N35100 Series Bidirectional Programmable DC Power Supply

Product Introduction

N35100 series is a bidirectional programmable DC power supply. N35100 adopts dual quadrant design, which can supply &absorb the power, and return power to the grid cleanly, so as to save the power consumption and reduce the space heat dissipation, which can greatly reduce the test cost. N35100 series provides high precision measurement and multiple testing functions, which can be widely used in new energy, automotive, energy storage, electric drive, battery simulation and other industries.

Application Fields

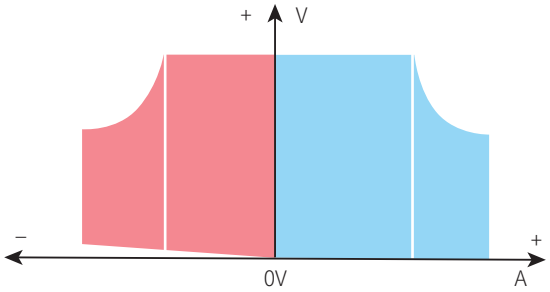
- Energy storage applications, such as outdoor energy storage, UPS etc.
- Motor drive test applications, such as inverters, drives, motor controllers, etc.
- Battery-driven equipment, such as electric tools, electric vehicles, drones, etc.
- New energy vehicle field, such as vehicle inverters, circulation pumps, automotive electronics, etc.

Main Features

- Small size and high power density, integrating 2500W in 1U height and half 19-inch width chassis
- Voltage: 80V, Current: ±55A
- CC/CV priority
- Adjustable voltage and current slew rate
- CC, CV, CR and CP mode
- SEQ test, Charge/Discharge test supportable
- Multiple protection functions, OVP, UVP, OCP,OPP, OTP
- 3.2-inch HD color screen to display information
- LAN/RS232/RS485/CAN as standard
- Modbus-RTU/CAN open/SCPI standard protocol supportable

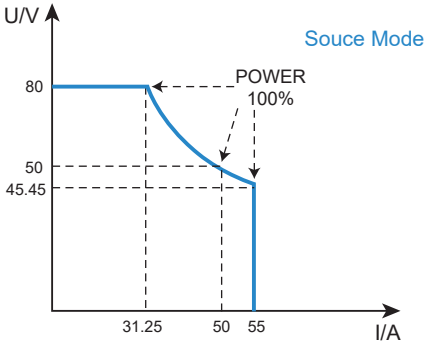
Bidirectional current, seamless switch between source and load

N35100 series DC source can not only provide external power, but also absorb power, and return electric energy to the grid cleanly. N35100 series bidirectional power supply can be converted continuously seamlessly between the output and absorbed current, effectively avoiding voltage or current overshoot .It is widely used in li-ion battery, UPS, battery protection board and other energy storage equipment testing.



Wide range of output design

N35100 series bidirectional DC power supply adopts a wide range design. A single power supply can output a wider range of voltage and current under the rated output power, satisfying engineers' test application scenarios for products of various voltage/current levels, and greatly reducing purchase cost and space occupancy in laboratory or automated test systems.The output power of the N35125-80-55 is 2500W. Maximum output voltage and output current reach 80V and 55A respectively,and a power supply can cover more applications for saving cost.



CC&CV priority function

N35100 series has the function of setting voltage loop feedback circuit priority or current loop feedback circuit priority, it can adopt the optimal working mode for testing according to the characteristics of DUT, so as to better protect DUT.

As shown in Figure 1, when need to reduce voltage overshoot during testing, the voltage priority mode should be used in order to obtain a fast and smooth rising voltage.

As shown in Figure 2, when need to reduce current overshoot during testing, the current priority mode should be used to obtain a fast and smooth rising current.

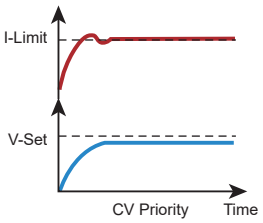


Figure 1

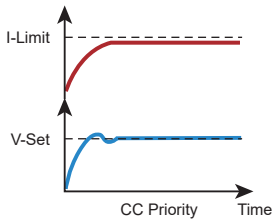
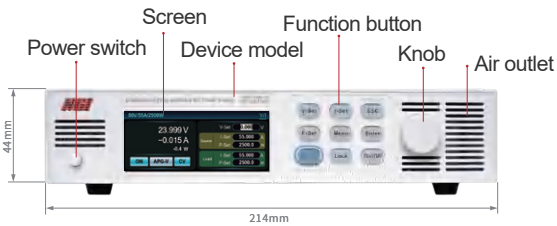
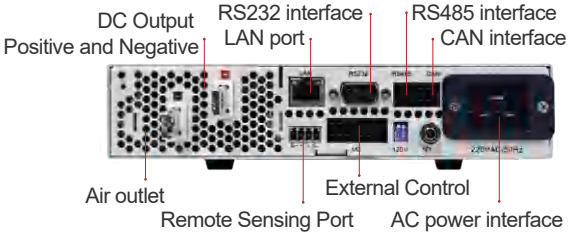


Figure 2

Voltage Waveform Current Waveform

Product Dimension





Technical Data Sheet

Model	N35125-80-55		
Voltage	80V		
Current	±55A		
Power	±2.5kW		
Minimum Operating Voltage	1V@55A		
CV Mode			
Range	0~80V		
Setting Resolution	1mV		
Setting Accuracy (23±5℃)	0.03%+0.03%F.S.		
Readback Resolution	1mV		
Readback Accuracy(23±5℃)	0.03%+0.03%F.S.		
CC Mode			
Range	-55A~+55A		
Setting Resolution	1mA		
Setting Accuracy (23±5℃)	0.1%+0.1%F.S.		
Readback Resolution	1mA		
Readback Accuracy (23±5℃)	0.1%+0.1%F.S.		
CP Mode			
Range	-2.5kW~+2.5kW		
Setting Resolution	0.1W		
Setting Accuracy (23±5℃)	0.5%+0.5%F.S.		
Readback Resolution	0.1W		
Readback Accuracy (23±5℃)	0.5%+0.5%F.S.		
CR Mode			
Range	0.01-800Ω		
Setting Resolution	1mΩ		
Setting Accuracy (23±5℃)	(Vin/Rset)*0.1%+0.1%IF.S.		
Line Regulation			
Voltage	≤0.01%+0.01%F.S.	Current	≤0.03%+0.03%F.S.
Load Regulation			
Voltage	≤0.01%+0.01%F.S.	Current	≤0.05%+0.05%F.S.
Dynamic Characteristics			
Voltage Rise Time (no load)	≤15ms	Voltage Fall Time (no load)	≤30ms
Voltage Rise Time (full load)	≤30ms	Voltage Fall Time (full load)	≤15ms
Transient Recovery Time	The recovery time of load varying 10%~90% and voltage recovering within 0.75% accuracy range of rated value is within 1ms.		
Others			
Maximum Efficiency	93%		
Communication Interface	LAN/RS232/RS485/CAN		
Communication Protocol	Modbus-RTU standard protocol， SCPI standard protocol,CAN Open standard protocol		
Response Time	≤5ms		
AC Input	Voltage 220V AC±10%, Frequency 47Hz～63Hz, ≤16A		
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. 5kg		
Dimension	44.0(H)*214.0(W)*500.0(D)mm		

Note 1: For other specifications, please contact NGI.
Note 2: All specifications are subject to change without notice.