N8330 Series Ultra-high Accuracy Multi-channel Battery Simulator

Product Introduction

N8330 is a programmable battery simulator with low-power, multi-channel and ultra-high accuracy, voltage accuracy up to 1 in 60,000. N8330 standalone supports up to 24 channels. Each channel is isolated. Users can set voltage & current for each channel on NGI standard application software, which is easy to use and can meet the needs of multi-channel, multi-parameter and complex test environments. N8330 application software supports multi-channel batch operation. Data and graphs for each channel can be displayed. At the same time, data analysis and report functions are supported.

Application Fields

- BMS/CMS test for new energy vehicle, UAV and energy storage
- Portable consumer electronics R&D and production, such as mobiles, bluetooth earphones, smartwatch, etc.
- Calibration of voltage acquisition device, such as fuel cell voltage monitor

Main Features

- Voltage range: 0~5V/0~6V
- Voltage accuracy up to 1: 60,000
- Voltage ripple noise ≤2mVrms
- LAN port and RS485 interface
- Each channel isolated
- Current range: 0~1A/0~2A/0~3A
- Fast dynamic response, voltage rise time less than 5ms
- Voltage temperature coefficient 10ppm/℃
- Single device with up to 24 channels
- Professional application software, with data analysis and report

Ultra-high integration, single device with up to 24 channels

N8330 series adopts a standard 19-inch 2U chassis, with up to 24 channels in a single device. Each channel is isolated. One device can support 24-station test simultaneously, which greatly reduces the instruments used and improves test efficiency.

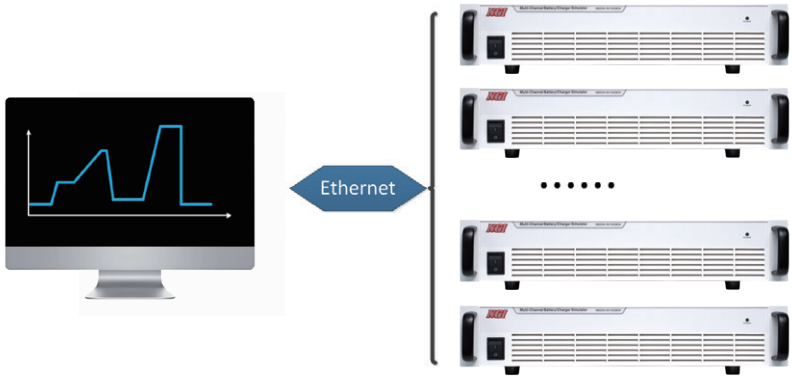
▲Rear Panel Diagram with 24 Channels

Ultra-high voltage accuracy, meeting chip level test requirement

In the BMS chip test, the simulated cell voltage accuracy is up to μV level. Basic voltage accuracy of N8330 series battery simulator can reach 0.1mV, and the voltage resolution can reach 10μV. It has been widely used in chip-level test scenarios.

Series connection available to simulate working condition of battery pack

When simulating multiple strings of battery cells, N8330 supports multiple devices connection in serial mode. Users can realize remote control and other automatic tests on the application software.

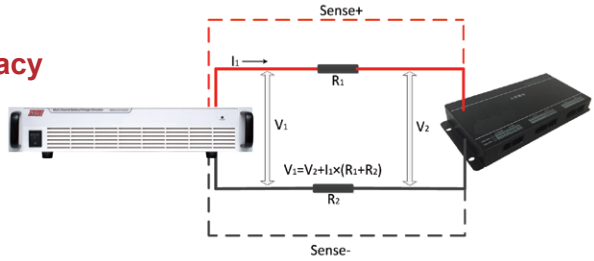


Ultra-fast transient response without overshoot

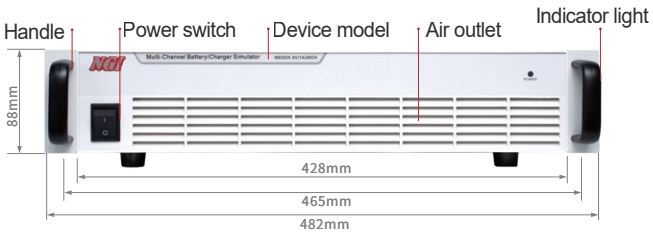
The low output noise is the true DC characteristic of the battery cell without ripple. When the DUT changes, N8330 can promptly provide a stable DC output and reduce the surge voltage damage to the DUT. For non-static products test & applications , N8330 series can supply a stable DC voltage timely. N8330 series provides high-speed programming and emulates various waveform identical to actual condition. The load variation time is less than 3ms.

