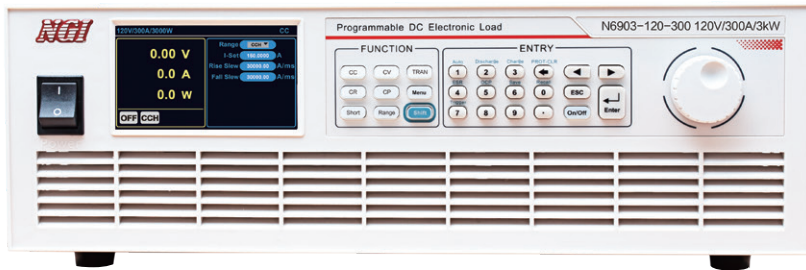


N6900 Series Distributed High Power DC Electronic Load



Product Introduction

N6900 series is developed based on NGI's years of experience in testing for power supply, battery, generator and supercapacitor. It is with high accuracy, high reliability and high cost performance.

According to the features of high voltage & power DC electronic loads with complex structures, harsh operating environments, high reliability requirements, and inconvenient maintenance, NGI has made a number of optimization based on the international advanced technology.

Application Fields

- ▶ Generator
- ▶ Charging station
- ▶ Industrial/server power supply
- ▶ Communication power supply
- ▶ Battery pack
- ▶ Capacitor module
- ▶ High current relay
- ▶ Energy storage system



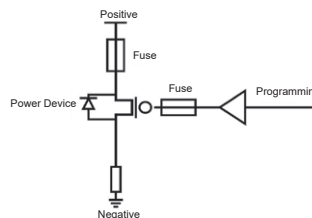
Main Features

- ▶ Power range: 0-51kW
- ▶ Voltage range: 0-120V/0-600V/0-1000V/0-1200V
- ▶ Current range: 0-2000A
- ▶ Operation modes: CC/CV/CR/CP
- ▶ Voltage/current accuracy: 0.05%+0.05%F.S.
- ▶ Transient over-power loading capability
- ▶ Programmable sequence test function(SEQ), up to 100 groups sequence files, up to 50 steps per file
- ▶ Multiple protection: OCP, OVP, OTP, OPP and reverse polarity warning
- ▶ Analog programming interface(APG), current monitoring interface, and remote/local trigger function
- ▶ Multiple communication interfaces: LAN/RS232/CAN
- ▶ CR/CP function supported by hardware
- ▶ Charge test, Discharge test and OCP test
- ▶ Editable rise and fall slew rate
- ▶ Short-circuit simulation
- ▶ Editable Von/Voff
- ▶ Comprehensive MOS protection

High reliability design

- N6900 series has a comprehensive MOS protection circuit. No matter how much MOS is damaged, it will not cause short-circuit between the positive and negative polarity or the positive polarity and the control circuit. The damage of some MOSs does not accelerate the damage of others, which can be used continuously.

- By distributed design, it is easy to replace or add power modules and is convenient for maintenance and power expansion.
- N6900 is designed with power limit circuit and has fast response, which can prevent the load from being damaged due to over power.
- N6900 adopts shielding technology, which has wide adaptability to harsh test environment, and improves the anti-interference ability.

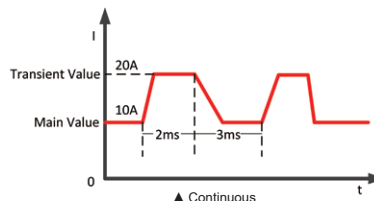


Short-circuit simulation

N6900 series supports two modes for short circuit: manual and lock.

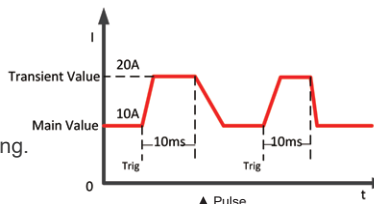
Manual: N6900 will be short-circuited when Short button is pressed. It will stop short-circuiting when button is released. Manual mode is suitable for debugging or R&D, avoiding measurement accidents due to misoperation.

Lock: N6900 will keep short-circuiting when Short button is pressed. It will stop short-circuiting when the button is pressed again. Lock mode is suitable for long-time short-circuit test.



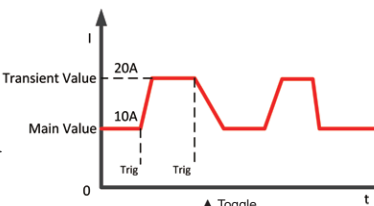
Dynamic mode

N6900 series provides three options for dynamic: continuous, toggle and pulse. The dynamic rate is up to 20kHz and can be adjustable. This function is often used to test power supply transient performance, battery protection board protection performance and battery pulse charging.



Transient over-power loading capability

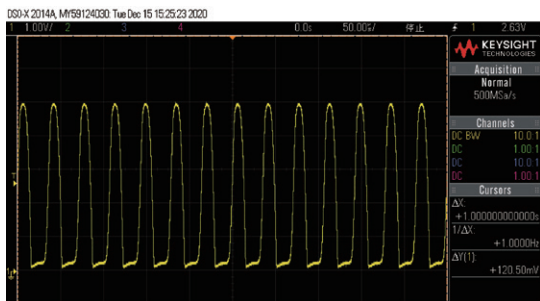
In transient high power applications, users do not need to select models according to the Max. power. Take DC motor start-up simulation for example. The transient power at start-up is usually several times of the rated power. It can also test the transient overload performance of power supplies and the transient high-power discharge of power batteries.



Adjustable CV loop feedback speed

Different voltage response speeds are required in different power applications. When the electronic load does not match with the power supply in response speed, it will reduce the measurement accuracy, and even cause unsuccessful test.

On both LCD and application software, N6900 provides three options for voltage response speed: high, medium and low, which can match various power supplies. It can not only improve the test efficiency but also reduce the cost.



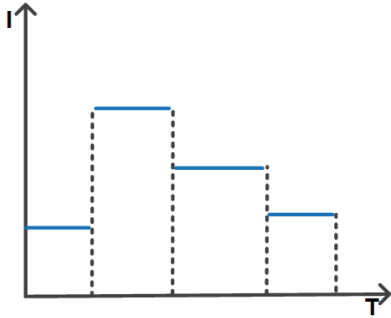
▲ Common Load Performance-Self-excitation



▲ NGI Load Performance-Stable Waveform

Auto test function

The auto test can be used to simulate waveform. This function can improve the test efficiency and can be achieved by SEQ function on the menu. Up to 100 sequence files editing is supported. Each file can support 50 steps.



