High Efficiency, High Precision, High Stability

PROGRAMMABLE HIGH DC POWER SUPPLY

USP HIGH Series (3U) 6KW / 12KW / 18KW

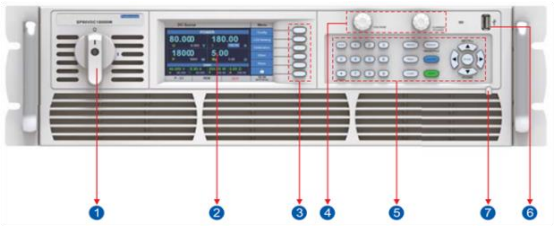


423.0x133.0x718.0 mm (19" 3U RACK)

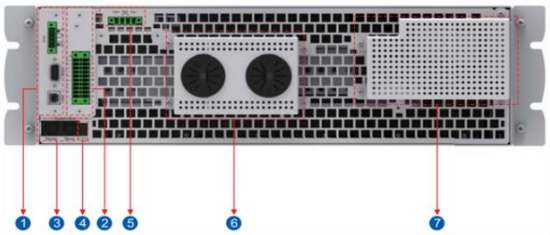
* PROGRAMMABLE DC POWER SUPPLY
* 4.3"COLOR TOUCH LCD PANEL
* WIDE RANGE / WATTAGE POWER SUPPLY
* MASTER / SLAVE CONTROL FUNCTION
* UP TO 2-UNIT SERIES & 16-UNIT PARALLEL
* 5-DIGIT RESOLUTION & AUTO RANGE
* LIST / PROGRAM / STEP / PROGRAMMING
* EASY, OPERATION, WITH JOG - DIAL , SOFT KEY
* OCP/OVP/OTP PROTECTION
* CONSTANT VOLTAGE & CURRENT OUTPUT
* HIGH STABILITY, LOW DRIFT, HIGH ACCURACY
* RS-232C / RS-485 / USB INTERFACE (STANDARD)
* LAN/GPIB/CAN INTERFACE (OPTIONAL)
* V-SENSING FUNCTION
* EXTERNAL ANALOG INPUT/OUPUT FUNCTION

DC Output			Model	Height
Rated Power	Rated Voltage	Rated Current		
6000W	80V	200A	USP-80VDC6000W	3U
	360V	42.5A	USP-360VDC6000W	3U
	500V	32A	USP-500VDC6000W	3U
	750V	21A	USP-750VDC6000W	3U
12000W	80V	400A	USP-80VDC12000W	3U
	165V	180A	USP-360VDC12000W	3U
	360V	85A	USP-165VDC12000W	3U
	500V	64A	USP-500VDC12000W	3U
	750V	42A	USP-750VDC12000W	3U
	1000V	32A	USP-1000VDC12000W	3U
	1500V	21A	USP-1500VDC12000W	3U
18000W	80V	600A	USP-80VDC18000W	3U
	250V	180A	USP-250VDC18000W	3U
	360V	127.5A	USP-360VDC18000W	3U
	500V	96A	USP-500VDC18000W	3U
	750V	63A	USP-750VDC18000W	3U
	1500V	32A	USP-1500VDC18000W	3U
	2250V	21A	USP-2250VDC18000W	3U

Front/Rear Panel Introduction

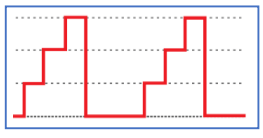


① Power switch
② Color touch screen
③ Selection soft keys
④ Voltage/Current & Power knob
⑤ Numberic & functional keys
⑥ USB port
⑦ Stylus

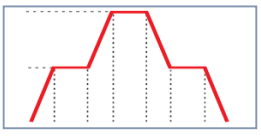


① RS485/RS232/USB, LAN/GBIB/CAN(optional)
② External TTL/Analog control Interface
③ Master/Slave System Bus,
④ Termination resistor CAN-R
⑤ Vs+/Vs- Remote sense connection
⑥ DC Output
⑦ AC mains input connector

List/Program/Step Mode Programming



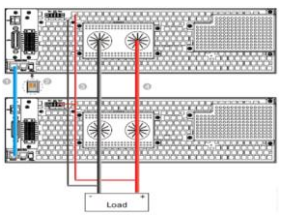
Impulse File Format



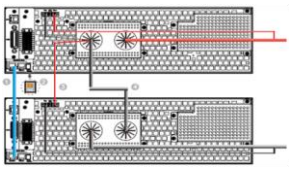
Slope File Format

Master/Slave Mode

Parallel Connection



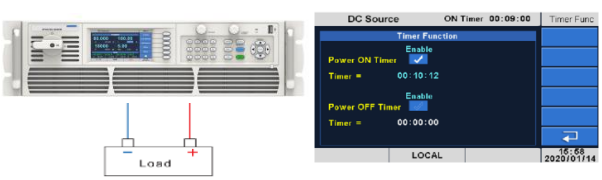
Series Connection



Current Counting Function



Timer Control Function



High Efficiency, High Precision, High Stability

PROGRAMMABLE HIGH DC POWER SUPPLY

USP HIGH Series 6000W (3U)

