Двухканальный источник питания HM8143

Key features

The R&S®HM8143 power supply is the perfect choice whenever two-quadrant operation is needed. Besides the source functionality, it also provides electronic loads to accurately sink current and dissipate power in a controlled manner, for example to emulate the characteristics of a battery being charged or unloaded.

The R&S®HM8143 offers two channels with up to 30 V source and sink functionality plus one source channel with 5 V. Electronic fuse and modulation inputs are additional features.

Key specifications	
Total power output	130 W
Number of outputs	3
Voltage output CH1, CH3	0 V to 30 V
Voltage output CH2	5 V
Current output per channel	max. 2 A
Current sinking CH1, CH3	max. 2 A
Modulation input (CH1, CH3)	DC to 20 kHz bandwidth

Your benefit	Features
Two channels with source/sink functionality	Two-quadrant functionality can be used to source or sink current, e.g. to emulate any charging/unloading application
Additional 5 V source channel	Can be used to supply often used 5 V circuitries without needing another instrument
Electronic fuse	Overcurrent protection can be set to switch off all channels in case the configured current limit is overdriven
Modulation inputs	Via external modulation signals, the R&S®HM8143 can be used as a power amplifier, for example to supply AC motors

Parallel and serial operating mode

- In the parallel operating mode, channels can be bundled to achieve higher currents.
- In the serial operating mode, channels can be combined for higher output voltages.

Modulation inputs

- The R&S®HM8143 provides two modulation inputs on the rear, so it can be used as a power amplifier with a frequency range from DC to 20 kHz. Applications include testing of AC motors, relays, etc.

Electronic fuse

- In order to provide even better protection than current limiting, the R&S®HM8143 offers the feature of an electronic fuse. As soon as the current limit is reached, all outputs are simultaneously disabled.

Arbitrary function

- The arbitrary mode can be used to generate a time/voltage flow. A table comprising up to 1024 voltage and time values can be defined using external software tools.

Specifications

HM8143
Three-Channel Arbitrary Power Supply

from firmware version 2.45

Electrical Specifications	
Total power output	130 W
Number of outputs	3
Front connectors	4 mm saftey sockets
Maximum power per channel	
CH1, CH3 CH2	60 W 10 W
Voltage output	
CH1, CH3	0 V to 30 V
CH2	5 V (±50 mV)
Current output	
all channels	max 2 A
Current sinking	
CH1, CH3	max 2 A
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_{rms}
CH2	<1 mV_{rms}
Transient response time (10 % to 90 % load change)	
CH1, CH3	<45 µs in a band of ±20 mV of V_{set} max. deviation: <800 mV
CH2	<45 µs in a band of ±20 mV of V_{set} max. deviation: <200 mV
SENSE connectors available for	CH1, CH3
Max. SENSE compensation	300 mV
Programming accuracy (23° C ±5° C)	
Voltage / Current	
CH1, CH3	±3 digits (typ. ±2 digits)
Readback accuracy (23° C ±5° C)	
Voltage / Current	
CH1, CH3	±3 digits (typ. ±2 digits)
Resolution	
Voltage	
CH1, CH3	10 mV
Current	
CH1, CH3	1 mA
Voltage to earth	max. 150 V_{DC}

Modulation Input (CH1, CH3)	
Rear connectors	2x BNC
Input level	0 V to 10 V
Accuracy	1 % of full scale
Modulation bandwidth	DC to 20 kHz
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 µs to 60 s
Repetition rate	continous 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_{AC} / 230 V_{AC} (±10 %), 50 Hz to 60 Hz, CAT II
Power consumption	300 VA
Mains fuses	
115 V_{AC}	2x 6 A, slow blow (5 mm x 20 mm)
230 V_{AC}	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.

Ordering information	
Model configuration	
Two-quadrant power supply	R&S®HM8143
System component	
19" rackmount kit, 2 HU	R&S®HZ42

Included accessories:
The R&S®HM8143 includes operating manual, power cable and three-year warranty.