

Power supplies

for automotive applications

- ◆ Output voltage for 12 V, 24 V and 42 V vehicle supply
- ◆ High output currents (>10 A)
- ◆ Good price/output power ratio
- ◆ Remote sensing
- ◆ Capability to simulate disturbances of onboard supplies
- ◆ Remote operation for system applications



ROHDE & SCHWARZ

Automotive

Automotive applications typically provide maximum power output at the lowest possible price. The characteristic 12 V, 24 V and 42 V vehicle supply voltages with their permissible tolerance ranges must be reliably supplied. Frequently large currents flow via extended lines (production systems). For this reason, power supply units must recognize and reliably eliminate voltage losses in these lines. Sensing connectors are required for this purpose. Noise characteristics play a subordinate role, since noise is heavily superimposed on the vehicle supply system. The ability to simulate strong interference is therefore a major factor in choosing the right power supply for automotive applications. A small selection of suitable Rohde & Schwarz power supplies is provided in this brochure. All the power supplies listed in the following allow remote sensing.



R&S® NGSM32/10 and R&S® NGSM60/5

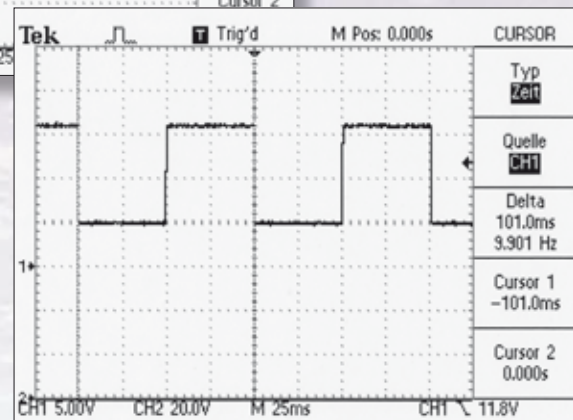
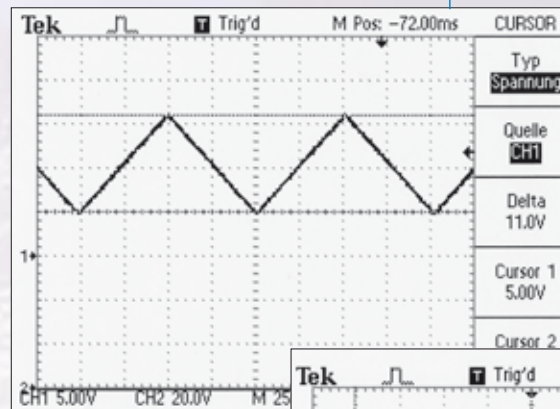
Key features

- ◆ **R&S® NGSM32/10:**
0 V to 32 V/0 A to 5 (10) A or
0 V to 18 V/0 A to 10 (20) A
(selectable)/160 W
- ◆ **R&S® NGSM60/5:**
0 V to 60 V/0 A to 2.5 (5) A or
0 V to 32 V/0 A to 5 (10) A
(selectable)/160 W

- ◆ Easy arbitrary function implemented
- ◆ Implemented startup curve in line with ISO/TR 7637
- ◆ Remote control via IEEE 488 or RS-232-C interface (optional)
- ◆ Current measurement with up to 100 μ A resolution
- ◆ Pulse-load-resistant
- ◆ Large LED display
- ◆ Storage of up to 12 device setups
- ◆ Compact housing
- ◆ Favorable price

Typical application

- ◆ Car electronics/car audio manufacturing with R&S®UPL/UPD





**R&S® NGPX35/10, R&S® NGPX70/5,
R&S® NGPX150/2.3**

Key features

- ◆ Three models:
 - 0 V to 35 V/0 A to 10 A
 - 0 V to 70 V/0 A to 5 A
 - 0 V to 150 V/0 A to 2.3 A
- ◆ 350 W output power
- ◆ High-speed model:
 - typ. 10 µs rise and fall time
 - 4 ms (2 ms) command processing time
- ◆ Convenient IEEE 488.2 programming/read-back
- ◆ Rear trigger input
- ◆ Current monitor with current measurements up to 25 µA resolution (optional)
- ◆ Active downprogramming

Typical applications

- ◆ Test of insensitivity of mobile phone to power dropouts of onboard supplies
- ◆ High-throughput system power supply



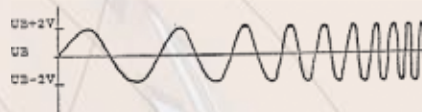
**R&S® NGPV20/10 with option
R&S® MOD100**

Key features

- ◆ 0 V to 20 V/0 A to 10 A/200 W
- ◆ Option R&S® MOD100 for modulation of output voltage
- ◆ Remote control via IEEE 488.1 interface

Typical application

- ◆ Superposition of onboard supply with swept sine 50 Hz to >10 kHz ±2 V (pp), test time: 5 min (BMW N600 13.2)



