XPiQ inc.

Intelligent Design Quality Product

1200 Watts
DHF1K2 Series

SSI Compliant

•

Active Current Share

•

Hot-Swap N+1 Redundancy

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I²C Bus, EEPROM Built-in

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International Safety Agency Approvals

•

EMI Class “B”

Specification

Input

Input Voltage	•	*90-264 VAC*
Input Frequency	•	*47-63 Hz*
Inrush Current	•	*Limited to <35A*
Input Current	•	*4A/115VAC & 2A/230VAC*
Remote On/Off	•	*Active low to enable 48V*

Output

Output Voltage	•	*48 VDC and 12 VDC standby*
Output Power	•	*1200 watts for 220 VAC input 800 watts for 110 VAC input*
Minimum Load	•	*0 minimum load required*
Line Regulation	•	*±0.1% from low line to high line*
Load Regulation	•	*±0.55% for 5V, ±0.125% for 12V*
Ripple & Noise	•	*250mV pk-pk for 48V, 120mV pk-pk for 12V*
Transient Response	•	*3% Max Deviation 500µS recovery time for a 50% load change*
Temperature Coefficient	•	*±0.3%°C*
Hold Up Time	•	*>20ms at low line*
Overvoltage Protection	•	*109% to 115%, auto recovery*
Overcurrent Protection	•	*110% to 150%, constant current with auto recovery*
Reverse Rating	•	*24A*
Undervoltage Protection	•	*39.6V-42V sensed on annode side*
Overtemperature Protection	•	*95°C at PFC heatsink, 100°C at rectifier heatsink*
Current Share	•	*Single wire current sharing*

General

Efficiency (typical)	•	*85% typical at low line and full load*
Power Factor	•	*0.99*
Power Density	•	*6.6 W/in³*
MTBF	•	*101445.7 hrs using Bellcore Method 1*
Signals	•	*3 LED Indicators. Power good, DC OK, Fan OK, Fail, Present*
Weight	•	*7 lbs*

Environmental

Operating Temperature	•	*0°C to 50°C*
Cooling	•	*Internal Fan*
Humidity	•	*<95% RH, non condensing*
Storage Temperature	•	*-20°C to +85°C*
Shock and Vibration	•	*MIL STD-810F*

Safety and EMC

Safety Approvals	•	*UL1950, CSA C22.2 No 234, EN60950, CE Mark LVD*
EMI/EMC	•	*Meets EN61000-3-2,-3, EN55022 Class B and FCC 20780 level B conducted*
Immunity and Surge	•	*Meets EN50082-2 (EN61000-4-2, -3, -4, -5). Performance criteria A*
Warranty	•	*1 year*

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OUTPUT VOLTAGE & CURRENT RATINGS — DHF1K2

	Voltage Output	Output Current	Current Limit	OVP	Model Number
V1	48.0 VDC	24 A	26.4-36.0 A	52.1-55.0 VA	DHF1K2PS48
V2	12.5 VDC	4 A	4.1-6.5 A	13.4-14.2 V	

SIGNAL	DESCRIPTION
48LS	48V LOAD SHARE BUS
12VSB	12V STANDBY OUT PUT (V2)
12VSB RETURN	12V STANDBY RETURN (V2 RTN)
PSON	POWER ENABLE INPUT
PRESENT	POWER SUPPLY PRESENT
FANC	FAN CONTROL SIGNAL

SIGNAL	DESCRIPTION
PWROK	POWER OK OUTPUT
ACOK	AC OK OUTPUT
PSKILL	SUPPLY FAST SHUTDOWN
FAIL	FAILURE SIGNAL
PRFL	PREDICTIVE FAILURE
SCL	CLOCK SIGNAL

SIGNAL	DESCRIPTION
SDA	DATA SIGNAL
A0	ADDRESS BIT 0
A1	ADDRESS BIT 1
A2	ADDRESS BIT 2
FANP	FAN PWR INPUT PIN

OUTPUT CONNECTOR PIN CHART

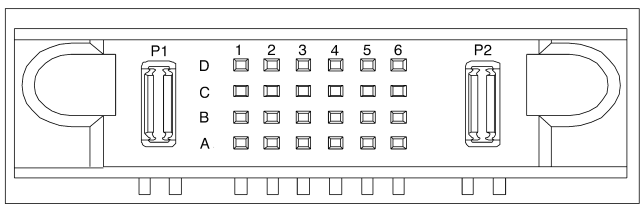
	1	2	3	4	5	6
D	12VSB	12VSB RETURN	48LS	N/U	SCL	A0
C	12VSB	12VSB RETURN	ACOK	PRFL	RESERVED	A1
B	12VSB	12VSB RETURN	PSON	PSKILL (Note 1)	SDA	A2
A	FANP	RESERVED	PRESENT	PWROK	FAIL	FANC
POWER BLADE						
P1			P2			
48 VDC RETURN			48 VDC			

NOTE 1: B4 - Shortened pin

LED INDICATORS

POWER SUPPLY CONDITION	PWR (Green)	PRFL (Amber)	FAIL (Amber)
NO AC POWER TO ALL PSU	OFF	OFF	OFF
NO AC POWER TO THIS PSU ONLY	OFF	OFF	ON
AC PRESENT / STAND BY OUTPUT ON	BLINKING	OFF	OFF
POWER SUPPLY DC OUTPUTS ON & OK	ON	OFF	OFF
POWER SUPPLY FAILURE	OFF	OFF	ON
CURRENT LIMIT ON 48 VDC OUTPUT	ON	OFF	BLINKING
PREDICTIVE FAILURE	ON	BLINKING/LATCHED	OFF

Output Connector (Berg P/N 51415-00)



PSKILL : This Must be tied to 12V stand by return to turn on V1.

ACOK : Open Collector Signal. Low = Input ≥85VAC. High = Input ≤75VAC.

PWOK : Open Collector Signal. High = Power is good. Low = Power not good. (when any output voltage falls below regulation limits).

PRFL : Open Collector Signal. High = Fan is not operating within limits. Low = Fan is OK.

FAIL : An Open Collector Signal. High = Power Supply Failed.

PRESENT# : This signal is connected to the 12V RTN inside the power supply. Pull up to VSB located in system. Low = Present. High = Not Present.

FANC : Accepts an input voltage from the system.
FANC < 1V, fan in sleep mode.
2V < FANC < 3.0, fan in low speed.
3V < FANC < 10.5, fan ramps from low to high speed.
FANC > 10.5, fan in high speed.

Mechanical Details