ROHDE&SCHWARZ

Make ideas real

R&S®NGM202
versus Keithley 2306

Key features

► Fast regulation of output voltage with minimum overshoot and very fast load recovery time
► Minimum residual ripple and noise to supply interference-free voltage to sensitive DUTs
► Acquisition rate of up to 500 ksample/s to capture extremely fast variations in voltage or current
► High accuracy and readings with up to 6½ digit resolution
► Two quadrants: operates as source and sink
► Battery simulation

Your benefit	Features
Digital voltmeter functionality	► The R&S®NGM-K104 option activates a port that allows the internal digital voltmeter to be connected to any other points in the customer's circuitry ► An additional DMM is no longer necessary in many cases
Display	► The large capacitive touchscreen is the central operating element for the R&S®NGM202 power supply unit ► Lightly tapping a numeric value brings up a virtual keyboard to input the desired value ► With its high resolution of 800 × 480 pixels, the display sets new standards for power supplies
USB interface	► With the USB interface and the FastLog function, data can be stored on an external USB stick or transferred via this interface.
Battery simulation	► The battery simulator function of the R&S®NGM200 enables simulation of the actual battery output performance ► Testing can be based on a selected battery model ► Battery capacity, SoC and V_{oc} can be set to any state to test the device under specific conditions
Variable output impedance	► A power supply unit should have an output resistance as low as possible ► However, there are applications where certain battery types need to be simulated in a controlled manner or where it is necessary to simulate the increase in internal impedance as the battery discharges ► The R&S®NGM200 power supplies support these applications due to their adjustable output impedance range

Parameter	R&S®NGM202	Keithley 2306
Number of channels	2	2
Output voltage per channel	0 V to 20 V	0 V to 15 V
Max. output power per channel	60 W	60 W
Max. output current per channel	6 A (≤ 6 V output voltage) 3 A (> 6 V output voltage)	5 A (≤ 4 V output voltage) 4 A (> 4 V output voltage)
Programming resolution	1 mV / 0.1 mA	1 mV / 1.25 mA
Programming accuracy	< 0.02 % + 3 mV < 0.05 % + 2 mA	< 0.05 % + 3 mV not specified
Maximum sink current	3 A	3 A
Maximum sink power	120 W	50 W
Load recovery time	< 30 μs	< 40 μs
Output ramp function	EasyRamp	no
Arbitrary function	QuickArb	no
Readback resolution	5 μV / 10 nA	1 mV / 100 μA
Readback accuracy	< 0.02 % + 500 μV < 0.05 % + 15 μA	< 0.05 % + 3 mV < 0.2 % + 1 μA
Protection functions	OCP / OVP / OTP / OPP	OVP
Remote control interfaces	standard: USB / LAN optional: IEEE-488 (GPIB)	IEEE-488 (GPIB)
Command processing time	< 6 ms	< 5 ms
Channels galvanically isolated	yes	no
Display	5", 800 × 480 pixel WVGA, capacitive touchscreen	2-line 16-character VFD display
Dimensions (W × H × D)	222 mm × 97 mm × 436 mm	213 mm × 133 mm × 348.3 mm
Weight	7.4 kg	8.2 kg

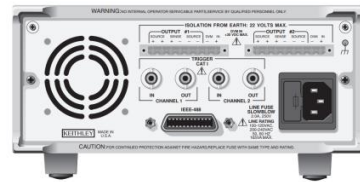For prices and more information, visit
www.rohde-schwarz.com/product/NGM200

R&S®NGM202 interfaces versus Keithley 2306 interfaces

Interface	IEEE-488 (GPIB)	LAN	USB
R&S®NGM202	optional	standard	standard
Keithley 2306	standard	–	–

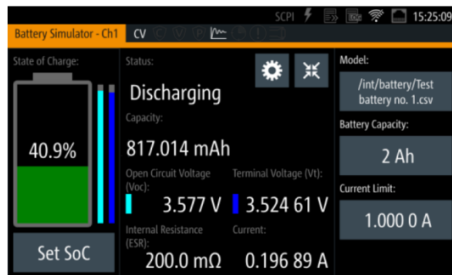**R&S®NGM202 interfaces**

Keithley 2306 interfaces

Source, sink and 6 ½ digit resolution

► A resolution of up to 6 ½ digits is perfect for characterizing DUTs that have low power consumption in standby mode and high current in full load operation

► The R&S®NGM200 power supplies automatically switch from source to sink mode

► Operation as a load is indicated by a negative current reading

► In this example, channel 2 acts as a load

► The high-resolution display provides additional information such as power values and statistics


Battery simulation

Keithley 2306

This DC source has only one battery simulation function: it simulates the effects of a battery's internal resistance, as shown in the figure on the right.

R&S®NGM202

► Capacity, open circuit voltage (V_{oc}) and equivalent series resistance (ESR) are important battery characteristics that depend on the battery's state of charge (SoC)

► The R&S®NGM-K106 battery simulator option allows users to simulate battery behavior with the parameters listed above
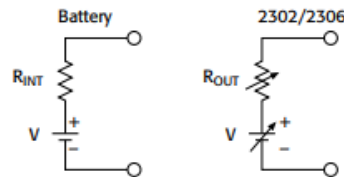
Advantage factors of the R&S®NGM202 versus the Keithley 2306

QuickArb
4096 points
per cycle

Save/recall
device settings

EasyRamp
10 ms to 10 s

Screenshot

FuseLink