PV Panel/Solar Array Simulator

DEDL SAS120/10 Modular Solar Array Simulator is a programmable DC Power Source that simulates output characteristics of a solar array. Model SAS120/10 is primarily a current source with very low output capacitance and is capable of simulating I-V curve of solar arrays under different conditions like temperature, irradiance etc. SAS is supported with intelligent front-end software that simulates any curve with Voc, Isc, Vmp, Imp parameters or manually programmed points. It provides simulation of Voc (open circuit voltage) up to 121V and Isc (short circuit current) up to 10.5A. The solar array simulator is highly stable and has a fast transient response design, which are both advantageous for MPPT performance evaluation on PV inverter devices.

Advance Features:

- **Two methods to generate a power profile through Soft Panel:**
  - *a) Automatic based on 4 parameters:* The user defines the maximum power point (Vmp, Imp), open circuit voltage (Voc) and short circuit current (Isc). The profile is then generated based on these parameters.

  - *b) Manual:* The user defines up to 50 current and voltage points for the power supply to emulate PV solar panel. The power supply performs a piecewise linear approximation between points to provide a smooth output curve.

- **Data logging:** Customizable data logging functionality, allowing for report generation and data analysis for micro inverters or DC-DC converters to rate there performance with different power curves.

- **To emulate with different environmental condition:** It can have same power curve generated under different conditions, such as different temperatures and irradiance values.

Features:

- Accurate simulation of any type of solar panel/array

- Fast I-V curve change and fast recovery switching time

- Easy to simulate environmental conditions

- Real time analysis of PV inverters MPPT tracking via soft panel

- Testing MPPT tracking efficiency

- Captured data from instrument recorded via soft panel

- Four point simulation based on reference parameters

- Facility to enter user defined curve manually

- V-I/P-V curve display in soft panel

- LAN, USB, and GPIB interfaces standard

- Extremely useful in mass production and problem debug scenarios

- Series panel simulation

Specifications

Input Line voltage	95 to 264VAC, 45-63Hz, 1Ph	
Output Ratings	Maximum Power	1200W
	Maximum open Circuit Voltage (Voc)	121V
	Maximum Voltage Point (Vmp)	120V
	Maximum short circuit Current (Isc)	10.5A
	Maximum Circuit Point (Imp)	10A
	Minimum Impedance	1Ω
	(ΔV/ΔVI)	
	Voltage	0-120V
	Current	0-10A
	Operating Temp	0-50°C
	Output Voltage Ripple & Noise	20mV P-P
Programming Accuracy	Voltage	0.2% of F.S. ± 1lsb
	Current	0.5% of F.S. ± 1 lsb
Read back Accuracy	Voltage	0.2% of F.S
	Current	0.2% of F.S
Load Regulation	Constant voltage	0.1%
	Constant voltage	0.1%
Line Regulation	Constant voltage	0.1%
	Constant voltage	0.1%

The Soft Panel