N32100 Series High Performance High Voltage Programming DC Power Supply

Product Introduction

The N32100 series is a high-performance, high-voltage programmable DC power supply featuring a wide-range high-voltage output capability with a maximum output voltage of 10kV. Even at low-voltage outputs, the product maintains high precision and low ripple, supporting testing applications for a wide range of device specifications. With a rapid response and a voltage rise time ≤25ms, the N32100 series fully meets the demands of high-speed voltage establishment testing. Regarding safety design, the entire series comes standard with safety interlock functionality, ensuring safe and reliable operation throughout use and fully safeguarding user safety.

Application Fields

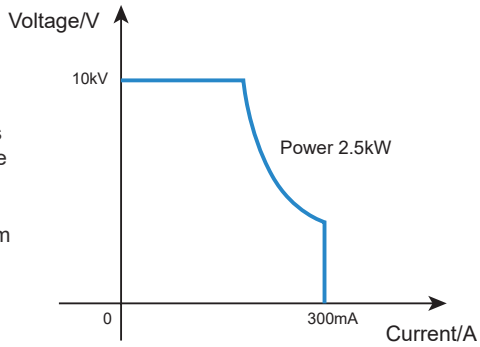
- Semiconductor power devices
- High-energy physics research
- Particle accelerators
- High-voltage components

Main Features

- Voltage Specifications: 3kV/4kV/5kV/6kV/8kV/10kV
- Current Range: 0~1A
- Power Specifications: 1kW/2.5kW
- Wide output range, one unit replaces multiple power supplies
- High-speed dynamic response, voltage rise time ≤25ms
- Voltage Accuracy: 0.05% + 0.05% F.S.
- Adjustable voltage and current slope to accommodate varying load requirements
- CC&CV priority selection function for compatibility with diverse test objects
- Standard features include SEQ test, Sweep mode, low-voltage output mode, etc.
- 19-inch standard chassis design suitable for desktop and rack mounting
- Large high-definition LCD display for clearer test information
- Standard interfaces include safety interlock/LAN/RS232/RS485/CAN, etc.

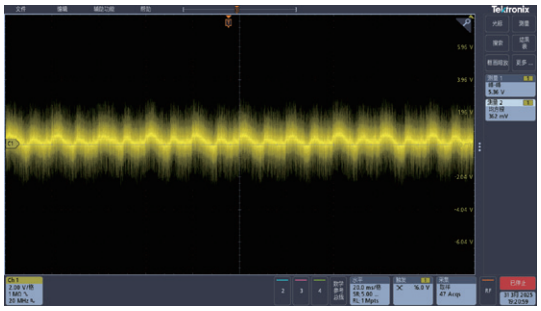
wide range, one can be used as several

The N32100 series high-voltage DC power supplies feature a wide-range design, enabling a single unit to deliver a broader spectrum of voltage and current outputs at rated power. This meets engineers' diverse testing requirements across multiple voltage/current levels, significantly reducing power supply costs and space requirements in laboratories or automated test systems.
The N32125-10k-M300 power supply delivers 2500W output power, with maximum output voltage and current reaching 10kV and 300mA respectively. A single unit covers more applications, saving users costs.

