

SPD1000X Series

Programmable DC Power Supply



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SPD1168X SPD1305X

Product Overview

SPD1000X Programmable Linear DC Power Supply has a 2.8 inch TFT-LCD display, features remote computer control capability, and real time wave display, to deliver high performance and ease-of-use.

The SPD1168X features a high precision programmable output capable of delivering up to 16 V, the SPD1305X features a high precision programmable output capable of delivering up to 30 V and also includes a 4-wire sense function for more accurate voltage sourcing, especially for long leads or high resistance connections. There are additional output short and overload protect functions to assist in production and development applications.

Main Features

- ✓ Single path high-precision programmable voltage output:
SPD1168X: 16 V/8 A, total power up to 128 W
SPD1305X: 30 V/5 A, total power up to 150 W
- ✓ Stable, reliable, Low ripple and noise: $\leq 350 \text{ uVrms/3 mVpp}$; $< 2 \text{ mArms}$
- ✓ Fast transient response time: $< 50 \mu\text{s}$
- ✓ 5 digit Voltage, 4 digit Current Display, Minimum Resolution: 1 mV/1 mA
- ✓ Supports front panel timing output functions
- ✓ 2.8 inch true color TFT- LCD 240 *320 display
- ✓ 2 types of output modes: Two-wire output mode, 4-wire compensation output mode, Maximum compensation voltage 1V.
- ✓ 100/120/220/230 V compatible design to meet the needs of different power grids
- ✓ Intelligent temperature-controlled fan reduces noise
- ✓ Clear graphical interface, with the waveform display function
- ✓ Internal 5 groups of system parameter save/recall
- ✓ Includes PC software: Easypower, supports SCPI, LabView driver



The SPD1000X power supply features a high measurement resolution of 1mV/1mA . This ensures accurate output even with very small changes in voltage or current. This is impossible for a low resolution power supply.

In the 4-wire SENSE compensation output mode: By using a separate measurement circuit, the supply can more accurately compensate for any voltage drops due to high resistance connections or long cables. Maximum compensation voltage is 1V.

[illegible]

20.0 mV/div
0.0 mV offset
-54.4 mV
320 μ V
10 μ s

Measure	Value	Unit
Time	0.0	μ s
Rise	0.000	ns
Fall	0.000	ns
Width	0.000	ns

The figure consists of four screenshots of a digital multimeter's LCD display, arranged in a 2x2 grid. Each screenshot shows the same interface with a top status bar, a main display area, and a bottom status bar.

- Top Status Bar:** Contains a battery level icon (four bars), a range selection icon (a circle with a horizontal line), and a unit icon (V, A, or W).
- Main Display Area:** Shows the current measurement value and unit. The background is black with blue and yellow text.
- Bottom Status Bar:** Contains the text "TIMER" followed by a yellow "OFF" button icon.

The four screenshots show the following data:

- Top Left:** Mode: ON, 2wire, CV. SET: 16.000V, 8.000A, 128.00W. OUT: 15.999V, 0.000A, 0.000W.
- Top Right:** Mode: ON, 2wire, CV. SET: 16.000V, 8.000A, 128.00W. OUT: 15.999V, 7.999A, 127.98W.
- Bottom Left:** Mode: ON, 2wire, CV. SET: 30.000V, 5.000A, 150.00W. OUT: 29.999V, 0.000A, 0.000W.
- Bottom Right:** Mode: ON, 2wire, CV. SET: 30.000V, 5.000A, 150.00W. OUT: 29.999V, 4.999A, 149.98W.

NO	CV
1	3.000
2	6.000
3	9.000
4	12.000
5	15.000

SPD1000X programmable power supply can save or recall 5 groups of setting parameters in internal storage. You can easily recall the settings you need.

STORE PAGE

● **FILE 1**

FILE CHOICE **FILE 2**

FILE 3

OPER CHOICE **FILE 4**

FILE 5

STORE **RECALL** **DELETE**

**Press and Hold "IP/Save"
Button to Display IP Page**

The screenshot shows the LTspice simulation environment. The top toolbar includes buttons for 'Use timer on PC', 'Repeat times 1', and 'Rerun'. The main plot area displays a transient analysis graph with voltage on the y-axis (0V to 35V) and time on the x-axis (0 to 100). The graph shows a green trace that starts at 0V, rises to approximately 15V at 25 units of time, and then continues to rise more gradually towards 35V. A red trace is also visible, starting at 0V and rising to approximately 10V at 25 units of time. The plot is titled 'Repeat times 1'.

