

250W, Industrial Quality, Encapsulated AC/DC Power Supply with Conduction Cooling

PPF 250-P59XW Series

- Electronic power factor correction (PFC)
- Field proven rugged design
- Conduction cooling
- Fully encapsulated
- Full electronic protection
- N+1 redundancy available



This fully encapsulated, industrial quality power converter utilizes field-proven technology to generate the required output power. It is a mature design with a track record in numerous applications. The unit is entirely potted with a thermally conductive MIL-grade silicon rubber compound which provides protection from moisture and other contaminants, as well as immunity to shock and vibration. Cooling is by conduction via a base plate to a heatsinking surface. The unit is designed for continuous operation at 70°C with installation on an appropriate size heat-sinking surface. Full electronic protection, low component count, large design headroom and the exclusive use of components with established reliability contribute to a high MTBF. An optional built-in redundancy diode allows for parallel and N+1 operation. It is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage

95 - 264Vac, universal, 45-65Hz
Input Current: 3Arms max.,
at 95V input
Power factor is min 0.97 at full
load for the entire input range.
Meets EN61000-3-2
The input also accepts DC voltage
in the 95-350Vdc range
Consult factory for other voltages

Input Protection

Inrush current limiting
Varistor
Internal safety fuse
Lower voltage than the specified min.
input will not damage the unit

Isolation

2250VDC input to chassis
4300VDC input to output;
8mm spacing
1500VDC output to chassis

Standards

Designed to meet EN60950-1 and
related national standards

EMI

EN55022 Class A with 6dB margins

Switching Frequency

80kHz \pm 8kHz – Input section
55kHz \pm 3kHz – Output section

Hold-Up Time

Min. 10ms at any input for 5% drop
in output voltage

Output Voltage/Current

12Vdc/20A, 24Vdc/10A, 48Vdc/5A,
72Vdc/3.5A, 110Vdc/2.2A,
125Vdc/2.0A continuous
Output is floating, either terminal
can be grounded
Consult factory for other voltages.

Redundancy Diode

Not installed.
Available as option

Line/Load Regulation

\pm 1% combined from zero load to
full load

Dynamic Response

Max 5% voltage deviation for 10%
to 50% load step, with better than
1msec recovery time

Output Ripple/Noise

Better than 1% of output voltage
peak to peak or 0.2% Vrms
(20MHz BW)

Output Overload Protection

Rectangular current limiting with
short-circuit protection (no hiccup)
Thermal shutdown in case of
insufficient cooling (self-resetting)

Output Overvoltage Protection

Second regulator loop

Efficiency

Typically 80% at full load depending
on input/output configuration

Operating Temperature Range

-40 °C to +70 °C cold plate
temperature for full specification

Temperature Drift

0.03% per °C over operating
temperature range.

Cooling

Conduction via base plate.

Environmental Protection

Full encapsulation with thermally
conductive silicon potting
compound
With UL94V-0 flammability rating.
Meets environmental criteria as
requested in MIL-810 C, D

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 – 95% non-condensing
Contact factory for higher rating

MTBF

130,000 hours @ 45 °C
Demonstrated MTBF is
significantly higher

Indicators

None

Control Input

None

Alarm output

Not installed
Available as option

Dimensions

P59XW: 146 x 64 x 191 mm
5.8" x 2.5" x 7.5" including terminals
and mounting flanges
Mounting holes are clear

Weight

2kg (4.5 lbs)

Connections

7-pole barrier-type terminal block
with 3/8" spacing, cover included

RoHS Compliance

Compliant

Warranty

Two years subject to application
within good engineering practice

Terminal Block Pin-out

DC OUTPUT				AC or DC INPUT		
-	+	NOT USED	NOT USED	PH (+) ~	N (-) ~	GND ⏏
1	2	3	4	5	6	7



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