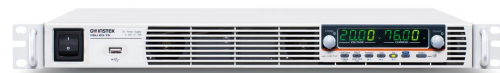


## **PSU-Series Programmable Switching D.C. Power Supply**

### **New Product Announcement**

GW Instek rolls out the brand new PSU series single channel programmable switching D.C. power supply featuring C.V/C.C Priority, adjustable Slew Rate, and series/parallel operation. The PSU series D.C. power supply, with high power density design, provides 1520W output power produced by 1U height. Additionally, features include rear panel output and multiple remote control interface make the PSU series most suitable for LED module, automotive component (low-powered D.C. brushless motor), DC-DC Converter, and hybrid-powered battery module production tests.

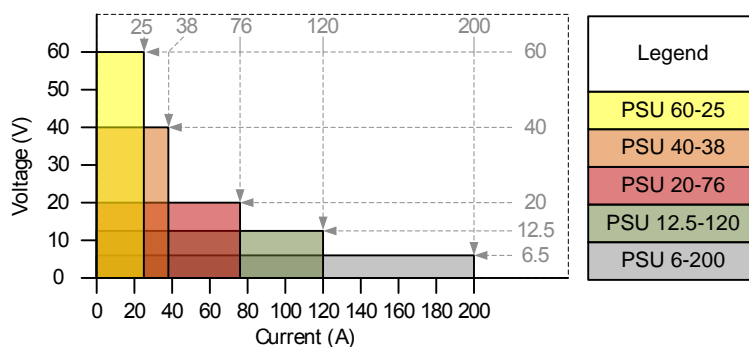


The PSU Series programmable switching D.C. power supply consists of five models with rated output voltage including 6V, 12.5V, 60V, 20V, 40V and rated output current 200A, 120A, 25A, 76A, 38A, making the output power capacity from 1200W to 1520W. To meet the high power output demands such as low-powered D.C brushless motor and hybrid-powered battery modules, the PSU series collocates with same model unit to contact Master / Slave control that allows two units in series and four units in parallel arrangements the maximum. The PSU series offers the maximum voltage output of 120V for series connection and maximum current output of 800A for parallel connection.

The PSU series programmable D.C. power supply is designed to meet the test requirements of V-I characteristics curve which is for power semiconductor components or power industry's parts under fast response such as DC-DC Converter, hybrid-powered battery module, and automotive parts. Semiconductor circuit designs, power module designs, product test and verification all require power supply with high speed slew rate control to verify their characteristics. The PSU series programmable switching D.C. power supply, with the built-in adjustable voltage and current rise or fall slew rate function, allows users to set CV or CC (rise and fall) slew rate parameters according to product's unique characteristics to ensure thorough product verification. Product applications formulated by various LED are very extensive since the energy-saving products have become very popular day by day. For current-spike produced by LED products' transient power on, the PSU series power supply allows users to set constant current with CC Priority mode to prevent current-spike from happening.

The series includes five models as described below. Three different output power capacities are 1200 W, 1500W, and 1520 W.

- PSU 6-200** is a 1200W single channel with the capacity of 6V, 200A
- PSU 12.5-120** is a 1500W single channel with the capacity of 12.5V, 120A
- PSU 20-76** is a 1520W single channel with the capacity of 20V, 76 A
- PSU 40-38** is a 1520W single channel with the capacity of 40V, 38A
- PSU 60-25** is a 1500W single channel with the capacity of 60V, 25A



## Operating Mode

### ■ Protection Mode

The OVP and OCP setting level is 10%~110% of rated output voltage /current. The preset level of OVP and OCP is 1.1 fold to the very model's maximum rated voltage and current.

### ■ C.V. and C.C Operation Mode

Under the constant voltage (CV) mode, current limit is required to identify the crossover point and voltage limit for the constant current (CC) mode is to identify its crossover point. When current exceeds the crossover point, power supply will switch to the CC mode. For the CC and CV modes, two selectable slew rates are available which are high speed priority and slew rate priority. The high speed priority utilizes the fastest changing slew rate to activate equipment. The slew rate priority utilizes users' own slew rate settings.

