

GPP-3060/6030/3650

Triple-Channel Programmable DC Power Supply

FEATURES

- 4.3"TFT LCD Display
- Setting Resolution: 1mV / 0.1mA; Read Back Resolution: 0.1mV/0.1mA
- Low Ripple Noise: ≦1mVrms/≦2mArms
- Transient Response Time: $\leq 100 \mu s$
- Load Function (CC, CV, CR mode)
- Tracking Series and Parallel Function without Additional External Wiring
- Utilizing 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 Built-in 8 Template Waveforms
- The Output Recorder Function Records the Output Voltage & Current Parameters with a Minimum Recording Interval of 1 Second
- Provides 10 Sets of Memory for Each Sequence/Delay/Recorder/ Panel Setting Condition
- Supports a USB (Type A) Output Terminal
- Intelligent Temperature Control Fan Effectively Reduces Noise
- Standard: RS-232, USB, LAN, Ext I/O Optional(manufacturer installed only): GPIB



Meet Your Necessity of High Resolution in Multi-Channel Measurement

GPP-3060 and GPP-6030 triple-channel programmable DC power supplies are extension models of the GPP-X323 series. The maximum output power of these three models is 385W. GPP-3650 supports CH1/CH2: 0 ~ 36V / 0 ~5A output; CH3 supports 1.8V, 2.5V, 3.3V, 5.0V / 5A. GPP-3060 supports CH1/CH2: 0 ~ 30V / 0 ~ 6A output; GPP-6030 supports CH1/CH2: 0 ~ 60V / 0 ~ 3A output; CH3 of both models supports 1.8V, 2.5V, 3.3V, 5.0V/5A.

GPP-3650, GPP-3060 and GPP-6030 inherit the high program resolution (1mV/0.1mA) and read back resolution (0.1mV/0.1mA) of the GPP series with low-ripple noise characteristics \leq 1mVrms/ \leq 2mArms and \leq 100µs output transient recovery ability. An independent output on-off switch is provided for each channel.

For series and parallel applications of CH1 and CH2, the tracking function can automatically switch to series or parallel output without additional external wiring. Multiple display modes including single channel or multi-channel setting value, measurement value and waveform display to collocate with the built-in output monitoring function allow users to set the monitoring conditions according to their needs so as to generate an alarm or stop the output during the measurement process in order to stop the measurement and protect the customer's DUT. The output recorder function can record the voltage/current of the output process in the internal memory, and save the result as a (*.REC) or (*.CSV) file, and then save it to a USB flash drive. The unique load function of the GPP series can arbitrarily set CH1/CH2 as power supply or load function. For example, one channel is set as power output, and the other channel is set as load function to consume the power of the DUT to satisfy simple battery charging and discharging or load characteristic test by a single power supply. The sequence output function allows users to edit the power output waveforms by themselves, and also allows users to set the sequential constant voltage (CV) or constant current (CC) load waveforms such as serial power output or dynamic load simulation test. Channel 3 (CH3) incorporates 3A USB (Type A) output terminal, which can be used for USB charging test.

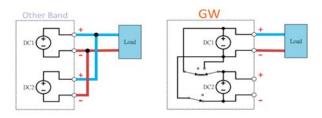
Pertaining to measurement protections, OVP/OCP/OPP/OTP protection functions are provided. The protection mechanism of OVP/OCP/OTP is implemented by hardware circuits, which has a faster response time to protect equipment or DUT while comparing with competitors who use software for protection. The OVP and OCP functions allow users to set the protection action point according to the conditions of the DUT. OPP only provides protection during the operation of the load function.

In addition, GPP-3650, GPP-3060 and GPP-6030 incorporate terminal output on the rear panel, and include a voltage remote sensing terminal. Users can choose front panel or rear panel terminal output, which is convenient for stand-alone or rack operation. Output value setting and Sequence/ The Delay/Recorder functions provide 10 sets of internal memory, which can be uploaded/stored by a USB flash drive.



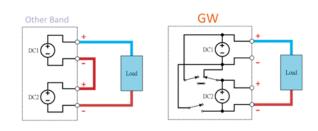
GPP-6030/3060/3650

TRACKING SERIES AND PARALLEL FUNCTION



Output in Parallel Connections

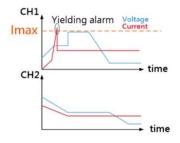
For series and parallel applications of CH1 and CH2, the tracking function of the GPP-Series utilizes the internal circuit to automatically switch the output to serial or parallel output without additional external wiring, providing users with convenience not only in operating procedures but also a more stable output.



Output in Series Connections

The tracking function design of other brands requires additional external wiring connections for the output in series or parallel. However, excessively long, thin or inconsistent external wiring may cause inaccurate voltage or current output.

B. OUTPUT MONITORING FUNCTION



Output Monitoring

The output monitoring function allows users to set the monitoring

conditions according to the requirements, including the voltage,

current, and power greater than or less than the setting and the logical relationship of AND, OR. It also allows users to sound

GWINSTEK		CHI	0TP +%- 🛛	10 III -
Monitor Condition	: CH1 : >32.000 V &	<3.2000 A I <010.00 W		
Stop Mode	: Out Off			
Voltage	Current Pr	ower Stop Type M	ION. On	Return

Monitoring Function Setting

alarms or stop the output during the measurement process, stop the measurement, and protect the customer's DUT. Both Channel could be monitored simultaneously as well.

* Channel 3 does not support the output monitoring function.