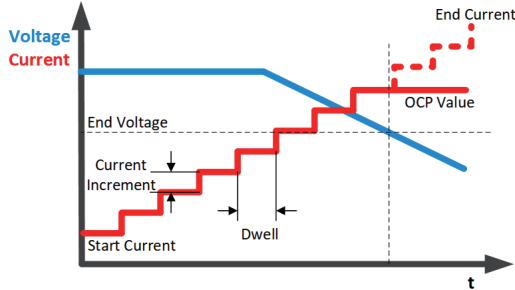
▲ Auto Test Waveform

120V/300A/3000W		SEQ	
File No.	1	Rise Slew	30000.00
Total Steps	50	Fall Slew	30000.00
Link to File	0	Dwell	1000.0 s
Cycle	1	Inspection	OFF
Step No.	1	I-Max	A
Mode	cch	I-Min	A
I-Set	0.0000 A		

▲ Auto Test Steps Editing

OCP(over current protection) test

During OCP test, N6900 will load under CC mode and check whether the DUT voltage is lower than cut-off voltage. If lower, N6900 will record the present loading current as the test result and shut the input to stop the test. If the DUT voltage is higher than cut-off voltage, N6900 will increase the loading current until the DUT voltage is lower than cut-off voltage or it reaches the Max. loading current.



▲ OCP Test Diagram

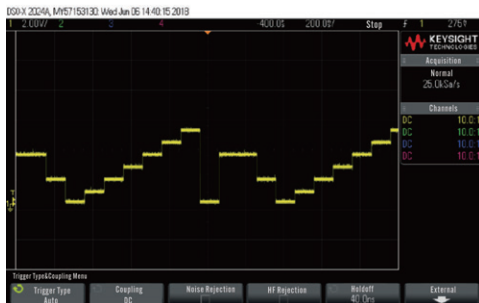
120V/300A/3000W		OCP Test	
0.00 V		I-Start	0.0000 A
0.0 A		I-Increm	0.0000 A
0.0 W		I-End	0.1 V
		Dwell	0.00 s
		Result	0.00 A
OFF CCH			

▲ OCP Test Interface

External Interfaces

External programming

Users can control load voltage and current via external analog input. 0-10V input through the external programming interface corresponds to 0-full scale output on the load.



Current monitoring

0-10V analog output at the current monitoring output terminal corresponds to 0-full scale current. Users can use a voltmeter or oscilloscope to monitor the current variation.



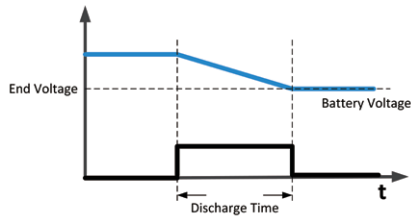
Equivalent Series Resistance(ESR) test (Optional)

ESR is a principal parameter of battery or supercapacitor. N6900 series offers professional ESR measurement function, which can support multiple measurement standards, and possess the advantages of accurate results and stable repeated results.

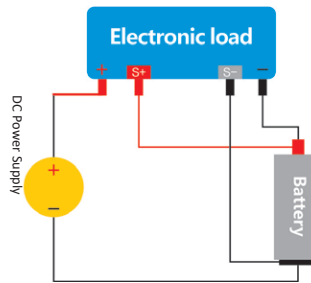
The ESR measurement function absorbs current from the DUT under CC mode. When the current changes, the NGI internal resistance sensing circuit can accurately capture the voltage drop of DUT and calculate ESR value.

Charge & discharge test

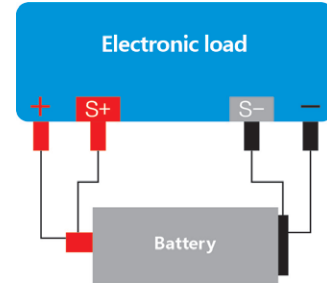
Users can set different conditions on the front panel to meet their test demands. For example, when battery voltage is lower than initial voltage, N6900 internal counter will start counting. The counter will stop working until the battery voltage drops to cut-off voltage.



