

SINEXCEL-RE
盛弘新能

SINEXCEL-RE

Product Selection Guide

Dear Customer, thank you for choosing power supply equipment from Shenzhen Sinexcel Renewable Energy Equipment Co., Ltd. We are committed to creating competitive products that meet customer needs.

Shenzhen Sinexcel Renewable Energy Equipment Co., Ltd. provides comprehensive technical support. Please contact your nearest SINEXCEL office or customer service center for assistance.

Copyright Shenzhen Sinexcel Renewable Energy Equipment Co., Ltd. All rights reserved.
Specifications are subject to change without notice.

Shenzhen Sinexcel Renewable Energy Equipment Co., Ltd.

Address: 2/F, Building 5, Zone 2, Baiwangxin High-tech Industrial Park, No. 1002
Songbai Road, Nanshan District, Shenzhen

Postal Code: 518055

Website: www.sinexcel-re.com

Service Hotline: 400-0055-776

E-mail : bts-sales@sinexcel.com

SXN72 Series Regenerative Grid Simulator



The SXN72 Series uses digital PWM rectification and independent high-frequency inverter technology to provide four-quadrant operation and bidirectional power flow.

1.1 Applications

- PV and Energy-Storage Inverters
- EV Charging Stations
- Variable-Frequency Drives (VFDs)
- UPS

1.2 Key Features

(1) Multiple powerful output modes:

- ◆ Balanced Three-Phase Mode: balanced three-phase voltage output
- ◆ Three-Phase Unbalance Mode: independent phase-voltage settings with phase angles adjustable from 0.0 degrees to 359.9 degrees
- ◆ Parallel Single-Phase Mode: three phases connected in parallel for high-power single-phase output

(2) Three-phase decoupled design for comprehensive grid-abnormality simulation, including waveform distortion, grid fluctuations, and three-phase unbalance; harmonic mode supports superposition of the 2nd through 40th harmonics

(3) Four-quadrant operation with energy regeneration to the grid

(4) Meets the low-voltage and zero-voltage ride-through test requirements of NB/T 32004-2018, with stable operation and no load resonance at low voltage

(5) Meets the high-voltage ride-through test requirements specified by applicable Chinese national standards

(6) High input power factor (≥ 0.95) and low input current distortion ($< 5\%$)

(7) Auto-Lock automatically locks the keypad after a preset interval to prevent inadvertent operation

(8) 8-inch color LCD with numeric keys, function keys, and a rotary knob for convenient, flexible operation

(9) Comprehensive measurement of voltage, current, peak current, frequency, active power, apparent power, power factor, voltage crest factor, and other electrical parameters

(10) AI-Monitor continuously monitors internal voltage, current, temperature, and other parameters, issuing immediate alarms and service prompts when abnormal conditions occur

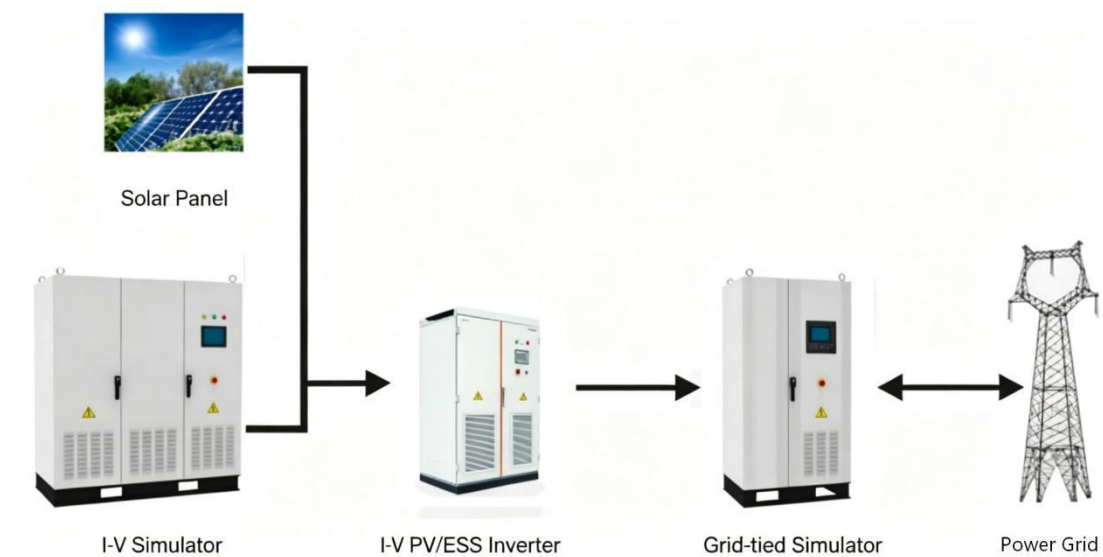
(11) Black Box automatically records operating parameters during abnormal events for subsequent review and maintenance

