

XPD 500 W

XPD 500 W Programmable DC Power Supply



Up to 540 Watts in a Quarter Rack Package

The Xantrex XPD Series provides more than 500 watts of reliable DC power in a quarter-rack wide chassis - the highest power density programmable DC power supply available in this power range. The high power density supplies are ideal for benchtop, ATE systems and OEM applications, where wide adjustment of output voltage or current is required in a compact package.

For systems applications, the XPD can be rack mounted in multiple-unit configurations of up to four independent 500 watt outputs. The supplies feature zero voltage or "soft switching" which virtually eliminates switching transients, and Power Factor Correction (PFC) for low current draw and greatly reduced generation of input current harmonics.

Product Features

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

Protection Features

- ▶ Over voltage protection
- ▶ Over temperature protection

Options

- ▶ RS-232 interface card
- ▶ GPIB interface card
- ▶ GPIB-multichannel

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Electrical Specifications ¹

| Models | 7.5-67 | 18-30 | 33-16 | 60-9 | 120-4.5 |
|---|-----------|------------|------------|--------|---------|
| Output ratings | | | | | |
| Output Voltage ² | 0-7.5 V | 0-20 V | 0-33 V | 0-60 V | 0-120 V |
| Output Current ³ | 0-67 A | 0-30 A | 0-16 A | 0-9 A | 0-4.5 A |
| Output Power | 502.5 W | 540 W | 528 W | 5400 W | 540 W |
| Line regulation ⁴ | | | | | |
| Voltage (0.01% of Vmax + 2 mV) | 2.8 mV | 3.8 mV | 5.3 mV | 8 mV | 14 mV |
| Current (0.01% of Imax + 5 mA) | 7.7 mA | 4 mA | 2.6 mA | 1.9 mA | 1.5 mA |
| Load regulation ⁵ | | | | | |
| Voltage (1% of Vmax + 1 count) | 2.8 mV | 3.8 mV | 5.3 mV | 8 mV | 14 mV |
| Current (1% of Imax + 1 count) | 11.7 mA | 8 mA | 6.6 mA | 5.9 mA | 5.5 mA |
| Meter accuracy | | | | | |
| Voltage (1% of Vmax + 1 count) | 0.2 V | 0.3 V | 0.5 V | 0.7 V | 2.2 V |
| Current (1% of Imax + 1 count) | 0.8 A | 0.4 A | 0.3 A | 0.2 A | 0.2 A |
| Output noise (90-20 MHz) | | | | | |
| Voltage (p-p) | 50 mV | 50 mV | 75 mV | 125 mV | 180 mV |
| Output ripple | | | | | |
| Voltage | 5 mV | 5 mV | 7.5 mV | 10 mV | 20 mV |
| Current ⁶ | 250 mV | 250 mV | 150 mV | 150 mV | 75 mV |
| Drift (30 minutes) ⁷ | | | | | |
| Voltage (0.15% of Vmax) | 11.5 mV | 27 mV | 49.5 mV | 90 mV | 180 mV |
| Current (0.3% of Imax) | 201 mA | 90 mA | 48 mA | 27 mA | 13.5 mA |
| Drift (8 hours) ⁸ | | | | | |
| Voltage (0.03% of Vmax) | 2.3 mV | 5.4 mV | 9.9 mV | 18 mV | 36 mV |
| Current (0.05% of Imax) | 34 mA | 15 mA | 8 mA | 4.5 mA | 2.3 mA |
| Temperature coefficient ⁹ | | | | | |
| Voltage (0.0015% of Vmax/°C) | 1.2 mV | 2.7 mV | 5 mV | 9 mV | 18 mV |
| Current (0.02% of Imax/°C) | 13.4 mA | 6 mA | 3.2 mA | 1.8 mA | 0.9 mA |
| OVP adjustment range (5% to 110% of Vmax) | 0.4-8.3 V | 0.9-19.8 V | 1.7-36.3 V | 3-66 V | 6-132 V |
| Efficiency ¹⁰ | 80% | 80% | 80% | 80% | 80% |

¹ All electrical specifications are represented at the full operating temperature range for all models, unless otherwise stated.

² Minimum output voltage is <0.15% of rated voltage at zero output setting.

³ Minimum output current is <0.2% of rated current at zero setting when measured with rated load resistance. Front output current limited to 30 A maximum.

⁴ For input voltage variation over the AC input voltage range, with constant rated load.

⁵ For 0-100% load variation, with constant nominal line voltage.

⁶ Current mode noise is measured from 10% to 100% of rated output voltage, full current.

⁷ Maximum drift over 60 minutes with constant line, load, and temperature, after power up.

⁸ Maximum drift over 8 hours with constant line, load, and temperature, after 60 minute warm-up.

⁹ Change in output per °C change in ambient temperature, with constant line and load.

General Specifications

| | |
|--|---|
| Operational AC input voltage | 84-264 VAC, 47-63 Hz; power factor corrected. Derate maximum output power to 450 W for AC input less than 95 V |
| Input Power Factor Correction | 0.98 minimum for full load at nominal voltage |
| Switching frequency | >/- 100 kHz |
| Remote analog programming | Voltage and current programming inputs (source must be floating): 0-10 V voltage sources. Input impedance (V and I): 20 k |
| Remote programming and monitoring accuracy | 1% of full scale output for the default range |
| Dimensions (HxWxD) | 5.2 x 4.2 x 13.0" (134.7 x 109.2 x 297.3 mm) |
| Weight | 7.7 lb (3.5 kg) |
| Warranty | Five years |
| Regulatory approvals | CE, CSA, UL |

Note: Specifications are subject to change without notice.