

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 (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

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 50 kHz
Slew rate (dV/dt)	1 V/ μ 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 μ 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 _{AC} / 230 V _{AC} ($\pm 10\%$), 50 Hz to 60 Hz, CAT II
Power consumption	300 VA
Mains fuses	
115 V _{AC}	2x 6A, slow blow (5 mm x 20 mm)
230 V _{AC}	2x 3.15A, 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