SEQUENCE OUTPUT FUNCTION



Sequence Output Waveform

The GPP-Series provides a sequential output function on Channel 1 and Channel 2. This function not only allows users to edit the power output waveform, but also allows users to set the sequential constant voltage (CV) or constant current (CC) load waveform, i.e. a serial power output or a simulation test of a dynamic load. The maximum settable points for sequence function are 2048, and interval range of each point can be set from 1 to 300 seconds. In order to simplify the setting of waveform editing, the GPP-Series has 8 built-in Templet waveforms in sequence output function for users to directly apply for output, including Sine, Pulse, Ramp, Stair Up, Stair Dn, Stair UpDn, Exp Rise, and Exp Fall waveforms.

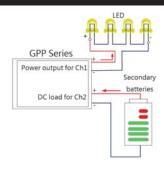
The editing data of the sequence output can be stored in the internal 10 sets of the memory, or to be saved by USB flash drive (Save/Recall) and saved as *.SEQ or *.CSV file; The stored *.CSV can be exported into Excel for editing and analysis. The final edited file can be imported to (Save/Recall) of the power supply using a USB flash drive.

D. 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.

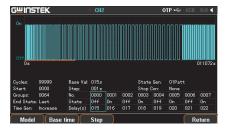


LOAD FUNCTION

GPP-Series Application

The CH1/CH2 of the GPP series is designed with the load function. A single power supply can meet the basic battery charging and discharging test requirements. It can provide power output in channel 1 and channel 2. The rated constant voltage load (CV), rated constant current load (CC) and maximum 1k Ω constant resistance load (CR) function are built-in to allow users to conduct discharging test without using an electronic load. In application, users can also set either that one channel of the single GPP series as the power output, one channel as the load function to consume the power of the DUT, or that both channels as load functions to consume the power of different loads simultaneously.

F. OUTPUT DELAY FUNCTION



GPP-Series Delayed Waveform

Output delay function allows users to edit the timing waveform of the power output on/off when the front panel voltage and current settings are unchanged. In order to simplify the setting of waveform editing, the GPP-Series has three built-in timing modes in the delay output function, including Fixtime, Increase, Decline for users to apply directly. The editing data of the output delay can be stored in the internal 10 sets of memory, or to be saved by USB flash drive (Save/Recall) and saved as *.DLY or *.CSV file. The stored *.CSV can be exported into Excel for editing and analysis. The final edited file can be exported to (Save/Recall) of the power supply using a USB flash drive.

G. OUTPUT RECORDER FUNCTION



Schematic Diagram for Recorder Function

Recorder Function Setting

Save as*.REC

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 the USB flash drive. The stored *.CSV can be exported into Excel to conduct the future analysis. (*.REC can be saved to 2048 records, *.CSV can be saved to 614400 records)

* Channel 3 does not support the output recorder function

PANEL INTRODUCTION



GRA-437-J Rack Mount Kit (JIS)



GRA-437-E Rack Mount Kit (EIA)



OPERATING RANGE

Model Number	Number of Output	Max. Power	СН1	CH2	СНЗ	Interface
GPP-3060	3	385W	0-30V/0-6A	0-30V/0-6A	1.8V/2.5V/3.3V/5V; 5A	USB, RS-232, LAN, GPIB
GPP-6030	3	385W	0-60V/0-3A	0-60V/0-3A	1.8V/2.5V/3.3V/5V; 5A	USB, RS-232, LAN, GPIB
GPP-3650	3	385W	0-36V/0-5A	0-36V/0-5A	1.8V/2.5V/3.3V/5V; 5A	USB, RS-232, LAN, GPIB

* GPIB interfaces cannot be retrofitted after the shipment. When ordering the model, please confirm whether to order GPIB. * Model ordering varies by region.

OUTPUT FUNCTION LIST

Model Number	GPP-3060/GPP-6030/3650					
Functions	СН1	CH2	CH3			
Sequence Output Function	\checkmark	\checkmark	-			
Load Functions (CC, CV, CR mode)	\checkmark	\checkmark	-			
Output Delay Function	✓	1	-			
Output Monitoring Function (10 sets)	\checkmark	\checkmark	-			
Output Recorder Function	✓	1	-			
Panel Save/Recall	\checkmark	1	1			

