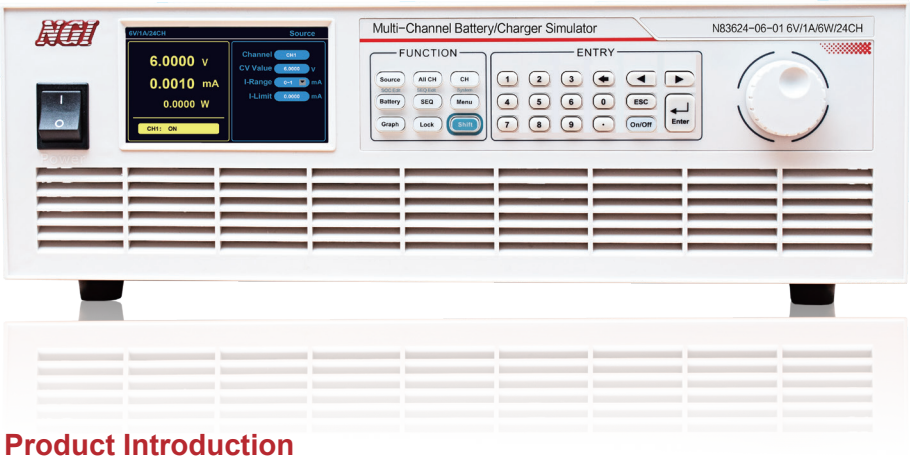
N83624 Series High-accuracy Multi-channel Battery Simulator



Product Introduction

N83624 is a programmable battery simulator with low-power, multi-channel and high-accuracy, suitable for BMS/CMS test. It is highly integrated, single device with up to 24 channels. Each channel is isolated. Users can 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. N83624 is equipped with high-definition color LCD screen, available for local operation.

Application Fields

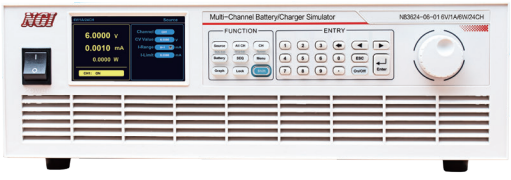
- BMS test and CMS test
- Electric tools manufacturing test
- Consumer Electronics R&D and production, such as mobiles, tablets, earphones, etc.
- Other battery-operated products manufacturing test

Main Features

- Voltage range: 0-6V/0-15V
- Current range: 0-1A/0-3A/0-5A
- Single device with up to 24 channels, each channel isolated
- Fast communication response , within 10ms for all channels programming response
- Fast dynamic response, less than 100μs for load varying from 10% to 90% and voltage recovering within 50mV of previous voltage
- Remote sense for high accuracy
- Professional application software, with data analysis and report
- High-definition color LCD screen, available for local operation
- Standard 19-inch 3U, available for rack installation
- LAN port and RS232 interface; dual LAN ports, convenient for cascade application

Ultra-high accuracy

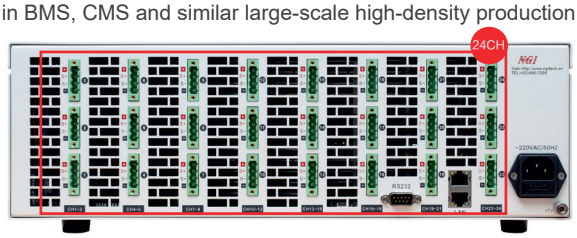
N83624 current resolution is as low as 0.1μA. Ultra-high accuracy, ultra-low ripple and noise index make N83624 an ideal choice for battery simulation application. The ultra-high accuracy of N83624 output and measurement can be directly used in product calibration and test, eliminating the use of external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

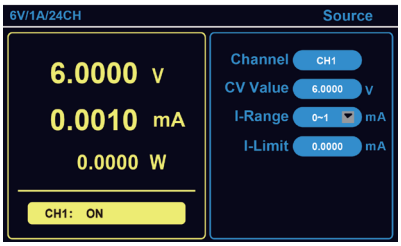


▲24 Channels in 3U

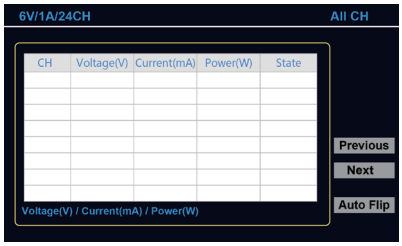
Battery simulation suitable for BMS chips test of various specifications

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

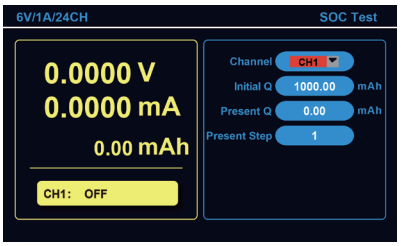
One device can achieve multiple uses, streamline test equipment and optimize test procedures. N83624's internal circuit is optimized for different chips, which can be adapted to test BMS chips of various specifications.



