GPE-1000 Series

Single Channel Linear DC Power Supply

FEATURES

- 2.4" TFT LCD
- Encoder Switch to Set up Voltage and Current
- Voltage Setting Resolution 1 mV
- Voltage Readback Resolution 100 µV
- Current Setting Resolution 0.1 mA
- Current Readback Resolution 10 µA
- Provided Hardware Protections: OVP, OCP, OTP, On/Off Switch, Key Lock
- Provided Remote Sense (Compensates Voltage up to 1 V)
- Can Perform Series/Parallel Connection of Two GPE-1000 Units of The Same Model Through The Rear Panel Control I/O Interface

GW INSTEK
Simply Reliable

The GPS-S series - comprising models such as the GPS-1850D, 3030D, and 3030DD - has long been a mainstay among DC power supplies offered by GW Instek. Renowned for its exceptional stability, durability, and dependable performance, this series has earned the trust of users and maintained a steadfast presence in the market for over three decades. Employing linear regulation technology, it delivers low-noise, high-precision output, rendering it well-suited to applications in research and development, education, and electronics manufacturing. Yet, as testing technologies have advanced, certain aspects of the series - namely its resolution, protective features, and user convenience - now present opportunities for refinement. Moreover, the cost of maintenance has steadily risen over time.

To meet the demands of modern testing applications, GW Instek has introduced the GPE-1000 series of DC power supplies as the ideal successor to the esteemed GPS-S series. This new line offers enhanced precision, steadfast stability, and intelligent functionality in its design. The series comprises two models - GPE-1205 (20 V / 5 A / 100 W) and GPE-1323 (32 V / 3 A / 96 W) - providing users with versatile options for output power to suit a range of requirements.

Compared to the old models, the GPE-1000 series has been significantly improved in many aspects. The old model's GPS-S design uses a VR knob, which is not only difficult to adjust the value accurately, but also has a low resolution, usually only up to 100 mV/10 mA. The new model utilizes an Encoder Switch digital knob design, which allows users to set the required value more accurately, and its voltage/current setting resolution is 1 mV/0.1 mA, and the readback resolution is increased to 0.1 mV/10 μA, greatly improving operational convenience and test accuracy. In addition, Remote Sense technology can perform voltage compensation to ensure accurate voltage output. The master-slave series/parallel connection function can provide higher voltage or current, suitable for higher power testing.

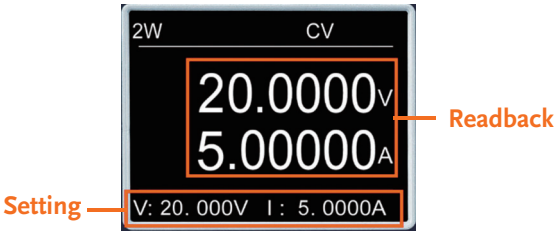
In terms of safety, the GPE-1000 series is equipped with multiple protective mechanisms, including Over Voltage Protection (OVP), Over Current Protection (OCP), Over Temperature Protection (OTP), and reverse polarity protection, thereby ensuring the safety of test equipment. Its 2.4-inch TFT-LCD display presents voltage and current readings with clarity, while the front panel lock function prevents accidental operation. Additionally, the temperature-controlled fan design effectively reduces noise, enhancing the comfort of the testing environment.

The GPE-1000 series supports the GRA-441-J/E rack mount kit, facilitating seamless integration into test systems and enhancing both spatial and management efficiency. With its high precision and intelligent design, the GPE-1000 series stands as an ideal choice for research and development, education, and electronics manufacturing. It empowers users to obtain accurate test data, thereby improving the efficiency of product development and testing processes.

