

Features

- Output Rating: AC 0 – 350 Vrms, DC 0 - ± 500 V
- Output Frequency up to 999.9 Hz
- DC Output (100% of Rated Power)
- Output Capacity: 500VA/1000VA
- Measurement Items: Vrms, Vavg, Vpeak, Irms, IpkH, Iavg, Ipeak, P, S, Q, PF, CF
- Voltage and Current Harmonic Analysis (THDv, THDi)
- Customized Phase Angle for Output On/Off
- Remote Sensing Capability
- OVP, OCP, OPP, OTP, AC Fail Detection and Fan Fail Alarm
- Support Arbitrary Waveform Function
- Built-in Web Server
- Built-in Output Relay Control
- Memory Function (up to 10 sets)
- Sequence and Simulation Function(up to 10 sets)
- Built-in External Control I/O and External Signal Input
- Interface: USB, LAN, RS232 (Std), GPIB (opt)

RSPRO AC PROGRAMMING POWER SOURCE

RS Stock No.:

2889850

2889851

0642961



RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

Electrical Specifications

Input Ratings (AC rms)		0642961	
Nominal input voltage		100 Vac to 240 Vac	
Input voltage range		90 Vac to 264 Vac	
Phase		Single phase, Two-wire	
Input frequency range		47 Hz to 63 Hz	
Max. power consumption		800 VA or less	1500 VA or less
Power factor ^{*1}	100Vac	0.95 (typ.)	
	200Vac	0.90 (typ.)	
Max. input current	100Vac	8 A	15 A
	200Vac	4 A	7.5 A

1. For an output voltage of 100V/200V (100V/200V range), maximum current, and a load power factor of 1*

AC Mode Output Ratings (AC rms)		0642961	
Voltage	Setting Range ^{*1}	0.0 V to 175.0 V / 0.0 V to 350.0 V	
	Setting Resolution	0.1 V	
	Accuracy ^{*2}	±(0.5 % of set + 0.6 V / 1.2 V)	
Output phase		Single-phase, Two-wire	
Maximum current ^{*3}	100 V	5 A	10 A
	200 V	2.5 A	5 A
Maximum peak current ^{*4}	100 V	20 A	40 A
	200 V	10 A	20 A
Power capacity		500 VA	1000 VA
Frequency	Setting range	AC Mode: 40.00 Hz to 999.9 Hz, AC+DC Mode: 1.00 Hz to 999.9 Hz	
	Setting resolution	0.01 Hz (1.00 to 99.99 Hz), 0.1 Hz (100.0 to 999.9 Hz)	
	Accuracy	For 45 Hz to 65 Hz: 0.01% of set For 40 Hz to 999.9 Hz: 0.02% of set	
	Stability ^{*5}	± 0.005%	
Output on phase		0.0° to 359.9° variable (setting resolution 0.1°)	
DC offset ^{*6}		Within ± 20 mV (TYP)	

1. 100 V / 200 V range*

2. For an output voltage of 17.5 V to 175 V / 35 V to 350 V, sine wave, an output frequency of 45 Hz to 65 Hz, no load, DC voltage setting 0V (AC+DC mode) and 23°C ± 5°C*

3. For an output voltage of 1 V to 100 V / 2 V to 200 V. Limited by the power capacity when the output voltage is 100 V to 175 V / 200 V to 350 V*

4. With respect to the capacitor-input rectifying load. Limited by the maximum current*

5. For 45 Hz to 65 Hz, the rated output voltage, no load and the resistance load for the maximum current, and the operating temperature*

6. In the case of the AC mode and output voltage setting to 0 V*

Output Rating for DC Mode		0642961	
Voltage	Setting Range ^{*1}	-250 V to +250 V / -500 V to +500 V	
	Setting Resolution	0.1 V	
	Accuracy ^{*2}	±(0.5 % of set + 0.6 V / 1.2 V)	
Maximum current ^{*3}	100 V	5 A	10 A
	200 V	2.5 A	5 A
Maximum peak current ^{*4}	100 V	20 A	40 A
	200 V	10 A	20 A

Power capacity	500 W	1000 W
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1. 100 V / 200 V range*
2. For an output voltage of -250 V to -25 V, +25 V to +250 V / -500 V to -50 V, +50 V to +500 V, no load, AC voltage setting 0V (AC+DC mode) and $23\Omega \pm 5\Omega$ *
3. For an output voltage of 1.4 V to 100 V / 2.8 V to 200 V - Limited by the power capacity when the output voltage is 100 V to 250 V / 200 V to 500 V*
4. Within 5 ms, Limited by the maximum current*

