

GW Instek

PSU-HV Series Programmable Switching D.C. Power Supply

New Product Announcement



This document allows GW Instek's partners to quickly grasp product's main features, FAB and ordering information.

GW INSTEK
Simply Reliable

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.



Features

- Voltage output: 100V/ 150V/ 300V/ 400V/ 600V
- Power output: 1500W/ 1520W/ 1560W
- C.V/ C.C priority mode
- Adjustable voltage/current rise and fall time
- Parallel connection (maximum 4 units of the same model)
- Series connection (maximum 2 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) 、 isolated analog control (current control)
- CE certified

Customers and Applications

<u>Customers</u>	<u>Applications</u>
Semiconductor equipment Automotive electronics application Component manufacturer	The primary input of DC/DC converter Servomotor manufacturing equipment Aging test equipment for capacitors

Communications equipment
LED industry application

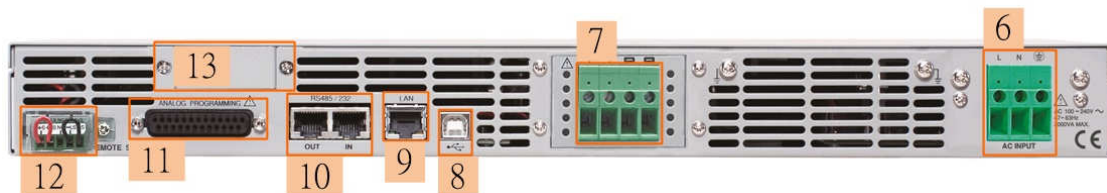
Aging test equipment for diodes
Power supply for communications equipment

Panel Introduction

Front Panel



Back Panel



Front Panel

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

Back Panel

6. AC Input (Wire Clamp Connector)
7. DC Output Terminal
8. USB
9. LAN
10. RS485/RS232
11. Analog Control Interface
12. Remote Sense
13. Option Slot for (selection one of three) GPIB Interface Card / Isolate Voltage Remote Control Card / Isolate Current Remote Control Card

Important Information of Product Ordering

Key Dates for Product Announcement

1. Order Queue Open(2017 年 7 月 6 日)
2. Global Market Announcement (2017 年 8 月 3 日)

Service Policy

1. PSU-HV Programmable Switching DC Power Supply carries a standard warranty for 3 years.
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.

Ordering Information

Existing models:

- 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

New PSU-HV models:

- PSU 100-15 (0~100V/ 0~15A / 1500W) Single Channel Programmable Switching DC Power Supply
- PSU 150-10 (0~150V/ 0~10A / 1500W) Single Channel Programmable Switching DC Power Supply
- PSU 300-5 (0~300V/ 0~5A / 1500W) Single Channel Programmable Switching DC Power Supply
- PSU 400-3.8 (0~400V/ 0~3.8A / 1520W) Single Channel Programmable Switching DC Power Supply
- PSU 600-2.6 (0~600V/ 0~2.6A / 1560W) Single Channel Programmable Switching DC Power Supply

Standard Accessories

CD-ROM x 1(User Manual, Programming Manual), Output terminal cover x 1, Analog connector plug kit x 1, Input terminal cover x 1, 1U Handle(RoHS), 1U Bracket(LEFT, RoHS), 1U Bracket(RIGHT, RoHS), Power Cord(10A) x 1