Name of Section Call	of Left	CATIONS	GPP-3060			GPP-6030			GPP-3650			
	Output Mode											
sind or set of the s												
Image Service Image Se												
indig networks of the set of th								SA (USB Port 3A)			SA (USB Port 3A)	
Image The CNU many frame of a long that many frame of	Tracking Parallel Vola	tage / Current										
Instrum Source Sourc		tage / current	0~ 30.000 7 0	12.0000A				inals should Not exceed 54		0 - 10.0000A	· · · ·	
inde spingener information of the spin o		peration										
sampaline set and set			≤ 0.01% -	+ 3mV	< 3mV	≤ 0.019	6 + 3mV	< 3mV	≤ 0.01%	+ 3mV	< 3mV	
	Load regulation											
Tanial con un configure in a lange of the l	Ripple & noise (5Hz-	-1MHz)										
Name and a point of the second of								-	2007003			
Control Specifie <	I ransient recovery ti	me				(50%		um load 0.5A)				
ise legining or equation is a second	Temperature coeffici	ient					≤ 300ppm/°C					
inder general set of the set of	Constant Current Op	peration										
Signed Fund Image and instruction Space instruction Image and ing and instruction of the second se	Line Regulation						\leq 0.01% + 3m	A				
Network Note 200 1	Load regulation						\leq 0.01% + 3m	A				
Voltage Statul	Ripple & noise						\leq 2mArms					
Current Current <t< td=""><td>Resolution</td><td></td><td>-</td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td></t<>	Resolution		-			-						
Notes Notes Of Name Of Name Of Name Of Name reading provements -0.01x -0.01x -0.01x -0.01x -0.01x reading provements -0.01x -0.01x -0.01x -0.01x -0.01x reading provements -0.01x -0.01x -0.01x -0.01x -0.01x reading provements -0.01x -0.00x -	Programming											
Convent Opened Opene	. iogrammy				-							
Training Generation (1-1)(CFR)	Reedback											
Interfage row CD1% : 100 v/ if Masker (0.000 v/ if Masker (0.0000 v/ if Masker (0.000 v/ if Masker (0.0000 v/ if Masker (0.00			0.1m	IA		0.1	mA		0.1	mA		
Taching error set in each of the set in the act of the set in each of the set in the act of the set in the act of the set in each of the set in the act of the set in the act of the set in each of the set in the act of the set in the act of the set in the set in the act of the set in the set in the act of the set in the set in the act of the set in t	Tracking Operation(< 0.10/10	/ of Master		<0.20/20	mV of Master		<0.10/10	aV of Moster		
marked register mediation accolumny 0.000 million (0000 million (0000 million)) mediation (0000 million) (0000 million) mediation (0000 million) (0000 million) mediation (0000 million) (0000 million) String public string public (marked million) 1.000 million) 1.000 million) 1.000 million) 1.000 million) String public string public string public (marked million) 1.000 million) 1.000 million) 1.000 million) 1.000 million) String public string publi	Tracking error											
Image: second	macking error											
Special register Last SDDN + strv (aring current : 100)		Line										
Load Colors Statu y Lange Statu y Lange </td <td>Parallel regulation</td> <td></td> <td></td> <td></td> <td>_</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td>	Parallel regulation				_						-	
Internet model (solid solid so	r araller regulation	Load			-			-			-	
Ideal Regin Ide		Line										
Bigle Ends Hat Hat Hat Hat Hat Hat Hat Hat	Series regulation											
Note Tacking and supported in CVB mode. Init Scient 2,0000, 0,000,000,000,000,000,000,000,00	Ripple & noise	LOAU										
Value 1 Value 2 Value 2 <t< td=""><td></td><td></td><td><u></u></td><td>12-1101112)</td><td></td><td></td><td></td><td>n I OAD mode</td><td><u></u></td><td>112*110112)</td><td></td></t<>			<u></u>	12-1101112)				n I OAD mode	<u></u>	112*110112)		
Uil Scale Current 6.200A 3.300A 5.500A Standard Current 5.600A 5.600A 5.600A Current 5.600A 5.600A 5.600A 5.600A Standard Current 5.600A 5.600A 5.600A 5.600A Standard Current 1.0035 of reading - 10mV) ±.0035 of reading - 10mV) ±.00	Meter					Tucki	is is not supported if	Eond mode.				
Jam Jam Current 6.200A Version 3.000A 3.000A Status 1.000A Status 1.000A Status 0.000A Status 0.00		Voltage	32.000	00V	1.8V/2.5V/3.3V/5.0V	62.0	000V	1.8V/2.5V/3.3V/5.0V	36.0	V00C	1.8V/2.5V/3.3V/5.0V	
Seculation Current 5 digits Seculation Current 5 digits Steps Scint Current 1000000000000000000000000000000000000	Full Scale		6.200	0A		3.2	000A		5.20	00A		
