PPH-1503

FEATURES

- Dual Range Output (0~15V/ 0~3A or 0~9V / 0~5A) ; Output Power 45W
- 3.5 Inch TFT LCD Display
- Constant Voltage and Constant Current Operation
- Built-in DVM Measurement Function
- High Measurement Resolution(1mV/0.1mA for 5A Range);(1mV/0.1 μ A for 5mA Range)
- External Relay Control Output On/Off
- Sink Current Capability (Maximum : 2A)
- Digital Panel Control
- Selectable Output and Input (DVM) Ports From Front or Rear Panel
- Key Lock Function
- 5 Sets of Preset Memory Including Power Output ON/OFF States
- High Speed Transient Recovery Time (< 40 μ S within 100mV ; < 80 μ S within 20mV)
- OVP/OCP/OTP Protection to Prevent DUT Damage
- Standard Multiple Interfaces : USB/LAN/GPIB
- LabView Driver and PC Remote Control Software

Front

Back

CE | USB Host | PC Software | LAN | GPIB | LabVIEW Driver

Swift Responses with Accurate Measurement

PPH-1503 is a high-speed and high-precision DC Power Supply with dual range of 15V/3A or 9V/5A. PPH-1503 is exclusively designed to meet low power consumption requirements and users' great demands of accuracy, speed and resolution of both voltage and current. Circuits are designed with swift response capability to provide a stable voltage output while experiencing load changes. For example, when switching cellular phone from standby to talk mode, the current consumption will be dramatically changed within milliseconds.

PPH-1503 is designed to simulate battery response when a significant voltage drop occurs. Recovery time of 40 us or less is guaranteed when the maximum voltage drop is within 100mV. Moreover, when users change the voltage level and conventional power supply does not have sufficient speed to reach the set level, PPH-1503 provides rise time of 0.15ms and fall time of 0.65ms, which are hundreds times faster than that of the conventional power supplies.

To analyze the transient power consumption of a DUT, the peak of short pulse current and average current measurements over a long period of time are crucial. PPH-1503 provides pulse current and long integration functions, the former can measure the peak value of a pulse, the latter can measure the average value of pulses. PPH-1503 provides DUT with pulse current measurement and analyzes the transient power consumption to qualify the device for specified power consumption requirements.

Chargers are often attached to portable battery operated devices. PPH-1503 can sink current, acting as an electronic load, and simulate discharged function of rechargeable batteries. The maximum current is up to 2A. Users can test either battery charged or discharged without changing test equipment.

PPH-1503 provides Limit relay and Trip relay modes and is equipped with corresponding output ports, in which output signals control external relay. Under Limit relay mode and the current limit is reached, PPH-1503 will switch from Constant Voltage to Constant Current automatically and external relay control signal will go high. Under "Trip relay" mode and the current limit is reached, PPH-1503 will turn output off and relay control signal will go high. Furthermore, External Relay control can be used if users simultaneously use other devices for test system.

Built-in DVM (Digital Volt-Meter) is designed to measure any point on DUT while PPH-1503 is outputting voltage and current so as to achieve the functionalities of simultaneous output and monitor. Either front or rear panel provides power supply output and DVM input ports for users' connection consideration.

Users can remotely control PPH-1503 via a PC by using USB, GPIB and LAN interfaces which are standardly equipped. PC software can be downloaded from GW Instek website. These unique features make PPH-1503 an ideal power source for production lines, R&D laboratories, device inspection, maintenance centers or facilities with the requirements of a swift and precise power supply with DVM.

APPLICATIONS

- Battery Simulations for Telecom
- Products : GSM, CDMA, TDMA, DECT and others
- Product Testing for LED Light Bar (Current Measurement) and Quality Assurance
- R&D Laboratories and Educational Facilities
- Product Development and Debugging
- Device Inspection

