



# SP Series 4000W Programmable DC Power Supply

SP Series 4000W programmable DC power supply has the features including high precision and resolution, high efficiency low ripple, complete multiple protection, Master/Slave Series/Parallel modes, and multiple communication interfaces, which allow a more flexible and convenience use of the power supply.



- \* 4 kW / 2U high power density.
- \* Master /slave parallel & series operation modes for up to 4 units.
- \* With accurate voltage and current measurement capability.
- \* High-speed programmable interface.
- \* Coded knob, multifunctional keyboard.
- \* Freely switchover between constant voltage (CV) and constant current (CC) operating modes.
- \* Voltage rate of rise and drop functions.
- \* Equips with LIST waveform editing function.
- \* Protection functions: OVP, OCP, OPP, SCP and OTP.
- \* Standard RS232, RS485, LAN and USB communication interfaces and optional GPIB.
- \* Use the Standard Commands for Programmable Instrumentation (SCPI) communication protocol.
- \* Standard analog external remote inputs.
- \* Remote sensing line voltage-drop compensation.
- \* DVM independent measurement function.
- \* Have obtained CE, UL, CSA, FCC and other certifications.

APM Technologies (Dongguan) Co., Ltd

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Model	SP20VDC4000W	SP32VDC4000W	SP40VDC4000W	SP75VDC4000W	SP120VDC4000W
Input Voltage Range	190~265VAC	190~265VAC	190~265VAC	190~265VAC	190~265VAC
Input Frequency Range	47~63Hz	47~63Hz	47~63Hz	47~63Hz	47~63Hz
Power Factor	>0.99	>0.99	>0.99	>0.99	>0.99
Output Power Range	0~4000W	0~4000W	0~4000W	0~4000W	0~4000W
Output Voltage Range	0~20V	0~32V	0~40V	0~75V	0~120V
Output Current Range	0~200A	0~130A	0~120A	0~60A	0~40A
Voltage Display resolution	0.1mV	0.1mV	0.1mV	0.1mV	1mV
Current Display Resolution	1mA	1mA	1mA	0.1mA	0.1mA
Voltage Programmable Resolution	1mV	1mV	1mV	2mV	3mV
Current Programmable Resolution	3mA	3mA	3mA	2mA	1mA
Voltage Setting Accuracy	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.1%+15mV
Current Setting Accuracy	0.1%+200mA	0.1%+130mA	0.1%+120mA	0.1%+60mA	0.1%+40mA
Voltage Measurement Accuracy	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.1%+15mV
Current Measurement Accuracy	0.1%+200mA	0.1%+130mA	0.1%+120mA	0.1%+60mA	0.1%+40mA
Voltage Ripple	40mVp-p/6mVrms	40mVp-p/6mVrms	40mVp-p/6mVrms	40mVp-p/8mVrms	80mVp-p/15mVrms
Current Ripple	300mA(Full Range) 80mA(TYP value)	300mA(Full Range) 40mA(TYP value)	150mA(Full Range) 20mA(TYP value)	60mA(Full Range) 10mA(TYP value)	60mA(Full Range) 10mA(TYP value)
Voltage Load Regulation	15mV	15mV	15mV	15mV	15mV
Current Load Regulation	200mA	130mA	120mA	60mA	40mA
Line Voltage Regulation	0.01%+8mV	0.01%+8mV	0.01%+8mV	0.01%+8mV	0.02%+8mV
Line Current Regulation	30mA	30mA	30mA	30mA	30mA
Voltage Temperature Coefficient	100ppm/°C				
Current Temperature Coefficient	150ppm/°C				
DVM Resolution	0.1mV	0.1mV	0.1mV	0.1mV	1mV
DVM Accuracy	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.1%+15mV
Operating Mode	Constant voltage (CV) / Constant Current (CC)				
Remote Compensation	4V MAX			5V MAX	
Response ( Voltage Rise)	≤15ms	≤15ms	≤15ms	≤15ms	≤20ms
Response ( Voltage Drop)	≤300ms(No Load) ≤10ms(Full Load)	≤350ms(No Load) ≤10ms(Full Load)	≤350ms(No Load) ≤10ms(Full Load)	≤450ms(No Load) ≤20ms(Full Load)	≤350ms(No Load) ≤18ms(Full Load)
Load Transient Recovery Time	≤2ms	≤2ms	≤2ms	≤2ms	≤2ms
Command Respond Time	50ms	50ms	50ms	50ms	50ms
Efficiency (Full Load)	90%	90%	91%	91%	92%
Communication Modes	1. RS232/RS485/USB/LAN; 2. RS232/RS485/USB/LAN/GPIB				
Protection Functions	OVP/OCP/OTP/OPP/SCP protection functions				
Net Weight	14.7kg	14.7kg	14.7kg	13.2kg	13.2kg
Weight of Accessories	1.0kg	1.0kg	1.0kg	1.0kg	1.0kg
Dimensions (W x H x D)	483.0x87.0x626.0 mm			483.0x87.0x581.0 mm	
Operating Environment	Temperature: 0°C ~ 40°C Relative humidity 10%-90%(non-condensing)				
Cooling	Forced air-cooling				
Certification	CE/UL/CSA/FCC				