PANEL INTRODUCTION

1. 2.4-inch LCD Display
2. Value Adjustment/Confirmation Key
3. Arrow Keys, Used to Select The Number of Digits
4. Set The Voltage/Current Range
5. Set OVP/OCP Function
6. External Series/Parallel Function
7. 2/4 Wire Setting & Panel Lock Key
8. Output On/Off Switch
9. Power Switch
10. Power Output Terminal
11. Remote Voltage Compensation Terminal
12. Heat Dissipation Area
13. Cooling Fan
14. Series-parallel Control Connection Terminal
15. AC Input Voltage Selection Switch (Bottom of The Machine)
16. AC Input Power Terminal

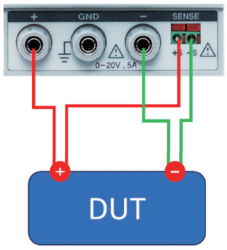
A. HIGH MEASUREMENT RESOLUTION

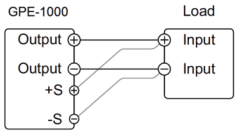


The set value and the actual readback value after the output is turned on can be displayed directly on the screen at the same time.

The setting resolution can reach: 1 mV / 0.1 mA, and the readback resolution can reach: 0.1 mV / 10 μA.

B. REMOTE SENSING FUNCTION

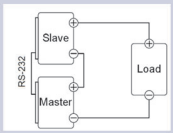


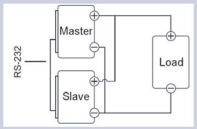


Remote Sensing can be used for compensation. Due to the voltage drop caused by the resistance on the test connection cable from the power supply output to the load, a test connection cable with a voltage drop less than the power supply compensation voltage should be selected during testing.

C. EXTERNAL SERIES / PARALLEL CONTROL

Model	Series Range	Parallel Range
GPE-1323	64V / 3A	32V / 6A
GPE-1205	40V / 5A	20V / 10A



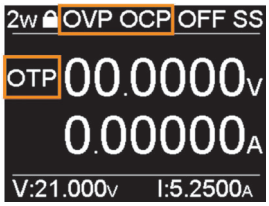


Use two GPEs of the same model and select the Series / Parallel function on the front of the machine, and connect them with the IO on the rear panel for series or parallel applications.

D. OUTPUT ON/OFF FUNCTION

This function can avoid unnecessary damage when the DUT is connected to the power supply and output is performed in advance. Users can set the voltage and current parameters in advance, confirm that all wiring has been completed, and then manually execute the output of the machine through the front panel.

E. MULTIPLE PROTECTION FUNCTIONS



The protection mechanism of OVP/OCP/OTP is implemented by hardware circuit, which has the advantage of faster response time compared with competitors that use software to implement protection.

When it is detected that the voltage or current of the DUT exceeds the protection setting value, the output of the power supply can be stopped in a very short time to achieve the purpose of protecting the DUT.

F. PANEL LOCK FUNCTION

In order to prevent the DUT from being damaged by any person other than the user changing the setting parameters at will, the user can activate the panel lock function to protect the safety of the DUT.

G. TEMPERATURE CONTROLLED FAN FUNCTION

The product uses a temperature-controlled fan, whose speed will change with the temperature inside the machine, so that the temperature inside the machine remains stable and the specifications will also be stable.

In addition to reducing the noise caused by the fan speed, the temperature-controlled fan is also less likely to generate noise due to rotation.

