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TECHNICAL PRODUCT INFORMATION

Test & measurement instruments

- high - quality
- moderate prices
- excellent precision

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IT-N2100 Series Solar Array Simulator



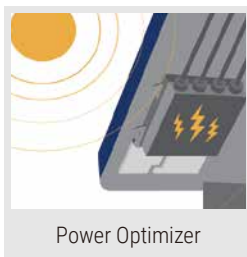
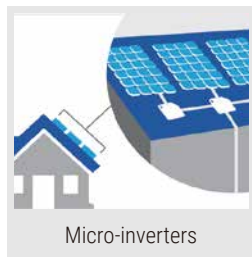
IT-N2100 series solar array simulator is a high performance DC power supply with fast change of IV curve. It can simulate the IV output characteristics of various solar panels under different environments (temperature, light, shadow decay, aging). It can be applied for the tests of solar micro-inverter, power optimizer, sail power array and so on. IT-N2100 has low ripple, low noise and fast MPPT, supports multi-channel synchronous control and high voltage topology.

FEATURE

- Precise simulation of the IV characteristics output of silicon, GaAs and other types of solar PV panels
- Built-in solar array simulation software, supporting multi-channel control*
- High-speed current dynamic response to support fast MPPT for microinverters
- Up to 1500V DC output common-mode withstand voltage, supporting series testing of the DUT
- Fixed mode, adjustable output impedance, can simulate CC, CV, CP output
- Ultra-low current ripple, high precision sampling, programming and measurement
- Simulate I-V curve under different temperature and light
- Built-in EN50530, Sandia, NB/T32004, CGC/GF004, CGC/GF035 regulations dynamic model test, and generate reports
- Graphical operation interface, real-time display of MPPT status of PV inverter
- Dynamic list sequence programming: 100 steps x 20 data sets
- Real-time data and curve recording for further analysis
- Simulation of dynamic and static I-V curves of solar panels under cloud shadow
- Table mode supports I-V curve fitting with 4096 points
- Quickly generate I-V by setting Voc, Isc, Vmp, Imp by four-point method
- Comprehensive curve protection: OVP, OCP, OPP, OTP
- Small size: 2U half rack for single channel
- 4.3" HD LCD, easy to operate
- Front and rear panel output, adaptable to bench top and system integration for various applications
- Standard communication interface LAN, USB, digital I/O, support SCPI

* For multiple IT-N2100 rack installations, follow the manual's layout for cooling consideration

Applications



Model	Voltage	Current	Power
IT-N2121*	80V	25A	800W
IT-N2131*	80V	25A	1500W
IT-N2123	150V	10A	800W
IT-N2133	150V	10A	1500W

