

**Aumictech**

Test & measurement · bought, sold, repaired, calibrated

Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight RP7931A

List Steps: up to 512 steps; list not supported in primary/secondary on 5 kW and 10 kW
RP7931A to RP7963A AC Input Current Per Phase: 17.3 A at 200 VAC Power Factor: 0.99 at nominal input and rated power Remote Interfaces: GPIB SCPI 1993 IEEE 488.2; USB 2.0 USB-TMC488; LAN 10/100/1000; LXI 1.5 Agilent Keysight RP7931A Regenerative Power System 0 to 20 V 0 to plus or minus 400 A 0 to plus or minus 5 kW The Agilent/Keysight RP7931A is an RP7900 Series two-quadrant regenerative DC power system. OEM data sheet 5992-2335EN lists 0 to 20 V, 0 to plus or minus 400 A, and 0 to plus or minus 5 kW with autoranging output, sub-millisecond command processing, and energy returned to the AC mains. HEV/EV converter test, battery emulation, ATE high-power source/load, and (on 20 kW class) photovoltaic array simulation.



MODEL

**Agilent / Keysight
RP7931A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

RP7931A

LISTING

<https://aumictechlabs.com/products/rp7931a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight RP7931A is a 5 kW regenerative DC power supply operating as both a bidirectional power source and electronic load in a single unit. It sources 0–20 VDC at 0–±400 ADC with two-quadrant operation, enabling seamless transitions between sourcing and sinking current. The system returns up to 90% of absorbed energy to the AC grid, achieving 84% efficiency and 0.99 power factor at nominal input and rated power. Input power requires 200/208 VAC, 3-phase AC

supply. Technical Specifications Output voltage: 0–20 VDC Output current: 0–±400 ADC Output power: 5 kW (single output) AC input: 200/208 VAC, 3-phase Efficiency: 84% Power factor: 0.99 @ nominal input and rated power Energy regeneration: up to 90% returned to grid Output ripple and noise (CC RMS): 200 mA Command processing: sub-millisecond Form factor: 3U compact rack-mountable Weight: 60 lbs (27.3 kg) Key Features Two-quadrant operation as source and regenerative load Autoranging output characteristic for expanded voltage–current combinations Fast sub-millisecond command response LXI Core LAN interface with web browser remote control USB and GPIB connectivity Seven user-configurable digital I/O pins Parallel operation capability with identical units up to 200 kW total power Battery emulation for realistic load testing Waveform generation support Typical Applications HEV/EV power converter characterization Battery emulation and life testing Energy storage system validation Power converter efficiency measurement Early failure detection under dynamic load conditions Compatibility & Integration The RP7931A integrates into Keysight's HEV/EV Power Converter Test Solutions suite. Multiple units with identical voltage ratings parallel for scaled power and loading. Standard rack mounting uses 1CP108A flanges with 3U front handle kits and RP7908A rail kits for Keysight instrument racks.

Features & description

From manufacturer datasheet

Built-in paralleling so paralleled units share current in the desired CV or CC mode

Technical Specifications Instrument Type: Bidirectional regenerative DC power system Series Family: Keysight RP7900 Rated Voltage: 0 to 20 V Rated Current Source And Sink: 0 to plus or minus 400 A Rated Power: 0 to plus or minus 5 kW AC Input: 3 phase 200 VAC plus or minus 10 percent and 208 VAC plus or minus 10 percent; L1 L2 L3 PE Package Height: 3 U (5 kW class) CV Ripple Peak To Peak: 30 mV from 20 Hz to 20 MHz CV Ripple RMS: 3 mV from 20 Hz to 10 MHz Load Regulation Voltage: 1 mV Load Regulation Current: 25 mA Voltage Programming Measurement Accuracy: 0.02 percent plus 2 mV Current Programming Measurement Accuracy: 0.04 percent plus 45 mA Transient Recovery Time: 300 us Transient Settling Band: 0.2 V CC Ripple RMS Typical: 200 mA Voltage Programming Range: 0.02 to 20.4 V Voltage Programming Resolution: 191 uV Current Programming Range: minus 408 A to 408 A Current Programming Resolution: 7.7 mA Resistance Programming Range: 0 to 0.098 ohm Resistance Programming Resolution: 0.8 uOhm Resistance Programming Accuracy: 0.05 percent plus 4 uOhm Voltage Rise Fall No Load: 80 us 10 to 90 percent no load Voltage Settling No Load: 810 us to 0.1 percent of step no load Voltage Speed Full Load Or Comp: 140 us rise/fall 10 to 90 percent full CC load; 4.2 ms settle to 0.1 percent

