

Efficiency, Stability, Reliable, Precision

Middle Power Single Phase AC Source

>>> Product specification sheet







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Selection List:

Model	Voltage	Current	Power	Corresponding page
SP300VAC600W	150V/300V	5.6A/2.8A	600W	P01
SP300VAC1000W	150V/300V	9.2A/4.6A	1000W	P01
SP300VAC1500W	150V/300V	13.8A/6.9A	1500W	P01
SP300VAC2000W	150V/300V	16A/8A	2000W	P03
SP300VAC3000W	150V/300V	27.6A/13.8A	3000W	P03
SP300VAC4000W	150V/300V	32A/16A	4000W	P03
SP300VAC5000W	150V/300V	46A/23A	5000W	P03

Model		SP300VAC600W	SP300VAC1000W	SP300VAC1500W			
			Input				
Voltage		90~265VAC	90~265VAC	100~265VAC			
Frequency		47~63Hz					
Phase		1 Phase, 2Wire+Groud					
Max. Current		10A	15A	19A			
Power Factor at 22	0VAC Input, Full Load	≥ 0.91 Active PFC	≥ 0.95 Active PFC	≥ 0.97 Active PFC			
Efficiency		> 82%(Peak) > 80% at 220VAC, 50Hz input/230VAC, 50Hz output, Full Load	> 86%(Peak) > 84% at 220VAC, 50Hz input/230VAC, 50Hz output, Full Load	> 87%(Peak) > 86% at 220VAC, 50Hz input/230VAC, 50Hz output, Full Load			
			Output				
AC Power		600VA 1000VA 1500VA					
Max. Current	0~150V(L)	5.6A	9.2A	13.8A			
(r.m.s)	0~300V(H)	2.8A	4.6A	6.9A			
Max. Current	0~150V(L)	32.4A	55.2A	82.8A			
(Peak)	0~300V(H)	16.2A	27.6A	41.4A			
Phase Total Harmonic Distortion (THD)		1 Phase <0.5% (Resistive Load) at 15.0~70.0Hz and output voltage within 80~140VAC at Low Range or 160~280VAC at High Range. <1% (Resistive Load) at 70.1~500Hz and output voltage within 80~140VAC at Low Range or 160~280VAC at High Range. <1% (Resistive Load) at 501~1000Hz and output voltage within 100~140VAC at Low Range or 160~280VAC at High Range. <2% (Resistive Load) at 1001~1200Hz and output voltage within 100~140VAC at Low Range or 160~280VAC at High Range. Note: 1001~1200Hz only available to Professional Version Models.					
Crest Factor (CF)		< 6					
Load Regulation		± 0.1%F.S. @15~70Hz (Resistive Load) ± 0.5%F.S. @Others Freq. (Resistive Load	d)				
Line Regulation		± 0.1V					
Rise/Fall Time (DC)	< 250us					
	Range	0~300VAC , 150V/300V/Auto					
Voltage (AC)	Resolution	0.1V					
	Accuracy	0.2% of setting + 0.2%F.S.					
	Range	0~359.9°					
Phase Angle (Starting / Ending)	Resolution	0.1°					
(Starting / Ending)	Accuracy	± 1°@45~65Hz					
	Range	0~424VDC					
	Resolution	0.1V					
	Accuracy	0.2% of setting + 0.2%F.S.					
	Max. Power	600W 1000W 1500W					
Voltage (DC)	Max. Current	L3.96A	L 6.5A	L 9.76A			
	(L/H Range)	H 1.89A H 3.3A H 4.88A L <700mVrms @Bandwidth 20Hz to 1MHz					
	Ripple & Noise (r.m.s) Ripple & Noise (Peak)	H <1100mVrms @Bandwidth 20Hz to 1MHz					
	Resolution	<4000mVp-p @Bandwidth 20Hz to 1MHz 0.01A					
Current CC	Accuracy						
Fold Mode	Response Time	0.5% of setting + 1.0%F.S.					
	Range ^[1]	15~1200Hz Full Range ADJ					
Frequency	Resolution	•	0Hz), 5Hz(1001~1200Hz)				
	Accuracy	0.1Hz (15.0~99.9Hz), 1Hz (100~1000Hz), 5Hz (1001~1200Hz) 0.03% of setting					
Programmable Out	•	0.03% of setting $0\Omega+0$ mH $\sim1\Omega+1$ mH					
	harmonics Simulation ^[3]	2400Hz					
			surement				
	D	AC 0~300VAC					
	Range	DC 0~424VDC					
Voltage	Resolution	0.1V					
	Accuracy	0.2% of setting + 0.2%F.S.					
	Range ^[1]	15~1200Hz					
Frequency	Resolution	0.1Hz(15.0~99.9Hz),1Hz(100~1000	Hz), 5Hz(1001~1200Hz)				
	Accuracy	0.1% of setting					
		H 0.15A~5.6A	H 0.15A~9.2A	H 0.15A~13.8A			
	Range	M -	М -	M -			
Current	range	L 0.1A~3A	L 0.1A~3A	L 0.1A~3A			
(r.m.s)		mA -	mA -	mA -			
	Resolution	0.01A					
	Accuracy	0.4%+1.0%F.S.		H 0.4%+1.0%F.S. L 0.4%+1.5%F.S			
	Range	0~32.4A	0~55.2A	0~82.8A			
Current	Resolution	0.01A					
		H 0.4%+1.0%F.S.					
(Peak)	Accuracy	H 0.4%+1.0%F.S. L 0.4%+1.5%F.S.					

