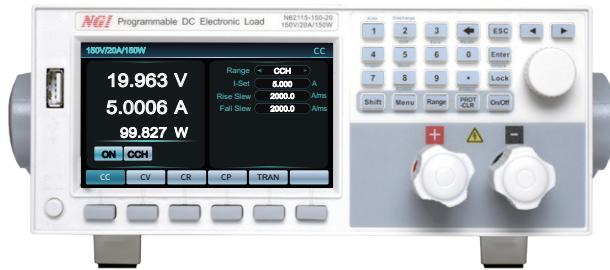


## N62100 series High Performance Benchtop DC Electronic Load



### Product Introduction

N62100 series is a high performance benchtop DC electronic load, supporting 8 kinds of test mode, which includes CC/CV/CR/CP/CV+CC/CV+CR(CR-LED)/CR+CC,CP+CC. N62100 series also supports multiple functions such as LED simulation test, OCP/OPP/OVP test, load effect test, short circuit simulation, dynamic sweep, time measurement, impedance simulation, etc. It can be widely used in performance and aging test of industry power supply, portable power source, electronic component, fast charging adapter.

### Application Fields

- ▶ Medium&low power supply test such as AC/DC power supply, DC/DC converter, LED power supply, communication power supply, etc.
- ▶ Component test such as automobile wire harness, connector, fuse, relay, central electric control box, etc.
- ▶ Li-ion,accumulator, super capacitor discharging test.
- ▶ Cellphone fast charge adapter, fast charge portable power source test.

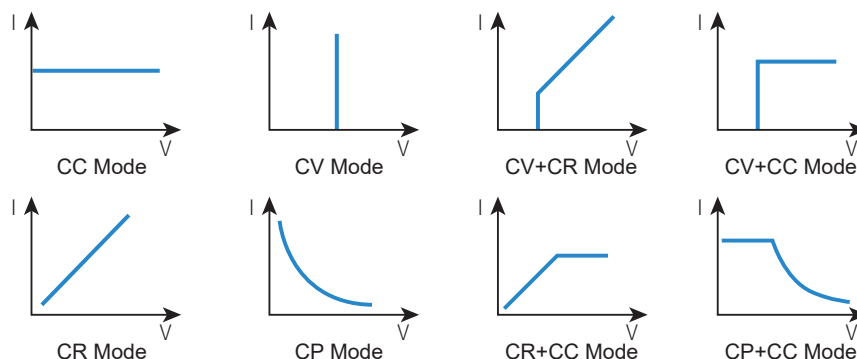
### Main Features

- ▶ Voltage Range: 80V/150V/600V; Current range: 0-60A
- ▶ Voltage/current/resistance/power dual range, wide measurement range
- ▶ Editable current rise/fall slew, adjustable voltage loop response speed
- ▶ Support LED simulation function, LED power supply load test
- ▶ 8 kinds of test mode: CC, CV, CR, CP, CV+CC, CV+CR, CR+CC, CP+CC
- ▶ Support Load effect test, Dynamic sweep, Time measurement, Discharge test function
- ▶ Support SEQ test, Auto test, Impedance simulation, Short circuit simulation function
- ▶ 4.3 inch LCD screen, local/remote control, professional test software available
- ▶ Optional fast charging test module, support USB PD2.0/PD3.0/PD3.1/QC 2.0/QC 3.0/QC4.0+/PE+ /PE+2.0/FCP/SCP/AFC/VOOC protocols [1]
- ▶ Power range:150W/300W/600W
- ▶ Voltage/current sampling frequency up to 500KHz
- ▶ Support OCP/OVP/OPP test mode
- ▶ Support CC/CV/CR/CP dynamic test

Note[1]: Only for N62115-150-20, N62130-150-40

### Multi optional operating modes

N62100 series not only supports four basic modes of CC, CV, CP, and CR, but also supports four combined working modes of CV+CC, CR+CC, CV+CR, CP+CC, CR+CC mode is suitable for power-on test of source, preventing over current protection during power-on. CV+CR mode can replace Von function. CV+CC mode can simulate the working mode conversion process of battery charging. Users can select different operation modes according to their test application.

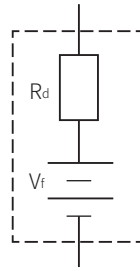


## LED simulation function

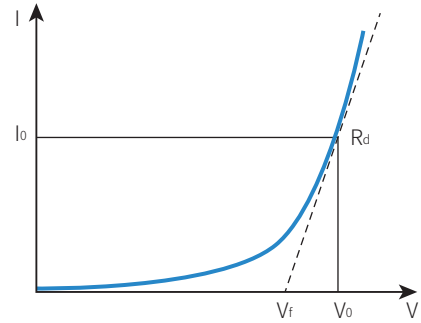
The electronic load has LED light simulation function. As shown in the figure, the LED equivalent circuit is to connect the resistance  $R_d$  with the voltage source  $V_f$  in series. Its I-V curve is equivalent to tangent of the real LED nonlinear I-V curve at the operating point ( $V_o$ ,  $I_o$ ). As the I-V curve of LEDs is non-linear, conventional electronic loads with CR or CV modes do not match the testing needs of LED power supplies, so more sophisticated load models are needed to simulate the behaviour of LEDs.

