XPD Series

Highest Density 500 Watts in Quarter Rack

Voltage Range: 0-7.5 VDC to 0-120 VDC
Current Range: 0-67 A to 0-4.5 A

Extra High Power Density
85-264 VAC universal input
Power Factor Correction (PFC)
Zero voltage „soft“ switching for high efficiency, low noise, and high reliability
LabView® and LabWindows® drivers available
Front and rear connectors (standard)
Analog programming (standard)
OVP, current limit, thermal protection
Ten-turn front panel knobs for high resolution setting of voltage and current limit
Remote sense, 5V line loss compensation
CE, CSA, UL approvals

The XPD series provides 500 watts of programmable DC power in a quarter-rack wide chassis, the highest power density product available for a programmable DC power supply in this power range. The XPD uses state-of-the-art zero voltage or „soft“ switching technology that virtually eliminates switching transients and contributes to the high efficiency, low noise and high reliability of this product. It is also power factor corrected for low current draw and reduced generation of input current harmonics. For systems applications, multiple units can be rack mounted in one to four unit configurations for up to four independent 500 watt outputs. The 500 watt XPD can be combined in mix and match rack combinations with the quarter-rack 300 watt HPD and the 60 watt XT Series units.

General Specifications (Specifications are subject to change without notice.)

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.
Maximum Input Current	7 A maximum at 100 VAC, 6 A maximum at 120 VAC, 3 A maximum at 220 VAC
Power Factor	0.98 minimum for full load at nominal voltage
Input Harmonic Distortion	Current harmonics meet IEC 1000-3-2
Switching Frequency	[3]100 kHz
Time Delay	3 s maximum, from power on to output stable
Voltage Mode Transient Response Time	1 ms for output voltage to recover within 0.5% of its previous level after a step change in load current of up to 50% of rated output
Maximum Voltage Differential	±300 VDC from output to safety ground
Remote On/Off and Interlock	2.5-15 V signal or TTL-compatible input, selectable logic. TTL input impedance: 2 k (in series with one diode drop)
Remote Analog Programming (Full Scale Input)	Voltage and current programming inputs (source must be floating): 0-5 V, 0-10 V (default) voltage sources. Input impedance (V and I): 20 k
Remote Programming and Monitoring Accuracy	1% of full scale output for the default range
Operating Temperature Range	0 to 50 °C
Storage Temperature Range	–40 to 85 °C
Humidity Range	10 to 95% RH, non-condensing
Front Panel Voltage and Current Control	10-turn voltage and 1-turn current potentiometers
Front Panel Voltage Control Resolution	0.02% of maximum voltage
AC Input Connector Type	IEC 15 A/250 V
Main Output Connector	Front panel: 5-way binding posts. Maximum current limit 30 A; Rear Panel: 7.5-33 V models: Bus bars; 60-120 V models: wire clamp connectors.
Weight (one unit)	3.5 kg (7.7 lb.)
Approvals	CE-marked units meet IEC 1010-1 safety standard and EN50081-2 and EN50082-1 EMC standards. Additional standards: CSA C22.2 No. 1010.1, UL 3101, and FCC, part 15, Class A EMI standard.

Contact Zentro-Elektrik for complete product specifications.

Electrical Specifications[1] (Specifications are subject to change without notice.)

Model	XPD 7.5-67	XPD 18-30	XPD 33-16	XPD 60-9	XPD 120-4.5
Output Ratings:					
Output Voltage[2]	0-7.5 V	0-18 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	540 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 + 1 mA)	7.7 mA	4 mA	2.6 mA	1.9 mA	1.5 mA
Load Regulation: [5]					
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)	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 (0-20 MHz):					
Voltage (p-p)	50 mV	50 mV	75 mV	125 mV	180 mV
Output Ripple (rms):					
Voltage	5 mV	5 mV	7.5 mV	10 mV	20 mV
Current[6]	250 mA	250 mA	150 mA	150 mA	75 mA
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 (0.015% 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.
10. Typical efficiency at 120 V and full output power.
11. Interface specifications at 25°C ² 5°C, nominal line input of 120 VAC.

Options

GPIB-XPD	GPIB Interface card (16-bit)
RS-232-XPD	RS-232 Interface card (16-bit)
RM-XHS	19-inch rack mount kit for 4-XPD, HPD or XT power supplies

Contact Zentro-Elektrik for custom voltage and current combinations and other options.