SeedBack Value 6 digits SeedBack Current 6 digits 6 digits Stillig Scorag * 0.03% of reading : 10m/) * 0.03% of reading : 10m/) * 0.03% of reading : 10m/) stable scorag * 0.03% of reading : 10m/) * 0.03% of reading : 10m/) * 0.03% of reading : 10m/) stable scorag * 0.03% of reading : 10m/) * 0.03% of reading : 10m/) * 0.03% of reading : 10m/) Carent * 0.03% of reading : 10m/) * 0.03% of reading : 10m/) * 0.03% of reading : 10m/) Carent * 0.03% of reading : 10m/) * 0.03% of reading : 10m/) * 0.03% of reading : 10m/) Carent * 0.01% of reading : 10m/) * 0.03% of reading : 10m/) * 0.03% of reading : 10m/) Stating Accuracy - 5.00% * 5.00% * 5.00% * 5.00% Stating Accuracy - 5.00% * 5.00% * 5.00% * 5.00% Stating Accuracy - 6.01% s. 10m/ * 5.00% * 5.00% * 5.00% Stating Accuracy - 5.00% * 5.00% * 5.00% * 5.00% * 5.00% Stating Accuracy - 5.00% * 5.00% * 5.	Programming	Voltage	5 dig	its		5 d	igits		5 di	gits		
Secular of Lorent 5 dright source 5 dright	Resolution	Current										
Setting accuracy Current voltage a (0.00% of reading - 10 mA) = (0.00% of												
Markan Karony Current 1 0.035 of reading - 10 mA) ± (0.035 of reading - 10 mA) ± (0.035 of reading - 10 mA) Setublack Karony Current ± (0.035 of reading - 10 mA) ± (0.035 of reading - 10 mA) ± (0.035 of reading - 10 mA) Setublack Karony Current 0 - 6.200A 0 - 6.200A 0 - 5.200A Diploy Current 0 - 6.200A 0 - 5.200A 0 - 5.200A Pewer 0 - 5.000W 1.500 · 7.620V 0 - 5.200A 0 - 5.200A Current 0 - 6.200A 0 - 5.200A 0 - 5.200A 0 - 5.200A Setting Accuracy Setting Accuracy Setting Accuracy Setting Accuracy 0 - 5.200A Resolution Setting Accuracy Seting Accuracy Seting Accuracy	Resolution				•			•			•	
Control Control <t< td=""><td>Setting accuracy</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Setting accuracy											
Current ± (0.3% of reading ± 10mA) ± (0.3% of reading ± 10mA) ± (0.3% of reading ± 10mA) 0 Coad Mode Corrent 0 - 50,00W 0 - 50,00W 0 - 50,00W CV Mode Corrent 0 - 50,00W 0 - 50,00W 0 - 50,00W CV Mode CH1 (V+12 1.50W + 30,00W 0 - 50,00W 0 - 50,00W CV Mode Setting Accuracy : ≤ (0.1% + 30mV) (Setting Accuracy) : ≤ (0.1% + 30mV) Resolition 10 mV -51,00A -52,00A -52,00A Setting Accuracy : ≤ (0.1% + 30mV) -52,00A -52,00A Resolition 10 mV -51,00A -52,00A Ct Mode Setting Accuracy : ≤ (0.1% + 10mA) -52,00A Resolition 10 mA -52,00A -52,00A Resolition 10 mA -52,00A -52,00A Setting Accuracy : ≤ (0.1% + 10mA) -52,00A -52,00A (volage:01V) and current:0.1A) (volage:01V) and current:0.1A) (volage:01V) and current:0.1A) (volage:01V) and current:0.1A) Resolition 10 10												
Display Voltage 1 - 52.00V - 52.00A Display Current 0 - 6.200A 0 - 3.00A 0 - 3.00A Power 0 - 5.00A 0 - 3.00A 0 - 3.00A 0 - 3.00A CV Mode CH1pts1 1.00V - 3.00V 0 - 3.00A 0 - 3.00A Power 0 - 5.00A 0 - 3.00A 0 - 3.00A 0 - 3.00A CV Mode CH1pts1 0 - 6.20A 0 - 3.00A 0 - 3.00A Resolution 10mV - 6.20A 0 - 3.20A 0 - 5.20A CC Mode Setting Accuracy 5:c0.35% - 10mA) - 6:c0.35% - 10mA) - 6:c0.35% - 10mA) Setting Accuracy 5:c0.35% - 10mA) - 6:c0.35% - 10mA) - 5:c0.35% - 10mA) - 5:c0.35% - 10mA) Readback Accuracy (voltage:0.1V, and currene:0.1A) - (voltage:0.	Readback accuracy											
Volge Current Current Power 1 - 2.00V 0 - 5.00A 1 - 6.6.00A 0 - 5.00A 1 - 6.6.00A 0 - 5.00A Power 0 - 5.00A 0 - 5.00A 0 - 5.00A Power 0 - 6.00A 0 - 5.00A 0 - 5.00A CV Mode Setting Accuracy Readback Accuracy (CH1 (CH2) - 6.00A 0 - 5.00A 0 - 5.00A Setting Accuracy Readback Accuracy Readback Accuracy (CH2 (CH2) - 6.20A 0 - 5.00A - 6.20AA Setting Accuracy Readback Accuracy (CH2 (CH2) - 6.20A - 6.20AA - 6.20AA Setting Accuracy Readback Accuracy (CH2 (CH2) - 6.20A - 6.20AA - 6.20AA Setting Accuracy Readback Accuracy (CH2 (SH2) - 6.20A - 6.20A - 6.20AA Setting Accuracy (CH2 (SH2) - 6.20A - 6.20A - 6.20A Setting Accuracy (CH2 (SH2) - 6.20A - 6.20A - 6.20A Setting Accuracy (CH2 (SH2) - 6.20A - 6.20A - 6.20A R Mode - 6.20A - 6.20A - 6.20A R Mode OFF.ON(0 SM 35 D) Filed S.V OFF.ON(0 SM 35 D) R Mode OFF.ON(0 SM 35 D) Filed S.V <	DC Load Mode	Current	± (0.3% of read	ing + IumA)		± (0.3% of re	ading + TumA)		± (0.3% of rea	aing + 10mA)		
