XHR 1 kW

XHR 1 kW Programmable DC Power Supply

Provides 1000 Watts from a 120 Volt / 15 A Outlet

The Xantrex XHR Series provides 1000 watts of DC power in a compact half-rack package. The supplies are designed for benchtop and system use, and as an ideal companion for other half-rack instruments in a test console - eliminating the need for a blank panel to preserve vertical rack space. Unique features and size make the XHR ideal for OEM applications where high power and wide adjustment of output voltage or current is required.

The half-rack XHR comes with a choice of rear and/or front panel connectors for additional system flexibility. The supplies are power factor corrected for low current draw - only 11 A at 120 VAC for 1000 watts - and reduced generation of input current harmonics. Zero voltage or "soft switching" virtually eliminates switching transients and contributes to the high efficiency, low noise and high reliability. The XHR is stackable, with a small footprint, front panel binding post connectors, and a low current requirement allowing for it to be plugged into a standard 120 VAC, 15 A circuit.

Product Features

- Zero voltage "Soft Switching"
- Power Factor Correction (PFC)
- Simultaneous front panel display of output voltage and current
- Constant voltage or constant current operation
- Choice of front or rear connectors
- Ten-turn front panel knobs
- Standby mode
- Remote sense with 5 V line loss compensation
- LabVIEW® and LabWindows® drivers

Protection Features

- Over voltage protection
- Over temperature protection

Options

- Isolated analog control (ISOL)
- RS-232 interface card
- GPIB interface card
- GPIB-multichannel

Xantrex Technology Inc.
Headquarters
8999 Nelson Way
Burnaby, British Columbia
Canada V5A 4B5
800 670 0707 Toll Free
604 420 1591 Fax

5916 195th Street NE
Arlington, Washington
USA 98223
800 446 6180 Toll Free
360 925 5144 Fax

www.xantrex.com

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Electrical Specifications [1]

Models	7.5-130	20-50	33-33	40-25	60-18	100-10	150-7	300-3.5	600-1.7
Output Ratings									
Output Voltage	0-7.5 V	0-20 V	0-33 V	0-40 V	0-60 V	0-100 V	0-150 V	0-300 V	0-600 V
Output Current	0-130 A	0-50 A	0-33 A	0-25 A	0-18 A	0-10 A	0-7 A	0-3.5 A	0-1.7 A
Output Power	975 W	1000 W	1089 W	1000 W	1080 W	1000 W	1050 W	1050 W	1020 W
At the Front Panel Binding Posts									
Output Current	0-30 A	0-30 A	0-30A	0-25 A	0-18 A	0-10 A	0-7 A	0-3.5 A	0-1.7 A
Output Power	225 W	600 W	990 W	1000 W	1080 W	1000 W	1050 W	1050 W	1020 W
Line Regulation [2]									
Voltage	1 mV	1 mV	1 mV	1 mV	1 mV	1.5 mV	3 mV	10 mV	20 mV
Current	5 mA	2 mA	1 mA	1 mA	1 mA	1 mA	0.5 mA	0.5 mA	0.5 mA
Load Regulation [3]									
Voltage	1.5 mV	1.5 mV	1.5 mV	1.5 mV	1.5 mV	2.5 mV	4 mV	10 mV	15 mV V
Current	15 mA	15 mA	8 mA	7 mA	4 mA	3 mA	3 mA	2.5 mA	2.5 mA
Meter Accuracy									
Voltage (0.5% of Vmax + 1 count).	0.05 V	0.2 V	0.3 V	0.3 V	0.7 V	1.1 V	1.6 V	4 V	7 V
Current (0.5% of Imax + 1 count)	0.8 A	0.4 A	0.3 A	0.3 A	0.19 A	0.11 A	0.08 A	0.05 A	0.03 A
Output Noise (0-20 mHz)									
Voltage (p-p)	50 mV	50 mV	50 mV	50 mV	50 mV	50 mV	75 mV	100 mV	300 mV
Output Ripple (rms)									
Voltage	7.5 mV	5 mV	5 mV	5 mV	5 mV	5 mV	7.5 mV	20 mV	60 mV
Drift (8 hours) [4]									
Voltage (0.05% of Vmax)	3.75 mV	10 mV	16.5 mV	20 mV	30 mV	50 mV	75 mV	150 mV	300 mV
Current (0.1% of Imax)	130 mA	50 mA	33 mA	25 mA	18 mA	10 mA	7 mA	3.5 mA	1.7 mA
Temperature coefficient [5]									
Voltage (0.02% of Vmax/°C)	1.5 mV	4 mV	6.6 mV	8 mV	12 mV	20 mV	30 mV	60 mV	120 mV
Current (0.03% of Imax/°C)	39 mA	15 mA	9.9 mA	7.5 mA	5.4 mA	3 mA	2.1 mA	1.1 mA	0.48 mA
Maximum Remote Sense									
Line Drop Compensation [6]	3 V/line	5 V/line	5 V/line	5 V/line	5 V/line	5 V/line	5 V/line	5 V/line	5 V/line
OVP Adjustment Range (5% to 110% of Vmax)	0-375-8.25 V	1-22 v	1.65-36.3 V	2-44 V	3-66 V	5-110 V	7.5-165 V	15-330 V	30-660 V
Efficiency [7]	81%	83%	83%	83%	84%	84%	85%	85%	85%

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. Measured at the rear panel output connector unless stated otherwise.
4. Maximum drift over 8 hours with constant line, load, and temperature, after 30-minute warm-up.
5. Change in output per °C change in ambient temperature, with constant line and load.
6. Line drop is subtracted from total voltage available at supply output.
7. Typical efficiency at 115 VAC input and rated output power.

General Specifications

Operational AC Input Voltage	85-250 VAC, 47-63 Hz; power factor corrected. Derate maximum output power to 900 W for AC input less than 95 V
Power Factor	0.99 minimum for full load and 120 VAC input
Switching Frequency	7.5 V to 300 V models: nominal 125 kHz (250 kHz output ripple); 600 V model: nominal 62.5 kHz (125 kHz output ripple)
Remote Analog Programming	Voltage and current programming inputs (source must be isolated): 0-5 k, 0-10 k resistances; 0-5 V (default), 0-10 V voltage sources
Remote Analog Monitoring	Voltage and current monitor outputs 0-5 V (default), 0-10 V ranges for 0-100% of output
Dimensions (HxWxD)	3.4 x 8.5 x 18.6″ (86.4 x 216.0 x 472.2 mm)
Weight (one unit)	Approximately 14 lb (6 kg)
Warranty	5 years
Approvals	CE-marked units meet: EN61010-1, EN61000-6-2 and EN6100-6-4; 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.

Note: Specifications are subject to change without notice.