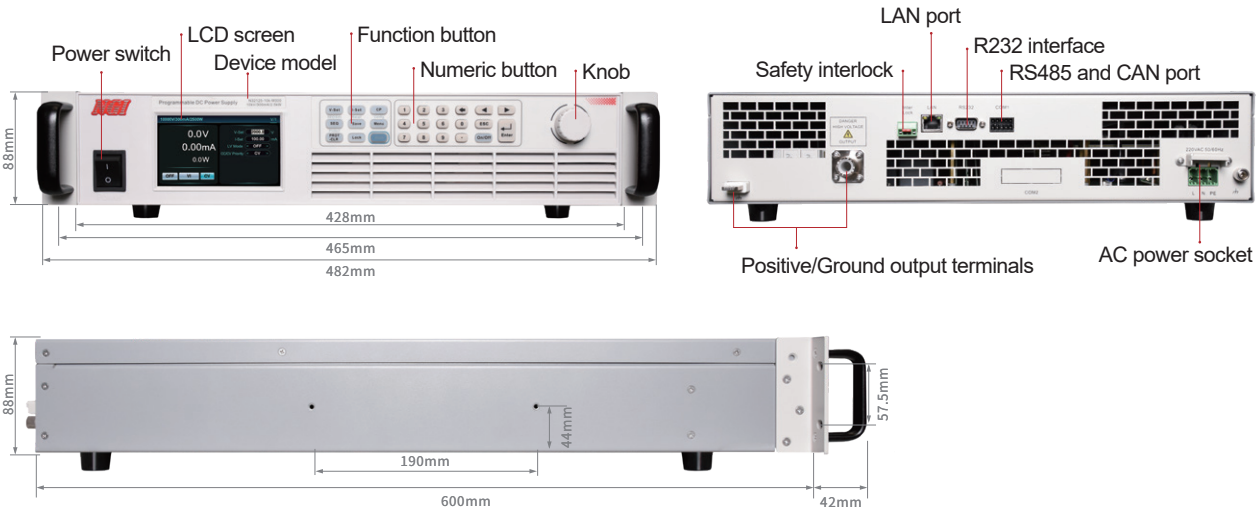


Low Ripple Noise

Ripple is one of the core metrics for DC power supplies. Leveraging years of power supply R&D expertise, NGI has optimized component selection and adopted advanced switching power supply technology. This not only accelerates power supply output response but also effectively reduces output ripple noise, ensuring superior output power quality.



Product Dimension



Technical Data Sheet(1)

Model	N32110-3k-M600	N32110-4k-M400	N32110-5k-M300
Voltage	3kV	4kV	5kV
Current	600mA	400mA	300mA
Power	1000W		
Channels	1CH		
CV Mode			
Range	15V~3kV	20V~4kV	25V~5kV
Setting Resolution	100mV	100mV	100mV
Setting Accuracy (23±5°C)	0.05%+1.5V	0.05%+2V	0.05%+2.5V
Voltage Ripple(20Hz-20MHz)	≤3Vrms	≤4Vrms	≤5Vrms
Stability	200ppm/8h		
Temperature Coefficient (0~40°C)	50ppm/°C		
Low Voltage Mode			
Voltage Range	15V~145V	20V~165V	25V~210V
Current Limit	0~300mA	0~200mA	0~150mA
Voltage Accuracy	0.05%+1.5V	0.05%+2V	0.05%+2.5V
Voltage Ripple(20Hz-20MHz)	≤1.2Vrms	≤1.6Vrms	≤2Vrms
CC Mode			
Range	0~600mA	0~400mA	0~300mA
Setting Resolution	10μA	10μA	10μA
Setting Accuracy (23±5°C)	0.1%+0.6mA	0.1%+0.4mA	0.1%+0.3mA
Stability	200ppm/8h		
CP Mode			
Range	1000W		
Resolution	0.1W		
Setting Accuracy (23±5°C)	0.1%+0.1%F.S.		
Voltage Measurement			
Range	15V~3kV	20V~4kV	25V~5kV
Readback Resolution	100mV	100mV	100mV
Resolution Accuracy (23±5°C)	0.05%+1.5V	0.05%+2V	0.05%+2.5V
Current Measurement			
Range	0~600mA	0~400mA	0~300mA
Readback Resolution	10μA	10μA	10μA
Resolution Accuracy (23±5°C)	0.1%+0.6mA	0.1%+0.4mA	0.1%+0.3mA
Line Regulation			
Voltage	≤0.01% F.S.		
Current	≤0.02% F.S.		
Load Regulation			
Voltage	≤0.03% F.S.		
Current	≤0.05% F.S.		
Dynamic Characteristics			
Voltage Rise Time (no load)	≤25ms	Voltage Fall Time (no load)	≤2s
Voltage Rise Time (full load)	≤25ms	Voltage Fall Time (full load)	≤100ms
Transient Recovery Time	Output voltage recovery to within 1% of rated voltage value(50%~100%load)≤2ms		
Others			
Max. Efficiency	89%		
PF	0.98		
Communication Interface	LAN/RS232/RS485/CAN		
Communication Response Time	≤5ms		
AC Input	220VAC±10%，frequency 47Hz～63Hz，≤6.5A		
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. 15.5kg		
Dimension	88.0(H)*482.0(W))with handle**625.6(D)mm, with shield		

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

Technical Data Sheet(2)