Optional Accessories

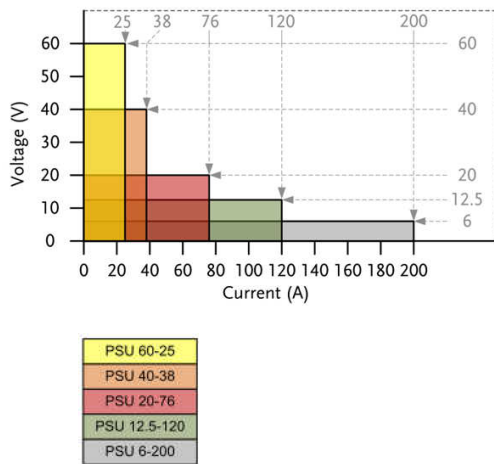
PSU-GPIB	GPIB Interface card (factory option)
PSU-ISO-V	Voltage programming isolated analog interface
PSU-ISO-I	Current programming isolated analog interface
PSU-01C	Cable for 2 units of PSU-series in parallel mode connection
PSU-01B	Bus bar for 2 units of PSU-series in parallel mode connection
PSU-01A	Joins a vertical stack of 2 PSU units together. 2U-sized handles x2, joining plates x2.
PSU-02C	Cable for 3 units of PSU-Series in parallel mode connection
PSU-02B	Bus Bar for 3 units of PSU-Series in parallel mode connection
PSU-02A	Joins a vertical stack of 3 PSU units together. 3U-sized handles x2, joining plates x2.
PSU-03C	Cable for 4 units of PSU-Series in parallel mode connection
PSU-03B	Bus Bar for 4 units of PSU-Series in parallel mode connection
PSU-03A	Joins a vertical stack of 4 PSU units together. 4U-sized handles x2, joining plates x2.
PSU-232	RS-232 Cable with DB9 connector kit
PSU-485	RS-485 Cable with DB9 connector kit
GRM-001	Rack-mount slides(General Devices P/N: C-300-S-116-RH-LH)
GTL-246	USB Cable (1.2m), USB 2.0-A-B Type Cable, 4P
GPW-001	UL/CSA power cord 3m, PSU option
GPW-002	VDE power cord 3m, PSU option
GPW-003	PSE power cord 3m, PSU option

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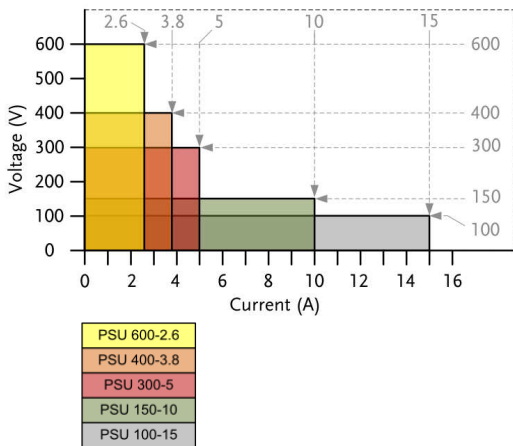
Detailed descriptions for features

Models



The existing PSU series has five models. Detailed descriptions on model number, output voltage, output current and output power are as follows:

Model number	PSU 6-200	PSU 12.5-120	PSU 20-76	PSU 40-38	PSU 60-25
Channel	1	1	1	1	1
Output voltage	0 - 6V	0 - 12.5V	0 - 20V	0 - 40V	0 - 60V
Output current	0 - 200A	0 - 120A	0 - 76A	0 - 38A	0 - 25A
Output power	1200W	1500W	1520W	1520W	1500W



The new PSU-HV series has five models. Detailed descriptions on model number, output voltage, output current and output power are as follows:

Model number	PSU 100-15	PSU 150-10	PSU 300-5	PSU 400-3.8	PSU 600-2.6
Channel	1	1	1	1	1
Output voltage	0 - 100V	0 - 150V	0 - 300V	0 - 400V	0 - 600V
Output current	0 - 15A	0 - 10A	0 - 5A	0 - 3.8A	0 - 2.6A
Output power	1500W	1500W	1500W	1520W	1560W

Series/parallel operation and high power density

Series connection	1 unit	2 units
Height of sets	1U	2U
PSU 6-200	6V	12V
	200A	200A
PSU 12.5-120	12.5V	25V
	120A	120A
PSU 20-76	20V	40V
	76A	76A
PSU 40-38	40V	80V
	38A	38A
PSU 60-25	60V	120V
	25A	25A
PSU 100-15	100V	200V
	15A	15A
PSU 150-10	150V	300V
	10A	10A
PSU 300-5	300V	600V
	5A	5A
PSU 400-3.8	400V	NA
	3.8A	NA
PSU 600-2.6	600V	NA
	2.6A	NA

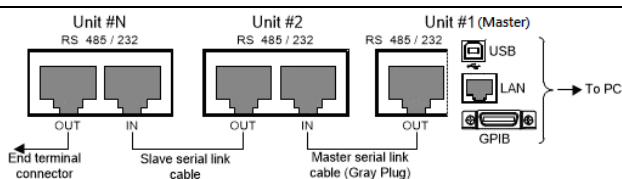
To augment output power, the PSU series can realize two-fold rated power (models under 300V) via 2 same model units in series connection; and four-fold rated power via 4 same model units in parallel connection so as to satisfy customers with large voltage and large current requirements. 2U height units in series connection can achieve maximum 600V output. 4U height units in parallel connection can output maximum 800A and 6240W.

