

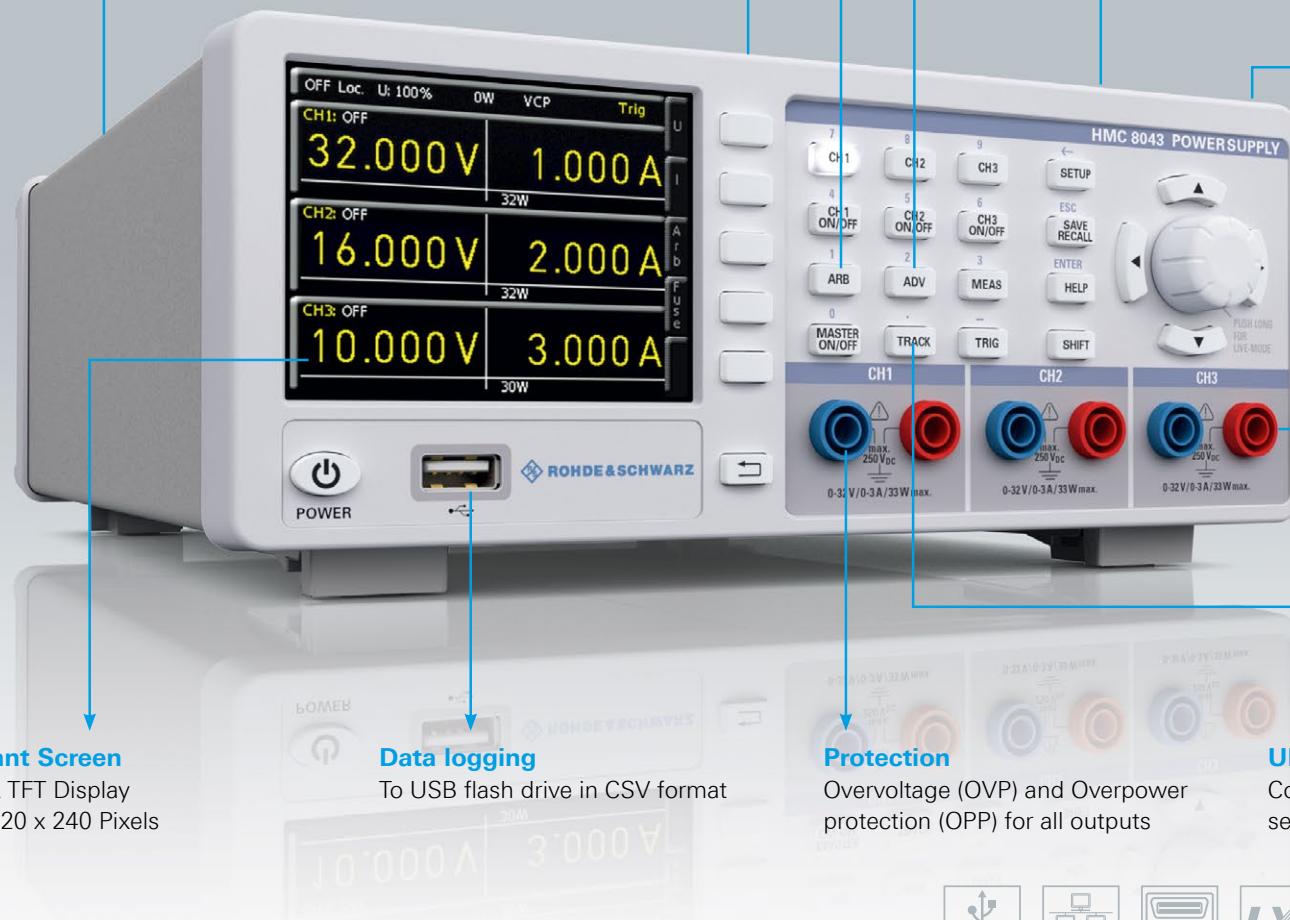


R&S®HMC804x

Power Supply

100 W and 1, 2 or 3 Channels





Total output power

All models: 100W

Output current per channel

R&S®HMC8041: max. 10 A
R&S®HMC8042: max. 5 A
R&S®HMC8043: max. 3 A

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

Oversupply (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 (0.16in) 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

