



## Quick Start Guide

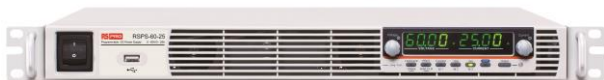
### RSPS Series

Stock number: 2010441 **RSPS-6-200**    2010442 **RSPS-12.5-120**

2010443 **RSPS-20-76**    2010444 **RSPS-40-38**

2010445 **RSPS-60-25**

EN





## Limited Warranty

This product is warranted to the original purchaser against defects in material and workmanship for 3 years from the date of purchase. During this warranty period, RS PRO will, at its option, replace or repair the defective unit, subject to verification of the defect or malfunction. This warranty does not cover fuses, disposable batteries, or damage from abuse, neglect, accident, unauthorized repair, alteration, contamination, or abnormal conditions of operation or handling. Any implied warranties arising out of the sale of this product, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited to the above. RS PRO shall not be liable for loss of use of the instrument or other incidental or consequential damages, expenses, or economic loss, or for any claim or claims for such damage, expense or economic loss. Some states or countries laws vary, so the above limitations or exclusions may not apply to you. For full terms and conditions, refer to the RS PRO website.

This quick start guide contains proprietary information, which is protected by copyright. All rights are reserved. No part of this quick start guide may be photocopied, reproduced or translated to another language without prior written consent.

The information in this quick start guide was correct at the time of printing. However we continue to improve our products and therefore reserve the right to change the specifications, equipment, and maintenance procedures at any time without notice.

# SAFETY INSTRUCTIONS

This section contains the basic safety symbols that may appear on the accompanying User Manual CD or on the instrument. For detailed safety instructions and precautions, please see the Safety Instructions chapter in the user manual CD.

## Safety Symbols

These safety symbols may appear in the user manual or on the instrument.

---



Warning

Warning: Identifies conditions or practices that could result in injury or loss of life.



Caution

Caution: Identifies conditions or practices that could result in damage to the instrument or to other properties.



DANGER High Voltage



Attention Refer to the Manual



Do not dispose electronic equipment as unsorted municipal waste. Please use a separate collection facility or contact the supplier from which this instrument was purchased.



## Power Cord for the United Kingdom

When using the instrument in the United Kingdom, make sure the power cord meets the following safety instructions.

NOTE: This lead/appliance must only be wired by competent persons.



**WARNING: THIS APPLIANCE MUST BE EARTHED IMPORTANT:**

The wires in this lead are coloured in accordance with the following code:


Green/ Yellow: Earth

Blue: Neutral

Brown: Live (Phase)



As the colours of the wires in main leads may not correspond with the coloured marking identified in your plug/appliance, proceed as follows:

The wire which is coloured Green & Yellow must be connected to the Earth terminal marked with either the letter E, the earth symbol  or coloured Green/Green & Yellow.

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Blue or Black.

The wire which is coloured Brown must be connected to the terminal marked with the letter L or P or coloured Brown or Red.

If in doubt, consult the instructions provided with the equipment or contact the supplier. This cable/appliance should be protected by a suitably rated and approved HBC mains fuse: refer to the rating information on the equipment and/or user instructions for details.

As a guide, a cable of  $0.75\text{mm}^2$  should be protected by a 3A or 5A fuse. Larger conductors would normally require 13A types, depending on the connection method used.

Any exposed wiring from a cable, plug or connection that is engaged in a live socket is extremely hazardous. If a cable or plug is deemed hazardous, turn off the mains power and remove the cable, any fuses and fuse assemblies. All hazardous wiring must be immediately destroyed and replaced in accordance to the above standard.

# GETTING STARTED

## Main Features

---

- Performance**
- High power density: 1500W in 1U
  - Universal input voltage 85~265Vac, continuous operation.
  - Output voltage up to 60V, current up to 200A.
- 

- Features**
- Active power factor correction.
  - Parallel master/slave operation with active current sharing.
  - Remote sensing to compensate for voltage drop in load leads.
  - 19" rack mounted ATE applications.
  - A built-in Web server.
  - OVP, OCP and OHP protection.
  - Preset memory function.
  - Adjustable voltage and current slew rates.
  - Bleeder circuit ON/OFF setting.
  - CV, CC priority start function. (Prevents overshoot with output ON)
  - Supports test scripts.
- 

- Interface**
- Built-in RS-232/485, LAN and USB interface.
  - Analog output programming and monitoring.
  - Optional interfaces: GPIB, Isolated Voltage (0-5V/0-10V) and Isolated Current (4-20mA) programming and monitoring interface. (Factory options)



