

## 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

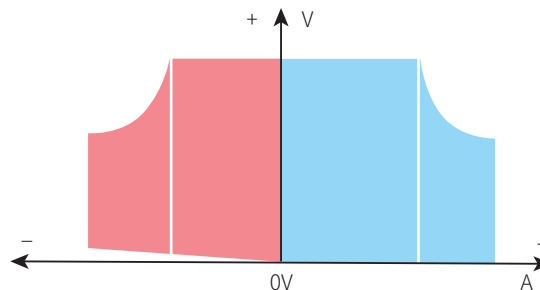
- ▶ Energy storage applications, such as outdoor energy storage, UPS etc.
- ▶ Motor drive test applications, such as inverters, drives, motor controllers, etc.
- ▶ Battery-driven equipment, such as electric tools, electric vehicles, drones, etc.
- ▶ New energy vehicle field, such as vehicle inverters, 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:  $\pm 55A$
- ▶ 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

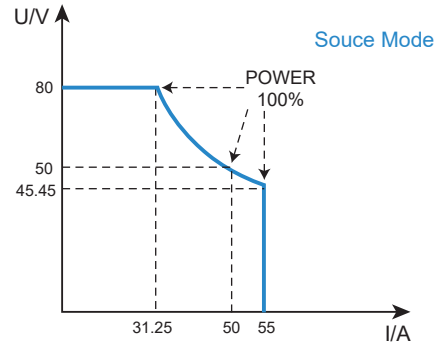
### Bidirectional current, seamless switch between source and load

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.

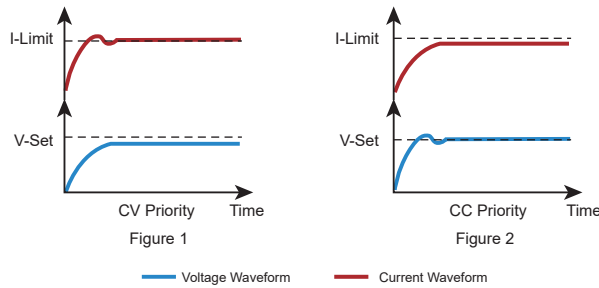


## CC&CV priority function

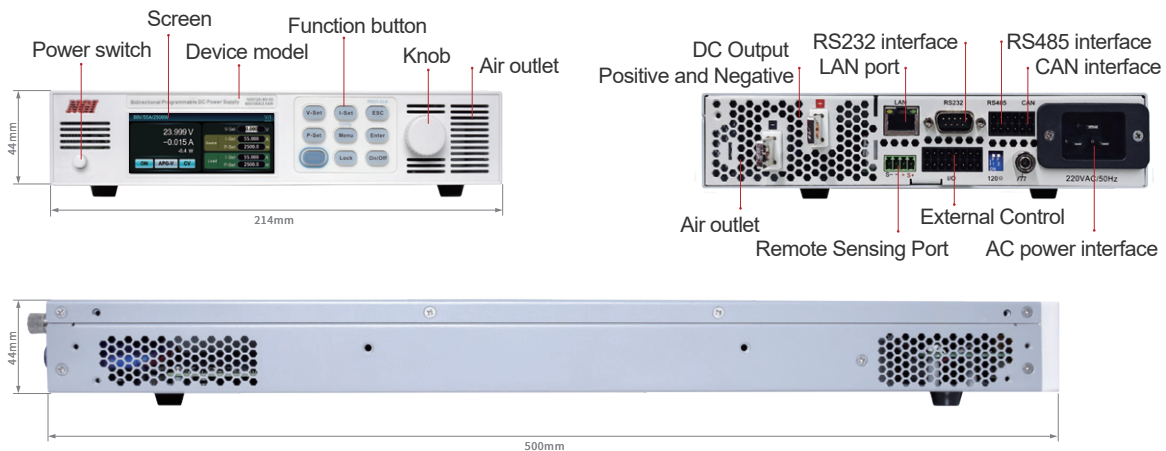
N35100 series has the function of setting voltage loop feedback circuit priority or current loop feedback circuit priority, it can adopt the optimal working mode for testing according to the characteristics of DUT, so as to better protect DUT.

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.



## 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.