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Make ideas real

# R&S®NGM202 with R&S®NGM-K104 (DVM) versus Keysight 66319D



## Key features

- ▶ Fast regulation of output voltage with minimum overshoot and very fast load recovery time
- ▶ Minimum residual ripple and noise means interference-free voltage for sensitive DUTs
- ▶ Acquisition rate of up to 500,000 samples per second to capture extremely brief variations in voltage or current
- ▶ High accuracy and readings with up to 6½ digit resolution
- ▶ Two quadrants: operation as a source or sink
- ▶ Battery simulation

Your benefit	Features
Optimized load recovery time with minimal overshoot	With an optimized load recovery time of < 30 µs, R&S®NGM200 power supplies can handle abrupt load changes ranging from a few microamperes to the ampere range without creating voltage drops or overshoots.
Low ripple and noise	Enables the supply of interference-free voltage to sensitive designs, such as complex semiconductors, and provides support for power amplifier and MMIC development.
High-speed acquisition (FastLog functionality)	With an acquisition rate of up to 500 ksample/s, voltage and current results are available every 2 µs. On the R&S®NGM202, data acquisition is possible on both channels in parallel.
DVM option	As with other power supplies, the R&S®NGM200 instruments measure voltage supplied to the DUT. The R&S®NGM-K104 option also activates a port that allows the internal digital voltmeter to be connected to any other point in the customer's circuitry. This means an additional digital multimeter is often not needed.



For prices and more information, visit:  
[www.rohde-schwarz.com/product/NGM200](http://www.rohde-schwarz.com/product/NGM200)

Parameter	R&S NGM202 with K104 (DVM)	Keysight 66319D
Number of channels	2	2
Output voltage per channel	0 V to 20 V	0 V to 15 V (channel 2: 12 V)
Max. output power per channel	60 W	45 W (channel 2: 18 W)
Max. output current per channel	≤ 6 V output voltage: 6 A > 6 V output voltage: 3 A	3 A (channel 2: 1.5 A)
Max. sink current per channel	3 A	2 A (channel 2: 0.03 A)
Adjustable output impedance	-50 mΩ to 100 Ω	-40 mΩ to 1 Ω
Voltage ripple and noise (20 Hz to 20 MHz)	< 500 µV (RMS) < 2 mV (peak to peak)	< 1 mV (RMS) < 6 mV (peak to peak)
Current ripple and noise (20 Hz to 20 MHz)	< 1 mA (RMS)	< 2 mA (RMS)
Load recovery time	< 30 µs	< 35 µs
Rise time	< 125 µs	< 200 µs
Fall time	< 125 µs	< 200 µs
Programming resolution	1 mV / 0.1 mA	1 mV / 0.1 mA
Max. readback resolution	10 µV / 10 nA	1 mV / 0.1 mA
Readback accuracy, voltage	20 V range: < 0.02 % + 2 mV 5 V range: < 0.02 % + 500 µV	< 0.03 % + 5 mV (channel 2: < 0.2 % + 15 mV)
Readback accuracy, current	10 A range: < 0.05 % + 250 µA 1 A range: < 0.05 % + 1 mA 100 mA range: < 0.05 % + 100 µA 10 mA range: < 0.05 % + 15 µA	5 A range: < 0.2 % + 0.5 mA 1 A range: < 0.12 % + 0.2 mA 20 mA range: < 0.1 % + 2.5 µA
Max. measurement speed	500,000 sample/s (2 µs)	≈ 67,000 sample/s (15 µs)
Protection functions	OCV / OVP / OPP / OTP	OVP / OTP
Remote control interfaces	standard: USB / LAN optional: IEEE-488 (GPIB)	standard: IEEE-488 (GPIB)
DVM voltage	-5 V to +23 V	-25 V to +25 V
DVM accuracy	< 0.02 % + 2 mV	< 0.04 % + 5 mV
Display	5", 800 × 480 pixel WVGA, capacitive touchscreen	14-character display
Dimensions (W × H × D)	222 mm × 97 mm × 436 mm	213 mm × 88 mm × 435 mm
Weight	7.3 kg	9.1 kg

R&S®NGM200 series versus Keysight 66300 series



R&S®NGM200 series

- ▶ Two instruments, one or two channels
- ▶ Output power: 60 W per channel
- ▶ Output voltage: 0 V to 20 V per channel
- ▶ Available worldwide



Keysight 66300 series

- ▶ Eight instruments, one or two channels; channel 2 with reduced performance specifications
- ▶ Output power: 45 W per channel (66332A: 100 W)
- ▶ Output voltage: 0 V to 15 V (66332A: 0 to 20 V)
- ▶ No longer available in the EU

R&S®NGM202 with K104 digital voltmeter



R&S®NGM-K104

The R&S®NGM-K104 option activates a circuit that can be used to connect the built-in DMM to any part of the customer circuit. An additional digital multimeter is often no longer necessary. With a resolution of up to 6½ digits for voltage, current and power measurements, the R&S®NGM202 is ideal for instrument characterization.

Keysight 66319D

The 66319D DC source provides all the capabilities of the 66319B with the addition of a built-in digital voltmeter. This battery emulation digital voltmeter measures voltages in a range from -25 V to +25 V.



Battery simulation

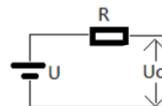


Capacity, open circuit voltage (Voc) and equivalent series resistance (ESR) are important battery characteristics that are based on the battery's state of charge (SoC). The optional R&S®NGM-K106 battery simulator allows users to simulate battery behavior under different charging conditions, such as when powering a DUT.

- ▶ Discharge behavior testing can be based on a selected battery model, while battery capacity, SoC and Voc can be set to any state to test the DUT-specific conditions.
- ▶ The charging behavior of a battery can also be simulated to help design battery chargers. Here, the R&S®NGM200 power supply is in sink mode.
- ▶ Both provide dynamic simulation, so Voc, ESR and SoC change in accordance with the charging/discharging conditions of a real battery. The charge status is indicated graphically; all other values are displayed as numbers.

Keysight 66319D

This DC source has only one battery simulation function. It simulates the effects of a battery's internal resistance.



Advantage factors of the R&S®NGM202 versus the Keysight 66319D

**7.5 times** faster data logger

**USB** interface

**2 kg** lighter

**Nearly 2 times** more output power

**Touchscreen**

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