

# R&S® HMC804x

## Power Supply

### 100 W and 1, 2 or 3 Channels



致力于电子测试、维护领域!



Test & Measurement

Product Brochure | 02.00

**Total output power**  
All models: 100W

**Output current per channel**  
R&S®HMC8041: max. 10A  
R&S®HMC8042: max. 5A  
R&S®HMC8043: max. 3A

**EasyArb**  
Create individual V/I curves  
directly on the device

**FuseLink**  
Combine electronic fuses  
as required

**EasyRamp**  
Program a startup curve  
directly on the device

**Sequencing**  
Sequenced start of channels

**Trigger input**  
Start and control  
EasyArb, et al.

**Analog input**  
Control output channel  
with external voltage and  
current

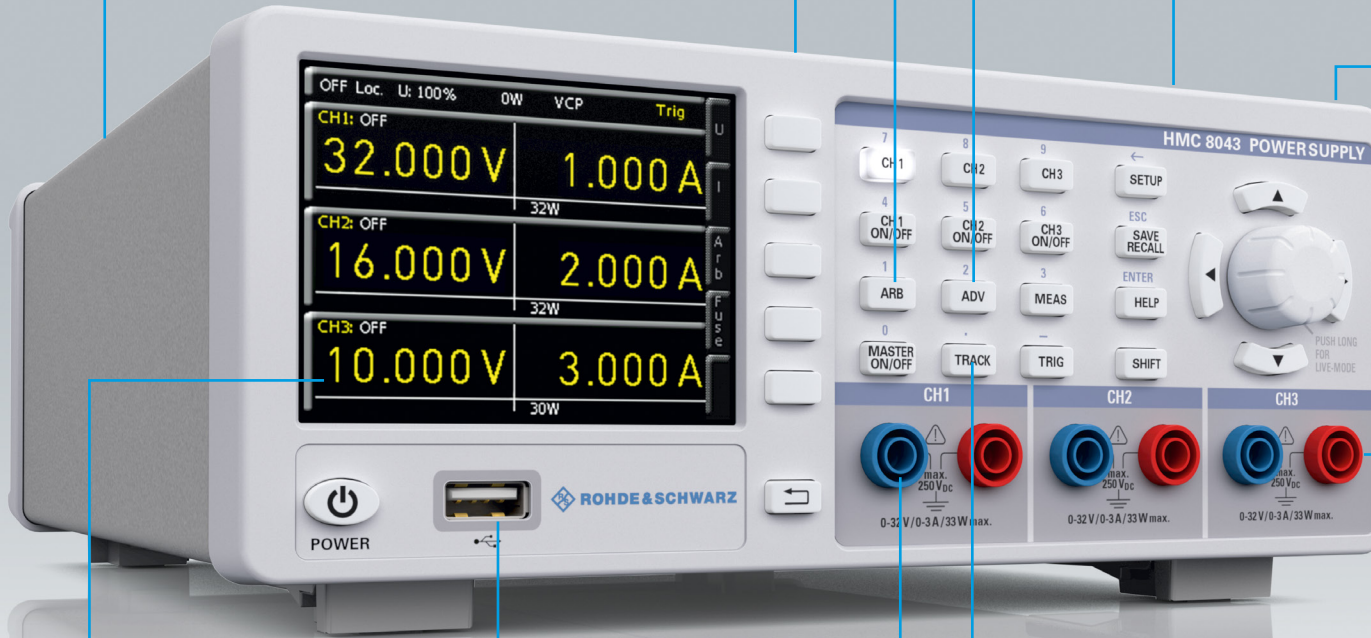
**High energy efficiency**  
Low heat dissipation and  
quiet fan

**Brilliant Screen**  
QVGA TFT Display  
with 320 x 240 Pixels

**Data logging**  
To USB flash drive in CSV format

**Protection**  
Overvoltage (OVP) and Overpower  
protection (OPP) for all outputs

**UI-Tracking**  
Convenient parallel and  
serial operation



# At a glance

One, two or three channels – R&S®HMC804x power supplies with their specifications and wide range of functions are ideal for use in development labs and industrial environments. Thanks to their high energy efficiency, the power supplies remain cool and quiet, even at maximum load. Practical interfaces and connectors allow users to work quickly and conveniently with the R&S®HMC804x, even in 19" racks.

The R&S®HMC804x family consists of three models with a maximum total power of up to 100W and a continuous voltage range from 0 V to 32 V. The one-channel R&S®HMC8041 delivers a maximum of 10A, the two-channel R&S®HMC8042 a maximum of 5A and the three-channel R&S®HMC8043 a maximum of 3A per channel. The two-channel and three-channel models enable users to connect multiple outputs in parallel or in series to increase the voltage or current. The outputs are galvanically isolated, floating, and protected against overloading and short circuits. Voltage, current and power values are output on a brilliant QVGA display.