▲ Discharge Test Graph



▲ Charge Wiring



▲ Discharge Wiring

Quick Selection

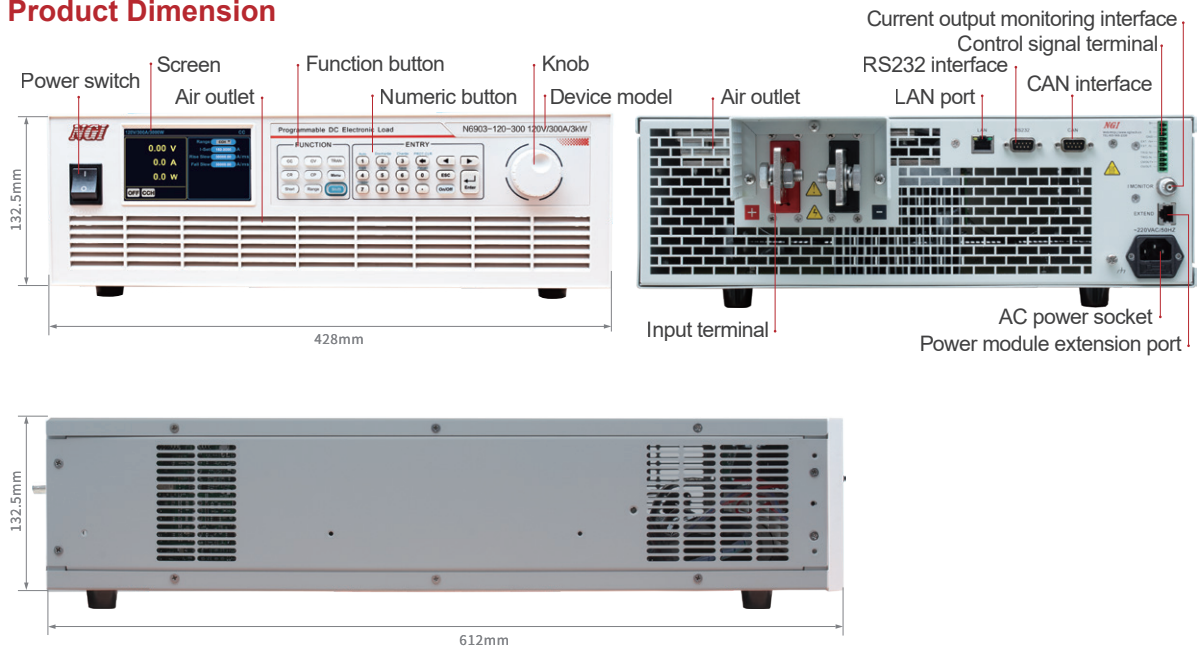
Model	Specification	Size	Model	Specification	Size
N6903-120-120	3kW/120V/120A	19inch/3U	N6915-1000-150	15kW/1000V/150A	19inch/15U
N6903-120-300	3kW/120V/300A	19inch/3U	N6915-1000-450	15kW/1000V/450A	19inch/15U
N6903-600-30	3kW/600V/30A	19inch/3U	N6915-1200-150	15kW/1200V/150A	19inch/15U
N6903-600-120	3kW/600V/120A	19inch/3U	N6915-1200-450	15kW/1200V/450A	19inch/15U
N6903-1000-30	3kW/1000V/30A	19inch/3U	N6918-120-720	18kW/120V/720A	19inch/18U
N6903-1000-90	3kW/1000V/90A	19inch/3U	N6918-120-1800	18kW/120V/1800A	19inch/18U
N6903-1200-30	3kW/1200V/30A	19inch/3U	N6918-600-180	18kW/600V/180A	19inch/18U
N6903-1200-90	3kW/1200V/90A	19inch/3U	N6918-600-720	18kW/600V/720A	19inch/18U
N6904-120-160	4kW/120V/160A	19inch/6U	N6918-1000-180	18kW/1000V/180A	19inch/18U
N6904-120-400	4kW/120V/400A	19inch/6U	N6918-1000-540	18kW/1000V/540A	19inch/18U
N6904-600-40	4kW/600V/40A	19inch/6U	N6918-1200-180	18kW/1200V/180A	19inch/18U
N6904-600-160	4kW/600V/160A	19inch/6U	N6918-1200-540	18kW/1200V/540A	19inch/18U
N6904-1000-40	4kW/1000V/40A	19inch/6U	N6921-120-840	21kW/120V/840A	19inch/21U
N6904-1000-120	4kW/1000V/120A	19inch/6U	N6921-600-210	21kW/600V/210A	19inch/21U
N6904-1200-40	4kW/1200V/40A	19inch/6U	N6921-600-840	21kW/600V/840A	19inch/21U
N6904-1200-120	4kW/1200V/120A	19inch/6U	N6921-1000-210	21kW/1000V/210A	19inch/21U
N6905-120-200	5kW/120V/200A	19inch/6U	N6921-1000-630	21kW/1000V/630A	19inch/21U
N6905-120-500	5kW/120V/500A	19inch/6U	N6921-1200-210	21kW/1200V/210A	19inch/21U
N6905-600-50	5kW/600V/50A	19inch/6U	N6921-1200-630	21kW/1200V/630A	19inch/21U
N6905-600-200	5kW/600V/200A	19inch/6U	N6924-120-960	24kW/120V/960A	19inch/24U
N6905-1000-50	5kW/1000V/50A	19inch/6U	N6924-600-240	24kW/600V/240A	19inch/24U
N6905-1000-150	5kW/1000V/150A	19inch/6U	N6924-600-960	24kW/600V/960A	19inch/24U
N6905-1200-50	5kW/1200V/50A	19inch/6U	N6924-1000-240	24kW/1000V/240A	19inch/24U
N6905-1200-150	5kW/1200V/150A	19inch/6U	N6924-1000-720	24kW/1000V/720A	19inch/24U
N6906-120-240	6kW/120V/240A	19inch/6U	N6924-1200-240	24kW/1200V/240A	19inch/24U
N6906-120-600	6kW/120V/600A	19inch/6U	N6924-1200-720	24kW/1200V/720A	19inch/24U
N6906-600-60	6kW/600V/60A	19inch/6U	N6927-120-1080	27kW/120V/1080A	19inch/27U
N6906-600-240	6kW/600V/240A	19inch/6U	N6927-600-270	27kW/600V/270A	19inch/27U
N6906-1000-60	6kW/1000V/60A	19inch/6U	N6927-600-1080	27kW/600V/1080A	19inch/27U
N6906-1000-180	6kW/1000V/180A	19inch/6U	N6927-1000-270	27kW/1000V/270A	19inch/27U
N6906-1200-60	6kW/1200V/60A	19inch/6U	N6927-1000-810	27kW/1000V/810A	19inch/27U
N6906-1200-180	6kW/1200V/180A	19inch/6U	N6927-1200-270	27kW/1200V/270A	19inch/27U
N6908-120-320	8kW/120V/320A	19inch/9U	N6927-1200-810	27kW/1200V/810A	19inch/27U
N6908-120-800	8kW/120V/800A	19inch/9U	N6930-120-1200	30kW/120V/1200A	19inch/30U
N6908-600-80	8kW/600V/80A	19inch/9U	N6930-600-300	30kW/600V/300A	19inch/30U
N6908-600-320	8kW/600V/320A	19inch/9U	N6930-600-1200	30kW/600V/1200A	19inch/30U
N6908-1000-80	8kW/1000V/80A	19inch/9U	N6930-1000-300	30kW/1000V/300A	19inch/30U
N6908-1000-240	8kW/1000V/240A	19inch/9U	N6930-1000-900	30kW/1000V/900A	19inch/30U