Model		SP300VAC600W	SP300VAC1000W	SP300VAC1500W				
	Range	0~600W	0~1000W	0~1500W				
Power			0.2100044	0 100000				
Power	Resolution	0.1W	5-0-0-1/-lk					
	Accuracy	0.4% of setting + 1.0% F.S. at PF	-	0.4500)/4				
Power	Range	0~612VA	0~1020VA	0~1530VA				
Apparent (VA)	Resolution	0.1VA						
	Accuracy	Voltage*Irms, Calculated value						
Power	Range	0~612VAR	0~1020VAR	0~1530VAR				
Resistive	Resolution	0.1VAR	0.1VAR					
(VAR)	Accuracy	$\sqrt{(VA)^2-(W)^2}$, Calculated value						
Power	Range	0.00~1.00						
Factor	Resolution	0.01						
(PF)	Accuracy	W/VA, Calculated value						
Harmonic	Range ^[4]	2~40 orders						
			Extra Function					
Remote Sense	Range	5V(rms), Max. Total power less the						
Tromoto Como		AC Voltage 0.001~1200.000V/ms						
Class Data	Dange	DC Voltage 0.001~1200.000V/ms						
Slew Rate	Range	•						
		Frequency 0.001~1600.000Hz/m	ns and Disable					
Transient		Trans-Start: 0.0~66.5ms @ 15Hz	z, Resolution: 0.1ms					
Generator	Danna	Trans-Volt: -212V~+212V(L), -42	4V~+424V(H), Resolution: 0.1V					
(only for	Range	Trans-Time: 0.0~66.5ms @ 15Hz	z, Resolution: 0.1ms					
15~70Hz)								
Calibration			Trans-Count: 0~9999, Constant Firmware-based calibration through the digital interface or front panel					
Test Function		Yes	ight the digital interface of front panel					
	Dhasa		shace Link Cord)					
Parallel Output for 1 I		Yes, 4 Units Max. (Option: Multiphase Link Card)						
Series Output for 1 P		Yes, 2 Units Max. (Option: Multiphase Link Card)						
Link Output for 3 Pha	ise	Yes, (Option: Multiphase Link Ca	<u>'</u>					
			General					
Graphic Display		4.3" Color touch LCD						
Operation Key Featur	re	Soft key, Numeric key, Rotary Knob, USB port for transfer and upgrading firmware						
Rack mount Handles		Yes						
FAN		Temperature Control						
Protection Circuits		OCP, OVP, OPP, OTP, RCP, PRI_UVP, PRI_OVP, PRI_OTP, PRI_OCP, USB_OCP						
Interface		Standard USB, RS-485, RS-232, GPIB & LAN is Optional						
		Remote Control Inpu	ut/Output Signal Characteristics (Option)					
Remote Input Signal		Signal input for external trigger for execution of programmed value						
Remote input Signal		Signal: ON/OFF, RESET, KEEP OFF, Recall program memory 1 through 7						
		Signal output indicating that a test mode is present						
Remote Output Signa	al	Signal: PASS, FAIL, TEST-IN-PROCESS						
		Signal input for output voltage waveform programming by external analog						
External Signal Wave	form Input	reference via BNC type. Between the sync signal and the output wave will be 0.5ms time difference						
		Environment						
Operating Temperatu	***	0°C - 40°C	Environment					
Operating Temperatu		0°C ~ 40°C 40°C ~ 95°C						
Storage Temperature	!	-40°C ~ 85°C						
Fan Noise		73dBA Max.						
Altitude		2000m						
Relative Humidity		5%~95%, non-condensing						
Temperature Coefficient		100ppm/°C at Voltage, 300ppm/°C at Current, 100ppm/°C at Frequency						
Temperature Coeffici			Manhautaal					
Temperature Coeffici			Mechanical					
Temperature Coefficient Dimensions (W*H*D)		423.0x87.0x520.0 mm	Wechanical					
		423.0x87.0x520.0 mm 594.0x241.0x744.0 mm	меспапісаі					
