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Data Sheet
August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight RP7953A

Agilent Keysight RP7953A Regenerative Power System 0 to 950 V 0 to plus or minus 20 A 0 to plus or minus 10 kW The Agilent/Keysight RP7953A is an RP7900 Series two-quadrant regenerative DC power system. OEM data sheet 5992-2335EN lists 0 to 950 V, 0 to plus or minus 20 A, and 0 to plus or minus 10 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. The Agilent/Keysight RP7953A is an RP7900 Series two-quadrant regenerative DC power system. OEM data sheet 5992-2335EN lists 0 to 950 V, 0 to plus or minus 20 A, and 0 to plus or minus 10 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. Two-quadrant source and regenerative electronic load in one chassis Autoranging output covers many voltage/current combinations at rated power

MODEL **Agilent / Keysight RP7953A**	CALIBRATION **Available on request**
CONDITION **Used**	STATUS **In stock**
RFQ / SKU **RP7953A**	LISTING **https://aumictechlabs.com/products/rp7953a-2/**

NIST-traceable cal · SAM registered · 30-day returns · NAICS 423690 · 811210 · 541380

This unit

The Keysight RP7953A is a single-output, bidirectional regenerative DC power supply engineered for demanding electronic test applications. Operating as both a precision source and electronic

load, this two-quadrant instrument sources and sinks current up to ±20 A at voltages reaching 950 V within a 10 kW power envelope. Autoranging output characteristics expand the voltage-current curve, delivering flexible power combinations from a compact 3U form factor.The RP7953A recovers approximately 90% of energy back to the 3-phase 200/208 VAC grid, reducing operational and cooling costs. Solid-state output disconnect switching enables fast protection and smooth transients. Integrated safety features protect both operator and device under test.Technical Specifications Output: 950 V maximum, ±20 A maximum, 10 kW maximum power, single output, programmable Input: 200/208 VAC ±10%, 3-phase Operation: Two-quadrant, bidirectional source and load with regenerative capability Output Modes: Voltage priority, current priority, power priority, photovoltaic (SAS) Battery Emulation: High-voltage, high-power batteries with programmable internal resistance to 50 Ω Transient Generation: Integrated arbitrary function generator for transient simulation Command Processing: Sub-millisecond response time Parallel Configuration: Scalable to 200 kW power or loading through direct parallel connection Interfaces: LAN (LXI Core), USB, GPIB, Web Interface, TelnetKey Features Fast output speed with sub-millisecond command execution Regenerative design returns up to 90% of energy to grid Solid-state output disconnect for rapid protection Autoranging capability expands power delivery curve Battery characterization across multiple charge statesTypical Applications Battery emulation and life characterization Power converter testing for hybrid and electric vehicle development Transient response simulation and validation High-power DC source and load applicationsCompatibility & Integration The RP7953A is part of the Keysight RP7900 Series and integrates into the EV1003A HEV/EV Power Converter Test Solution.

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 950 V Rated Current Source And Sink: 0 to plus or minus 20 A Rated Power: 0 to plus or minus 10 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 (10 kW class) CV Ripple Peak To Peak: 1000 mV from 20 Hz to 20 MHz CV Ripple RMS: 200 mV from 20 Hz to 10 MHz Load Regulation Voltage: 60 mV Load Regulation Current: 9 mA Voltage Programming Measurement Accuracy: 0.03 percent plus 120 mV programming; 0.03 percent plus 160 mV measurement Current Programming Measurement Accuracy: 0.1 percent plus 12 mA Transient Recovery Time: 500 us Transient Settling Band: 2.375 V CC Ripple RMS Typical: 100 mA Voltage Programming Range: 1.0 to 969 V Voltage Programming Resolution: 21 mV Current Programming Range: minus 20.5 A to 20.5 A Current Programming Resolution: 190 uA Resistance Programming Range: 0 to 50 ohm Resistance Programming Resolution: 280 uOhm Resistance Programming Accuracy: 0.08 percent plus 280 uOhm Voltage Rise Fall No Load: 1 ms Comp 0 10 to 90 percent Voltage Settling No Load: 6 ms to 0.1 percent Comp 0

RP7953A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Bidirectional regenerative DC power system
Series Family	Keysight RP7900
Rated Voltage	0 to 950 V
Rated Current Source And Sink	0 to plus or minus 20 A
Rated Power	0 to plus or minus 10 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 (10 kW class)
CV Ripple Peak To Peak	1000 mV from 20 Hz to 20 MHz
CV Ripple RMS	200 mV from 20 Hz to 10 MHz
Load Regulation Voltage	60 mV
Load Regulation Current	9 mA
Voltage Programming Measurement Accuracy	0.03 percent plus 120 mV programming; 0.03 percent plus 160 mV measurement
Current Programming Measurement Accuracy	0.1 percent plus 12 mA
Transient Recovery Time	500 us
Transient Settling Band	2.375 V
CC Ripple RMS Typical	100 mA
Voltage Programming Range	1.0 to 969 V
Voltage Programming Resolution	21 mV
Current Programming Range	minus 20.5 A to 20.5 A
Current Programming Resolution	190 uA
Resistance Programming Range	0 to 50 ohm
Resistance Programming Resolution	280 uOhm
Resistance Programming Accuracy	0.08 percent plus 280 uOhm
Voltage Rise Fall No Load	1 ms Comp 0 10 to 90 percent

PARAMETER	VALUE
Voltage Settling No Load	6 ms to 0.1 percent Comp 0
Voltage Speed Full Load Or Comp	Comp 0 1 ms rise/fall and 6 ms settle; Comp 1 15 ms rise/fall and 50 ms settle; current 2 ms
Output Terminal Isolation	no output terminal more than plus or minus 950 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	11.5 kVA
AC Input Current Per Phase	35 A at 200 VAC
Efficiency At Full Power	86.3 percent
Power Factor	0.99 at nominal input and rated power
Weight Typical	31.8 kg (70 lb)
Autorange Voltage V	950 V
Autorange Current I	10.5 A
Minimum Sink Resistance	0.8 ohm
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

Specifications

PARAMETER	VALUE
Instrument Type	Bidirectional regenerative DC power system
Series Family	Keysight RP7900
Rated Voltage	0 to 950 V
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AC Input VA	11.5 kVA
AC Input Current Per Phase	35 A at 200 VAC
Efficiency At Full Power	86.3 percent
Power Factor	0.99 at nominal input and rated power
Weight Typical	31.8 kg (70 lb)
Autorange Voltage V1	950 V
Autorange Voltage V2	500 V
Autorange Voltage V3	16 V
Autorange Current I1	20 A
Autorange Current I2	10.5 A
Minimum Sink Resistance	0.8 ohm
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 RP7953A.

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

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