SPECIFICATION	CASE TYPE	6000W (3U)			
	MODEL	USP-80VDC6000W	USP-360VDC6000W	USP-500VDC6000W	USP-750VDC6000W
	OUTPUT	80V200A	360V42.5A	500V32A	750V21A
INPUT					
VOLTAGE [1]		187~253VAC	187~253VAC	187~253VAC	187~253VAC
		340~460VAC	340~460VAC	340~460VAC	340~460VAC
CURRENT [1]		3P208 L3-0, L1,L2-38A	3P208 L3-0, L1,L2-38A	3P208 L1-0, L2,L3-38A	3P208 L3-0, L1,L2-38A
		3P400 L3-0, L1,L2-19A	3P400 L3-0, L1,L2-19A	3P400 L1-0, L2,L3-19A	3P400 L3-0, L1,L2-19A
FREQUENCY		45/65Hz	45/65Hz	45/65Hz	45/65Hz
CONNECTION		2ph, PE	2ph, PE	2ph, PE	2ph, PE
FUSE (INTERNAL) [1]		T50A*2pcs	T50A*2pcs	T50A*2pcs	T50A*2pcs
		T30A*2pcs	T30A*2pcs	T30A*2pcs	T30A*2pcs
POWER FACTOR		>0.99	>0.99	>0.99	>0.99
INPUT POWER		3P208 7.1KVAmax, 3P400 6.9KVAmax	3P208 6.7kVAmax, 3P400 6.5kVAmax	3P208 6.7kVAmax, 3P400 6.5kVAmax	3P208 6.7kVAmax, 3P400 6.5kVAmax
EFFCIENCY [1]		90.50%	92.20%	92.50%	92.50%
		92.20%	92.50%	94.00%	92.70%
OUTPUT					
POWER RANGE		6KW	6KW	6KW	6KW
VOLTAGE RANGE		0V~80V	0~360V	0~500V	0~750V
CURRENT RANGE [2]		0 ~ 200A	0 ~ 42.5A	0 ~ 32A	0 ~ 21A
MAX. SETUP RANGE	VOLTAGE	0~84V(0~105%)	0~378V(0~105%)	0~525V(0~105%)	0~787.5V(0~105%)
	CURRENT	0~204.75A(0~102%)	0~44.63A(0~105%)	0~33.6A(0~105%)	0~22.05A(0~105%)
	POWER	0~6300W(0~105%)	0~6300W(0~105%)	0~6300W(0~105%)	0~6300W(0~105%)
ACCURACY	VOLTAGE	<0.1%Umax(80mV)	<0.1%Umax(360mV)	<0.1%Umax(500mV)	<0.1%Umax(750mV)
	CURRENT	<0.2%Imax(400mA)	<0.2%Imax(85mA)	<0.2%Imax(64mA)	<0.2%Imax(42mA)
	POWER	<0.5%+30W	<1%+60W	<1%+60W	<1%+60W
LINE REGULATION	VOLTAGE	<0.02%Umax(16mV)	<0.02%Umax(72mV)	<0.02%Umax(100mV)	<0.02%Umax(150mV)
	CURRENT	<0.05%Imax(100mA)	<0.05%Imax(22mA)	<0.05%Imax(16mA)	<0.05%Imax(10.5mA)
	POWER	<0.05%Pmax	<0.05%Pmax	<0.05%Pmax	<0.05%Pmax
LOAD REGULATION [3]	VOLTAGE	<0.05%Umax(40mV) @Rated Voltage, <0.1%Umax(80mV) @Rated Current	<0.05%Umax(180mV) @Rated Voltage, <0.1%Umax(360mV) @Rated Current	<0.05%Umax(250mV) @Rated Voltage, <0.1%Umax(500mV) @Rated Current	<0.05%Umax(375mV) @Rated Voltage, <0.1%Umax(750mV) @Rated Current
	CURRENT	<0.15%Imax(300mA)	<0.15%Imax(64mA)	<0.15%Imax(48mA)	<0.15%Imax(31.5mA)
	POWER	<0.75%Pmax	<0.75%Pmax	<0.75%Pmax	<0.75%Pmax
RISE TIME	VOLTAGE	<15ms (No Load) <55ms (Full Load)	<15ms (No Load) <80ms (Full Load)	<15ms (No Load) <80ms (Full Load)	<15ms (No Load) <80ms (Full Load)
DROP TIME	VOLTAGE	<850ms (No Load) <15ms (Full Load)	<800ms (No Load) <15ms (Full Load)	<1500ms (No Load) <15ms (Full Load)	<600ms (No Load) <20ms (Full Load)
TRANSIENT RESPONSE TIME [4]	VOLTAGE	≤1.5ms/0.8V	≦1.5ms/3.6V	≦1.5ms/5V	≦2ms/7.5V
DISPLAY RESOLUTION	VOLTAGE	0.001V	0.01V	0.01V	0.01V
	CURRENT	0.001A	0.001A	0.001A	0.001A
	POWER	0.1W	1W	1W	1W
MEASUREMENT ACCURACY	VOLTAGE	<0.1%Umax(80mV)	<0.1%Umax(360mV)	<0.1%Umax(500mV)	<0.1%Umax(750mV)
	CURRENT	<0.2%Imax(400mA)	<0.2%Imax(85mA)	<0.2%Imax(64mA)	<0.2%Imax(42mA)
	POWER	<0.5%Pmax	<0.5%Pmax	<0.5%Pmax	<0.5%Pmax
RIPPLE [5]	VOLTAGE	<180mVpp, <15mVrms	<320mVpp, <55mVrms	<600mVpp, <150mVrms	<900mVpp, <225mVrms
	CURRENT	<100mArms	<21mArms	<16mArms	<11mArms
REMOTE COMPENSATION	VOLTAGE	5%Umax(4V)	3%Umax(10.8V)	3%Umax(15V)	3%Umax(22.5V)
GENERAL					
GRAPHIC DISPLAY		4.3"Color touch LCD			
OPERATION KEY FEATURE		Soft keys, Numberic keys, Rotary knob, USB port for transfer upgrading firmware			
RACK MOUNT HANDLES		Yes			
FAN		Temperature control			
PROTECTION		OCP, OVP, OPP, OTP ,HARD FAIL			
INTERFACE		RS232/RS485/USB(Standard), GPIB/LAN(Optional), CAN(Optional)			
COMMAND RESPONSE TIME		<3ms			
ANALOG INTERFACE(Optional)					
SET VALUE INPUTS		Analog input 0~5V/0~10V or 0~5kΩ/0~10kΩ to set 0~105% voltage, current and power			
ACTUAL VALUE OUTPUT		Analog output 0~5V/0~10V to monitor the voltage and current.			
ACCURACY U/I/P/R		<0.2% F.S			
ACTUAL OUTPUT U/I		<0.2%			
CONTROL SIGNALS		DC ON/OFF, External control Enable/ Disable			
STATUS SIGNALS		CV, OVP, OT			
SAMPLE RATE OF INPUT&OUTPUT		45Hz			
GALVANIC ISOLATION TO THE DEVICE		2121VDC	2818VDC	2818VDC	4242kVDC
MASTER/SLAVE CONTROL					
SERIES OUTPUT		MAX 2 units	MAX 2 units	MAX 2 units	MAX 2 units
PARALLEL OUTPUT		MAX 16 units	MAX 16 units	MAX 16 units	MAX 16 units
ENVIRONMENTAL					
OPERATING TEMPERATURE [2]		0~40℃			
STORAGE TEMPERATURE		-20~70℃			
TEMPERATURE COEFFICIENT		100ppm/℃(voltage), 150ppm/℃(current)			
RELATIVE HUMIDITY		<95%RH(non-condensing)@35℃, <80%RH(non-condensing)@40℃			
ALTITUDE		<2000m@40℃			
FAN NOISE		45dB Idle , 71dB Max			
MECHANICAL					
DIMENSIONS (WxHxD)		423.0x133.0x718.0 mm			
UNIT NET WEIGHT		27kg			

