

SPD3000C Series

Programmable DC Power Supply



DataSheet-2016.03

Main Features

- ✚ 3 independent controlled and isolated output: 32 V/3.2 A×2, 2.5 V/3.3 V/5 V/3.2 A×1, total power 220 W.
- ✚ Resolution: 10 mV/10 mA
- ✚ Supports panel timing output functions.
- ✚ LED display; 32 V full scale, 4 digits; 3.2 A full scale, 3 digits
- ✚ 100 V/120 V/220 V/230 V compatible design, to meet the needs of different power grids.
- ✚ Intelligent fan for temperature control, effectively reduces noise.
- ✚ Five groups of internal system parameter storage. Supports data storage space expansion.
- ✚ Supports SCPI commands & USB device interface. Includes PC software.

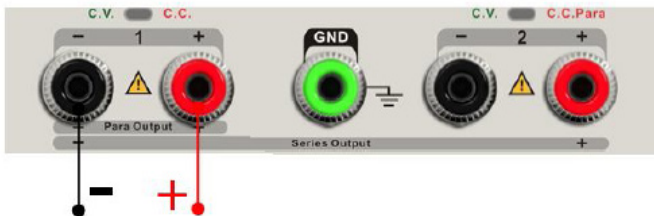
Design Features

✚ High-resolution and high-precision output

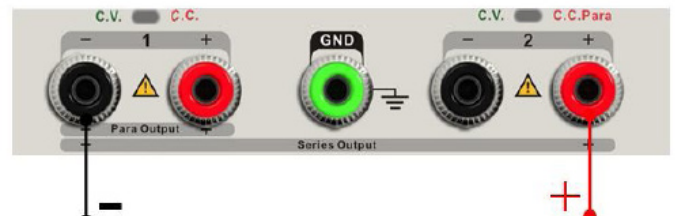
High precision adjustability of as low as 10 mV & 10 mA steps. User's DUT can be monitored and analyzed under small changes in voltage and current.

✚ Series/parallel/independent mode functions

Series and parallel functions allows two channels to be easily combined into one output with more power output ability, doubling the supplied voltage or current. Each of the 3 channel's outputs can be turned on/off independently or all 3 turned all-on/all-off simultaneously.







Parallel connection



Series connection



Application Field

-  Debugging in R&D
-  Production / Automatic Test
-  Quality Control and Test
-  Teaching / Education

Specification

Model		SPD3303C
Output		CH1 Output Current:0~3.2 A CH2 Output Voltage:0~32 V CH2 Output Current:0~3.2 A CH3 Output Voltage:2.5 V/3.3 V/5 V CH3 Output Current:3.2 A
Display		32 V full scale 4 digits 3.2 A full scale 3 digits LED display
Resolution		10 mV/10 mA
Program Accuracy		V: $\pm (0.5\% \text{ of reading} + 2 \text{ digits})$ I: $\pm (0.5\% \text{ of reading} + 2 \text{ digits})$
Readback Accuracy		V: $\pm (0.5\% \text{ of reading} + 2 \text{ digits})$ I: $\pm (0.5\% \text{ of reading} + 2 \text{ digits})$
Constant Voltage Mode	Line Regulation	$\leq 0.01\% + 3 \text{ mV}$
	Load Regulation	$\leq 0.01\% + 3 \text{ mV}$
	Ripple & noise	$\leq 1 \text{ mVrms (5 Hz} \sim 1 \text{ MHz)}$
	Recovery time	$< 50 \mu\text{s}$ (50% load change, Minimum load 0.5 A)
Constant Current Mode	Line Regulation	$\leq 0.2\% + 3 \text{ mA}$
	Load Regulation	$\leq 0.2\% + 3 \text{ mA}$
	Ripple & noise	$\leq 3 \text{ mArms}$
Parallel Mode	Line Regulation	$\leq 0.01\% + 3 \text{ mV}$
	Load Regulation	$\leq 0.01\% + 3 \text{ mV}$
Series Mode	Line Regulation	$\leq 0.01\% + 5 \text{ mV}$
	Load Regulation	$\leq 300 \text{ mV}$
CH3	Output	(2.5 V/3.3 V/5 V) $\pm 8\%$
	Line Regulation	$\leq 0.01\% + 3 \text{ mV}$
	Load Regulation	$\leq 0.01\% + 3 \text{ mV}$
	Load Regulation	$\leq 1 \text{ mVrms (5 Hz} \sim 1 \text{ MHz)}$
Locking key		Yes
Memory Save/Recall		5 sets
Max Output Power		220 W
Power Source		AC 100 V/120 V/220 V/230 V $\pm 10\%$ 50/60 Hz
Interface		USB Device
Insulation		Case to Terminal: $\geq 20 \text{ M}\Omega$ (DC 500 V) Case to AC line: $\geq 30 \text{ M}\Omega$ (DC 500 V)
Operating environment		Outdoor usage: Elevation: $\leq 2000 \text{ m}$ Environment Temp: $0 \sim 40^\circ\text{C}$ Relative Humidity: $\leq 80\%$ Installation Level: II Pollution Level: 2
Storage Environment		Environment Temp: $-10 \sim 70^\circ\text{C}$ Relative Humidity: $\leq 70\%$
Size		275×225×136 mm
Weight		7.5 Kg

