

DPF1500 SERIES

Single output



- Efficiency >90%
- 1500W front end
- EN61000-3-2 compliant
- 12.6 x 6.5 x 4.9 inch size
- Hot pluggable
- N+1 redundancy
- Full set of status signals
- EN55022, EN55011 conducted emissions level A
- UL, TÜV and CSA safety approvals

The DPF1500 is a 1500W universal input AC/DC front end power supply in a fully enclosed hot pluggable case with built-in fan, handle, IEC input connector, on/off switch and DIN output signal connector. Providing a single 57.8V output at full load with a full set of status signals. The DPF1500 is designed for use as a front end in medium power communication applications adopting distributed power architecture. The DPF1500 provides 1500W of output power and is fully compliant with EN61000-3-2. Standard features include current sharing and full protection against overvoltage, overload and short circuit. Remote or local system monitoring is possible via a full set of status signals that include fan fail, DC good, power fail, remote inhibit and current monitoring. The DPF1500, with full international safety approval and the CE mark, meets conducted emissions EN55022 level A. The DPF1500 can be used in conjunction with our complete range of 3 to 200W DC/DC converters to fully configure a distributed power system.

[2 YEAR WARRANTY]



SPECIFICATION All specifications are typical at nominal input, full load at 25°C unless otherwise stated

OUTPUT SPECIFICATIONS		
Voltage set point		-57.8V ±0.1%
Total regulation	Main output FL to NL	±5.0%
Rise time	At turn-on	1.0s, max.
Transient response	Main output 50% to 100% step at 1A/μs	12% max. dev., 1ms recovery to 1.0%
Ripple and noise	Main output 0Hz to 20MHz	1.0V pk-pk
Overvoltage protection	latching	60V to 71V
Output power limit		1550W
Short circuit protection	Non-latching	Auto-recovery, 5A rms max short circuit current
Current sharing		2V droop from 20% to 100% rated load
Capacitive load		24μF max.
INPUT SPECIFICATIONS		
Input voltage range		176 to 264VAC
Input frequency range		47Hz to 63Hz
Input surge current	220VAC, cold start	40A max.
Input surge	300VAC	20ms
Safety ground leakage current	230VAC, 50Hz	0.4mA
Input current	176VAC, 1500W	13A rms max.
Input fuse	Non-replaceable	15A
Power factor	220VAC	0.96 min.

EMC CHARACTERISTICS		
Radiated noise	EN55022/11, FCC part 15	Level A
Conducted noise	EN55022/11, FCC part 15	Level A
Harmonic current emm.	EN61000-3-2	Compliant
Electrical fast transients/bursts	EN61000-4-4	Level 3
Surge susceptibility	EN61000-4-5	Level 3
GENERAL SPECIFICATIONS		
Hold-up time	240VAC, 60Hz FL	10ms @ 1500W
Efficiency		90% typ.
Isolation voltage	Input/output Input/chassis	3000VAC 1500VAC
Switching frequency		50kHz
Approvals and standards		EN60950, UL1950, CSA C22.2 No. 950
Weight		6.9kg (15lbs)
MTBF		500,000 hours demonstrated
ENVIRONMENTAL SPECIFICATIONS		
Thermal performance	Operating ambient, FL Non-operating 50°C to 70°C ambient, convection cooled	0°C to +50°C -40°C to +85°C Derate to 50% load
Cooling		Built-in fan
Relative humidity	Non-condensing	5% to 85% RH
Altitude	Operating Non-operating	10,000 feet max. 40,000 feet max.
Vibration	5Hz to 500Hz	2.4G rms peak

International Safety Standard Approvals

TÜV VDE0805/EN60950/IEC950



UL1950 File No. E136005



CSA C22.2 No. 950 File No. LR41062C

1500 Watt AC/DC PFC front-end for distributed power architectures

OUTPUT VOLTAGE	OUTPUT CURRENT	TOTAL REGULATION	MODEL NUMBER
-57.8V	27A max.	±5.0%	DPF1500-4617

Detailed signal description

Power fail detect H

Open-collector signal reference to SEC Ground. A current limited 10K - 1.4W resistor is connected to the collector of the output transistor for this signal. The PFD H signal will be asserted, i.e. the transistor will open, when the input voltage goes below 170VAC.