[1] For different input voltage standard option must be specified at the time of order as they are installed at the factory prior to shipment.
[2] It is recommended that the output current is derated by 10% when the operation environment is higher than 30℃.
[3] Load transient from 0% to 100% of rated output.
[4] Test value at 100% voltage and 100% power.
[5] Vrms @ 300kHz, VPP @ 20MHz, Arms @ 300kHZ.



High Efficiency, High Precision, High Stability

PROGRAMMABLE HIGH DC POWER SUPPLY

USP HIGH Series 12000W (3U)

SPECIFICATION	CASE TYPE	12000W (3U)	12000W (3U)	12000W (3U)	12000W (3U)
	MODEL	USP-80VDC12000W	USP-165VDC12000W	USP-360VDC12000W	USP-500VDC12000W
	OUTPUT	80V400A	165V180A	360V85A	500V64A
INPUT					
VOLTAGE [1]		187~253VAC	187~253VAC	187~253VAC	187~253VAC
		340~460VAC	340~460VAC	340~460VAC	340~460VAC
CURRENT [1]		3P208 L1-60A, L2,L3-38A	3P208 L1-60A, L2,L3-38A	3P208 L1-60A, L2,L3-38A	3P208 L1-60A, L2,L3-38A
		3P400 L1-30A, L2,L3-19A	3P400 L1-30A, L2,L3-19A	3P400 L1-30A, L2,L3-19A	3P400 L1-30A, L2,L3-19A
FREQUENCY		45/65Hz	45/65Hz	45/65Hz	45/65Hz
CONNECTION		3ph, PE	3ph, PE	3ph, PE	3ph, PE
FUSE (INTERNAL) [1]		T50A*2pcs	T50A*2pcs	T50A*2pcs	T50A*2pcs
		T30A*2pcs	T30A*2pcs	T30A*2pcs	T30A*2pcs
POWER FACTOR		>0.99	>0.99	>0.99	>0.99
INPUT POWER		3P208 14.2KVAmax, 3P400 13.8KVAmax	3P208 14.4KVAmax, 3P400 14.0KVAmax	3P208 13.4kVAmax, 3P400 13.0kVAmax,	3P208 13.4kVAmax, 3P400 13.0kVAmax,
EFFCIENCY [1]		90.50%	90.50%	92.50%	92.50%
		92.20%	91.50%	92.50%	94.00%
OUTPUT					
POWER RANGE		12KW	12KW	12KW	12KW
VOLTAGE RANGE		0V~80V	0V~165V	0~360V	0~500V
CURRENT RANGE [2]		0 ~ 400A	0 ~ 180A	0 ~ 85A	0 ~ 64A
MAX. SETUP RANGE	VOLTAGE	0~84V(0~105%)	0~173.25V(0~105%)	0~378V(0~105%)	0~525V(0~105%)
	CURRENT	0~409.5A(0~102%)	0~189A(0~105%)	0~89.25A(0~105%)	0~67.2A(0~105%)
	POWER	0~12600W(0~105%)	0~12600W(0~105%)	0~12600W(0~105%)	0~12600W(0~105%)
ACCURACY	VOLTAGE	<0.1%Umax(80mV)	<0.1%Umax(165mV)	<0.1%Umax(360mV)	<0.1%Umax(500mV)
	CURRENT	<0.2%Imax(800mA)	<0.2%Imax(360mA)	<0.2%Imax(170mA)	<0.2%Imax(128mA)
	POWER	<0.5%+60W	<0.5%+60W	<1%+90W	<1%+90W
LINE REGULATION	VOLTAGE	<0.02%Umax(16mV)	<0.02%Umax(33mV)	<0.02%Umax(72mV)	<0.02%Umax(100mV)
	CURRENT	<0.05%Imax(200mA)	<0.05%Imax(90mA)	<0.05%Imax(43mA)	<0.05%Imax(32mA)
	POWER	<0.05%Pmax	<0.05%Pmax	<0.05%Pmax	<0.05%Pmax
LOAD REGULATION [3]	VOLTAGE	<0.05%Umax(40mV) @Rated Voltage, <0.1%Umax(80mV) @Rated Current	<0.05%Umax(82.5mV) @Rated Voltage, <0.1%Umax(165mV) @Rated Current	<0.05%Umax(180mV) @Rated Voltage, <0.1%Umax(360mV) @Rated Current	<0.05%Umax(250mV) @Rated Voltage, <0.1%Umax(500mV) @Rated Current
	CURRENT	<0.15%Imax(600mA)	<0.15%Imax(270mA)	<0.15%Imax(128mA)	<0.15%Imax(96mA)
	POWER	<0.75%Pmax	<0.75%Pmax	<0.75%Pmax	<0.75%Pmax