Parallel connection	1 unit	2 units	3 units	4 units
Height of sets	1U	2U	3U	4U
PSU 6-200	6V	6V	6V	6V
	200A	400A	600A	800A
PSU 12.5-120	12.5V	12.5V	12.5V	12.5V
	120A	240A	360A	480A
PSU 20-76	20V	20V	20V	20V
	76A	152A	228A	304A
PSU 40-38	40V	40V	40V	40V
	38A	76A	114A	152A

PSU 60-25	60V	60V	60V	60V
	25A	50A	75A	100A
PSU 100-15	100V	100V	100V	100V
	15A	30A	45A	60A
PSU 150-10	150V	150V	150V	150V
	10A	20A	30A	40A
PSU 300-5	300V	300V	300V	300V
	5A	10A	15A	20A
PSU 400-3.8	400V	400V	400V	400V
	3.8A	7.6A	11.4A	15.2A
PSU 600-2.6	600V	600V	600V	600V
	2.6A	5.2A	7.8A	10.4A

Remark: 1U→43.6mm

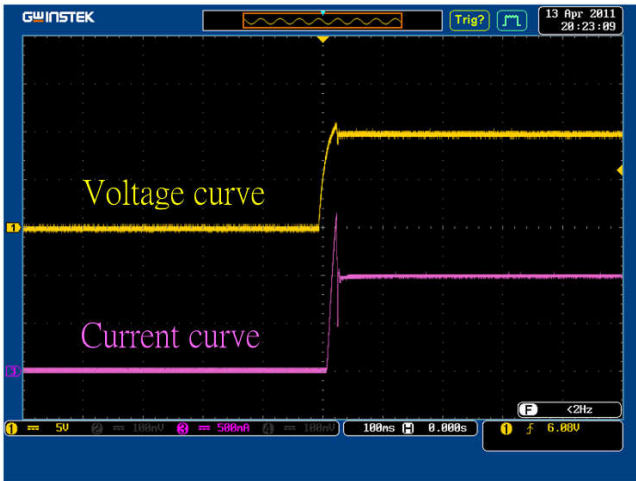
Remote program control (Up to 31 units connection)



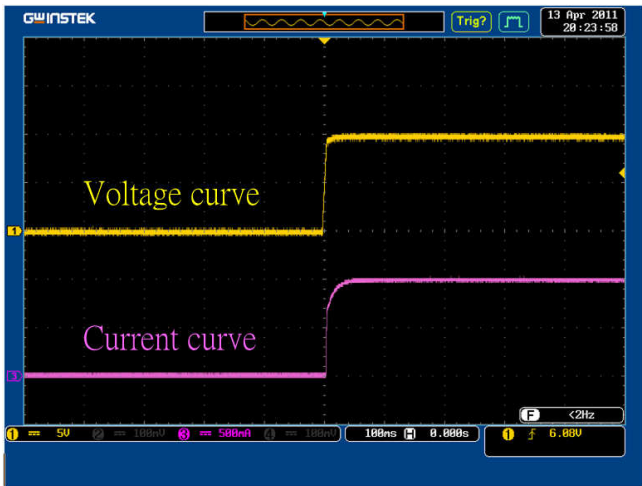
Provide RS-232, RS-485, USB, GPIB and LAN for PC to remote control Master PSU. RJ-45 connector on the rear panel can connect up to 31 units.

LAN or USB remote control and augmenting slave units by using PSU multi-drop mode will no longer need any switch/hub that can help customers save equipment costs.