Diplay Current 0 - 6.200A 0 - 3.200A 0 - 5.50.0W Power - 0 - 50.0W - 0 - 50.0W - 0 - 50.0W - 0 - 50.0W CVI Mode CH (CH2 1.500 - 30.0W - 50.0W - 0 - 50.0W - 0 - 50.0W Setting Accuracy - ≤ (0.1% - 30m) - 0 - 50.0W - 0 - 50.0W - 0 - 50.0W - 0 - 50.0W Bestback Accuracy - ≤ (0.1% - 30m) - 0 - 50.0W - 0 - 50.0W - 0 - 50.0W CM Mode - 0 - 50.0W	DC LOad Wode	Voltage	1~32	00V		1~6	2.00V		1~36	5.00V		
Power 0 - 50.00W CHI/CH2 1.500 · 32.00V Setting Accuracy ≤≤0.05 · 3.500 · 10 Resolution 10 m/V Resolution 10 m/V Resolution 10 m/V Beedback Accuracy ≤≤0.05 · 3.500 · 10 CC Mode -50.000W Resolution 10 m/V Beedback Accuracy ≤≤0.05 · 10 m/A) Resolution 1 m/A Beedback Accuracy ≤≤0.05 · 10 m/A) Resolution 1 m/A Beedback Accuracy ≤≤0.05 · 10 m/A) Setting Accuracy ≤≤0.05 · 10 m/A) Setting Accuracy ≤≤0.05 · 10 m/A) Resolution 1 m/A Nore Mode 0FF.ON(0.573.500) Fload Set Accuracy 0FF.ON(0.573.500) Resolution 10 Nore Mode OFF.ON(0.573.500) Fload Set OFF.ON(0.573.500) Fload S.5U OFF.ON(0.573.500) Fload S.5U OFF.ON(0.573.500) Fload S.5U OFF.ON(0.573.500) Setting Accuracy Setting Accuracy	Display											
Setting Accuracy ≤±013% ± 30mV) Readback Accuracy ≤±013% ± 30mV) Setting Accuracy Setting Accuracy Setting Accuracy ≤±013% ± 30mV) Setting Accuracy Setting Accuracy Setting Accuracy Setting Accuracy Setting Accuracy Setting Accura												
Vince Resolution Science		CH1/CH2	1.500V -	32.00V		1.500V	- 62.00V		1.500V	36.50V		
Readian C4(0,1%+30m)	CV Mode	Setting Accuracy	≤±(0.1% +	30mV)		≤±(0.1%	+ 30mV)		≤±(0.1%	+ 30mV)		
Cr. Mode CH1[CH2] 0 - 6.200A Sct Mode Setting Accuracy ≤ 4(0.38 + 10mA) ≤ (0.38 + 10mA) Resoltion 1mA ≤ (0.38 + 10mA) ≤ (0.38 + 10mA) Resoltion 1mA 1mA 1mA CH1[CH2] 10 + 1k0 ≤ (0.38 + 10mA) (voltage:0.1V, and current:0.1A) ≤ (0.38 + 10mA) Resoltion 1mA 1mA 10 + 1k0 (voltage:0.1V, and current:0.1A) (voltage:0.1V, and current:0.1A) Resoltion 10 10 (voltage:0.1V, and current:0.1A) (voltage:0.1V, and current:0.1A) (voltage:0.1V, and current:0.1A) Resoltion 10 10 10 10 10 Power Mode OFF, ON(0.5V-35.0V) Fixed 5.5V OFF, ON(0.5V-35.0V) Fixed 5.5V OVP Easting Accuracy Easting Accuracy Easting Accuracy Setting Accuracy Setting Accuracy Setting Accuracy Fixed 5.5V OVF Fixed 5.5V OFF, ON(0.5V-4.50A) 3.1A[USB port] OFF, ON(0.5X-4.50A) 3.1A[USB port] OVP Easting Accuracy 200M Or above (DC 5.0V) S	CV WOULE											
Sct Mode Setting Accuracy ≤±0.3% + 10mA) mA ≤±0.3% + 10mA) Set03% + 10mA) ≤±0.3% + 10mA) Set03% + 10mA) CR Mode CH1[CF12 1.0 - 1k0 10-1k0 CR Mode Set0ing Accuracy ≤±0.3% + 10mA) (voltage:0.1V, and current:0.1A) Set03% + 10m (voltage:0.1V, and current:0.1A) Set03% + 10m (voltage:0.1V, and current:0.1A) Set03% + 10m Readback Accuracy Set010, N, and current:0.1A) (voltage:0.1V, and current:0.1A) (voltage:0.1V, and current:0.1A) Set03% + 10m (voltage:0.1V, and current:0.1A) Protection 10 10 (voltage:0.1V, and current:0.1A) (voltage:0.1V, and current:0.1A) Protection 10 10 10 (voltage:0.1V, and current:0.1A) (voltage:0.1V, and current:0.1A) Protection 10 10 10 (voltage:0.1V, and current:0.1A) (voltage:0.1V, and current:0.1A) Power Mode OFF.ON(0.15V:0.50 V) Fixed 5.5V OFF.ON(0.5V:65.0V) Fixed 5.5V OFF.ON(0.5V:65.0V) Fixed 5.5V DCP # Beotherin 100mV # Beotherin 10mA Readback Accuracy ± 100MOV # 20MA 31A(USB port) OFF.ON(0.5V:65.0V) Seting Accuracy <td></td>												
Recolor Resolution TmA Still (2.3% + 10mA) Resolution TmA TmA TmA Setting Accuracy <<5(13% + 10mA)												
Resolition TmA TmA CH [CH2 10-1k0 1-1-1k0 5-1(3/4, 10) Setting Accuracy 5-2(3/8, 10) (voltage=01.V, and current=0.1A) 5-2(3/8, 10) Redback Accuracy 5-2(3/8, 10) (voltage=0.1V, and current=0.1A) 5-2(3/8, 10) Redback Accuracy 5-2(3/8, 10) (voltage=0.1V, and current=0.1A) 5-2(3/8, 10) Resolition 10 10 10 10 Protection 100 0FF.ON(05/35.0Y) Fixed 5.5V 0FF.ON(05/35.0X) Fixed 5.5V DVP Resolition 100mV 0FF.ON(05/35.0X) Fixed 5.5V 0FF.ON(05/35.5X) 31A(USB port) DCP Resolition 0FF.ON(05/35.6S) 31A(USB port) 0FF.ON(05/35.5S) 31A(USB port) Setting Accuracy Resolition 10mA	CC Mode				•			•			•	
CH/CH2 10-1k0 10-1k0 Setting Accuracy <												
Setting Accuracy Setting Accuracy<												
Setting Accuracy (voltage≤0.1V, and current≥0.1A) ≤≤(3%+10) (voltage≥0.1V, and current≥0.1A) ≤≤(3%+10) (voltage≥0.1V, and current≥0.1A) (voltage≥0.1V, and current≥0.1A) (voltage≥0.1V, and current≥0.1A) Reobin 10 10 10 10 10 Protection 10 0 10 10 10 Protection 10 0 10 10 10 Protection 10 0 0 10 0 10 Protection 10 0 10 0 0 0 0 10 Protection 10 0												