Dimensions (W*H*D)			wecnanicai					
Dimensions (W*H*D) Package Dimensions		594.0x241.0x 744.0 mm	wechanicai					
Dimensions (W*H*D) Package Dimensions Unit Weight		594.0x241.0x 744.0 mm 15.9kg 19kg	egulatory Compliance					
Dimensions (W*H*D) Package Dimensions Unit Weight Shipping Weight		594.0x241.0x744.0 mm 15.9kg 19kg		ssions				
Dimensions (W*H*D) Package Dimensions Unit Weight		594.0x241.0x744.0 mm 15.9kg 19kg Record CE marked for EMC Directive 20	egulatory Compliance 114/30/EU/EN61326-1: 2013 Class A for emi	ssions ormity for CFR 47 Part 15 of the FCC Rules.				
Dimensions (W*H*D) Package Dimensions Unit Weight Shipping Weight EMC		594.0x241.0x744.0 mm 15.9kg 19kg Record CE marked for EMC Directive 20 and immunity standard as require	egulatory Compliance 014/30/EU/EN61326-1: 2013 Class A for emi ed for EU CE Mark. FCC Verification of conf	ormity for CFR 47 Part 15 of the FCC Rules.				
Dimensions (W*H*D) Package Dimensions Unit Weight Shipping Weight EMC Safety		594.0x241.0x744.0 mm 15.9kg 19kg CE marked for EMC Directive 20 and immunity standard as require CE marked for LVD Directive 201	egulatory Compliance 014/30/EU/EN61326-1: 2013 Class A for emi ed for EU CE Mark. FCC Verification of conf 14/35/EU/EN61010-1-third edition as require	ormity for CFR 47 Part 15 of the FCC Rules. d for EU CE Mark.				
Dimensions (W*H*D) Package Dimensions Unit Weight Shipping Weight EMC Safety CE Mark		594.0x241.0x744.0 mm 15.9kg 19kg CE marked for EMC Directive 20 and immunity standard as require CE marked for LVD Directive 201 Installation Overvoltage Category	egulatory Compliance 014/30/EU/EN61326-1: 2013 Class A for emi ed for EU CE Mark. FCC Verification of conf 14/35/EU/EN61010-1-third edition as require y II; Pollution Degree 2; Class II equipment;	ormity for CFR 47 Part 15 of the FCC Rules. d for EU CE Mark. indoor use only.				
Dimensions (W*H*D) Package Dimensions Unit Weight Shipping Weight EMC Safety CE Mark UL Mark		594.0x241.0x744.0 mm 15.9kg 19kg CE marked for EMC Directive 20 and immunity standard as require CE marked for LVD Directive 20 Installation Overvoltage Category CSA NRTL certified for US and C	egulatory Compliance 014/30/EU/EN61326-1: 2013 Class A for emi ed for EU CE Mark. FCC Verification of conf 14/35/EU/EN61010-1-third edition as require y II; Pollution Degree 2; Class II equipment; Canada to CAN/CSA-22.2 No.61010-1-12, U	ormity for CFR 47 Part 15 of the FCC Rules. d for EU CE Mark. indoor use only.				
Dimensions (W*H*D) Package Dimensions Unit Weight Shipping Weight EMC Safety CE Mark		594.0x241.0x744.0 mm 15.9kg 19kg CE marked for EMC Directive 20 and immunity standard as require CE marked for LVD Directive 20 Installation Overvoltage Category CSA NRTL certified for US and C 3000VAC, input to output; 1500V	egulatory Compliance 014/30/EU/EN61326-1: 2013 Class A for emi ed for EU CE Mark. FCC Verification of conf 14/35/EU/EN61010-1-third edition as require y II; Pollution Degree 2; Class II equipment; Canada to CAN/CSA-22.2 No.61010-1-12, U	ormity for CFR 47 Part 15 of the FCC Rules. d for EU CE Mark. indoor use only. L 61010-1 Third Edition.				

