



# GPFC125 Commercial/GPFM125 Medical 125 Watt Global Performance Switchers



## FEATURES:

- Compact 125 watt multiple output
- Power density of 4 watts per cubic inch
- Power Factor Correction to meet EN61000-3-2
- Small package 6.00 x 3.5 x 1.5 inches
- Conducted EMI exceeds FCC Class B and CISPR 22 Class B (Commercial models) and CISPR 11 Class B (Medical models)
- Commercial approved to UL1950, IEC950, CSA22.2 No. 950 and EN60950.
- Medical approved to UL2601-1, IEC601-1, CSA22.2 No. 601.1, EN60601-1
- $\text{CE}$  marked to LVD

## SPECIFICATIONS:

### Ac Input

90-264 Vac, 47-63 Hz single phase.

### Input Current

Maximum input current 2A at 90 Vac, 60 Hz with full rated load. Input current harmonic content meets the requirements of IEC1000-3-2. Active circuitry provides high power factor as listed at .96 min., .99 typical. All data taken with full output loading.

### DC Output Power

125 W with 150 LFM of air, 50 W convection cooled, 80 W convection cooled with unit mounted to min. 12 x 12 x .125 in. thick aluminum plate. Peak ratings are for 60 s maximum duration, 10% duty cycle. With optional cover installed, 125 W, 200 LFM airflow is required (-C suffix).

### Inrush Current

Inrush 240 Vac is less than 37 A, averaged over the first ac half-cycle under cold start conditions. Limiting provided by internal thermistors.

### Input Protection

Internal ac fuse provided on all models. Fuse does not blow on overload or short circuit — fuse blows only if a catastrophic failure occurs in the unit.

### Efficiency

72 to 85% at full rated load. Depending upon model and load distribution.

### Minimum Load

Supply will function with no load on any output. To maintain regulation with full load on V2, 3 and 4 output V1 requires a minimum load of (2A + V4 current). Lower minimum load may be obtained if less than full load is drawn from auxiliary outputs.

### Overload Protection

Fully protected against short circuit and output overload. Total output power limited to approximately 150 Watts. Cycling type limits on output 1, 2 & 3, linear fold back on output 4. Recovery after fault is automatic.

### Overvoltage Protection

Built in on all models - See Output table for individual model output limits.

### Output Noise

0.5% rms, 1% pk-pk, 20 MHz Bandwidth, differential mode.

### Transient Response

500 ms typical response time for return to within 0.5% of final value for a 50% load step change,  $\Delta i/\Delta t < 0.2$  A ms. Maximum voltage deviation is 3.5%.

### Temperature Coefficient

0.03% / °C typical on all outputs.

### Remote Sense

Provided as a standard feature on V1 of all models.

### Temperature Range

0 to 50 °C at full rated output power. For operation above 50 °C, derate output power and current by 2.5 % per °C.

### Altitude

Operating: -500 to 10,000 ft. MSL

Non-Operating -500 to 40,000 ft MSL

### Shock and Vibration

All models are designed to meet the following specifications;

Random Vibration -

Operating: 0.003 g<sup>2</sup>/Hz, 1.5 g<sub>rms</sub> overall, 3 axes, 10 min. / axis

Non-Operating: 0.026 g<sup>2</sup>/Hz, 5.0 g<sub>rms</sub> overall, 3 axes, 1 hr. / axis

Shock -

Operating: Half-sine, 20 g<sub>pk</sub>, 10 ms, 3 axes, 6 shocks total

Non-Operating: Half-sine, 40 g<sub>pk</sub>, 10 ms, 3 axes, 6 shocks total

### EMI/EMC Compliance

All models include built-in EMI filtering to meet the EMC requirements below.

EMI SPECIFICATIONS	COMPLIANCE LEVEL
Conducted Emissions-GPFC125	EN55022, Class B; FCC Class B
Conducted Emissions-GPFM125	EN55011, Class B; FCC Class B
Static Discharge	EN61000-4-2, 6 kV contact 8 kV air
RF Field Susceptibility	EN61000-4-3, 3V/meter
Fast Transients / Bursts	EN61000-4-4, 2 kV, 5 kHz
Surge Susceptibility	EN61000-4-5, 1 kV diff., 2 kV com.
Conducted RF Susceptibility	EN61000-4-6, 3V
Voltage Sags & Surges	EN61000-4-11
Line Frequency Harmonics	EN61000-3-2 Class A

### Commercial Safety Approvals

All models are approved to UL1950, CSA22.2 No. 950-95, IEC950, EN60950. CB certificate available. Exceeds FCC and CISPR22 Class B conducted emissions requirement

### Medical Safety Approvals

All models are Certified to be in compliance with the applicable requirements of UL2601, CSA 22.2 No. 601.1-M90, IEC 601-1 (1988), EN 60601-1: 1990. CB certificate available.

