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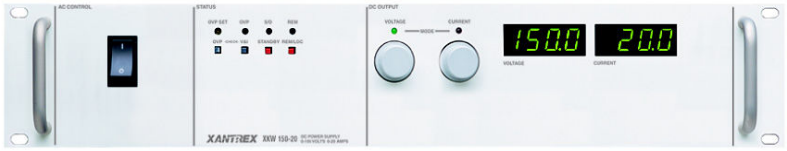

XKW 8-350
XKW 10-300
XKW 12-150
XKW 20-150
XKW 40-75
XKW 55-55
XKW 60-50
XKW 80-37
XKW 150-20
XKW 300-10

Operating Manual

XKW 3000 Watt Series Programmable DC Power Supply

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Specifications

Electrical Specifications

These specifications are warranted over a temperature range of 0 °C to 50 °C.

Specifications are subject to change without notice.

Table 1.2 Electrical Specifications for 8 V to 40 V Models

Models	8-350	10-300	12-250	20-150	40-75
Output Ratings:					
Output Voltage	0-8 V	0-10 V	0-12 V	0-20 V	0-40 V
Output Current	0-350 A	0-300 A	0-250 A	0-150 A	0-75 A
Output Power	2800 W	3000 W	3000 W	3000 W	3000 W
Line Regulation: [1]					
Voltage	8 mV	10 mV	12 mV	20 mV	40 mV
Current	350 mA	300 mA	250 mA	150 mA	75 mA
Load Regulation: [2]					
Voltage	8 mV	10 mV	12 mV	20 mV	40 mV
Current	350 mA	300 mA	250 mA	150 mA	75 mA
Meter Accuracy:					
Voltage	0.09 V	0.11 V	0.13 V	0.2 V	0.5 V
Current	4.5 A	4.0 A	3.5 A	1.6 A	0.85 A
OVP Adjustment Range:	0.4-8.8 V	0.5-11 V	0.6-13.2 V	1-22 V	2-44 V
Output Noise and Ripple: (20 Hz - 20 MHz)					
Voltage (p-p)	100 mV	100 mV	100 mV	100 mV	150 mV
Voltage (rms)	12 mV	15 mV	15 mV	15 mV	20 mV
Analog Programming Accuracy					
Voltage (1% of Vmax)	80 mV	100 mV	120 mV	200 mV	400 mV
Current (1% of Imax)	3500 mA	3000 mA	2500 mA	1500 mA	750 mA
Drift:[3]					
Voltage	4 mV	5 mV	6 mV	10 mV	20 mV
Current	175 mA	150 mA	125 mA	75 mA	37.5 mA
Temperature Coefficient: [4]					
Voltage	1.6 mV	2 mV	2.4 mV	4 mV	8 mV
Current	105 mA	90 mA	75 mA	45 mA	22.5 mA

1. For input voltage variation over the AC input voltage range, with constant rated load.
2. For 0-100% load variation, with constant nominal line voltage.
3. Maximum drift over 8 hours with constant line, load and temperature, after 90 minute warm-up.
4. Change in output per °C change in ambient temperature, with constant line and load.