- [1] Only Professional Version units support 15.00~1200.00Hz.
- [2] Only Professional Version units support Programmable Output Impedance function.
- [3] Only Professional Version units support Harmonics & Inter-harmonics Simulation function.
- [4] Only Professional Version units support Harmonics function.

All specifications are subject to change without notice.

Model		SP300VAC2000W	SP300VAC3000W	SP300VAC4000W	SP300VAC5000W		
V 11		400 005):: 5	Input				
Voltage		190~265VAC					
Frequency		47~63Hz					
Phase		1 Phase, 2Wire+Groud	20.4	OF A	20.4		
Max. Current	20\/AC Inc. + F. III 1	14A	20A	25A	30A		
Power Factor at 22	20VAC Input, Full Load	≥ 0.99, ActivePFC	≥ 0.98, ActivePFC	≥0.99, ActivePFC	≥ 0.99, ActivePFC		
Efficiency		> 87%(Peak) > 86% at 220VAC, 50Hz input 230VAC,50Hz output, Full Load	> 86%(Peak) > 85% at 220VAC, 50Hz input 230VAC,50Hz output, Full Load	> 87%(Peak) > 86% at 220VAC, 50Hz input 230VAC,50Hz output, Full Load	> 87%(Peak) > 86% at 220VAC, 50Hz input 230VAC,50Hz output, Full Load		
			Output				
AC Power		2000VA	3000VA	4000VA	5000VA		
Max. Current	0~150V(L)	16A	27.6A	32A	46A		
(r.m.s)	0~300V(H)	8A	13.8A	16A	23A		
Max. Current (Peak)	0~150V(L)	80A	165.6A	160A	184A		
Phase	0~300V(H)	40A	82.8A	80A	92A		
Phase		1 Phase					
		, , , , , , , , , , , , , , , , , , ,	·		e or 160~280VAC at High Range.		
		<1% (Resistive Load) at 70.1	~500Hz and output voltage with	nin 80~140VAC at Low Range	or 160~280VAC at High Range.		
Total Harmonic Dis	stortion (THD)	<1% (Resistive Load) at 501~	1000Hz and output voltage with	in 100~140VAC at Low Range	or 160~280VAC at High Range.		
		<2% (Resistive Load) at 1001	~1200Hz and output voltage wit	hin 100~140VAC at Low Range	e or 160~280VAC at High Range		
			lable to Professional Version Mo				
Crest Factor (CF)		≤ 5	≤ 6	≤ 5	≤ 4		
Load Regulation		± 0. 1%F.S. @15~70Hz (Resisti	'				
		± 0.5%F.S. @Others Freq. (Res	sistive Load)				
Line Regulation		± 0.1V					
Rise/Fall Time (DC	•	<180us					
