ROHDE&SCHWARZ
Make ideas real

R&S®NGU401 SOURCE MEASURE UNIT

The semiconductor testing specialist



The perfect choice for

- High-precision source and sink measurements
- Material and component tests
- Supplying bipolar voltages
- Simulation of voltage drops

Key specifications	
Output voltage	–20 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.)

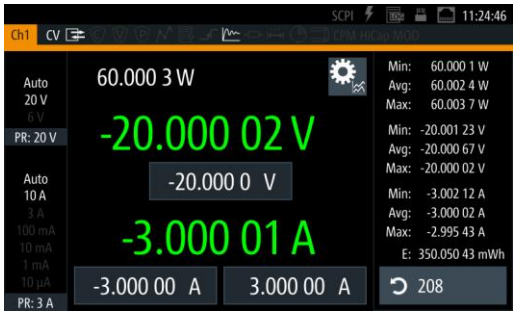
What sets this source measure unit apart?

- ► Four quadrants: source or sink operation with arbitrary polarity
- ► 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
- ► Modulation input

Your benefit	Features
Minimal overshoot from abrupt load changes	► Optimized load recovery time of < 30 µs ► Handles abrupt load changes from a few nA to the ampere range without creating voltage drops or overshoots
Analyze fast variations in voltage/current	► Acquisition rate of up to 500 ksample/s ► Voltage and current results available every 2 µs
Supply positive and negative voltages and currents	► Four-quadrant operation allows the R&S®NGU401 to act as a source or sink in both polarities ► This enables tasks such as measuring the forward and reverse characteristics of semiconductor devices in a single test operation without having to make changes to the circuit
Can act as an AC source	► The R&S®NGU401 source measure unit provides a modulation input to connect an arbitrary generator, for instance. The output follows the modulation input signal, enabling the instrument to act as an AC source and be used to simulate glitches and unstable conditions

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

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.

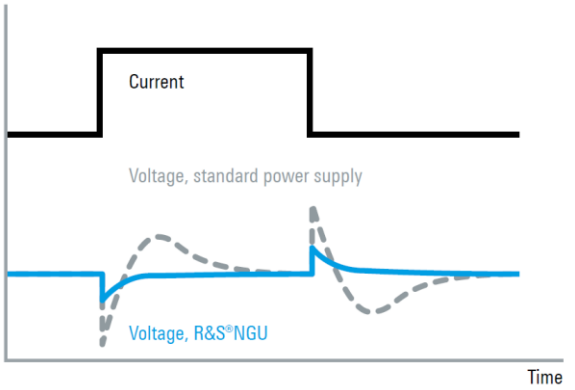
With six measurement ranges for current and a resolution of up to 6 ½ digits when measuring voltage, current and power, the R&S®NGU source measure units are perfect for characterizing devices that go from extremely low power consumption to high currents in the ampere range. Using ammeters with feedback-amplifier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

Four quadrants: source or sink operation with arbitrary polarity



With its four-quadrant architecture, the R&S®NGU401 can supply positive and negative voltages and currents and can act as a source or sink in both polarities.

Optimized load recovery time



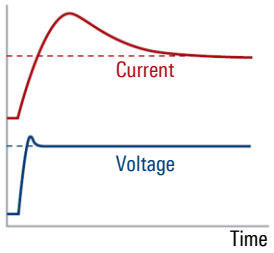
Under challenging load conditions, most power supplies respond with slow recovery times and overshoot. Specially developed circuits in the R&S®NGU source measure units achieve a load recovery time of < 30 µs with minimal overshoot, making them perfect for supplying sensitive components with power.

Battery simulation

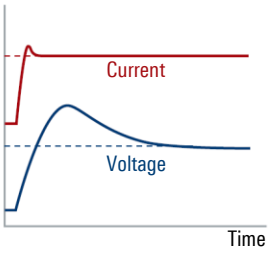
In voltage priority mode, fast voltage regulation provides short recovery times of less than 30 µs. Current regulation is designed to be somewhat slower to avoid a tendency to oscillation.

When precise and quick current regulation is required, the R&S®NGU source measure units can be operated in current priority mode. Optimized for fast current regulation (load recovery time of < 50 µs), this mode allows tasks such as testing LEDs, which are sensitive to even short current spikes.

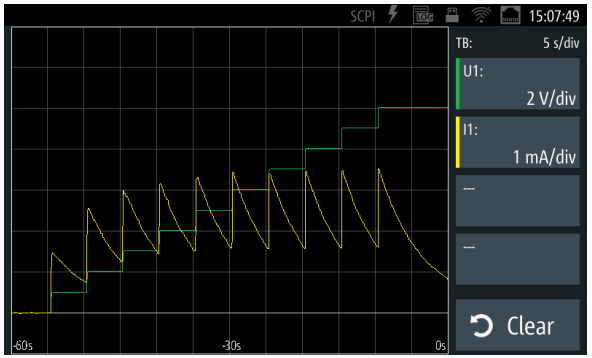
Voltage priority mode



Current priority mode



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	
Four-quadrant source measure unit	R&S®NGU401
Options	
Digital trigger I/O	R&S®NGU-K103
IEEE-488 (GPIB) interface	R&S®NGU-B105
System components	
19" rack adapter, 2 HU	R&S®HZN96

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