XFR 2.8 kW

XFR 2.8 kW Programmable DC Power Supply with Zero Voltage “Soft Switching”

Provides 2.8 kW of DC Power for OEM Applications

The Xantrex XFR 2.8 kW programmable DC power supply provides clean, reliable power for research, product development, and production test applications. The supplies are ideal for OEM applications where high power and a wide adjustment of output voltage or current are required in a full 19-inch rack package.

The XFR 2.8 kW has excellent thermal management allowing for units to be stacked in rack mounts without any ventilation space required between each unit. The supplies offer high reliability with zero voltage, or “soft switching”, which virtually eliminates switching transients for high efficiency, decreased heat generation, and reduced stress on the switching transistors.

Product Features

- Zero voltage “Soft Switching”
- Simultaneous front panel display of output voltage and current
- Constant voltage or constant current operation
- 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
## General Specifications

**Operational AC Input Voltage**

190-264 VAC, 1-phase (24.3 A at 208 VAC; 20.5 A at 230 VAC typical), 47-63 Hz; Option: M2 3 phase 208 VAC input

**Switching Frequency**

Nominal 31 kHz (62 kHz output ripple)

**Remote Analog Programming**

Voltage and current programming inputs (source must be isolated): 0-5 k, 0-10 k (2%) resistances; 0-5 V, 0-10 V (default) voltage sources

**Remote Analog Monitoring**

Voltage and current monitor outputs 0-5 V, 0-10 V (default) ranges for 0-100% of output

**Dimensions (HxWxD)**

3.5 x 19.0 x 21.0” (88.9 x 429.4 x 533.5 mm)

**Weight**

Approximately 33 lb (15 kg)

**Warranty**

5 years

**Approvals**

CE-marked units meet: EN61010-1, EN61000-6-2 and EN61000-6-4; UL Listed to UL3111-1; CSA certified to CSA C22.2 No 1010.1; Meets USA EMC standard: FCC, part 15B, class A; Meets Canadian EMC standard; ICES-001, Class A.

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1. Specifications indicate typical performance at 25°C ±5°C, nominal line input of 208 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. 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. Measured with stepped 0-10 V analog programming source and a resistive load.
7. Typical efficiency at nominal input voltage and rated output power.

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### Electrical Specifications

<table>
<thead>
<tr>
<th>Models</th>
<th>7.5-300</th>
<th>12-220</th>
<th>20-130</th>
<th>33-85</th>
<th>40-70</th>
<th>60-46</th>
<th>100-28</th>
<th>150-18</th>
<th>300-9</th>
<th>600-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Ratings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output Voltage</td>
<td>0-7.5 V</td>
<td>0-12 V</td>
<td>0-20 V</td>
<td>0-33 V</td>
<td>0-40 V</td>
<td>0-60 V</td>
<td>0-100 V</td>
<td>0-150 V</td>
<td>0-300 V</td>
<td>0-600 V</td>
</tr>
<tr>
<td>Output Current</td>
<td>0-300 A</td>
<td>0-220 A</td>
<td>0-130 A</td>
<td>0-85 V</td>
<td>0-70 A</td>
<td>0-46 A</td>
<td>0-28 A</td>
<td>0-18 A</td>
<td>0-9 A</td>
<td>0-4 A</td>
</tr>
<tr>
<td>Output Power</td>
<td>2250 W</td>
<td>2640 W</td>
<td>2600 W</td>
<td>2085 W</td>
<td>2800 W</td>
<td>2760 W</td>
<td>2800 W</td>
<td>2700 W</td>
<td>2700 W</td>
<td>2400 W</td>
</tr>
</tbody>
</table>

### Line Regulation

| Voltage | 3 mV | 3 mV | 3 mV | 3 mV | 3 mV | 3 mV | 3 mV | 15 mV | 15 mV |
| Current | 20 mA | 20 mA | 5 mA | 4 mA | 3 mA | 3 mA | 3 mA | 15 mV | 15 mV |

### Load Regulation

| Voltage | 3 mV | 3 mV | 3 mV | 3 mV | 3 mV | 3 mV | 3 mV | 15 mV | 15 mV |
| Current | 20 mA | 20 mA | 10 mA | 5 mA | 4 mA | 4 mA | 4 mA | 15 mV | 15 mV |

### Meter Accuracy

| Voltage (1% of Vmax + 1 count) | 0.09 V | 0.13 V | 0.3 V | 0.43 V | 0.5 V | 0.7 V | 1.1 V | 1.6 V | 4 V |
| Current (1% of Imax + 1 count) | 4 A | 2.3 A | 1.4 A | 0.95 A | 0.8 A | 0.56 A | 0.38 A | 0.19 A | 0.1 A | 0.05 A |

### Output Noise (0-20 mHz)

| Voltage (p-p) | 50 mV | 50 mV | 50 mV | 60 mV | 60 mV | 60 mV | 60 mV | 100 mV | 100 mV | 100 mV | 175 mV |
| Current | 50 mA | 50 mA | 50 mA | 60 mA | 60 mA | 60 mA | 60 mA | 70 mA | 70 mA | 70 mA | 3 mA |

### Drift (8 hours)

| Voltage (0.05% of Vmax) | 3.75 mV | 6 mV | 10 mV | 16.5 mV | 20 mV | 30 mV | 50 mV | 75 mV | 150 mV | 300 mV |
| Current (0.05% of Imax) | 150 mA | 110 mA | 85 mA | 42.5 mA | 35 mA | 23 mA | 14 mA | 9 mA | 4.5 mA | 2 mA |

### Temperature Coefficient

| Voltage (0.02% of Vmax°C) | 1.5 mV | 2.4 mV | 4 mV | 6.6 mV | 8 mV | 12 mV | 20 mV | 30 mV | 60 mV | 120 mV |
| Current (0.03% of Imax°C) | 90 mA | 66 mA | 39 mA | 25.5 mA | 21 mA | 13.8 mA | 8.4 mA | 5.4 mA | 2.7 mA | 1.2 mA |

### Program Slew Rate

| Rise time | 100 ms | 100 ms | 100 ms | 100 ms | 100 ms | 100 ms | 170 ms | 170 ms | 170 ms | 170 ms |
| Fall time | 100 ms | 100 ms | 100 ms | 100 ms | 100 ms | 100 ms | 170 ms | 170 ms | 170 ms | 170 ms |
| OVP Adjustment Range (5% to 110% of Vmax) | 0.375-8.25 V | 0.6-13.2 V | 1-22 V | 1.65-36.6 V | 2-44 V | 3-66 V | 5-110 V | 7.5-165 V | 15-330 V | 30-660 V |

### Efficiency

| 80% | 82% | 85% | 85% | 87% | 90% | 90% | 90% | 91% | 91% |

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Note: Specifications are subject to change without notice.