

PSU-Series



FEATURES

- Voltage Output : 6V/12.5V/20V/40V/60V/100V/150V/300V/400V/600V
- Power Output : 1200W ~ 1560W
- C.V/C.C Priority Mode
- Adjustable Voltage/Current Rise and Fall Time
- Series/Parallel Connection : Max. 2 units (Models Under 300V)/4 units of The Same Model
- High Efficiency and High Power Density
- 1U Height and 19" Rack Mount Size
- Three sets of Preset Function
- Bleeder Control Function
- Internal Resistance Function
- Panel Lock Function
- Protection : OVP, OCP, OHP, UVL, AC Fail, FAN Fail
- Standard : USB, LAN, RS-232, RS-485, Analog Control
- Option : GPIB, Isolated Analog Interface (Voltage Control/Current Control)



GW Instek PSU-HV series has five models, including PSU 100-15, PSU 150-10, PSU 300-5, PSU 400-3.8, and PSU 600-2.6. The launch of PSU-HV is to complete the existing PSU-series so as to satisfy high voltage application demands, allowing the augmented PSU-series to cover a voltage range from 6V to 600V. PSU-HV inherits the functional design and maintains the high power density characteristic and 1U height appearance of the PSU-LV series (PSU 6-200, PSU 12.5-120, PSU 20-76, PSU 40-38 and PSU 60-25). Furthermore, the original maximum output voltage of 60V is expanded to the maximum voltage of 600V and the maximum power of 1560 watts. The launch of the PSU-HV series augments the existing PSU-series to fully satisfy the extensive voltage demands of 1U power supply market and provides system integrators with more flexibilities and selections to conduct system integration. The introduction of the PSU-HV series has perfected the PSU product line, which satisfies the application requirements ranging from low voltage and large current to high voltage.

Utilizing same model units of the PSU-series to conduct series and parallel connections can increase total output power, total current or total voltage. The wide voltage and current output ranges of the PSU-series can fully satisfy various voltage and current measurement requirements. The PSU-series is a single power output DC programmable power supply, which outputs 1200W to 1560W. The PSU-series provides maximum 2 units in series connection (models under 300V) to achieve maximum 600V or 4 units in parallel connection to obtain maximum 800A and the maximum output power of 6.24 kilowatts.

The PSU-series allows settings for CC priority or CV priority. Under CC or CV mode, users can adjust slew rate for output voltage or current based upon test requirements. There are two kinds of slew rate settings: high speed priority and slew rate priority. High speed priority sets slew rate at the maximum speed to reach CC or CV mode. Slew rate priority allows users to set slew rate for CC or CV mode in order to control rise or fall slew rate. Slew rate priority mode is ideal for motor tests by adjusting the rise time of output voltage to protect DUT from being damaged by inrush current occurred at turn-on.

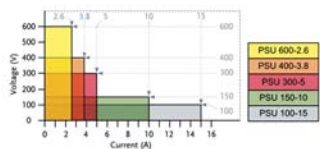
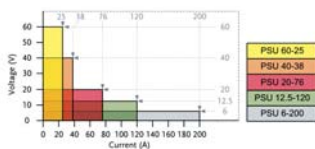
Comparing with other 1U power supplies available in the market, PSU supports a most complete array of interfaces, including USB, LAN, RS-232, RS-485, analog control interface, GPIB (option), isolated analog interface (voltage control), and isolated analog interface (current control). Via the multi-drop mode, PSU will not need any switch/hub and GPIB cable for remote control and slave unit augmentation when using LAN, USB or GPIB. This feature can help users save costs on augmentation equipment for connecting slave while using LAN or USB.

The new PSU-HV series is ideal for the primary input of DC/DC converter and servomotor production application. PSU is often integrated into component test systems such as aging test equipment for capacitors; 600V DC bias applications; aging test equipment for diode; semiconductor production equipment; automotive electronics; and ECU for V8 engine or V12 engine, etc.

