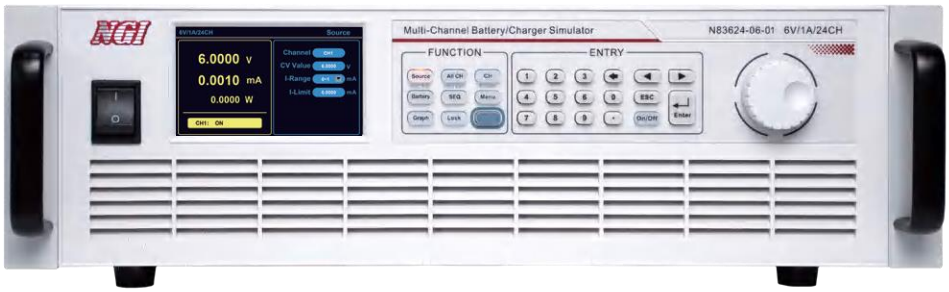
N83624 Series High-accuracy Multi-channel Battery Simulator



Product Introduction

N83624 is a programmable battery simulator with low-power, multi-channel and high-accuracy, suitable for BMS/CMS test. It can also be used as a multi-channel high accuracy DC power supply. It is highly integrated, single device with up to 24 channels. Each channel is isolated, available for multi-channel series connection. N83624 is equipped with high-definition color LCD screen, available for local operation. Users can also set the voltage & current for each channel on application software, which is easy to use and can meet the needs of multi-channel and multi-data. The software can also provide graphs, data analysis and report function.

Application Fields

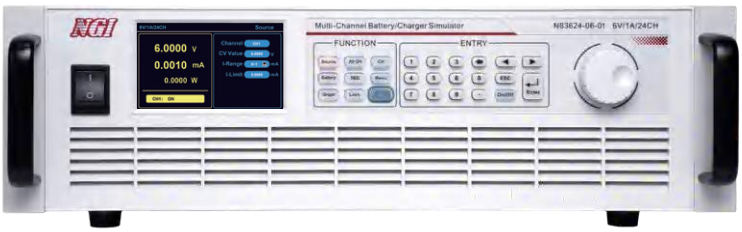
- BMS/CMS test for new energy vehicle, UAV and energy storage
- Portable consumer Electronics R&D and production, such as mobiles, bluetooth earphones, smartwatch, etc.
- Calibration of voltage acquisition device, such as fuel cell voltage monitor

Main Features

- Voltage range: 0~6V/0~15V
- Current range: 0~1A/0~3A/0~5A
- Voltage accuracy up to 0.6mV
- Single device with up to 24 channels, each channel isolated, series connection available
- Fast communication response , within 10ms for all channels programming response
- Fast dynamic response, voltage rise time less than 20μs(For 6V specification)
- High-definition color LCD screen, available for local operation
- Standard 19-inch 3U, available for rack installation
- LAN port, RS232 interface, CAN interface; dual LAN ports, convenient for cascade application
- μA level current measurement
- Optional accessory: fault simulation module, nA level leakage current measurement module

Ultra-high accuracy

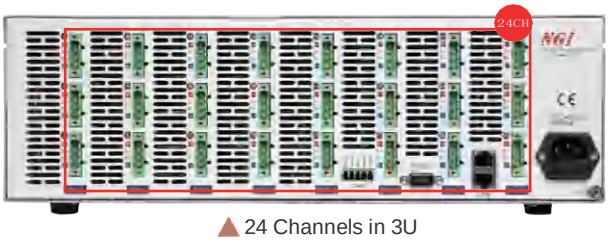
N83624 current resolution is as low as 0.1μA. Ultra-high accuracy, ultra-low ripple and noise index make N83624 an ideal choice for battery simulation application. The ultra-high accuracy of N83624 output and measurement can be directly used in product calibration and test, eliminating the use of external high-accuracy measuring instruments and saving cost for users.



