XHR 1 kW

xantrex

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
604 422 8595 Phone
604 421 3056 Fax

5916 195th Northeast
Arlington, Washington
USA 98223
360 671 2966 Phone
360 671 3095 Fax

161-G South Vasco Road
Livermore, CA
USA 94551
925 245 5400 Phone
925 245 1022 Fax

800 667 8422 Sales & Support
prg.info@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	1.5 mV	1.5 mV	3 mV	10 mV	15 mV
Current	5 mA	2 mA	1 mA	1 mA	1 mA	1 mA	1 mA	1 mA	1 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	50 mA	10 mA	4 mA	3 mA	3 mA	2 mA	2 mA	2 mA	2 mA
Meter accuracy									
Voltage (0.5% of Vmax + 1 count).	0.05 V	0.2 V	0.3 V	0.3 V	0.4 V	0.6 V	0.9 V	1.6 V	4 V
Current (0.5% of Imax + 1 count)	0.8 A	0.4 A	0.3 A	0.3 A	0.1 A	0.06 A	0.05 A	0.03 A	0.01 A
Output noise and ripple:									
rms	5 mV	5 mV	5 mV	5 mV	5 mV	5 mV	10 mV	15 mV	50 mV
p-p (0-20 mHz)	50 mV	50 mV	50 mV	50 mV	50 mV	50 mV	75 mV	100 mV	300 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)	0-3.75-8.25 V	1-22 v	1.65-36.3 V	2-44 V	3-66 V	5-100 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.
4 Measured at full rated output with a resistive load.
5 Maximum drift over 8 hours with constant line, load, and temperature, after 30-minute warm-up.
6 Change in output per °C change in ambient temperature, with constant line and load.
7 Measured with stepped 0-10 V analog programming source and a resistive load.
8 Typical efficiency at 100 VAC input and rated output power.
9 Derate output current on 6 V model by 1.5 A per °C for operating temperatures 30-50°C.

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
Input Power Factor Correction	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: 0-5 k, 0-10 k (2%) resistances; 0-5 V, 0-10 V (1%) voltage sources (10 V default)
Remote analog monitoring	Voltage and current monitor outputs 0-5 V, 0-10 V (default) ranges for 0-100% of output (1%)
Dimensions (HxWxD)	3.4 x 8.5 x 16.2" (86.4 x 216.0 x 411.6 mm)
Weight	14 lb (6 kg)
Warranty	Five years
Regulatory approvals	CE, CSA, UL

Note: Specifications are subject to change without notice.