GW Instek

GPP-3610H/7250

Single-Channel Programmable DC Power Supply

New Product Announcement

This document allows GW Instek' partners to quickly grasp product's main features, FAB and ordering information.

GW INSTEK

Simply Reliable

GPP programmable DC power supply series incorporates two new 360W models, namely the 36V/10A GPP-3610H and the 72V/5A GPP-7250. GPP-3610H provides high programming resolution (1mV/0.2mA) and readback resolution (0.1mV/0.2mA); GPP-7250 provides high programming resolution (2mV/0.2mA) and readback resolution (0.1mV/0.1mA), and the best low ripple noise characteristics ≦1mVrms (5Hz~ 1MHz) / ≦2mArms and output transient recovery capability≦100us.

GPP-3610H and GPP-7250 provide a variety of display modes, including channel setting values, measurement values, and waveform display. Using the output monitoring function of the GPP series, users can set monitoring conditions according to their needs, generate an alarm or stop output during the measurement process, stop the measurement and protect the customer's DUT. The GPP series provides an output recorder function, the voltage/current of the output process can be recorded in the internal memory, and the results can be saved as (*.REC) or (*.CSV) file and transferred to a USB. The saved *.CSV can be later exported into Excel for analysis.

GPP-3610H and GPP-7250 are designed with a load function of up to 100W. The GPP-3610H provides 36V/10A power output, and has built-in maximum 36.5V constant voltage load (CV), maximum 10.2A constant current load (CC) and maximum 1kΩ constant resistance load (CR) functions. GPP -7250 provides 72V/5A power output, and has built-in maximum 72.5V constant voltage load (CV), maximum 5.2A constant current load (CC) and maximum 1kΩ constant resistance load (CR) functions

The output of GPP-3610H and GPP-7250 provides the sequence output function, which not only allows users to edit the power output waveform, but also allows users to set a sequence of constant voltage (CV) or constant current (CC) load waveform. For example, sequential power output or dynamic load simulation testing. In order to simplify the settings of waveform editing, the GPP series has 8 built-in waveforms in the templet waveform from the sequence output function, including Sine, Pulse, Ramp, Stair Up, Stair Dn, Stair UpDn, Exp Rise, Exp Fall waveforms, providing users to apply for output directly.

The complete protection functions comprise OVP, OCP, OPP, and OTP. The protection mechanism of OVP, OCP, and OTP is implemented by hardware circuits. Compared with competitors that use software to implement protection, it has the advantage of fast response time. The OVP and OCP functions allow users to set the protection action point based on the conditions of the DUT. OPP only protects the operation of the load function. The delay function can set the length of time during which the power output is on or off.

In addition, the Trigger In/Trigger Out function can synchronize external devices. The intelligent temperature-controlled fan can adjust the speed according to the temperature of the power transistor to reduce unnecessary noise. The output value setting and Sequence/Delay/Recorder functions respectively provide 10 sets of internal storage memory, and can be exported/stored using a USB. In addition to standard RS-232 and USB remote interfaces, GPP-3610H and GPP-7250 also have standard LAN or LAN+GPIB interfaces to meet different user needs.

Features

- 4.3” TFT LCD Display
- Programming resolution: 1mV/ 0.2mA (GPP-3610H); 2mV/0.2mA (GPP-7250)
- Readback resolution: 0.1mV/ 0.1mA
- Low ripple noise: ≦ 1mVrms / ≦2mArms
- Transient response time: ≦100us
- Load function (CC, CV, CR mode)
- Utilizes hardware to realize over voltage protection / over current protection / over temperature protection
- Delay function/output monitoring function /output recorder function
- Supports setting value, measurement value and output waveform display
- Sequential output function and 8 built-in template waveforms
- The output recorder function records the output voltage & current parameters with a minimum recording interval of 1 second.
- Sequence/delay/recorder/panel setting conditions respectively provide 10 sets of internal storage memory
- Intelligent temperature-controlled fan effectively reduces noise
- Standard interface: RS-232, USB, Ext I/O
- Standard interface (manufacturer installed only): LAN, GPIB+LAN