DC Electronic Load

Quick Selection

Model	Specification	Size	Model	Specification	Size
N6908-1200-80	8kW/1200V/80A	19inch/9U	N6930-1200-300	30kW/1200V/300A	19inch/30U
N6908-1200-240	8kW/1200V/240A	19inch/9U	N6930-1200-900	30kW/1200V/900A	19inch/30U
N6909-120-360	9kW/120V/360A	19inch/9U	N6933-120-1320	33kW/120V/1320A	19inch/33U
N6909-120-900	9kW/120V/900A	19inch/9U	N6933-600-330	33kW/600V/330A	19inch/33U
N6909-600-90	9kW/600V/90A	19inch/9U	N6933-600-1320	33kW/600V/1320A	19inch/33U
N6909-600-360	9kW/600V/360A	19inch/9U	N6933-1000-330	33kW/1000V/330A	19inch/33U
N6909-1000-90	9kW/1000V/90A	19inch/9U	N6933-1000-990	33kW/1000V/990A	19inch/33U
N6909-1000-270	9kW/1000V/270A	19inch/9U	N6933-1200-330	33kW/1200V/330A	19inch/33U
N6909-1200-90	9kW/1200V/90A	19inch/9U	N6933-1200-990	33kW/1200V/990A	19inch/33U
N6909-1200-270	9kW/1200V/270A	19inch/9U	N6936-120-1440	36kW/120V/1440A	19inch/36U
N6912-120-480	12kW/120V/480A	19inch/12U	N6936-600-360	36kW/600V/360A	19inch/36U
N6912-120-1200	12kW/120V/1200A	19inch/12U	N6936-600-1440	36kW/600V/1440A	19inch/36U
N6912-600-120	12kW/600V/120A	19inch/12U	N6936-1000-360	36kW/1000V/360A	19inch/36U
N6912-600-480	12kW/600V/480A	19inch/12U	N6936-1000-1080	36kW/1000V/1080A	19inch/36U
N6912-1000-120	12kW/1000V/120A	19inch/12U	N6936-1200-360	36kW/1200V/360A	19inch/36U
N6912-1000-360	12kW/1000V/360A	19inch/12U	N6936-1200-1080	36kW/1200V/1080A	19inch/36U
N6912-1200-120	12kW/1200V/120A	19inch/12U	N6939-120-1560	39kW/120V/1560A	19inch/39U
N6912-1200-360	12kW/1200V/360A	19inch/12U	N6939-600-390	39kW/600V/390A	19inch/39U
N6915-120-600	15kW/120V/600A	19inch/15U	N6939-600-1560	39kW/600V/1560A	19inch/39U
N6915-120-1500	15kW/120V/1500A	19inch/15U	N6939-1000-390	39kW/1000V/390A	19inch/39U
N6915-600-150	15kW/600V/150A	19inch/15U	N6939-1000-1170	39kW/1000V/1170A	19inch/39U
N6915-600-600	15kW/600V/600A	19inch/15U	N6939-1200-390	39kW/1200V/390A	19inch/39U
N6939-1200-1170	39kW/1200V/1170A	19inch/39U	N6945-1200-450	45kW/1200V/450A	19inch/45U
N6942-120-1680	42kW/120V/1680A	19inch/42U	N6945-1200-1350	45kW/1200V/1350A	19inch/45U
N6942-600-420	42kW/600V/420A	19inch/42U	N6948-600-480	48kW/600V/480A	19inch/48U
N6942-600-1680	42kW/600V/1680A	19inch/42U	N6948-1000-480	48kW/1000V/480A	19inch/48U
N6942-1000-420	42kW/1000V/420A	19inch/42U	N6948-1000-1440	48kW/1000V/1440A	19inch/48U
N6942-1000-1260	42kW/1000V/1260A	19inch/42U	N6948-1200-480	48kW/1200V/480A	19inch/48U
N6942-1200-1260	42kW/1200V/1260A	19inch/42U	N6948-1200-1440	48kW/1200V/1440A	19inch/48U
N6942-1200-1680	42kW/1200V/1680A	19inch/42U	N6951-600-510	51kW/600V/510A	19inch/51U
N6945-600-450	45kW/600V/450A	19inch/45U	N6951-1000-510	51kW/1000V/510A	19inch/51U
N6945-600-1800	45kW/600V/1800A	19inch/45U	N6951-1000-1530	51kW/1000V/1530A	19inch/51U
N6945-1000-450	45kW/1000V/450A	19inch/45U	N6951-1200-510	51kW/1200V/510A	19inch/51U
N6945-1000-1350	45kW/1000V/1350A	19inch/45U	N6951-1200-1530	51kW/1200V/1530A	19inch/51U

Product Dimension



Technical Data Sheet(1)

Model	N6903-120-300		N6903-120-120		N6903-600-120		N6903-600-30	
Voltage	120V		120V		600V		600V	
Current	300A		120A		120A		30A	
Power	3000W							
Min. Operating Voltage	2V@30A	2V@300A	2V@12A	2V@120A	4.5V@12A	4.5V@120A	4.5V@3A	4.5V@30A
CC Mode								
Range	0~30A	0~300A	0~12A	0~120A	0~12A	0~120A	0~3A	0~30A
Setting Resolution	1mA	10mA	1mA	10mA	1mA	10mA	0.1mA	1mA
Setting Accuracy (23±5°C)	0.05%+0.05%F.S.							
CV Mode								
Range	0~12V	0~120V	0~12V	0~120V	0~60V	0~600V	0~60V	0~600V
Setting Resolution	1mV	10mV	1mV	10mV	1mV	10mV	1mV	10mV
Setting Accuracy (23±5°C)	0.05%+0.05%F.S.							
CP Mode								
Range	0~3000W							
Setting Resolution	0.1W							
Setting Accuracy (23±5°C)	0.5%+0.5%F.S.							
CR Mode								
Range	0.01Ω~40Ω	0.2Ω~400Ω	0.02Ω~100Ω	0.4Ω~1000Ω	0.1Ω~500Ω	1.9Ω~5000Ω	0.38Ω~2000Ω	7.5Ω~20000Ω
Setting Resolution	16bits							
Setting Accuracy (23±5°C)	0.35%+78.1mS	0.35%+7.81mS	0.35%+31.2mS	0.35%+3.12mS	0.35%+6.25mS	0.35%+0.625mS	0.35%+1.5mS	0.35%+0.15mS
Slew Rate								
Current	5~300A/ms	300~15000A/ms	2~120A/ms	120~6000A/ms	2~120A/ms	120~6000A/ms	0.5~30A/ms	30~1500A/ms
Voltage	1.0~50V/ms	50~500V/ms	1.0~50V/ms	50~500V/ms	5.0~250V/ms	250~2500V/ms	5.0~250V/ms	250~2500V/ms
Power	5~300A/ms	300~15000A/ms	2~120A/ms	120~6000A/ms	2~120A/ms	120~6000A/ms	0.5~30A/ms	30~1500A/ms
Resistance	5~300A/ms	300~15000A/ms	2~120A/ms	120~6000A/ms	2~120A/ms	120~6000A/ms	0.5~30A/ms	30~1500A/ms
Accuracy (23±5°C)	(1±35%)* Setting value							
Voltage Measurement								
Range	0~12V	0~120V	0~12V	0~120V	0~60V	0~600V	0~60V	0~600V
Readback Accuracy (23±5°C)	0.05%+0.05%F.S.							
Current Measurement								
Range	0~30A	0~300A	0~12A	0~120A	0~12A	0~120A	0~3A	0~30A
Readback Accuracy (23±5°C)	0.05%+0.05%F.S.							
Power Measurement								
Range	0~3000W							
Readback Accuracy (23±5°C)	0.5%+0.5%F.S.							
Dynamic Mode								
T1&T2	0.015~60000ms							
Resolution	1μs/1ms							
Accuracy (23±5°C)	≤20μs+100ppm							
Others								
Interface	LAN/RS232/CAN							
AC Input	Single phase, 220V AC±10%, frequency 47Hz~63Hz							
Sampling Frequency	25Hz							
Communication Response Time	≤10ms							
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. 28kg							
Dimension	3U, 132.5(H)*482.0(W)with handle*612.0(D)mm							

Note 1: For other specifications, please contact NGI.