### Leakage Current

The maximum leakage current is as follows:

Test Condition	Normal	Single Fault
132 Vac @ 60 Hz input	70 $\mu$ A	120 $\mu$ A
264 Vac @ 50 Hz input	130 $\mu$ A	240 $\mu$ A



# GPFC125 Commercial/GPFM125 Medical 125 Watt Multiple Output

Commercial Model	Medical Model	Voltage Output No.	Output Voltage	Output Current (A)	Output Current (B)	Voltage Adjustment	OVP	Total Regulation	Ripple/ Noise
GPFC125A	GPFM125A	1	+5 V	9 A	16 A	±5%	6.2 ±0.6 V	1%	1%
		2	+12 V	4 A	7 A	±5%	--	1%	1%
		3	12 V (C)	2.5 A	4 A	--	--	1%	1%
		4	-12 V	0.3 A	1 A	--	--	1%	1%
GPFC125B	GPFM125B	1	+5 V	9 A	16 A	±5%	6.2 ±0.6 V	1%	1%
		2	+12 V	4 A	7 A	±5%	--	1%	1%
		3	12 V (C)	2.5 A	4 A	--	--	1%	1%
		4	-5 V	0.3 A	1 A	--	--	1%	1%
GPFC125C	GPFM125C	1	+5 V	9 A	16 A	±5%	6.2 ±0.6 V	1%	1%
		2	+12 V	4 A	7 A	±5%	--	1%	1%
		3	15 V (C)	2.5 A	4 A	--	--	1%	1%
		4	-15 V	0.3 A	1 A	--	--	1%	1%
GPFC125D	GPFM125D	1	+5 V	9 A	16 A	±5%	6.2 ±0.6 V	1%	1%
		2	+24 V	3 A	4.5 A	±5%	--	1%	1%
		3	12 V (C)	2.5 A	4 A	--	--	1%	1%
		4	-12 V	0.3 A	1 A	--	--	1%	1%
GPFC125E	GPFM125E	1	+5 V	9 A	16 A	±5%	6.2 ±0.6 V	1%	1%
		2	+24 V	3 A	4.5 A	±5%	--	1%	1%
		3	15 V (C)	2.5 A	4 A	--	--	1%	1%
		4	-15 V	0.3 A	1 A	--	--	1%	1%
GPFC125F	GPFM125F	1	+5 V	9 A	16 A	±5%	6.2 ±0.6 V	1%	1%
		2	+15 V	3.5 A	6 A	±5%	--	1%	1%
		3	15 V (C)	2.5 A	4 A	--	--	1%	1%
		4	-5 V	0.3 A	1 A	--	--	1%	1%
GPFC125G	GPFM125G	1	+5 V	9 A	16 A	±5%	6.2 ±0.6 V	1%	1%
		2	+3.3 V	7 A	10 A	±5%	4.2 ±0.6 V	1%	2%
		3	12 V (C)	2.5 A	4 A	--	--	1%	1%
		4	-12 V	0.3 A	1 A	--	--	1%	1%
GPFC125H	GPFM125H	1	+3.3 V	9 A	16 A	±5%	4.2 ±0.6 V	1%	2%
		2	+5 V	4 A	7 A	±5%	6.2 ±0.6 V	1%	1%
		3	12 V (C)	2.5 A	4 A	--	--	1%	1%
		4	-12 V	0.3 A	1 A	--	--	1%	1%

**Notes:**

- A. Continuous rating for unrestricted convection cooling.
- B. Peak rating or continuous rating with 150 LFM air cooling.
- C. Output 3 is isolated. Can be connected as + or - output.

## GPFC125/GPFM125 MECHANICAL SPECIFICATIONS

INPUT: J1 AMP P.C.B. HEADER P/N 640445-5

- PIN 1) AC LINE
- PIN 2) N/C
- PIN 3) AC NEUTRAL
- PIN 4) N/C
- PIN 5) AC GROUND

MATING CONNECTOR AMP P/N

- HOUSING 640250-5
- CONTACT 770476-1

SIGNALS: J2

- AMP P.C.B. HEADER P/N 640456-4
- MATING CONNECTOR P/N 640440-4
- PIN 1) POWER FAIL
- PIN 2) -SENSE
- PIN 3) +SENSE
- PIN 4) COMMON

OUTPUT: J3 AMP P.C.B. HEADER P/N 1-640445-3

- PIN 1) -V4OUT
- PIN 2-4) +V1OUT
- PINS 5-9) COMMON
- PIN 10,11) +V2 OUT
- PIN 12) +V3OUT
- PIN 13) -V3RTN
- MATING CONNECTOR AMP P/N
- HOUSING 1-640250-3
- CONTACT 770476-1

OPTIONAL COVER P/N 08-30466-2125

WEIGHT: 1.25 LBS [ .56 KG ]

