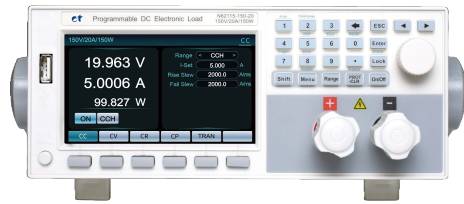


# Datenblatt *data sheet*



Offizieller Partner von NGI: Service und Vertrieb direkt durch ET System electronic GmbH.  
*Official partner of NGI: Service and sales directly through ET System electronic GmbH.*

## N62100 series High Performance Benchtop DC Electronic Load



### Product Introduction

N62100 series is a high performance benchtop DC electronic load, supports 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 multi functions such as LED simulation test, OCP/OPP/OVP test, load effect test, short circuit simulation, dynamic scanning, 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

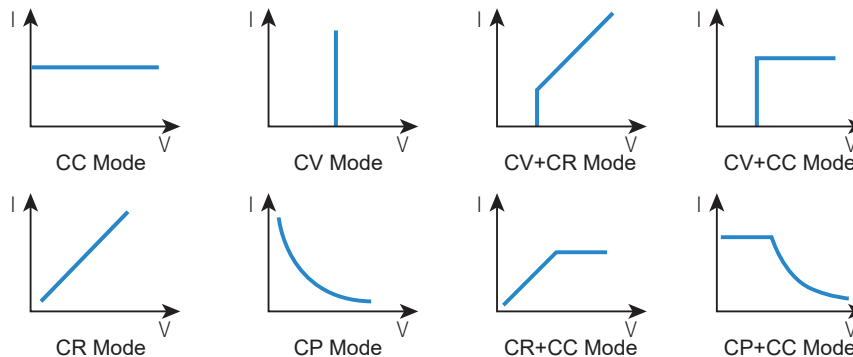
- ▶ Medium&low power supply test such as AC/DC power supply, DC/DC converter, LED power supply, communication power supply, etc.
- ▶ Component test such as automobile wire harness, connector, fuse, relay, central electric control box, etc.
- ▶ Li-ion, accumulator, super capacitor discharging test.
-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

### Main Features

- ▶ Voltage Range; 80V/150V, Current range: 0-60A
- ▶ Power range: 150W/300W/600W
- ▶ Voltage/current/resistance/power dual range
- ▶ Editable current rise/fall slew, adjustable voltage loop response speed
- ▶ Voltage/current sampling frequency: up to 500KHz
- ▶ 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 scanning, time measurement, discharge test function
- ▶ Support SEQ test, auto test, Impedance simulation, short circuit simulation functions
- ▶ Support OCP/OVP/OPP test mode
- ▶ Support CC/CV/CR/CP dynamic test
- ▶ Support LAN/RS232 communication control

### Multi optional operating modes

N62100 series not only supports regular CC/CV/CP/CR operating modes, but also supports CV+CC, CR+CC, CV+CR, CP+CC combined operating modes to meet with the variation of load characteristic during the actual test procedure. For example, CR+CC mode can be used for power supply starting up test to avoid overcurrent protection when power-on; CV+CR mode can be used for replacing Von-point setting application; CV+CC mode can be used for simulating the battery charging operating mode switching process. Users can choose the different operating modes according to the actual test application.

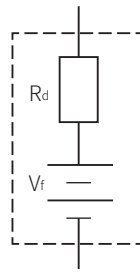


### LED simulation function

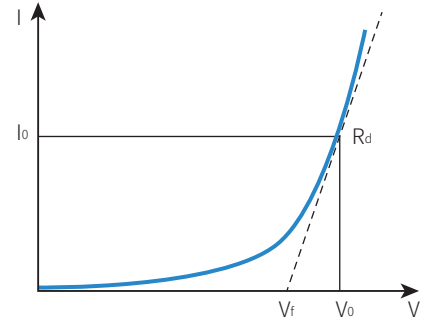
LED driving source is a kind of constant current source, the output current should be stabilized and not higher than LED rated current, to avoid accelerating LED aging damage. LED is equivalent to series connection between Resistance  $R_d$  and Voltage source  $V_f$ . The tangent line of the I-V curve at the operating point ( $V_0, I_0$ ) is equivalent to the actual LED nonlinear I-V curve.

