

### 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: ≤100μs
- 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, Ext I/O
   Optional(manufacturer installed only): LAN, LAN+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:  $0 \sim 36V / 0 \sim 5A$  output; CH3 supports 1.8V, 2.5V, 3.3V, 5.0V / 5A. GPP-3060 supports CH1/CH2:  $0 \sim 30V / 0 \sim 6A$  output; GPP-6030 supports CH1/CH2:  $0 \sim 60V / 0 \sim 3A$  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  $\leq 1$ mVrms/ $\leq 2$ mArms and  $\leq 100$ µs 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.

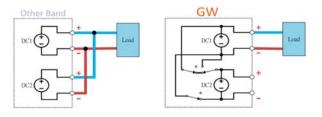
Pertaining to measurement protections, OVP/OCP/OPP/OTP protection functions are provided. The protection mechanism of OVP/OCP/OTP is implemented by hardware circuits, which has a faster response time to protect equipment or DUT while comparing with competitors who use software for protection. The OVP 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.



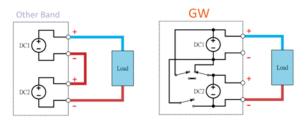


### A. TRACKING SERIES AND PARALLEL FUNCTION



### **Output in Parallel Connections**

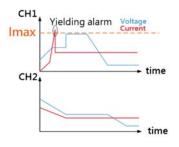
For series and parallel applications of CH1 and CH2, the tracking function of the GPP-Series utilizes the internal circuit to automatically switch the output to serial or parallel output without additional external wiring, providing users with convenience not only in operating procedures but also a more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



**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.

### C. 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.

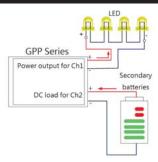
### D. HARDWARE PROTECTION FUNCTION(OVP/OCP/OTP)

# Hardware is utilized to realize the OVP function with fast response time is 45 ms.

**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.

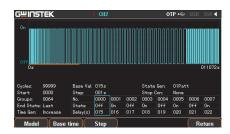
### E. LOAD FUNCTION



**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  $1k\Omega$  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.

### OUTPUT DELAY FUNCTION

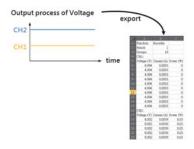


### **GPP-Series Delayed Waveform**

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)

<sup>\*</sup> Channel 3 does not support the output recorder function



GRA-437-J Rack Mount Kit (JIS)



GRA-437-E Rack Mount Kit (EIA)



### **OPERATING RANGE**

Model Number	Number of Output	Max. Power	CH1	CH2	CH3	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

<sup>\*</sup> GPIB and LAN interfaces cannot be retrofitted after the shipment. When ordering the model, please confirm whether to order. \* Model ordering varies by region.

### **OUTPUT FUNCTION LIST**

Model Number	GPP-3060/GPP-6030/3650					
Functions	CH1	CH2	CH3			
Sequence Output Function	✓	✓	_			
Load Functions (CC, CV, CR mode)	✓	✓	_			
Output Delay Function	✓	✓	_			
Output Monitoring Function (10 sets)	✓	✓	-			
Output Recorder Function	✓	✓	_			
Panel Save/Recall	✓	✓	✓			

