

300 Watt, 1/4 Rackmount and Benchtop High Density Power Supplies

The HPD Series (High Power Density) 300W programmable power supplies are designed for system, benchtop, ATE and other instrument-controlled applications. The series offers a full 300 watts in a 1/4 rackwide package. HPDs feature programmable output voltage and current plus low output ripple and noise. The units meet FCC class A requirements for reduced EMI. HPDs can be used individually or can be combined in an optional 19" rack adapter to achieve single, dual, triple or quad outputs.



Features

◆ Voltage

- Three standard models in adjustable voltage and current ranges: 0-15V, 0-20A; 0-30V, 0-10A; and 0-60V, 0-5A
- High resolution 10-turn potentiometer provides precise output voltage control

◆ Modular Design

Single units may be rack mounted alone or configured with XT series

◆ Input

115 VAC, 47-63 Hz, single phase input standard, 230 VAC input available (Option M2)

◆ Displays

- Simultaneous digital displays of voltage and current on large, easy to read LEDs
- Unique twin LED bar graphs show voltage and current levels proportional to supply output

◆ Protection and Safety

- Overvoltage protection
- Short circuit proof outputs
- Current limit

◆ Regulation

0.01% + 2 mV line and load regulation

◆ Transient Response

<500 μ s transient response with \pm 50% load change (typical)

◆ Remote Programming

- Remote programming and monitoring of output voltage and/or current, OVP, remote on/off, master/slave tracking (Option M5A)
- Internal IEEE-488 Interface Card with voltage/current readback and adjustable OVP (Option M9B)

◆ CE Mark

◆ 5 Year Warranty



HPD - Specifications

OUTPUT

Voltage and Current

Model	Voltage	Current
HPD 15-20	0-15	0-20
HPD 30-10	0-30	0-10
HPD 60-5	0-60	0-5

Constant Voltage Mode

Ripple and Noise: 5 mV RMS and 100 mV p-p max.

Regulation

Line: 0.01% of V max. + 2 mV

Load: 0.01% of V max. + 2 mV

Transient Response: Typically recovers in <500 μ s to within 0.05% of steady-state output voltage. \pm 50% load change in the range of 25 to 100% of rated load

Stability: 0.02% of maximum voltage over 8 hours after 60 minute warm up time at fixed line, load and temperature

Temperature Coefficient: 0.015%/°C of maximum output voltage

Constant Current Mode

Regulation:

Line: 0.01% of I max. + 1 mA

Load: 0.01% of I max. + 1 mA

Temperature Coefficient: 0.02%/°C of maximum output current

Stability: 0.03% of maximum current over 8 hours after 60 minute warm up time of fixed line, load and temperature

INPUT

Voltage and Frequency: 115 VAC single phase \pm 10%, 47-63 Hz, or optional 200 to 250 VAC (M2)

Current: 6

GENERAL

Operating Temperature:
0 to 50°C (derated above 30°C)

Storage Temperature: -55°C to 85°C

Cooling: By convection

Efficiency: 80%

Series Operation: Consult Sorensen

Parallel Operation: Consult Sorensen

Overvoltage Protection: Available with Options M5A and M9B

Overload Short-Circuit Protection:
Standard, switches to current mode operation while in short circuit

Output to Chassis Isolation: 400 VDC

Voltage Resolution: Standard 0.02%, IEEE-488

Meter Accuracy: 1% of full scale + 1 count

Voltage Programming: Zero to full scale output linearly proportioned to a 0-10V or 0-10 k Ω (Option M5A)

Current Programming: Zero to full scale output linearly proportioned to 0-10V or 0-10 k Ω (Option M5A)

Remote Sensing: Compensation for maximum line drop of 0.5V (per output line)

Rear Access Connector: Option M5A. D subminiature 25 pin female. Option M9B IEEE-488 connector (mating connector not supplied)

Regulatory Compliance: CE Mark

Dimensions: 3U or 5.25" (133 mm) H x 4.25" (108 mm) W x 11.50" (292 mm) D

Weight: 7.7 lbs. (3.5 kg)

Shipping Weight: 9 lbs. (4 kg)

OPTIONS & ACCESSORIES

M2 Input Voltage: 200-250 VAC, single phase, 47-63 Hz

M5A Analog Programming: Internal interface for full scale remote programming of output voltage and/or current by a 0-10V or 0-10 k Ω external source connected at the rear panel. Includes 0-10V readback, externally adjustable overvoltage protection (OVP), TTL shutdown with selectable logic, master/slave tracking and status signals for programming mode, operating mode, OVP and output fail flag (May not be combined with M9B)

M9B Internal IEEE-488 Interface: Features complete remote programming, including status reporting, settings query and interrupt generation with user-designated fault conditions. Both the voltage and current output are precisely programmed directly in volts and amps. See page 49 for more information (May not be combined with M5A)

M11: 10-turn current control potentiometer

M13: Locking shafts (front panel potentiometers)

