

# **PSU-Series**

Programmable Switching D.C. Power Supply

## **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.

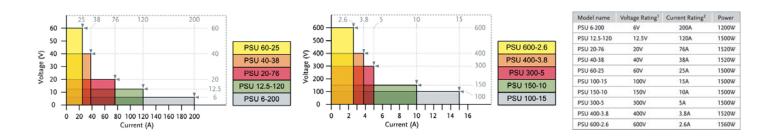
Utilizing same model units of the PSU-series to conduct series and parallel connections can increase total output power, total current or total voltage. The wide voltage and current output ranges of the PSU-series can fully satisfy various voltage and current measurement requirements. The PSU-series 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.



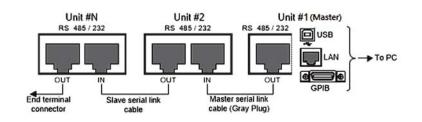
#### SERIES/PARALLEL OPERATION AND HIGH POWER DENSITY

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

Parallel connection	1 unit	2 units	3 units	4 unit	
Height of Sets	٦U	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	

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.

#### Β. **REMOTE PROGRAM CONTROL (UP TO 31 UNITS CONNECTION)**

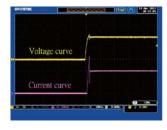


Provide RS-232, RS-485, USB, GPIB and LAN for PC to remote control Master PSU-Series. RJ-45 connector on the rear panel can connect up to 31 units.

LAN or USB remote control and augmenting slave units by using PSU-Series multi-drop mode will no longer need any switch/hub

\* For the detailed information please refer to User Manual

## C.V/C.C PRIORITY MODE

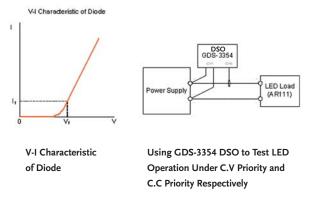


Under the conventional C.V mode, inrush current and surge voltage appeared at forward voltage(Vf) of LED. Voltage curve Current curve 

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

Conventional power supplies under the CV priority mode will produce inrush current and surge voltage at turn-on. The PSUseries has CV and CC priority modes.

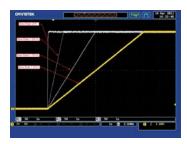
that can help customers save equipment costs.



The CC priority mode can prevent inrush current and surge voltage from occurring at turn-on to protect DUT.

### D. ADJUSTABLE SLEW RATE

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)



Adjustable Voltage Slew Rate

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.

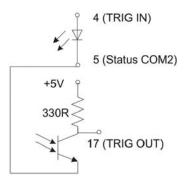
## E. OVP, OCP AND UVL

PSU-Series	OCP	OVP	UVL 0 ~ 6.3		
6-200	5 ~ 220	0.6 ~ 6.6			
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.

#### E.

## TRIGGER CONTROL (TRIGGER INPUT/TRIGGER OUTPUT)



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

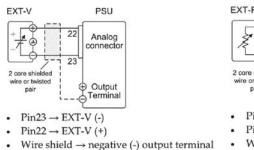
#### **Trigger Input function :**

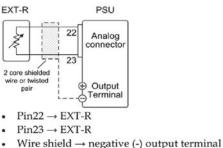
- 1. Allow users to set the effective pulse width from 0~60ms for trigger input (0: the LOW or HIGH signal of DC level for trigger input)
- 2. Receive trigger input to control PSU-series output or to output preset voltage and current.
- 3. Receive trigger input to upload preset memory parameters.

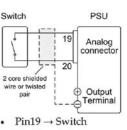
#### Trigger Output function :

- 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.

## G. EXTERNAL ANALOG CONTROL FUNCTION







• Pin20  $\rightarrow$  Switch

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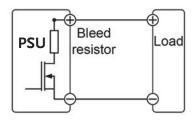
• Wire shield → negative (-) output terminal

#### External On-off to Control Output, on or off

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 upper shows typical connection methods for external control applications. For more detailed connection information please refers to user manual.