Output Voltage Stability		0642961
Line regulation ^{*1}	$\pm 0.2\%$ or less	
Load regulation ^{*2}	0.15% @45 - 65Hz 0.5% @DC, all other frequencies (0 to 100%, via output terminal)	
Ripple noise ^{*3}	0.7 Vrms / 1.4 Vrms (TYP)	

1. Power source input voltage is 100 V, 120 V, or 230 V, no load, rated output*
2. For an output voltage of 75 V to 175 V / 150 V to 350 V, a load power factor of 1, stepwise change from an output current of 0 A to maximum current (or its reverse), using the output terminal on the rear panel*
3. For 5 Hz to 1 MHz components in DC mode using the output terminal on the rear panel*

Output Voltage Waveform Distortion Ratio, Output Voltage Response Time, Efficiency		0642961
TOTAL Harmonic Distortion (THD) ^{*1}	<0.2 % @50/60 Hz, <0.3 % @<500 Hz, <0.5 % @500.1 Hz to 999.9 Hz	
Output voltage response time ^{*2}	100 μ s (TYP)	
Efficiency ^{*3}	70 % or more	

1. At an output voltage of 50 V to 175V / 100V to 350V, a load power factor of 1, and in AC and AC+DC mode*
2. For an output voltage of 100 V / 200 V, a load power factor of 1, with respect to stepwise change from an output current of 0 A to the maximum current (or its reverse). 10% ~ 90% of output voltage*
3. For AC mode, at an output voltage of 100 V / 200 V, maximum current, and load power factor of 1 and sine wave only*

Measured Value Display				0642961
Voltage	RMS, AVG value ^{*1}	Resolution	0.1 V	
		Accuracy ^{*2}	For 45 Hz to 65 Hz and DC: $\pm(0.5\%$ of reading + 0.3 V / 0.6 V) For 40 Hz to 999.9 Hz: $\pm(0.7\%$ of reading + 0.9 V / 1.8 V)	
	PEAK value	Resolution	0.1 V	
		Accuracy	For 45 Hz to 65 Hz and DC: $\pm(2\%$ of reading + 1 V / 2 V)	
Current	RMS, AVG value	Resolution	0.01 A	
		Accuracy ^{*3}	For 45 Hz to 65 Hz and DC: $\pm(0.5\%$ of reading + 0.02 A / 0.02 A) For 40 Hz to 999.9 Hz: $\pm(0.7\%$ of reading + 0.04 A / 0.04 A)	For 45 Hz to 65 Hz and DC: $\pm(0.5\%$ of reading + 0.04 A / 0.02 A) For 40 Hz to 999.9 Hz: $\pm(0.7\%$ of reading + 0.08 A / 0.04 A)

	PEAK value	Resolution	0.01A	
		Accuracy*4	For 45 Hz to 65 Hz and DC: ±(2 % of reading + 0.2 A / 0.1 A)	For 45 Hz to 65 Hz and DC: ±(2 % of reading + 0.2 A / 0.1 A)
Power	Active (W)	Resolution	0.1 / 1 W	
		Accuracy*5	±(2 % of reading + 0.5 W)	±(2 % of reading + 1 W)
	Apparent (VA)	Resolution	0.1 / 1 VA	
		Accuracy*5*6	±(2 % of reading + 0.5 VA)	±(2 % of reading + 1 VA)
	Reactive (VAR)	Resolution	0.1 / 1 VAR	
		Accuracy*5*7	±(2 % of reading + 0.5 VAR)	±(2 % of reading + 1 VAR)
Load power factor		Range	0.000 to 1.000	
		Resolution	0.001	
Load crest factor		Range	0.00 to 50.00	
		Resolution	0.01	
Harmonic voltage Effective value (rms) Percent (%) (AC-INT and 50/60 Hz only)		Range	Up to 40th order of the fundamental wave	
		Full Scale	175 V / 350 V, 100%	
		Resolution	0.1 V, 0.01%	
		Accuracy*8	Up to 20th ±(0.2 % of reading + 0.5 V / 1 V) 20th to 40th ±(0.3 % of reading + 0.5 V / 1 V)	
Hmonic current Effective value (rms) Percent (%) (AC-INT and 50/60 Hz only)		Range	Up to 40th order of the fundamental wave	
		Full Scale	5 A / 2.5 A, 100%	10 A / 5 A, 100%
		Resolution	0.01 A, 0.01%	
		Accuracy*3	Up to 20th ±(1 % of reading + 0.1 A / 0.05 A) 20th to 40th ±(1.5 % of reading + 0.1 A / 0.05 A)	Up to 20th ±(1 % of reading + 0.2 A / 0.1 A) 20th to 40th ±(1.5 % of reading + 0.2 A / 0.1 A)