RISE TIME	VOLTAGE	<15ms (No Load) <55ms (Full Load)	<15ms (No Load) <30ms (Full Load)	<15ms (No Load) <80ms (Full Load)	<15ms (No Load) <80ms (Full Load)
DROP TIME	VOLTAGE	<850ms (No Load) <15ms (Full Load)	<900ms (No Load) <15ms (Full Load)	<800ms (No Load) <15ms (Full Load)	<1500ms (No Load) <15ms (Full Load)
TRANSIENT RESPONSE TIME [4]	VOLTAGE	≤1.5ms/0.8V	≤1.5ms/1.65V	≦1.5ms/3.6V	≦1.5ms/5V
DISPLAY RESOLUTION	VOLTAGE	0.001V	0.001V	0.01V	0.01V
	CURRENT	0.001A	0.001A	0.001A	0.001A
	POWER	0.1W	0.1W	1W	1W
MEASUREMENT ACCURACY	VOLTAGE	<0.1%Umax(80mV)	<0.1%Umax(165mV)	<0.1%Umax(360mV)	<0.1%Umax(500mV)
	CURRENT	<0.2%Imax(800mA)	<0.2%Imax(360mA)	<0.2%Imax(170mA)	<0.2%Imax(128mA)
	POWER	<0.5%Pmax	<0.5%Pmax	<0.5%Pmax	<0.5%Pmax
RIPPLE [5]	VOLTAGE	<288mVpp, <23mVrms	<540mVpp, <50mVrms	<320mVpp, <55mVrms	<650mVpp, <160mVrms
	CURRENT	<200mArms	<100mArms	<43mArms	<32mArms
REMOTE COMPENSATION	VOLTAGE	5%Umax(4V)	2%Umax(3.3V)	3%Umax(10.8V)	3%Umax(15V)
GENERAL					
GRAPHIC DISPLAY		4.3"Color touch LCD			
OPERATION KEY FEATURE		Soft keys, Numberic keys, Rotary knob, USB port for transfer upgrading firmware			
RACK MOUNT HANDLES		Yes			
FAN		Temperature control			
PROTECTION		OCP, OVP, OPP, OTP ,HARD FAIL			
INTERFACE		RS232/RS485/USB(Standard), GPIB/LAN(Optional), CAN(Optional)			
COMMAND RESPONSE TIME		<3ms			
ANALOG INTERFACE(Optional)					
SET VALUE INPUTS		Analog input 0~5V/0~10V or 0~5kΩ/0~10kΩ to set 0~105% voltage, current and power			
ACTUAL VALUE OUTPUT		Analog output 0~5V/0~10V to monitor the voltage and current.			
ACCURACY U/I/P/R		<0.2% F.S			
ACTUAL OUTPUT U/I		<0.2%			
CONTROL SIGNALS		DC ON/OFF, External control Enable/ Disable			
STATUS SIGNALS		CV, OVP, OT			
SAMPLE RATE OF INPUT&OUTPUT		45Hz			
GALVANIC ISOLATION TO THE DEVICE		2121VDC	1.5kVDC	2818VDC	2818VDC
MASTER/SLAVE CONTROL					
SERIES OUTPUT		MAX 2 units	MAX 2 units	MAX 2 units	MAX 2 units
PARALLEL OUTPUT		MAX 16 units	MAX 16 units	MAX 16 units	MAX 16 units
ENVIRONMENTAL					
OPERATING TEMPERATURE [2]		0~40℃			
STORAGE TEMPERATURE		-20~70℃			
TEMPERATURE COEFFICIENT		100ppm/℃(voltage), 150ppm/℃(current)			
RELATIVE HUMIDITY		<95%RH(non-condensing)@35℃, <80%RH(non-condensing)@40℃			
ALTITUDE		<2000m@40℃			
FAN NOISE		45dB Idle , 73dB Max			
MECHANICAL					
DIMENSIONS (WxHxD)		423.0x133.0x718.0 mm			
UNIT NET WEIGHT		38kg			

[1] For different input voltage standard option must be specified at the time of order as they are installed at the factory prior to shipment.
[2] It is recommended that the output current is derated by 10% when the operation environment is higher than 30℃.
[3] Load transient from 0% to 100% of rated output.
[4] Test value at 100% voltage and 100% power.
[5] Vrms @ 300kHz, VPP @ 20MHz, Arms @ 300kHZ.



