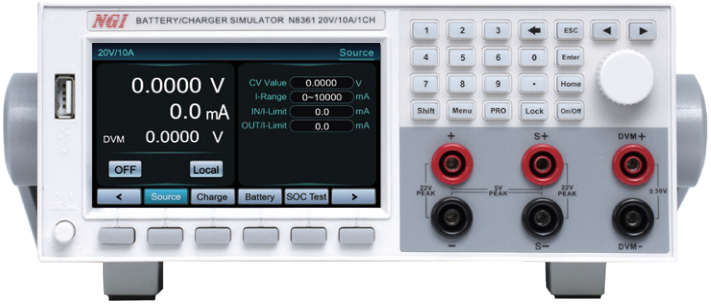
N8361 Series High-accuracy Programmable Battery Simulator



Product Introduction

N8361 is a high performance battery simulator with power up to 180W, covering the specifications of lithium battery for consumer electronics mainstream market. N8361 supports a variety of test functions, such as power mode, charging mode, battery simulation, internal resistance simulation, SOC simulation, fault simulation, etc.,to achieve a variety of battery characteristics simulation;The current flows bidirectional, and the source load state changes quickly. N8361 products can be widely used in the field of consumer electronics testing.

Application Fields

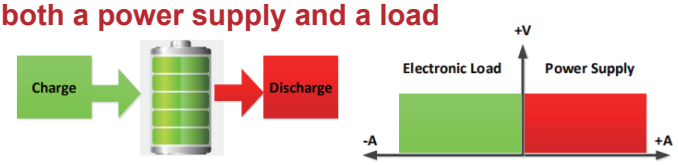
- Battery protection board test
- Portable consumer electronics R&D and production, such as mobiles, bluetooth earphones, smartwatch, etc
- Power tools production test, such as electric screwdriver
- Testing of Battery powered, small power supply such as DC-DC, wireless charging and other product
- Battery maintenance equipment testing

Main Features

- Voltage Range:0~20V
- Current Range:-10A~+10A
- Single channel power up to 200W
- Voltage rise and fall time ≤50μs
- Current Accuracy up to 1μA
- High precision DVM
- Support front and rear outlet, easier for desktop & integration
- With digital I/O,supporting trigger test
- LAN/RS232/CAN Interface

Current flowing bidirectionally to make it both a power supply and a load

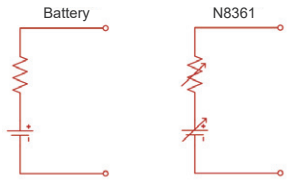
The current flows in both directions. N8361 can both suck and output current,and the current is up to 10A.The output port has a switch component, and the off state disconnects the physical connection with the external loop.



▲ N8361 Two-quadrant Operation

Variable output impedance allowing battery internal resistance simulation

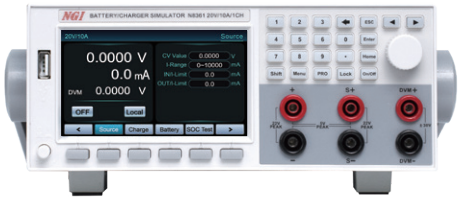
N8361 has the battery internal resistance simulation function, and supports resistance value programming. The programmable range is 0-20Ω, which can emulate the variation graph consistent with the real battery internal resistance characteristics.

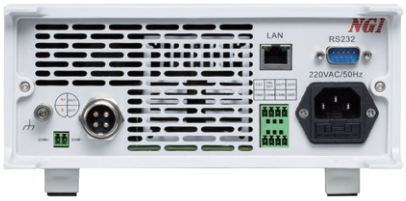


▲ Schematic of Battery and N8361-12-15

Front and rear wiring design

N8361 is equipped with banana jack at the front panel and output terminal at the rear panel, which is easy for desktop application & integration, and improves the test efficiency.