Power good L

Open-collector signal reference to SEC Ground. A current limiting 10K - 1.4W resistor is connected to the collector of the output transistor for this signal.

The power good signal goes high, i.e. the transistor will open, when the output voltage is out of specification or if the input power factor correction stage is not functioning.

Inhibit H +, -

This is a differential signal that is connected to an internal opto-coupler. When the differential voltage applied between these two signals exceeds 3.5V, the output voltage is disabled. When the signals are less than 0.9V, the output shall be enabled. The current drain is less than 6mA with the differential voltage less than 3.5V.

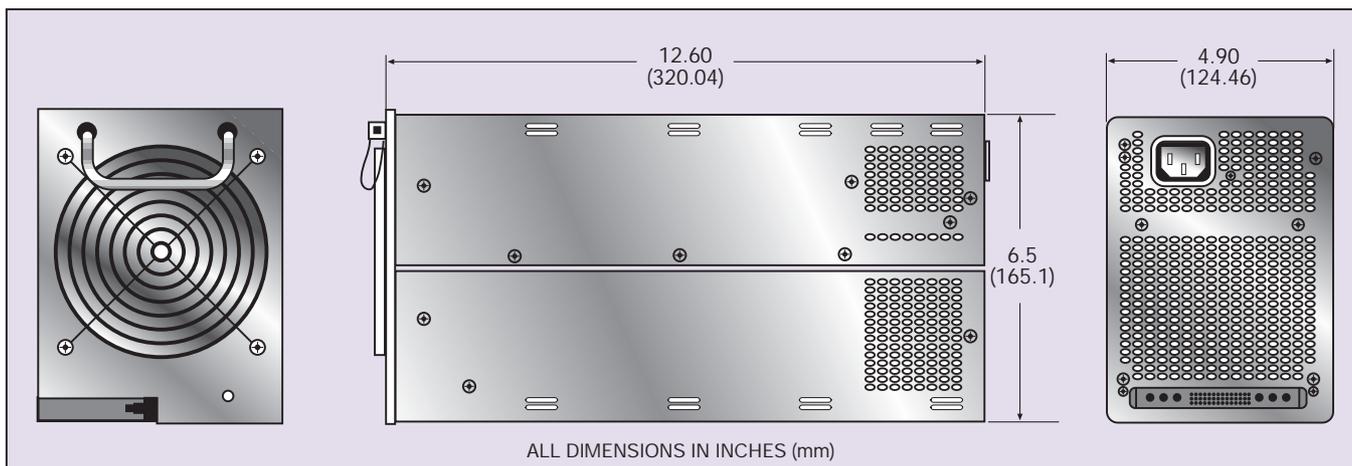
Unit present L

This pin is tied to SEC GND and can be used to detect the presence of the unit in a system.

Current monitor

This is an analog output proportional to the output current and is referenced to output -. The signal consists of a voltage source connected through a 10K - 1.4W - 1% resistor to this pin and delivers a signal whose value is 0.1 x Iout. The signal is within the specified accuracy of ±10% when the output current is greater than 6.0A.

STATUS AND CONTROL SIGNALS	
Fan fail H	Asserted in event of a failure
Power good L	Asserted when the output voltage is within specification
Inhibit H and Return	Inhibits the output when the differential voltage applied is >3.5V
Current monitor	Value = (0.1 x Iout) V tolerance: ±10%



OUTPUT PIN CONNECTIONS			
PIN NUMBER	FUNCTION	PIN NUMBER	FUNCTION
Pins B2, B25	Output -	Pin B13	Unit Present L
Pins B5, B28	Chassis Ground	Pin B14	Inhibit H +
Pins B8, B31	Output +	Pin C14	Inhibit H -
Pin B10	Power Good H	Pin B20	Current Monitor
Pin B12	PFD L	Pins C11, C13	SEC Ground

Mating connector

DIN M style
6 power pins
42 signal pins

Input
IEC320