SEQUOIA SERIES

PRECISION PROGRAMMABLE REGENERATIVE GRID SIMULATORS

California Instruments™

THE MOST ADVANCED PLATFORM OF POWERFUL AC SOLUTIONS

The California Instruments Sequoia Series combines intelligence and flexibility with high power to create an advanced platform of AC solutions. Using a state-of-the-art SiC power switching architecture, this full four-quadrant product combines compactness, robustness, and functionality in a floor-standing chassis.

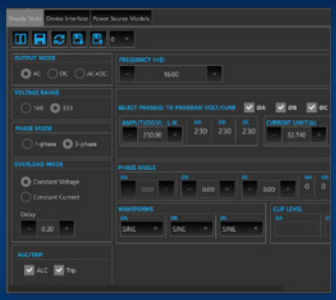
This easy-to-configure power product covers a wide spectrum of single and multi-phase AC or single channel and multi-channel DC power applications at an affordable cost. With the add-on electronic load option, the Sequoia Series can support additional advanced renewable energy simulation and test requirements.

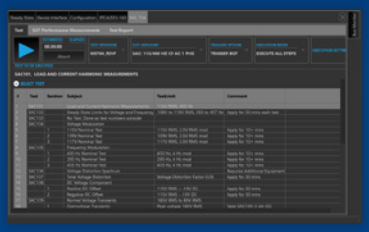
LXI | CE

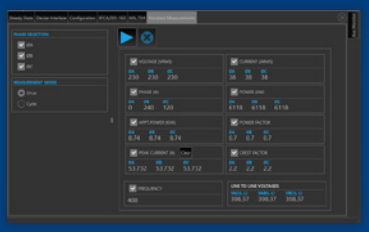
FEATURES AND CAPABILITIES

- Dual Voltage ranges that support over voltage testing on 480V based systems
- Instrument Setups for quickly re-establishing the known instrument state
- 500uS time resolution for Transients
- Virtual Panels control software included
- Non-Linear current waveform programming during Load mode
- Phase coordination among multiple units (LKM/LKS)
- Powerful set of analog controls for PHIL and Modulation tests
- Trigger In & Out to permit extensive coordination with external systems
- Extensive Onboard diagnostics
- Digital I/O, including RS232, USB, Ethernet (GPIB optional)
- Intuitive 5" color display for ease of navigation
- Auto-paralleling for maximum flexibility with multi-chassis configurations
- Separate terminal blocks for single phase and 3 phase outputs

Virtual Panels
(Graphical User Interface)
Virtual Panels allow remote control of the Sequoia Series grid simulator as well as programming communication and monitoring without front panel display.







AMETEK®
PROGRAMMABLE POWER

www.programmablepower.com

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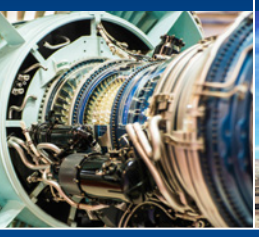
MODEL	AC Output Specifications				DC Output Specifications			
	Power	RMS Voltage Ranges	RMS Current per phaseat FSV	RMS Current per phase (max)	Power	DC Voltage	DC Current per phase at FSV	DC Current per phase (max)
SQ0015G1 SQ0015L1 SQ0015C1	15kVA 1Φ	0-166V/ 0-333V	(1Φ mode) 90.3A/45.04	(1Φ mode) 125A/67.5A	15kW 1Φ	0-220V/ 0-440V"	(1Φ mode) 68.1A/34.05A	(1Φ mode) 93.7A/46.8A
SQ0022G1 SQ0022L1 SQ0022C1	22.5kVA 1Φ/3Φ	0-166V/ 0-333V	(1Φ mode) 135.5A/67.5A (3Φ mode) 45.18A/22.5A	(1Φ mode) 187.5A/93.75A (3Φ mode) 62.5A/31.25A	22.5kW 1Φ/3Φ	0-220V/ 0-440V	(1Φ mode) 102.3/51.15A (3Φ mode) 34.1A/17.05A	(1Φ mode) 140.6/70.3A (3Φ mode) 46.8A/23.4A
SQ0030A1 SQ0030L1 SQ0031C1	30kVA 1Φ/3Φ	0-166V/ 0-333V	(1Φ mode) 180.7A/90.09A (3Φ mode) 60.24A/30.03A	(1Φ mode) 250A/125A (3Φ mode) 83.3A/41.6A	30kW 1Φ/3Φ	0-220V/ 0-440V	(1Φ mode) 136.4A/68.2A (3Φ mode) 45.45A/22.7A	(1Φ mode) 187.5A/93.75A (3Φ mode) 62.5A/31.25A
SQ0045G1 SQ0045L1 SQ0045C1	45kVA 1Φ/3Φ	0-166V/ 0-333V	(1Φ mode) 271/135A (3Φ mode) 90A/45A	(1Φ mode) 375/187.5A (3Φ mode) 125A/67.5A	45kW 1Φ/3Φ	0-220V/ 0-440V	(1Φ mode) 204.5A/102.25A (3Φ mode) 68.1A/34.0A	(1Φ mode) 281.25A/140.6A (3Φ mode) 93.75A/46.8A
SQ0090G1 SQ0090L1 SQ0090C1	90kVA 3Φ	0-166V/ 0-333V	(3Φ mode) 180.7A/90.09A	(3Φ mode) 250A/125A	90kW 3Φ	0-220V/ 0-440V	(3Φ mode) 136.4A/68.2A	(3Φ mode) 187.5A/93.75A

COMMON SPECIFICATIONS	
Output Frequency	16 - 550Hz, 16 - 905Hz with -HF option
Input Voltage	208 V_{LL} ±10%, 230 V_{LL} ±10%, 380 V_{LL} ±10%[1], 400 V_{LL} ±10%, 480 V_{LL} ±10%, 600V L-L ±10%
Input Frequency	47 - 63Hz
Operational Modes	AC, AC+DC, DC
Control Interfaces	RS-232C, USB, LAN, Analog EXTD

NOTE[1]: Not available on Sequoia-15

OPERATIONAL CHARACTERISTICS	
Parallel Operation	Requires no user setup, except to connect the parallel interface and wire the inputs and outputs. 270kVA max with Sequoia-45 configurations and 1.08MVA with Sequoia-90's.
MODE	Switches between 1 and 3 phase outputs. This feature is available SQ22.5, SQ30 and SQ45 models only.
Emergency Stop	A mushroom style switch installed on the front panel of each chassis. When activated, the output is disabled. Note that the controller (and front panel display) will still be powered up.
Current Limit Modes	Two selectable modes of operation: Constant Voltage (CV) & Constant Current (CC). In CC mode, the voltage folds back with automatic recovery during an over-current event. In CV mode, the output is programmed to 0V and the output relays open with an over current event.
ALC	Automatic Level Control. User-selectable operation enables a digitally implemented feedback control loop to precisely regulate the RMS value of the output voltage.
Transient Generator	Output could be controlled to produce list transient events with 500 µs programming resolution. Voltage: drop, step, sag, surge, sweep; Frequency: step, sag, surge, sweep; Voltage and Frequency: step, sweep.

Power Conditioning Equipment Testing



Grid Interactive Green Energy & Distributed Power Generation

Avionics & Shipboard Electronics Testing

Regulatory Compliance Testing

Electric Vehicle (EVSE, V2G) Testing

Manufacturing Line Testers