RIGOL

DP700 Series Programmable Linear DC Power Supply

- DP711: single output, 30 V/5 A, total power up to 150 W
- DP712: single output, 50 V/3 A, total power up to 150 W
- Low ripple and noise:
  DP711: <500 μVrms/3 mVpp; <2 mArms
  DP712: <500 μVrms/4 mVpp; <2 mArms
- Excellent load and line regulation rate: <0.01% + 2 mV; <0.01% + 2 mA
- Transient response time: <50 μs
- 1 mV/1 mA resolution (optional)
- Sound overvoltage/overcurrent/overtemperature protection, with the response time for the overvoltage protection less than 10 ms
- External trigger function supported, enabling synchronous output for multiple devices
- Timing output supported (10 ms to 99999 s) for up to 2,048 groups
- 3.5-inch TFT-LCD; compact and elegant; easy to use
- Front panel locking and any specified key locking supported
- RS232 interface communication supported

DP700 series power supply is a type of affordable programmable linear DC power supply with high performance. With superb performance specifications, pure and reliable output, and clear user interface, the DP700 series supports timing output and trigger function, and provides a remote communication interface, enabling you to meet your diversified test requirements.

▶ DP700 Series Programmable Linear DC Power Supply

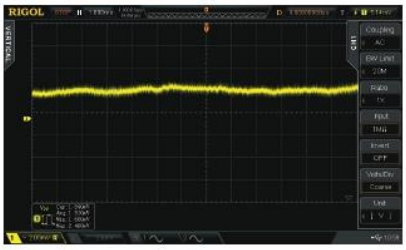
Dimensions: 140 mm (W) x 202 mm (H) x 332 mm (D) Net Weight: 6.9 kg

▶ Typical Applications

- General-purpose testing in the R&D lab
- Quality control and assessment
- Pure power for RF (radio frequency)/MW (microwave) circuits or components
- Power for automobile electronic circuit test
- Verification and troubleshooting for the device or circuit characteristic
- Teaching experiment

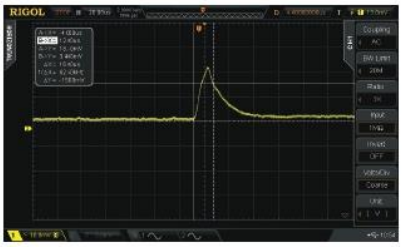
Design Features

Low ripple and noise



With extremely low noise, the product can satisfy your demands for highly pure power.

Fast transient response time

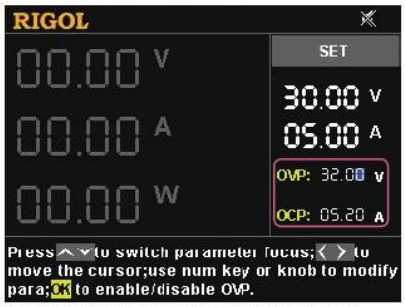


The transient response time is less than 50 μs. When the transient change occurs to the load current, the output voltage can be quickly restored to the set value, ensuring the output quality.

Excellent line regulation rate and load regulation rate: 0.01%

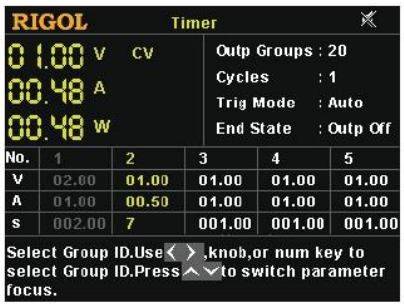
Excellent line regulation rate and load regulation rate ensure the output stability and safety.

Sound overvoltage/overcurrent protection (OVP/OCP)



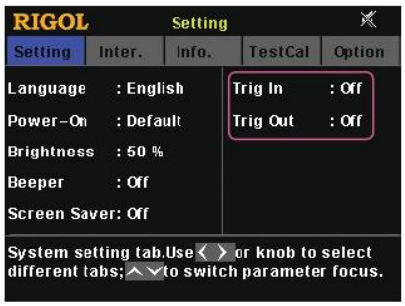
You can set thresholds for OVP and OCP values. If overvoltage or overcurrent occurs, the power supply shuts down the output automatically, and then a prompt message is displayed.

Powerful timing output function



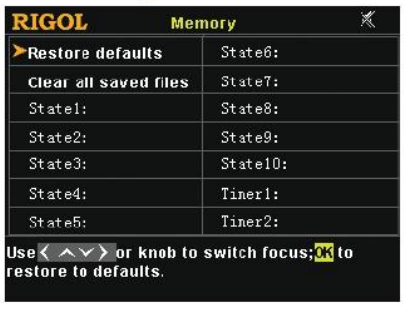
When the timing output is enabled, the system will configure the voltage, current, and the duration time based on the preset timer parameters, so as to provide varied voltage and/or current output for the load.