Under LED mode, users need to set three parameters to simulate real LED light loading condition, including the rated output current of LED driving power, LED operating voltage, and resistance coefficient.

LED equivalent circuit

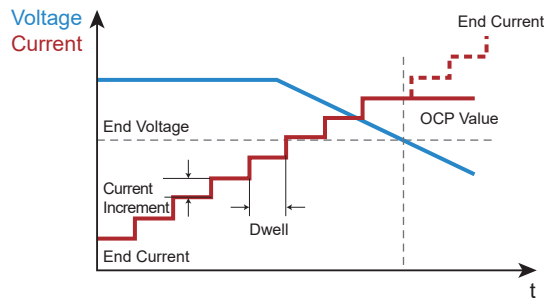


LED I-V curve

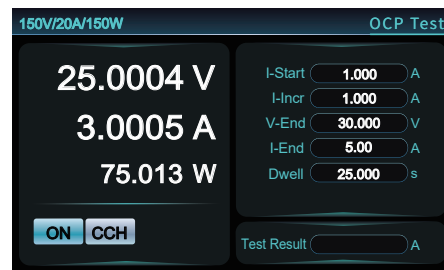


## Overcurrent protection test function

During OCP test, N62100 will load under CC mode and check whether the DUT voltage is lower than end voltage. If lower, N62100 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 end voltage, N62100 will increase the loading current until the DUT voltage is lower than end voltage or it reaches the Max. loading current.

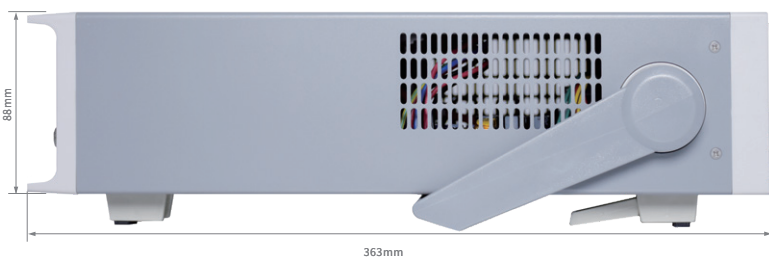
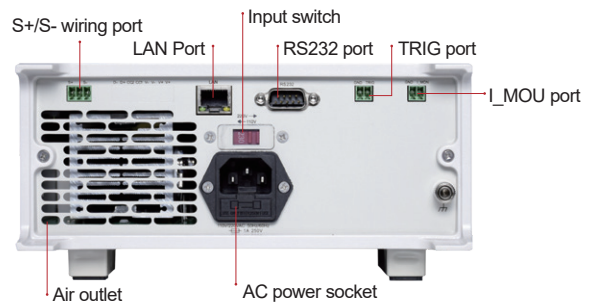
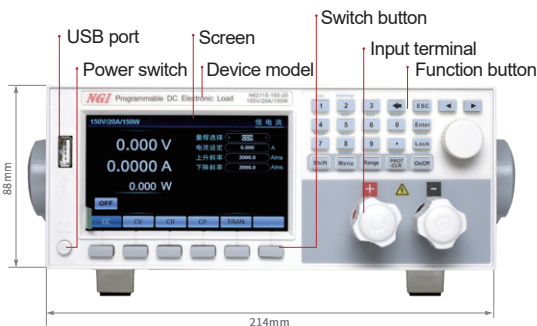