C.V/C.C priority mode

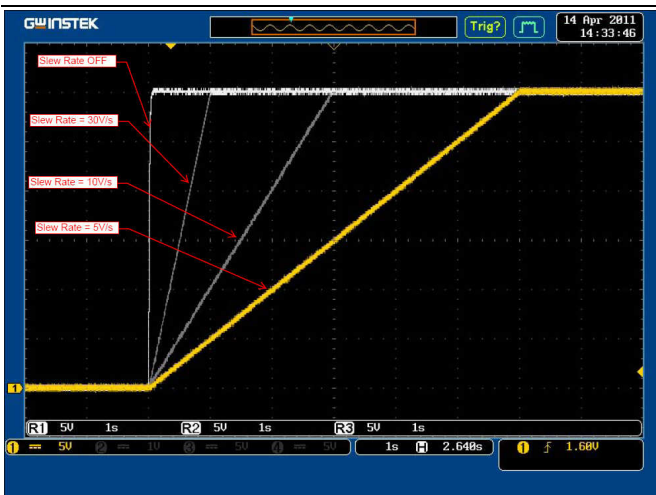


Under the conventional C.V mode, inrush current and surge voltage appeared at forward voltage (V_f) of LED



Under C.C priority mode, inrush and surge voltage are effectively restrained.

Adjustable Slew Rate



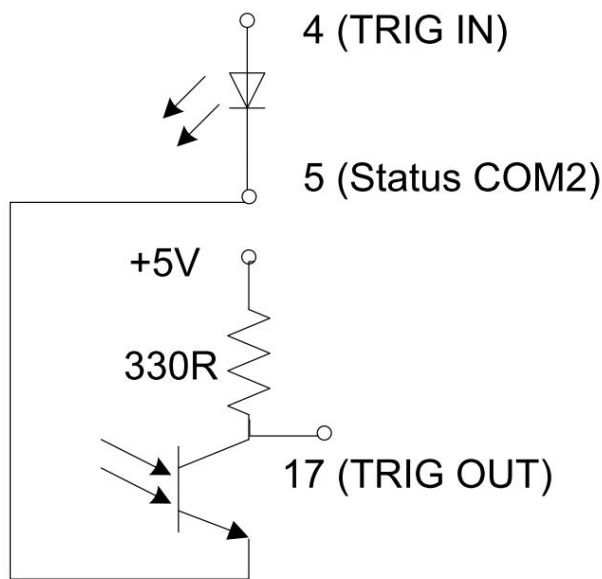
Adjustable voltage slew rate

Conventional power supplies under the CV priority mode will produce inrush current and surge voltage at turn-on. The PSU series has CV and CC priority modes. The CC priority mode can prevent inrush current and surge voltage from occurring at turn-on to protect DUT

The PSU series can adjust slew rate for current and voltage. Via setting the rise and fall time of voltage and current, users can verify DUT's characteristics during voltage and current variation. Additionally, slew rate adjustment can mitigate voltage shift to effectively prevent DUT from being damaged by inrush current. This function is ideal for tests such as capacitive load and motor.

Voltage Slew Rate	Current Slew Rate
0.001V~0.06V/msec (PSU 6-200)	0.001A~2A / msec (PSU 6-200)
0.001V~0.125V/msec (PSU 12.5-120)	0.001A~1.2A / msec (PSU 12.5-120)
0.001V~0.2V/msec (PSU 20-76)	0.001A~0.76A / msec (PSU 20-76)
0.001V~0.4V/msec (PSU 40-38)	0.001A~0.38A / msec (PSU 40-38)
0.001V~0.6V/msec (PSU 60-25)	0.001A~0.25A / msec (PSU 60-25)
0.001V~1.000V/msec (PSU 100-15)	0.001A~0.150A / msec (PSU 100-15)
0.001V~1.500V/msec (PSU 150-10)	0.001A~0.100A / msec (PSU 150-10)
0.001V~1.500V/msec (PSU 300-5)	0.001A~0.025A / msec (PSU 300-5)
0.001V~2.000V/msec (PSU 400-3.8)	0.001A~0.008A / msec (PSU 400-3.8)
0.001V~2.400V/msec (PSU 600-2.6)	0.001A~0.006A / msec (PSU 600-2.6)

Trigger control (Trigger input/Trigger output)



PSU provides users with complete trigger input and trigger output functions so as to flexibly control PSU. Each function is elaborated as follows:

Trigger Input function:

- ①. Allow users to set the effective pulse width from 0~ 60ms for trigger input (0: the LOW or HIGH signal of DC level for trigger input)
- ②. Receive trigger input to control PSU output or to output preset voltage and current.
- ③. Receive trigger input to upload preset memory parameters.