SPECIFIC	CATIONS								
Output Mode Number of Channel		GPP-30	50		GPP-60	30		GPP-3650	)
		CH1 CH2	CH1	CH2	CH3	CH1	CH2	CH3	
Voltage		0 ~ 30.000V 0 ~ 30.000V	CH3 1.8V/2.5V/3.3V/5.0V,±5%	0 ~ 60.000V	0 ~ 60.000V	1.8V/2.5V/3.3V/5.0V,±5%	0 ~ 36.000V		1.8V/2.5V/3.3V/5.0V,±59
Current		0 ~ 6.0000A 0 ~ 6.0000A	5A (USB Port 3A)	0 ~ 3.0000A	0 ~ 3.0000A	5A (USB Port 3A)	0 ~ 5.0000A	0 ~ 5.0000A	5A (USB Port 3A)
Tracking Series Voltage / Current		0 ~ 60.000V / 0 ~ 6.0000A	-	0 ~ 120.000V /		-	0 ~ 72.000V /		
Tracking Parallel Volt	tage / Current	0 ~ 30.000V / 0 ~ 12.0000A	-	0 ~ 60.000V / 0		- inale abouted New accord E/	0 ~ 36.000V /	0 ~ 10.0000A	-
Warning Constant Voltage Op	peration			rne CH3 output currei	it from the 2 term	inals should Not exceed 5A	١.		
Line Regulation	ocidion .	≤ 0.01% + 3mV	≤ 3 mV	≤ 0.01% +	- 3mV	≤ 3 mV	≤ 0.01%	+ 3mV	≤ 3mV
Load regulation		≤ 0.01% + 5mV (rating current ≤ 10A)	 ≤ 5mV	≤ 0.01% + 5mV (ratir		≤ 5mV	≤ 0.01% + 5mV (ra		5 mV
Ripple & noise (5Hz-1MHz)		≤1mVrms	≤ 2mVrms	≤1mVrms		≤ 2mVrms	≤1mVrms		≤ 2mVrms
Transient recovery time					≤100µs				
				(50% loa	d change, minim				
Temperature coefficient					≤ 300ppm/°C				
Constant Current Op Line Regulation	peration				≤ 0.01% + 3m	٨			
Load regulation					≤ 0.01% + 3m ≤ 0.01% + 3m				
Ripple & noise					≤ 2mArms	7.			
Resolution									
Programming	Voltage	1mV		2mV			2n		
	Current	0.2mA		0.1m			0.1		
Reedback	Voltage Current	0.1mV 0.1mA		0.1m 0.1m			0.1		
Tracking Operation(C		VAIIIA		0.1111			0.11		
		≤ 0.1% +10mV of Master		≤ 0.2% +20mV			≤ 0.1% +10n		
Tracking error		(No Load, with load add load		(No Load, with le			(No Load, with		
	Line	regulation ≤200mV)		regulation ≤			regulation		
Parallel regulation	Line	$\leq$ 0.01% + 3mV $\leq$ 0.01% + 5mV (rating current $\leq$ 10A)		$\leq$ 0.01% + $\leq$ 0.01% + 5mV (ratio		_	≤ 0.01% ≤ 0.01% + 5mV (ra		-
i aranci regulation	Load	≤ 0.01% + 5mV (rating current ≤ 10A) ≤ 0.02% + 5mV (rating current > 10A)	•	≤ 0.01% + 5mV (ration ≤ 0.02% + 5mV (ration )		-		ting current $\leq$ 10A)	-
G. 1 1	Line	≤ 0.02% + 5mV (rating current > 10A) ≤ 0.01% + 5mV		≤ 0.02% + 3ffV (fath ≤ 0.01% +			≤ 0.02% + 3ffV (fa ≤ 0.01%		
Series regulation	Load	≤ 200mV		≤ 200r	ηV		≤ 20	)mV	
Ripple & noise		≤2mVrms(5Hz-1MHz)		≤2mVrms(5⊢			≤2mVrms(5	Hz-1MHz)	
Note Meter				Tracking	is not supported in	n LOAD mode.			
	Voltage	32.0000V	1.8V/2.5V/3.3V/5.0V	62.000	0V I	1.8V/2.5V/3.3V/5.0V	36.00	000V	1.8V/2.5V/3.3V/5.0V
Full Scale	Current	6.2000A		3.2000		, =, =, =	5.20		,
Programming	Voltage	5 digits		5 digi			5 di		
Resolution Reedback	Current	5 digits		5 digi			5 di		
Resolution	Voltage Current	6 digits 5 digits	-	6 digi 5 digi		_	6 di 5 di		-
	Voltage	± (0.03% of reading + 10mV)		± (0.03% of read			± (0.03% of rea		
Setting accuracy	Current	± (0.3% of reading + 10mA)		± (0.3% of readi			± (0.3% of rea	ding + 10mA)	
Readback accuracy	Voltage	± (0.03% of reading + 10mV)		± (0.03% of read	ing + 10mV)		± (0.03% of rea		
DC Load Mode	Current	± (0.3% of reading + 10mA)		± (0.3% of readi	ng + I0mA)		± (0.3% of rea	ding + I0mA)	
De Load Wode	Voltage	1 ~ 32.00V		1 ~ 62.0	00V		1 ~ 36	5.00V	
Display	Current	0 ~ 6.200A		0 ~ 3.20			0 ~ 5.		
	Power	0 ~ 50.00W 1.500V - 32.00V		0 ~ 50.0 1.500V - 0			0 ~ 50 1.500V ·		
	CH1/CH2 Setting Accuracy	≤±(0.1% + 30mV)		≤±(0.1% +			1.500V - ≤±(0.1%		
CV Mode	Reedback Accuracy	≤±(0.1% + 30mV)		≤±(0.1% +			≤±(0.1%		
	Resoltion	10mV		10m <sup>1</sup>			10r		
	CH1/CH2	0 ~ 6.200A		0 ~ 3.20			0 ~ 5.		
