

1 kW, ½ Rackmount and Benchtop System Power Supplies

The LHP Series 1 kW programmable power supplies are designed for both benchtop and rackmount system applications. They feature universal input and power factor correction (PFC). Universal input allows use of line voltages around the world without factory presetting or user interaction. Power factor correction provides full output power from standard 120 VAC, 15 amp outlets and meets international regulations for input harmonic distortion. The half rack package is an ideal footprint for lab bench use and occupies less than 3.5" of vertical height for rackmount system applications. Both front and rear output connectors are available.



The supplies may be configured in serial or parallel operation for increased voltage or current. External analog control is standard. Remote control alternatives include IEEE-488, RS 232 and four-channel isolated analog programming.

Features

◆ Voltage

- Nine standard models with voltage ranges from 7.5 to 600 VDC and current levels from 1.7A to 130A
- High resolution front panel setting of voltage and current
- Parallel or serial operation for increased voltage or current

◆ Input

Universal AC input

◆ Power Factor Correction (PFC)

0.98 minimum

◆ Protection and Safety

- Standard OVP
- Push-button preview of voltage, current and OVP set points
- Front panel OVP set
- Automatic crossover into current or voltage modes
- Standby mode
- Thermal shutdown, latching or auto reset

◆ Front and Rear Output Connectors

- Standard

◆ Remote Programming

- Remote monitoring for output voltage and current
- Standard analog programming
- Optional four-channel isolated programming (Option M51)
- Optional internal IEEE-488 interface (Option M9B)
- Optional internal RS 232 interface (Option M8)

◆ CE Mark



LHP - Specifications

OUTPUT

Voltage and Current

Model	Voltage	Current
LHP 7.5-130	0-7.5	0-130
LHP 20-50	0-20	0-50
LHP 33-33	0-33	0-33
LHP 40-25	0-40	0-25
LHP 60-18	0-60	0-18
LHP 100-10	0-100	0-10
LHP 150-7	0-150	0-7
LHP 300-3.5	0-300	0-3.5
LHP 600-1.7	0-600	0-1.7

Noise and Ripple: See table

Line Regulation: See table

Load Regulation: See table

Transient Response (Voltage): 1 ms for output voltage to recover within 0.1% of previous level after step change in load current of up to 50% of rated output

Stability: 0.05%

Efficiency: 80% typical

Temperature Coefficient: See table

INPUT

Voltage and Frequency: 85-250 VAC, 47-63 Hz

Connector: IEC 320 15A/250V

Current: 13A max at 100 VAC, 11A max at 120 VAC, 6A max at 220 VAC

Power Factor: 0.98 minimum for full load

Input Harmonic Distortion: Current harmonics meet IEC555-2 limits

GENERAL

Operating Temperature: 0°C to 40°C

Storage Temperature: -40°C to +85°C

Humidity: 0-80% RH, non condensing

Cooling: Forced air

Front Panel Control: 10-turn voltage and current potentiometers

Front Panel Voltage Control Resolution: 0.02% of voltage maximum

Main Output: Nickel plated copper bus bars for models up to 40V. Wire clamp connector for models over 40V (30A max from front panel)

Remote Start/Stop and Interlock: TTL compatible input, selectable logic

Meter Accuracy: 1% of full scale + 1 count

Adjustable OVP: OVP range 5% to 110% of V max

Remote Sense Voltage: 5V maximum drop per line (3V/line for LHP 7.5-130)

Maximum Voltage: Differential (output to safety ground) 600 VDC

Regulatory Compliance: CE Mark

Dimensions: 2U or 3.50" (88 mm) H x 8.45" (214 mm) Wt x 18.60" (472 mm) D

Weight: 18 lbs. (8.2 kg)

Shipping Weight: 20 lbs. (9 kg)

OPTIONS & ACCESSORIES

M8: Serial instrument programming using RS 232 protocol (May not be combined with M9B or M51)

M9B: Full feature IEEE-488 programming with 14-bit resolution and software calibration (May not be combined with M8 or M51)

M51: Isolated analog programming of either voltage or current (May not be combined with M8 or M9B)