Model	N32110-6k-M250	N32110-8k-M200	N32110-10k-M150
Voltage	6kV	8kV	10kV
Current	250mA	200mA	150mA
Power	1000W		
Channels	1CH		
CV Mode			
Range	30V~6kV	40V~8kV	50V~10kV
Setting Resolution	100mV	100mV	100mV
Setting Accuracy (23±5°C)	0.05%+3V	0.05%+4V	0.05%+5V
Voltage Ripple(20Hz-20MHz)	≤6Vrms	≤8Vrms	≤10Vrms
Stability	200ppm/8h		
Temperature Coefficient (0~40°C)	50ppm/°C		
Low Voltage Mode			
Voltage Range	30V~250V	40V~330V	50V~420V
Current Limit	0~125mA	0~100mA	0~75mA
Voltage Accuracy	0.05%+3V	0.05%+4V	0.05%+5V
Voltage Ripple(20Hz-20MHz)	≤2.4Vrms	≤3.2Vrms	≤4Vrms
CC Mode			
Range	0~250mA	0~200mA	0~150mA
Setting Resolution	10μA	10μA	10μA
Setting Accuracy (23±5°C)	0.1%+0.25mA	0.1%+0.2mA	0.1%+0.15mA
Stability	200ppm/8h		
CP Mode			
Range	1000W		
Resolution	0.1W		
Setting Accuracy (23±5°C)	0.1%+0.1%F.S.		
Voltage Measurement			
Range	30V~6kV	40V~8kV	50V~10kV
Readback Resolution	100mV	100mV	100mV
Resolution Accuracy (23±5°C)	0.05%+3V	0.05%+4V	0.05%+5V
Current Measurement			
Range	0~250mA	0~200mA	0~150mA
Readback Resolution	10μA	10μA	10μA
Resolution Accuracy (23±5°C)	0.1%+0.25mA	0.1%+0.2mA	0.1%+0.15mA
Line Regulation			
Voltage	≤0.01% F.S.		
Current	≤0.02% F.S.		
Load Regulation			
Voltage	≤0.03% F.S.		
Current	≤0.05% F.S.		
Dynamic Characteristics			
Voltage Rise Time (no load)	≤25ms	Voltage Fall Time (no load)	≤15s
Voltage Rise Time (full load)	≤25ms	Voltage Fall Time (full load)	≤100ms
Transient Recovery Time	Output voltage recovery to within 1% of rated voltage value(50%~100%load)≤2ms		
Others			
Max. Efficiency	89%		
PF	0.98		
Communication Interface	LAN/RS232/RS485/CAN		
Communication Response Time	≤5ms		
AC Input	220VAC±10%，frequency 47Hz～63Hz，≤6.5A		
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. 15.5kg		
Dimension	88.0(H)*482.0(W))with handle*625.6(D)mm, with shield		

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

Technical Data Sheet(3)

Model	N32125-3k-A10	N32125-4k-M800	N32125-5k-M600
Voltage	3kV	4kV	5kV
Current	1mA	800mA	600mA
Power	2500W		
Channels	1CH		
CV Mode			
Range	15V~3kV	20V~4kV	25V~5kV
Setting Resolution	100mV	100mV	100mV
Setting Accuracy (23±5°C)	0.05%+1.5V	0.05%+2V	0.05%+2.5V
Voltage Ripple(20Hz-20MHz)	≤3Vrms	≤4Vrms	≤5Vrms
Stability	200ppm/8h		
Temperature Coefficient (0~40°C)	50ppm/°C		
Low Voltage Mode			
Voltage Range	15V~145V	20V~165V	25V~210V
Current Limit	0~500mA	0~400mA	0~300mA
Voltage Accuracy	0.05%+1.5V	0.05%+2V	0.05%+2.5V
Voltage Ripple(20Hz-20MHz)	≤1.2Vrms	≤1.6Vrms	≤2Vrms
CC Mode			
Range	0~1000mA	0~800mA	0~600mA
Setting Resolution	10μA	10μA	10μA
Setting Accuracy (23±5°C)	0.1%+1mA	0.1%+0.8mA	0.1%+0.6mA
Stability	200ppm/8h		
CP Mode			
Range	2500W		
Resolution	0.1W		
Setting Accuracy (23±5°C)	0.1%+0.1%F.S.		
Voltage Measurement			
Range	15V~3kV	20V~4kV	25V~5kV
Readback Resolution	100mV	100mV	100mV
Resolution Accuracy (23±5°C)	0.05%+1.5V	0.05%+2V	0.05%+2.5V
Current Measurement			
Range	0~1000mA	0~800mA	0~600mA
Readback Resolution	10μA	10μA	10μA
Resolution Accuracy (23±5°C)	0.1%+1mA	0.1%+0.8mA	0.1%+0.6mA
Line Regulation			
Voltage	≤0.01% F.S.		
Current	≤0.02% F.S.		
Load Regulation			
Voltage	≤0.03% F.S.		
Current	≤0.05% F.S.		
Dynamic Characteristics			
Voltage Rise Time (no load)	≤25ms	Voltage Fall Time (no load)	≤2s
Voltage Rise Time (full load)	≤25ms	Voltage Fall Time (full load)	≤100ms
Transient Recovery Time	Output voltage recovery to within 1% of rated voltage value(50%~100%load)≤2ms		
Others			
Max. Efficiency	92%		
PF	0.99		
Communication Interface	LAN/RS232/RS485/CAN		
Communication Response Time	≤5ms		
AC Input	220VAC±10%，frequency 47Hz～63Hz，≤14A		
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. 15.5kg		
Dimension	88.0(H)*482.0(W))with handle**625.6(D)mm, with shield		

