Sorensen HPD Series

300 Watt DC Power Supply with Near-Linear Performance

- Low noise and ripple
- Excellent line/load regulation
- Constant voltage or constant current operation with automatic crossover and mode indication
- Current limit
- Front and rear outputs
- Remote sense
- LabVIEW® and LabWindows® drivers

The Sorensen High Power Density (HPD) Series provides 300 watts of reliable DC power in a quarter-rack wide unit. The HPD Series power supplies are ideal for benchtop, ATE and OEM applications where a wide adjustment of output voltage or current is required in a compact unit.

The HPD series uses switch-mode technology combined with linear post regulation to provide performance comparable to an all-linear design. The HPD series features excellent line and load regulation with low noise and good transient response. The series is available in a single unit for benchtop use. For systems applications, multiple units can be rack-mounted in configurations of up to four independent 300-watt outputs.

300 W

15–60 V

5–20 A

	~	115	230

GPIB RS232

AMETEK
Programmable Power
9250 Brown Deer Road
San Diego, CA 92121-2267
USA

AMETEK® PROGRAMMABLE POWER

HPD Series : Product Specifications[1]

Output : Voltage and Current			
Models	15-20	30-10	60-5
Output Ratings			
Output Voltage	0-15 V	0-30 V	0-60 V
Output Current	0-20 A	0-10 A	0-5 A
Output Power	300 W	300 W	300 W
Line Regulation [2]			
Voltage (0.01% of Vmax + 2 mV)	3.5 mV	5 mV	8 mV
Current (0.05% of Imax + 2 mA)	12 mA	7 mA	4.5 mA
Load Regulation [3]			
Voltage (0.01% of Vmax + 2 mV)	3.5 mV	5 mV	8 mV
Current (0.05% of Imax + 2 mA)	12 mA	7 mA	4.5 mA
Meter Accuracy			
Voltage (1% of Vmax + 1 count)	250 mV	400 mV	700 mV
Current (1% of Imax + 1 count)	300 mA	200 mA	60 mA
Output Noise (90-20 MHz)			
Voltage (p-p) (0-20 MHz) rear panel	75 mV	75 mV	100 mV
Voltage (p-p) (0-20 MHz) front panel	100 mV	100 mV	180 mV
Output Ripple			
Voltage rms, rear panel	5 mV	5 mV	5 mV
Voltage rms, front panel	10 mV	10 mV	10 mV
Drift (8 hours) [4]			
Voltage (0.02% of Vmax)	3 mV	6 mV	12 mV
Current (0.08% of Imax)	16 mA	8 mA	4 mA
Temperature Coefficient [5]			
Voltage (0.015% of Vmax/°C)	2.25 mV	4.5 mV	9 mV
Current (0.02% of Imax/°C)	4 mA	2 mA	1 mA
HPD 300 W Internal Interface Specifications with RS-232 or GPIB Interface Installed [1,6]			
Models	15-20	30-10	60-5
Program Accuracy			
Voltage (mV)	60 + 0.1%	70 + 0.1%	90 + 0.12%
Current (mA)	75 + 0.12%	50 + 0.12%	25 + 0.1%
OVP (mV)	1500	3000	6000
Readback Accuracy			
Voltage (mV)	45 + 0.3%	90 + 0.3%	175 + 0.3%
Current (mA)	75 + 0.12%	40 + 0.12%	25 + 0.1%

Specifications subject to change without notice.

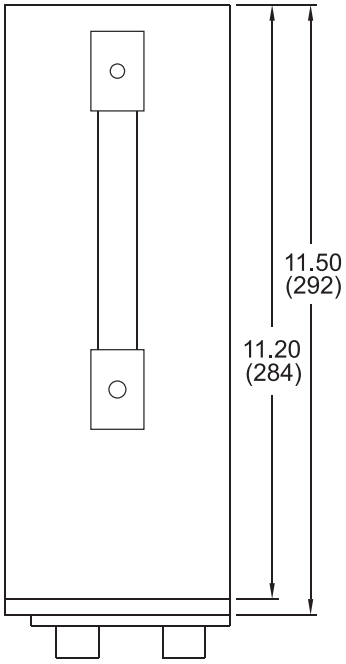
1. Specifications indicate typical performance at 25°C ± 5°C, nominal line input of 120 Vac.
2. For input voltage variation over the AC input voltage range, with constant rated load.
3. For 0-100% load variation, with constant nominal line voltage.
4. Maximum drift over 8 hours with constant line, load, and temperature, after 60-minute warm-up.
5. Change in output per °C change in ambient temperature, with constant line and load.
6. Apply accuracy specifications according to the following voltage program accuracy example: Set a model 15-20 power supply to 10 V. The expected result will be within the range of 10 V ± 60 mV ± 0.1% of the set voltage of 10 V.

