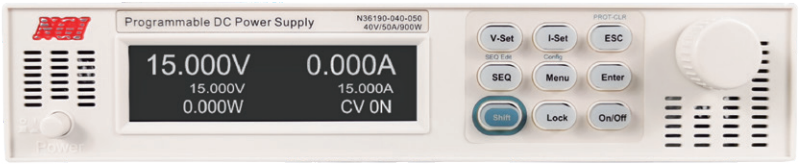
N36100 Series Wide Range Programmable DC Power Supply



Product Introduction

N36100 series is a DC power supply with ultra compact size, high performance and high power density. The 1U height and half 19-inch width design brings comfortable experience with space-saving in both standalone and integrated cabinet. Maximum output power of N36100 is 900W. In view of test characteristics of different fields such as laboratory test, systemintegration test and large-scale production line test, N36100 series adopts wide range designs to meet the needs of different application scenarios.

Application Fields

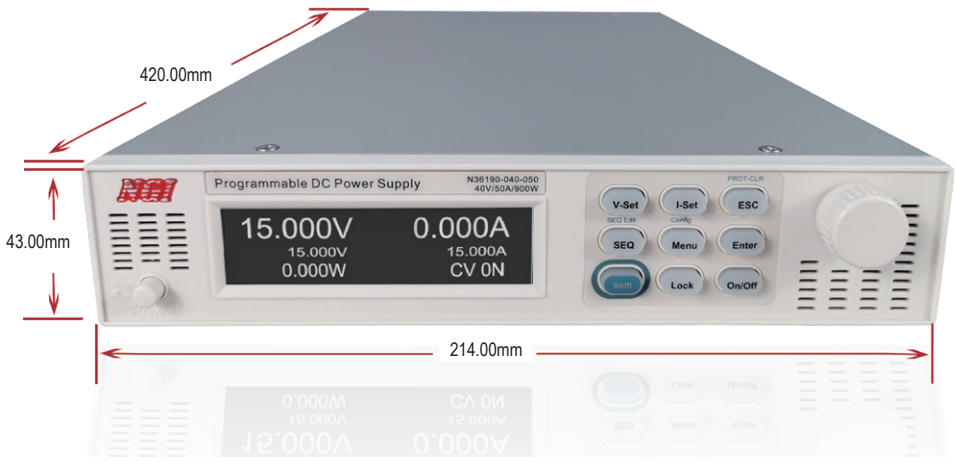
- R&D laboratory
- Automotive and avionics
- ATE test system
- Small DC motor
- Industrial DC/DC converter

Main Features

- Voltage range: 0~300V
- Power range: 0~900W
- CC&CV priority function
- SEQ test function for editing dynamic waveform
- External analog programming control (Optional)
- Current range: 0~100A
- Supporting CV, CC, CP mode
- Auto run function after startup, editable run delay time
- Multiple protections: OVP, OCP, OPP, OTP and short circuit
- Multiple communication interfaces: LAN/CAN/RS232/RS485
- 1U height and half 19-inch width, wide range and high power density
- Supporting battery charging test and internal resistance simulation function

Ultra-compact size, high performance

N36100 series is only 1U and half 19 inch. However, its maximum output power is up to 900W. It has multiple test functions, multiple protection and wide range, which enables N36100 to be used in different applications.



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CC&CV priority function

N36100 has the function of selecting priority of voltage-control loop or current-control loop, which enables N36100 to adopt the optimal test mode for different DUTs, and thus protect the DUT.

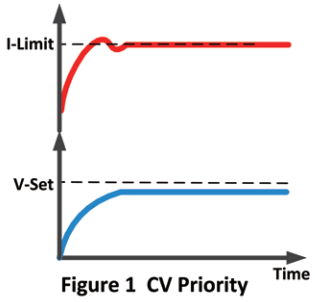


Figure 1 CV Priority

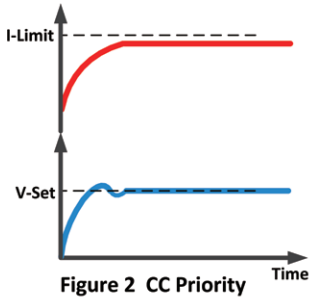


Figure 2 CC Priority

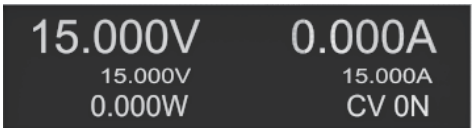
Voltage Waveform Current Waveform

As shown in figure one, when the DUT requires reducing voltage overshoot during test, such as supplying power to a low-voltage processor or FPGA core, voltage priority mode should be selected to obtain fast and smooth rise voltage.