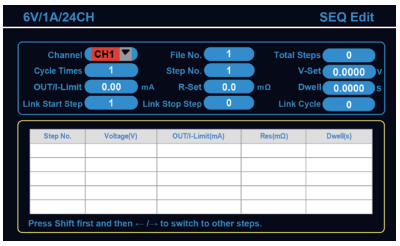
▲Source



▲All CH

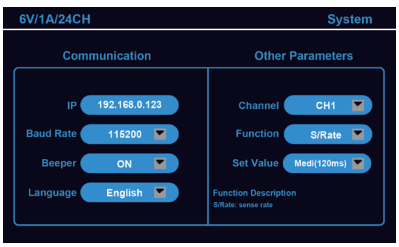


▲SOC Test



▲SEQ

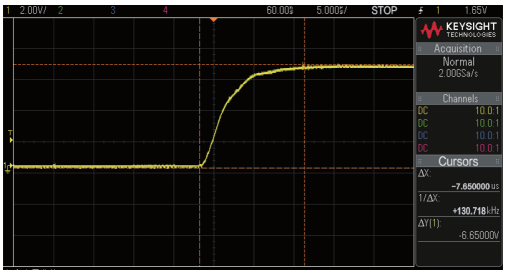
▲Graph



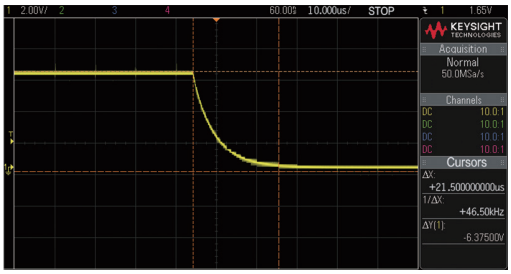
▲System

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 100μs, 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.



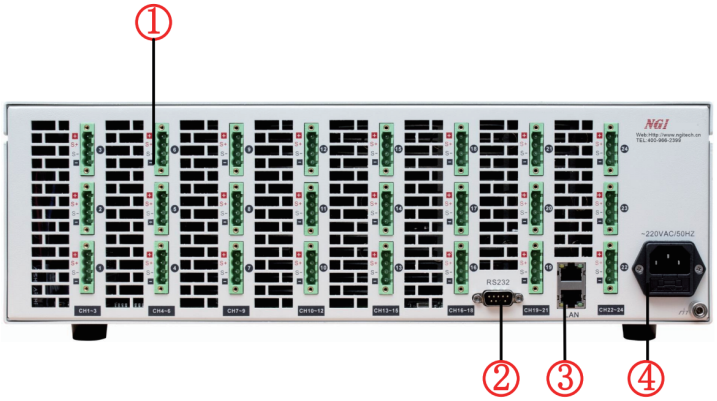
▲N83624 Full-load Rise Time（7.65μS）



▲N83624 Full-load Fall Time（21.5μs）

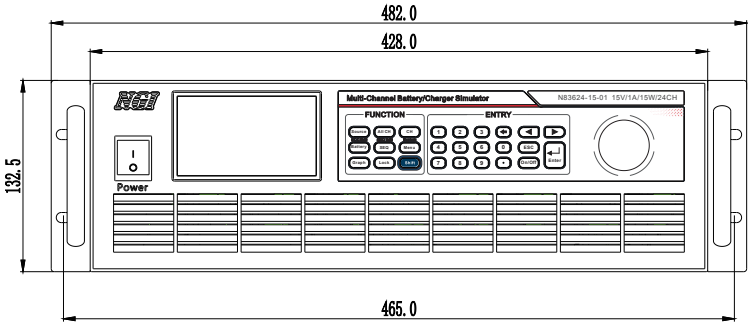
LAN port and RS232 interface, easy for cascade application

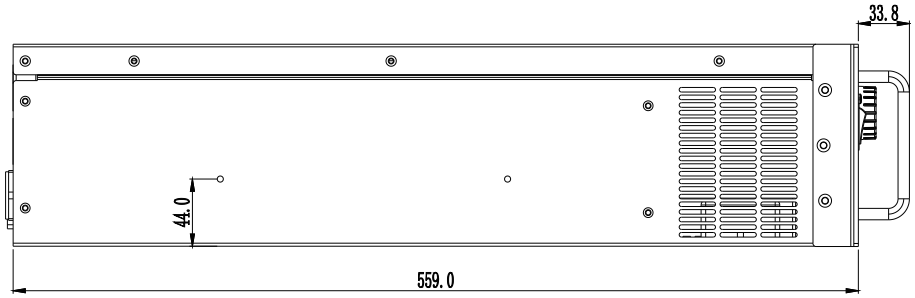
N86324 series supports LAN port and RS232 interface. LAN port is designed with dual ports, which can be used for remote control and also for cascade application.



① Chanel interface ② RS232 interface ③ LAN port ④ AC power socket

Product Dimension





Unit : mm

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℃)	0.01%+1mV			0.01%+3mV
Readback Resolution	0.1mV			
Readback Accuracy (23±5℃)	0.01%+1mV			0.01%+3mV
Temperature Coefficient (0~40℃)	20ppm/℃			
Long-term Stability	80ppm/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

Current Measurement								
Range	0-1A	0-1mA	0-3A	0-1mA	0-5A	0-1mA	0-1A	0-1mA
Readback Resolution	0.1mA	0.1μA	0.1mA	0.1μA	0.1mA	0.1μA	0.1mA	0.1μA
Readback Accuracy (23±5℃)	1mA+2d	1μA+2d	3mA+2d	1μA+2d	5mA+2d	1μA+2d	1mA+2d	1μA+2d
Temperature Coefficient (0~40℃)	30ppm/℃							
Long-term Stability	100ppm/1000h							
Current Protection Limit								
Setting Value	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+2d	1μA+2d	3mA+2d	1μA+2d	5mA+2d	1μA+2d	1mA+2d	1μA+2d
Temperature Coefficient (0~40℃)	30ppm/℃							
Long-term Stability	100ppm/1000h							

Others	
Load Regulation	0.2mV / 0.4mV
Isolation (Output to ground)	1000VDC
Isolation (Inter-channel)	500VDC
Communication Response Time	All channels ≤10ms
Interface	LAN/RS232
AC Input	Single phase, 220V AC±10%, current <5A, 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. 17kg
Dimension	3U, 132.5(H)*482.0(W)*559.0(D)mm

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.