External Voltage Controls Voltage Range External Resistance Controls Voltage Range

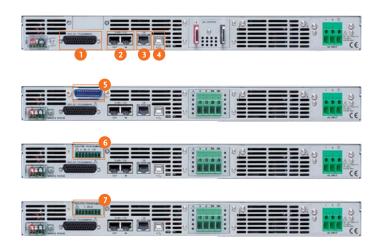
## H. BLEEDER CONTROL



#### **PSU-Series Built-in Bleed Resistor**

The PSU-Series employs a bleed resistor in parallel with the output terminal. Bleed resistor is designed to dispatch the power from the power supply filter capacitors when power is turned off or the load is disconnected. Without a bleed resistor, power terminal may remain charged on the filter capacitors for some time and be potentially hazardous. In addition, bleed resistor also allows for smoother voltage regulation of the power supply as the bleed resistor acts as a minimum voltage load. The bleed resistance can be turned on or off using the configuration setting.

## I. VARIOUS INTERFACES SUPPORT



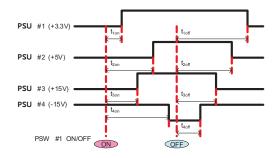
- 1. Analog Control Interface
- 2. RS485/RS232 Interface for Remote Control
- 3. LAN Port for System Communication
- 4. USB Interface for Remote Control
- 5. GPIB Interface for Remote Control
- 6. Isolate Voltage Remote Control Card
- 7. Isolate Current Remote Control Card



Rack Mount Kit for PSU-Series EIA & JIS

The rack mount kit of the PSU-Series supports both EIA and JIS standards. A standard rack can accommodate one unit of the PSU-Series.

## K. OUTPUT ON / OFF DELAY



The Example of Output On/Off Delay Control Among Multiple Outputs of the PSU Units

The Output On/Off delay feature enables the setting of a specific time delay for output on after the power supply output is turned on, and a specific time delay for output off after the power supply output is turned off. When multiple PSU units are used, the On/Off

delay time of each unit can be set respectively referring to fix time points. This multiple-output control can be done through the analog control terminal at rear panel or through the PC programming with standard commands.