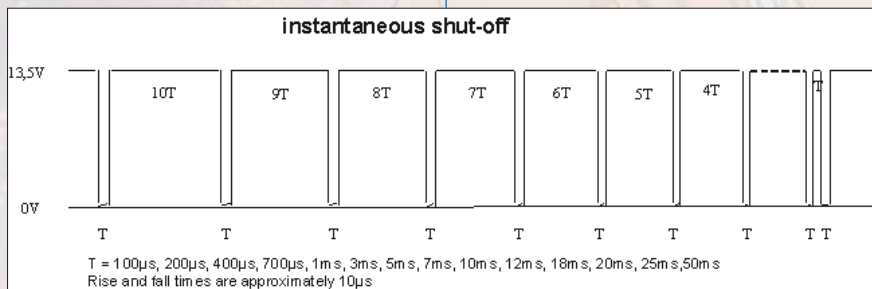
**R&S® NGPE35/40 and
R&S® NGPE70/20**

Key features

- ◆ **R&S® NGPE35/40:**
 - 0 V to 35 V/0 A to 40 A/1400 W
- ◆ **R&S® NGPE70/20:**
 - 0 V to 70 V/0 A to 20 A/1400 W
- ◆ Manual setting of voltage and power values or setting via IEEE 488 interface
- ◆ High efficiency (switched-mode regulator)
- ◆ Active power factor correction
- ◆ Monitoring functions, e.g. alarms for thermal overload, failure of power unit, etc

Typical application

- ◆ Supply of vehicle electronic components (high-current devices)





R&S® NGPE40/40

Key features

- ◆ 0 V to max. 40 V/0 A to max. 40 A/800 W
- ◆ Good regulation characteristics
- ◆ Wide AC supply regulation range: 190 V to 265 V/95 V to 135 V
- ◆ Separate panel meters for voltage and current
- ◆ High resolution and reproducibility
- ◆ High setting speed
- ◆ OVP
- ◆ IEEE 488 interface

Typical application

- ◆ Supply of vehicle electronic components (high-current devices)



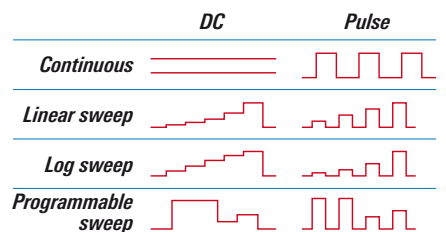
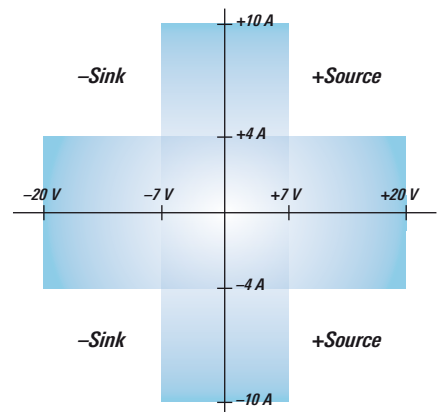
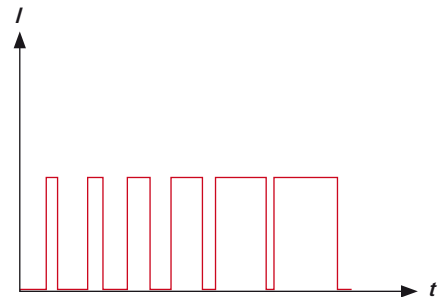
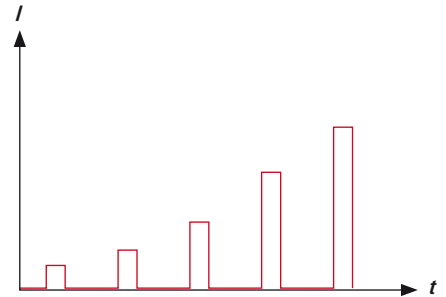
Advantest R6244¹⁾

Key features

- ◆ Four-quadrant voltage/current source/monitor
- ◆ 0 V to max. ±20 V/0 A to max. ±10 A
- ◆ CV or CC mode with dedicated constant current source preselection
- ◆ Real current pulse generation
- ◆ Linear/logarithmic and random sweep functions and pulse sweep functions
- ◆ Minimum pulse width: 1 ms
- ◆ Synchronized parallel and serial operation
- ◆ Optimum voltage and current resolution (μV, nA)
- ◆ IEEE 488.2 and synchronization interfaces

Typical applications

- ◆ Pulsed current source to control magnetic coils
- ◆ Test of airbag inflators
- ◆ ASICs for injection pump control
- ◆ ASICs for ABS control



¹⁾ Distributed only in Europe and selected countries.

Power supplies with manual control only



R&S® NGAS32/10

Key features

- ◆ 0 V to max. 32 V/0 A to max. 10 A/160 W
- ◆ High surge capability, twice the rated current can be drawn for short periods
- ◆ Separate meters for voltage and current
- ◆ Compact housing
- ◆ Suitable for mobile use

Typical applications

- ◆ Battery replacement
- ◆ General laboratory applications
- ◆ Car electronics tests



R&S® NGB/NGBI

Key features

- ◆ **R&S® NGB32/NGBI35:**
0 V to 35 V/0 A to 10 A/350 W
- ◆ **R&S® NGB70/NGBI70:**
0 V to 70 V/0 A to 5 A/350 W
- ◆ **R&S® NGB** with analog display,
R&S® NGBI with digital display
- ◆ High-resolution ten-turn potentiometer for voltage and current
- ◆ Surge current capability – several times the rated current may be drawn for short periods

Typical applications

- ◆ General laboratory applications
- ◆ Car electronics tests



R&S® NGRU35

Key features

- ◆ 0 V to max. 35 V/0 A to max. 10 A/150 W
- ◆ High resolution and reproducibility due to digital potentiometers
- ◆ Digitally settable OVP value
- ◆ Two current limiter ranges
- ◆ Changeable output capacitor value
- ◆ Output voltage modulation from 50 Hz to 1 kHz

Typical applications

- ◆ Precision power supply for labs
- ◆ Simulation of disturbances on supply wire



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