### ■ Panel Lock Mode

The panel lock function is designed to avoid the original settings being changed accidentally. Users, via connecting standard multiple-remote control interface like USB, RS-232, RS-485, LAN or optional GPIB with the PC, will have automatic panel lock activation.

### ■ Series and Parallel Mode

The PSU series power supply will elevate its total output current level when parallel arrangement is adopted. When series arrangement is utilized, the total output voltage will be two fold (the maximum) to that of the rated power output of the original single unit. Power supply in parallel arrangement increases total power output. Power supply's total output voltage increases when series connection is in use. For power supply parallel connection, the Master/Slave collocation is required. Once Master and Slave units are connected, all control operations must be done from Master unit.

### ■ Selectable Slew Rate

The PSU series power supply has CV and CC slew rate selections which allows the PSU series to limit voltage and current output curve. Slew rate settings are divided into high speed priority setting and slew rate priority setting. When the high speed priority is in use, the CV or CC slew rate will utilize the fastest preset slew rate to conduct operation. The CV or CC rise and fall slew rate can be independently determined once the slew rate priority is adopted.

## Key Features , Advantages and Customers' Benefits

Features (Product Characteristics)	Advantages (advantages to customers provide by us)	Benefits
Commands compatible with other brands as follows: 1. TDK-Lambda GEN Series 2. Agilent N57XX Series	Users have more options in selecting 1U height power supply	No extra man power cost for model replacement such as programming and maintenance cost, etc.
Series operation does not need signal interface connection.	Via connecting output terminal with DUT, multiple-remote interface and programming are not necessary.	Compared with other models, the PSU series simplifies connection. Reduce installation procedure and unnecessary mistakes.
Master / Slave control function for single unit connecting with single unit (for same model unit)	Customers, based on output power capacity and characteristics, can expand production equipment's applications.	More flexible test application collocation which can be adjusted by production capability status.

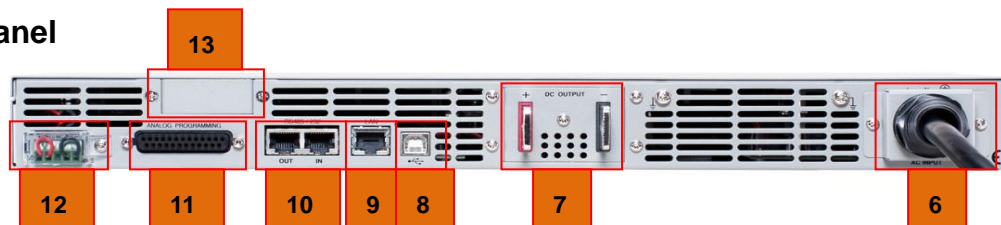
## Appearance , Front and Rear Panel Function Introduction

### Front Panel



1. AC Power Switch (AC Power On / Off)
2. USB A Port
3. Voltage Knob
4. Display Area
5. Current Knob

### Rear Panel



6. AC Input (Wire Clamp Connector)
7. DC Output Terminal
8. USB
9. LAN

10. RS485/RS232
11. Analog Control Interface
12. Single Option Slot (select one from the following interface)  
 GPIB Interface Card / Isolate Voltage Remote Control Card / Isolate Current Remote Control Card
13. Remote Sense

### Feature Comparison Table

Model Number Features	GW INSTEK	Agilent	TDK-Lambda
	PSU-Series	N577x Series	GEN-Series
Sequence Function for High Efficient Load Simulations	V	X	X
Series & Parallel operation	V	V	V
External Analog Control Interface	V	V	V
Multi Interface (Standard) :	USB / RS-232/ RS-485 / LAN/ Analog Control Interface	USB / LAN / Analog Control Interface	USB / LAN / Analog Control Interface
GPIB Interface	Optional	Standard	Optional
Labview Driver	V	V	V
CV / CC Priority	V	X	X
Adjustable Slew Rate	V	N/A	N/A
Protection Function	OVP / OHP/ OCP / UVL	OVP & UVL	OVP & UVL

Compared the positioning with that of the PSW series, GW Instek PSU series, with high power density design and rear panel output terminal design, is most suitable for production line and rack- mounted ATE applications.