CC Mode	Setting Accuracy Reedback Accuracy	≤±(0.3% + 10mA) ≤±(0.3% + 10mA)	•	≤±(0.3% + ≤±(0.3% +		-	≤±(0.3% ≤±(0.3%		•
	Resoltion	1mA		1mA			1n		
	CH1/CH2	1Ω- 1kΩ		1Ω- 1	Ω		1Ω-	1kΩ	
	Setting Accuracy	≤±(3% + 1Ω)		≤±(3% +			≤±(3%		
CR Mode		(voltage≥0.1V, and current≥0.1A)		(voltage≥0.1V, and			(voltage≥0.1V, ar		
	Reedback Accuracy	$\leq \pm (3\% + 1\Omega)$ (voltage $\geq 0.1V$ , and current $\geq 0.1A$ )		≤±(3% + (voltage≥0.1V, and			≤±(3% (voltage≥0.1V, ar		
	Resoltion	(voitage≥0.1V, and current≥0.1A) 1Ω		(voltage≥0.1V, and	current∠0.1A)		(voitage≥0.1V, ai		
Protection									
	Power Mode	OFF,ON(0.5V-35.0V)	Fixed 5.5V	OFF,ON(0.5		Fixed 5.5V	OFF,ON(0		Fixed 5.5V
OVP	Load Mode	OFF,ON(1.5V-35.0V)	-	OFF,ON(1.5	V-65.0V) ±100mV	-	OFF,ON(1	.5v-38.0V)	-
					100mV				
	Setting Accuracy Resoltion							054 5 504)	
- /-	Resoltion Power Mode	OFF,ON(0.05A-6.50A)	3.1A(USB port)	OFF,ON (0.05	A-3.50A)	3.1A(USB port)	OFF,ON(0.		3.1A(USB port)
	Resoltion Power Mode Load Mode	OFF,ON(0.05A-6.50A) OFF,ON(0.05A-6.50A)	3.1A(USB port)	OFF,ON(0.05 OFF,ON(0.05	A-3.50A) A-3.50A)	3.1A(USB port)	OFF,ON(0. OFF,ON(0.		3.TA(USB port)
	Resoltion Power Mode Load Mode Setting Accuracy		3.1A(USB port)		A-3.50A) A-3.50A) ±20mA	3.1A(USB port) -			3.1A(USB port)
	Resoltion Power Mode Load Mode Setting Accuracy Resoltion		3.1A(USB port)	OFF,ON (0.05	6A-3.50A) 6A-3.50A) ±20mA 10mA	-			3.1A(USB port)
ОСР	Resoltion Power Mode Load Mode Setting Accuracy		3.1A(USB port)	OFF,ON (0.05	A-3.50A) A-3.50A) ±20mA	-			3.1A(USB port)
OCP Insulation	Resoltion Power Mode Load Mode Setting Accuracy Resoltion Between chassis and terminal Between chassis		3.1A(USB port)	OFF,ON (0.05	iA-3.50A) iA-3.50A) ±20mA 10mA DMΩ or above (DC	- C 500V)			3.TA(USB port)
OCP Insulation resistance	Resoltion Power Mode Load Mode Setting Accuracy Resoltion Between chassis and terminal		3.1A(USB port)	OFF,ON (0.05	6A-3.50A) 6A-3.50A) ±20mA 10mA	- C 500V)			3.TA(USB port)
OCP Insulation resistance	Resoltion Power Mode Load Mode Setting Accuracy Resoltion Between chassis and terminal Between chassis		3.1A(USB port)	OFF,ON (0.05	A-3.50A)  A-3.50A)  ±20mA  10mA  DMΩ or above (DC)  DMΩ or above (DC)	- 500V)			3.IA(USB port)
OCP  Insulation resistance  General	Resoltion Power Mode Load Mode Setting Accuracy Resoltion Between chassis and terminal Between chassis and DC power cord		3.1A(USB port)	OFF,ON (0.03) 20 31	iA-3.50A) iA-3.50A) ±20mA 10mA DMΩ or above (DC	- 500V) - 500V) ≤ 2000m			3.IA(USB port)
OCP  Insulation resistance  General	Resoltion Power Mode Load Mode Setting Accuracy Resoltion Between chassis and terminal Between chassis and DC power cord		3.1A(USB port)	OFF,ON(0.0)	A-3.50A)  ±20mA 10mA  DMΩ or above (DC)  DMΩ or above (DC)  coor use, Altitude: bient temperature: telative humidity:	2 500V) 2 500V) ≤ 2000m 1 0 ~ 40°C ≤ 80%			3.IA(USB port)
OCP  Insulation resistance  General	Resoltion Power Mode Load Mode Setting Accuracy Resoltion Between chassis and terminal Between chassis and DC power cord		3.1A(USB port)	OFF,ON(0.0)  21  31  Ind Amm F Installation	A-3.50A)  A-3.50A)  ±20mA  10mA  DMΩ or above (DC  DMΩ or above (DC  coor use, Altitude: cient temperature: category: II / Po	. 500V)  2 500V)  ≤ 2000m 10 ~ 40°C < 80% Illution degree: 2			3.IA(USB port)
OCP  Insulation resistance  General  Operation Environme	Resoltion Power Mode Load Mode Setting Accuracy Resoltion Between chassis and terminal Between chassis and DC power cord		3.1A(USB port)	OFF,ON(0.0)  21  31  Ind Amm F Installation	A-3.50A)  A-3.50A)  ±20mA  10mA  10mA  DMΩ or above (DC  DMΩ or above (DC  coor use, Altitude: bient temperature: lelative humidity: category: II category: II of the proper of the pro	. 500V)  5 500V)  5 2000m  6 0 - 40°C  5 80%  Illution degree: 2  C - 70°C			3.1A(USB port)
