

XPR Series

Xantrex 6 kW Programmable DC Power Supply With Power Factor Correction



Simple, High Power Solution for Bulk Power Applications

The analog-controlled Xantrex 6 kW Series of Programmable DC Power Supplies with Power Factor Correction - (XPR Series) is designed for bulk power applications, where analog functionality is preferred over digital programming. The power supplies are ideal for applications such as burn-in, electroplating, battery charging, and steering magnets. With "soft switching" technology that ensures low temperature operation and eliminates high voltage transients that stress power transistors, XPR offers a lower noise and a more reliable solution than what has been available in the past.

XPR comes with standard analog control for resistive or voltage programming of the output voltage and current limits, and a straightforward front panel that features a seven segment LED display with several status and alarm indicators, and 10-turn knobs for voltage and current control. The front panel buttons allow users to conveniently set and view the over voltage protection set points, view the output voltage and current limits, enable output shutdown, and offer the flexibility of toggling control of the power supply between the front panel and remote analog control.

Product Features

- ▶ Zero voltage "soft switching"
- ▶ Power Factor Correction (PFC)
- ▶ Remote sense with 5 V line loss compensation
- ▶ Simultaneous display of output voltage and current
- ▶ Automatic Voltage/Current mode crossover
- ▶ Auxiliary status lines for monitoring power supply conditions
- ▶ Remote interlock
- ▶ Parallel connected units for higher power requirements
- ▶ Analog programming and readback capabilities
- ▶ Five year warranty

Protection Features

- ▶ Over voltage protection
- ▶ Over temperature protection
- ▶ Sense protection

Option

- ▶ Isolated analog control (ISOL)

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Electrical Specifications

Models	10-600	20-300	30-200	40-150	60-100	80-75	100-60	150-40	300-20	600-10
Output Ratings										
Output Voltage ¹	0-10 V	0-20 V	0-30 V	0-40 V	0-60 V	0-80 V	0-100 V	0-150 V	0-300 V	0-600 V
Output Current ²	0-600 A	0-300 A	0-200 A	0-150 A	0-100 A	0-75 A	0-60 A	0-40 A	0-20 A	0-10 A
Output Power	6000 W	6000 W	6000 W	6000 W	6000 W	6000 W	6000 W	6000 W	6000 W	6000 W
Line Regulation ³										
Voltage	1 mV	1 mV	3 mV	2 mV	3 mV	5 mV	7 mV	7 mV	10 mV	20 mV
Current	150 mA	50 mA	50 mA	30 mA	20 mA	20 mA	20 mA	10 mA	5 mA	5 mA
Load Regulation ⁴										
Voltage	10 mV	10 mV	20 mV	20 mV	20 mV	25 mV	25 mV	25 mV	30 mV	80 mV
Current	150 mA	50 mA	50 mA	30 mA	30 mA	20 mA	20 mA	10 mA	10 mA	10 mA
Meter Accuracy										
Voltage (0.5% of Vmax +1 count)	0.06 V	0.2 V	0.25 V	0.3 V	0.4 V	0.5 V	0.6 V	1.75 V	2.5 V	4 V
Current (0.5% of Imax +1 count)	4.0 A	2.5 A	2.0 A	1.75 A	0.6 A	0.48 A	0.4 A	0.3 A	0.2 A	0.06 A
Output Noise (0-20 MHz)										
Voltage (p-p)	85 mV	80 mV	70 mV	70 mV	70 mV	75 mV	75 mV	80 mV	80 mV	110 mV
Output Ripple (rms)										
Voltage	10 mV	10 mV	10 mV	10 mV	10 mV	12 mV	15 mV	15 mV	20 mV	20 mV
Current ⁵	500 mA	100 mA	50 mA	50 mA	30 mA	30 mA	30 mA	30 mA	20 mA	20 mA
Drift (30 minutes) ⁶										
Voltage (0.04% of Vmax)	4 mV	8 mV	12 mV	16 mV	24 mV	32 mV	40 mV	60 mV	120 mV	240 mV
Current (0.6% of Imax)	3600 mA	1800 mA	1200 mA	900 mA	600 mA	450 mA	360 mA	240 mA	120 mA	60 mA
Drift (8 hours) ⁷										
Voltage (0.02% of Vmax)	2 mV	4 mV	6 mV	8 mV	12 mV	16 mV	20 mV	30 mV	60 mV	120 mV
Current (0.4% of Imax)	240 mA	120 mA	80 mA	60 mA	40 mA	30 mA	24 mA	16 mA	8 mA	4 mA
Temperature Coefficient ⁸										
Voltage (0.04% of Vmax/°C)	4 mV	8 mV	12 mV	16 mV	24 mV	32 mV	40 mV	60 mV	120 mV	240 mV
Current (0.06% of Imax/°C)	360 mA	180 mA	120 mA	90 mA	60 mA	45 mA	36 mA	24 mA	12 mA	6 mA
OVP Adjustment Range (0 to 110% of Vmax)	0-11 V	0-22 V	0-33 V	0-44 V	0-66 V	0-88 V	0-110 V	0-165 V	0-330 V	0-660 V
Efficiency ⁹	85%	87%	87%	87%	89%	89%	90%	90%	91%	91%

1. Minimum output voltage is <0.3% of rated voltage at zero output setting.
2. Minimum output current is <0.2% of rated current at zero output setting when measured with rated load resistance.
3. For input voltage variation over the AC input voltage range, with constant rated load.
4. For 0-100% load variation, with constant nominal line voltage.
5. Current mode noise is measured from 10% to 100% of rated output voltage, full current, unit in CC mode.
6. Maximum drift over 30 minutes with constant line, load, and temperature, after power on.
7. Maximum drift over 8 hours with constant line, load, and temperature, after 30 minute warm-up.
8. Change in output per °C change in ambient temperature, with constant line and load.
9. Typical efficiency at nominal input voltage and full output power.

General Specifications

Operational AC Input Voltage	3-phase 190-242 (optional 3-phase 342-500 VAC) 3 wire and safety ground, 47-63 Hz
Power Factor (minimum)	0.95 (nominal 208 Vrms); 0.9 (nominal 400 Vrms HV input option)
Remote Analog Programming	Voltage and current programming inputs: 0-5 V, 0-10 V (default) voltage sources. Galvanically isolated from supply output.
Remote Analog Monitoring	Voltage and current monitor outputs 0-5 V, 0-10 V (default) ranges for 0-100% of output. Galvanically isolated from supply output.
Dimensions (HxWxD)	5.2 x 19 x 22.8" (133 x 483 x 533 mm)
Weight	Approximately 75 lb (34 kg)
Warranty	5 years
Approvals	CE marked units meet: EN61010-1, EN61000-6-2 and EN61000-6-4; CSA C/US certified to UL3111-1 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.