and short circuits relative to the neutral point, etc.

The ESA, KGS, and ZGX series of BriPower all support the output of short-circuit mode, working in current-limiting mode when a short circuit occurs. This feature greatly facilitates the user's testing process, used for pre-compliance short-circuit protection test.

The following is an example of a short-circuit test using the ZGX 15, and the waveforms are recorded.

1. Phase A Short-Circuit with Neutral Point

Connect Phase A and the neutral point with a circuit breaker, turn on the output, and then close the circuit breaker to create a short circuit between Phase A and the neutral point. The output waveform is shown in the figure below.

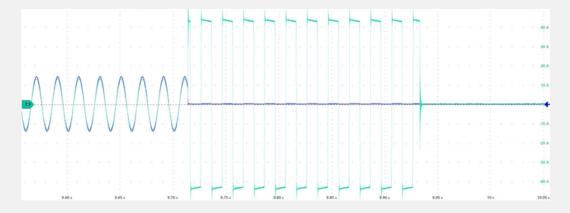


Figure 1: Phase A Short-Circuit with Neutral Point Current Waveform

2. Phase A Short-Circuit with Phase C

Connect Phase A and Phase C with a circuit breaker, turn on the output, and then close the circuit breaker to create a short circuit between Phase A and Phase C. The output waveform is shown in the figure below.

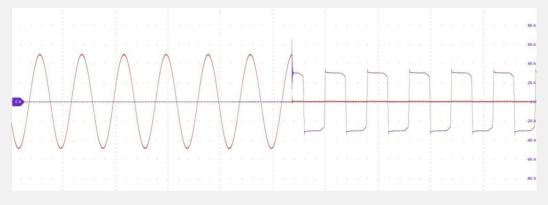


Figure 2: Phase A Short-Circuit with Phase C Current Waveform