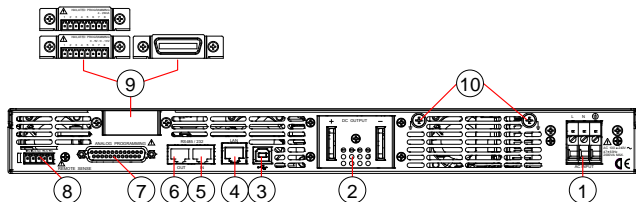
## Appearance

### Front Panel Overview



Description	
1. Power Switch	2. USB A Port
3. Air Inlet	4. Voltage Knob
5. Current Knob	6. Lock/Local Button
7. PROT Button(ALM_CLR Button)	8. Function Button(M1 Button)
9. Test Button(M2 Button)	10. Set Button(M3 Button)
11. Shift Button	12. Output Button
13. Output ON LED	

### Rear Panel Overview



Description	
1. AC Inlet	2. DC Output
3. USB Port	4. LAN Port
5. Remote-IN Port	6. Remote-OUT Port
7. Analog Control	8. Remote Sense
9. Option Slot	10. Ground Screw

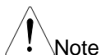
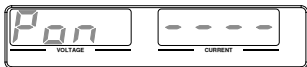
## Power up

---

1. Connect the power cord to the socket on the rear panel.
2. Turn on the power switch on the front panel.



3. The power supply will show the Power On settings (Pon) at start up. If no Power On settings are configured, the RSPS will recover the state right before the power was last turned OFF. If used for the first time, the default settings will appear on the display.



Note

You may also configure how the RSPS will behave on startup by altering the Power On Configuration settings

---

## Power down

---

To turn the RSPS power supply off, press the power switch again (0 position). It may take a few seconds for the power supply to fully turn off.



CAUTION

The power supply takes around 8 seconds to fully turn on or shutdown.

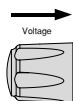
Do not turn the power on and off quickly. Please wait for the display to fully turn off.

## How to Use the Instrument

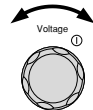
**Background** The RSPS power supplies use a novel method of configuring parameter values only using the voltage or current knobs. The knobs are used to quickly edit parameter values at 0.01, 0.1 or 1 unit steps at a time. When the user manual says to set a value or parameter, use the steps below.

**Example** Use the Voltage knob to set a voltage of 10.05 volts.

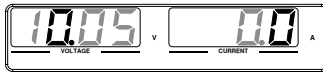
1. Repeatedly press the Voltage knob until the least significant digit is highlighted. This will allow the voltage to be edited in 0.01 volt steps.



2. Turn the Voltage knob till 0.05 volts is shown on the voltage display



3. Repeatedly press the Voltage knob until the most significant digit is highlighted. This will allow the voltage to be edited in 1 volt steps.
4. Turn the Voltage knob until 10.05 is shown.



Note

Notice the Set key becomes illuminated when setting the current or voltage.

If the voltage or current knobs are unresponsive, press the Set key first.



# SPECIFICATIONS

The specifications apply when the RSPS is powered on for at least 30 minutes.

Output							
Model	RSPS	6-200	12.5-120	20-76	40-38	60-25	
Rated Output Voltage <sup>*1</sup>	V	6	12.5	20	40	60	
Rated Output Current <sup>*2</sup>	A	200	120	76	38	25	
Rated Output Power	W	1200	1500	1520	1520	1500	
Constant Voltage Mode							
Model		RSPS	6-200	12.5-120	20-76	40-38	60-25
Line regulation <sup>*3</sup>		mV	2.6	3.25	4	6	8
Load regulation <sup>*4</sup>		mV	2.6	3.25	4	6	8
Ripple and noise <sup>*5</sup>	p-p <sup>*6</sup>	mV	60	60	60	60	60
	r.m.s. <sup>*7</sup>	mV	8	8	8	8	8
Temperature coefficient		ppm/°C	100ppm/°C of rated output voltage, after a 30 minute warm-up.				
Remote sense compensation voltage (single wire)		V	1	1	1	2	3
Rise time <sup>*8</sup>	Rated load	ms	80	80	80	80	80
	No load	ms	80	80	80	80	80
Fall time <sup>*9</sup>	Rated load	ms	10	50	50	80	80
	No load	ms	500	700	800	1000	1100
Transient response time <sup>*10</sup>		ms	1.5	1	1	1	1

### Constant Current Mode

Model	RSPS	6-200	12.5-120	20-76	40-38	60-25
Line regulation <sup>*3</sup>	mA	22	14	9.6	5.8	4.5
Load regulation <sup>*11</sup>	mA	45	29	20.2	12.6	10
Ripple and noise <sup>*12</sup>	r.m.s. mA	400	240	152	95	75
Temperature coefficient	ppm/°C	100ppm/°C of rated output current, after a 30 minute warm-up.				