Note 2: All specifications are subject to change without notice.

Technical Data Sheet(2)

Model	N6903-1000-90		N6903-1000-30		N6903-1200-90		N6903-1200-30	
Voltage	1000V		1000V		1200V		1200V	
Current	90A		30A		90A		30A	
Power	3000W							
Min. Operating Voltage	20V@9A	20V@90A	5V@3A	5V@30A	20V@9A	20V@90A	5V@3A	5V@30A
CC Mode								
Range	0~9A	0~90A	0~3A	0~30A	0~9A	0~90A	0~3A	0~30A
Setting Resolution	0.1mA	1mA	0.1mA	1mA	0.1mA	1mA	0.1mA	1mA
Setting Accuracy (23±5°C)	0.05%+0.05%F.S.							
CV Mode								
Range	0~100V	0~1000V	0~100V	0~1000V	0~120V	0~1200V	0~120V	0~1200V
Setting Resolution	10mV	100mV	10mV	100mV	10mV	100mV	10mV	100mV
Setting Accuracy (23±5°C)	0.05%+0.05%F.S.							
CP Mode								
Range	0~3000W							
Setting Resolution	0.1W							
Setting Accuracy (23±5°C)	0.5%+0.5%F.S.							
CR Mode								
Range	0.21Ω~1111Ω	4.2Ω~1111Ω	0.62Ω~333Ω	12.4Ω~333Ω	0.25Ω~133Ω	5Ω~133Ω	0.75Ω~400Ω	15Ω~4000Ω
Setting Resolution	16bits							
Setting Accuracy (23±5°C)	0.35%+2.8mS	0.35%+0.28mS	0.35%+0.9mS	0.35%+0.09mS	0.35%+2.3mS	0.35%+0.23mS	0.35%+0.7mS	0.35%+0.07mS
Slew Rate								
Current	1.5~90A/ms	90~4500A/ms	0.5~30A/ms	30~1500A/ms	1.5~90A/ms	90~4500A/ms	0.5~30A/ms	30~1500A/ms
Voltage	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms
Power	1.5~90A/ms	90~4500A/ms	0.5~30A/ms	30~1500A/ms	1.5~90A/ms	90~4500A/ms	0.5~30A/ms	30~1500A/ms
Resistance	1.5~90A/ms	90~4500A/ms	0.5~30A/ms	30~1500A/ms	1.5~90A/ms	90~4500A/ms	0.5~30A/ms	30~1500A/ms
Accuracy (23±5°C)	(1±35%)* Setting value							
Voltage Measurement								
Range	0~100V	0~1000V	0~100V	0~1000V	0~120V	0~1200V	0~120V	0~1200V
Readback Accuracy (23±5°C)	0.05%+0.05%F.S.							
Current Measurement								
Range	0~9A	0~90A	0~3A	0~30A	0~9A	0~90A	0~3A	0~30A
Readback Accuracy (23±5°C)	0.05%+0.05%F.S.							
Power Measurement								
Range	0~3000W							
Readback Accuracy (23±5°C)	0.5%+0.5%F.S.							
Dynamic Mode								
T1&T2	0.015~6000ms							
Resolution	1μs/1ms							
Accuracy (23±5°C)	≤20μs+100ppm							
Others								
Interface	LAN/RS232/CAN							
AC Input	Single phase, 220V AC±10%, frequency 47Hz~63Hz							
Sampling Frequency	25Hz							
Communication Response Time	≤10ms							
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. 28kg							
Dimension	3U, 132.5(H)*482.0(W)with handle*612.0(D)mm							

Note 1: For other specifications, please contact NGI.

Note 2: All specifications are subject to change without notice.

Technical Data Sheet(3)

Model	N6906-120-240		N6906-120-600		N6906-600-60		N6906-600-240	
Voltage	120V		120V		600V		600V	
Current	240A		600A		60A		240A	
Power	6000W							
Min. Operating Voltage	2V@24A	2V@240A	2V@60A	2V@600A	4.5V@6A	4.5V@60A	4.5V@24A	4.5V@240A
CC Mode								
Range	0~24A	0~240A	0~60A	0~600A	0~6A	0~60A	0~24A	0~240A
Setting Resolution	1mA	10mA	1mA	10mA	0.1mA	1mA	1mA	10mA
Setting Accuracy (23±5°C)	0.05%+0.05%F.S.							
CV Mode								
Range	0~12V	0~120V	0~12V	0~120V	0~60V	0~600V	0~60V	0~600V
Setting Resolution	1mV	10mV	1mV	10mV	1mV	10mV	1mV	10mV
Setting Accuracy (23±5°C)	0.05%+0.05%F.S.							
CP Mode								
Range	0~6000W							
Setting Resolution	0.1W							
Setting Accuracy (23±5°C)	0.5%+0.5%F.S.							
CR Mode								
Range	0.01Ω~50Ω	0.2Ω~500Ω	0.01Ω~20Ω	0.1Ω~200Ω	0.19Ω~1000Ω	3.8Ω~10000Ω	0.05Ω~250Ω	1Ω~2500Ω
Setting Resolution	16bits							
Setting Accuracy (23±5°C)	0.35%+62.5mS	0.35%+6.25mS	0.35%+156.3mS	0.35%+15.63mS	0.35%+3.1mS	0.35%+0.31mS	0.35%+12.5mS	0.35%+1.25mS
Slew Rate								
Current	4~240A/ms	240~12000A/ms	10~600A/ms	600~30000A/ms	1~60A/ms	60~3000A/ms	4~240A/ms	240~12000A/ms
Voltage	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms
Power	4~240A/ms	240~12000A/ms	10~600A/ms	600~30000A/ms	1~60A/ms	60~3000A/ms	4~240A/ms	240~12000A/ms
Resistance	4~240A/ms	240~12000A/ms	10~600A/ms	600~30000A/ms	1~60A/ms	60~3000A/ms	4~240A/ms	240~12000A/ms
Accuracy (23±5°C)	(1±35%)* Setting value							
Voltage Measurement								
Range	0~12V	0~120V	0~12V	0~120V	0~60V	0~600V	0~60V	0~600V
Readback Accuracy (23±5°C)	0.05%+0.05%F.S.							
Current Measurement								
Range	0~24A	0~240A	0~60A	0~600A	0~6A	0~60A	0~24A	0~240A
Readback Accuracy (23±5°C)	0.05%+0.05%F.S.							
Power Measurement								
Range	0~6000W							
Readback Accuracy (23±5°C)	0.5%+0.5%F.S.							
Dynamic Mode								
T1&T2	0.015~60000ms							
Resolution	1μs/1ms							
Accuracy (23±5°C)	≤20μs+100ppm							
Others								
Interface	LAN/RS232/CAN							
AC Input	Single phase, 220V AC±10%, frequency 47Hz~63Hz							
Sampling Frequency	25Hz							
Communication Response Time	≤10ms							
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. 54kg							
Dimension	6U, 265.0(H)*482.0(W)with handle*612.0(D)mm							