## PANEL INTRODUCTION



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

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
OUTPUT RATINGS	OUTPUT RATINGS									
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
RIPPLE AND NOISE(*5)										
СVp-p( 10 ~ 20МНz) 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
LOAD REGULATION	-									
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
LINE REGULATION	-									
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
ANALOG PROGRAMMING AND MC	ONITORING		·							
External Voltage Control Output Voltage		nd linearity:±0.5								
External Voltage Control Output Current		nd linearity:±1%								
External Resistor Control Output Voltage		nd linearity:±1%								
External Resistor Control Output Current Output Voltage Monitor		nd linearity:±1.5	% of rated ou	tput current						
Output Voltage Monitor Output Current Monitor	Accuracy: ± Accuracy: ±									
Shutdown Control		utput off with a		5V/) or short	circuit					
Output On/Off Control		gic selections : Ti				) 5V) or shor	t-circuit turn	the output o	ff using a HI	сн
, , , , , , , , , , , , , , , , , , , ,		) or open-circuit								
		) or short-circuit			(	,	,		0	
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 Maximum low level input voltage = 0.8V; minimum high level input votage = 2V, Maximum sink current = 8mA									
Trigger In	Maximum I	ow level input v	oltage = 0.8V;	minimum hi	gh level inpu	it votage = 2	V, Maximum	sink current	= 8mA	
FRONT PANEL										
Display, 4 digits, Voltage Accuracy 0.1%+	12mV	25mV	40mV	80mV	120mV	200mV	300mV	600mV	800mV	1200mV
Current Accuracy 0.2%+	600mA	360mA	228mA	114mA	75mA	45mA	30mA	15mA	11.4mA	7.8mA
Indications Buttons		's: CV, CC, V, A,						LED's: ALM,	ERR	
Buttons Knobs		Unlock), PROT(	ALM_CLR), F	unction(M1),	lest(M2), S	et(M3), Shift	, Output			
USB Port	Voltage, Current Type A USB connector									
USD FOIL	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
TRANSIENT RESPONSE TIME (*10)	1		1						1	
Transient Response Time OUTPUT RESPONSE TIME	1.5ms	lms	lms	1ms	lms	lms	2ms	2ms	2ms	2ms
Rise Time(*8) Rated load	80ms	80ms	80ms	80ms	80ms	150ms	150ms	150ms	200ms	250ms
Fall Time(*9) No load Rated load	80ms 10ms	80ms 50ms	80ms 50ms	80ms 80ms	80ms 80ms	150ms 150ms	150ms 150ms	150ms 150ms	200ms 200ms	250ms 250ms
No load	500ms	700ms	800ms	1000ms	1100ms	1500ms	2000ms	2500ms	3000ms	4000ms
PROGRAMMING AND MEASUREME Output Voltage Programming Accuracy 0.05%+	· · ·	2/485, USB, L 6.25mV	<b>AN, GPIB)</b> 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 Output Current Programming Resolution	0.2mV 6mA	0.4mV 4mA	0.7mV 2.5mA	1.3mV 1.2mA	2mV 0.8mA	3.4mV 0.5mA	5.2mV 0.34mA	10.2mV 0.19mA	13.6mV 0.13mA	20.4mV 0.09mA
Output Voltage Measurement Accuracy 0.1%+ Output Current Measurement Accuracy 0.2%+	6mV 400mA	12.5mV 240mA	20mV 152mA	40mV 76mA	60mV 50mA	100mV 30mA	150mV 20mA	300mV 10mA	400mV 7.6mA	600mV 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 TEMPERATURE COEFFICIENCE	6mA	4mA	2.5mA	1.2mA	0.8mA	0.5mA	0.34mA	0.19mA	0.13mA	0.09mA
Voltage & Current	100ppm/°(	Cafter a 30 min	ute warm-up							
REMOTE SENSE COMPENSATION \	OLTAGE(SI	NGLE WIRE)		I						
Voltage	1V	1V	1V	2V	3V	5V	5V	5V	5V	5V
PROTECTION FUNCTION Over Voltage Protection(OVP) Setting Range	0.6~6.6V	1.25~13.75V	2~22V	4~44V	5~66V	5~110V	5~165V	5~330V	5~440V	5~660V
Setting Accuracy	60mV	125mV	200mV	400mV	600mV	1000mV	1500mV	3000mV	4000mV	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 Incorrect Sensing Connection Protection(SENSE) Operation	Turn the or Turn the or									
Low AC Input Protection (AC-FAIL) Operation	Turn the o									
Shutdown (SD) Operation Power Limit (POWER LIMIT) Operation	Turn the or Over powe									