RM2: Rackmount kit

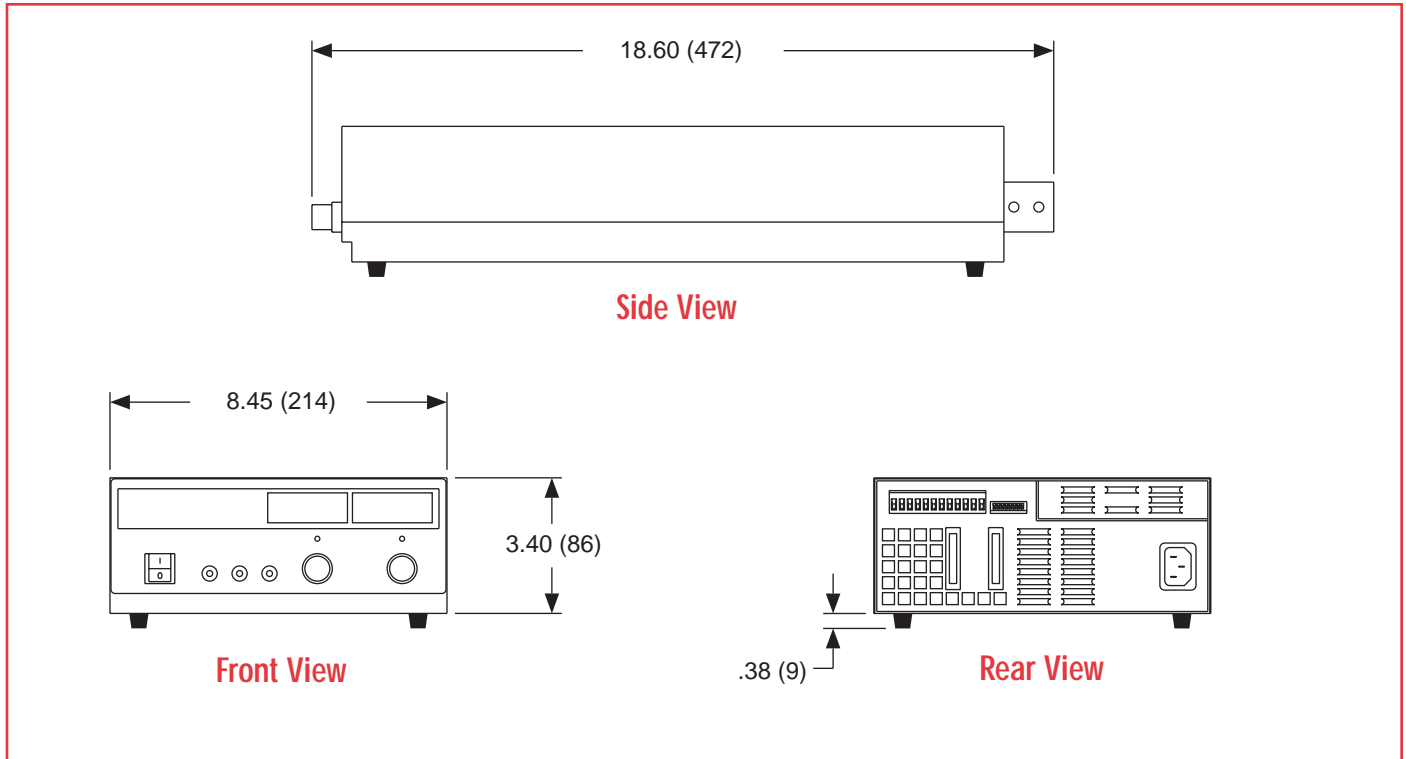
LHP - Data Table

Model	Output		Constant Voltage Mode				Temp. Coeff., Voltage mV/°C	Voltage Drift mV
	Voltage VDC	Current ADC	Regulation Line mV	Regulation Load mV	Ripple (RMS) mV	Noise (P-P) mV		
LHP 7.5-130	0-7.5	0-130	2.75	2.75	5	50	1.5	3.75
LHP 20-50	0-20	0-50	4	4	5	50	4	10
LHP 33-33	0-33	0-33	5.3	5.3	7.5	75	6.6	16.5
LHP 40-25	0-40	0-25	6	6	5	75	8	20
LHP 60-18	0-60	0-18	8	8	10	75	13	30
LHP 100-10	0-100	0-10	12	12	10	100	20	50
LHP 150-7	0-150	0-7	17	17	20	150	30	75
LHP 300-3.5	0-300	0-3.5	32	32	30	250	60	150
LHP 600-1.7	0-600	0-1.7	62	62	35	300	120	300

Model	Programming Constants Voltage Mode		Constant Current Mode		Temp. Coeff. Current mA/°C	Current Drift mA (Typ.)	Programming Constant Current Mode	
	Ohms/V	V/V	Regulation Line mA	Regulation Load mA			Ohms/A	V/A
LHP 7.5-130	0-5 kΩ – 0-100% V ₀ or 0-100 kΩ = 0-100% V ₀	0-5 V = 0-100% V ₀ or 0-100V = 0-100% V ₀	14	66	30	65	0-5 kΩ – 0-100% I ₀ or 0-100 kΩ = 0-100% I ₀	0-5 V = 0-100% I ₀ or 0-100V = 0-100% I ₀
LHP 20-50			6	26	15	25		
LHP 33-33			4.3	17.5	9.9	16.5		
LHP 40-25			3.5	13.5	7.58	12.5		
LHP 60-18			2.8	10	5.4	9		
LHP 100-10			2	6	3	5		
LHP 150-7			1.7	4.5	2.1	3.5		
LHP 300-3.5			1.35	2.75	1.1	1.75		
LHP 600-1.7			1.2	1.8	0.48	0.8		

Model	Programming Resolution			Programming Accuracy			Readback Resolution		Readback Accuracy	
	Voltage (mV)	Current (mA)	OVP (mV)	Voltage (mV)	Current (mA)	OVP (mV)	Voltage (mV)	Current (mA)	Voltage (mV)	Current (mA)
LHP 7.5-130	0.75	13	0.75	9.75	143	75	0.75	13	13.5	208
LHP 20-50	2	5	2	26	55	200	2	5	36	80
LHP 33-33	3.3	3.3	3.3	42.9	36.3	330	3.3	3.3	59.4	52.8
LHP 40-25	4	2.5	4	45	27.5	400	4	2.5	72	40
LHP 60-18	6	1.8	6	78	19.8	600	6	1.8	108	28.8
LHP 100-10	10	1	10	130	11	1000	10	1	180	16
LHP 150-7	15	0.7	15	195	7.7	1500	15	0.7	270	11.2
LHP 300-3.5	30	0.35	30	390	3.85	3000	30	0.35	540	5.6
LHP 600-1.7	60	0.16	60	780	1.76	6000	60	0.16	1080	2.56

LHP - Case and Options



Options & Accessories

Remote Interface Options	
M8	RS 232 interface
M9B	IEEE-488 interface
M51	Isolated analog input
Rack Slide Kit	
RM2	Rackmount kit