Customers and Applications

Customers	Applications
School and research institute	Scientific research and experimental testing
Energy storage device industry	Electronic parts test
Consumer electronics industry	3C electronic product test

Appearance

Front panel

Rear panel

Front Panel	Rear Panel
1. Liquid-Crystal Display	8. AC Input Switch
2. Numeric Keys	9. AC Input Socket (Fuse included)
3. Function Keys	10. RS-232 Port
4. Output Key	11. USB Device Port
5. USB Host	12. Ext I/O Port
6. Channel Output Terminals	13. GPIB Port
7. Power Button	14. LAN Port
	15. Rear Panel Output

Important Information of Product Ordering

Key Dates for Product Announcement

1. NPI release and sample order (Dec 6, 2023)
2. Global market announcement (Dec 12, 2023)

Service Policy

1. GPP Series Programmable DC Power Supply carries two year warranty.
2. Contact GW Instek Service Department for maintenance information.

Ordering Information

- GPP-3610H (36V/10A) Single-Channel Programmable DC Power Supply
- GPP-7250 (72V/5A) Single-Channel Programmable DC Power Supply

Model	PART NO	EAN-13 code
GPP-7250 (LAN)(European Type) (CE)	01PP725040GS	4713008679869
GPP-7250 (GPIB+LAN) (European Type) (CE)	01PP725050GS	4713008679876
GPP-3610H (LAN)(European Type)(CE)	01PP361H40GS	4713008679920
GPP-3610H (GPIB+LAN) (European Type) (CE)	01PP361H50GS	4713008679937

Standard Accessories

- **Power cord; Test Lead:** GTL-104Ax1, GTL-105Ax1
- **Optional Accessories:** USB Cable GTL-246 USB 2.0 A-B type

Standard Accessories (Manufacturer installed only): LAN Interface or GPIB+LAN Interface

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Detailed Descriptions for Features

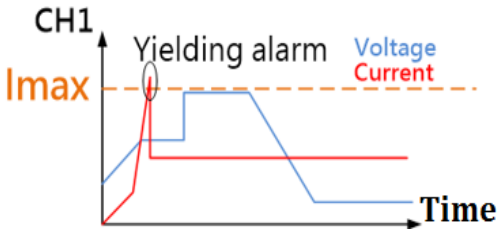
Operating Range

Model Number	Number of Outputs	CH1
GPP-3610H	1	0-36V/0-10A
GPP-7250	1	0-72V/0-5A

Output Function List

	GPP-3610H/7250
Functions	CH1
Sequence output function	√
Load functions (CC, CV, CR mode)	√
Output delay function	√
Output monitoring function	√
Output recorder function	√
Panel Save/ Recall	√

Output Monitoring Function

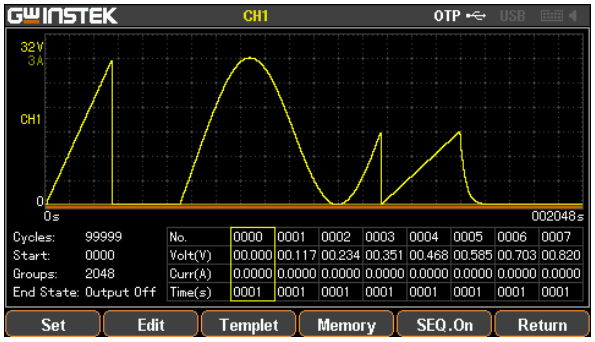


Output monitoring

Monitoring function setting

The output monitoring function allows users to set the monitoring conditions according to the requirements, including voltage, current, and power greater than or less than the setting and the logical relationship of AND, OR. It also allows users to sound alarms or stop the output during the measurement process, stop the measurement, and protect the customer's DUT.