M15: Front panel binding posts

M18: Carrying handle

Rack Adapter Kit: Specify RM-XHS

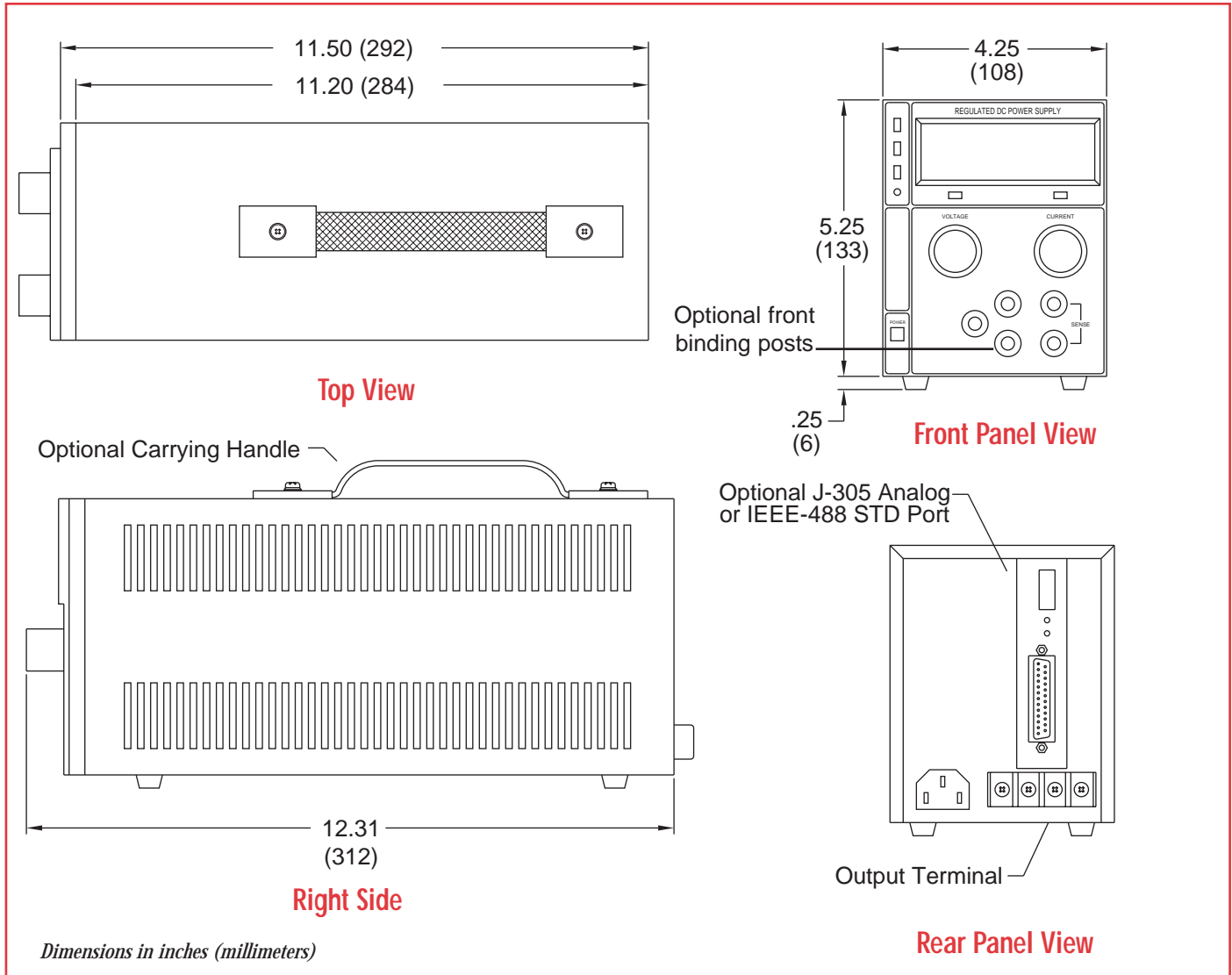
HPD - Data Table

Model	Output Power				Constant Voltage Mode				Temp. Coeff., Voltage %/°C	Voltage Drift % (Typ.)	Programming Constants Voltage Mode ¹	
	Voltage (VDC)	Current (ADC)			Regulation Line and Load mV	Ripple (RMS) mV	Resolution %	Transient Response Time μ s			Ohms/V	V/V
		30°C	40°C	50°C								
HPD 15-20	0-15	20	15	10	7	5	0.02	<500	0.015	0.02	667	1.5
HPD 30-10	0-30	10	7.5	5	10	5	0.02	<500	0.015	0.02	333	3.0
HPD 60-5	0-60	5	3.75	2.5	16	5	0.02	<500	0.015	0.02	167	6.0

Model	Constant Current Mode		Temp. Coeff., Current %/°C (Typ.)	Current Drift % (Typ.)	Programming Constants Current Mode ¹		Standard Input Power (Single Phase, 47-63 Hz)		Efficiency % (Typ.)
	Regulation Line and Load mA	Ripple (RMS) mA			Ohms/A	V/A	VAC \pm 10%	Current A RMS (Max.)	
HPD 30-10	4	5	0.02	0.03	1000	1.0	115	6	80
HPD 60-5	3	5	0.02	0.03	2000	0.5	115	6	80

Note: 1. Requires M5A option

HPD - Case and Options



M5A • J-305 Pin Assignments

Pin	Identification	Pin	Identification
1	Overvoltage Protection Flag	14	Not Used
2	TTL Shutdown Return	15	TTL Shutdown
3	Not Used	16	Current Limit Program
4	Program Return	17	Voltage Program
5	Program Return	18	Current Readback
6	Auxiliary Ground	19	Voltage Readback
7	Remote Voltage Program Select*	20	+10V Reference Out (10 mA max)
8	Remote Current ProgramSelect*	21	Output Fail Flag*
9	Voltage Current Limit Mode Indicator	22	+ Sense
10	+ Out	23	+ Out
11	+ Out	24	- Return
12	- Return	25	- Return Sense
13	- Return		