

## Features

- Output Rating: AC 0 – 400 Vrms, DC 0 -  $\pm$  570 V
- Output Frequency up to 999.9 Hz
- DC Output (100% of Rated Power)
- Measurement Items: Vrms, Vavg, Vpeak, Irms, IpkH, Iavg, Ipeak, P, S, Q, PF, CF
- Voltage and Current Harmonic Analysis (THDv, THDi)
- Remote Sensing Capability
- OCP, OPP, OTP, AC Fail Detection and Fan Fail Alarm
- Support Arbitrary Waveform Function
- Output Capacity: 2kVA/ 3kVA/4kVA
- Customized Phase Angle for Output On/Off
- Sequence and Simulation Function (up to 10 sets)
- Interface(std): USB, LAN, RS-232, GPIB
- Built-in External Control I/O and External Signal Input
- Built-in Output Relay Control
- Memory Function (up to 10 sets)
- Built-in Web Server

## RS PRO Bench Power Supplies

RS Stock No.:

0642962

0642964

0642965



RS PRO is the own brand of RS. The RS PRO Seal of Approval is your assurance of professional quality, a guarantee that every part is rigorously tested, inspected, and audited against demanding standards. Making RS PRO the Smart Choice for our customers.

## Electrical Specifications

Input ratings (AC rms)			
	0642962	0642964	0642965
Nominal input voltage	200 Vac to 240 Vac		
Input voltage range	180 Vac to 264 Vac		
Phase	Single phase, Two-wire		
Nominal input Frequency	50 Hz to 60 Hz		
Input frequency range	47 Hz to 63 Hz		
Max. power consumption	2500 VA or less	3750 VA or less	5000 VA or less
Power factor*1	200Vac	0.95 (typ.)	
Max. input current	200Vac	15 A	30 A

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

AC mode output ratings (AC rms)				
		0642962	0642964	0642965
Voltage	Setting Range*1	0.0 V to 200.0 V / 0.0 V to 400.0 V		
	Setting Resolution	0.1 V		
	Accuracy*2	±(1 % of set + 1 V / 2 V)		
	Output phase	Single phase, Two-wire		
Maximum current*3	100 V	20 A	30 A	40 A
	200 V	10 A	15 A	20 A
Maximum peak current*4	100 V	120 A	180 A	240 A
	200 V	60 A	90 A	120 A
Load power factor	0 to 1 (leading phase or lagging phase)			
Power capacity		2000 VA	3000 VA	4000 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	0.02% of set (23 °C ± 5 °C)		
	Stability*5	± 0.005%		
Output on/off phase	0° to 359° variable (setting resolution 1°)			
DC offset*6	Within ± 20 mV (TYP)			
*1 100 V / 200 V range				

\*2 For an output voltage of 20 V to 200 V / 40 V to 400 V, an output frequency of 45 Hz to 65 Hz, no load, 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 200 V / 200 V to 400 V. If there is the DC superimposition, the current of AC+DC mode satisfies the maximum current. In the case of lower than 40 Hz, and the power rating temperature, the maximum current will be decrease.

\*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 23°C ± 5°C.

		Output rating for DC mode		
		0642962	0642964	0642965
Voltage	Setting Range*1	-285 V to +285 V / -570 V to +570 V		
	Setting Resolution	0.1 V		
	Accuracy*2	±(1 % of set + 1 V / 2 V)		

Maximum current*3	100 V	20 A	30 A	40 A
	200 V	10 A	15 A	20 A
Maximum peak current*4	100 V	120 A	180 A	240 A
	200 V	60 A	90 A	120 A
Power capacity		2000 W	3000 W	4000 W

\*1 100 V / 200 V range

\*2 For an output voltage of -285 V to -28.5 V, +28.5 V to +285 V / -570 V to -57 V, +57 V to +570 V, no load, and 23°C± 5°C

\*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 Limited by the maximum current.

Output voltage stability			
	0642962	0642964	0642965
Line regulation*1		±0.2% or less	
Load regulation*2		0.5% or less (0 to 100%, via output terminal)	
Ripple noise*3		1 Vrms / 2 Vrms (TYP)	
	*1	Power source input voltage is 200 V, 220 V, or 240 V, no load, rated output.	
	*2	For an output voltage of 100 V to 200 V / 200 V to 400 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			
	0642962	0642964	0642965
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 µs (TYP)	
Efficiency*3		80 % or more	
	*1	Power source input voltage is 200 V, 220 V, or 240 V, no load, rated output.	
	*2	For an output voltage of 100 V to 200 V / 200 V to 400 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.	

