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R&S®HMC8042
versus Keysight E3646A

Key features

- ► All channels are galvanically isolated and floating
- ► Parallel and serial operation
- ► Protective functions to safeguard instrument and DUT
- ► Tracking and link functions
- ► One analog input for trigger function or channel modulation
- ► Remote control via USB interface and LAN
- ► Simple operation thanks to the 3.5" QVGA display
- ► Thanks to high energy efficiency, power supply is cool and quiet even at maximum load

Your benefit	Features
Flexible channel configuration	► All channels are galvanically isolated and can be combined to drive balanced circuitries or for higher voltages/currents
Display	► The brilliant color display shows voltage, current and power values in real time
USB interface	► The device can be controlled via external PCs with the USB interface
Flexible overcurrent protection	► FuseLink allows you to freely combine the electronic fuses in each channel ► A fuse delay can be set to prevent premature switch-off due to a short current spike
Programmable time/voltage or time/current sequences	► Arbitrary waveforms can be generated for voltage and current ► EasyArb function can be configured and executed via control panel or external interface
EasyRamp function	► After switching on, the increase in voltage will be practically linear to the set value

For more information, visit
https://www.rohde-schwarz.com/product/HMC804x

Parameter	R&S®HMC8042	Keysight E3646A
Number of channels	2	2
Output voltage per channel	0 V to 32 V	0 V to 20 V
Max. output power	100 W	60 W
Max. output power per channel	50 W	30 W
Max. output current per channel	5 A	< 8 V: 3 A < 20 V: 1.5 A
Programming resolution	1 mV / 1 mA	5 mV / 1 mA
Programming accuracy	< 0.05 % + 2 mV < 0.1 % + 5 mA	< 0.1 % + 25 mV < 0.2 % + 10 mA
Voltage ripple and noise (20 Hz to 20 MHz)	< 450 µV (RMS) < 4 mV (peak to peak)	< 0.5 mV (RMS) < 5 mV (peak to peak)
Current ripple and noise (20 Hz to 20 MHz)	< 1 mA (RMS)	< 4 mA (RMS)
Load recovery time	< 1 ms	< 50 µs
Output ramp function	EasyRamp	no
Arbitrary function	EasyArb with interpolation mode	no
Readback resolution	1 mV / 1 mA	2 mV / 1 mA
Readback accuracy	< 0.05 % + 2 mV < 0.05 % + 4 mA	< 0.1 % + 25 mV < 0.15 % + 10 mA
Protective functions	OVP / OPP	OVP
Remote control interfaces	standard: USB/LAN optional: GPIB	standard: GPIB, RS232
Command processing time	< 30 ms	< 90 ms
Data logging	standard mode	no
Acquisition rate	3600 samples/s	–
Channels galvanically isolated	yes	no
Display	TFT 3.5" QVGA	14-character display
Dimensions (W × H × D)	222 mm × 97 mm × 291 mm	213 mm × 133 mm × 348.3 mm
Weight	2.6 kg	8.2 kg

R&S®HMC8042 versus Keysight E3646A

- Ideal for industrial environments
- Power supply units in industrial production are often in 19" racks

R&S®HMC8042

- Optional rackmount kit: R&S®HZC95 (2 HU)

Keysight E3646A

- Optional rackmount kit: P/N 5063-9243 (3 HU)

R&S®HMC8042 interfaces versus Keysight E3646A interfaces

R&S®HMC8042 interfaces

- Standard: LAN, USB, WAGO clamp
- Optional: GPIB

Keysight E3646A interfaces

- Standard: GPIB, RS232
- Optional: none

To facilitate typical calibration setups, the rear panel connector was designed with a WAGO cage clamp

R&S®HMC8042 special functions

EasyArb

- EasyArb is the time/current flow or time/voltage curve that is freely programmable by channel, with up to 512 points
- Can be programmed via remote software and directly on the instrument

EasyRamp

- Sometimes test sequences should avoid the abrupt rise of the supply voltage. The EasyRamp function allows users to simulate a startup curve
- After the channels are switched on, the increase in output voltage will be practically linear to the set voltage value within a defined time span

Sequencing function

- The R&S®HMC8042 includes a sequencing function that can be adjusted via a menu
- Sequencing enables you to automatically and consecutively connect available channels to the device under test, with adjustable time offsets when the MASTER ON/OFF key is activated

Advantage factors of the R&S®HMC8042 versus the Keysight E3646A

3 times faster command processing time

1.6 times more power

5.6 kg lighter

1.3 times more space saved

USB interface

1.6 times the voltage range

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