SPECIFICATIONS

OUTPUT	Number of Channel	1
	Voltage Rating	0 ~9V/5A ; 0~15V/3A
	Current Rating	0 ~ 5A (Low Range : 9V); 0 ~ 3A (High Range:15V)
	Power Rating	45W
	Output Voltage Rising Time	0.15ms (10% ~ 90%)
	Output Voltage Falling Time	0.65ms (90% ~ 10%)
STABILITY	Voltage	0.01%+0.5mV
	Current	0.01%+50 μA
REGULATION (CV)	Load	0.01%+2mV
	Line	0.5mV
REGULATION (CC)	Load	0.01%+1mA
	Line	0.5mA
RIPPLE & NOISE (20Hz ~ 20MHz)	CV p-p	8mV
	CV rms	1mV
PROGRAMMING ACCURACY	Voltage	±(0.05%+10mV)
	Current	±(0.16%+5mA)
READBACK ACCURACY	Voltage	±(0.05%+3mV)
	Current (5A Range)	±(0.2%+400 μA)
	Current (5mA Range)	±(0.2%+1 μA)
RESPONSE TIME (RESPONSE to 1000% LOAD CHANGE)	Transient Recovery Time	< 40 μS within 100mV < 80 μS within 20mV
PROGRAMMING RESOLUTION	Voltage	2.5mV
	Current	1.25mA
READBACK RESOLUTION	Voltage	1mV
	Current (5A Range)	0.1mA
	Current (5mA Range)	0.1 μA
PROTECTION FUNCTION	OVP Accuracy	50mV
DVM	DC Read Back Accuracy (23℃± 5℃)	±0.05%+3mV
	Read Back Resolution	1mV
	Maximum DC Differential Voltage	0 ~ 20VDC
	Input Resistance and Capacitance	100000MΩ
PULSE CURRENT MEASUREMENT	Trigger Level	5mA ~ 5A, 5mA/Step
	High Time/low Time/average Time	33.3us to 833ms, 33.3us/Step
	Trigger Delay	0 ~ 100ms,10us/Steps
	Average Readings	1 ~ 100
	Long Integration Pulse Timeout	1S ~ 63S
	Long Integration Measurement Time	850ms(60Hz)/840ms(50Hz) ~ 60s, or Auto time 16.7ms/Steps(60Hz), 20ms/Steps(50Hz)
	Long Integration Trigger Mode	Rising, Falling, Neither
OTHER	Output Terminal	Front/Rear Panel
	DVM Input	Front/Rear Panel
	Relay Control Connector	150mA/15V 5 Voutput, 100mA
	Operation Temperature	0 ~ 40°C
	Operation Humidity	≤ 80%
	Storage Temperature	-20°C ~ 70°C
	Storage Humidity	< 80%
PC REMOTE INTERFACES	Standard	GPIB/USB/LAN
PC SOFTWARE & LABVIEW DRIVER	Free	PC Software/Labview Driver
CURRENT SINK CAPACITY	Sink Current Rating	2A(Vout≦5V); 2A-0.1x(Vout-5)(Vout>5V)
MEMORY	Save/Recall	5 Sets
POWER SOURCE	Inpout Power	90 ~ 264VAC ; 50/60Hz
	Power Consumption	150VA
DIMENSIONS & WEIGHT		222(W) x 86(H) x 363(D) mm; Approx 4.2Kg

Specifications subject to change without notice. PH-1503GD1BH

ORDERING INFORMATION

PPH-1503 Programmable High Precision DC Power Supply

ACCESSORIES

User Manual (CD) x 1, Quick Start Guide x 1, Power Cord x 1 (Region Dependent)
GTL-117 Test Lead (10A Maximum), GTL-204A Test Lead(10A Maximum),
GTL-203A Test Lead (3A Maximum)

OPTIONAL ASSESSORIES

GTL-248	GPIB Cable (2.0M)
GTL-251	GPIB-USB-HS(High Speed)
GTL-246	USB Cable (USB 2.0, A-B Type)

Model IT6108C-500-720

Bi-directional programmable DC Power Supply

IT6108C-500-720 Bi-directional programmable DC Power Supply

- Low ripple and low noise;
- High resolution and accuracy;
- Support parallel function;
- The instrument supports bi-directional energy transmission, and have the same Source and Sink capabilities;
- The DC power can be fed back to the local grid;
- Support CC loop priority or CV loop priority，satisfy high-speed voltage establishment or current non-overshoot applications with different loop speed settings;
- Support output resistance setting function;
- Support Battery charge and discharge function;
- Support generating arbitrary waveform, and the list file can be loaded through the U disk interface;
- Support List function;
- Support solar panel I-V curves simulation with built-in multiple regulatory test procedures，and support generating report;
- Built-in multiple regulatory test procedures for DIN 40839 and ISO-16750-2/ISO21848;
- Support OVP, ±OCP, ±OPP, OTP, voltage transient drop protection, and island protection;
- Support local mode, and Sense remote compensation mode, support Sense reverse connection or open circuit protection;
- Support anti-output reverse connection, ignition, backflow protection with optional battery protection module;
- Built-in standard USB/CAN/LAN/digital IO interface
- Optional GPIB/Analog & RS232/battery application module