1. The voltage display is set to RMS in AC/AC+DC mode and AVG in DC mode.
2. AC mode: For an output voltage of 17.5 V to 175 V / 35 V to 350 V and 23 °C \pm 5 °C. DC mode: For an output voltage of 25 V to 250 V / 50 V to 500 V and 23 °C \pm 5 °C.
3. An output current in the range of 5 % to 100 % of the maximum current, and 23 °C \pm 5 °C.
4. An output current in the range of 5 % to 100 % of the maximum peak current in AC mode, an output current in the range of 5 % to 100 % of the maximum instantaneous current in DC mode, and 23 °C \pm 5 °C.
The accuracy of the peak value is for a waveform of DC or sine wave.
5. For an output voltage of 50 V or greater, an output current in the range of 10 % to 100 % of the maximum current, DC or an output frequency of 45 Hz to 65 Hz, and 23 °C \pm 5 °C.
6. The apparent and reactive powers are not displayed in the DC mode.
7. The reactive power is for the load with the power factor 0.5 or lower.
8. An output voltage in the range of 17.5 V to 175 V / 35 V to 350 V and 23 °C \pm 5 °C.
9. All accuracy of the measurement function is indicated for 23 °C \pm 5 °C

General Specifications		0642961
Protections	OCP, OTP, OPP, FAN Fail	
Display	TFT-LCD, 4.3 inch	

Memory Function			10 sets for Store and Recall settings
Arbitrary Wave	Number of memories		16 (nonvolatile)
	Waveform length		4096 words
Interface	Standard	USB	Type A: Host, Type B: Slave, Speed: 1.1/2.0, USB-CDC
		LAN	MAC Address, DNS IP Address, User Password, Gateway IP Address, Instrument IP Address, Subnet Mask
		EXT Control	External Signal Input External Control I/O
	Factory Optional	GPIO	SCPI-1993, IEEE 488.2 compliant interface
			Complies with the EIA-RS-232 specifications
Insulation resistance	Between input and chassis, output and chassis, input and output		500 Vdc, 30 MΩ or more
Withstand voltage	Between input and chassis, output and chassis, input and output		1500 Vac, 1 minute
Safety			EN 61010-1 EN 61326-1 (Class A) EN 61326-2-1/-2-2 (Class A) EN 61000-3-2 (Class A, Group 1) EN 61000-3-3 (Class A, Group 1) EN 61000-4-2/-4-3/-4-4/-4-5/-4-6/-4-8/-4-11 (Class A, Group 1) EN 55011 (Class A, Group1)
Environment	Operating environment		Indoor use, Overvoltage Category II
	Operating temperature range		0 °C to 40 °C
	Storage temperature range		-10 °C to 70 °C
	Operating humidity range		20 % to 80 % RH (no condensation)
	Storage humidity range		90 % RH or less (no condensation)
	Altitude		Up to 2000 m
Dimensions (mm)			: 213(W)×124(H)×480(D) (not including protrusions)
Weight			Approx. 10.5 kg

Safety Approval

EMC	
EN 61326-1	Electrical equipment for measurement, control and laboratory use -- EMC requirements
Conducted & Radiated Emission EN 55011 / EN 55032	Electrical Fast Transients EN 61000-4-4
Current Harmonics EN 61000-3-2 / EN 61000-3-12	Surge Immunity EN 61000-4-5
Voltage Fluctuations EN 61000-3-3 / EN 61000-3-11	Conducted Susceptibility EN 61000-4-6
Electrostatic Discharge EN 61000-4-2	Power Frequency Magnetic Field EN 61000-4-8
Radiated Immunity EN 61000-4-3	Voltage Dip/ Interruption EN 61000-4-11 / EN 61000-4-34
© Safety	
EN 61010-1 :	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