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

Technical Data Sheet(4)

Model	N32125-6k-M500	N32125-8k-M350	N32125-10k-M300
Voltage	6kV	8kV	10kV
Current	500mA	350mA	300mA
Power	2500W		
Channels	1CH		
CV Mode			
Range	30V~6kV	40V~8kV	50V~10kV
Setting Resolution	100mV	100mV	100mV
Setting Accuracy (23±5°C)	0.05%+3V	0.05%+4V	0.05%+5V
Voltage Ripple(20Hz-20MHz)	≤6Vrms	≤8Vrms	≤10Vrms
Stability	200ppm/8h		
Temperature Coefficient (0~40°C)	50ppm/°C		
Low Voltage Mode			
Voltage Range	30V~250V	40V~330V	50V~420V
Current Limit	0~250mA	0~175mA	0~150mA
Voltage Accuracy	0.05%+3V	0.05%+4V	0.05%+5V
Voltage Ripple(20Hz-20MHz)	≤2.4Vrms	≤3.2Vrms	≤4Vrms
CC Mode			
Range	0~500mA	0~350mA	0~300mA
Setting Resolution	10μA	10μA	10μA
Setting Accuracy (23±5°C)	0.1%+0.5mA	0.1%+0.35mA	0.1%+0.3mA
Stability	200ppm/8h		
CP Mode			
Range	2500W		
Resolution	0.1W		
Setting Accuracy (23±5°C)	0.1%+0.1%F.S.		
Voltage Measurement			
Range	30V~6kV	40V~8kV	50V~10kV
Readback Resolution	100mV	100mV	100mV
Resolution Accuracy (23±5°C)	0.05%+3V	0.05%+4V	0.05%+5V
Current Measurement			
Range	0~500mA	0~350mA	0~300mA
Readback Resolution	10μA	10μA	10μA
Resolution Accuracy (23±5°C)	0.1%+0.5mA	0.1%+0.35mA	0.1%+0.3mA
Line Regulation			
Voltage	≤0.01% F.S.		
Current	≤0.02% F.S.		
Load Regulation			
Voltage	≤0.03% F.S.		
Current	≤0.05% F.S.		
Dynamic Characteristics			
Voltage Rise Time (no load)	≤25ms	Voltage Fall Time (no load)	≤15s
Voltage Rise Time (full load)	≤25ms	Voltage Fall Time (full load)	≤100ms
Transient Recovery Time	Output voltage recovery to within 1% of rated voltage value(50%~100%load)≤2ms		
Others			
Max. Efficiency	92%		
PF	0.99		
Communication Interface	LAN/RS232/RS485/CAN		
Communication Response Time	≤5ms		
AC Input	220VAC±10%，frequency 47Hz～63Hz，≤14A		
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. 15.5kg		
Dimension	88.0(H)*482.0(W))with handle**625.6(D)mm, with shield		

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