



R&S®NGU401 versus Keysight B2901BL



What sets this source measure unit apart?

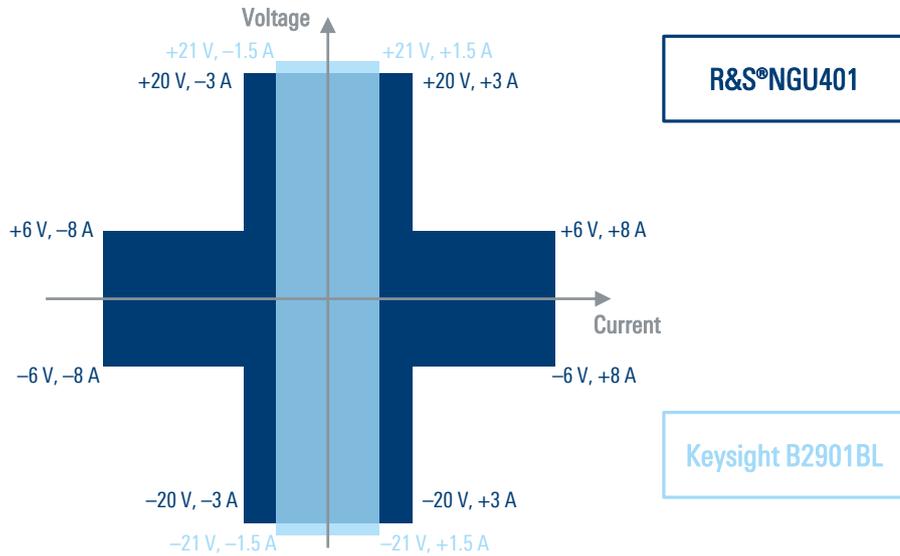
- ▶ Minimum residual ripple and noise to supply interference free voltage to sensitive DUTs
- ▶ Fast regulation of output voltage with minimum overshoot and very fast load recovery time
- ▶ Acquisition rate of up to 500 ksamples/s to capture extremely fast variations in voltage or current
- ▶ Voltage priority and current priority mode
- ▶ High-capacitance mode
- ▶ Modulation input

Your benefit	Features
Minimal overshoot from abrupt load changes	<ul style="list-style-type: none"> ▶ 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
Capture fast variations in voltage/current	<ul style="list-style-type: none"> ▶ Acquisition rate of up to 500 ksamples/s ▶ Voltage and current results available every 2 μs
Supply positive and negative voltages and currents	<ul style="list-style-type: none"> ▶ 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	<ul style="list-style-type: none"> ▶ 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

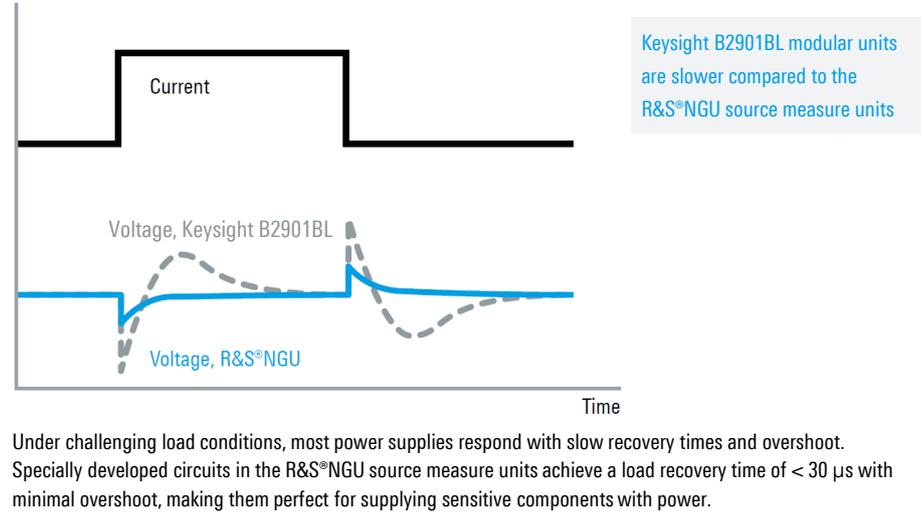
Parameter	R&S®NGU401	Keysight B2901BL
Max. voltage/current/power	±20 V / 8 A / 60 W	±21 V / 1.5 A / 31.8 W
Voltage ripple and noise (RMS)	< 500 μV (meas.)	noise: < 3 mV; ripple not specified
Current ripple and noise (RMS)	< 1 mA (meas.)	not specified
Load recovery time	< 30 μs (meas.)	< 80 μs
Rise time/fall time	< 100 μs / < 100 μs	not specified
Measurement functions	voltage, current, power, energy	voltage, current, resistance
Measured voltage/current ranges	2 / 6	3 / 8
Max. readback resolution	1 μV / 100 pA	100 nV / 1 pA
Max. voltage readback accuracy	< 0.02 % + 500 μV	< 0.015 % + 225 μV
Max. current readback accuracy	< 0.025 % + 15 nA	< 0.025 % + 500 pA
Max. acquisition rate (min. step)	500 ksamples/s (2 μs)	5 ksamples/s (200 μs)
Arbitrary function (min. step)	QuickArb (100 μs)	sweep (200 μs)
Protection functions	OVP, OCP, OPP, OTP	OTP
Digital I/O	optional	yes
High-capacitance mode (max. C)	yes (470 μF)	yes (50 μF)
Current priority mode	yes	no
Modulation input	yes	no



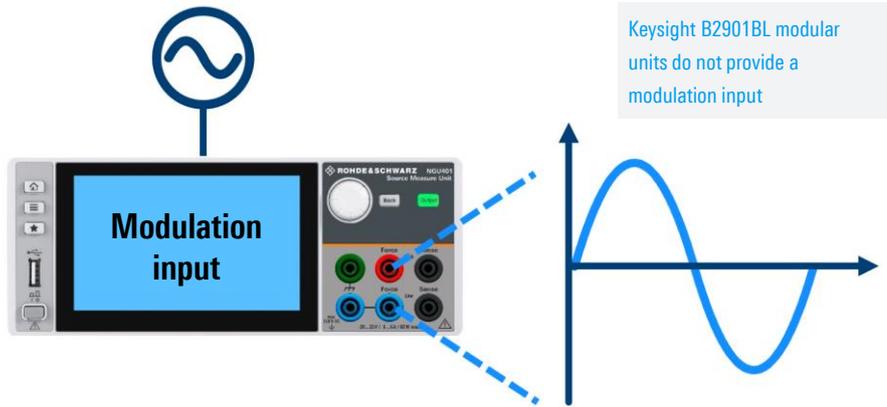
Power envelope of the R&S®NGU401 versus Keysight B2901BL



Optimized load recovery time



Modulation input



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.

Advantage factors of the R&S®NGU401 versus Keysight B2901BL

- QuickArb**
2048 points per cycle
- Modulation input**
- EasyRamp**
10 ms to 10 s
- Remote sensing**
- Lower noise**
- 100 x faster acquisition time**