*can be extended to 85V output



Your Power Testing Solution

IT-N2100 Series Solar Array Simulator

		IT-N2121	IT-N2123	IT-N2131	IT-N2133
Rated values	Voltage	0~80V	0~150V	0~80V	0~150V
	Current	0~25A	0~10A	0~25A	0~10A
	Power	0~800W	0~800W	0~1500W	0~1500W
	Resistance	0~9.999Ω	/	0~9.999Ω	/
Line regulation	Voltage	≤0.01%+2mV	≤0.01%+2mV	≤0.01%+2mV	≤0.01%+2mV
± (%of Output+Offset)	Current	≤0.01%+1.5mA	≤0.01%+1mA	≤0.01%+1.5mA	≤0.01%+1mA
Load regulation	Voltage	≤0.01%+2mV	≤0.01%+3mV	≤0.01%+2mV	≤0.01%+3mV
± (%of Output+Offset)	Current	≤0.01%+1mA	≤0.01%+1mA	≤0.01%+1mA	≤0.01%+1mA
Setup resolution	Voltage	10mV	10mV	10mV	10mV
	Current	1mA	1mA	1mA	1mA
Readback resolution	Voltage	1mV	1mV	1mV	1mV
	Current	1mA	1mA	1mA	1mA
Setup accuracy	Voltage	≤0.03%+20mV	≤0.03%+30mV	≤0.03%+20mV	≤0.03%+30mV
	Current	≤0.05%+10mA	≤0.05%+5mA	≤0.05%+10mA	≤0.05%+5mA
Readback accuracy	Voltage	≤0.03%+15mV	≤0.03%+20mV	≤0.03%+15mV	≤0.03%+20mV
	Current	≤0.05%+8mA	≤0.05%+5mA	≤0.05%+8mA	≤0.05%+5mA
Ripple (20hz-20Mhz)	Peak value	≤300mVp-p/≤40mVrms	≤300mVp-p/≤40mVrms	≤300mVp-p/≤40mVrms	≤300mVp-p/≤40mVrms
Ripple (20hz-300Khz)	Voltage(RMS)	40mVrms	40mVrms	40mVrms	40mVrms
	Current(RMS)	≤8mA _{rms}	≤5mA _{rms}	≤10mA _{rms}	≤5mA _{rms}
Setup temperature coefficient ± (% of Output+Offset) / °C	Voltage	≤0.003%+1mV	≤0.003%+1.5mV	≤0.003%+1mV	≤0.003%+1.5mV
	Current	≤0.015%+0.27mA	≤0.015%+0.35mA	≤0.015%+0.27mA	≤0.015%+0.35mA
Readback temperature coefficient ± (% of Output+Offset) / °C	Voltage	≤0.002%+0.8mV	≤0.002%+1mV	≤0.002%+0.8mV	≤0.002%+1mV
	Current	≤0.012%+0.27mA	≤0.012%+0.35mA	≤0.012%+0.27mA	≤0.012%+0.35mA
Rising time (no load)	Voltage	≤20ms	≤20ms	≤20ms	≤20ms
Rising time (full load)	Voltage	≤20ms	≤20ms	≤20ms	≤20ms
Falling time (no load)	Voltage	≤20ms	≤20ms	≤20ms	≤20ms
Falling time (full load)	Voltage	≤20ms	≤20ms	≤20ms	≤20ms
Dynamic response	Voltage	150us	150us	400us	300us
AC input	Voltage	220V/110V	220V/110V	220V/110V	220V/110V
	Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Setup Stability-30min (%of Output +Offset)	Voltage	≤0.01%+1mV	≤0.01%+1mV	≤0.01%+1mV	≤0.01%+1mV
	Current	≤0.02%+1.5mA	≤0.02%+1.5mA	≤0.02%+1.5mA	≤0.02%+1.5mA
Setup Stability-8h (%of Output +Offset)	Voltage	≤0.015%+1.2mV	≤0.015%+1.2mV	≤0.015%+1.2mV	≤0.015%+1.2mV
	Current	≤0.02%+2mA	≤0.02%+2mA	≤0.02%+2mA	≤0.02%+2mA
Readback Stability-30min (%of Output +Offset)	Voltage	≤0.01%+1mV	≤0.01%+1mV	≤0.01%+1mV	≤0.01%+1mV
	Current	≤0.02%+1.5mA	≤0.02%+1.5mA	≤0.02%+1.5mA	≤0.02%+1.5mA
Readback Stability-8h (%of Output +Offset)	Voltage	≤0.015%+1.2mV	≤0.015%+1.2mV	≤0.015%+1.2mV	≤0.015%+1.2mV
	Current	≤0.02%+2mA	≤0.02%+2mA	≤0.02%+2mA	≤0.02%+2mA
Efficiency		60% (Typical)	72% (Typical)	60% (Typical)	72% (Typical)
Sense		≤2V			
Programming response		≤15ms			
Power factor		≥0.98			
Max.input current		11A			
Protection		OVP/OC			
Communication interface		LAN/USB			
Isolation(output to ground)		1500Vdc			
Isolation(input to ground)		1500Vac			
Working temperature		0~40 °C			
Fuse specification		T15A			
Protection level		IP20			
Safety regulations		IEC 61010			
Cooling		fan			
Dimension (rack mounted) mm		450 mm (D) x 214 mm (W) x 88.2 mm(H)			
Dimension (overall) mm		529.5 mm (D) x 255 mm (W) x 108.2 mm(H)			
Weight(net)		9kg			

*All specifications are subject to change without notice.