

6 kW Digital Controlled Programmable DC Power Supply



Provides 6 kW of DC Power for Test and Measurement Applications

The Xantrex XDC 6 kW digital controlled programmable DC power supply provides clean, reliable power for ATE, burn-in, magnet charging, OEM, and other test and measurement applications. With an embedded controller, it has a unique menu-driven auto sequencing capability, which allows for complex test sequences to be entered and saved via the front panel without the need for external computers or software.

With the XDC 6 kW, ten different test programs of up to 99 voltage level steps each, can be constructed and executed by a manual or external trigger. This stand-alone capability can be used for constructing simple voltage ramps, battery charging and simulation of battery voltage at engine start-up, component testing, and MIL 704E testing. Additionally, ten configurations of differing protection and output set points can also be conveniently stored, recalled, or set for default at start up.

The XDC 6 kW comes in a compact 5.25-inch (3U) high rack package and is available in ten models. It can also be configured into high power systems of 18 kW, 24 kW, or 30 kW by adding parallel XDC 6 kW slave modules that are controlled from a master XDC unit via a CANbus communications link.

Product Features

- ▶ Embedded controller
- ▶ Zero voltage "Soft Switching"
- ▶ Power Factor Correction (PFC)
- ▶ Simultaneous display of output voltage and current
- ▶ Constant power mode
- ▶ Current sharing for parallel operation
- ▶ Remote sense with 5 V line loss compensation
- ▶ RS-232 interface
- ▶ LabVIEW® and LabWindows® drivers

Protection Features

- ▶ Over and under voltage protection
- ▶ Over and under current protection
- ▶ Over and under power protection
- ▶ Over temperature protection
- ▶ Sense protection

Options

- ▶ GPIB (IEEE 488.2 with SCPI)
- ▶ CANbus communications link for multiple unit current sharing and addressing
- ▶ High voltage input: 3-phase, 342-500 VAC

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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 (0.01% of Vmax)	1 mV	2 mV	3 mV	4 mV	6 mV	8 mV	10 mV	15 mV	30 mV	60 mV
Current (0.05% of Imax)	300 mA	150 mA	100 mA	75 mA	50 mA	37.5 mA	30 mA	20 mA	10 mA	10 mA
Load regulation: ⁴										
Voltage (0.05% of Vmax +5 mV)	10 mV	15 mV	20 mV	25 mV	35 mV	45 mV	55 mV	80 mV	155 mV	305 mV
Current (0.1% of Imax +20 mA)	620 mA	320 mA	220 mA	170 mA	120 mA	95 mA	80 mA	60 mA	40 mA	30 mA
Meter accuracy:										
Voltage (0.15% of Vmax)	15 mV	30 mV	45 mV	60 mV	90 mV	120 mV	150 mV	225 mV	450 mV	900 mV
Current (0.5% of Imax)	900 mA	450 mA	1 A	225 mA	150 mA	113 mA	90 mA	60 mA	30 mA	15 mA
Output noise (0-20 MHz):										
Voltage (p-p)	75 mV	75 mV	75 mV	75 mV	100 mV	100 mV	100 mV	150 mV	250 mV	350 mV
Output ripple (rms):										
Voltage	10 mV	10 mV	12 mV	15 mV	15 mV	15 mV	20 mV	20 mV	30 mV	80 mV
Current ⁵	3100 mA	1600 mA	1000 mA	750 mA	450 mA	320 mA	230 mA	120 mA	50 mA	25 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 (0.04% 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 103% of Vmax)										
	0-10.3 V	0-20.6 V	0-30.9 V	0-41.2 V	0-61.8 V	0-82.4 V	0-103 V	0-154.5 V	0-309 V	0-618V
Efficiency: ⁹										
	85%	87%	87%	87%	89%	89%	90%	90%	91%	91%

1. Minimum output voltage is <0.15% 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 VAC (optional 3-phase 342 - 500 VAC) 3 wire and safety ground, 47-63 Hz
Input Power Factor Correction	0.95 (standard version), 0.9 (HV version)
Remote analog programming	Voltage and current programming inputs; 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)	5.22 x 19.0 x 18.23" (132.5 x 482.6 x 463.0 mm)
Weight	75 lb (34 kg)
Warranty	Five years
Regulatory approvals	CE, UL, CSA, and FCC compliant

Note: Specifications are subject to change without notice.