The PSU-series provides users with flexible settings of High/Low Level or Trigger input /Trigger output signals with pulse width of 1 ~ 60ms. Trigger input controls PSU to output or upload preset voltage, current and memory parameters. While outputting or uploading preset voltage, current and memory parameters PSU can produce corresponding Trigger output signals.

APPLICATIONS

- The Primary Input of DC/DC Converter
- Servomotor Manufacturing Equipment
- Aging Test Equipment for Capacitors
- Aging Test Equipment for Diodes
- Power Supply for Communications Equipment



Model name	Voltage Rating <sup>1</sup>	Current Rating <sup>2</sup>	Power
PSU 6-200	6V	200A	1200W
PSU 12.5-120	12.5V	120A	1500W
PSU 20-76	20V	76A	1520W
PSU 40-38	40V	38A	1520W
PSU 60-25	60V	25A	1500W
PSU 100-15	100V	15A	1500W
PSU 150-10	150V	10A	1500W
PSU 300-5	300V	5A	1500W
PSU 400-3.8	400V	3.8A	1520W
PSU 600-2.6	600V	2.6A	1560W

## PANEL INTRODUCTION



- |                                       |                              |                                                                                                                                                   |
|---------------------------------------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. AC Power Switch (AC Power On/Off)  | 7. DC Output Terminal        | 12. Option Slot for (Selection One of Three)<br>GPIB Interface Card/Isolate Voltage Remote<br>Control Card/Isolate Current Remote<br>Control Card |
| 2. USB A Port                         | 8. USB                       |                                                                                                                                                   |
| 3. Voltage Knob                       | 9. LAN                       |                                                                                                                                                   |
| 4. Display Area                       | 10. RS 485/RS 232            |                                                                                                                                                   |
| 5. Current Knob                       | 11. Analog Control Interface | 13. Remote Sense                                                                                                                                  |
| 6. AC Input (HV:Wire Clamp Connector) |                              |                                                                                                                                                   |

