SUNGROW
Clean power for all

Movable Grid Compliance Test Device for Wind,PV and ESS

- Grid Simulator of GS 1000 Series

Grid Simulator-A Test Device adpat to multiple scenarios

Technical Indicators

Series	GS1000-XXX	
Input/Output voltage	380V~35kV	
Single Capacity	4~12MVA	
Input power factor	0.99	
Output voltage range	0~130%(customized)	
Output frequency range	45~66Hz(customized)	
Cooling method	Air cooling	
IP grade	IP55(storage) / IP33(operation)	
Temperature limit	-30~45℃	
Altitude	3000m(customized)	
Dimensions (W*D*H)	4MVA(standard)	Container 2pcs, single max size 11000×2438×3100mm
	4MVA(mountainous)	Container 4pcs, single max size 6700×2438×3100mm
	6MVA(standard)	Container 2pcs, single max size 12000×2438×3100mm
	6MVA(mountainous)	Container 3pcs, single max size 9000×2438×3100mm
	8~11MVA	Container 3pcs, single max size 12192×2438×3100mm
	12MVA	Container 3pcs, single max size 13556×2438×3100mm
	Office box(optional)	4000×2438×2896mm

Features

Sungrow Grid Simulator is widely applied in grid compliance test for wind, PV, ESS and other scenarios. Not only having test functions like highly grid adaptability, fault ride-through, but also featured with weak grid simulation, broadband sweep, impedance analysis and anti-islanding detection. The product strongly supports the stability of grid-connected analysis.

Reliable

Energy feedback cascade topology, modular design.

High IP grade, exceptional vibration resistance.

Bypass system, stable operation without manual monitoring.

Flexible

Container structure, easy to transport.

Adapt to the harshest condition like high altitude, salt spray, extreme temperature, etc.

Support systems combination of different power levels,convenient for capacity expansion.

Human-machine Friendly

Concise and compehensive interface.

Highly standardized test output process, customized online waveform programming.

Follow the latest standards, significantly improve the quality and efficiency of test.

Exceptional Performance

Low output impendance, output shor circut protection.

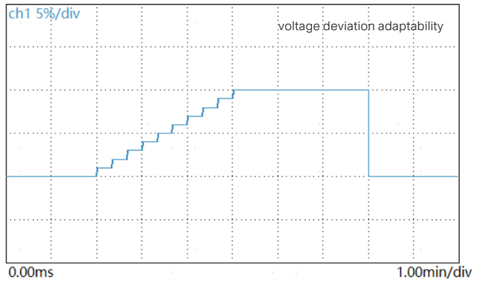
Cover multiple test scenarios like wind, PV, ESS and Hydrogen.

Provide solutions for conventional standard test, stress test, scientific research test, etc.

Functions

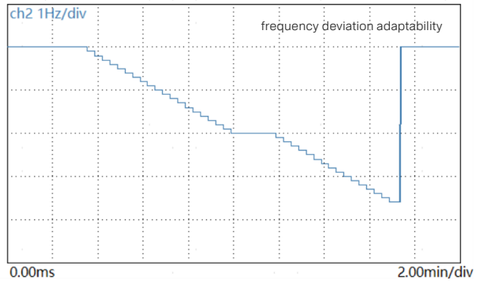
Output voltage regulation

Regulation range is 0~1.3UN, accuracy is ±0.2%, minimum adjusting step is 0.1%UN, voltage change rate from 0.1%UN to 10%UN/ms. Voltage output range can be cutomized.



output frequency regulation

Regulation range is 45~66Hz, accuracy is±0.005Hz, minimum adjusting step is 0.01Hz, frequency change rate from 0.01Hz/s to 1000Hz/s. Frequency output range can be customized.



Output three-phase voltage imbalance

Regulation range is 1~15%, accuracy ±0.5%, minimum adjusting step is 0.1%.
Two setting modes: voltage imbalance, three-phase voltage independent.

set value(%)	imbalance degree(%)	
	Unload	Load>0.5PN
2.0%	1.93%	2.02%
4.0%	3.94%	4.01%

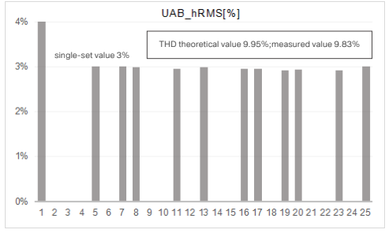
Output voltage flicker

Regulation range is 1~10, accuracy is ±0.1. Two setting modes: short term flicker Pst, voltage fluctuation amount.

Pst Value	short term flicker Pst(%)	
	Unload	Load>0.5PN
1	1.01	1.096
3	3.01	3.091
5	5.05	5.117

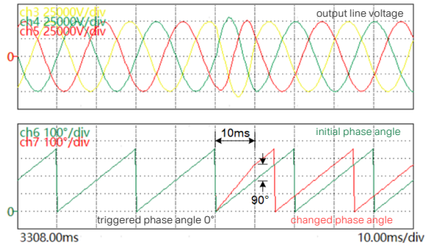
Output harmonic

Voltage harmonic output range is 2~50 times, interharmonic output range is 5~1000Hz, accuracy is ±0.2%. With exceptional harmonic control, system can output harmonic precisely under load/unload Pst Value short term flicker Pst(%) Unload Load>0.5PN conditions.



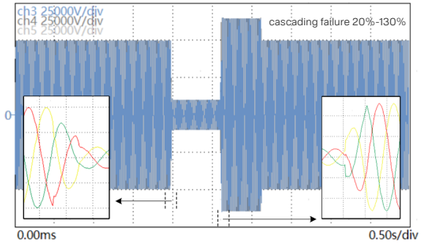
Voltage phase step

Trigger phase jump at specified or random angle, the angle can be set at -180~180, time of pahse change could be set from 5ms~10s.



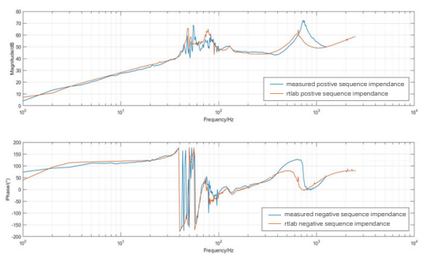
Voltage fault ride through

Apply in high/low/zero voltage ride through test, and single/two/three phase voltage fault or cascading fault test. Consecutive fault time up to 5, time of voltage change could be set from 5ms~10s. Support fault ride through at a specific angle and voltage phase step.



Impedance Scanning

Support positive/negative/positive-negative sequence sweep, the frequency sweep range is 1~1250Hz. Quickly generate analysis of perturbation voltage spectrum and impedance characterization for the device.



Virtual impedance

Support impedance simulation and short-circuit ratio simulation. The impedance value error is ≤3% under virtual impedance mode; SCR can be set from 0.8~100 under short-circuit ratio mode. Can also carry out other grid simulation test in the mode of virtual impedance.

Anti-islanding test

Simulate the RLC AC load in the island, support island automatic acquisition, power setting and RLC setting, display the figure of merit in real time, and automatically calculate the RLC recommended value according to the current power.

Customized output voltage

The ability to output voltage, frequency and harmonic curves, support online import and export of waveform editing file.

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