(12) RS232 is standard; RS485 and LAN are optional

1.3 Featured Functions

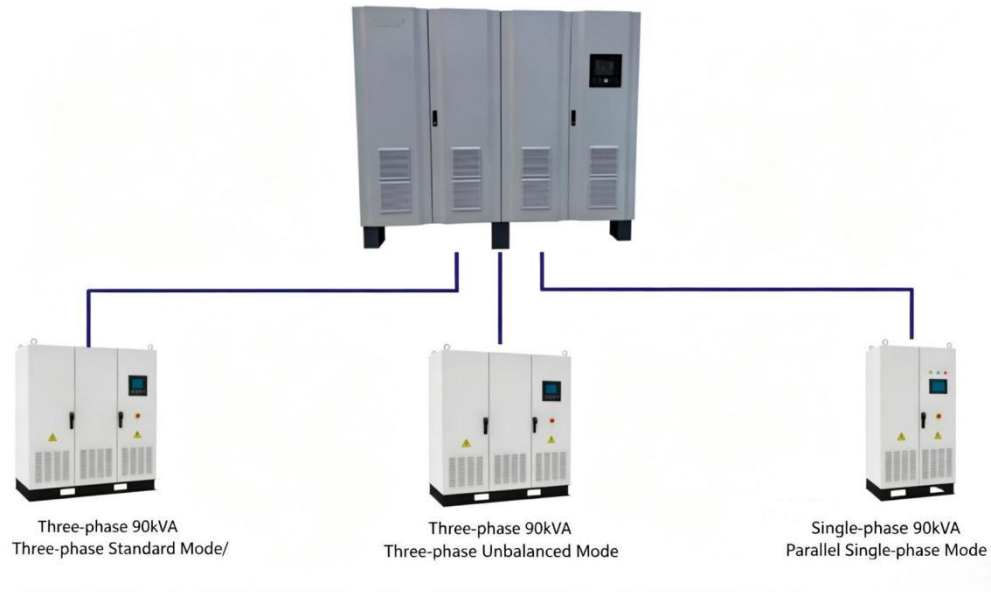
◆ Four-Quadrant, Bidirectional, Regenerative Operation

The SXN72 Series uses digital PWM rectifier control to absorb load-side energy and return it to the grid, reducing the need for dissipative loads in PV and energy-storage inverter testing.



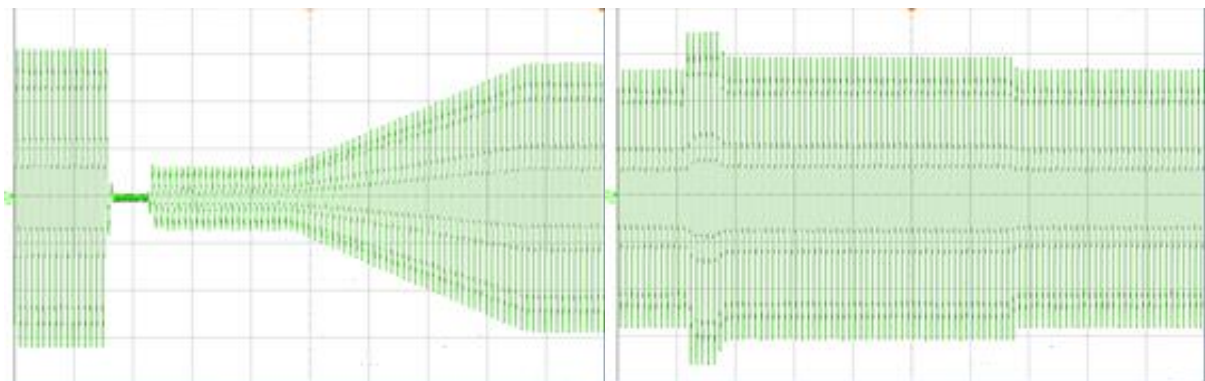
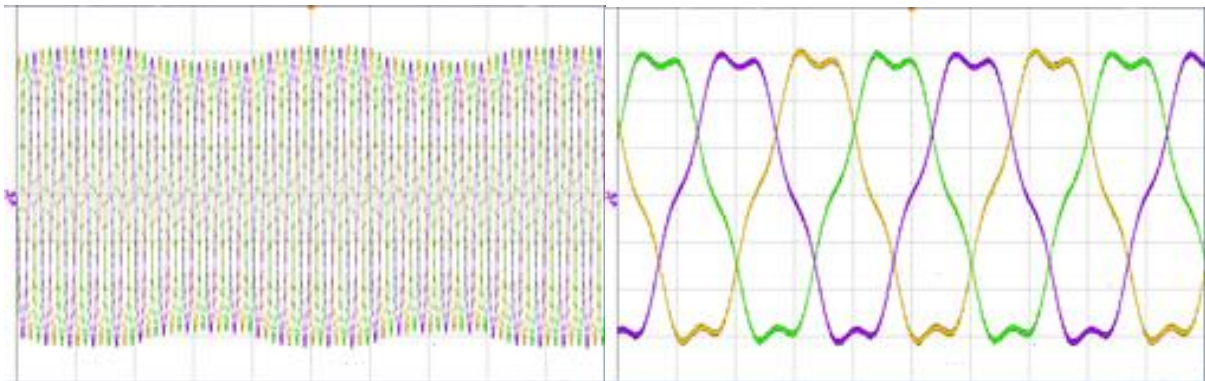
◆ Multiple Output Modes for Versatile Use

The SXN72 Series combines three-phase decoupled control with digital control algorithms to provide balanced three-phase, unbalanced three-phase, and parallel single-phase modes. One instrument therefore replaces multiple conventional AC sources.