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PROGRAMMABLE HIGH DC POWER SUPPLY

USP HIGH Series 12000W (3U)

SPECIFICATION	CASE TYPE	12000W (3U)	12000W (3U)	12000W (3U)	
	MODEL	USP-750VDC12000W	USP-1000VDC12000W	USP-1500VDC12000W	
	OUTPUT	750V42A	1000V32A	1500V21A	
INPUT					
VOLTAGE [1]		187~253VAC	187~253VAC	187~253VAC	
		340~460VAC	340~460VAC	340~460VAC	
CURRENT [1]		3P208 L1-60A, L2,L3-38A	3P208 L1-60A, L2,L3-38A	3P208 L1-60A, L2,L3-38A	
		3P400 L1-30A, L2,L3-19A	3P400 L1-30A, L2,L3-19A	3P400 L1-30A, L2,L3-19A	
FREQUENCY		45/65Hz	45/65Hz	45/65Hz	
CONNECTION		3ph, PE	3ph, PE	3ph, PE	
FUSE (INTERNAL) [1]		T50A*2pcs	T50A*2pcs	T50A*2pcs	
		T30A*2pcs	T30A*2pcs	T25A*2pcs	
POWER FACTOR		>0.99	>0.99	>0.99	
INPUT POWER		3P208 13.4kVAmax, 3P400 13.0kVAmax	3P208 13.4kVAmax, 3P400 14.5KVAmax	3P208 13.8kVAmax, 3P400 13.4kVAmax	
EFFCIENCY [1]		92.50%	92.0%	92.00%	
		92.70%	93.5%	92.50%	
OUTPUT					
POWER RANGE		12KW	12KW	12KW	
VOLTAGE RANGE		0~750V	0~1000V	0~1500V	
CURRENT RANGE [2]		0 ~ 42A	0 ~ 32A	0 ~ 21A	
MAX. SETUP RANGE	VOLTAGE	0~787.5V(0~105%)	0~1050V(0~105%)	0~1575V(0~105%)	
	CURRENT	0~44.1A(0~105%)	0~33.6A(0~105%)	0~22.05A(0~105%)	
	POWER	0~12600W(0~105%)	0~12600W(0~105%)	0~12600W(0~105%)	
ACCURACY	VOLTAGE	<0.1%Umax(750mV)	<0.1%Umax(1000mV)	<0.1%Umax(1.5V)	
	CURRENT	<0.2%Imax(84mA)	<0.2%Imax(64mA)	<0.2%Imax(42mA)	
	POWER	<1%+90W	<1%+90W	<1%+90W	
LINE REGULATION	VOLTAGE	<0.02%Umax(150mV)	<0.02%Umax(200mV)	<0.02%Umax(300mV)	
	CURRENT	<0.05%Imax(21mA)	<0.05%Imax(16mA)	<0.05%Imax(10.5mA)	
	POWER	<0.05%Pmax	<0.05%Pmax	<0.05%Pmax	
LOAD REGULATION [3]	VOLTAGE	<0.05%Umax(375mV) @Rated Voltage, <0.1%Umax(750mV) @Rated Current	<0.05%Umax(500mV)	<0.05%Umax(750mV) @Rated Voltage, <0.1%Umax(1200mV) @Rated Current	
	CURRENT	<0.15%Imax(63mA)	<0.15%Imax(48mA)	<0.15%Imax(31.5mA)	
	POWER	<0.75%Pmax	<0.75%Pmax	<0.75%Pmax	
RISE TIME	VOLTAGE	<15ms (No Load) <80ms (Full Load)	<15ms (No Load) <80ms (Full Load)	<15ms (No Load) <80ms (Full Load)	
DROP TIME	VOLTAGE	<600ms (No Load) <20ms (Full Load)	<1700ms (No Load) <15ms (Full Load)	<700ms (No Load) <20ms (Full Load)	
TRANSIENT RESPONSE TIME [4]	VOLTAGE	≦2ms/7.5V	≦2ms/10V	≦2ms/15V	
DISPLAY RESOLUTION	VOLTAGE	0.01V	0.01V	0.01V	
	CURRENT	0.001A	0.001A	0.001A	
	POWER	1W	1W	1W	
MEASUREMENT ACCURACY	VOLTAGE	<0.1%Umax(750mV)	<0.1%Umax(1V)	<0.1%Umax(1.5V)	
	CURRENT	<0.2%Imax(84mA)	<0.2%Imax(64mA)	<0.2%Imax(42mA)	
	POWER	<0.5%Pmax	<0.5%Pmax	<0.5%Pmax	
RIPPLE [5]	VOLTAGE	<1000mVpp, <250mVrms	<1500mVpp, <320mVrms	<2500mVpp, <600mVrms	
	CURRENT	<22mArms	<22mArms	<11mArms	
REMOTE COMPENSATION	VOLTAGE	3%Umax(22.5V)	3%Umax(30V)	3%Umax(45V)	
GENERAL					
GRAPHIC DISPLAY		4.3"Color touch LCD			
OPERATION KEY FEATURE		Soft keys, Numberic keys, Rotary knob, USB port for transfer upgrading firmware			
RACK MOUNT HANDLES		Yes			
FAN		Temperature control			
PROTECTION		OCP, OVP, OPP, OTP ,HARD FAIL			
INTERFACE		RS232/RS485/USB(Standard), GPIB/LAN(Optional), CAN(Optional)			
COMMAND RESPONSE TIME		<3ms			
ANALOG INTERFACE(Optional)					
SET VALUE INPUTS		Analog input 0~5V/0~10V or 0~5kΩ/0~10kΩ to set 0~105% voltage, current and power			
ACTUAL VALUE OUTPUT		Analog output 0~5V/0~10V to monitor the voltage and current.			
ACCURACY U/I/P/R		<0.2% F.S			
ACTUAL OUTPUT U/I		<0.2%			
CONTROL SIGNALS		DC ON/OFF, External control Enable/ Disable			
STATUS SIGNALS		CV, OVP, OT			
SAMPLE RATE OF INPUT&OUTPUT		45Hz			
GALVANIC ISOLATION TO THE DEVICE		4242VDC	1.5kVDC	5250VDC	
MASTER/SLAVE CONTROL					
SERIES OUTPUT		MAX 2 units	Not supported	Not supported	
PARALLEL OUTPUT		MAX 16 units	MAX 16 units	MAX 16 units	
ENVIRONMENTAL					
OPERATING TEMPERATURE [2]		0~40℃			
STORAGE TEMPERATURE		-20~70℃			
TEMPERATURE COEFFICIENT		100ppm/℃(voltage), 150ppm/℃(current)			
RELATIVE HUMIDITY		<95%RH(non-condensing)@35℃, <80%RH(non-condensing)@40℃			
ALTITUDE		<2000m@40℃			
FAN NOISE		45dB Idle , 73dB Max			
MECHANICAL					
DIMENSIONS (WxHxD)		423.0x133.0x718.0 mm			
UNIT NET WEIGHT		38kg			