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Model	SP150VDC4000W	SP200VDC4000W	SP400VDC4000W	SP600VDC4000W	SP800VDC4000W
Input Voltage Range	190~265VAC	190~265VAC	190~265VAC	190~265VAC	190~265VAC
Input Frequency Range	47~63Hz	47~63Hz	47~63Hz	47~63Hz	47~63Hz
Power Factor	>0.99	>0.99	>0.98	>0.98	>0.98
Output Power Range	0~4000W	0~4000W	0~4000W	0~4000W	0~4000W
Output Voltage Range	0~150V	0~200V	0~400V	0~600V	0~800V
Output Current Range	0~30A	0~24A	0~24A	0~15A	0~10A
Voltage Display resolution	1mV	1mV	1mV	1mV	1mV
Current Display Resolution	0.1mA	0.1mA	0.1mA	0.1mA	0.1mA
Voltage Programmable Resolution	3mV	4mV	8mV	12mV	16mV
Current Programmable Resolution	1mA	1mA	1mA	1mA	1mA
Voltage Setting Accuracy	0.1%+15mV	0.1%+15mV	0.05%+100mV	0.05%+150mV	0.05%+200mV
Current Setting Accuracy	0.1%+30mA	0.1%+24mA	0.1%+24mA	0.1%+15mA	0.1%+20mA
Voltage Measurement Accuracy	0.1%+15mV	0.1%+15mV	0.05%+100mV	0.05%+150mV	0.05%+200mV
Current Measurement Accuracy	0.1%+30mA	0.1%+24mA	0.1%+24mA	0.1%+15mA	0.1%+20mA
Voltage Ripple	80mVp-p/15mVrms	150mVp-p/30mVrms	180mVp-p/80mVrms		
Current Ripple	60mA(Full Range) 10mA(TYP value)	50mA(Full Range) 20mA(TYP value)	40mA(Full Range) 20mA(TYP value)	40mA(Full Range) 10mA(TYP value)	40mA(Full Range) 10mA(TYP value)
Voltage Load Regulation	15mV	15mV	30mV	30mV	40mV
Current Load Regulation	30mA	24mA	24mA	30mA	20mA
Line Voltage Regulation	0.02%+8mV	0.02%+8mV	0.01%+20mV	0.01%+30mV	0.01%+40mV
Line Current Regulation	30mA	30mA	24mA	15mA	20mA
Voltage Temperature Coefficient	100ppm/°C				
Current Temperature Coefficient	150ppm/°C				
DVM Resolution	1mV	1mV	8mV	12mV	16mV
DVM Accuracy	0.1%+15mV	0.1%+15mV	0.05%+100mV	0.05%+150mV	0.05%+200mV
Operating Mode	Constant voltage (CV) / Constant Current (CC)				
Remote Compensation	5V MAX				
Response ( Voltage Rise)	≤30ms	≤30ms	≤60ms	≤60ms	≤60ms
Response ( Voltage Drop)	≤500ms(No Load) ≤20ms(Full Load)	≤500ms(No Load) ≤20ms(Full Load)	≤1200ms(No Load) ≤60ms(Full Load)	≤1200ms(No Load) ≤60ms(Full Load)	≤1200ms(No Load) ≤60ms(Full Load)
Load Transient Recovery Time	≤2.5ms	≤3ms	≤3ms	≤3ms	≤3ms
Command Respond Time	50ms	50ms	50ms	50ms	50ms
Efficiency (Full Load)	93%	92%	92%	92%	92%
Communication Modes	1. RS232/RS485/USB/LAN; 2. RS232/RS485/USB/LAN/GPIB				
Protection Functions	OVP/OCP/OTP/OPP/SCP protection functions				
Net Weight	13.2kg	13.2kg	14.7kg	14.7kg	14.7kg
Weight of Accessories	1.0kg	1.0kg	1.0kg	1.0kg	1.0kg
Dimensions (W x H x D)	483.0x87.0x581.0 mm				
Operating Environment	Temperature: 0°C ~ 40°C Relative humidity 10%-90%(non-condensing)				
Cooling	Forced air-cooling				
Certification	CE/UL/CSA/FCC				

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