◆ Multiple Programmable Modes for Comprehensive Grid-Abnormality Simulation

The SXN72 Series supports programmable staircase, step, ramp, low-voltage (including zero-voltage) ride-through, and high-voltage ride-through profiles, together with superposition of the 2nd through 40th harmonics. These functions simulate grid abnormalities and severe operating conditions for DUT testing.



1.4 Technical Specifications

Product Name	Regenerative Grid Simulator				
Model	SXN7215-300-23	SXN7215-300-45	SXN7245-300-68	SXN7260-300-91	SXN7290-300-136
Source/Sink Capacity	15kVA	30kVA	45kVA	60kVA	90kVA
Basic Functions					
Output Function	Grid Simulation				
Regenerative Function	Returns output-side energy to the AC grid				
Isolation	Built-in isolation transformer				
Load Power Factor	+1.0 – 1.0				
Wiring Configuration	Input: three-phase, four-wire		Output: three-phase, four-wire + PE		
Output Specifications					
Output Mode	Balanced three-phase, unbalanced three-phase, and parallel single-phase modes				
Output Voltage	Phase voltage: 0.0-300.0 V		Rated voltage: 220.0 V		
Voltage Setting Accuracy	Accuracy: <=0.4% FS		Resolution: 0.1 V		
Balanced and unbalanced three-phase modes					
Rated Current	22.7A	45.4A	68.1A	90.9A	136.3A
Parallel Single-Phase Mode					
Rated Current	68.1A	136.3A	204.5A	272.7A	409.0A
Output Frequency	40.00–70.00Hz				
Frequency Setting Accuracy	Accuracy: <=0.02%		Resolution: 0.01 Hz		
Frequency Stability	<=0.02%				
Voltage Total Harmonic Distortion (VTHD)	<1% (linear load)				
Three-Phase Angle	120 degrees +/-2 degrees (balanced three-phase mode)				
Crest Factor	1.41 +/-0.1 (sine-wave mode)				
Line Regulation	<=1%				
Load Regulation	<=1%				
Efficiency	>85%				
Measurement and Display					
Display	8-inch color LCD				
Voltage Measurement Accuracy	Accuracy: 0.2% FS + 0.2% of reading		Resolution: 0.1 V		
Frequency Measurement Accuracy	Accuracy: 0.02%		Resolution: 0.01 Hz		
Current Measurement Accuracy	Accuracy: 0.3% FS + 0.3% of reading		Resolution: 0.1 A/1 A		
Power Measurement Accuracy	Accuracy: 0.5% FS + 0.5% of reading		Resolution: 0.1 kW/0.01 kW/0.001 kW		
Operating Functions					
Staircase Mode	9,999 steps				
Step Mode	100 steps; up to 999,999 cycles				
Ramp Mode	100 steps; up to 999,999 cycles				
Low-Voltage (Including Zero-Voltage) Ride-Through	Simulates standards from multiple countries and regions; minimum response time <=20 ms				
High-Voltage Ride-Through	Simulates standards from multiple countries and regions; minimum response time <=20 ms				
Waveform Types	Sine wave or harmonic waveform (2nd-40th harmonic superposition)				
Real-Time Adjustment	With the output enabled in standard mode, the output voltage and frequency settings can be adjusted using the numeric keys, increment/decrement keys, or rotary knob and applied immediately.				
Protection Functions					
Overload Capacity	105% < output <=110%: output shuts down after 600 s				
	110% < output <=150%: output shuts down after 60 s				
	150% < output <=200%: output shuts down after 2 s				
	Output >200%: immediate output shutdown				
Hardware Protection	Overcurrent, overload, short-circuit, and overtemperature protection; output overvoltage/undervoltage and phase-loss protection; DC-bus overvoltage/undervoltage protection; and automatic output-contactor trip protection				
Software Protection	AI-Monitor, Black Box, and Auto-Lock keypad protection				
Remote Interfaces					
Communication Interface	Standard: RS232		Optional: RS485, LAN		
Input Specifications					
Input Phases	Three-phase, four-wire + PE				

Input Voltage Range	380V±57V				
Input Frequency Range	45–65Hz				
Input Power Factor	>0.97 (rated input voltage, 50%-100% of rated input current)				
	>0.95 (rated input voltage, 10%-50% of rated input current)				
Input Current Distortion	<5% (rated conditions)				
Operating Environment					
Operating Temperature	0–40°C				
Operating Humidity	20%-90% RH (non-condensing)				
Dimensions and Weight					
Dimensions (W x H x D, mm)	800 x 1800 x 800			1200 x 2000 x 1000	
Weight (kg)	500	570	680	750	900

Note: Transient and flicker functions with 1 ms resolution are available as custom options.