SEPS Series

ENERGY STORAGE HIGH POWER TEST SYSTEM

- Short Circuit Test (dynamic-thermal stability) for Transformer & Reactor – IEC60076-5
- Short Circuit Test (dynamic-thermal stability) for Instrument Transformer – IEC61869-2/3
- Short Circuit Test (dynamic-thermal stability) for Cable – IEC60502-4
- Short-time Withstand Current Test & Peak Withstand Current Test for HV Switchgear Cabinet, Circuit Breaker – IEC62271
- Short Circuit Withstand Current Test for LV Switchgear Cabinet, Cable Branch Box, JP Cabinet – IEC61439-1 / IEC61439-12
- Interrputing Test / Overload Test / Endurance Test for Circuit Breaker- IEC60947 / UL489
- Electric Arc Test for Protective Clothing- IEC61482-1
- Long Duration Withstand Current Test for Surge Arrestor – IEC60099-4

SEPS Series

ENERGY STORAGE HIGH POWER TEST SYSTEM

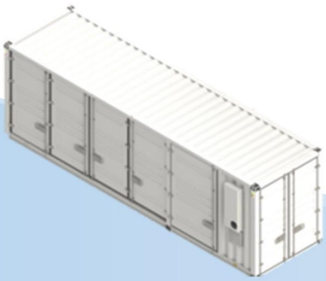
Brief

SEPS Series Energy Storage High Power Test System is an independent high power test system without large power from the grid network. With the 400V power supply and no more than 500kVA power, the system can operate the short circuit test (dynamic &thermal stability test) upon those power transformer, distribution transformer, series reactor, instrument transformer and cable. It can also do the interrupting test, short-time withstand current test, overload test, and endurance test upon MV &LV switchgear and CBs.

The SEPS Series applies advanced high-density DC energy storage and inversion technology to deliver instant high power in seconds, fully meeting high-power test requirements. Electrically isolated from the utility grid, the system causes no grid damage or adverse interference, making it an ideal solution for high-power tests with heavy energy consumption and grid impact.

Built-in rectifier enables both AC and DC output to support DC short-circuit tests. With precise AC waveform control, DC ripple factor and time constant are adjustable via software. It simplifies waveform tuning and greatly improves test flexibility.

Typical Model

20 Feet	30 Feet	40 Feet
		
75MVA-30MJ	150MVA-60MJ	300MVA-90MJ

Advantages

- ✔ High Power Density & Compact Design;
- ✔ Low Requirement for the Power Grid;
- ✔ Flexible Voltage & Frequency & Harmonic Performance;
- ✔ Expandable Capacity, 3-unit Parallel Working Supported;
- ✔ Waveform Editability;
- ✔ Automation & Intelligence;
- ✔ High Safety & Reliability;
- ✔ Low Maintenance Cost;

Optional Components

Short-Circuit Step-Down Transformer

The short-circuit step-down transformer reduces output voltage for low-voltage high-current testing. With maximum capacity of 100MVA, it outputs up to 100kA per winding. Vacuum-cast dry-type construction ensures excellent thermal stability and flame retardancy.

AC High-Voltage Primary Impedance

Adjustable high-voltage impedance regulates power factor from 0.15-0.95, current from 0.1-20kA, peak factor from 1.5-2.55 during short-circuit testing. Remote pneumatic operation enables precise impedance control, eliminating manual on-site adjustments.

DC Primary & Secondary Impedance

DC primary impedance regulates time constant and current during DC short-circuit testing. It supports voltage up to 2kV and current up to 200kA, with adjustable time constant from 1ms to 25ms.

3-Phase Rectifier

The 3-phase rectifier cabinet converts AC to DC for DC testing applications. It supports up to 200kA output and is essential for DC short-circuit testing of LV circuit breakers , switches and DC cables.

AC/DC Making Switch

The AC/DC making switch is used to close the AC/DC test circuit at the set time point, so as to meet the requirement for the post-short-circuit test specimens. It can eliminate the transent oscilation of the power filters and magnetic saturation of the short circuit transformer in the test circuit.

Comparison of Energy Storage High Power Test System / M-G Set / Power Network

	Energy Storage High Power Test System	Short Circuit Motor Generator Test Set	Power Network
Investment	Low investment and low maintenance	High investment and high maintenance	High investment and high maintenance, cost of electricity is not low
Maintenance	Maintenance free, only some electronic parts need replacement after 1000 hours' operating	Lots of maintenance is required	Periodic maintenance is required
Power Input Requirement	Very low, no more than 500kVA	Middle, big energy will be consumed at the starting and speed keeping procedure	Very large consumption, which needs approval by grid company
Voltage Adjusting Range	10%-120%	50%-110%	Additional voltage adjusting transformer is required
Output Power Quality	Excellent, THD <2%, special waveform can be set	general, affected by output impedance and load	general, affected by output impedance and load
Flexibility of Frequency	Max, 10-200Hz, step 0.01Hz	Fixed frequency	Fixed frequency
Waveform Edit	Available, CO-CO, Switch Wave, Fault Current simulation, customized wave	N/A	N/A
Future Capacity Upgrade	Easy to upgrading by add more modules in parallel	Possible, it can parallel more short circuit motor generator	Impossible
Size/ Transportation	Small, container module design, suitable for frequent transportation;	Very big, it need a special room for motor generator	Big, following the requirement of local grid company
Test Staff	1-2	5-10	3-5

MORE INFORMATION:
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