Parameter		IT6108C-500-720
Rated value (0 ℃-50 ℃)	Output Voltage	0～500V
	Output Current	-720～720A
	Output Power	-108～108kW
	Output resistance	0～1Ω
Power regulation ±(%of Output+Offset)	Voltage	≤0.01%FS
	Current	≤0.05%FS
Load Regulation ±(%of Output+Offset)	Voltage	≤0.02%FS
	Current	≤0.05%FS
Setup Resolution	Voltage	0.01V
	Current	0.1A
	Power	0.001kW
	Resistance	0.001Ω
Read Back Resolution	Voltage	0.01V
	Current	0.1A
	Power	0.001kW
	Resistance	0.001Ω
Setup Accuracy (within 12 months, 25℃ ±5℃) ±(%of Output+Offset)	Voltage	≤0.02% + 0.02%FS
	Current	≤0.1% + 0.1%FS
	Power	≤0.5% + 0.5%FS
	Resistance	≤1% + 1%FS
Read Back Accuracy (within 12 months, 25℃ ±5℃) ±(%of Output+Offset)	Voltage	≤0.02% + 0.02%FS
	Current	≤0.1% + 0.1%FS
	Power	≤0.5% + 0.5%FS
	Resistance	≤1% + 1%FS
Ripple (20Hz -20MHz)	Voltage	≤200mVpp(MAX:≤500mVpp)
	Current	≤0.1%FS RMS
Setup Temperature Coefficient ±(%of Output/℃+Offset)	Voltage	≤50PPM/℃
	Current	≤200PPM/℃
Read Back Temperature Coefficient ±(%of Output/℃+Offset)	Voltage	≤50PPM/℃
	Current	≤200PPM/℃
Rise Time (no load)	Voltage	≤15ms
Rise Time (full load)	Voltage	≤30ms
Fall Time (no load)	Voltage	≤30ms
Fall Time (full load)	Voltage	≤15ms
Transient Response Time	Voltage	≤2ms
AC Input	Voltage (Three-phase four-wire) *1	198V～264V(Derating 50%) 342V～528V
	Maximum Input Current	200.18A
	Maximum Input Apparent Power	118.6kVA
	Frequency	47Hz～63Hz

Setup Stability-30min （%of Output +Offset）	Voltage	≤0.02% + 0.02%FS
	Current	≤0.1% + 0.1%FS
Setup stability-8h （%of Output +Offset）	Voltage	≤0.02% + 0.02%FS
	Current	≤0.1% + 0.1%FS
Readback Stability-30min （%of Output +Offset）	Voltage	≤0.02% + 0.02%FS
	Current	≤0.1% + 0.1%FS
Readback stability-8h （%of Output +Offset）	Voltage	≤0.02% + 0.02%FS
	Current	≤0.1% + 0.1%FS
Efficiency	～92%	
Remote Sense Compensation Voltage	≤5V	
Command Response Time	2mS	
Power Factor	0.99	
Storage Temperature	-10℃～70℃	
Protective Function	OVP, OCP, OPP, UVP, UCP, OTP, Vsense protection	
Standard Interface	Standard: USB, CAN, LAN, VCP; optional: GPIB, analog card (includes RS232), fiber optic socket	
Isolation (output to ground)	1000V	
Working Temperature	0～50℃	
Dimension (mm)	600mm(W)*917.61mm(D)*1441.41mm(H)	
Weight(net)	366.5KG	

*1. Models without emergency stop module (i.e. AC contactor not included), other AC input voltage ranges are required for customization. Models without emergency stop module and assembled to the cabinet, with AC input voltage in the range of 198~264V, need to be customized while derating by 50%. Models with emergency stop module (including AC contactor) only support 380VAC±10% for standard AC input voltage, 480VAC±10% voltage is required for customization.

This information is subject to change without notice.

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