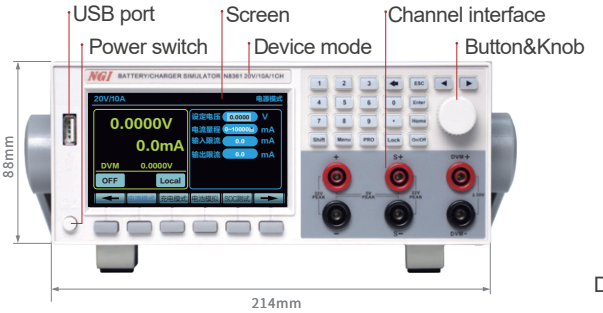


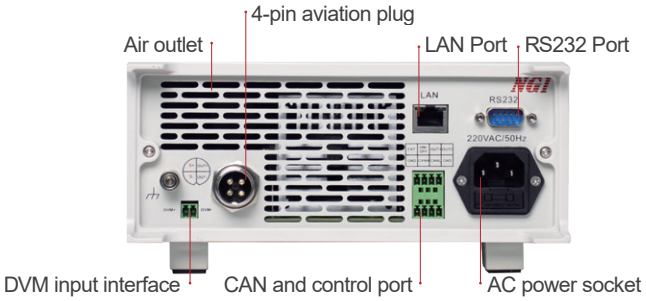


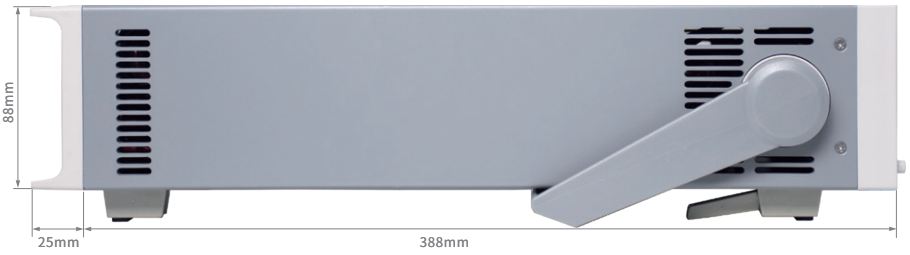
DVM test function

N8361 series provides basic circuit measurement function. It has one channel built-in DVM to test external voltage. The voltage range is -30V ~ 30V, and the resolution is 0.1mV. The LCD screen will show the dynamic data, which is convenient for users to observe the voltage changes.

Product Dimension







Technical Data Sheet

Model	N8361-20-10		
Current	±10A/CH		
Voltage	20V/CH		
Power	200W/CH		
Channels	1CH		
CV Mode			
Range	0~20V		
Setting Resolution	0.1mV		
Setting Accuracy (23±5℃)	0.01%+3mV		
Readback Resolution	0.1mV		
Readback Accuracy（23±5℃）	0.01%+2mV		
Output Voltage Settling Time	≤10ms		
Load Regulation	0.01%		
Line Regulation	0.01%		
Voltage Ripple (20Hz-20MHz)	1mVrms		
Temperature Coefficient (0-40℃)	≤25ppm/℃		
Current Measurement			
Range 1			
Range	-10~10A		
Resolution	0.1mA		
Accuracy (23±5℃)	0.05%+4mA		
Temperature Coefficient (0-40℃)	≤50ppm/℃		
Range 2			
Range	-1~1A		
Resolution	0.01mA		
Accuracy (23±5℃)	0.05%+0.4mA		
Temperature Coefficient (0-40℃)	≤50ppm/℃		
Range 3			
Range	-1~1mA		
Resolution	0.1μA		
Accuracy (23±5℃)	0.05%+1μA		
Temperature Coefficient (0-40℃)	≤50ppm/℃		
Current Protection Limit			
Range	-10~10A		
Setting Resolution	0.1mA		
Setting Accuracy(23±5℃)	0.05%+5mA		
Ripple Noise (20Hz-20MHz)	<5mArms		
Temperature Coefficient (0-40℃)	≤50ppm/℃		
DVM Function			
Channels	1CH	Measurement Accuracy	±0.01%F.S.
Measurement Range	-30V~+30V	Measurement Frequency	4Hz
Measurement Resolution	0.1mV	Input Impedance	2MΩ
Terminal	Pluggable terminal	Temperature Coefficient（0~40℃）	30ppm/℃
Dynamic Characteristics			
Voltage Rise Time (10%-90%F.S. Variation Time)	<50μs (no load)	Voltage Rise Time (10%-90%F.S. Variation Time)	<50μs (pure resistive full load)
Voltage Fall Time (90%-10%F.S. Variation Time)	<50μs (no load)	Voltage Fall Time (90%-10%F.S. Variation Time)	<50μs (pure resistive full load)
Transient Voltage Drop [1]	600mV	Transient Recovery Time[2]	<100μs
Others			
Communication Response Time	≤10ms		
Interface	LAN/RS232/CAN		
AC Input	Single phase 100-240V AC, frequency 47Hz~63Hz, current ≤2A@220V, ≤4A@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. 4kg		
Dimension	2U, 88.0(H)*214.0(W)*388.0(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.