▲ OCP test schematic diagram



▲ OCP test schematic diagram

## Product Dimension



## Technical Data Sheet (1)

Model	N62115-80-20		N62115-150-20 <sup>[1]</sup>		N62115-600-05	
Voltage	80V		150V		600V	
Current	20A				5A	
Power	150W					
Min. Operating Voltage	0.4V@2A	1V@20A	0.4V@2A	1V@20A	1.2V@0.5A	3V@5A
CV Mode						
Range	0~8V	0~80V	0~15V	0~150V	0~60V	0~600V
Setting Resolution	0.1mV	1mV	1mV	10mV	1mV	10mV
Setting Accuracy (23±5℃)	0.025%+0.025%F.S.					
Readback Resolution	10μV	0.1mV	0.1mV	1mV	0.1mV	1mV
Readback Accuracy (23±5℃)	0.025%+0.025%F.S.					
CC Mode						
Range	0~2A	0~20A	0~2A	0~20A	0~500mA	0~5A
Setting Resolution	0.1mA	1mA	0.1mA	1mA	10μA	0.1mA
Setting Accuracy (23±5℃)	0.05%+0.05%F.S.					
Readback Resolution	10μA	0.1mA	10μA	0.1mA	1μA	10μA
Readback Accuracy (23±5℃)	0.05%+0.05%F.S.					
CP Mode						
Range	15W	150W	15W	150W	15W	150W
Setting Resolution	1mW	10mW	1mW	10mW	1mW	10mW
Setting Accuracy (23±5℃)	0.1%+0.1%F.S.					
Readback Resolution	0.1mW	1mW	0.1mW	1mW	0.1mW	1mW
Readback Accuracy (23±5℃)	0.1%+0.1%F.S.					
CR Mode						
Range	1Ω~18kΩ	0.1Ω~1.8kΩ	1Ω~30kΩ	0.1Ω~3kΩ	3Ω~99kΩ	0.6Ω~9.9kΩ
Test Setting Resolution	1Ω	0.1Ω	1Ω	0.1Ω	1Ω	0.1Ω
Setting Accuracy (23±5℃)	(Vin/Rset)*0.1%+0.1%I.F.S.					
Slew Rate						
Current	0.2~200A/ms	2~2000A/ms	0.2~200A/ms	2~2000A/ms	0.05~50A/ms	0.5~500A/ms
Power	0.2~200A/ms	2~2000A/ms	0.2~200A/ms	2~2000A/ms	0.05~50A/ms	0.5~500A/ms
Resistance	0.2~200A/ms	2~2000A/ms	0.2~200A/ms	2~2000A/ms	0.05~50A/ms	0.5~500A/ms
Dynamic Mode						
T1&T2	0.016ms~60000ms/0.016s~60000s					
Resolution	1μs/1ms					
Rise/fall slew rate	0.2~200A/ms	2~2000A/ms	0.2~200A/ms	2~2000A/ms	0.05~50A/ms	0.5~500A/ms
Others						
Protection Function	OVP/OCP/OPP/OTP/RV					
Interface	LAN/RS232					
Communication Protocol	Modbus-RTU standard protocol, SCPI standard protocol, TCP/IP protocol					
Response Time	≤5ms					
AC Input	Voltage 110/220V AC, frequency 47Hz~63Hz, current ≤0.25A@220V ≤0.5A@110V					
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.4.5kg					
Dimension	88.0(H)*214.0(W)*363.0(D) mm					

Note[1]: N62115-150-20 supports optional fast charging test

Note 2: For other specifications, please contact NGI.

Note 3: All specifications are subject to change without notice.

**Technical Data Sheet (2)**

Model	N62130-80-40		N62130-150-40 <sup>[1]</sup>		N62130-600-10	
Voltage	80V		150V		600V	
Current	40A				10A	
Power	300W					
Min. Operating Voltage	0.6V@4A	1V@40A	0.6V@4A	1V@40A	1.2V@1A	3V@10A
CV Mode						
Range	0~8V	0~80V	0~15V	0~150V	0~60V	0~600V
Setting Resolution	0.1mV	1mV	1mV	10mV	1mV	10mV
Setting Accuracy (23±5°C)	0.025%+0.025%F.S.					
Readback Resolution	10μV	0.1mV	0.1mV	1mV	0.1mV	1mV
Readback Accuracy (23±5°C)	0.025%+0.025%F.S.					
CC Mode						
Range	0~4A	0~40A	0~4A	0~40A	0~1A	0~10A
Setting Resolution	0.1mA	1mA	0.1mA	1mA	0.1mA	1mA
Setting Accuracy (23±5°C)	0.05%+0.05%F.S.					
Readback Resolution	10μA	0.1mA	10μA	0.1mA	10μA	0.1mA
Readback Accuracy (23±5°C)	0.05%+0.05%F.S.					
CP Mode						
Range	30W	300W	30W	300W	30W	300W
Setting Resolution	1mW	10mW	1mW	10mW	1mW	10mW
Setting Accuracy (23±5°C)	0.1%+0.1%F.S.					
Readback Resolution	0.1mW	1mW	0.1mW	1mW	0.1mW	1mW
Readback Accuracy (23±5°C)	0.1%+0.1%F.S.					
CR Mode						
Range	1Ω~9kΩ	0.1Ω~900Ω	1Ω~15kΩ	0.1Ω~1.5kΩ	2Ω~99kΩ	0.3Ω~9.9kΩ
Test Setting Resolution	0.1Ω	0.01Ω	1Ω	0.1Ω	1Ω	0.1Ω
Setting Accuracy (23±5°C)	(Vin/Rset)*0.1%+0.1%IF.S.					
Slew Rate						
Current	0.4~400A/ms	4~4000A/ms	0.4~400A/ms	4~4000A/ms	0.1~100A/ms	1~1000A/ms
Power	0.4~400A/ms	4~4000A/ms	0.4~400A/ms	4~4000A/ms	0.1~100A/ms	1~1000A/ms
Resistance	0.4~400A/ms	4~4000A/ms	0.4~400A/ms	4~4000A/ms	0.1~100A/ms	1~1000A/ms
Dynamic Mode						
T1&T2	0.016ms~60000ms/0.016s~60000s					
Resolution	1μs/1ms					
Rise/fall slew rate	0.4~400A/ms	4~4000A/ms	0.4~400A/ms	4~4000A/ms	0.1~100A/ms	1~1000A/ms
Others						
Protection Function	OVP/OCP/OPP/OTP/RV					
Interface	LAN/RS232					
Communication Protocol	Modbus-RTU standard protocol, SCPI standard protocol, TCP/IP protocol					
Response Time	≤5ms					
AC Input	Voltage 110/220V AC, frequency 47Hz~63Hz, current ≤0.25A@220V ≤0.5A@110V					
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.5kg					
Dimension	88.0(H)*214.0(W)*363.0(D) mm					