OCP  Insulation resistance  General  Operation Environment	Resoltion Power Mode Load Mode Setting Accuracy Resoltion Between chassis and terminal Between chassis and DC power cord		3.1A(USB port)	OFF,ON (0.0)  2/  3/  Ind  Amin  F  Installatior	A-3.50A) A-3.50A) ±20mA 10mA 10mA 0MΩ or above (DC 0MΩ or above (DC coor use, Altitude: bient temperature: telative humidity: category: II / Po wPERATURE: -10' HUMIDITY: 57	. 500V)  500V)  500V)  500V  6000			3. IA(USB port)
OCP Insulation resistance	Resoltion Power Mode Load Mode Setting Accuracy Resoltion Between chassis and terminal Between chassis and DC power cord		3.1A(USB port)	OFF,ON (0.0)  2/  3/  Ind  Amin  F  Installatior	A-3.50A)  A-3.50A)  ±20mA  10mA  10mA  DMΩ or above (DC  DMΩ or above (DC  coor use, Altitude: bient temperature: lelative humidity: category: II category: II of the proper of the pro	- 500V)  500V)  ≤ 2000m 0 ~ 40°C ≤ 80% Illution degree: 2 C ~ 70°C 0% 10%, 50/60Hz			3.IA(USB port)
OCP  Insulation resistance  General  Operation Environment Storage Environment Power Input Power Consumption	Resoltion Power Mode Load Mode Setting Accuracy Resoltion Between chassis and terminal Between chassis and DC power cord		3.1A(USB port)	OFF,ON (0.0)  20  30  Ind Ami F Installation TEI  AC 100V/	A-3.50A) A-3.50A) ±20mA 10mA 10mA 0mΩ or above (DC 0mΩ o	. 500V)  500V)  500V)  500V  6 2000m  6 40°C  580%  6 10th order of the control o			3.1A(USB port)
OCP Insulation resistance General Operation Environment Storage Environment	Resoltion Power Mode Load Mode Setting Accuracy Resoltion Between chassis and terminal Between chassis and DC power cord		3.1A(USB port)	OFF,ON (0.0)  21  31  Ind Ammiliation F Installation TEI  AC 100V/ CD User manual 1 Te	iA-3.50A) A-3.50A) ±20mA 10mA 10mA 0MΩ or above (DC 0mΩ	- 500V)  ≤ 2000m 0 ~ 40°C ≤ 80% Illution degree: 2 C ~ 70°C 0% 10%, 50/60Hz //			3.1A(USB port)
OCP  Insulation resistance  General  Operation Environment Power Input Power Consumption Accessories	Resoltion Power Mode Load Mode Setting Accuracy Resoltion Between chassis and terminal Between chassis and DC power cord		3.1A(USB port)	OFF,ON (0.0)  20  30  Ind  Ami  Installation  TEI  AC 100V/  CD User manual 1  (Europe) Te (Europe) Te	A-3.50A) A-3.50A) A-3.50A) ±20mA 10mA 10mA  DMQ or above (DC  DMQ or above (DC  DMQ or above (DC  HUMIDITY: 57 120V/220V/230V4 51 lead: GT-1204 St lead: GT-1204	- 500V)  5 500V)  5 2000m 0 - 40°C  ≤ 80% Ilution degree: 2 C - 70°C 0% 10%, 50/60Hz // nual x1, Power Code x1 x 3 x 3, GTL-201A x1			3.1A(USB port)
OCP  Insulation resistance  General  Operation Environment Storage Environment Power Input Power Consumption	Resoltion Power Mode Load Mode Setting Accuracy Resoltion Between chassis and terminal Between chassis and DC power cord		3.1A(USB port)	OFF,ON (0.0)  20  30  Ind  Ami  Installation  TEI  AC 100V/  CD User manual 1  (Europe) Te (Europe) Te	iA-3.50A) A-3.50A) ±20mA 10mA 10mA 0MΩ or above (DC 0mΩ	- 5500V)  5500V)  5500V)  500V)  500V  600 A OP'C  580%  600 A OP'C  580%  600 A OP'C  600			3.IA(USB port)

### 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

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

Standard: RS-232, USB, Ext I/O

Optional (manufacturer installed only): LAN, LAN+GPIB

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