Trigger Output function:

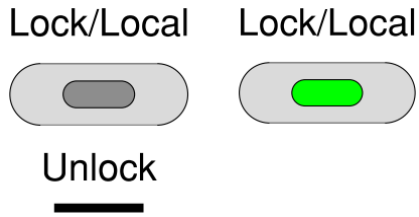
- ①. Allow users to set the effective pulse width from 0~ 60ms for trigger output (0: the LOW or HIGH signal of DC level for trigger output)
- ②. Set LOW or HIGH for output DC level
- ③. PSU produces trigger output signal when setting output or changing preset value or uploading preset memory parameters.

OVP,OCP and UVL

PSU Series	Setting range		
	OCP	OVP	UVL
6-200	5 ~ 220	0.6 ~ 6.6	0 ~ 6.3
12.5-120	5 ~ 132	1.25 ~ 13.75	0 ~ 13.12
20-76	5 ~ 83.6	2 ~ 22	0 ~ 21
40-38	3.8 ~ 41.8	4 ~ 44	0 ~ 42
60-25	2.5 ~ 27.5	5 ~ 66	0 ~ 63
100-15	1.5 ~ 16.5	5 ~ 110	0 ~ 105
150-10	1 ~ 11	5 ~ 165	0 ~ 157.5
300-5	0.5 ~ 5.5	5 ~ 330	0 ~ 315
400-3.8	0.38 ~ 4.18	5 ~ 440	0 ~ 420
600-2.6	0.26 ~ 2.86	5 ~ 660	0 ~ 630

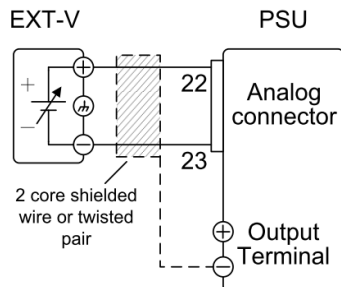
Once the voltage or current output exceeds the preset level of OVP or OCP, PSU will shut down output to protect DUT. UVL is for users to set the minimum output voltage from the output terminal.

Panel Lock mode



Panel lock mode is to avoid any accidental changes on the preset parameters. Panel will be locked if users utilize PC control via interfaces such as standard USB, RS-232, RS-485, LAN or optional GPIB.

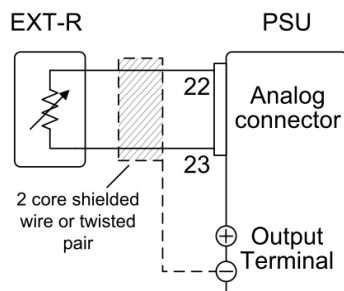
External analog control function



- Pin23 → EXT-V (-)
- Pin22 → EXT-V (+)
- Wire shield → negative (-) output terminal

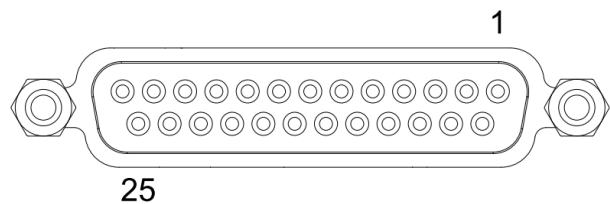
External voltage controls voltage range

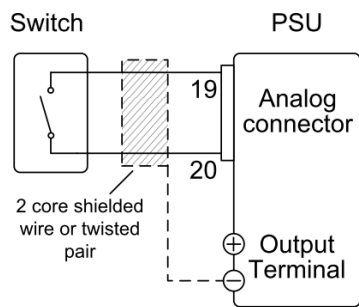
The rear panel of the PSU series has an analog control terminal. The external analog control interface allows external voltage or resistance to control voltage and current output; and allows power supply to output or to be turned on and off. The diagram on the left shows typical connection methods for external control applications. For more detailed connection information please refer to user manual.