Order Information

500VA Programmable AC/DC Power Source for 3U 1/2 Rack Mount

1000VA Programmable AC/DC Power Source for 3U 1/2 Rack Mount

0642961 1000VA Programmable AC/DC Power Source

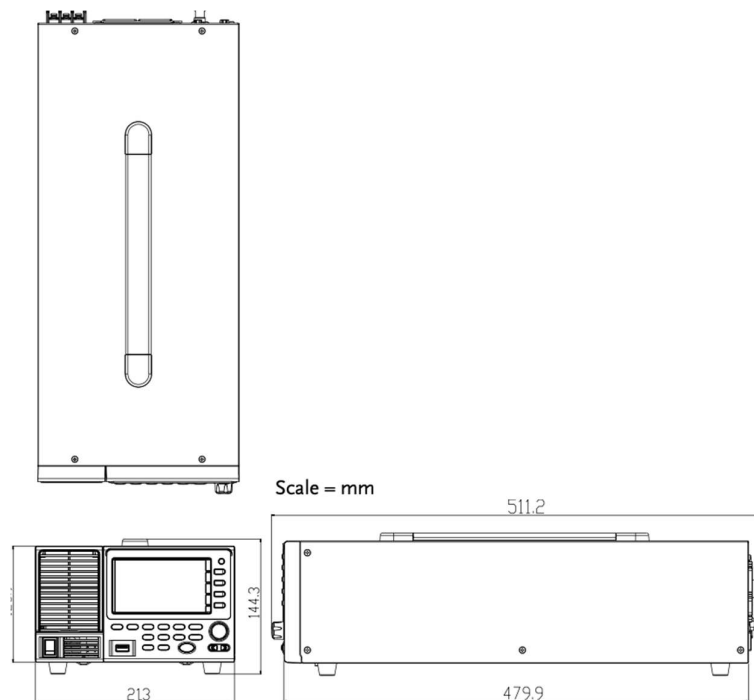
Standard Accessories

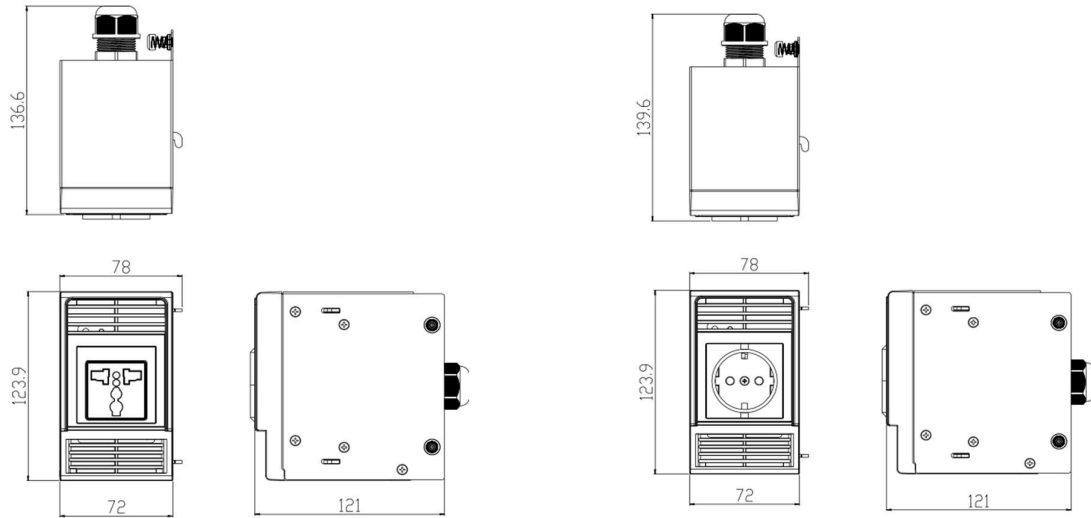
- Power CordS (VDE type*1 / UK type *1)
- Safety Guide
- Mains Terminal Cover Set
- Remote Sense Terminal Cover Set
- Test Leads
- USB Cable

Optional Accessories (factory installed)

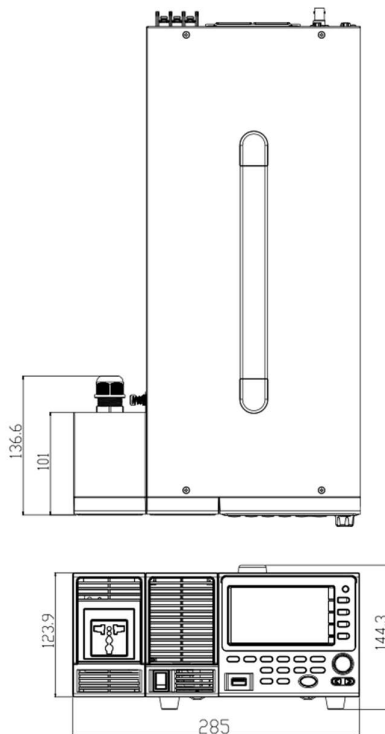
- GPIB Communication Functions
- Optional Accessories
 - Extended Universal Power Socket
 - Extended European Power Socket
- 0642984 Rack Mount Kit(EIA)
- Rack Mount Kit(JIS)
- 0642992 Cable, approx. 2M
- GPIB Cable, approx. 2M, including 25 pins Micro-D connector

Dimension





Dimension



Scale = mm