As shown in figure two, when the DUT requires reducing current overshoot during test, or when the DUT is with low impedance, such as battery charging scenario, current priority mode should be selected to obtain fast and smooth rise current.

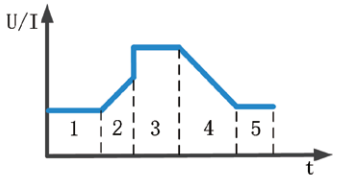
OLED screen

OLED screen has the advantages of compact size, low power consumption, high brightness and high luminous efficiency.



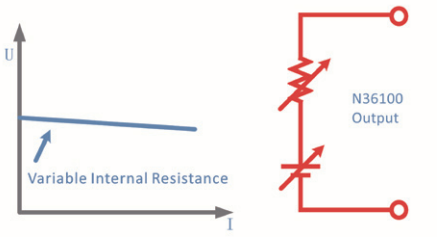
SEQ test function

N36100's SEQ function supports up to 200 steps. It allows settings of output voltage, output current and dwell time for single step.

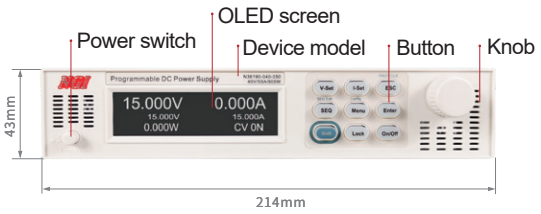


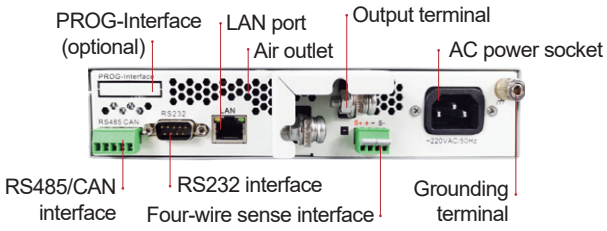
Internal resistance simulation

N36100 series allows settings of voltage and internal resistance value. According to the corresponding output current, the output voltage is decreased with the set resistance. In this case, the internal resistance of secondary battery, fuel cell and supercapacitor can be simply simulated.



Product Dimension





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Technical Data Sheet(1)

Model	N36150-20-100	N36150-40-50	N36150-80-25	N36150-150-12	N36150-300-8
Voltage	20V	40V	80V	150V	300V
Current	100A	50A	25A	12A	8A
Power	500W				
Channels	1CH				
Setting Resolution-Voltage	1mV	1mV	1mV	10mV	10mV
Setting Resolution-Current	10mA	1mA	1mA	1mA	1mA
Setting Accuracy-Voltage (23±5°C)	0.05%+10mV	0.05%+20mV	0.05%+40mV	0.05%+75mV	0.05%+150mV
Setting Accuracy-Current (23±5°C)	0.1%+100mA	0.1%+50mA	0.1%+25mA	0.1%+12mA	0.1%+8mA
Setting Temperature Coefficient	50ppm/°C				
Readback Resolution-Voltage	1mV	1mV	1mV	10mV	10mV
Readback Resolution-Current	10mA	1mA	1mA	1mA	1mA
Readback Accuracy-Voltage (23±5°C)	0.05%+10mV	0.05%+20mV	0.05%+40mV	0.05%+75mV	0.05%+150mV
Readback Accuracy-Current (23±5°C)	0.1%+100mA	0.1%+50mA	0.1%+25mA	0.1%+12mA	0.1%+8mA
Readback Temperature Coefficient	50ppm/°C				
Long-term Stability	≤50ppm/1000h				
Voltage Ripple Noise (20Hz-20MHz)	≤80mVp-p	≤100mVp-p	≤150mVp-p	≤150mVp-p	≤200mVp-p
Dynamic Characteristics					
Voltage Rise Time (no load) (10%-90%F.S. Variation Time)	≤100ms				
Voltage Rise Time (full load) (10%-90%F.S. Variation Time)	≤100ms	≤300ms	≤300ms	≤500ms	≤600ms
Voltage Fall Time (no load) (90%-10%F.S. Variation Time)	≤1s	≤200ms	≤200ms	≤400ms	≤500ms
Voltage Fall Time (full load) (90%-10%F.S. Variation Time)	≤20ms	≤50ms	≤50ms	≤50ms	≤100ms
Transient Recovery Time	The output voltage recovering within 0.5% of the rated output voltage value (10%-90% load)≤1ms				
Line Regulation-Voltage	≤0.05%				
Line Regulation-Current	≤0.1%				
Load Regulation-Voltage	≤0.05%				
Load Regulation-Current	≤0.1%				
Others					
Isolation (Output to Ground)	1000V DC				
Communication Response Time	≤10ms				
Interface	LAN/RS232/RS485/CAN				
AC Input	Single phase, 220V AC±10%, frequency 47Hz~63Hz				
Temperature	Operating temperature: 0°C~40°C, storage temperature: -20°C~60°C				
Operating Environment	Altitude <2000m, relative humidity: 5%~90%RH(non-condensing), atmospheric pressure: 80~110kPa				
Net Weight	Approx. 4kg				
Dimension	1U, 43.0(H)*214.0(W)*420.0(D)mm				