▲N83624 Load Mode

Ultra-high integration

N83624 integrates up to 24 channels that can be connected in series mode in 19-inch 3U size, providing a compact solution for ATE test systems in BMS, CMS and similar large-scale high-density production sites.



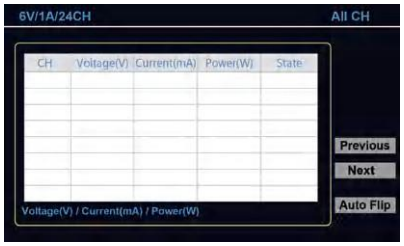
▲24 Channels in 3U

Battery simulation suitable for BMS chips test of various specifications

N83624 series battery simulators have multiple functions and features, supporting Source, All CH, Charge, SOC Test, SEQ, Graph, etc.

One device can achieve multiple uses, streamline test equipment and optimize test procedures. N83624's internal circuit is optimized for different chips, which can be adapted to test BMS chips of various specifications.

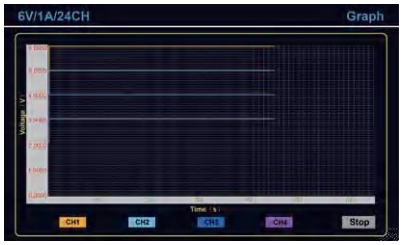
▲Source



▲All CH

▲SOC Test

▲SEQ Edit

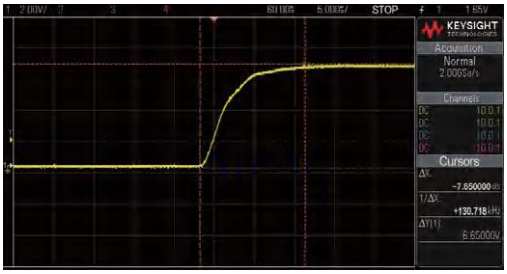


▲Graph

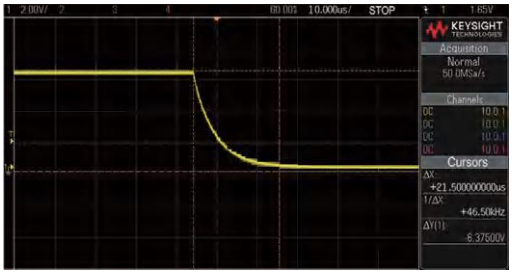
▲System

Fast dynamic response

N83624 series has fast dynamic response capability. The response time of load varying from 10% to 90% and voltage recovering within 50mV of previous voltage is less than 200μs , which can ensure the rising waveform of voltage or current is high-speed and without overshoot, and provide stable power for the DUT. This feature can meet the demand for product test with strict power requirements.