## SPECIFICATIONS

MODEL	PSU 6-200	PSU 12.5-120	PSU 20-76	PSU 40-38	PSU 60-25	PSU 100-15	PSU 150-10	PSU 300-5	PSU 400-3.8	PSU 600-2.6
<b>OUTPUT RATINGS</b>										
Rated Output Voltage (*1)	6V	12.5V	20V	40V	60V	100V	150V	300V	400V	600V
Rated Output Current (*2)	200A	120A	76A	38A	25A	15A	10A	5A	3.8A	2.6A
Rated Output Power	1200W	1500W	1520W	1520W	1500W	1500W	1500W	1500W	1520W	1560W
<b>RIPPLE AND NOISE(*5)</b>										
CVp-p(10 ~ 20MHz) p-p (*6)	60mV	60mV	60mV	60mV	60mV	80mV	100mV	150mV	200mV	300mV
CVrms(5Hz ~ 1MHz) r.m.s. (*7)	8mV	8mV	8mV	8mV	8mV	8mV	10mV	25mV	40mV	60mV
CCrms(5Hz ~ 1MHz) r.m.s. (*12)	400mA	240mA	152mA	95mA	75mA	45mA	35mA	25mA	17mA	12mA
<b>LOAD REGULATION</b>										
Voltage(*4)	2.6mV	3.25mV	4mV	6mV	8mV	12mV	17mV	32mV	42mV	62mV
Current(*11)	45mA	29mA	20.2mA	12.6mA	10mA	8mA	7mA	6mA	5.76mA	5.52mA
<b>LINE REGULATION</b>										
Voltage(*3)	2.6mV	3.25mV	4mV	6mV	8mV	12mV	17mV	32mV	42mV	62mV
Current(*3)	22mA	14mA	9.6mA	5.8mA	4.5mA	3.5mA	3mA	2.5mA	2.38mA	2.26mA
<b>ANALOG PROGRAMMING AND MONITORING</b>										
External Voltage Control Output Voltage	Accuracy and linearity: $\pm 0.5\%$ of rated output voltage									
External Voltage Control Output Current	Accuracy and linearity: $\pm 1\%$ of rated output current									
External Resistor Control Output Voltage	Accuracy and linearity: $\pm 1\%$ of rated output voltage									
External Resistor Control Output Current	Accuracy and linearity: $\pm 1.5\%$ of rated output current									
Output Voltage Monitor	Accuracy: $\pm 1\%$									
Output Current Monitor	Accuracy: $\pm 1\%$									
Shutdown Control	Turns the output off with a LOW (0V to 0.5V) or short-circuit									
Output On/Off Control	Possible logic selections: Turn the output on using a LOW (0V to 0.5V) or short-circuit, turn the output off using a HIGH (4.5V to 5V) or open-circuit; Turn the output on using a HIGH (4.5V to 5V) or open-circuit, turn the output off using a LOW (0V to 0.5V) or short-circuit									
Alarm Clear Control	Clear alarms with a LOW (0V to 0.5V) or short-circuit									
CV/CC/ALM/PWR ON/OUT ON Indicator	Photocoupler open collector output; Maximum voltage 30V, maximum sink current 8mA									
Trigger Out	Maximum low level output = 0.8V; minimum high level output = 2V; Maximum source current = 8mA									
Trigger In	Maximum low level input voltage = 0.8V; minimum high level input voltage = 2V, Maximum sink current = 8mA									
<b>FRONT PANEL</b>										
Display, 4 digits, Voltage Accuracy 0.1%+ Current Accuracy 0.2%+	12mV 600mA	25mV 360mA	40mV 228mA	80mV 114mA	120mV 75mA	200mV 45mA	300mV 30mA	600mV 15mA	800mV 11.4mA	1200mV 7.8mA
Indications	GREEN LED's: CV, CC, V, A, VSR, ISR, DLY, RMT, LAN, M1, M2, M3, RUN, Output ON; RED LED's: ALM, ERR									
Buttons	Lock/Local(Unlock), PROT(ALM_CLR), Function(M1), Test(M2), Set(M3), Shift, Output									
Knobs	Voltage, Current									
USB Port	Type A USB connector									

