



# R&S® NGE102B

## versus Keysight E3646A



### Key features

- ▶ All channels are galvanically isolated and floating
- ▶ All channels are electrically equivalent with the same voltage, current and power
- ▶ Parallel and serial operation
- ▶ Protective functions to safeguard instrument and DUT
- ▶ Tracking and link functions
- ▶ Remote control via USB interface and optional LAN or WLAN, unique in this class
- ▶ Simple operation thanks to the 3.5" QVGA display
- ▶ Modern device concept – small, compact and quiet
- ▶ Save and recall device settings

Your benefit	Features
Straightforward operation	<ul style="list-style-type: none"> <li>▶ All basic functions can be performed via dedicated keys on the front panel</li> <li>▶ The voltage or current can be adjusted with the rotary knob</li> </ul>
Display	<ul style="list-style-type: none"> <li>▶ All operating conditions are clearly shown on the 3.5" QVGA display (320 × 240 pixels), including the output power and the status of protective functions</li> <li>▶ Colors indicate the different operating states</li> </ul>
USB interface	<ul style="list-style-type: none"> <li>▶ The device can be controlled via external PCs with the USB interface</li> </ul>
Each output channel can work like an individual power supply	<ul style="list-style-type: none"> <li>▶ All channels are electrically equivalent, galvanically isolated, floating and can be combined in serial and in parallel to achieve higher voltages or currents</li> </ul>
Small, compact and quiet	<ul style="list-style-type: none"> <li>▶ Combination of primary transformer, secondary switching regulator and additional linear control reduces weight and size while maintaining robustness and low ripple</li> </ul>

Parameter	R&S® NGE102B	Keysight E3646A
Number of channels	2	2
Output voltage per channel	0 V to 32 V	0 V to 20 V
Max. output power per channel	33.6 W	30 W
Max. output current per channel	3 A	< 8 V: 3 A < 20 V: 1.5 A
Programming resolution	10 mV / 1 mA	5 mV / 1 mA
Programming accuracy	< 0.1 % + 30 mV < 0.1 % + 5 mA	< 0.1 % + 25 mV < 0.2 % + 10 mA
Voltage ripple and noise (20 Hz to 20 MHz)	< 1 mV (RMS) < 20 mV (peak to peak)	< 0.5 mV (RMS) < 5 mV (peak to peak)
Current ripple and noise (20 Hz to 20 MHz)	< 2 mA (RMS)	< 4 mA (RMS)
Load recovery time	< 200 µs	< 50 µs
Output ramp function	EasyRamp	no
Arbitrary function	EasyArb	no
Readback resolution	10 mV / 1 mA	2 mV / 1 mA
Readback accuracy, voltage	< 0.1 % + 20 mV < 0.1 % + 5 mA	< 0.1 % + 25 mV < 0.15 % + 10 mA
Protective functions	OCP / OVP / OTP / OPP	OVP
Remote control interfaces	standard: USB optional: WLAN / LAN	standard: GPIB, RS232
Command processing time	< 10 ms	< 90 ms
Measuring functions	current, voltage, power	no
Channels galvanically isolated	yes	no
Display	TFT 3.5" QVGA	14-character display
Dimensions (W × H × D)	222 mm × 97 mm × 310 mm	213 mm × 133 mm × 348.3 mm
Weight	4.9 kg	8.2 kg



For prices and more information, visit

<https://www.rohde-schwarz.com/product/NGE100B>

## R&S®NGE102B interfaces versus Keysight E3646A interfaces

WLAN	
MAC Address	f8:f0:05:f1:56:e3
Module	Enabled
Status	Connected
SSID	:S@DAS_SPEKTRUM
Password	●●●●●●●●
Connect	Disconnect
IP Address	192 . 168 . 50 . 13
Subnet Mask	255 . 255 . 252 . 0
Gateway	192 . 168 . 48 . 1

### R&S®NGE102B interfaces

- ▶ Standard: USB
- ▶ Optional: LAN, WLAN

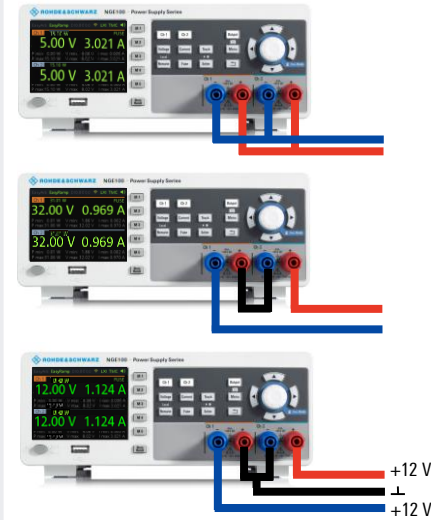
### Keysight E3646A interfaces

- ▶ Standard: GPIB, RS-232
- ▶ Optional: none

### WLAN option:

- ▶ Unique in this class of power supplies
- ▶ Allows easy access to the unit

## R&S®NGE102B parallel and serial operation



### Parallel operation

- ▶ Up to 6 A

### Serial operation

- ▶ Up to 64 V

### Supply of a balanced circuit


- ▶ You can interconnect channels without getting into ground problems with complex DUTs

## Built for production


Digital IO			
DIO 1	DIO 2	DIO 3	DIO 4
Direction	Trigger In		
Channel	Ch 1		
Response	Start EasyArb		
Trigger	Pulse		
Logic	Active High		
Status	Enabled		

- ▶ Another option for the R&S®NGE100B power supplies is a set of digital inputs/outputs (4-bit), which are used independently as trigger inputs or outputs
- ▶ The hardware of the R&S®NGE-K103 is already installed and the function can be activated via a keycode
- ▶ Digital I/O option makes production integration a breeze


## Advantage factors of the R&S®NGE102B versus the Keysight E3646A




**9 times**  
faster command processing time




**LAN**  
interface




**3.3 kg**  
lighter



**1.3 times**  
more space saved



**USB**  
interface



**1.6 times**  
larger voltage range