

HM8143

Arbitrary Power Supply

Technical Data



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 safety sockets
- ▮ SENSE connectors for line loss compensation (30V channels)
- ▮ External modulation of output voltages up to 20kHz
- ▮ Arbitrary module: 4,096 points, 12 bit
- ▮ RS-232/USB dual interface, IEEE-488 (GPIB) optionally

Test & Measurement

Technical Data

PD 5210.8720.32 - 02.00

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 (± 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 _{rms}
CH2	<1 mV _{rms}
Transient response time (10% to 90% load change)	
CH1, CH3	<45 μ s in a band of ± 20 mV of V_{set} max. deviation: <800 mV
CH2	<45 μ s 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 $\pm 5^\circ$ C)	
Voltage / Current	
CH1, CH3	± 3 digits (typ. ± 2 digits)
Readback accuracy (23°C $\pm 5^\circ$ 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}
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 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 μ s to 60 s
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 _{AC} / 230 V _{AC} ($\pm 10\%$), 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.

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