## SPECIFICATIONS

MODEL	PSU 6-200	PSU 12.5-120	PSU 20-76	PSU 40-38	PSU 60-25	PSU 100-15	PSU 150-10	PSU 300-5	PSU 400-3.8	PSU 600-2.6	
<b>TRANSIENT RESPONSE TIME (*10)</b>											
Transient Response Time	1.5ms	1ms	1ms	1ms	1ms	1ms	2ms	2ms	2ms	2ms	
<b>OUTPUT RESPONSE TIME</b>											
Rise Time(*8)	Rated load 80ms No load 80ms	80ms 80ms	80ms 80ms	80ms 80ms	80ms 80ms	150ms 150ms	150ms 150ms	150ms 150ms	200ms 200ms	250ms 250ms	
Fall Time(*9)	Rated load 10ms No load 50ms	50ms 70ms	50ms 800ms	80ms 1000ms	80ms 1100ms	150ms 1500ms	150ms 2000ms	150ms 2500ms	200ms 3000ms	250ms 4000ms	
<b>PROGRAMMING AND MEASUREMENTS (RS-232/485, USB, LAN, GPIB)</b>											
Output Voltage Programming Accuracy	0.05%+	3mV	6.25mV	10mV	20mV	30mV	50mV	75mV	150mV	200mV	300mV
Output Current Programming Accuracy	0.2%+	200mA	120mA	76mA	38mA	25mA	15mA	10mA	5mA	3.8mA	2.6mA
Output Voltage Programming Resolution		0.2mV	0.4mV	0.7mV	1.3mV	2mV	3.4mV	5.2mV	10.2mV	13.6mV	20.4mV
Output Current Programming Resolution		6mA	4mA	2.5mA	1.2mA	0.8mA	0.5mA	0.34mA	0.19mA	0.13mA	0.09mA
Output Voltage Measurement Accuracy	0.1%+	6mV	12.5mV	20mV	40mV	60mV	100mV	150mV	300mV	400mV	600mV
Output Current Measurement Accuracy	0.2%+	400mA	240mA	152mA	76mA	50mA	30mA	20mA	10mA	7.6mA	5.2mA
Output Voltage Measurement Resolution		0.2mV	0.4mV	0.7mV	1.3mV	2mV	3.4mV	5.2mV	10.2mV	13.6mV	20.4mV
Output Current Measurement Resolution		6mA	4mA	2.5mA	1.2mA	0.8mA	0.5mA	0.34mA	0.19mA	0.13mA	0.09mA
<b>TEMPERATURE COEFFICIENT</b>											
Voltage & Current	100ppm/°C after a 30 minute warm-up										
<b>REMOTE SENSE COMPENSATION VOLTAGE(SINGLE WIRE)</b>											
Voltage	1V	1V	1V	2V	3V	5V	5V	5V	5V	5V	
<b>PROTECTION FUNCTION</b>											
Over Voltage Protection(OVP)	Setting Range 60mV Setting Accuracy	0.6~6.6V 1.25~13.75V 125mV	2~22V 200mV	4~44V 400mV	5~66V 600mV	5~110V 1000mV	5~165V 1500mV	5~330V 3000mV	5~440V 4000mV	5~660V 6000mV	
Over Current Protection(OCP)	Setting Range Setting Accuracy	5~220A 4000mA	5~132A 2400mA	5~83.6A 1520mA	3.8~41.8A 760mA	2.5~27.5A 500mA	1.5~16.5A 300mA	1~11A 200mA	0.5~5.5A 100mA	0.38~4.18A 76mA	0.26~2.86A 52mA
Under Voltage Limit(UVL)	Setting Range	0~6.3V 0~13.12V	0~21V	0~42V	0~63V	0~105V	0~157.5V	0~315V	0~420V	0~630V	
Over Temperature Protection(OHP)	Operation	Turn the output off.									
Incorrect Sensing Connection Protection(SENSE)	Operation	Turn the output off.									
Low AC Input Protection (AC-FAIL)	Operation	Turn the output off.									
Shutdown (SD)	Operation	Turn the output off.									
Power Limit (POWER LIMIT)	Operation Value (Fixed)	Over power limit Approx. 105% of rated output power									
<b>INTERFACE CAPABILITIES</b>											
USB	TypeA: Host, TypeB: Slave, Speed: 1.1/2.0, USB Class: CDC(Communications Device Class)										
LAN	MAC Address, DNS IP Address, User Password, Gateway IP Address, Instrument IP Address, Subnet Mask										
RS-232 / RS-485	Complies with the EIA232D / EIA485 Specifications										
GPIB (Factory Option)	SCPI - 1993, IEEE 488.2 compliant interface										
<b>ISOLATED ANALOG CONTROL INTERFACE (FACTORY OPTION)</b>											
Voltage Control	Using 0-5V or 0-10V signals for programming and measurement										
Current Control	Using 4-20mA current signals for programming and measurement										
<b>ENVIRONMENTAL CONDITIONS</b>											
Operating Temperature	0 °C ~ 50 °C										
Storage Temperature	-25 °C ~ 70 °C										
Operating Humidity	20% ~ 85% RH; No condensation										
Storage Humidity	90% RH or less; No condensation										
Altitude	Maximum 2000m										
<b>INPUT CHARACTERISTICS</b>											
Nominal Input Rating	100Vac to 240Vac, 50Hz to 60Hz, single phase										
Input Voltage Range	85Vac ~ 265Vac										
Input Frequency Range	47Hz ~ 63Hz										
Maximum Input Current	100Vac/200Vac(A)	21/11									
Inrush Current	Less than 50A										
Maximum Input Power	2000VA										
Power Factor	100Vac/200Vac	0.99/0.98									
Hold-up Time	20ms or greater										
Efficiency (*13)	100Vac/200Vac(%)	76.5/78.5	82.0/85.0	83.0/86.0	84.0/87.0	84.0/87.0	84.0/87.0	84.0/87.0	84.0/87.0	84.0/87.0	
<b>DIMENSIONS &amp; WEIGHT</b>											
	423(W) × 43.6(H) × 447.2(D)mm, Approx. 8.7kg										