Note 1: For other specifications, please contact NGI.

Note 2: All specifications are subject to change without notice.

Technical Data Sheet(4)

Model	N6906-1000-60		N6906-1000-180		N6906-1200-60		N6906-1200-180	
Voltage	1000V		1000V		1200V		1200V	
Current	60A		180A		60A		180A	
Power	6000W							
Min. Operating Voltage	5V@6A	5V@60A	20V@18A	20V@180A	5V@6A	5V@60A	20V@18A	20V@180A
CC Mode								
Range	0~6A	0~60A	0~18A	0~180A	0~6A	0~60A	0~18A	0~180A
Setting Resolution	0.1mA	1mA	1mA	10mA	0.1mA	1mA	1mA	10mA
Setting Accuracy (23±5℃)	0.05%+0.05%F.S.							
CV Mode								
Range	0~100V	0~1000V	0~100V	0~1000V	0~120V	0~1200V	0~120V	0~1200V
Setting Resolution	10mV	100mV	10mV	100mV	10mV	100mV	10mV	100mV
Setting Accuracy (23±5℃)	0.05%+0.05%F.S.							
CP Mode								
Range	0~6000W							
Setting Resolution	0.1W							
Setting Accuracy (23±5℃)	0.5%+0.5%F.S.							
CR Mode								
Range	0.31Ω~1666Ω	6.2Ω~1666Ω	0.11Ω~555Ω	2.1Ω~555Ω	0.38Ω~2000Ω	7.5Ω~2000Ω	0.13Ω~666Ω	2.5Ω~666Ω
Setting Resolution	16bits							
Setting Accuracy (23±5℃)	0.35%+1.9mS	0.35%+0.19mS	0.35%+5.6mS	0.35%+0.56mS	0.35%+1.6mS	0.35%+0.16mS	0.35%+4.7mS	0.35%+0.47mS
Slew Rate								
Current	1~60A/ms	60~3000A/ms	3~180A/ms	180~9000A/ms	1~60A/ms	60~3000A/ms	3~180A/ms	180~9000A/ms
Voltage	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms
Power	1~60A/ms	60~3000A/ms	3~180A/ms	180~9000A/ms	1~60A/ms	60~3000A/ms	3~180A/ms	180~9000A/ms
Resistance	1~60A/ms	60~3000A/ms	3~180A/ms	180~9000A/ms	1~60A/ms	60~3000A/ms	3~180A/ms	180~9000A/ms
Accuracy (23±5℃)	(1±35%)* Setting value							
Voltage Measurement								
Range	0~100V	0~1000V	0~100V	0~1000V	0~120V	0~1200V	0~120V	0~1200V
Readback Accuracy (23±5℃)	0.05%+0.05%F.S.							
Current Measurement								
Range	0~6A	0~60A	0~18A	0~180A	0~6A	0~60A	0~18A	0~180A
Readback Accuracy (23±5℃)	0.05%+0.05%F.S.							
Power Measurement								
Range	0~6000W							
Readback Accuracy (23±5℃)	0.5%+0.5%F.S.							
Dynamic Mode								
T1&T2	0.015~60000ms							
Resolution	1μs/1ms							
Accuracy (23±5℃)	≤20μs+100ppm							
Others								
Interface	LAN/RS232/CAN							
AC Input	Single phase, 220V AC±10%, frequency 47Hz~63Hz							
Sampling Frequency	25Hz							
Communication Response Time	≤10ms							
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. 54kg							
Dimension	6U, 265.0(H)*482.0(W)with handle*612.0(D)mm							

Note 1: For other specifications, please contact NGI.

Note 2: All specifications are subject to change without notice.

Technical Data Sheet(5)