Value (Fixed)	Approx. 10	5% of rated out	put power							
INTERFACE CAPABILITIES		. T. D. Cl	C   11/2		606/6			<u>,</u>		
USB LAN		st, TypeB: Slave, ess, DNS IP Ad							Mask	
RS-232 / RS-485		with the EIA232								
GPIB (Factory Option) ISOLATED ANALOG CONTROL INTE		3, IEEE 488.2 cc		face						
Voltage Control		or 0-10V signa								
Current Control ENVIRONMENTAL CONDITIONS	Using 4-20	mA current sig	hais for progr	amming and	measureme	10				
Operating Temperature	0°C ~ 50°C									
Storage Temperature Operating Humidity	-25 °C ~ 70 20% ~ 85%	°C 6 RH; No conde	ensation							
Storage Humidity Altitude		less; No conde								
INPUT CHARACTERISTICS	Iviaximum	2000111								
Nominal Input Rating		240Vac, 50Hz to	o 60Hz, single	e phase						
Input Voltage Range Input Frequency Range	85Vac ~ 26 47Hz ~ 63									
Maximum Input Current 100Vac/200Vac(A) Inrush Current	21/11 Less than !	504								
Maximum Input Power	2000VA									
Power Factor 100Vac/200Vac Hold-up Time	0.99/0.98 20ms or gi	eater								
Efficiency (*13) 100Vac/200Vac(%)	77/79	82/85	83/86	84/87	84/87	84/87	84/87	84/87	84/87	84/87
DIMENSIONS & WEIGHT										
Note : *1. Minimum voltage is guaranteed to maximum 0.2%		43.6(H) × 447.				L Specificati	one cubicct to	ehongo withou	it notice. SU-S	
<ul> <li>*2. Minimum vortage is guaranteed to maximum 0.2%</li> <li>*2. Minimum current is guaranteed to maximum 0.4%</li> <li>*3. At 85~132Vac or 170~265Vac, constant load.</li> </ul>	of the rated outpu	t current. *9. From 90	0%~90% of rated o 0%~10% of rated o or output voltage to	utput voltage, with	rated resistive loa	d. specificati d.	ons subject to	change withou	11 Houce. 30-3	enesodibn
<ul> <li>*4. From No-load to Full-load, constant input voltage. Measured at the sensing point in Remote Sense.</li> </ul>		output	for a load change t. Voltage set point	from 10~90% of its	s rated output				itput voltage and fi neasured at 10~10	
<ul> <li>*5. Measurer with JEITA RC-9131B (1:1) probe.</li> <li>*6. Measurement frequency bandwidth is 10Hz~20MF</li> </ul>	7.	*11. For loa	id voltage change, i nt input voltage.				ge and full output			
*7. Measurement frequency bandwidth is 5Hz~1MHz.			_		SCORE					
ORDERING INFORMATION			PSU-0	ONAL ACCE 1B Bus bar for		llel connection	GTL-246	LISB Cable	USB 2.0A-B Ty	ne Cable 4P
PSU 6-200 1200W Programmable PSU 12.5-120 1500W Programmable	-		PSU-0	1C Cable for 2	units in paralle	l connection	GRM-001		et 2pcs/set ,PS	
PSU 20-76 1520W Programmable	Switching DO	Power Supply	PSU-0	2B Bus bar for 2C Cable for 3					ce card (factory ver cord 3m ,PS	
PSU 40-38 1520W Programmable PSU 60-25 1500W Programmable				<b>3B</b> Bus bar for				, ,	cord 3m ,PSU o	
PSU 100-15 1500W Programmable	1500W Programmable Switching DC Power Supply PSU-03C Cable for 4 units in parallel connection GPW-003 PSE power cord 3m ,PSU option								otion	
PSU 150-10 1500W Programmable PSU 300-5 1500W Programmable				32 RS232 Cable 85 RS485 Cable						
PSU 400-3.8 1520W Programmable	Switching DO	Power Supply	PSU-0						es x2, joining	
PSU 600-2.6 1560W Programmable	Switching D	. Power Supply					•		es x2, joining es x2, joining	
ACCESSORIES CD-ROM x 1 (User Manual, Programming Mai	nual), Output to	erminal cover x 1	PSU-I	<b>50-i</b> Isolate o	urrent remo	te control ca	rd (factory op	otion)	, joining	piuco XZ
Analog connector plug kit x 1,Output terminal	M8 bolt set(6\	/~60V model),	PSU-I	SO-V Isolate v	-	te control ca	rd(factory op	tion)		
Input terminal cover x 1,1U Handle(RoHS),1U (RIGHT,RoHS),Power Cord(10A) x 1	Bracket(LEFI,	Roms), IU Bracke	et FRE Drive	E DOWNLC r LabView						
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