The R&S®HMC804x offers a wide range of logging functions, an integrated energy meter and electronic fuses that can be individually combined for each channel, making it ideal for hardware developers, labs and industrial environments. Switching technology ensures high efficiency, for minimum heat dissipation even at full load. Developers and industrial users benefit from useful functions such as sequenced start of channels, EasyArb and EasyRamp functions that are directly programmable on the device, an analog input for external control of voltage values, an external trigger input for controlling channels and arb steps, and adjustable overvoltage/overpower protection for each channel.



All connectors, including SENSE, are available on the rear panel. A cage clamp facilitates rack installation and deinstallation. The LXI-compliant power supply can be controlled via LAN, USB or an optional GPIB interface. The CDC (virtual COM port) and TMC classes are supported for communications via USB. The remote control commands are based on the SCPI standard.

The R&S®HMC804x power supplies from the Rohde&Schwarz product range offer top quality and intelligent, practical functions at an extremely attractive price.

# Key facts

## Clear display of all measured parameters

- ▮ Brilliant QVGA color display (320 x 240 pixel)
- ▮ Realtime voltage, current and power values
- ▮ High setting and readback resolution: 1 mV and 0.1 mA/1.0 mA (depending on current and model)
- ▮ Low residual ripple due to linear post regulation
- ▮ High energy efficiency, low heat dissipation and quiet fan

## Galvanically isolated, floating and short-circuit-proof outputs

- ▮ Front panel: 4 mm (0.16 in) safety sockets (R&S®HMC8041 including SENSE)
- ▮ Rear panel: WAGO cage clamp for all channels including SENSE
- ▮ Convenient parallel and serial operation via V/I tracking

## Protective functions adjustable for each channel

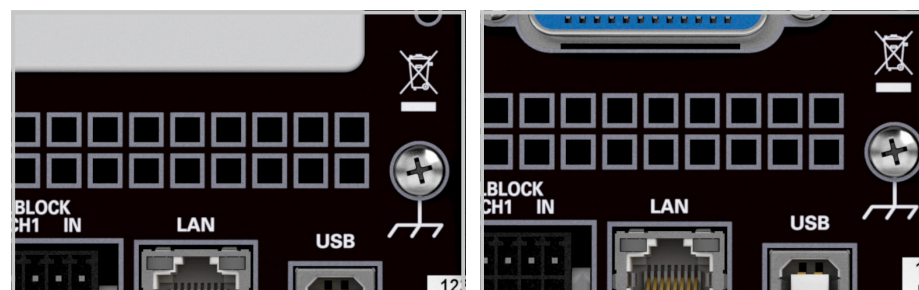
- ▮ Overvoltage protection (OVP) for all outputs
- ▮ Overpower protection (OPP) for all outputs
- ▮ FuseLink (freely combinable electronic fuses)
- ▮ FuseDelay (fuse activation delay)

## Ideal power supply for hardware developers and labs

- ▮ EasyArb function for user-definable V/I curves
- ▮ EasyRamp for simulating a start-up curve (directly programmable on device)
- ▮ Sequencing (sequenced start of channels)
- ▮ Energy meter (measurement of energy output)
- ▮ Analog input for external control via voltage (0 V to 10 V) or current (4 mA to 20 mA)
- ▮ Trigger input for starting/controlling EasyArb
- ▮ Data logging to USB flash drive in CSV format

## Remote control

- ▮ USB interface (CDC/virtual COM port, TMC)
- ▮ LAN interface, LXI-compliant
- ▮ Optional GPIB interface
- ▮ Remote control via SCPI-based commands



R&S®HMC804x: standard version

R&S®HMC804x-G: GPIB version

Application	How the HAMEG R&S®HMC804x meets your needs
Engineering lab	<ul style="list-style-type: none"> <li>▮ FuseLink (freely combinable electronic fuses)</li> <li>▮ EasyArb function for user-definable V/I curves</li> <li>▮ EasyRamp for simulating a start-up curve (directly programmable on device)</li> <li>▮ Built-in energy meter</li> <li>▮ Data logging to USB flash drive in CSV format</li> </ul>
Automatic test equipment (ATE)	<ul style="list-style-type: none"> <li>▮ Analog input for external control via voltage (0 V to 10 V) or current (4 mA to 20 mA)</li> <li>▮ Trigger input for starting/controlling EasyArb</li> <li>▮ Sequencing (sequenced start of channels)</li> </ul>
Production environment	<ul style="list-style-type: none"> <li>▮ Rear connectors for all channels, including SENSE</li> <li>▮ WAGO cage clamp on the rear panel for easy installation and deinstallation</li> <li>▮ Remote control via SCPI-based commands</li> <li>▮ LAN interface, integrated web server, LXI-compliant</li> <li>▮ Optional GPIB interface (R&amp;S®HMC804x-G models)</li> </ul>