RP7931A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Bidirectional regenerative DC power system
Series Family	Keysight RP7900
Rated Voltage	0 to 20 V
Rated Current Source And Sink	0 to plus or minus 400 A
Rated Power	0 to plus or minus 5 kW
AC Input	3 phase 200 VAC plus or minus 10 percent and 208 VAC plus or minus 10 percent; L1 L2 L3 PE
Package Height	3 U (5 kW class)
CV Ripple Peak To Peak	30 mV from 20 Hz to 20 MHz
CV Ripple RMS	3 mV from 20 Hz to 10 MHz
Load Regulation Voltage	1 mV
Load Regulation Current	25 mA
Voltage Programming Measurement Accuracy	0.02 percent plus 2 mV
Current Programming Measurement Accuracy	0.04 percent plus 45 mA
Transient Recovery Time	300 us
Transient Settling Band	0.2 V
CC Ripple RMS Typical	200 mA
Voltage Programming Range	0.02 to 20.4 V
Voltage Programming Resolution	191 uV
Current Programming Range	minus 408 A to 408 A
Current Programming Resolution	7.7 mA
Resistance Programming Range	0 to 0.098 ohm
Resistance Programming Resolution	0.8 uOhm
Resistance Programming Accuracy	0.05 percent plus 4 uOhm
Voltage Rise Fall No Load	80 us 10 to 90 percent no load

PARAMETER	VALUE
Voltage Settling No Load	810 us to 0.1 percent of step no load
Voltage Speed Full Load Or Comp	140 us rise/fall 10 to 90 percent full CC load; 4.2 ms settle to 0.1 percent
Output Terminal Isolation	no output terminal more than plus or minus 60 VDC from any other terminal or chassis ground
Command Processing Time	less than or equal to 1 ms from GPIB command to start of output change
Constant Dwell ARB Points	up to 65535 points
ARB Dwell Range	10.24 us to 0.30 s rounded to 10.24 us
List Steps	up to 512 steps; list not supported in primary/secondary on 5 kW and 10 kW RP7931A to RP7963A
AC Input VA	6.5 kVA
AC Input Current Per Phase	17.3 A at 200 VAC
Efficiency At Full Power	84 percent
Power Factor	0.99 at nominal input and rated power
Weight Typical	27.3 kg (60 lb)
Autorange Voltage V	12.5 V
Autorange Current I	400 A
Minimum Sink Resistance	1.25 mOhm
Remote Interfaces	GPIB SCPI 1993 IEEE 488.2; USB 2.0 USB-TMC488; LAN 10/100/1000; LXI 1.5
Spec Temperature Window	warranted 0 to 40 C after 30 minute warm-up; local sense unless noted
Accuracy Conditions	percent of value plus offset at 25 C plus or minus 5 C; NPLC=1; 1 year
Parallel Operation	identical voltage ratings; up to 20 units; up to 600 kW total class
Sink Duration	continuous sink up to 100 percent of rated current
Grid Regeneration THD Typical	2 percent typical at full load

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Package Height	3 U (5 kW class)
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Load Regulation Voltage	1 mV
Load Regulation Current	25 mA
Voltage Programming Measurement Accuracy	0.02 percent plus 2 mV
Current Programming Measurement Accuracy	0.04 percent plus 45 mA
Transient Recovery Time	300 us
Transient Settling Band	0.2 V
CC Ripple RMS Typical	200 mA
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Efficiency At Full Power	84 percent
Power Factor	0.99 at nominal input and rated power
Weight Typical	27.3 kg (60 lb)
Autorange Voltage V1	20 V
Autorange Voltage V2	12.5 V
Autorange Voltage V3	0.5 V
Autorange Current I1	400 A
Autorange Current I2	250 A
Minimum Sink Resistance	1.25 mOhm
Remote Interfaces	GPIB SCPI 1993 IEEE 488.2; USB 2.0 USB-TMC488; LAN 10/100/1000; LXI 1.5
Spec Temperature Window	warranted 0 to 40 C after 30 minute warm-up; local sense unless noted
Accuracy Conditions	percent of value plus offset at 25 C plus or minus 5 C; NPLC=1; 1 year
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Notes

Numeric rows from Keysight RP7900 Series Regenerative Power System data sheet 5992-2335EN model column RP7931A.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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30-day returns
NAICS 423690 · 811210 · 541380
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.