Model	N6909-120-360		N6909-120-900		N6909-600-90		N6909-600-360	
Voltage	120V		120V		600V		600V	
Current	360A		900A		90A		360A	
Power	9000W							
Min. Operating Voltage	2V@36A	2V@360A	2V@90A	2V@900A	4.5V@9A	4.5V@90A	4.5V@36A	4.5V@360A
CC Mode								
Range	0~36A	0~360A	0~90A	0~900A	0~9A	0~90A	0~36A	0~360A
Setting Resolution	1mA	10mA	1mA	10mA	0.1mA	1mA	1mA	10mA
Setting Accuracy (23±5℃)	0.05%+0.05%F.S.							
CV Mode								
Range	0~12V	0~120V	0~12V	0~120V	0~60V	0~600V	0~60V	0~600V
Setting Resolution	1mV	10mV	1mV	10mV	1mV	10mV	1mV	10mV
Setting Accuracy (23±5℃)	0.05%+0.05%F.S.							
CP Mode								
Range	0~9000W							
Setting Resolution	0.1W							
Setting Accuracy (23±5℃)	0.5%+0.5%F.S.							
CR Mode								
Range	0.01Ω~33Ω	0.2Ω~333Ω	0.01Ω~13Ω	0.1Ω~133Ω	0.13Ω~666Ω	2.5Ω~6666Ω	0.04Ω~166Ω	0.7Ω~1666Ω
Setting Resolution	16bits							
Setting Accuracy (23±5℃)	0.35%+93.8mS	0.35%+9.38mS	0.35%+234.4mS	0.35%+23.44mS	0.35%+4.7mS	0.35%+0.47mS	0.35%+18.8mS	0.35%+1.88mS
Slew Rate								
Current	6~360A/ms	360~18000A/ms	15~900A/ms	900~45000A/ms	1.5~90A/ms	90~4500A/ms	6~360A/ms	360~18000A/ms
Voltage	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms
Power	6~360A/ms	360~18000A/ms	15~900A/ms	900~45000A/ms	1.5~90A/ms	90~4500A/ms	6~360A/ms	360~18000A/ms
Resistance	6~360A/ms	360~18000A/ms	15~900A/ms	900~45000A/ms	1.5~90A/ms	90~4500A/ms	6~360A/ms	360~18000A/ms
Accuracy (23±5℃)	(1±35%)* Setting value							
Voltage Measurement								
Range	0~12V	0~120V	0~12V	0~120V	0~60V	0~600V	0~60V	0~600V
Readback Accuracy (23±5℃)	0.05%+0.05%F.S.							
Current Measurement								
Range	0~36A	0~360A	0~90A	0~900A	0~9A	0~90A	0~36A	0~360A
Readback Accuracy (23±5℃)	0.05%+0.05%F.S.							
Power Measurement								
Range	0~9000W							
Readback Accuracy (23±5℃)	0.5%+0.5%F.S.							
Dynamic Mode								
T1&T2	0.015~60000ms							
Resolution	1μs/1ms							
Accuracy (23±5℃)	≤20μs+100ppm							
Others								
Interface	LAN/RS232/CAN							
AC Input	Single phase, 220V AC±10%, frequency 47Hz~63Hz							
Sampling Frequency	25Hz							
Communication Response Time	≤10ms							
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. 81kg							
Dimension	9U, 397.5(H)*482.0(W)with handle*612.0(D)mm							

Note 1: For other specifications, please contact NGI.

Note 2: All specifications are subject to change without notice.

Technical Data Sheet(6)

Model	N6909-1000-90		N6909-1000-270		N6909-1200-90		N6909-1200-270	
Voltage	1000V		1000V		1200V		1200V	
Current	90A		270A		90A		270A	
Power	9000W							
Min. Operating Voltage	5V@9A	5V@90A	20V@27A	20V@270A	5V@9A	5V@90A	20V@27A	20V@270A
CC Mode								
Range	0~9A	0~90A	0~27A	0~270A	0~9A	0~90A	0~27A	0~270A
Setting Resolution	0.1mA	1mA	1mA	10mA	0.1mA	1mA	1mA	10mA
Setting Accuracy (23±5°C)	0.05%+0.05%F.S.							
CV Mode								
Range	0~100V	0~1000V	0~100V	0~1000V	0~120V	0~1200V	0~120V	0~1200V
Setting Resolution	10mV	100mV	10mV	100mV	10mV	100mV	10mV	100mV
Setting Accuracy (23±5°C)	0.05%+0.05%F.S.							
CP Mode								
Range	0~9000W							
Setting Resolution	0.1W							
Setting Accuracy (23±5°C)	0.5%+0.5%F.S.							
CR Mode								
Range	0.21Ω~1111Ω	4.2Ω~1111Ω	0.07Ω~370Ω	1.4Ω~370Ω	0.25Ω~1333Ω	5.0Ω~1333Ω	0.09Ω~444Ω	1.7Ω~444Ω
Setting Resolution	16bits							
Setting Accuracy (23±5°C)	0.35%+2.8mS	0.35%+0.28mS	0.35%+8.4mS	0.35%+0.84mS	0.35%+2.3mS	0.35%+0.23mS	0.35%+7.0mS	0.35%+0.7mS
Slew Rate								
Current	1.5~90A/ms	90~4500A/ms	4.5~270A/ms	270~13500A/ms	1.5~90A/ms	90~4500A/ms	4.5~270A/ms	270~13500A/ms
Voltage	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms
Power	1.5~90A/ms	90~4500A/ms	4.5~270A/ms	270~13500A/ms	1.5~90A/ms	90~4500A/ms	4.5~270A/ms	270~13500A/ms
Resistance	1.5~90A/ms	90~4500A/ms	4.5~270A/ms	270~13500A/ms	1.5~90A/ms	90~4500A/ms	4.5~270A/ms	270~13500A/ms
Accuracy (23±5°C)	(1±35%)* Setting value							
Voltage Measurement								
Range	0~100V	0~1000V	0~100V	0~1000V	0~120V	0~1200V	0~120V	0~1200V
Readback Accuracy (23±5°C)	0.05%+0.05%F.S.							
Current Measurement								
Range	0~9A	0~90A	0~27A	0~270A	0~9A	0~90A	0~27A	0~270A
Readback Accuracy (23±5°C)	0.05%+0.05%F.S.							
Power Measurement								
Range	0~9000W							
Readback Accuracy (23±5°C)	0.5%+0.5%F.S.							
Dynamic Mode								
T1&T2	0.015~60000ms							
Resolution	1μs/1ms							
Accuracy (23±5°C)	≤20μs+100ppm							
Others								
Interface	LAN/RS232/CAN							
AC Input	Single phase, 220V AC±10%, frequency 47Hz~63Hz							
Sampling Frequency	25Hz							
Communication Response Time	≤10ms							
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. 81kg							
Dimension	9U, 397.5(H)*482.0(W)with handle*612.0(D)mm							

Note 1: For other specifications, please contact NGI.

Note 2: All specifications are subject to change without notice.