Note : \*1. Minimum voltage is guaranteed to maximum 0.2% of the rated output voltage. \*2. Minimum current is guaranteed to maximum 0.4% of the rated output current. \*3. At 85~132Vac or 170~265Vac, constant load. \*4. From No-load to Full-load, constant input voltage. Measured at the sensing point in Remote Sense. \*5. Measure with JEITA RC-9131B (1:1) probe. \*6. Measurement frequency bandwidth is 10Hz~20MHz. \*7. Measurement frequency bandwidth is 5Hz~1MHz. \*8. From 10%~90% of rated output voltage, with rated resistive load. \*9. From 90%~10% of rated output voltage, with rated resistive load. \*10. Time for output voltage to recover within 0.5% of its rated output for a load change from 10~90% of its rated output current. Voltage set point from 10%~100% of rated output. \*11. For load voltage change, equal to the unit voltage rating, constant input voltage. \*12. For 6V model the ripple is measured at 2~6V output voltage and full output current. For other models, the ripple is measured at 10~100% output voltage and full output current. \*13. At rated output power. Specifications subject to change without notice. SU-SeriesGD1DS

## ORDERING INFORMATION

PSU 6-200	1200W Programmable Switching DC Power Supply
PSU 12.5-120	1500W Programmable Switching DC Power Supply
PSU 20-76	1520W Programmable Switching DC Power Supply
PSU 40-38	1520W Programmable Switching DC Power Supply
PSU 60-25	1500W Programmable Switching DC Power Supply
PSU 100-15	1500W Programmable Switching DC Power Supply
PSU 150-10	1500W Programmable Switching DC Power Supply
PSU 300-5	1500W Programmable Switching DC Power Supply
PSU 400-3.8	1520W Programmable Switching DC Power Supply
PSU 600-2.6	1560W Programmable Switching DC Power Supply

## ACCESSORIES

CD-ROM x 1 (User Manual, Programming Manual), Output terminal cover x 1, Analog connector plug kit x 1, Output terminal M8 bolt set (6V~60V model), Input terminal cover x 1, 1U Handle (RoHS), 1U Bracket (LEFT, RoHS), 1U Bracket (RIGHT, RoHS), Power Cord (10A) x 1

## OPTIONAL ACCESSORIES

PSU-01B	Bus bar for 2 units in parallel connection	GTL-246	USB Cable, USB 2.0A-B Type Cable, 4P
PSU-01C	Cable for 2 units in parallel connection	GRM-001	Slide bracket 2pcs/set ,PSU option
PSU-02B	Bus bar for 3 units in parallel connection	PSU-GPIB	GPIB Interface card (factory option)
PSU-02C	Cable for 3 units in parallel connection	GPW-001	UL/CSA power cord 3m ,PSU option
PSU-03B	Bus bar for 4 units in parallel connection	GPW-002	VDE power cord 3m ,PSU option
PSU-03C	Cable for 4 units in parallel connection	GPW-003	PSE power cord 3m ,PSU option
PSU-232	RS232 Cable with DB9 connector kit		
PSU-485	RS485 Cable with DB9 connector kit		

PSU-01A Joins a vertical stack of 2 PSU units together. 2U-sized handles x2, joining plates x2  
 PSU-02A Joins a vertical stack of 3 PSU units together. 3U-sized handles x2, joining plates x2  
 PSU-03A Joins a vertical stack of 4 PSU units together. 4U-sized handles x2, joining plates x2  
 PSU-ISO-I Isolate current remote control card (factory option)  
 PSU-ISO-V Isolate voltage remote control card (factory option)

## FREE DOWNLOAD

Driver LabView Driver

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