▲N83624 Full-load Rise Time（5.8μs）

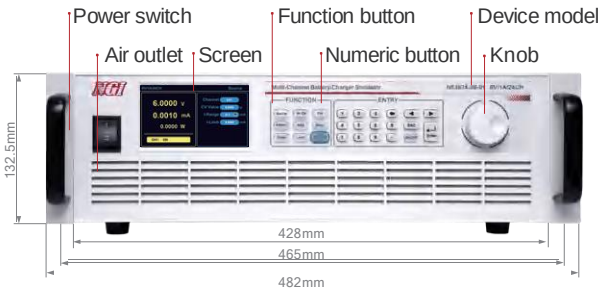


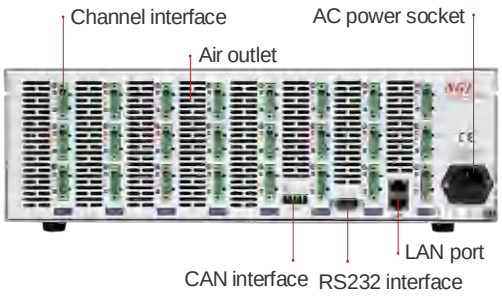
▲N83624 Full-load Fall Time（30.3μs）

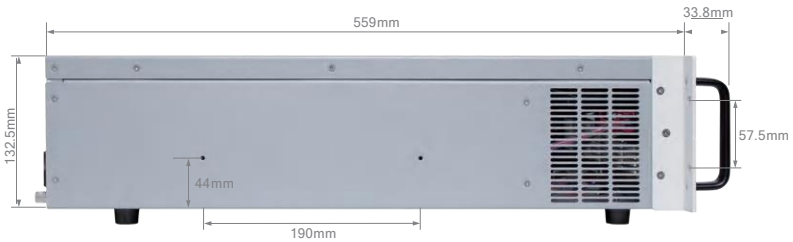
Optional fault simulation unit

N83624 integrates 24 independent output channels in a 19-inch 3U chassis. By optional NB108-2 fault simulation unit (as shown in the below figure), it can realize simulation of 24-channel positive&negative short circuit, positive&negative open circuit and reverse polarity. By NB108-2, it can improve the integration of test system, reduce complicated wiring, save space and reduce costs for users.

Product Dimension







Technical Data Sheet

Model	N83624-06-01		N83624-06-03		N83624-06-05		N83624-15-01	
Current	1A/CH		3A/CH		5A/CH		1A/CH	
Voltage	6V/CH		6V/CH		6V/CH		15V/CH	
Power	6W/CH		18W/CH		30W/CH		15W/CH	
Channels	24CH							
CV Mode								
Range	0~6V						0~15V	
Setting Resolution	0.1mV							
Setting Accuracy（23±5℃）	0.6mV						1.5mV	
Readback Resolution	0.1mV							
Readback Accuracy (23±5℃)	0.6mV						1.5mV	
Temperature Coefficient （0~40℃）	20ppm/℃							
Long-term Stability	80ppm/1000h							
Voltage Ripple Noise (20Hz-20MHz)	≤2mVrms						≤5mVrms	
CC Mode								
Range	0~1A	0~1mA	0~3A	0~1mA	0~5A	0~1mA	0~1A	0~1mA
Setting Resolution	0.1mA	0.1μA	0.1mA	0.1μA	0.1mA	0.1μA	0.1mA	0.1μA
Setting Accuracy (23±5℃)	1mA	1μA	3mA	1μA	5mA	1μA	1mA	1μA
Readback Resolution	0.1mA	0.1μA	0.1mA	0.1μA	0.1mA	0.1μA	0.1mA	0.1μA
Readback Accuracy (23±5℃)	1mA	1μA	3mA	1μA	5mA	1μA	1mA	1μA
Temperature Coefficient （0~40℃）	30ppm/℃							
Long-term Stability	100ppm/1000h							
Dynamic Characteristics								
Voltage Rise Time	<20μs (no load) (10%-90%F.S. Variation Time)						<40μs	
Voltage Rise Time	<20μs (pure resistive full load) (10%-90%F.S. Variation Time)						<40μs	
Voltage Fall Time	<3ms (no load) (90%-10%F.S. Variation Time)						<6ms	
Voltage Fall Time	<100μs (pure resistive full load) (90%-10%F.S. Variation Time)						<200μs	
Transient Voltage Drop[1]	200mV						400mV	
Transient Recovery Time[2]	<100μs						<200μs	
Others								
Load Regulation	0.2mV						0.4mV	
Isolation (Output to ground)	1500VDC							
Isolation (Inter-channel)	500VDC							
Communication Response Time	All channels ≤10ms							
Interface	LAN/RS232/CAN							
AC Input	Single phase 100~240V AC, frequency 47Hz~63Hz, current ≤8A@220V, ≤14A@110V							
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. 17kg							
Dimension	3U, 132.5(H)*482.0(W)with handle*718.0(D)mm with NB108-2							

Note 1: Load varies from10% to 90% by full voltage output.
Note 2: Load varies from 10% to 90% by full voltage output, with voltage recovering within 50mV of previous voltage.
Note 3: For other specifications, please contact NGI.
Note 4: All specifications are subject to change without notice.