Sequence Output Function



Output waveform of the GPP series

GPP-3610H and GPP-7250 provide the sequence output function, which not only allows users to edit the power output waveform, but also allows users to set a sequence of constant voltage (CV) or constant current (CC) load waveform for instance, a serial power output or a simulation test of a dynamic load. The sequence editing point can set up to 2048 steps, and the interval time of each step can be set from 1 to 300 seconds. In order to simplify the settings of waveform editing, the GPP series has 8 built-in waveforms in the templet waveform in the sequence output function, including Sine, Pulse, Ramp, Stair Up, Stair Dn, Stair UpDn, Exp Rise, Exp Fall waveforms for users to apply output directly.

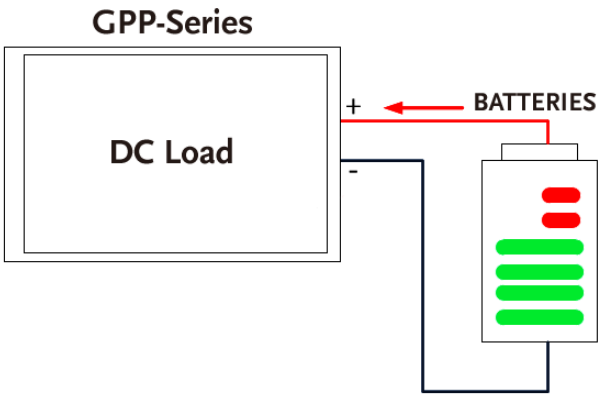
The edited data output by sequence can be stored in the instrument's internal 10 sets of memory, or can be accessed using a USB flash drive (Save/Recall) and saved as *.SEQ or *.CSV file. The saved *.CSV can be exported to Excel for editing and analysis. The edited files can be uploaded (Save/Recall) into the instrument using a USB flash drive.

Hardware Protection Function (OVP/OCP/OTP)

OVP trigger

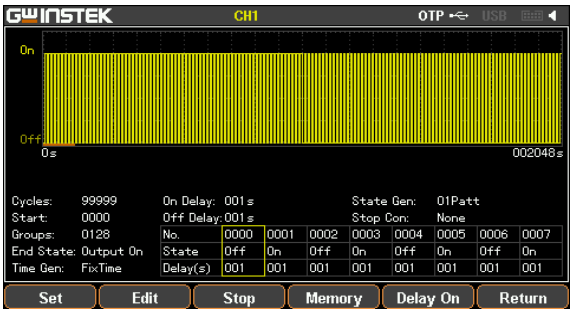
The protection mechanism of OVP/OCP/OTP is implemented by hardware circuit, which has the advantage of faster response time than competitors who use software to achieve protection. When it is detected that the voltage of the DUT exceeds the setting value of the OVP, the output of the power supply can be stopped in a short time to achieve the purpose of protecting the DUT.

Load Function



GPP-3610H and GPP-7250 are designed with a load function of up to 100W. GPP-3610H has built-in maximum 36.5V constant voltage load (CV), maximum 10.2A constant current load (CC) and maximum 1kΩ constant resistance load (CR) functions. GPP-7250 has built-in maximum 72.5V constant voltage load (CV), maximum 5.2A constant current load (CC) and maximum 1kΩ constant resistance load (CR) functions, so users can perform discharge tests without using an additional electronic load.

Output Delay Function

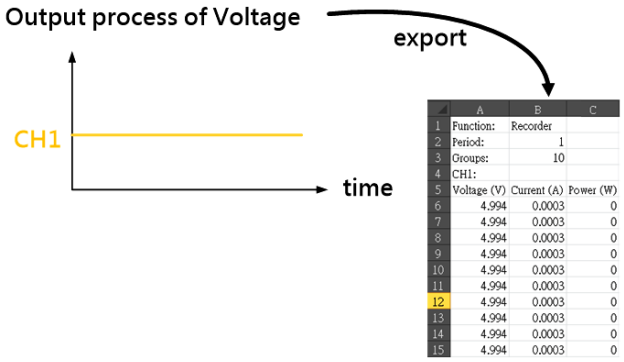


GPP series delayed waveform

Output delay function (Delay) allows users to edit the power output on/off timing waveform while the front panel voltage and current settings remain unchanged. In order to simplify the settings of waveform editing, the GPP series has 3 built-in timing modes in the delay output function in a standalone instrument, including Fixtime, Increase, and Decline, for users to apply directly.