HPD Series : Product Specifications[1]

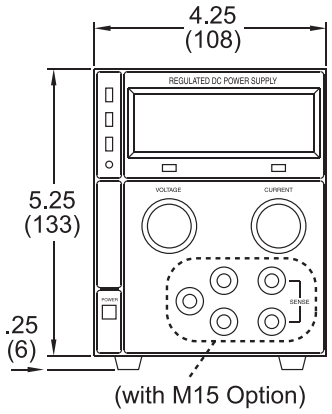
300 W

Input	
Operational AC Input Voltage	Single unit: 104-127 Vac at 6 Arms; 47-63 Hz
General	
Switching Frequency	100 kHz (nominal)
Voltage Mode Transient Response Time	< 500 µs recovery to 50 mV band for ±50% load change in the range of 25% to 100% of the rated load
Front Panel Voltage and Current Control	10-turn voltage and 1-turn current potentiometers (10-turn current optional)
Front Panel Voltage Control Resolution	0.02% of maximum voltage
AC Input Connector Type	EC 320 connector
Approvals	CE-marked units meet: EN61010-1, EN61000-6-2 and EN61000-6-4; CSA C/US certified to UL61010-1B and CSA C22.2 No 1010.1; Meets USA EMC standard: FCC, part 15B, Class A; Meets Canadian EMC standard: ICES-001, Class A.
Analog Programming (with optional APG interface installed)	
Remote On/Off and Interlock	2 to 25 Vdc high. <0.8 Vdc low. User-selectable.
Remote Analog Programming Option	0-10 Vdc for 0-100% of rated voltage or current ±1.0%, 0-10kΩ for 0-100% of rated voltage or current ±1.0%
Remote Monitoring	0-10 Vdc for 0-100% or rated voltage or current ±1.0%
Over Voltage Protection Trip Range	3 V to full output ±10%
Tracking Accuracy	±1% for series operation
Environmental	
Operating Temperature	0 to 30°C for full rated output. Above 30°C, derate output linearly to zero at 70°C.
Storage Temperature	- 55 to 85°C
Humidity Range	0 to 80% RH, non-condensing
Physical	
Dimensions	Width: 4.2" (109.2 mm) Height: 5.2" (134.7 mm) Depth: 11.7" (297 mm)
Weight	Approximately 7.7 lb (3.5 kg)

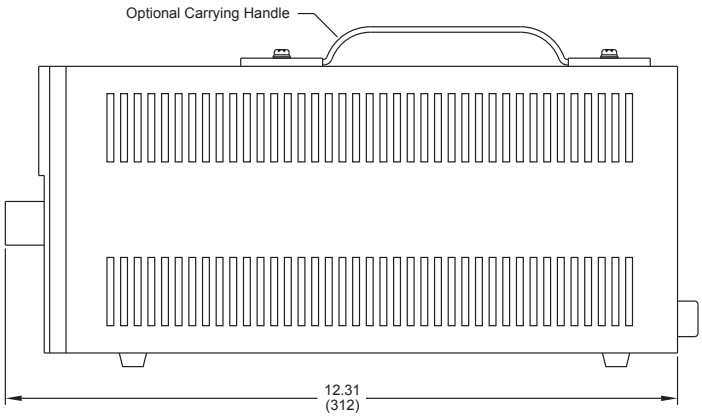
HPD Series : Technical Diagram



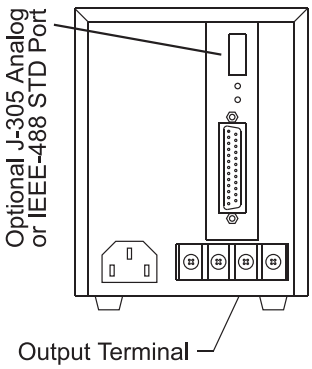
Top



Front

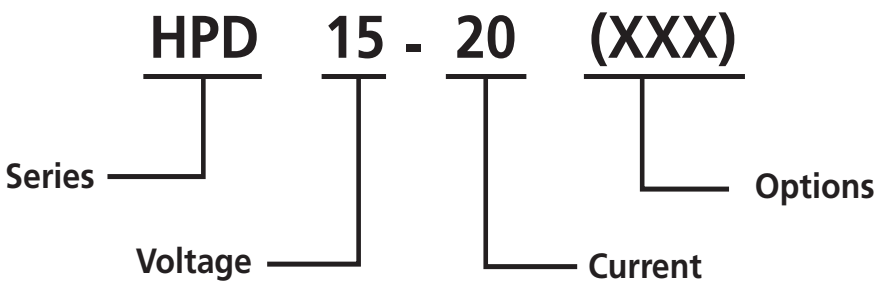


Right Side



Back

Model Number Description



Options and Accessories

MGA *	GPIB Interface card
MRA *	RS-232 Interface card
MAA *	Analog programming interface card
M2S	Switch selectable input 110 Vac or 220 Vac
M11	10-turn current potentiometer
M13A	Locking knobs for front panel controls
RM-XPDG-3	19-inch Rack Mount Kit
M2	AC Input Option - 200-250 Vac Input (50/60 Hz)

* Options cannot be combined.

Notes