### Protection Function

Model	RSPS	6-200	12.5-120	20-76	40-38	60-25	
Over voltage protection (OVP)	Setting range	V	0.6 - 6.6	1.25-13.75	2 - 22	4 - 44	5 - 66
	Setting accuracy	V	0.06	0.125	0.2	0.4	0.6
Over current protection (OCP)	Setting range	A	5 - 220	5 - 132	5 - 22	3.8 - 41.8	2.5 - 27.5
	Setting accuracy	A	4	2.4	1.52	0.76	0.5
Under voltage limit (UVL)	Setting range		0 - 6.3	0 - 13.12	0 - 21	0 - 42	0 - 63

### Model RSPS All models

Over temperature protection (OHP)	Operation	Turn the output off.
Incorrect sensing connection protection (SENSE)	Operation	Turn the output off.
Low AC input protection(AC-FAIL)	Operation	Turn the output off.
Shutdown (SD)	Operation	Turn the output off.
Power limit (POWER LIMIT)	Operation	Over power limit.
	Value (fixed)	Approx. 105% of rated output power

## General Specifications

Model	RSPS All models
Weight	main unit only    kg    Less than 8.7kg
Dimensions (W×H×D)	mm <sup>3</sup> 423×43.6×447.2
Cooling	Forced air cooling by internal fan.
EMC	Complies with the European EMC directive 2004/108/EC for Class A test and measurement products.
Safety	Complies with the European Low Voltage Directive 2006/95/EC and carries the CE-marking.
Withstand voltage	AC to Chassis: 1500Vac/1min
	AC to Output terminal: 3000Vac/1min
	Output terminal to Chassis:
	Vout≤150V: 1000Vdc/1min 150V<Vout≤600V: 1500Vdc/1min
Insulation resistance	Chassis and output terminal; chassis and AC input; AC input and output terminal: 100MΩ or more (DC 1000V)



---

Notes:

- \*<sup>1</sup> Minimum voltage is guaranteed to maximum 0.2% of the rated output voltage.
  - \*<sup>2</sup> Minimum current is guaranteed to maximum 0.4% of the rated output current.
  - \*<sup>3</sup> At 85 ~ 132Vac or 170 ~ 265Vac, constant load.
  - \*<sup>4</sup> From No-load to Full-load, constant input voltage. Measured at the sensing point in Remote Sense.
  - \*<sup>5</sup> Measure with JEITA RC-9131B (1:1) probe
  - \*<sup>6</sup> Measurement frequency bandwidth is 10Hz to 20MHz.
  - \*<sup>7</sup> Measurement frequency bandwidth is 5Hz to 1MHz.
  - \*<sup>8</sup> From 10% to 90% of rated output voltage, with rated resistive load.
  - \*<sup>9</sup> From 90% to 10% of rated output voltage, with rated resistive load.
  - \*<sup>10</sup> Time for output voltage to recover within 0.5% of its rated output for a load change from 10 to 90% of its rated output current. Voltage set point is from 10% to 100% of rated output.
  - \*<sup>11</sup> For load voltage change, equal to the unit voltage rating, constant input voltage.
  - \*<sup>12</sup> For 6V model the ripple is measured at 2 ~ 6V output voltage and full output current. For other models, the ripple is measured at 10 ~ 100% output voltage and full output current.
- 

For other detailed specification about RSPS series, please refer to the RSPS user manual.

## EC Declaration of Conformity

We declare that the below mentioned product

**RSPS-6-200, RSPS-12.5-120, RSPS-20-76, RSPS-40-38, RSPS-60-25** satisfies all the technical relations application to the product within the scope of council:

**Directive:** 2014/30/EU; 2014/35/EU; 2011/65/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: 2009+A1: 2010	Electrical Fast Transients EN 61000-4-4: 2012
Current Harmonics EN 61000-3-2: 2014	Surge Immunity EN 61000-4-5: 2014
Voltage Fluctuations EN 61000-3-3: 2013	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+A1: 2008 +A2: 2010	Voltage Dip/ Interruption EN 61000-4-11: 2004

⊙ Safety

Low Voltage Equipment Directive 2014/35/EU	
Safety Requirements	EN 61010-1: 2010 (Third Edition) EN 61010-2-030: 2010 (First Edition)



## **Africa**

RS Components SA  
P.O. Box 12182, Vorna Valley 1686  
20 Indianapolis Street, Kyalami Business Park  
Kyalami, Midrand, South Africa

## **Asia**

RS Components Ltd.  
Suite 1601, Level 16, Tower 1, Kowloon Commerce Centre,  
51 Kwai Cheong Road, Kwai Chung, Hong Kong

## **China**

RS Components Ltd.  
Suite 23 A-C, East Sea Business Centre Phase 2  
NO. 618 Yan'an Eastern Road, Shanghai, 200001, China

## **Europe**

RS Components Ltd.  
PO Box 99, Corby, Northants NN17 9RS  
United Kingdom

## **Japan**

RS Components Ltd.  
West Tower (12th Floor), Yokohama Business Park,  
134 Godocho, Hodogaya, Yokohama,  
Kanagawa 240-0005 Japan

## **North America**

Allied Electronics  
7151 Jack Newell Blvd. S. Fort Worth, Texas 76118  
U.S.A.

## **South America**

RS Componentes Electrónicos Limitada  
Av. Pdte. Eduardo Frei M. 6001-71, Centro Empresas El Cortijo  
Conchali, Santiago, Chile



## AUDITED

In compliance with industry standards



## INSPECTED

For guaranteed quality and performance



## TESTED

By leading engineers