N62100 series supports LED simulation function, Users need to set LED rated current, LED operating voltage, resistivity parameters to simulate the LED loading characteristics during LED power supply test process.

LED equivalent circuit

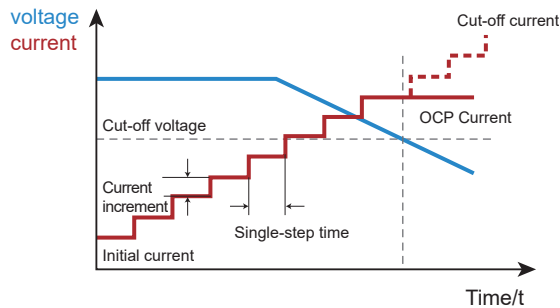


LED I-V curve

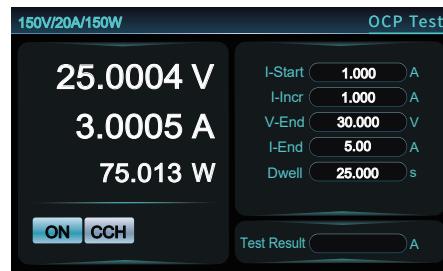


### Overcurrent protection test function

The upslope current is used to test whether the voltage of DUT reaches the cut-off point, so as to confirm whether the OCP protection of the power supply is normal, and test the output response of the DUT under overcurrent.

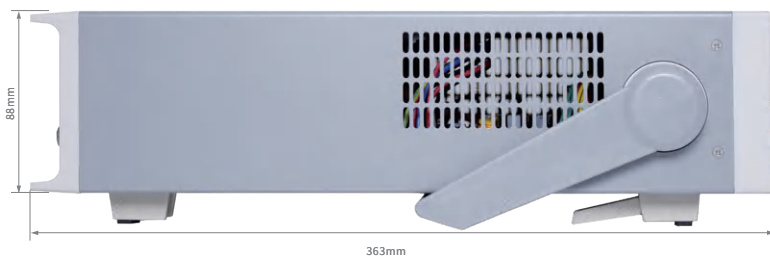
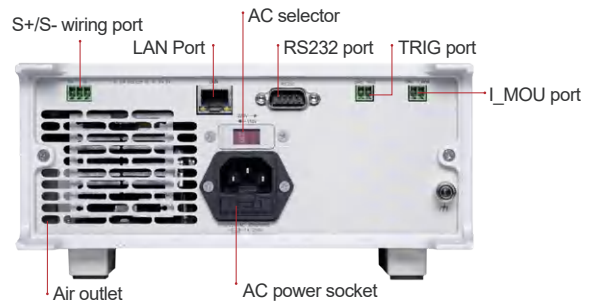
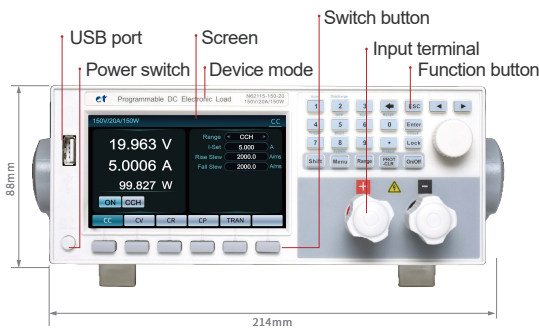


