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.

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	OCP / OVP / OPP / OTP	OVP / OTP
Remote control interfaces	standard: USB / LAN optional: WLAN / 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

For prices and more information, visit:

https://www.rohde-schwarz.com/product/NGM200

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.
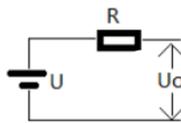
Battery simulation

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.

Keysight 66319D

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

► 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.

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

7.5 times faster data logger

USB interface

2 kg lighter

Wi-Fi interface

Touchscreen

Nearly 2 times more output power