The edited data output by output delay can be stored in the instrument's internal 10 sets of memory, or can be accessed using a USB flash drive (Save/Recall) and saved as *.DLY or *.CSV file. The saved *.CSV can be exported to Excel for editing and analysis. The edited files can be uploaded (Save/Recall) into the instrument using a USB flash drive.

Output Recorder Function

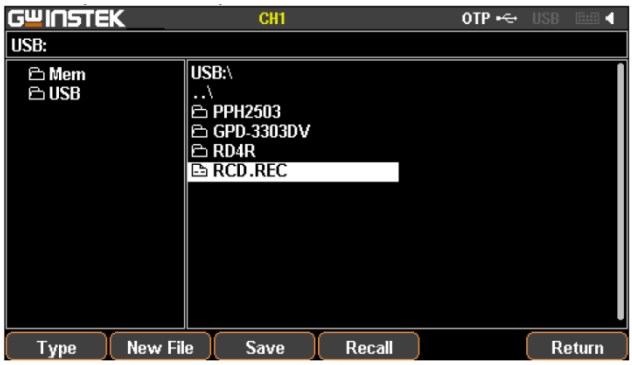


	A	B	C
1	Function:	Recorder	
2	Period:	1	
3	Groups:	10	
4	CH1:		
5	Voltage (V)	Current (A)	Power (W)
6	4.994	0.0003	0
7	4.994	0.0003	0
8	4.994	0.0003	0
9	4.994	0.0003	0
10	4.994	0.0003	0
11	4.994	0.0003	0
12	4.994	0.0003	0
13	4.994	0.0003	0
14	4.994	0.0003	0
15	4.994	0.0003	0

Schematic diagram for output recorder function

The output recorder function records the voltage & current parameters of the output process. The recording interval of each point can be set according to user's requirements, and the shortest interval is 1 second and the longest is 300 seconds. The results can be stored in *.REC or *.CSV format to the power supply or directly saved in a USB flash drive. The stored *.CSV can be exported into Excel to conduct the future analysis. (*.REC can record up to 2018 lots, *.CSV can record up to 614400 lots)

Recorder function setting



Save as *.REC

Features, Advantages and Benefits

Features	Advantages	Benefits
Designed with the load function	A single GPP power supply can set the channel as power output or load function.	A single power supply can output power or perform load testing
Linear power output characteristics	Low noise, low ripple power output	Applicable to DUTs requiring low noise power output
Sequence output function + 8 built-in Templet waveforms	Users edit (*.CSV) on a stand-alone power supply or a PC according to the requirements. Upload it to the power supply to generate a sequential power output or a dynamic load waveform.	Templet waveform simplifies the steps and time for users to edit sequential waveforms.
Delay output function + 3 built-in waveform timing modes	Users can edit (*.CSV) on a stand-alone power supply or the PC according to their needs and upload them to the power supply to generate different timing on/off output waveforms.	Three built-in timing modes are to simplify the steps and time for users to edit Delay output waveform.
Output monitoring function	Users set the monitoring conditions according to the requirements, sound an alarm or stop the output during the measurement process.	While measuring the DUT, it can also protect the DUT.
Output recorder function	The voltage & current parameters of the output process can be recorded as (*.CSV) file for users to export to Excel to conduct analysis.	It is convenient for users to record and analyze the measurement of the DUT.
Standard: RS-232, USB, Ext I/O Standard: LAN or LAN+GPIB	Users can select the required communications interfaces according to their needs.	A variety of user interfaces facilitate users.