- Pin22 → EXT-R
- Pin23 → EXT-R
- Wire shield → negative (-) output terminal

External resistance controls voltage range





- Pin19 → Switch
- Pin20 → Switch
- Wire shield → negative (-) output terminal

External on-off to control output, on or off

Product comparison

Features, Advantages and Benefits

Features	Advantages	Customers' Benefits
Program commands are compatible to competitors'	Built-in competitors' program commands	Users do not have to rewrite programs when switching to different brands and using a new instrument. Select competitors' model numbers to find compatible commands.
Most complete interface support	Standard USB / LAN / RS-232 / RS-485 and optional GPIB	Meet different interface requirements. PSU users do not need to purchase an adapter card to use PSU. Conventional RS-232 interface is also available.
Flexible power augmentation capability	Maximum 4 units in parallel connection. Master unit directly displays total current.	User do not have to purchase high power models to expand output power and output current. Using same model units can achieve power and current augmentation capability.
Three sets of memory function	Save frequent settings such as voltage, current, OVP, OCP, etc.	For production line operators, use Recall all saved settings from the internal memory to complete all required tests. There is no need to reset settings.

Comparison with major competitors

Brand	Gwinstek	B&K	TDK-Lamda	Keysight	Magna-Power	
Model	PSU	XLN	GEN	N5700	SL	
Multi-range	X	X	X	X	X	
Front Panel Display	LED	LCD	LED	LED	LED	
Output ON/OFF Delay function	⊙	X	X	X	X	
CV/CC Priority function	⊙	X	X	X	X	
CV/CC Slew rate function	⊙	○	X	X	X	
Internal Resistance function	○	X	X	X	X	
Bleeder ON/OFF function	⊙	X	X	X	X	
OCP Delay setting function	⊙	X	X	X	X	
Measurement average setting	⊙	○	X	X	X	
Memory Function on Front panel	⊙	X	X	X	X	
Interface	Front USB	⊙	X	X	X	X
	Rear USB	○	○	○(option)	○	○(option)
	LAN	○	○(option)	○(option)	○	○(option)
	RS-232	○	○	○	X	X
	RS-485	○	○	○	X	○(option)
	GPIB	○(option)	○(option)	○(option)	○	○(option)
	Isolated Analog Control	○(option)	X	○(option)	X	X
Protection	OVP	○	○	○	○	○
	UVL	○	○	○	○	○
	OCP	○	○	○	○	○
	OTP	○	○	○	○	○
	AC Fail	○	○	○	○	X
	FAN Fail	○	X	○	○	X
	Sensing connection protection	⊙	X	X	X	X
Emulation Setting	Keysight N5700	○	X	X	NA	X
	TDK Lambda GEN	○	NA	NA	X	X
	Kikusui PWX	○	X	X	X	X
	Sorensen DSC	X	X	X	X	X

