

## Product Datasheet - Technical Specifications



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# R&S® NGU201 SOURCE MEASURE UNIT

## The wireless communications specialist



The perfect choice for

Supplying wireless communications devices with power

Power consumption tests

Battery tests

Simulation of voltage drops

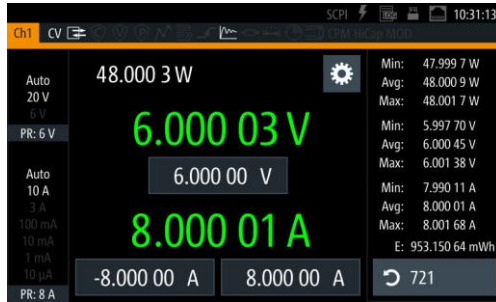
Key specifications	
Output voltage	0 V to 20 V
Max. output/sink power	60 W
Max. output/sink current	≤ 6 V: 8 A; > 6 V: 3 A
Load recovery time	< 30 μs
Max. acquisition rate	500 ksample/s
Ripple and noise	< 500 μV (RMS) / < 1 mA (RMS) (meas.)

### What sets this source measure unit apart?

- ▶ Two quadrants: source or sink operation
- ▶ Minimum residual ripple and noise to supply interference free voltage to sensitive DUTs
- ▶ Fast regulation of output voltage with minimum overshoot and very fast load recovery time
- ▶ Acquisition rate of up to 500 ksample/s to capture extremely fast variations in voltage or current
- ▶ Voltage priority and current priority mode
- ▶ High-capacitance mode
- ▶ Battery simulation

Your benefit	Features
Minimal overshoot from abrupt load changes	<ul style="list-style-type: none"> <li>▶ Optimized load recovery time of &lt; 30 μs</li> <li>▶ Handles abrupt load changes from a few nA to the ampere range without creating voltage drops or overshoots</li> </ul>
Analyze fast variations in voltage/current	<ul style="list-style-type: none"> <li>▶ Acquisition rate of up to 500 ksample/s</li> <li>▶ Voltage and current results available every 2 μs</li> </ul>
Realistic battery simulation	<ul style="list-style-type: none"> <li>▶ Simulate the actual battery output performance</li> <li>▶ Testing can be based on a selected battery model</li> <li>▶ Battery capacity, SoC and Voc can be set to any state to test the device under specific circumstances</li> </ul>

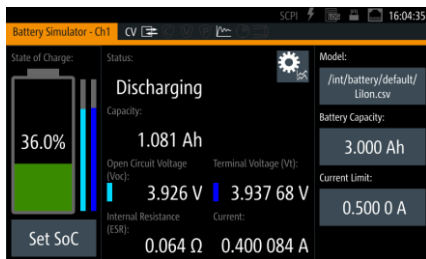
## Readings with up to 6½ digit resolution



The large high-resolution display makes it easy to read the voltage and current values and provides a lot of additional information.

With six measurement ranges for current and a resolution of up to 6 ½ digits when measuring voltage, current and power, the R&S®NGU source measure units are perfect for characterizing devices that go from extremely low power consumption to high currents in the ampere range. Using ammeters with feedback-amplifier technology improves accuracy and increases the sensitivity down to the nA range.

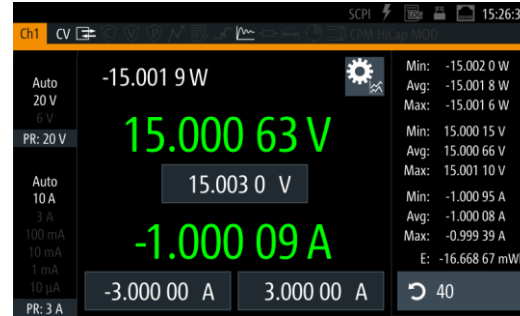
## Battery simulation



Battery simulation: the main parameters to characterize a battery's condition are summarized in one display.

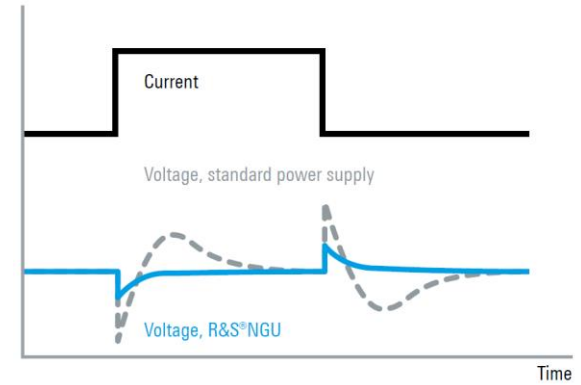
The discharging behavior of the battery type needs to be considered to optimize the lifecycle of battery-operated devices. The battery simulator function allows the real battery output performance to be simulated. Testing can be based on a selected battery model, and battery capacity, SoC and Voc can be set to any state to test the device under specific circumstances.

## Two quadrants: operates as source and sink



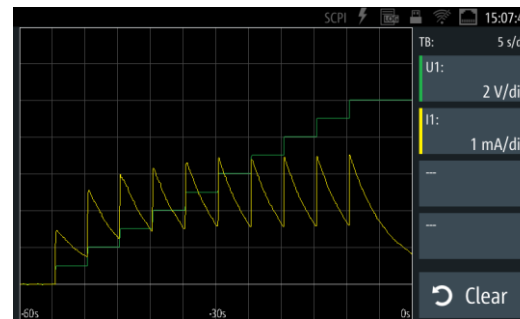
The two-quadrant architecture of this source measure unit allows it to function both as a source and a sink and simulate batteries and loads. The source measure unit automatically switches from source mode to sink mode. As soon as the externally applied voltage exceeds the set nominal voltage, current flows into the instrument. This is indicated by a negative current reading. The linear design of the output stages reduces residual ripple and noise to a minimum.

## Optimized load recovery time



Under challenging load conditions, most power supplies respond with slow recovery times and overshoot. Specially developed circuits in the R&S®NGU source measure units achieve a load recovery time of < 30 μs with minimal overshoot, making them perfect for supplying sensitive components with power.

## High-resolution graphical display of data



In this example, the charging current of a capacitor is displayed while the voltage is increased stepwise.

The large display can also be used for graphical representations. Up to four measurement functions can be selected and plotted against time, and minimum and maximum values can additionally be marked.

## Ordering information

### Base unit

Two-quadrant source measure unit R&S®NGU201

### Options

Digital trigger I/O R&S®NGU-K103

Digital voltmeter function R&S®NGU-K104

IEEE-488 (GPIB) interface R&S®NGU-B105

Battery simulation R&S®NGU-K106

### System components

19" rack adapter, 2 HU R&S®HZN96