Measured value display					
All accuracy of the measurement function is indicated for 23 °C±5 °C.					
			0642962	0642964	0642965
Voltage	RMS, AVG value*1	Resolution	0.1 V		
		Accuracy*2	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading + 0.5 V / 1 V) For all other frequencies: ±(0.7 % of reading + 1 V / 2 V)		
	PEAK value	Resolution	0.1 V		
		Accuracy	For 45 Hz to 65 Hz and DC: ±( 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: ±(0.5 % of reading+0.1 A/0.05 A) For all other frequencies: ±(0.7 % of reading+0.2 A/0.1 A)	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.15 A/0.08 A) For all other frequencies: ±(0.7 % of reading+0.3 A/0.15 A)	For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.2 A/0.1 A) For all other frequencies: ±(0.7 % of reading+0.4 A/0.2 A)
	PEAK value	Resolution	0.1 A	0.01 A	0.1 A
		Accuracy*4	For 45 Hz to 65 Hz and DC: ±( 2 % of reading  + 0.5 A/0.25 A)	For 45 Hz to 65 Hz and DC: ±( 2 % of reading  + 0.8 A/0.4 A)	For 45 Hz to 65 Hz and DC: ±( 2 % of reading  + 1 A/0.5 A)

Power	Active (W)	Resolution	1 W		
		Accuracy*5	±(2 % of reading +2 W)	±(2 % of reading +3 W)	±(2 % of reading +4 W)
	Apparent (VA)	Resolution	1 VA		
		Accuracy*5*6	±(2 % of reading +2 VA)	±(2 % of reading +3 VA)	±(2 % of reading +4 VA)
	Reactive (VAR)	Resolution	1 VAR		
		Accuracy*5*7	±(2 % of reading +2 VAR)	±(2 % of reading +3 VAR)	±(2 % of reading +4 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 100th order of the fundamental wave			
	Full Scale	200 V / 400 V, 100%			
	Resolution	0.1 V, 0.1%			
	Accuracy*8	Up to 20th ±(0.2 % of reading + 0.5 V / 1 V) 21th to 100th ± (0.3 % of reading + 0.5 V / 1 V)			
Harmonic current Effective value (rms) Percent (%) (AC-INT and 50/60 Hz only)	Range	Up to 100th order of the fundamental wave			
	Full Scale	20 A / 10 A, 100%	30 A / 15 A, 100%	40 A / 20 A, 100%	
	Resolution	0.01 A / 0.1 A, 0.1%			
	Accuracy*3	Up to 20th ±(1 % of reading+0.4 A/0.2 A) 21th to 100th ±(1.5 % of reading+0.4 A/0.2 A)	Up to 20th ±(1 % of reading+0.6 A/0.3 A) 21th to 100th ±(1.5 % of reading+0.6 A/0.3 A)	Up to 20th ±(1 % of reading+0.8 A/0.4 A) 21th to 100th ±(1.5 % of reading+0.8 A/0.4 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 20 V to 200 V / 40 V to 400 V and 23 °C ± 5 °C. DC mode: For an output voltage of 28.5 V to 285 V / 57 V to 570 V and 23 °C ± 5 °C.				
	*3	An output current in the range of 5 % to 100 % of the maximum current, and 23 °C ± 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 ± 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 ± 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 20 V to 200 V / 40 V to 400 V and 23 °C ± 5 °C.			
Protections		UVP, OCP, OTP, OPP, Fan Fail			
Display		TFT-LCD, 4.3 inch			
Memory Function		Store and recall settings, Basic settings: 10 (0~9 numeric keys)			
Arbitrary Wave	Number of memories	16 (non-volatile)			
	Waveform length	4096 words			



Note

Product specifications are subject to change without notice.  
The spec aforementioned applies to when slew rate mode is the Time mode.

## General Specifications

Model	0642962	0642964	0642965
Interface	USB	Type A: Host, Type B: Device, Speed: 1.1/2.0, USB-CDC	
Standard	LAN	MAC Address, DNS IP Address, User Password, Gateway IP Address, Instrument IP Address, Subnet Mask	
	RS232C	Complies with the EIA-RS232 specifications	

	EXT Control	External Signal Input External Control I/O
	GPIO	SCPI-1993, IEEE 488.2 compliant interface
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
Environment		Operating environment
Environment	Operating	Indoor use, Overvoltage Category II
Transportation Integrity	temperature range	
	Storage temperature range	0 °C to 40 °C
	Operating humidity range	-10 °C to 70 °C
	Storage humidity range	20 % RH to 80 % RH (no condensation)
	Altitude	90 % RH or less (no condensation)
	ISTA 2A Test Procedure	Up to 2000 m
Dimensions (mm)		430(W)×176(H)×530(D) (not including protrusions)
Weight		Approx. 25 kg