### Target Markets and Associated Features

The required equipments for the final modulation and verification of large power products:

1. DC / DC Converter
2. Battery fields (in battery charging system)
3. Laboratories and Educational Facilities
4. Product Testing and Quality Assurance
5. Product Development and Debugging

### Key Dates for Product Announcement

1. Global Market Announcement (Jul 18, 14')
2. Market Promotion Activities (Jul 18, 14')
3. Demo Units Shipped to Distributors (Jul 18, 14')
4. Mass quantity orders fulfillment (Jul 18, 14')

## Marketing Resource

**Marcom Material and Service Manual download through Website.** Good Will Instrument continues to provide after sales support through its website. The most updated version of service manual and Marcom material of PSU Series will be posted on the distributor zone of GWINSTEK'S [Website at http://www.gwinstek.com](http://www.gwinstek.com)

## Ordering Information

**PSU 6-200** (0~6V / 0~200A / 1200W) Single Channel Programmable Switching DC Power Supply

**PSU 12.5-120** (0~12.5V / 0~120A / 1500W) Single Channel Programmable Switching DC Power Supply

**PSU 20-76** (0~20V / 0~76A / 1520W) Single Channel Programmable Switching DC Power Supply

**PSU 40-38** (0~40V / 0~38A / 1520W) Single Channel Programmable Switching DC Power Supply

**PSU 60-25** (0~60V / 0~25A / 1500W) Single Channel Programmable Switching DC Power Supply

## Accessories

User Manual + Programming User Manual (CD) x 1 ; Quick Start Guide x 1 ; Output Terminal Cover x 1 ; Analog Connector Plug Kit x 1 ; Output Terminal M8 Bolt Set x 1 ; Input Terminal Cover x 1 ; 1U Handle x 2 ; 1U Bracket (LEFT) x 1 ; 1U Bracket (Right) x 1

## Optional Accessories

GTL-246 USB cable, USB 2.0 A-B type cable, 4P

GTL-248 GPIB Cable (2M)

GTL-251 GPIB-USB-HS (High Speed)

PSU-01B Bus Bar for 2 units in parallel operation

PSU-01C Cable for 2 units in parallel operation

PSU-02B Bus Bar for 3 units in parallel operation

PSU-02C Cable for 3 units in parallel operation

PSU-03B Bus Bar for 4 units in parallel operation

PSU-03C Cable for 4 units in parallel operation

PSU-232 RS232 Cable with DB9 connector kit

PSU-485 RS485 Cable with DB9 connector kit

GRM-001 Slide bracket 2pcs / set

PSU-GPIB PSU GPIB Interface Card (Factory Installed)

PSU-ISO-I Isolated Current Remote Control Card (Factory Installed)

PSU-ISO-V Isolated Voltage Remote Control Card (Factory Installed)

GPW-001 UL/CSA power cord, 3M

GPW-002 VDE power cord, 3M

GPW-003 PSE power cord,,3M

## Service Policy

1. **3 year warranty.** **PSU-Series** Programmable Switching DC Power Supply carries a standard warranty for 3 year.
2. **Service Support.** The service instructions in the Service Manual will help distributors repairing damage units promptly. The parts-swapping service support is provided by Good Will Instrument to facilitate the repair jobs done at the distributor's site.