⊙ : Excellent, ○: Good, X: None

Specifications

Model		PSU	100-15	150-10	300-5	400-3.8	600-2.6	
Rated output voltage (*1)		V	100	150	300	400	600	
Rated output current (*2)		A	15	10	5	3.8	2.6	
Rated output power		W	1500	1500	1500	1520	1560	
Constant Voltage Mode		PSU	100-15	150-10	300-5	400-3.8	600-2.6	
Line regulation(*3)		mV	12	17	32	42	62	
Load regulation(*4)		mV	12	17	32	42	62	
Ripple and noise(*5)	p-p (*6)	mV	80	100	150	200	300	
	r.m.s. (*7)	mV	8	10	25	40	60	
Temperature coefficient		ppm/ °C	100ppm/°C after a 30 minute warm-up					
Remote sense compensation voltage(single wire)		V	5	5	5	5	5	
Rise time (*8)	Rated load	ms	150	150	150	200	250	
	No load	ms	150	150	150	200	250	
Fall time(*9)	Rated load	ms	150	150	150	200	250	
	No load	ms	1500	2000	2500	3000	4000	
Transient response time (*10)		ms	1	2	2	2	2	
Constant Current Mode		PSU	100-15	150-10	300-5	400-3.8	600-2.6	
Line regulation(*3)		mA	3.5	3	2.5	2.38	2.26	
Load regulation(*11)		mA	8	7	6	5.76	5.52	
Ripple and noise(*12)	r.m.s.	mA	45	35	25	17	12	
Temperature coefficient		ppm/ °C	100ppm/°C after a 30 minute warm-up					
Protection Function		PSU	100-15	150-10	300-5	400-3.8	600-2.6	
Over voltage protection(OVP)	Setting range	V	5 - 110	5 - 165	5 - 330	5 - 440	5 - 660	
	Setting accuracy	mV	1000	1500	3000	4000	6000	
Over current protection(OCP)	Setting range	A	1.5 - 16.5	1 - 11	0.5 - 5.5	0.38 - 4.18	0.26 - 2.86	
	Setting accuracy	mA	300	200	100	76	52	
Under voltage limit(UVL)	Setting range		0 - 105	0 - 157.5	0 - 315	0 - 420	0 - 630	
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		Over power limit.					
	Value (fixed)		Approx. 105% of rated output power					
Analog Programming and Monitoring		PSU	100-15	150-10	300-5	400-3.8	600-2.6	
External voltage control output voltage			Accuracy and linearity: ±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.				
Front Panel		PSU	100-15	150-10	300-5	400-3.8	600-2.6
Display, 4 digits, Voltage accuracy	0.1% +	mV	200	300	600	800	1200
Current accuracy	0.2% +	mA	45	30	15	11.4	7.8
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				
Programming and Measurements (RS-232/485, USB, LAN, GPIB)		PSU	100-15	150-10	300-5	400-3.8	600-2.6
Output voltage programming accuracy	0.05% +	mV	50	75	150	200	300
Output current programming accuracy	0.2% +	mA	15	10	5	3.8	2.6
Output voltage programming resolution		mV	3.4	5.2	10.2	13.6	20.4
Output current programming resolution		mA	0.5	0.34	0.19	0.13	0.09
Output voltage measurement accuracy	0.1% +	mV	100	150	300	400	600
Output current measurement accuracy	0.2% +	mA	30	20	10	7.6	5.2
Output voltage measurement resolution		mV	3.4	5.2	10.2	13.6	20.4
Output current measurement resolution		mA	0.5	0.34	0.19	0.13	0.09
Input Characteristics		PSU	100-15	150-10	300-5	400-3.8	600-2.6
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		VA	2000				
Power factor	100Vac / 200Vac		0.99 / 0.98				
Efficiency (*13)	100Vac / 200Vac	%	84 / 87	84 / 87	84 / 87	84 / 87	84 / 87
Hold-up time			20ms or greater				
Interface Capabilities		PSU	100-15	150-10	300-5	400-3.8	600-2.6
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				
Isolated Analog Control Interface (Factory Option)		PSU	100-15	150-10	300-5	400-3.8	600-2.6
Voltage Control			Using 0-5V or 0-10V signals for programming and measurement				
Current Control			Using 4-20mA current signals for programming and measurement				
Environmental Conditions		PSU	100-15	150-10	300-5	400-3.8	600-2.6
Operating temperature			0°C to 50°C				
Storage temperature			-25°C to 70°C				
Operating humidity			20% to 85% RH; No condensation				
Storage humidity			90% RH or less; No condensation				
Altitude			Maximum 2000m				
General		PSU	100-15	150-10	300-5	400-3.8	600-2.6
Weight	main unit only	kg	Less than 8.7kg				
Dimensions	(W×H×D)	mm ³	423×43.6×447.2				
Cooling			Forced air cooling by internal fan.				
EMC			Complies with the European EMC directive 2004/108/EC for Class A test and measurement products.				
Safety			Complies with the European Low Voltage Directive 2006/95/EC and carries the CE-marking.				
Withstand voltage			AC to Chassis : 1500Vac / 1min AC to Output terminal : 3000Vac / 1min Vout ≤ 150V Output terminal to Chassis : 1000Vdc / 1min 150 < Vout ≤ 600 Output terminal to Chassis : 1500Vdc / 1min				
Insulation resistances			Chassis and output terminal; chassis and AC input; AC input and output terminal: 100MΩ or more (DC 1000V)				

(The specifications apply when the PSU-HV is powered on for at least 30 minutes to warm-up to a temperature of 20 °C to 30 °C, unless specified otherwise.)

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

Sincerely yours,

Overseas Sales Department

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