Red Mode Red Sack Accuracy Sac (3% + 10) (voltage) = 0.1V, and current ≥ 0.1A) Sac (3% + 10) (voltage) = 0.1V, and current ≥ 0.1A) Protection In Sac (3% + 10) (voltage) = 0.1V, and current ≥ 0.1A) In Protection In In In In Protection In In In In Protection OFF, ON (0.5V-35, 0V) Fixed 5.5V OFF, ON (0.5V-38, 0V) Fixed 5.5V OVP Test Mode OFF, ON (0.5V-35, 0V) Fixed 5.5V OFF, ON (0.5V-38, 0V) Fixed 5.5V Prover Mode OFF, ON (0.05A-65, 0A) 3.1A (USB port) OFF, ON (0.05A-5, 0A) 3.1A (USB port) OFF, ON (0.05A-5, 0A) 3.1A (USB port) OCP Load Mode OFF, ON (0.05A-6, 50A) 3.1A (USB port) OFF, ON (0.05A-5, 0A) 3.1A (USB port) OFF, ON (0.05A-5, 0A) 3.1A (USB port) CDCP Load Mode OFF, ON (0.05A-6, 0A) - OFF, ON (0.05A-6, 0A) - OFF, ON (0.05A-5, 0A) - Setting Accuracy Resolution Indian (Stage) Indian (Stage) Indian (Stage) Indian (Stage) Indian (Stage)		Setting Accuracy							- ()	/		
Reconside (voltage≥0.1V, and current≥0.1A) (voltage≥0.1V, and current≥0.1A) (voltage≥0.1V, and current≥0.1A) Protection 10 10 10 Protection 0FF_ON(0.5V-35.0V) Fixed 5.5V OFF_ON(0.5V-35.0V) Fixed 5.5V OVP Lad Mode OFF_ON(1.5V-35.0V) Setting Accuracy a100mV a100mV Resolicion a100mV a100mV a100mV a100mV a100mV Resolicion a100mV a100mV Setting Accuracy OFF_ON(0.5X-5.50A) 3.1A(USB port)	CR Mode		(voltage \geq 0.1V, and current \geq 0.1A) Readback Accuracy $\leq \pm (3\% + 1\Omega)$									
Resoltion 10 10 10 Protection 10 10 10 10 Protection 10 10 10 10 10 Protection 0		Reedback Accuracy										
Protection Power Mode OFF,ON(0.5V-35.0V) Fixed 5.5V OFF,ON(0.5V-35.0V) Fixed 5.5V OVP Load Mode OFF,ON(1.5V-35.0V) . OFF,ON(1.5V-65.0V) . OFF,ON(1.5V-35.0V) .		Resoltion										
Power Mode OFF.ON(0.5V-35.0V) Fixed 5.5V OFF.ON(0.5V-36.0V) Fixed 5.5V OFF.ON(0.5SA-55.0A) Fixed 5.5V OFF.ON(0.5SA-55.0A) Fixed 5.5V OFF.ON(0.5SA-55.0A) Fixed 5.5V OFF.ON(0.5SA-55.0A) Info Fix	Protection	Resolution	112				**		· · · ·	•		
DVP Load Mode OFF,ON(1.5V-35.0V) OFF,ON(1.5V-65.0V) OFF,ON(1.5V-38.0V) Setting Accuracy ±100mV ±100mV Resoltion 0FF,ON(0.05A-5.0A) 3.1A(USB port) OFF,ON(0.05A-5.0A) 3.1A(USB port) OCP Load Mode OFF,ON(0.05A-6.50A) 3.1A(USB port) OFF,ON(0.05A-5.50A) 3.1A(USB port) Setting Accuracy ±20mA OFF,ON(0.05A-5.50A) . OFF,ON(0.05A-5.50A) . Insulation and terminal 10mA Between chassis 20MΩ or above (DC 500V) and DC power cord 30MΩ or above (DC 500V) Starge Environment Indoor use, Altitude: 2000m . <td></td> <td>Power Mode</td> <td>OFF.ON(0.5</td> <td>5V-35.0V)</td> <td>Fixed 5.5V</td> <td>OFF.ON(</td> <td>0.5V-65.0V)</td> <td>Fixed 5.5V</td> <td>OFF.ON(</td> <td>.5V-38.0V)</td> <td>Fixed 5.5V</td>		Power Mode	OFF.ON(0.5	5V-35.0V)	Fixed 5.5V	OFF.ON(0.5V-65.0V)	Fixed 5.5V	OFF.ON(.5V-38.0V)	Fixed 5.5V	
Setting Accuracy ±100mV Resoltion 100mV Power Mode OFF,ON(0.05A-5.0A) 3.1A(USB port) OFF,ON(0.05A-5.50A) 3.1A(USB port) Load Mode OFF,ON(0.05A-6.50A) 3.1A(USB port) OFF,ON(0.05A-5.50A) 3.1A(USB port) Open Setting Accuracy ±20mA OFF,ON(0.05A-5.50A) 3.1A(USB port) Insulation Between chassis 20mA 00mV and terminal 20MQ or above (DC 500V) 30MQ or above (DC 500V) 30MQ or above (DC 500V) Seting Accuracy 30MQ or above (DC 500V) 30MQ or above (DC 500V) 30MQ or above (DC 500V) Seting Accuracy Indoor use, Altitude: ≤ 2000m 30MQ or above (DC 500V) 30MQ or above (DC 500V) Seting Accuracy Indoor use, Altitude: ≤ 2000m Ambient temperature: 0 - 40°C Relative humidity: ≤ 80% Storage Environment Installation category: 11 / Pollution degree: 2 1 Storage Environ Power Input AC 100V/120V/220V/2130V/210% 50/60Hz 900VA, 680W 900VA, 680W CD User manual λ1, Quick Start manual λ1, Power Code x1 Test Ideal CTL-104A x3 1 CD User manual λ1	OVP											
Resoltion 100mV OCP Power Mode OFF,ON(0.05A.6.50A) 3.1A(USB port) OFF,ON(0.05A.5.50A) 3.1A(USB port) Setting Accuracy	OVP						±100mV			······································		
Load Mode OFF,ON(0.05A-6.50A) OFF,ON(0.05A-3.50A) OFF,ON(0.05A-3.50A) Image: Constraint of the second seco												