Below the plot, there is a table of simulation parameters. The table has four columns: 'Value', 'Unit', 'Set', and 'Left'. The table lists 10 parameters, including 'Value', 'Unit', 'Set', and 'Left'.

Value	Unit	Set	Left
1	10.000	1.000	10
2	15.000	1.000	10
3	14.000	1.000	10
4	13.000	2.000	10
5	12.000	2.000	10
6	11.000	2.000	10
7	10.000	2.000	10
8	9.000	4.000	10
9	8.000	4.000	10
10	67.000	5.000	10

At the bottom of the interface, there is a 'Cancel' button.

PC Timer

Specifications

All the specifications are guaranteed when the instrument has been working for more than 30 minutes under the specified operating temperature. Unless otherwise noted, the specifications are applicable to all the channels of the specified model.

Model		SPD1168X	SPD1305X
DC Output (0 °C to 40 °C)		Output Voltage: 0 to 16 V Output Current: 0 to 8 A	Output Voltage: 0 to 30 V Output Current: 0 to 5 A
Max Output Power		128W	150W
Display		2.8 inch true color TFT-LCD 5 digit voltage/4 digit current	
Resolution		1mV/1mA	
Program Accuracy (25 ± 5 °C)		Voltage: ±(0.03% of reading+10 mV)	
		Current: ±(0.3% of reading+10 mA)	
Readback Accuracy (25 ± 5 °C)		Voltage: ±(0.03% of reading+10 mV)	
		Current: ±(0.3% of reading+10 mA)	
Temperature Coefficient per °C (Output Percentage + Offset)		Voltage: ±(0.01% of reading+3 mV)	
		Current: ±(0.01% of reading+3 mA)	
Constant Voltage Mode	Load Regulation	≤ 0.01% + 2 mV	
	Ripple & Noise	≤ 350 uVrms/3 mVpp (20 Hz to 20 MHz)	
	Recovery Time	< 50 μs (50% load change, minimum load 0.5 A)	
Constant Current Mode	Line Regulation	≤ 0.2% + 3 mA	
	Load Regulation	≤ 0.2% + 3 mA	
	Ripple & Noise	≤ 2 mArms	
Locking Key		Yes	
Memory Save/Recall		5 Sets	
Power Source		AC 100 /120/220/230 V ± 10% 50/60Hz	
Standard Configuration Interface		USB Device, LAN	
Insulation		Case to Terminal ≥ 20 MΩ (DC 500 V) Case to AC line ≥ 30 MΩ (DC 500 V)	
Operating Environment		Outdoor Usage: Elevation: ≤2000 m Environment Temperature 0 to 40 °C Relative Humidity ≤ 80% Installation Level: II Pollution Level: 2	
Storage Environment		Environment Temperature: -10 to 70 °C Relative Humidity ≤ 70%	
Dimension		154.6 (W) × 144.5 (H) × 280(D) mm	
Weight		≈5.5kg	

Ordering information

Product information	Product No
Single path independent output, min resolution 1 mV/1 mA, USB Device & LAN, 2.8 inch LCD display	SPD1168X, SPD1305X
Standard Accessories	
USB Cable -1	
Quick Start -1	
Power cord -1	
Output Test Cord -2 Sets	

Warranty

Three-year warranty, excluding accessories.

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About SIGLENT

SIGLENT is an international high-tech company, concentrating on R&D, sales, production and services of electronic test & measurement instruments.

SIGLENT first began developing digital oscilloscopes independently in 2002. After more than a decade of continuous development, SIGLENT has extended its product line to include digital oscilloscopes, function/arbitrary waveform generators, digital multimeters, DC power supplies, spectrum analyzers, isolated handheld oscilloscopes and other general purpose test instrumentation. Since its first oscilloscope, the ADS7000 series, was launched in 2005, SIGLENT has become the fastest growing manufacturer of digital oscilloscopes. We firmly believe that today SIGLENT is the best value in electronic test & measurement.

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