Table 1.3 Electrical Specifications for 55 V to 300 V Models

Models	55-55	60-50	80-37	150-20	300-10
Output Ratings:					
Output Voltage	0-55 V	0-60 V	0-80 V	0-150 V	0-300 V
Output Current	0-55 A	0-50 A	0-37 A	0-20 A	0-10 A
Output Power	3025 W	3000 W	2960 W	3000 W	3000 W
Line Regulation: [1]					
Voltage	55 mV	60 mV	80 mV	150 mV	300 mV
Current	55 mA	50 mA	37 mA	20 mA	10 mA
Load Regulation: [2]					
Voltage	55 mV	60 mV	80 mV	150 mV	300 mV
Current	55 mA	50 mA	37 mA	20 mA	10 mA
Meter Accuracy:					
Voltage	0.65 V	0.7 V	0.9 V	1.6 V	3.1 V
Current	0.65 A	0.6 A	0.47 A	0.30 A	0.20 A
OVP Adjustment Range:	2.75-60.5 V	3-66 V	4-88 V	7.5-165 V	15-330 V
Output Noise and Ripple: (20 Hz - 20 MHz)					
Voltage (p-p)	150 mV	150 mV	150 mV	200 mV	300 mV
Voltage (rms)	20 mV	20 mV	20 mV	30 mV	30 mV
Analog Programming Accuracy					
Voltage (1% of Vmax)	550 mV	600 mV	800 mV	1.5 V	3.0 V
Current (1% of Imax)	550 mA	500 mA	370 mA	200 mA	100 mA
Drift:[3]					
Voltage	27.5 mV	30 mV	40 mV	75 mV	150 mV
Current	27.5 mA	25 mA	18.5 mA	10 mA	5 mA
Temperature Coefficient: [4]					
Voltage	11 mV	12 mV	16 mV	30 mV	60 mV
Current	16.5 mA	15 mA	11.1 mA	6.0 mA	3.0 mA

1. For input voltage variation over the AC input voltage range, with constant rated load.
2. For 0-100% load variation, with constant nominal line voltage.
3. Maximum drift over 8 hours with constant line, load and temperature, after 90 minute warm-up.
4. Change in output per °C change in ambient temperature, with constant line and load.

Additional Specifications

Rise Time (No Load, Full Load): [1]	~ 30 ms
Fall Time (No Load): [1]	~ 1 s
Fall Time (Full Load): [1]	~ 50 ms
Voltage Mode Transient Response:[2]	1 ms
Time Delay from power on until output stable	5 s maximum

1. Measured with stepped 0-10 V analog programming source and a resistive load.
2. Time for the output voltage to recover within 1% band for 30% step load change from 70% to 100% or 100% to 70%.

Input Conditions

Rated AC Input Voltage with Maximum Input Current	200-250 Vac at 26 Arms, single phase or 190-250 Vac at 14 Arms, three phase
Maximum AC Input Power	3800 W
Operational AC Input Voltage	200-250 Vac or 190-250 Vac
Input Frequency Range	47-63 Hz
Power Factor	0.65 or better

Additional Features

Switching Frequency	Nominal 30 kHz, 60 kHz output ripple
Maximum Voltage Differential from either output to safety ground	±400 Vdc

Remote Programming and Monitoring

Remote Start/Stop and Interlock	TTL compatible input. Contact Closure, 12-250 Vac or 12-130 Vdc
Remote Analog Programming	Voltage and current programming: 0-5k resistances; 0-5V, 0-10V sources; 0-1mA sources OVP programming: 0-5V, 0-10V sources
Maximum Remote Sense Line Drop Compensation	1 V max.

Environmental Specification

Operating Temperature Range	0-50 °C. From 50-70 °C, derate output 2% per °C
Storage Temperature Range	-55 °C to +85 °C
Humidity Range	Up to 80% non-condensing
Operating Altitude	Derate maximum operating temperature by 1°C per 1,000 feet (30 m) for operation between 5,000 feet and (1,500 m) and 15,000 feet (4,500 m)
Storage Altitude	Up to 50,000 feet (15,000 m)
Installation Category	II
Pollution Degree	2

Mechanical Specifications

Front Panel V and I Control	10-turn voltage and current potentiometers
Front Panel Voltage Control Resolution	0.02% of V max
Front Panel Voltage and Current Meters	3 or 4 digit LED readouts for each. See Table 1.2 and Table 1.3 for accuracy.
AC Input Connector Type	IEC
Output Connector	Nickel-plated copper busbars
Sense Connector	Part of J3
Analog Programming Connector	Part of J3
Cooling	Fan cooled. Air exhausts to rear. Over temperature shutdown: automatic restart.
Mounting	Integral rack mount ears on front panel
Dimensions	3.45 in. (87.6 mm) H x 19 in. (482.6 mm) W x 20 in. (508 mm) D
Weight	Approximately 35 lb. (16 kg)
Approvals	CSA Certified to CSA Bulletin 556B FCC Part 15B and Industry Canada Class A CE Marked for Low Voltage Directive and EMC Directive (Class A emissions)