Specifications

		GPP-3610H	GPP-7250
OUTPUT MODE			
Number of Channel		CH1	CH1
Voltage		0 ~ 36.000V	0 ~ 72.000V
Current		0 ~ 10.0000A	0 ~ 5.0000A
Constant Voltage Operation			
Line Regulation		≤ 0.01% + 3mV	
Load Regulation		≤ 0.01% + 5mV	
Ripple & Noise (5Hz-1MHz)		≤1mVrms	
Transient Recovery Time		≤100μs (50% load change，minimum load 0.5A)	
Temperature Coefficient		≤ 300ppm/°C	
CONSTANT CURRENT OPERATION			
Line Regulation		≤ 0.01% + 3mA	
Load Regulation		≤ 0.02% + 3mA	
Ripple & Noise		≤ 2mArms	
RESOLUTION			
Programming	Voltage/Current	1mV / 0.2mA	2mV / 0.1mA
Readback	Voltage/Current	0.1mV / 0.2mA	0.1mV / 0.1mA
METER			
Full Scale	Voltage/Current	36.5000V / 10.2000A	72.5000V / 5.2000A
Programming Resolution	Voltage/Current	5 digits / 6 digits	
Readback Resolution	Voltage/Current	6 digits / 6 digits	
Setting Accuracy	Voltage	± (0.03% of reading + 10mV)	
	Current	± (0.3% of reading + 10mA)	
Readback Accuracy	Voltage	± (0.03% of reading + 10mV)	
	Current	± (0.3% of reading + 10mA)	
DC LOAD MODE			
Display	Voltage	1 ~ 36.50V	1 ~ 72.50V
	Current	0 ~ 10.200A	0 ~ 5.200A
	Power	0 ~ 100.00W	0 ~ 100.00W
CV Mode	CH1/CH2	1.500V ~ 36.50V	1.500V ~ 72.50V
	Setting/Readback Accuracy	≤±(0.1% + 30mV)	≤±(0.1% + 30mV)
	Resolution	10mV	10mV
CC Mode	CH1/CH2	0 ~ 10.200A	0 ~ 5.200A
	Setting/Readback Accuracy	≤±(0.3% + 10mA)	≤±(0.3% + 10mA)
	Resolution	1mA	1mA
CR Mode	CH1/CH2	1Ω ~ 1kΩ	1Ω ~ 1kΩ
	Setting/Readback Accuracy	≤±(3% + 1Ω)	≤±(3% + 1Ω)
		(voltage≥0.1V, and current≥0.1A)	(voltage≥0.1V, and current≥0.1A)
	Resolution	1Ω	1Ω
PROTECTION			
OVP	Power Mode	OFF,ON(0.5V ~ 38.0V)	OFF,ON(0.5V ~ 75.0V)
	Load Mode	OFF,ON(1.5V ~ 38.0V)	OFF,ON(1.5V ~ 75.0V)
	Setting Accuracy	±100mV	
	Resolution	100mV	

OCP	Power Mode	OFF,ON(0.05A ~ 10.5A)	OFF,ON(0.05A ~ 5.50A)
	Load Mode	OFF,ON(0.05A ~ 10.5A)	OFF,ON(0.05A ~ 5.50A)
	Setting Accuracy	≤±20mA	
	Resolution	10mA	
Insulation Resistance		Between chassis and terminal : 20MΩ or above (DC 500V)	
		Between chassis and DC power cord : 30MΩ or above (DC 500V)	
GENERAL			
Operation Environment		Indoor use, Altitude: ≤ 2000m	
		Ambient temperature: 0 ~ 40°C / Relative humidity: ≤ 80%	
		Installation category: II / Pollution degree: 2	
Storage Environment		TEMPERATURE: -10˚C ~ 70˚C / HUMIDITY: ≤70%	
Power Input		AC 100V/120V/220V/230V±10%, 50/60Hz	
Power Consumption		900VA, 680W	
Dimensions & Weight		213 (W) x 145 (H) x 362 (D) mm ; Approx. 10kg	

Should you have any questions on the GPP series announcement, please don't hesitate to contact us.

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