Valtaria (AC)	Range	0~300VAC, 150V/300V/Aut	0				
Voltage (AC)	Resolution	0.1V					
	Accuracy	0.2% of setting + 0.2%F.S.					
Phase Angle	Range	0~359.9°					
(Starting / Ending)	Resolution	0.1°					
	Accuracy Range	±1°@45~65Hz					
	Resolution	0~424VDC					
	Accuracy	0.1V 0.2% of setting + 0.2%F.S.					
	Max. Power	2000W 3000W 4000W 5000W					
Voltage (DC)	Max. Current	L 11.3A	L 19.6A	L 22.6A	L 32.6A		
voltage (BO)	(L/H Range)	H 5.65A	H 9.8A	H 11.3A	H 16.3A		
		L <700mVrms @Bandwidth 20Hz to 1MHz					
	Ripple & Noise (r.m.s)	H <1100mVrms @Bandwidth 20Hz to 1MHz					
	Ripple & Noise (Peak)	<4000mVp-p @Bandwidth 20Hz to 1MHz					
0 100	Resolution	0.01A					
Current CC Fold Mode	Accuracy	0.5% of setting + 1.0%F.S.					
. Sid Hilodo	Response Time	<1400ms					
	Range ^[1]	15~1200Hz Full Range ADJ					
Frequency	Resolution	0.1Hz(15.0~99.9Hz), 1Hz(1	00~1000Hz), 5Hz (1001~120	0Hz)			
	Accuracy	0.03% of setting					
Programmable Out		0Ω+0mH~1Ω+1mH					
Harmonics & Inter-	harmonics Simulation[3]	2400Hz					
			Measurement				
	Range	AC 0~300VAC					
Voltage		DC 0~424VDC					
	Resolution	0.1V					
	Accuracy	0.2% of setting + 0.2%F.S.					
_	Range ^[1]	15~1200Hz	00-4000H=\ 5H=/4004_4004)H-)			
Frequency	Resolution	7	00~1000Hz), 5Hz(1001~1200	יחב)			
	Accuracy	0.1% of setting	L 0.34-37.64	П 0.24-224	L 0.24.464		
		H 0.15A~20A	H 0.3A~27.6A	H 0.3A~32A	H 0.3A~46A		
	Range	M -	M 0.2A~20A	M 0.2A~20A L 0.1A~5A	M 0.2A~20A L 0.1A~5A		
Current		L 0.1A~5A	L 0.1A~5A mA 0.02A~1.5A	L 0.1A~5A mA 0.02A~1.5A	L 0.1A~5A mA 0.02A~1.5A		
(r.m.s)	Resolution	mA 0.02A~1.5A 0.01A	IIIA 0.02A~1.0A	A 0.02A~1.5A	IIIA 0.02A~1.5A		
	coord.tori	H/M 0.4%+1.0%F.S.	H/M 0.4%+0.6%F.S.				
		11/1VI U.4/0+1.U/0F.3.	11/1VI U.4/0+U.U/0F.3.				
	Accuracy	I/mA 0 4%+1 0%FS	I/mA 0 4%+1 0%FS				
		L/mA 0.4%+1.0%F.S.	L/mA 0.4%+1.0%F.S.	0.05~163A	0.05~188A		
Current(Peak)	Range Resolution	L/mA 0.4%+1.0%F.S. 0~81.5A 0.01A	L/mA 0.4%+1.0%F.S. 0~168.6A	0.05~163A	0.05~188A		