[1] For different input voltage standard option must be specified at the time of order as they are installed at the factory prior to shipment.
[2] It is recommended that the output current is derated by 10% when the operation environment is higher than 30℃.
[3] Load transient from 0% to 100% of rated output.
[4] Test value at 100% voltage and 100% power.
[5] Vrms @ 300kHz, VPP @ 20MHz, Arms @ 300kHZ.



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High Efficiency, High Precision, High Stability

PROGRAMMABLE HIGH DC POWER SUPPLY

USP HIGH Series 18000W (3U)

SPECIFICATION	CASE TYPE	18000W (3U)	18000W (3U)	18000W (3U)	18000W (3U)
	MODEL	USP-80VDC18000W	USP-250VDC18000W	USP-360VDC18000W	USP-500VDC18000W
	OUTPUT	80V600A	250V180A	360V127.5A	500V96A
INPUT					
VOLTAGE [1]		187~253VAC	190~253VAC	187~253VAC	187~253VAC
		340~460VAC	340~460VAC	340~460VAC	340~460VAC
CURRENT [1]		3P208 L1,L2,L3-60A	3P208 L1,L2,L3-60A	3P208 L1,L2,L3-60A	3P208 L1,L2,L3-60A
		3P400 L1,L2,L3-30A	3P400 L1,L2,L3-30A	3P400 L1,L2,L3-30A	3P400 L1,L2,L3-30A
FREQUENCY		45/65Hz	45/65Hz	45/65Hz	45/65Hz
CONNECTION		3ph, PE	3ph, PE	3ph, PE	3ph, PE
FUSE (INTERNAL) [1]		T50A*2pcs	T50A*2pcs	T50A*2pcs	T50A*2pcs
		T30A*2pcs	T30A*2pcs	T30A*2pcs	T30A*2pcs
POWER FACTOR		>0.99	>0.99	>0.99	>0.99
INPUT POWER		3P208 21.3KVAmax, 3P400 20.7KVAmax	3P208 21.5kVAmax, 3P400 20.9kVAmax,	3P208 20.1kVAmax, 3P400 19.5kVAmax,	3P208 20.1kVAmax, 3P400 19.5kVAmax,
EFFCIENCY [1]		90.50%	90.50%	92.50%	92.50%
		92.20%	91.50%	92.50%	94.00%
OUTPUT					
POWER RANGE		18KW	18KW	18KW	18KW
VOLTAGE RANGE		0V~80V	0V~250V	0~360V	0~500V
CURRENT RANGE [2]		0 ~ 600A	0 ~ 180A	0 ~ 127.5A	0 ~ 96A
MAX. SETUP RANGE	VOLTAGE	0~84V(0~105%)	0~262.5V(0~105%)	0~378V(0~105%)	0~525V(0~105%)
	CURRENT	0~614.25A(0~102%)	0~189A(0~105%)	0~133.88A(0~105%)	0~100.8A(0~105%)
	POWER	0~18900W(0~105%)	0~18900W(0~105%)	0~18900W(0~105%)	0~18900W(0~105%)
ACCURACY	VOLTAGE	<0.1%Umax(80mV)	<0.1%Umax(250mV)	<0.1%Umax(360mV)	<0.1%Umax(500mV)
	CURRENT	<0.2%Imax(1200mA)	<0.2%Imax(360mA)	<0.2%Imax(255mA)	<0.2%Imax(192mA)
	POWER	<0.5%+90W	<0.5%+90W	<1%+120W	<1%+120W
LINE REGULATION	VOLTAGE	<0.02%Umax(16mV)	<0.02%Umax(50mV)	<0.02%Umax(72mV)	<0.02%Umax(100mV)
	CURRENT	<0.05%Imax(300mA)	<0.05%Imax(90mA)	<0.05%Imax(64mA)	<0.05%Imax(48mA)
	POWER	<0.05%Pmax	<0.05%Pmax	<0.05%Pmax	<0.05%Pmax
LOAD REGULATION [3]	VOLTAGE	<0.05%Umax(40mV) @Rated Voltage, <0.1%Umax(80mV) @Rated Current	<0.05%Umax(125mV) @Rated Voltage, <0.1%Umax(250mV) @Rated Current	<0.05%Umax(250mV) @Rated Voltage, <0.1%Umax(360mV) @Rated Current	<0.05%Umax(250mV) @Rated Voltage, <0.1%Umax(500mV) @Rated Current