Technical Data Sheet(7)

Model	N6912-120-480		N6912-120-1200		N6912-600-120		N6912-600-480	
Voltage	120V		120V		600V		600V	
Current	480A		1200A		120A		480A	
Power	12000W							
Min. Operating Voltage	2V@48A	2V@480A	2V@120A	2V@1200A	4.5V@12A	4.5V@120A	4.5V@48A	4.5V@480A
CC Mode								
Range	0~48A	0~480A	0~120A	0~1200A	0~12A	0~120A	0~48A	0~480A
Setting Resolution	1mA	10mA	10mA	100mA	1mA	10mA	1mA	10mA
Setting Accuracy (23±5℃)	0.05%+0.05%F.S.							
CV Mode								
Range	0~12V	0~120V	0~12V	0~120V	0~60V	0~600V	0~60V	0~600V
Setting Resolution	1mV	10mV	1mV	10mV	1mV	10mV	1mV	10mV
Setting Accuracy (23±5℃)	0.05%+0.05%F.S.							
CP Mode								
Range	0~12000W							
Setting Resolution	0.1W							
Setting Accuracy (23±5℃)	0.5%+0.5%F.S.							
CR Mode								
Range	0.01Ω~25Ω	0.2Ω~250Ω	0.01Ω~10Ω	0.1Ω~100Ω	0.1Ω~500Ω	1.9Ω~5000Ω	0.03Ω~125Ω	0.5Ω~1250Ω
Setting Resolution	16bits							
Setting Accuracy (23±5℃)	0.35%+125mS	0.35%+12.5mS	0.35%+312.5mS	0.35%+31.25mS	0.35%+6.3mS	0.35%+0.63mS	0.35%+25mS	0.35%+2.5mS
Slew Rate								
Current	8~480A/ms	480~24000A/ms	20~1200A/ms	1200~60000A/ms	2~120A/ms	120~6000A/ms	8~480A/ms	480~24000A/ms
Voltage	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms
Power	8~480A/ms	480~24000A/ms	20~1200A/ms	1200~60000A/ms	2~120A/ms	120~6000A/ms	8~480A/ms	480~24000A/ms
Resistance	8~480A/ms	480~24000A/ms	20~1200A/ms	1200~60000A/ms	2~120A/ms	120~6000A/ms	8~480A/ms	480~24000A/ms
Accuracy (23±5℃)	(1±35%)* Setting value							
Voltage Measurement								
Range	0~12V	0~120V	0~12V	0~120V	0~60V	0~600V	0~60V	0~600V
Readback Accuracy (23±5℃)	0.05%+0.05%F.S.							
Current Measurement								
Range	0~48A	0~480A	0~120A	0~1200A	0~12A	0~120A	0~48A	0~480A
Readback Accuracy (23±5℃)	0.05%+0.05%F.S.							
Power Measurement								
Range	0~12000W							
Readback Accuracy (23±5℃)	0.5%+0.5%F.S.							
Dynamic Mode								
T1&T2	0.015~60000ms							
Resolution	1μs/1ms							
Accuracy (23±5℃)	≤20μs+100ppm							
Others								
Interface	LAN/RS232/CAN							
AC Input	Single phase, 220V AC±10%, frequency 47Hz~63Hz							
Sampling Frequency	25Hz							
Communication Response Time	≤10ms							
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. 108kg							
Dimension	12U, 530.0(H)*482.0(W)with handle*612.0(D)mm							

Note 1: For other specifications, please contact NGI.

Note 2: All specifications are subject to change without notice.

Technical Data Sheet(8)

Model	N6912-1000-120		N6912-1000-360		N6912-1200-120		N6912-1200-360	
Voltage	1000V		1000V		1200V		1200V	
Current	120A		360A		120A		360A	
Power	12000W							
Min. Operating Voltage	5V@12A	5V@120A	20V@36A	20V@360A	5V@12A	5V@120A	20V@36A	20V@360A
CC Mode								
Range	0~12A	0~120A	0~36A	0~360A	0~12A	0~120A	0~36A	0~360A
Setting Resolution	1mA	10mA	1mA	10mA	1mA	10mA	1mA	10mA
Setting Accuracy (23±5°C)	0.05%+0.05%F.S.							
CV Mode								
Range	0~100V	0~1000V	0~100V	0~1000V	0~120V	0~1200V	0~120V	0~1200V
Setting Resolution	10mV	100mV	10mV	100mV	10mV	100mV	10mV	100mV
Setting Accuracy (23±5°C)	0.05%+0.05%F.S.							
CP Mode								
Range	0~12000W							
Setting Resolution	0.1W							
Setting Accuracy (23±5°C)	0.5%+0.5%F.S.							
CR Mode								
Range	0.16Ω~833Ω	3.1Ω~8333Ω	0.06Ω~277Ω	1.1Ω~2777Ω	0.19Ω~1000Ω	3.8Ω~10000Ω	0.07Ω~333Ω	1.3Ω~3333Ω
Setting Resolution	16bits							
Setting Accuracy (23±5°C)	0.35%+3.8mS	0.35%+0.38mS	0.35%+11.3mS	0.35%+1.13mS	0.35%+3.1mS	0.35%+0.31mS	0.35%+9.4mS	0.35%+0.94mS
Slew Rate								
Current	2~120A/ms	120~6000A/ms	6~360A/ms	360~18000A/ms	2~120A/ms	120~6000A/ms	6~360A/ms	360~18000A/ms
Voltage	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms	8~400V/ms	400~4000V/ms
Power	2~120A/ms	120~6000A/ms	6~360A/ms	360~18000A/ms	2~120A/ms	120~6000A/ms	6~360A/ms	360~18000A/ms
Resistance	2~120A/ms	120~6000A/ms	6~360A/ms	360~18000A/ms	2~120A/ms	120~6000A/ms	6~360A/ms	360~18000A/ms
Accuracy (23±5°C)	(1±35%)* Setting value							
Voltage Measurement								
Range	0~100V	0~1000V	0~100V	0~1000V	0~120V	0~1200V	0~120V	0~1200V
Readback Accuracy (23±5°C)	0.05%+0.05%F.S.							
Current Measurement								
Range	0~12A	0~120A	0~36A	0~360A	0~12A	0~120A	0~36A	0~360A
Readback Accuracy (23±5°C)	0.05%+0.05%F.S.							
Power Measurement								
Range	0~12000W							
Readback Accuracy (23±5°C)	0.5%+0.5%F.S.							
Dynamic Mode								
T1&T2	0.015~60000ms							
Resolution	1μs/1ms							
Accuracy (23±5°C)	≤20μs+100ppm							
Others								
Interface	LAN/RS232/CAN							
AC Input	Single phase, 220V AC±10%, frequency 47Hz~63Hz							
Sampling Frequency	25Hz							
Communication Response Time	≤10ms							
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. 108kg							
Dimension	12U, 530.0(H)*482.0(W)with handle*612.0(D)mm							

Note 1: For other specifications, please contact NGI.

Note 2: All specifications are subject to change without notice.