Power supplies for everyday use: robust, high-performance and affordable

The two new R&S®NGE100 power supplies provide a number of useful extra features not typically found in this class – all at an attractive price.

The two-channel R&S®NGE102 and the three-channel R&S®NGE103 (Fig. 1) deliver up to 33.6 W of output power per channel, for a maximum output power of 66 W and 100 W, respectively. The power supplies are easy and intuitive to use. All basic functions are accessible on the front panel. A rotary knob is used to set the voltage, current and the limits for the various protection functions. The operating conditions are clearly visible at all times on the large, color-coded display. Green digits indicate constant voltage mode and red digits indicate constant current mode. Yellow digits represent inactive channels. In setting mode, values are displayed in blue.

R&S®NGE100 – what makes it so special

Rohde & Schwarz offers a variety of power supplies in every price and performance class (Fig. 2). The R&S®NGE100 series belongs to the basic class, but it offers extra functions not typically found in this class.

Galvanically separated outputs

Each channel in the R&S®NGE100 is completely separated from the other channels. They are all short-circuit-proof and have no connection to chassis ground. This makes it easy to interconnect the outputs in many different ways. For example, two channels can be used to supply ±12 V (Fig. 3). If both channels are switched to tracking mode, the rotary knob can be used to simultaneously increase the voltage on the device under test in both channels, e.g. from ±12 V to ±15 V.

Parallel and serial operation of the outputs

All channels are electrically identical. Unlike many other power supplies on the market, there are no "auxiliary channels" with lower voltage and current values. Each channel can deliver up to 32 V and up to 3 A for a maximum output power of 33.6 W. If higher voltage or current is needed, multiple channels can be combined (Fig. 4).

Fig. 1: R&S®NGE100 power supplies offer high efficiency in combination with low ripple. The power supplies have many convenience functions that are rarely seen in this class.

Power supply classes

Basic power supplies

- Affordable, quiet and stable
- For manual and simple remote control operation
- Used in education, on the bench and in system racks

Shown here: R&S®NGE100 power supply

Performance power supplies

- When speed, accuracy and advanced programming features are key factors
- Features such as protection functions, fast programming times and downloadable V and I sequences
- Used in labs and ATE applications

Shown here: R&S®HMP2030 programmable three-channel power supply

Specialty power supplies

- Unique capabilities such as
  - Emulating the unique characteristics of a battery
  - Electronic loads to accurately sink current and dissipate power in a controlled manner
- Used in labs and ATE applications

Shown here: R&S®HM8143 three-channel arbitrary power supply

Fig. 2: For practically every application in development and production, Rohde&Schwarz has an extensive line of power supplies (some typical examples are shown here). The new R&S®NGE100 series belongs to the basic class.

Protection functions

The new power supplies are also exceptional in terms of the protection functions they provide. For each channel, users can set maximum values for the voltage, current or power. If a set limit is exceeded, the affected channel is automatically switched off and a warning message is shown on the display. The FuseLink function conveniently monitors overcurrent situations in multiple channels and automatically switches them off if necessary. The Fuse Delay setting lets users adjust the triggering behavior of the electronic fuse protection so that short current spikes are ignored.

Remote control

The power supplies come with a USB interface to allow users to remotely control all instrument functions from an external PC. For LAN or WLAN operation, there is an Ethernet interface option as well as a wireless LAN remote control option. Both options are activated by keycode. The R&S®NGE100 (as well as other equipment) can be integrated into a network and operated via a browser. For example, an instructor can control all student instruments in a classroom.

Klaus Schiffner

Balanced voltage supply

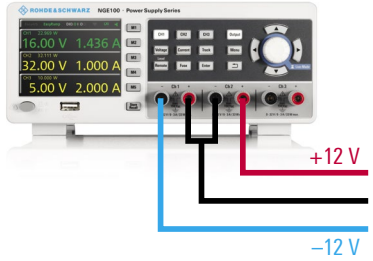

Fig. 3: Interconnected outputs, e.g. for a balanced voltage supply.

Parallel and serial operation through V/I tracking

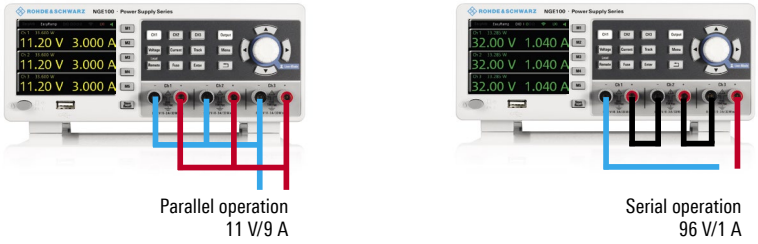

Fig. 4: Multiple R&S®NGE100 channels can be combined to provide higher voltage or current.