	CURRENT	<0.15%Imax(900mA)	<0.15%Imax(270mA)	<0.15%Imax(191mA)	<0.15%Imax(144mA)
	POWER	<0.75%Pmax	<0.75%Pmax	<0.75%Pmax	<0.75%Pmax
RISE TIME	VOLTAGE	<15ms (No Load) <55ms (Full Load)	<15ms (No Load) <30ms (Full Load)	<15ms (No Load) <80ms (Full Load)	<15ms (No Load) <80ms (Full Load)
DROP TIME	VOLTAGE	<850ms (No Load) <15ms (Full Load)	<950ms (No Load) <15ms (Full Load)	<800ms (No Load) <15ms (Full Load)	<1500ms (No Load) <15ms (Full Load)
TRANSIENT RESPONSE TIME [4]	VOLTAGE	≤1.5ms/0.8V	≤1.5ms/2.5V	≦1.5ms/3.6V	≦1.5ms/5V
DISPLAY RESOLUTION	VOLTAGE	0.001V	0.001V	0.01V	0.01V
	CURRENT	0.001A	0.001A	0.001A	0.001A
	POWER	0.1W	0.1W	1W	1W
MEASUREMENT ACCURACY	VOLTAGE	<0.1%Umax(80mV)	<0.1%Umax(250mV)	<0.1%Umax(360mV)	<0.1%Umax(500mV)
	CURRENT	<0.2%Imax(1200mA)	<0.2%Imax(360mA)	<0.2%Imax(255mA)	<0.2%Imax(192mA)
	POWER	<0.5%Pmax	<0.5%Pmax	<0.5%Pmax	<0.5%Pmax
RIPPLE [5]	VOLTAGE	<320mVpp, <25mVrms	<850mVpp, <75mVrms	<320mVpp, <55mVrms	<650mVpp, <160mVrms
	CURRENT	<300mArms	<100mArms	<64mArms	<48mArms
REMOTE COMPENSATION	VOLTAGE	5%Umax(4V)	1%Umax(2.5V)	3%Umax(10.8V)	3%Umax(15V)
GENERAL					
GRAPHIC DISPLAY		4.3"Color touch LCD			
OPERATION KEY FEATURE		Soft keys, Numberic keys, Rotary knob, USB port for transfer upgrading firmware			
RACK MOUNT HANDLES		Yes			
FAN		Temperature control			
PROTECTION		OCP, OVP, OPP, OTP ,HARD FAIL			
INTERFACE		RS232/RS485/USB(Standard), GPIB/LAN(Optional), CAN(Optional)			
COMMAND RESPONSE TIME		<3ms			
ANALOG INTERFACE(Optional)					
SET VALUE INPUTS		Analog input 0~5V/0~10V or 0~5kΩ/0~10kΩ to set 0~105% voltage, current and power			
ACTUAL VALUE OUTPUT		Analog output 0~5V/0~10V to monitor the voltage and current.			
ACCURACY U/I/P/R		<0.2% F.S			
ACTUAL OUTPUT U/I		<0.2%			
CONTROL SIGNALS		DC ON/OFF, External control Enable/ Disable			
STATUS SIGNALS		CV, OVP, OT			
SAMPLE RATE OF INPUT&OUTPUT		45Hz			
GALVANIC ISOLATION TO THE DEVICE		2121VDC	2121VDC	2818VDC	2818VDC
MASTER/SLAVE CONTROL					
SERIES OUTPUT		MAX 2 units	MAX 2 units	MAX 2 units	MAX 2 units
PARALLEL OUTPUT		MAX 16 units	MAX 16 units	MAX 16 units	MAX 16 units
ENVIRONMENTAL					
OPERATING TEMPERATURE [2]		0~40℃			
STORAGE TEMPERATURE		-20~70℃			
TEMPERATURE COEFFICIENT		100ppm/℃(voltage), 150ppm/℃(current)			
RELATIVE HUMIDITY		<95%RH(non-condensing)@35℃, <80%RH(non-condensing)@40℃			
ALTITUDE		<2000m@40℃			
FAN NOISE		45dB Idle , 75dB Max			
MECHANICAL					
DIMENSIONS (WxHxD)		423.0x133.0x718.0 mm			
UNIT NET WEIGHT		50kg			