SPECIFICATIONS

		GPE-1205	GPE-1323
OUTPUT RATING			
Output Voltage		0.000 V to 20.000 V	0.000 V to 32.000 V
Output Current		0.0000 A to 5.0000 A	0.0000 A to 3.0000 A
Output Power		100 W	96 W
CONSTANT VOLTAGE OPERATION			
Line Regulation		≤ 0.01 % + 3 mV	
Load Regulation		≤ 0.01 % + 5 mV; ≤ 0.01 % + 5mV (≥ 10 A)	
Ripple & Noise (5 Hz to 1 MHz)		≤ 0.5 mVrms	
Transient Recovery Time		≤ 100 µs (50 % load change, minimum load 0.5 A)	
Setting Range		0 V to 21.000 V	0 V to 33.600 V
Temperature Coefficient		≤ 300 ppm/°C	
CONSTANT CURRENT OPERATION			
Line Regulation		≤ 0.2 % + 3 mA	
Load Regulation		≤ 0.2 % + 3 mA	
Ripple & Noise		≤ 2 mArms	
Setting Range		0 A to 5.2500 A	0 A to 3.1500 A
RESOLUTION			
Voltage	Programming/Readback	1 mV / 0.1 mV	1 mV / 0.1 mV
Current	Programming/Readback	0.1 mA / 0.01 mA	0.1 mA / 0.01 mA
2 UNITS WITH SERIES/PARALLEL FUNCTION *1			
Tracking Series Voltage/Current		0 V to 40.000 V, 0 A to 5.0000 A	0 V to 64.000 V, 0 A to 3.0000 A
Tracking Parallel Voltage/Current		0 A to 20.000 A, 0 A to 10.0000 A	0 V to 32.000 V, 0 A to 6.0000 A
METER			
Full Scale	Voltage/Current	20.000 V / 5.0000 A	32.000 V / 3.0000 A
Programming	Voltage/Current	5 digits / 6 digits	
Readback Resolution	Voltage/Current	5 digits / 6 digits	
Setting Accuracy	Voltage	± (0.03 % of reading + 10 mV)	
	Current	± (0.3 % of reading + 10 mA)	
Readback Accuracy	Voltage	± (0.03 % of reading + 10 mV)	
	Current	± (0.3 % of reading + 10 mA)	
PROTECTION			
OVP	Power Mode	OFF, ON (1.0 V to 22.0 V)	OFF, ON (1.8 V to 35.2 V)
	Setting Accuracy	≤ ± 100 mV	
	Resolution	100 mV	
OCP	Power Mode	OFF, ON (0.25 A to 5.5 A)	OFF, ON (0.15 A to 3.3 A)
	Setting Accuracy	≤ ± 20 mA	
	Resolution	10 mA	
Insulation Resistance		Between chassis and terminal : 20 MΩ or above (DC 500V)	
		Between chassis and DC power cord : 30 MΩ or above (DC 500V)	
GENERAL SPECIFICATIONS			
Display		2.4" monochrome LCD	
Interface		Remote I/O, 9-pin terminal	
Operation Environment		Indoor use, Altitude: ≤ 2000 m; Ambient temperature: 0 °C to 40 °C / Relative humidity: ≤ 80 %;	
		Installation category: II / Pollution degree: 2	
Storage Environment		Temperature: -10 °C to 70 °C, Humidity: ≤ 70 %	
Power Input		AC 100 V/120 V/220 V/240 V ± 10 %, 50 Hz or 60 Hz	
Power Consumption		300 VA	
Dimensions & Weight		107 mm x 124 mm x 313 mm, (W x H x D), Approx. 5.2 kg	

The specifications apply when the GPE-Series are powered on for at least 30 minutes under +20 °C to +30 °C.

ORDERING INFORMATION

GPE-1205 100 W Single Channel Linear DC Power Supply (USB, LAN) (20 V /5 A)
GPE-1323 96 W Single Channel Linear DC Power Supply (USB, LAN) (32 V/3 A)

ACCESSORIES:

Standard Type Jack Terminal:
Power Cord x 1, Packing List x 1, Test lead GTL-104A x 1

European Type Jack Terminal:
Power Cord x 1, Packing List x 1, Test lead GTL-204A x 1

OPTIONAL ACCESSORIES

GTL-104A Test Lead, U-type to Alligator Test Lead, Max. Current 10 A, 1000 mm
GTL-204A Test Lead, Banana to Alligator, European Terminal, Max. Current 10 A, 1000 mm
GTL-234 RS-232C cable, 9 pin
GRA-441-J Rack Mount Kit for JIS type
GRA-441-E Rack Mount Kit for EIA type

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