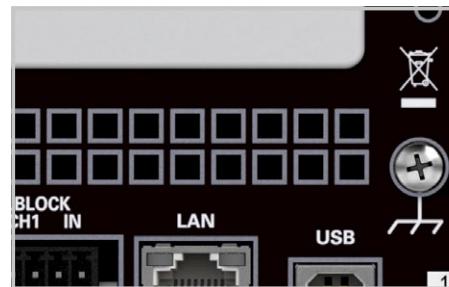
- Oversupply protection (OVP) for all outputs
- Overpower protection (OPP) for all outputs
- FuseLink (freely combinable electronic fuses)
- FuseDelay (fuse activation delay)

Ideal power supply for hardware developers and labs

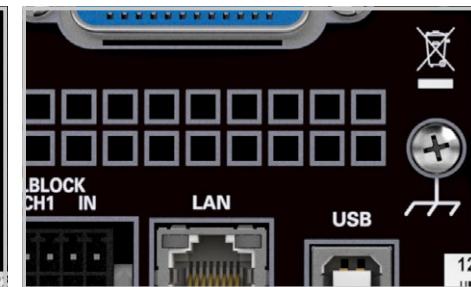
- EasyArb function for user-definable V/I curves
- EasyRamp for simulating a start-up curve (directly programmable on device)
- Sequencing (sequenced start of channels)
- Energy meter (measurement of energy output)
- Analog input for external control via voltage (0 V to 10 V) or current (4 mA to 20 mA)
- 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">FuseLink (freely combinable electronic fuses)EasyArb function for user-definable V/I curvesEasyRamp for simulating a start-up curve (directly programmable on device)Built-in energy meterData logging to USB flash drive in CSV format
Automatic test equipment (ATE)	<ul style="list-style-type: none">Analog input for external control via voltage (0 V to 10 V) or current (4 mA to 20 mA)Trigger input for starting/controlling EasyArbSequencing (sequenced start of channels)
Production environment	<ul style="list-style-type: none">Rear connectors for all channels, including SENSEWAGO cage clamp on the rear panel for easy installation and deinstallationRemote control via SCPI-based commandsLAN interface, integrated web server, LXI-compliantOptional GPIB interface (R&S®HMC804x-G models)

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

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

Supplemental characteristics

Front connectors 4 mm safety sockets

Rear connectors Wago male connector (713-1428/037-000), 8 x 2-pole, pin spacing 3.5mm / 0.138 in

Temperature coefficient voltage: < 0.02% + 3 mV
± (% of output + offset) (per °C) 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

Voltage programming time (within 1% of total excursion)

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

Electronic fuse

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

Analog control interface

Control parameter voltage or current

Current / shunt resistance 4 mA to 20 mA / 250 Ω

Input voltage / max. resistance 0 V to 10 V / 10 kΩ

Acquisition rate V/I interface 10 sample/s

Maximum response time 150 ms

Resolution 14 bit

Trigger input

Trigger response time < 1 ms (meas.)

Min. trigger interval 10 ms

Input level TTL

Edge direction rising, falling

Arbitrary (EasyArb)

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



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

Recommended Accessories

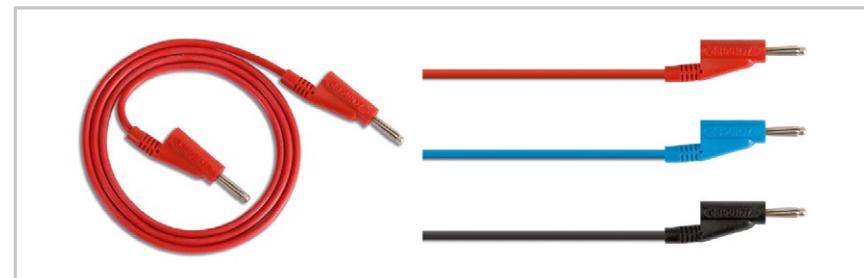
R&S®HZC95

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



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