Setting Accuracy ±20mA Resolution 10mA insulation and terminal Between chassis 20MΩ or above (DC 500V) and terminal 30MΩ or above (DC 500V) Between chassis 30MΩ or above (DC 500V) General 10mA Operation Environment Indoor use, Altitude: ≤ 2000m Ambient temperature: 0 – 40°C Relative humidity: ≤ 80% Storage Environment TEMPERATURE: -10°C – 70°C Storage Environment CD (20V/220V/230V/130%) 50/60Hz Power Consumption ACcessories CD User manual x1, Quick Start manual x1, Power Code x1 CD User manual x1, Quick Start manual x1, Power Code x1 CD User manual x1, QUIX Start CT-104A x 3 (Europe) Test lead: GT-104A x3 Offenensions 2013 (W) x 145 (H) x 362 (D) mm					3.1A(USB port)			3.1A(USB port)			3.1A(USB port)	
Setting Accuracy ±.0mA Resolion 10mA insulation and terminal and terminal 20MΩ or above (DC 500V) Between chassis and terminal and DC power cord 30MΩ or above (DC 500V) General Indoor use, Altitude: ≤ 2000m Operation Environment Indoor use, Altitude: ≤ 2000m Storage Environment Indoor use, Altitude: ≤ 2000m Storage Environment Indoor use, Altitude: ≤ 2000m Storage Environment Relative humidity: ≤ 80% Storage Environment Relative humidity: ≤ 80% Power Consumption CD User manual XI, Power Code XI Power Consumption CD User manual XI, Power Code XI Accessories CD User manual XI, Power Code XI Accessories CD User manual XI, Power Code XI Meight CD XI Y XI SG (D) mm	OCP		OFF,ON (0.0	5A-6.50A)		OFF,ON(C			OFF,ON(0	05A-5.50A)		
Between chassis and terminal 20MΩ or above (DC 500V) Between chassis and DC power cord 30MΩ or above (DC 500V) General 30MΩ or above (DC 500V) Cperation Environment Indoor use, Altitude: ≤ 2000m Ambient temperature: 0 ~ 40°C Operation Environment Indoor use, Altitude: ≤ 2000m Ambient temperature: 0 ~ 40°C Storage Environment Indoor use, Altitude: ≤ 2000m Ambient temperature: 0 ~ 40°C Storage Environment Installation category: II / Pollution degree: 2 Installation category: II / Pollution degree: 2 Power Consumption TEMPERATURE: -10C ~ 70 C Power Consumption CD User manual X1, Power Code X1 Power Consumption CD User manual X1, Power Code X1 Accessories CD User manual X1, Power Code X1 Power Consumption CD User manual X1, Power Code X1 Materian CD User manual X1, Power Code X1 CD User manual X1, Power Code X1 Test lead: GT L-104A X 3 CEUrope) Test lead: GT L-104A X 3 CEUrope Test lead: GT L-104A X 3 Weight Approx. 10kg												
nsular esistance and terminal Between chasis and DC power consist and DC power consumption and terminal Between chasis and DC power consumption and terminal and DC power consumption and terminal and and power consumption and terminal and and power consumption and terminal and power consumption and terminal and power consumption and terminal and power consuppinal and power consumption and terminal and												
insulation and terminal and te	Insulation						20MΩ or above (DC	C 500V)				
and DC power cond 30Mil or above (DC Souv) General Indoor use, Altitude: ≤ 2000m Operation Environment Indoor use, Altitude: ≤ 2000m Power Cond Ambient temperature: 0 ~ 40°C Storage Environment Relative humidity: ≤ 80% Storage Environment Installation category: II / Pollution degree: 2 Storage Environment C Power Consumption AC 1000/1200/1200/1200/1200,50/60Hz Power Consumption CD User manual x1, Power Code x1 Accessories CD User manual x1, Power Code x1 Immensions CE User manual x1, POW x200/X 30, 50/60Hz Weight CD 2013 (W) x145 (H) x362 (D) mm												
Ceneral Indoor use, Altitude: ≤ 2000m Deperation Environment Ambient temperature: 0 - 40°C Relative humidity: ≤ 80% Indoor use, Altitude: ≤ 2000m Relative humidity: ≤ 80% Indoor use, Altitude: ≤ 2000m Storage Environment Installation category: 11 / Pollution degree: 2 Power Input TEMPERATURE: -10°C - 70°C Power Consumption AC 100V/120V/230V/310%, 50/60Hz Power Consumption 900VA, 680W Accessories CD User manual x1, Power Code x1 Test lead: GTL-104A x3 [Europe] Test lead: GTL-104A x3 Dimensions 213 (W) x 145 (H) x 362 (D) mm Weight Approx. 10kg	i constante		30MΩ or above (DC 500V)									
Departion Environment Indoor use, Altitude: ≤ 2000m Armbient temperature: 0 - 40°C Armbient temperature: 0 - 40°C Relative humidity: ≤ 80% Relative humidity: ≤ 80% Storage Environment Installation category: II / Pollution degree: 2 Power Input TEMPERATURE: -10°C - 70°C Power Consumption ACC 100V/120V/220V/230V±10%, 50/60Hz Power Consumption CD User manual x1, Power Code x1 Accessories CD User manual x1, Power Code x1 Test lead: GTL-104A x 3 Test lead: GTL-204A x3, GTL-201A x1 Dimensions 213 (W) x145 (H) x362 (D) mm Weight Approx. 10kg	General	and DC power cord										
