

# HM8143

## Three-Channel Arbitrary Power Supply

**HAMEG**<sup>®</sup>  
Instruments  
A Rohde & Schwarz Company



### Key facts

- ▮ 2x 0V to 30V / 1x 5V, 3x 2A (130W)
- ▮ Linear regulated, two-quadrant power supply (current source and sink)
- ▮ Realtime voltage and current values
- ▮ Advanced parallel and serial operation
- ▮ Setting and readback resolution: 10mV, 1mA
- ▮ Electronic fuse and tracking mode
- ▮ Front connectors: 4mm (0.16 in) safety sockets
- ▮ SENSE connectors for line loss compensation (30V channels)
- ▮ External modulation of output voltages up to 50kHz
- ▮ Arbitrary module: 4,096 points, 12 bit
- ▮ RS-232/USB dual interface, IEEE-488 (GPIB) optionally

Test & Measurement

Technical Data

# Specifications

## HM8143

### Three-Channel Arbitrary Power Supply

from firmware version 2.45

#### Electrical Specifications

Total power output	130W
Number of outputs	3
Front connectors	4 mm safety sockets
Maximum power per channel	
CH1, CH3	60W
CH2	10W
Voltage output	
CH1, CH3	0V to 30V
CH2	5V ( $\pm 50$ mV)
Current output	
all channels	max 2A
Current sinking	
CH1, CH3	max 2A
Line & load regulation	
Constant voltage mode	
CH1, CH3	$<0.02\% + 5$ mV
CH2	$<0.25\% + 10$ mV
Constant current mode	
CH1, CH3	$<0.02\% + 5$ mA
CH2	(no constant current mode)
Voltage ripple 3 Hz to 300 kHz (front connectors)	
CH1, CH3	$<5$ mV <sub>rms</sub>
CH2	$<1$ mV <sub>rms</sub>
Transient response time (10% to 90% load change)	
CH1, CH3	$<45$ $\mu$ s in a band of $\pm 20$ mV of $V_{set}$ max. deviation: $<800$ mV
CH2	$<45$ $\mu$ s in a band of $\pm 20$ mV of $V_{set}$ max. deviation: $<200$ mV
SENSE connectors available for	CH1, CH3
Max. SENSE compensation	300 mV
Programming accuracy (23°C $\pm 5^\circ$ C)	
Voltage / Current	
CH1, CH3	$\pm 3$ digits (typ. $\pm 2$ digits)
Readback accuracy (23°C $\pm 5^\circ$ C)	
Voltage / Current	
CH1, CH3	$\pm 3$ digits (typ. $\pm 2$ digits)
Resolution	
Voltage	
CH1, CH3	10 mV
Current	
CH1, CH3	1 mA
Voltage to earth	max. 150 V <sub>DC</sub>
Over current protection (electronic fuse)	Yes

#### Modulation Input (CH1, CH3)

Rear connectors	2x BNC
Input level	0V to 10V
Accuracy	1% of full scale
Modulation bandwidth	DC to 50 kHz
Slew rate (dV/dt)	1 V/ $\mu$ s

#### Trigger Input (BNC)

Function	Triggering the arbitrary function
Trigger level	TTL
Edge direction	rising, falling

#### Arbitrary Function (CH1)

Parameter	Voltage, dwell time
Number of Points	max. 4,096
Dwell time	100 $\mu$ s to 60s
Repetition rate	continuous or burst mode with 1 to 255 repetitions
Resolution	12 Bit
Trigger	interface, trigger input

#### Remote Interfaces

Standard	Dual interface RS-232 / USB (HO820)
Optional	IEEE-488 (GPIB) interface (HO880)

#### Miscellaneous

Input power option	115 V <sub>AC</sub> / 230 V <sub>AC</sub> ( $\pm 10\%$ ), 50 Hz to 60 Hz, CAT II
Power consumption	300 VA
Mains fuses	
115 V <sub>AC</sub>	2x 6 A, slow blow (5 mm x 20 mm)
230 V <sub>AC</sub>	2x 3.15 A, slow blow (5 mm x 20 mm)
Operating temperature	+5°C to +40°C
Storage temperature	-20°C to +70°C
Humidity	5% to 80%
Display	4x 4 digits, 7-segment LEDs
Dimensions (H x W x D)	75 x 285 x 365 mm
Rack mount capability (19" rack mount kit, 2RU)	Yes (HZ42)
Weight	9 kg

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

#### Accessories included:

Line cord, operating manual, software-CD

#### Recommended accessories:

HZ42	19" rackmount kit, 2 RU
HZ10S	5 x silicon test lead (black)
HZ10R	5 x silicon test lead (red)
HZ10B	5 x silicon test lead (blue)
HO880	IEEE-488 (GPIB) interface card
HZ72	IEEE-488 (GPIB) interface cable, 2 m
HZ13	USB interface cable, 1,8 m
HZ14	Serial interface cable, Sub-D 9-pin, 1:1, 1,8 m