**Specification**

SPECIFICATIONS					
MODEL NUMBER	PSU 6-200	PSU 12.5-120	PSU 20-76	PSU 40-38	PSU 60-25
OUTPUT RATING					
Voltage	0~6V	0~12.5V	0~20V	0~40V	0~60V
Current	0~200A	0~120A	0~76A	0~38A	0~25A
Power	1200W	1500W	1520W	1520W	1500W
OUTPUT RIPPLE AND NOISE					
CV p-p (0~20MHz)	60mV	60mV	60mV	60mV	60mV
CV rms (5Hz~1MHz)	8mV	8mV	8mV	8mV	8mV
CC rms (5Hz~1MHz)	400mA	240mA	152mA	95mA	75mA
LOAD REGULATION (Change from 10% to 90% of full load)					
Voltage (0.01% of F.S. + 2mV)	2.6mV	3.25mV	4mV	6mV	8mV
Current (0.02% of F.S + 5mA)	45mA	29mA	20.2mA	12.6mA	10mA
LINE REGULATION (Change from 85 to 132 VAC input or 170~265 VAC)					
Voltage (0.01% of F.S. + 2mV)	2.6mV	3.25mV	4mV	6mV	8mV
Current (0.02% of F.S + 2mA)	22mA	14mA	9.6mA	5.8mA	4.5mA
PROGRAMMING ACCURACY					
Voltage 0.05% + offset (mV)	3mV	6.25mV	10mV	20mV	30mV
Current 0.2% + offset(mA)	200mA	120mA	76mA	38mA	25mA
MEASUREMENT ACCURACY					
Voltage 0.1%+ offset (mV)	6mV	12.5mV	20mV	40mV	60mV
Current 0.2%+ offset (mA)	400mA	240mA	152mA	76mA	50mA
LOAD TRANSIENT RECOVER TIME					
Time	1.5ms	1ms	1ms	1ms	1ms
OUTPUT RESPONSE TIME (Measured with stepped 0~10V analog programming source and a resistive load)					
Rise Time (No Load & Full Load)	80ms	80ms	80ms	80ms	80ms
Fall Time (No Load)	500ms	700ms	800ms	1000ms	1100ms
Fall Time (Full Load)	10ms	50ms	50ms	80ms	80ms
PROGRAMMING / MEASUREMENT RESOLUTION					
Voltage	0.2mV	0.4mV	0.7mV	1.3mV	2mV
Current	6mA	4mA	2.5mA	1.2mA	0.8mA
TEMPERATURE COEFFICIENT (after 30 minutes warm up)					
Voltage	100ppm/℃ after 30 minutes warm up				
Current	100ppm/℃ after 30 minutes warm up				
SERIES AND PARALLEL OPERATION					
Parallel Operation	Up to 4 Units Including Master Unit				
Series Operation	Up to 2 Units Including Master Unit				
ENVIRONMENT CONDITIONS					
Environment	Indoor use, installation category II (AC Input), pollution degree 2				
Operating Temperature Range	0℃ ~ 50℃				
Storage Temperature Range	-25℃ ~ 70℃				
Operating Humidity Range	20% to 85% RH				
Storage Humidity Range	Up to 90% or less relative humidity (no condensation)				
AC INPUT					
Nominal Input	100Vac to 240Vac, 50Hz to 60Hz, single phase				
Input Range	85Vac ~265Vac				
Power Factor (100Vac/200Vac)	0.99 / 0.98				
Maximum Input Current (100Vac/200Vac)	21A / 11A				
Inrush Current	≤50A				
Efficiency(100Vac / 200Vac)	77% / 79%	82% / 85%	83% / 86%	84% / 88%	84% / 88%
OTHER					
Analog Control (Non-Isolated)	YES				
PC Remote Interface (Standard)	USB (Device / Host) / RS-232 with RS-485 / LAN				
(Optional)	GPIB /Analog Control Interface (Isolated Voltage Control) / Analog Control Interface (Isolated Current Control); Note: Selection one of three				
Cooling Fan	Forced air cooling by internal fan				
DIMENSIONS & WEIGHT	423(W) x 43.6(H) x 447.2(D) : Approach 8.7kg				

Should you have any questions on the PSU-Series announcement, please don't hesitate to contact us

Sincerely yours,  
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