# Ideal for industrial environments



Power supply units in industrial production environments are often found in 19" racks. The R&S®HMC804x series instruments are very suitable for this use as all models can be integrated into 19" racks with the rack mounting kits R&S®HZC95. Two R&S®HMC8043 models built side by side result in 6 channels on 2 rack units. Please ensure sufficient space is available in the rack for adequate cooling (required minimum space above a R&S®HMC804x: 1 rack unit).

Additionally, all front panel connectors plus SENSE lines are located at the back panel of the instrument. In order to facilitate the regular fitting-out for calibration the rear panel connector was designed with a WAGO cage clamp.

Base unit	Channels	Power	GPIB-Interface
R&S®HMC8043-G	3	100 W (33 W/Channel, 3 A (max.))	✓
R&S®HMC8043	3	100 W (33 W/Channel, 3 A (max.))	✗
R&S®HMC8042-G	2	100 W (50 W/Channel, 5 A (max.))	✓
R&S®HMC8042	2	100 W (50 W/Channel, 5 A (max.))	✗
R&S®HMC8041-G	1	100 W (10 A (max.))	✓
R&S®HMC8041	1	100 W (10 A (max.))	✗

**R&S®HMC8043**  
**R&S®HMC8042**  
**R&S®HMC8041**

**1/2/3 channel power supply**

from firmware version 01.104

**Electrical specifications**

Maximum output power	100 W
Maximum output power per channel	
R&S®HMC8043	33 W
R&S®HMC8042	50 W
R&S®HMC8041	100 W
Output voltage per channel	
all models	0 V to 32 V
Maximum output current per channel	
R&S®HMC8043	3 A
R&S®HMC8042	5 A
R&S®HMC8041	10 A
Number of output channels	
R&S®HMC8043	3
R&S®HMC8042	2
R&S®HMC8041	1
Line & load regulation	
Voltage	
R&S®HMC8043	< 0.02% + 3 mV (meas.)
R&S®HMC8042	< 0.03% + 5 mV (meas.)
R&S®HMC8041	< 0.03% + 5 mV (meas.)
Current	
R&S®HMC8043	< 0.03% + 200 µA (meas.)
R&S®HMC8042 R&S®HMC8041	< 0.03% + 300 µA (meas.)
Load recovery time (10% to 90% load change)	< 1 ms (meas.) (to within a band of ±20 mV of the set voltage)
Voltage ripple and noise (20 Hz to 20 MHz)	
R&S®HMC8043	< 450 µV (RMS) / < 4 mV (peak to peak) (meas.)
R&S®HMC8042	< 1 mV (RMS) / < 5 mV (peak to peak) (meas.)
R&S®HMC8041	< 1 mV (RMS) / < 5 mV (peak to peak) (meas.)
Current ripple and noise (20 Hz to 20 MHz)	
R&S®HMC8043	< 1 mA (RMS) (meas.)
R&S®HMC8042	< 1 mA (RMS) (meas.)
R&S®HMC8041	< 1.5 mA (RMS) (meas.)
Max SENSE compensation	1 V (meas.)

Programming accuracy (+23°C ±5°C)	
Voltage	
all models	< 0.05% + 2 mV
Current	
R&S®HMC8043	< 0.05% + 2 mA
R&S®HMC8042	< 0.1% + 5 mA
R&S®HMC8041	< 0.2% + 10 mA
Readback accuracy (+23°C ±5°C)	
Voltage	
all models	< 0.05% + 2 mV
Current	
R&S®HMC8043	< 0.05% + 2 mA
R&S®HMC8042	< 0.05% + 4 mA
R&S®HMC8041	< 0.15% + 10 mA
Resolution	
Voltage	
all models	1 mV
Current	
R&S®HMC8043	I < 1 A: 0.1 mA
R&S®HMC8042	I ≥ 1 A: 1 mA
R&S®HMC8041	I < 1 A: 0.5 mA I ≥ 1 A: 1 mA
Maximum voltage to ground	250 V DC
Maximum counter voltage	33 V
Maximum reverse voltage	0.4 V
Maximum reverse current	3 A
<b>Supplemental characteristics</b>	
Front connectors	4 mm safety sockets
Rear connectors	Wago male connector (713-1428/037-000), 8 x 2-pole, pin spacing 3.5 mm / 0.138 in
Temperature coefficient ± (% of output + offset) (per °C)	voltage: < 0.02% + 3 mV current: < 0.02% + 3 mA
Output voltage overshoot during turn-off of AC power with activated channel output	< 100 mV (meas.)
Over temperature protection	yes