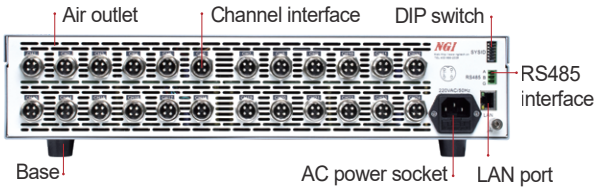
Four-wire sense to ensure measurement accuracy

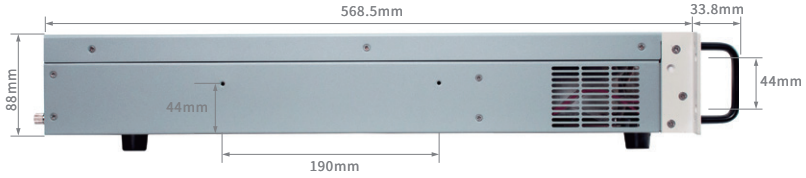
To ensure accurate voltage measurement, N8330 adopts four-wire system connection, that is, two wires are used for voltage output, and the other two used for measuring the DUT voltage directly. The voltage loss caused by the lead resistance from N8330 to the DUT can be eliminated by four-wire sense.



Product Dimension







Technical Data Sheet

Model	N8330A	N8330B	N8330C
Current	1A/CH	2A/CH	3A/CH
Voltage	6V/CH	5V/CH	5V/CH
Power	6W/CH	10W/CH	15W/CH
Channels	24CH	16CH	16CH
CC Mode			
Range	0~1A	0~2A	0~3A
Setting Resolution	0.01mA		
Setting Accuracy（23±5℃）	0.001%+0.5mA	0.001%+1mA	0.001%+1.5mA
Readback Resolution	0.01mA		
Readback Accuracy（23±5℃）	0.001%+0.5mA	0.001%+1mA	0.001%+1.5mA
Temperature Coefficient（0~40℃）	20ppm/℃		
Long-term Stability	40ppm/1000h		
CV Mode			
Range	0~6V	0~5V	0~5V
Setting Resolution	0.01mV		
Setting Accuracy（23±5℃）	0.001%+0.1mV		
Readback Resolution	0.01mV		
Readback Accuracy（23±5℃）	0.001%+0.1mV		
Temperature Coefficient（0~40℃）	10ppm/℃		
Long-term Stability	40ppm/1000h		
Voltage Ripple Noise（20Hz-20MHz）	≤2mVrms		
Dynamic Characteristics			
Voltage Rise Time	≤5ms（no load）(10%-90%F.S. Variation Time)		
Voltage Rise Time	≤5ms（full load）(10%-90%F.S. Variation Time)		
Voltage Fall Time	≤3s（no load）(90%-10%F.S. Variation Time)		
Voltage Fall Time	≤30ms（full load）(90%-10%F.S. Variation Time)	≤20ms（full load）(90%-10%F.S. Variation Time)	≤10ms（full load）(90%-10%F.S. Variation Time)
Transient Recovery Time [1]	≤200μs		
Others			
Isolation（Output to Ground）	1000VDC		
Isolation（Inter-channel）	500VDC		
Communication Response Time	≤10ms		
Interface	LAN/RS485(Isolated)		
AC Input	Single phase, 220V AC±10%, current <2A, frequency 47Hz~63Hz		
Temperature	Operating temperature: 0℃~40℃, storage temperature: -20℃~60℃		
Operating Environment	Altitude <2000m, relative humidity: 5%~90%RH(non-condensing), atmospheric pressure: 80~110kPa		
Net Weight	Approx. 20kg		
Dimension	2U, 88.0(H)*482.0(W)with handle*568.5(D)mm		

Note 1: Load varies from 10% to 90% by full voltage output, with voltage recovering within 50mV of previous voltage.
Note 2: For other specifications, please contact NGI.
Note 3: All specifications are subject to change without notice.