Model		SP300VAC2000W	SP300VAC3000W	SP300VAC4000W	SP300VAC5000W			
	Range	0~2040W	0~3060W	0~4080W	0~5100W			
Power	Resolution	0.1W						
	Accuracy	0.4% of setting + 1.0% F.S. at F	PF>0.2, Voltage>5V					
Power	Range	0~2040VA 0~3060VA 0~4080VA 0~5100VA						
Apparent	Resolution	0.1VA						
(VA)	Accuracy	Voltage*Irms, Calculated value						
Power	Range	0~2040VAR	0~3060VAR	0~4080VAR	0~5100VAR			
Resistive (VAR)	Resolution	0.1VAR						
(VAIX)	Accuracy	$\sqrt{(VA)^2-(W)^2}$, Calculated value						
Power	Range	0.00~1.00						
Factor	Resolution	0.01						
(PF)	Accuracy	W/VA, Calculated value						
Harmonic	Range ^[4]	2~40 orders						
	-	5)// \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Extra Function					
Remote Sense	Range	5V(rms), Max. Total power less						
		AC Voltage 0.001~1200.000V/n						
Slew Rate	Range	DC Voltage 0.001~1000.000V/r						
		Frequency 0.001~1600.000Hz/						
Transient		Trans-Start: 0.0~66.5ms @ 15H						
Generator	Range	Trans-Volt: -212V~+212V(L), -4	24V~+424V(H), Resolution: 0.1V					
(only for 15~70Hz)		Trans-Time: 0.0~66.5ms @ 15H	Iz, Resolution: 0.1ms					
·		Trans-Count: 0~9999, Constant						
Calibration		Firmware-based calibration thro	ough the digital interface or front pa	anel				
Test Function		Yes						
Parallel Output fo	r 1 Phase		ote I/O & Parallel, Multiphase Link	· · · · · · · · · · · · · · · · · · ·				
Series Output for			ote I/O & Parallel, Multiphase Link	Card)				
Link Output for 3	Phase	Yes, (Option: Remote I/O & Par						
0 1: 5: 1			General					
Graphic Display	,	5.6" Color touch LCD						
Operation Key Fe		Soft key, Numeric key, Rotary Knob, USB port for transfer and upgrading firmware						
Rack mount Hand	ales	Yes	Temperature Control					
FAN Protection Circuits	•	•	OCP,OVP,OPP,OTP,RCP,PRI_UVP,PRI_OVP,PRI_OTP,PRI_OCP,USB_OCP					
Interface	5	Standard USB, RS-485, RS-232, GPIB & LAN is Optional						
interiace	_		z, GPIB & LAN IS Optional itrol Input/Output Signal Charac	teristics (Ontion)				
Remote Input Sig	nal	Signal input for external trigger for execution of programmed value Signal: ON/OFF, RESET, KEEP OFF, Recall program memory 1 through 7						
		Signal output indicating that a test mode is present						
Remote Output S	ignal	Signal: PASS, FAIL, TEST-IN-PROCESS						
		Signal input for output voltage waveform programming by external analog						
External Signal W	/aveform Input	reference via BNC type. Between the sync signal and the output wave will be 0.5ms time difference						
			Environment					
Operating Tempe	rature	0°C ~ 40°C						
Storage Tempera	ture	-40°C ~ 85°C						
Fan Noise		73dBA Max.						
Altitude		2000m						
Relative Humidity	1	5%~95%, non-condensing						
Temperature Coe	efficient	100ppm/°C at Voltage, 300ppm/°C at Current, 100ppm/°C at Frequency						
			Mechanical					
Dimensions (W*H		423.0x133.0x520.0 mm 423.0x177.0x520.0 mm						
Package Dimensi	ions (W*H*D)	643.0x278.5x802.0 mm						
Unit Weight		21.4kg	29.0kg					
Shipping Weight		24.4kg	32.0kg					
Regulatory Compliance								
EMC		CE marked for EMC Directive 2014/30/EU/EN61326-1: 2013 Class A for emissions and immunity standard as required for EU CE Mark. FCC Verification of conformity for CFR 47 Part 15 of the FCC Rules.						
Safety			014/35/EU/EN61010-1-third edition					
CE Mark				•				
UL Mark		Installation Overvoltage Category II; Pollution Degree 2; Class II equipment; indoor use only. CSA NRTL certified for US and Canada to CAN/CSA-22.2 No.61010-1-12, UL 61010-1 Third Edition.						
Isolation Voltage		3000VAC,input to output; 1500VAC,input to chassis.						
RoHS			U for restriction of hazardous subs	stances in Electrical and Electroni	c Equipment.			
					1.1.2.2.2			

- [1] Only Professional Version units support 15.00~1200.00Hz.
- [2] Only Professional Version units support Programmable Output Impedance function.
- [3] Only Professional Version units support Harmonics & Inter-harmonics Simulation function.
- $\hbox{\cite[4] Only Professional Version units support Harmonics function.}$

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