<b>Voltage programming time (within 1% of total excursion)</b>	
Positive voltage change	
no load	10 ms + command processing-time
with resistive load	10 ms + command processing-time
Negative voltage change	
no load	500 ms + command processing-time
with resistive load	10 ms + command processing-time
Command processing time	< 30 ms (nom.)
Over voltage protection	yes
Over power protection	yes
Energy Meter	yes
EasyRamp	yes
EasyRamp time	10 ms to 10 s
<b>Electronic fuse</b>	
Fuse response time	< 10 ms (meas.)
Response time of linked channels	< 100 µs (meas.) + response time of linked channel
Fuse delay	10 ms to 10 s
<b>Analog control interface</b>	
Control parameter	voltage or current
Current / shunt resistance	4 mA to 20 mA / 250 Ω
Input voltage / max. resistance	0 V to 10 V / 10kΩ
Acquisition rate V/I interface	10 sample/s
Maximum response time	150 ms
Resolution	14 bit
<b>Trigger input</b>	
Trigger response time	< 1 ms (meas.)
Min. trigger interval	10 ms
Input level	TTL
Edge direction	rising, falling
<b>Arbitrary (EasyArb)</b>	
Parameter	Voltage, current, time
Maximum number of points	512
Dwell time	10 ms to 600 s
Repetition rate	continuous or burst mode with 1 to 255 repetitions
Trigger	manually, remote control or via trigger input

# Recommended Accessories

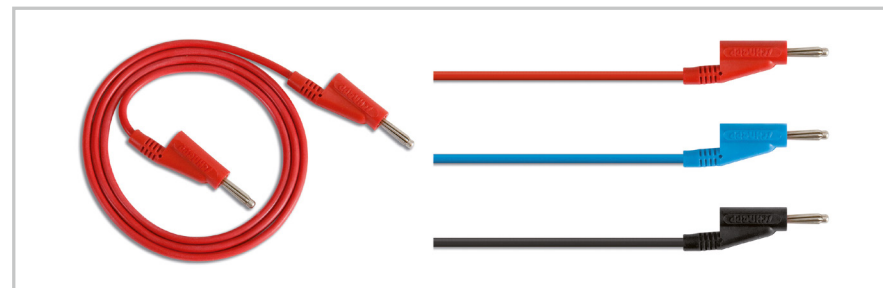
## R&S® HZC95

19" rackmount kit  
for R&S® HMC series, 2 HE



## R&S® HZ10

5x silicon test lead  
R&S® HZ10S: black, R&S® HZ10R: red, R&S® HZ10B: blue



Data logging	
Maximum acquisition rate	1000 sample/s
Resolution	
R&S® HMC8043	≤ 100 sample/s: 1 mV / 0.1 mA 1000 sample/s: 10 mV / 1 mA
R&S® HMC8042 R&S® HMC8041	≤ 100 sample/s: 1 mV / 1 mA ; 1000 sample/s: 10 mV / 10 mA
Memory	Internal: 512 kbyte External: USB memory stick (4 Gbyte max.)
Output sequencing	
Synchronicity	< 100 μs (meas.)
Delay per channel	1 ms to 60 s
Remote interfaces	
Connectors	USB-TMC, USB-CDC (Virtual COM), LAN (LXI), GPIB (optional)
General data	
Mains nominal voltage	100 V to 240 V (±10 %) 50 Hz / 60 Hz
Maximum power consumption	200 W
Mains fuse	T3, 15L 250 V
Operating temperature range	0°C to + 40°C
Storage temperature range	-20°C to +70°C
Humidity (noncondensing)	5% to 80%
Display	3.5" / QVGA
Dimensions (H x W x D)	97 mm x 222 mm x 291 mm
Rack mount capability (half 19")	yes
Weight	2.6 kg

The specifications are based on a 30 min warm-up period.

### Accessories included:

Line cord, printed operating manual



北京海洋兴业科技股份有限公司 (证券代码: 839145)

北京市西三旗东黄平路19号龙旗广场4号楼 (E座) 906室

电话: 010-62176775 62178811 62176785

企业QQ: 800057747 维修QQ: 508005118

企业官网: [www.hyxyyq.com](http://www.hyxyyq.com)

邮编: 100096

传真: 010-62176619

邮箱: [market@oitek.com.cn](mailto:market@oitek.com.cn)

购线网: [www.gooxian.com](http://www.gooxian.com)



扫描二维码关注我们

查找微信公众号: 海洋仪器