[1] For different input voltage standard option must be specified at the time of order as they are installed at the factory prior to shipment.
[2] It is recommended that the output current is derated by 10% when the operation environment is higher than 30℃.
[3] Load transient from 0% to 100% of rated output.
[4] Test value at 100% voltage and 100% power.
[5] Vrms @ 300kHz, VPP @ 20MHz, Arms @ 300kHZ.



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PROGRAMMABLE HIGH DC POWER SUPPLY

USP HIGH Series 18000W (3U)

SPECIFICATION	CASE TYPE	18000W (3U)	18000W (3U)	18000W (3U)	
	MODEL	USP-750VDC18000W	USP-1500VDC18000W	USP-2250VDC18000W	
	OUTPUT	750V63A	1500V32A	2250V21A	
INPUT					
VOLTAGE [1]		187~253VAC	187~253VAC	187~253VAC	
		340~460VAC	340~460VAC	340~460VAC	
CURRENT [1]		3P208 L1,L2,L3-60A	3P208 L1,L2,L3-60A	3P208 L1,L2,L3-60A	
		3P400 L1,L2,L3-30A	3P400 L1,L2,L3-30A	3P400 L1,L2,L3-30A	
FREQUENCY		45/65Hz	45/65Hz	45/65Hz	
CONNECTION		3ph, PE	3ph, PE	3ph, PE	
FUSE (INTERNAL) [1]		T50A*2pcs	T50A*2pcs	T50A*2pcs	
		T30A*2pcs	T30A*2pcs	T25A*2pcs	
POWER FACTOR		>0.99	>0.99	>0.99	
INPUT POWER		3P208 20.1kVAmax, 3P400 19.5kVAmax,	3P208 20.5kVAmax, 3P400 19.9kVAmax,	3P208 20.1VAmax, 3P400 19.5kVAmax,	
EFFCIENCY [1]		92.50%	92.00%	92.00%	
		92.70%	93.50%	92.50%	
OUTPUT					
POWER RANGE		18KW	18KW	18KW	
VOLTAGE RANGE		0~750V	0~1500V	0~2250V	
CURRENT RANGE [2]		0 ~ 63A	0 ~ 32A	0 ~ 21A	
MAX. SETUP RANGE	VOLTAGE	0~787.5V(0~105%)	0~1575V(0~105%)	0~2362.5V(0~105%)	
	CURRENT	0~66.15A(0~105%)	0~33.6A(0~105%)	0~22.05A(0~105%)	
	POWER	0~18900W(0~105%)	0~18900W(0~105%)	0~18900W(0~105%)	
ACCURACY	VOLTAGE	<0.1%Umax(750mV)	<0.1%Umax(1.5V)	<0.1%Umax(2.25V)	
	CURRENT	<0.2%Imax(126mA)	<0.2%Imax(64mA)	<0.2%Imax(42mA)	
	POWER	<1%+120W	<0.5%+90W	<0.5%+90W	
LINE REGULATION	VOLTAGE	<0.02%Umax(150mV)	<0.02%Umax(300mV)	<0.02%Umax(675mV)	
	CURRENT	<0.05%Imax(31.5mA)	<0.05%Imax(16mA)	<0.05%Imax(10.5mA)	
	POWER	<0.05%Pmax	<0.05%Pmax	<0.05%Pmax	
LOAD REGULATION [3]	VOLTAGE	<0.05%Umax(375mV) @Rated Voltage, <0.1%Umax(750mV) @Rated Current	<0.05%Umax(750mV) @Rated Voltage, <0.1%Umax(1200mV) @Rated Current	<0.05%Umax(1125mV) @Rated Voltage, <0.1%Umax(1800mV) @Rated Current	
	CURRENT	<0.15%Imax(94.5mA)	<0.15%Imax(48mA)	<0.15%Imax(31.5mA)	
	POWER	<0.75%Pmax	<0.75%Pmax	<0.75%Pmax	
RISE TIME	VOLTAGE	<15ms (No Load) <80ms (Full Load)	<15ms (No Load) <90ms (Full Load)	<15ms (No Load) <85ms (Full Load)	
DROP TIME	VOLTAGE	<600ms (No Load) <20ms (Full Load)	<1800ms (No Load) <15ms (Full Load)	<800ms (No Load) <20ms (Full Load)	
TRANSIENT RESPONSE TIME [4]	VOLTAGE	≦2ms/7.5V	≦2ms/15V	≦3ms/22.5V	
DISPLAY RESOLUTION	VOLTAGE	0.01V	0.01V	0.01V	
	CURRENT	0.001A	0.001A	0.001A	
	POWER	1W	0.1W	0.1W	
MEASUREMENT ACCURACY	VOLTAGE	<0.1%Umax(750mV)	<0.1%Umax(1.5V)	<0.1%Umax(2.25V)	
	CURRENT	<0.2%Imax(126mA)	<0.2%Imax(64mA)	<0.2%Imax(42mA)	
	POWER	<0.5%Pmax	<0.5%Pmax	<0.5%Pmax	
RIPPLE [5]	VOLTAGE	<1000mVpp, <250mVrms	<1950mVpp, <650mVrms	<3200mVpp, <750mVrms	
	CURRENT	<33mArms	<22mArms	<11mArms	
REMOTE COMPENSATION	VOLTAGE	3%Umax(22.5V)	3%Umax(45V)	3%Umax(67.5V)	
GENERAL					
GRAPHIC DISPLAY		4.3"Color touch LCD			
OPERATION KEY FEATURE		Soft keys, Numberic keys, Rotary knob, USB port for transfer upgrading firmware			
RACK MOUNT HANDLES		Yes			
FAN		Temperature control			
PROTECTION		OCP, OVP, OPP, OTP ,HARD FAIL			
INTERFACE		RS232/RS485/USB(Standard), GPIB/LAN(Optional), CAN(Optional)			
COMMAND RESPONSE TIME		<3ms			
ANALOG INTERFACE(Optional)					
SET VALUE INPUTS		Analog input 0~5V/0~10V or 0~5kΩ/0~10kΩ to set 0~105% voltage, current and power			
ACTUAL VALUE OUTPUT		Analog output 0~5V/0~10V to monitor the voltage and current.			
ACCURACY U/I/P/R		<0.2% F.S			
ACTUAL OUTPUT U/I		<0.2%			
CONTROL SIGNALS		DC ON/OFF, External control Enable/ Disable			
STATUS SIGNALS		CV, OVP, OT			
SAMPLE RATE OF INPUT&OUTPUT		45Hz			
GALVANIC ISOLATION TO THE DEVICE		4242VDC	5250VDC	6300VDC	
MASTER/SLAVE CONTROL					
SERIES OUTPUT		MAX 2 units	Not supported	Not supported	
PARALLEL OUTPUT		MAX 16 units	MAX 16 units	MAX 16 units	
ENVIRONMENTAL					
OPERATING TEMPERATURE [2]		0~40℃			
STORAGE TEMPERATURE		-20~70℃			
TEMPERATURE COEFFICIENT		100ppm/℃(voltage), 150ppm/℃(current)			
RELATIVE HUMIDITY		<95%RH(non-condensing)@35℃, <80%RH(non-condensing)@40℃			
ALTITUDE		<2000m@40℃			
FAN NOISE		45dB Idle , 75dB Max			
MECHANICAL					
DIMENSIONS (WxHxD)		423.0x133.0x718.0 mm			
UNIT NET WEIGHT		50kg			

[1] For different input voltage standard option must be specified at the time of order as they are installed at the factory prior to shipment.
[2] It is recommended that the output current is derated by 10% when the operation environment is higher than 30℃.
[3] Load transient from 0% to 100% of rated output.
[4] Test value at 100% voltage and 100% power.
[5] Vrms @ 300kHz, VPP @ 20MHz, Arms @ 300kHZ.