Convenient trigger function



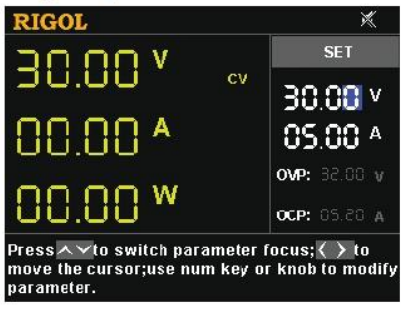
When multiple power supplies are in serial or parallel connection, enabling the external trigger function can realize the synchronous output for multiple power supplies.

Easy-to-use function of file storage and recalling



It supports storing and recalling state files and timer files, and allows you to restore the instrument settings to defaults.

Clear and intuitive user interface, easy to operate



You can clearly view the status of the instrument from its intuitive user interface. The help information is displayed in real time at the bottom of the interface, convenient for you to operate.

► Specifications

All the technical specifications are guaranteed when the instrument has been working for more than 30 minutes under the specified operating temperature.

DC Output (0°C to 40°C)		
Model	Voltage/Current Rating	OVP/OCP
DP711	0 V to 30 V/0 A to 5 A	0.01 V to 33 V/0.01 A to 5.5 A
DP712	0 V to 50 V/0 A to 3 A	0.01 V to 55 V/0.01 A to 3.3 A

Load Regulation, ±(% of Output + Offset)	
Voltage	<0.01% + 2 mV
Current	<0.01% + 2 mA

Line Regulation, ±(% of Output + Offset)	
Voltage	<0.01% + 2 mV
Current	<0.01% + 2 mA

Ripple and Noise (20 Hz to 20 MHz)		
Model	Normal Mode Voltage	Normal Mode Current
DP711	<500 μVrms/3 mVpp	<2 mArms
DP712	<500 μVrms/4 mVpp	

Annual Accuracy[1] (25°C ± 5°C), ±(% of Output + Offset)		
Programming	Voltage	0.05% + 20 mV
	Current	0.2% + 10 mA
Readback	Voltage	0.05% + 20 mV
	Current	0.2% + 20 mA

Resolution		
Programming	Voltage	Standard: 10 mV High resolution option installed: 1 mV
	Current	Standard: 10 mA High resolution option installed: 1 mA
Readback	Voltage	Standard: 10 mV High resolution option installed: 1 mV
	Current	Standard: 10 mA High resolution option installed: 1 mA
Display	Voltage	Standard: 10 mV High resolution option installed: 1 mV
	Current	Standard: 10 mA High resolution option installed: 1 mA

Transient Response Time
Less than 50 μs for output voltage to recover to within 15 mV following a change in output current from full load to half load (or from half load to full load).

Command Processing Time[2]
<100 ms

OVP/OCP	
Accuracy, ±(% of Output + Offset)	0.5% + 0.5 V/0.5% + 0.5 A
OVP Activation Time	<10 ms (OVP>1 V)

Voltage Programming Speed[3] (within 1% of the total variation range)		
Up	Full Load	150 ms
	No Load	100 ms
Down	Full Load	30 ms
	No Load	450 ms

Temperature Coefficient[4], ±(% of Output + Offset)	
Voltage	0.01% + 2 mV
Current	0.02% + 3 mA

Stability[5], ±(% of Output + Offset)	
Voltage	0.02% + 2 mV
Current	0.1% + 3 mA

Mechanical	
Dimensions	140 mm (W) x 202mm (H) x 332 mm (D)
Weight	Net weight: 6.9 kg

Power	
AC Input Power (50 Hz to 60 Hz)	100 Vac ± 10%, 120 Vac ± 10%, 220 Vac ± 10%, and 240 Vac ± 10% (max: 253 Vac)
Maximum Input Power	400 VA

Interface	
RS232	1 (Male)

Environment	
Cooling Method	Fan cooled
Operating Temperature	0°C to 40°C for full rated output
Maximum Output Floating Voltage to Ground	±240 Vdc
Storage Temperature	-40°C to 70°C
Humidity	5% to 80% RH
Altitude	Below 2,000 m

Note[1]: The accuracy parameters are acquired through calibration under 25°C after 1-hour warm-up.
Note[2]: The maximum time required for the output to begin to change after receiving the APPLy and SOURce commands.
Note[3]: Exclude the command processing time.
Note[4]: Maximum change in output/readback per °C after a 30-minute warm-up.
Note[5]: Following a 30-minute warm-up, change in output over 8 hours under constant load, line, and ambient temperature.