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

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Technical Data Sheet(2)

Model	N36190-20-100	N36190-40-50	N36190-80-25	N36190-150-12	N36190-300-8
Voltage	20V	40V	80V	150V	300V
Current	100A	50A	25A	12A	8A
Power	900W				
Channels	1CH				
Setting Resolution-Voltage	1mV	1mV	1mV	10mV	10mV
Setting Resolution-Current	10mA	1mA	1mA	1mA	1mA
Setting Accuracy-Voltage (23±5°C)	0.05%+10mV	0.05%+20mV	0.05%+40mV	0.05%+75mV	0.05%+150mV
Setting Accuracy-Current (23±5°C)	0.1%+100mA	0.1%+50mA	0.1%+25mA	0.1%+12mA	0.1%+8mA
Setting Temperature Coefficient	50ppm/°C				
Readback Resolution-Voltage	1mV	1mV	1mV	10mV	10mV
Readback Resolution-Current	10mA	1mA	1mA	1mA	1mA
Readback Accuracy-Voltage (23±5°C)	0.05%+10mV	0.05%+20mV	0.05%+40mV	0.05%+75mV	0.05%+150mV
Readback Accuracy-Current (23±5°C)	0.1%+100mA	0.1%+50mA	0.1%+25mA	0.1%+12mA	0.1%+8mA
Readback Temperature Coefficient	50ppm/°C				
Long-term Stability	≤50ppm/1000h				
Voltage Ripple Noise (20Hz-20MHz)	≤80mVp-p	≤100mVp-p	≤150mVp-p	≤150mVp-p	≤200mVp-p
Dynamic Characteristics					
Voltage Rise Time (no load) (10%-90%F.S. Variation Time)	≤100ms				
Voltage Rise Time (full load) (10%-90%F.S. Variation Time)	≤100ms	≤300ms	≤300ms	≤500ms	≤600ms
Voltage Fall Time (no load) (90%-10%F.S. Variation Time)	≤1s	≤200ms	≤200ms	≤400ms	≤500ms
Voltage Fall Time (full load) (90%-10%F.S. Variation Time)	≤20ms	≤50ms	≤50ms	≤50ms	≤100ms
Transient Recovery Time	The output voltage recovering within 0.5% of the rated output voltage value (10%-90% load)≤1ms				
Line Regulation-Voltage	≤0.05%				
Line Regulation-Current	≤0.1%				
Load Regulation-Voltage	≤0.05%				
Load Regulation-Current	≤0.1%				
Others					
Isolation (Output to Ground)	1000V DC				
Communication Response Time	≤10ms				
Interface	LAN/RS232/RS485/CAN				
AC Input	Single phase, 220V AC±10%, frequency 47Hz~63Hz				
Temperature	Operating temperature: 0°C~40°C, storage temperature: -20°C~60°C				
Operating Environment	Altitude <2000m, relative humidity: 5%~90%RH(non-condensing), atmospheric pressure: 80~110kPa				
Net Weight	Approx. 4kg				
Dimension	1U, 43.0(H)*214.0(W)*420.0(D)mm				

Note 1: For other specifications, please contact NGI.
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