▲ OCP test schematic diagram



▲ OCP test schematic diagram

### Product Dimension



## Technical Data Sheet (1)

Model	N62115-80-20		N62115-150-20	
Voltage	80V		150V	
Current	20A			
Power	150W			
Min. Operating Voltage	0.4V@2A			
CV Mode				
Range	0~8V	0~80V	0~15V	0~150V
Setting Resolution	0.1mV	1mV	1mV	10mV
Setting Accuracy (23±5°C)	0.025%+0.025%F.S.			
Readback Resolution	10μV	0.1mV	0.1mV	1mV
Readback Accuracy (23±5°C)	0.025%+0.025%F.S.			
CC Mode				
Range	0~2A	0~20A	0~2A	0~20A
Setting Resolution	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
Readback Accuracy (23±5°C)	0.05%+0.05%F.S.			
CP Mode				
Range	15W	150W	15W	150W
Setting Resolution	1mW	10mW	1mW	10mW
Setting Accuracy (23±5°C)	0.1%+0.1%F.S.			
Readback Resolution	0.1mW	1mW	0.1mW	1mW
Readback Accuracy (23±5°C)	0.1%+0.1%F.S.			
CR Mode				
Range	1Ω~18kΩ	0.1Ω~1.8kΩ	1Ω~30kΩ	0.1Ω~3kΩ
Test Setting Resolution	1Ω	0.1Ω	1Ω	0.1Ω
Setting Accuracy (23±5°C)	(Vin/Rset)*0.1%+0.1%IF.S.			
Slew Rate				
Current	0.2~200A/ms	2~2000A/ms	0.2~200A/ms	2~2000A/ms
Power	0.2~200A/ms	2~2000A/ms	0.2~200A/ms	2~2000A/ms
Resistance	0.2~200A/ms	2~2000A/ms	0.2~200A/ms	2~2000A/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
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.4.5kg			
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.

## Technical Data Sheet (2)

Model	N62130-80-40		N62130-150-40	
Voltage	80V		150V	
Current	40A			
Power	300W			
Min. Operating Voltage	0.6V@2A			
CV Mode				
Range	0~8V	0~80V	0~15V	0~150V
Setting Resolution	0.1mV	1mV	1mV	10mV
Setting Accuracy (23±5°C)	0.025%+0.025%F.S.			
Readback Resolution	10μV	0.1mV	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
Setting Resolution	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
Readback Accuracy (23±5°C)	0.05%+0.05%F.S.			
CP Mode				
Range	30W	300W	30W	300W
Setting Resolution	1mW	10mW	1mW	10mW
Setting Accuracy (23±5°C)	0.1%+0.1%F.S.			
Readback Resolution	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
Test Setting Resolution	0.1Ω	0.01Ω	1Ω	0.1Ω
Setting Accuracy (23±5°C)	$(V_{in}/R_{set}) * 0.1\% + 0.1\% F.S.$			
Slew Rate				
Current	0.4~400A/ms	4~4000A/ms	0.4~400A/ms	4~4000A/ms
Power	0.4~400A/ms	4~4000A/ms	0.4~400A/ms	4~4000A/ms
Resistance	0.4~400A/ms	4~4000A/ms	0.4~400A/ms	4~4000A/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
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: For other specifications, please contact NGI.

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

### Technical Data Sheet (3)

Model	N62160-80-60		N62160-150-60	
Voltage	80V		150V	
Current	60A			
Power	600W			
Min. Operating Voltage	0.5V@6A	1.5V@60A	0.5V@6A	1.5V@60A
CV Mode				
Range	0~8V	0~80V	0~15V	0~150V
Setting Resolution	0.1mV	1mV	1mV	10mV
Setting Accuracy (23±5°C)	0.025%+0.025%F.S.			
Readback Resolution	10μV	0.1mV	0.1mV	1mV
Readback Accuracy (23±5°C)	0.025%+0.025%F.S.			
CC Mode				
Range	0~6A	0~60A	0~6A	0~60A
Setting Resolution	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
Readback Accuracy (23±5°C)	0.05%+0.05%F.S.			
CP Mode				
Range	60W	600W	60W	600W
Setting Resolution	1mW	10mW	1mW	10mW
Setting Accuracy (23±5°C)	0.1%+0.1%F.S.			
Readback Resolution	0.1mW	1mW	0.1mW	1mW
Readback Accuracy (23±5°C)	0.1%+0.1%F.S.			
CR Mode				
Range	1Ω~6kΩ	0.1Ω~600Ω	1Ω~10kΩ	0.1Ω~1kΩ
Test Setting Resolution	0.1Ω	0.01Ω	1Ω	0.1Ω
Setting Accuracy (23±5°C)	$(V_{in}/R_{set}) * 0.1\% + 0.1\% F.S.$			
Slew Rate				
Current	0.6~600A/ms	6~6000A/ms	0.6~600A/ms	6~6000A/ms
Power	0.6~600A/ms	6~6000A/ms	0.6~600A/ms	6~6000A/ms
Resistance	0.6~600A/ms	6~6000A/ms	0.6~600A/ms	6~6000A/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
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: For other specifications, please contact NGI.

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