SPD1000X Series

Programmable DC Power Supply



DataSheet-2018.07

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: $\leq 350 \mu\text{Vrms}/3 \text{ mVpp}$; $< 2 \text{ mArms}$
- ✓ 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



Design Features

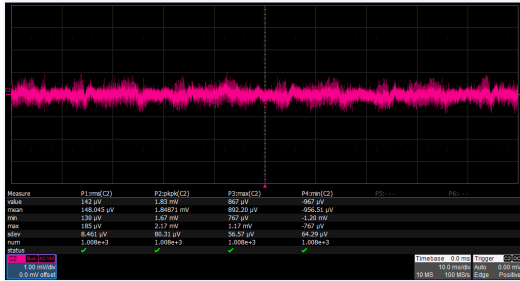
High-resolution and high-precision output

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.

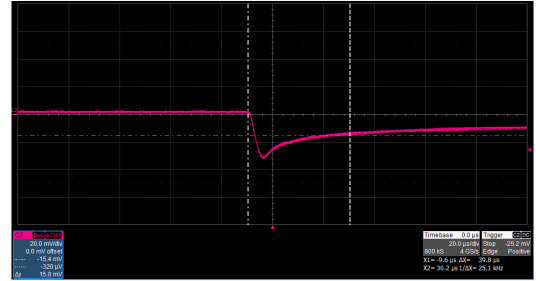
4-wire SENSE compensation mode function

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.

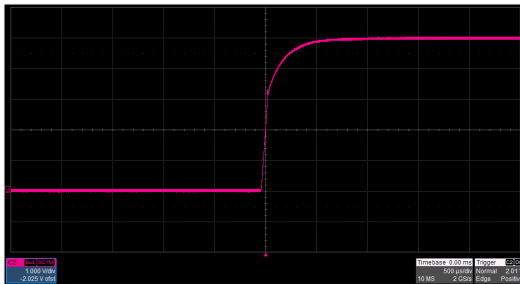
Low ripple and noise



Fast transient response time



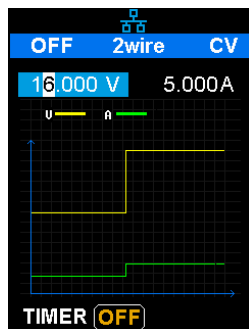
Low voltage overshoot



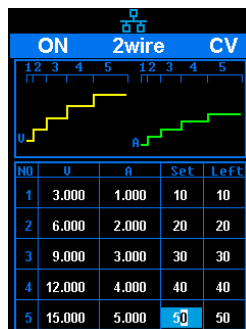
0.01% Load Regulation & 0.2% Line Regulation



Panel displays the timing output



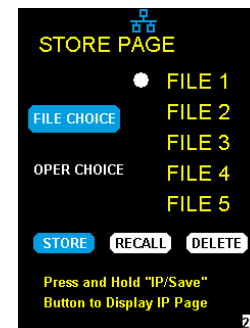
Real time wave display



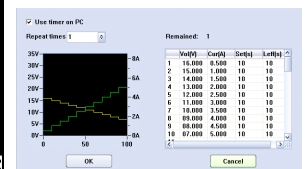
Panel timing output

Save/Recall setting parameters

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



Internal Storage



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.

SPD1000X Series Programmable DC Power Supply

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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