Operation Environment Ambient temperature: 0 - 40°C Relative humidity: ≤ 80% Relative humidity: ≤ 80% Installation categors: II / Pollution degree: 2 Installation categors: II / Pollution degree: 2 Storage Environment TEMPERATURE: -10°C ~ 70°C Power Input ACC100V/120V/220V/230V=10%, 50/60Hz Power Consumption CD User manual x1, 200K2 Accessories CD User manual x1, Power Code x1 Test lead: GTL-104A x3 CEUrope) Test lead: GTL-104A x3 Dimensions C213 (W) x145 (H) x362 (D) mm Weight Approx. 10kg			1				ndoor use. Altitude	< 2000m				
Relative humidity: ≤ 80% Installation category: II / Pollution degree: 2 Storage Environment TEMPERATURE:-10C ~ 70°C HUMIDITY: ≤70% Power Input Accessories CD User manual X1, Quick Start manual X1, Power Code x1 Test lead: GTL-104A x3 Cluoper) Test lead: GTL-204A x3, GTL-201A x1 Dimensions 213 (W) x145 (H) x 362 (D) mm Weight Approx. 10kg	o											
Installation categor; II / Pollution degree: 2 Storage Environment TEMPERATURE: -10° C ~ 70° C Power Input HUMIDITY: _570% Power Consumption ACC 100V/120V/220V/230V±10%, 50/60Hz Power Consumption 0000 ACC 100V/120V/230V±10%, 50/60Hz Accessories	Operation Environment											
Storage Environment TEMPERATURE: -10°C ~ 70°C Power Input HUMIDITY: 570% Power Consumption ACC 1007/1207/2307/15%, 50/6Hz Power Consumption 000704, 680W Accessories CD User manual x1, Quick Start manual x1, Power Code x1 Test lead: GTL-104A x3 CE User manual x1, CTL-104A x3 Otimensions (Europe) Test lead: GTL-204A x3, GTL-201A x1 Weight Approx. 10kg			Installation category: II / Pollution degree: 2									
HUMIDITY: ≤70% Power Input AC 100//120//220//230/±10%, 50/60Hz Power Consumption 900VA, 680W CD User manual x1, Quick Start manual x1, Power Code x1 Accessories CD User manual x1, Quick Start manual x1, Power Code x1 Dimensions (Europe) Test lead: GTL-104A x3, GTL-201A x1 Dimensions 213 (W) x145 (H) x 362 (D) mm Weight Approx. 10kg												
Power Input AC 100V/120V/220V/230V±10%, 50/60Hz Power Consumption 900VA, 680W Occurs and al X1, Quick Start manual x1, Power Code x1 Accessories CD User manual x1, Quick Start manual x1, Power Code x1 Test lead: GTL-104A x3 GTL-204A x3, GTL-201A x1 Dimensions 213 (W) x145 (H) x 362 (D) mm Weight Approx. 10kg	Shawaya Fundana	ι										
Power Consumption 900VA, 680W CD User manual x1, Quick Start manual x1, Power Code x1 Accessories Test lead: GTL-104A x 3 (Europe) Test lead: GTL-204A x 3, GTL-201A x1 Dimensions 213 (W) x 145 (H) x 362 (D) mm Weight Approx. 10kg	Storage Environmen					AC 100						
Accessories CD User manual x1, Quick Start manual x1, Power Code x1 Test lead: GTL-104A x 3 (Europe) Test lead: GTL-204A x 3, GTL-201A x1 Dimensions Dimensions 213 (W) x145 (H) x 362 (D) mm Approx. 10kg	-	Power Consumption										
Accessories Test lead: GTL-104A x 3 (Europe) Test lead: GTL-201A x 3, GTL-201A x1 Dimensions 213 (W) x 145 (P) x 352 (D) mm Weight Approx. 10kg	Power Input	1										
Dimensions 213 (W) x 145 (H) x 362 (D) mm Weight Approx. 10kg	Power Input Power Consumption	I				CD User manu	al x1, Quick Start ma	nual x1, Power Code x1				
Weight Approx. 10kg	Power Input	1					Test lead: GTL-104A	. x 3				
	Power Input Power Consumption Accessories					(Europe)	Test lead: GTL-104A Test lead: GTL-204A	x 3 x 3, GTL-201A x1				
	Power Input Power Consumption Accessories Dimensions					(Europe)	Test lead: GTL-104A Test lead: GTL-204A 3 (W) x 145 (H) x 36	x 3 x 3, GTL-201A x1 i2 (D) mm				

ORDERING INFORMATION GPP-3060 385W Triple-channel Programmable DC Power Supply GPP-6030 385W Triple-channel Programmable DC Power Supply GPP-3650 385W Triple-channel Programmable DC Power Supply ACCESSORIE CD (User manual), Quick start manual, Power cord, Test lead :

GTL-104A x 3, European test leads: GTL-204A x 3, GTL-201A x 1

OPTIONAL ACCESSORIES GTL-246 USB Cable GRA-449-E

Rack Mount Kit (EIA) Rack Mount Kit (JIS) GRA-449-J

INTERFACE

Standard: RS-232, USB, LAN, Ext I/O Optional (manufacturer installed only): GPIB

NOTE: Contact local sales if you have issues with Interface purchase.

GOOD WILL INSTRUMENT CO., LTD.

No.7-1, Jhongsing Road, Tucheng Dist., New Taipei City 236, Taiwan T +886-2-2268-0389 $\mbox{ F}$ +886-2-2268-0639 E-mail: marketing@goodwill.com.tw