External Signal Input (AC+DC-EXT, AC-EXT Mode)	Specification	Factory Default
Gain setting range	100 V range: 0.0 to 285.0 times 200 V range: 0.0 to 570.0 times	100 200
Input terminal	BNC connector	
Input impedance	1 MΩ	
Input voltage range	±2.5 V (A/D resolution 12 bit)	
Nondestructive maximum input voltage	±10 V	
Gain resolution	0.1 times	
Accuracy	±5 % (DC, or 45Hz ~ 65 Hz, gain is at initial value, with rate voltage output, no load)	

EXT: Output voltage (V) = External signal input (V) x Gain (V/V)

Voltage Setting Signal Input (AC-VCA Mode)	Specification	Factory Default
Gain setting range	100 V range: 0.0 to 250.0 times 200 V range: 0.0 to 500.0 times	100 200
Input terminal	BNC connector	
Input impedance	1 MΩ	
Input voltage range	DC 0 ~ 2.5 V	
Non-destructive maximum input voltage	±10 V	
Accuracy	±5 %	

External Signal Input (AC+DC-ADD, AC-ADD Mode)	Specification	Factory Default
Gain setting range	100 V range: 0.0 to 285.0 times 200 V range: 0.0 to 570.0 times	100 200
Input terminal	BNC connector	

Input impedance	1 MΩ
Input voltage range	±2.5 V (A/D resolution 12 bit)
Nondestructive maximum input voltage	±10 V
Input frequency range	DC to 999.9 Hz (sine wave) DC to 100 Hz (other than sine wave)
Gain resolution	0.1 times
Accuracy	±5 % (DC, or 45Hz ~ 65 Hz, gain is at initial value, with rate voltage output, no load)

ADD: Output voltage (V) = External signal input (V) x Gain (V/V) + Internal signal source setting (V)

External Synchronous Signal or Line (AC+DC-SYNC, AC-SYNC)	Specification	Factory Default
Synchronization signal source	External synchronization signal (EXT) or Power input (LINE)	LINE
Synchronization frequency range	40.00 Hz to 999.9 Hz	
Input terminal	BNC connector	
Input impedance	1 MΩ	
Threshold of input voltage	TTL level	
Minimum pulse width	500 μs	
Nondestructive maximum input voltage	±10 V	
Resolution	0.1 Hz	
Accuracy	±0.2 Hz	

## Safety Approval

**Directive:** 2014/30/EU; 2014/35/EU; 2015/863/EU; 2012/19/EU  
The above product is in conformity with the following standards or other normative documents:

### © EMC

EN 61326-1 : EN 61326-2-1:	Electrical equipment for measurement, control and laboratory use — EMC requirements (2013)
Conducted & Radiated Emission EN 55011: 2016+A1:2017 Class A EN 55032: 2015+A11:2020	Electrical Fast Transients EN 61000-4-4: 2012
Current Harmonics EN IEC 61000-3-2: 2019 EN 61000-3-12: 2011	Surge Immunity EN 61000-4-5: 2014+A1:2017
Voltage Fluctuations EN 61000-3-3: 2013+A1:2019 EN IEC 61000-3-11: 2019	Conducted Susceptibility EN 61000-4-6: 2014
Electrostatic Discharge EN 61000-4-2: 2009	Power Frequency Magnetic Field EN 61000-4-8: 2010
Radiated Immunity EN 61000-4-3: 2006+A2:2010	Voltage Dip/ Interruption EN IEC 61000-4-11: 2020 EN 61000-4-34: 2007+A1:2009

### © Safety

Low Voltage Equipment Directive 2014/35/EU	
Safety Requirements	EN 61010-1:2010+A1:2019

## Order Information

0642962 2kVA Programmable AC/DC Power Source  
0642964 3kVA Programmable AC/DC Power Source  
0642965 4kVA Programmable AC/DC Power Source

## Included Accessories

Safety guide x1, Input terminal cover, Output terminal cover including remote sensing,  
Rack mount adapter (EIA), USB cable

## Optional Accessories

	Power cord, 3m, 105°C, UL/CSA type
	Power cord, 3m, 105°C, VDE type ( 0642962/3300 use only)
	Power cord, 3m, 105°C, PSE type
	Rack mount adapter (JIS)
	Rack mount adapter (EIA)
0642992	RS232C cable, approx. 2m
	GPIO cable, approx. 2m
0642989	Output power wire (load wire_10AWG : 50A, 600V/ sense wire_16AWG : 20A, 600V)
	External three phase control unit for 1P2W, 1P3W, 3P4W output
	Air inlet filter
	Universal extension
	Modbus TCP feature

## Order Information