Note[1]: N62130-150-40 supports optional fast charging test

Note 2: For other specifications, please contact NGI.

Note 3: All specifications are subject to change without notice.

### Technical Data Sheet (3)

Model	N62160-80-60		N62160-150-60		N62160-600-15	
Voltage	80V		150V		600V	
Current	60A				15A	
Power	600W					
Min. Operating Voltage	0.5V@6A	1.5V@60A	0.5V@6A	1.5V@60A	1V@1.5A	2.5V@15A
CV Mode						
Range	0~8V	0~80V	0~15V	0~150V	0~60V	0~600V
Setting Resolution	0.1mV	1mV	1mV	10mV	1mV	10mV
Setting Accuracy (23±5℃)	0.025%+0.025%F.S.					
Readback Resolution	10μV	0.1mV	0.1mV	1mV	0.1mV	1mV
Readback Accuracy (23±5℃)	0.025%+0.025%F.S.					
CC Mode						
Range	0~6A	0~60A	0~6A	0~60A	0~1.5A	0~15A
Setting Resolution	0.1mA	1mA	0.1mA	1mA	0.1mA	1mA
Setting Accuracy (23±5℃)	0.05%+0.05%F.S.					
Readback Resolution	10μA	0.1mA	10μA	0.1mA	10μA	0.1mA
Readback Accuracy (23±5℃)	0.05%+0.05%F.S.					
CP Mode						
Range	60W	600W	60W	600W	60W	600W
Setting Resolution	1mW	10mW	1mW	10mW	1mW	10mW
Setting Accuracy (23±5℃)	0.1%+0.1%F.S.					
Readback Resolution	0.1mW	1mW	0.1mW	1mW	0.1mW	1mW
Readback Accuracy (23±5℃)	0.1%+0.1%F.S.					
CR Mode						
Range	1Ω~6kΩ	0.1Ω~600Ω	1Ω~10kΩ	0.1Ω~1kΩ	1Ω~99kΩ	0.2Ω~9.9kΩ
Test Setting Resolution	0.1Ω	0.01Ω	1Ω	0.1Ω	1Ω	0.1Ω
Setting Accuracy (23±5℃)	(Vin/Rset)*0.1%+0.1%IF.S.					
Slew Rate						
Current	0.6~600A/ms	6~6000A/ms	0.6~600A/ms	6~6000A/ms	0.15~150A/ms	1.5~1500A/ms
Power	0.6~600A/ms	6~6000A/ms	0.6~600A/ms	6~6000A/ms	0.15~150A/ms	1.5~1500A/ms
Resistance	0.6~600A/ms	6~6000A/ms	0.6~600A/ms	6~6000A/ms	0.15~150A/ms	1.5~1500A/ms
Dynamic Mode						
T1&T2	0.016ms~60000ms/0.016s~60000s					
Resolution	1μs/1ms					
Rise/fall slew rate	0.6~600A/ms	6~6000A/ms	0.6~600A/ms	6~6000A/ms	0.15~150A/ms	1.5~1500A/ms
Others						
Protection Function	OVP/OCP/OPP/OTP/RV					
Interface	LAN/RS232					
Communication Protocol	Modbus-RTU standard protocol, SCPI standard protocol, TCP/IP protocol					
Response Time	≤5ms					
AC Input	Voltage 110/220V AC, frequency 47Hz~63Hz, current ≤0.25A@220V ≤0.5A@110V					
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	88.0(H)*214.0(W)*363.0(D) mm					

Note 1: For other specifications, please contact NGI.

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