

### 110 WATT GLOBAL PERFORMANCE SWITCHERS



#### FEATURES:

- 3.1 watts/cu.in. power density
- Compact size (6.3" x 3.75" x 1.62"; meets 1U height)
- Power factor corrected to IEC 1000-3-2 Class A
- Less than 300  $\mu$ A leakage
- EMI compliance to CISPR 22, FCC Class B
- Approved to UL1950, IEC950 and CSA 22.2 No. 950
- 2-year warranty
- $\text{C}\epsilon$  marked to LVD
- RoHS Compliant Model Available (G suffix)



#### SPECIFICATIONS

<p><b>Ac Input</b> 85-264 Vac, 47-63 Hz single phase.</p>	<p><b>EMI/EMC Compliance</b> All models include built-in EMI filtering to meet the EMC requirements below.</p>	
<p><b>Input Current</b> Maximum input current 2.3 A at 90 Vac, 60 Hz with full rated load. Input current harmonic content meets the requirements of IEC1000-3-2.</p>	<p><b>EMI SPECIFICATIONS</b></p>	<p><b>COMPLIANCE LEVEL</b></p>
<p><b>Hold-up Time</b> 25 ms minimum from loss of ac input at full load, nominal line (115 Vac).</p>	<p>Conducted Emissions</p>	<p>EN55022 Class B; FCC Class B</p>
<p><b>Output Power</b> 110 W fan cooled, 75 W convection. Peak ratings are for 60 s maximum duration, 10% duty cycle.</p>	<p>Static Discharge</p>	<p>EN61000-4-2, 6 kV contact, 8 kV air</p>
<p><b>Total Regulation</b> Total regulation is the maximum deviation from the nominal voltage for all steady-state loading conditions.</p>	<p>RF Field Susceptibility</p>	<p>EN61000-4-3, 3 V/meter</p>
<p><b>Overload Protection</b> Fully protected against short circuit and output overload. Short circuit protection is cycling type power limit. Recovery after fault is automatic.</p>	<p>Fast Transients/Bursts</p>	<p>EN61000-4-4, 2 kV, 5 kHz</p>
<p><b>Output Noise</b> 0.5% rms, 1% pk-pk, 20 MHz Bandwidth, differential mode. Measured with noise probe directly across output terminals of the power supply.</p>	<p>Surge Susceptibility</p>	<p>EN61000-4-5, 1 kV diff., 2 kV com.</p>
<p><b>Transient Response</b> 500 <math>\mu</math>s typical response time for return to within 0.5% of final value for a 50% load step change, <math>\Delta i/\Delta t &lt; 0.2</math> A/<math>\mu</math>s. Maximum voltage deviation is 3.5%. Load must not go below stated minimum.</p>	<p>Line Frequency Harmonics</p>	<p>EN61000-3-2 Class A</p>
<p><b>Remote Sense</b> Provided as a standard feature. Capable of compensating for 0.25 V total of cabling losses in voltage. Open sense lead protection.</p>	<p><b>Inrush Current</b> Inrush 240 Vac is less than 37 A, averaged over the first ac half-cycle under cold start conditions. Limiting provided by internal thermistors.</p>	
<p><b>Overvoltage Protection</b> OVP crowbar reduces output voltage below nominal rating in less than 50 ms.</p>	<p><b>Fan Output</b> An additional output, same as <math>V_{out}</math>, suitable for powering a dc fan is included in all models. The output is protected by an internal resistor in the event of an overload.</p>	
<p><b>Voltage Adjustment: Main output <math>\pm 5\%</math>.</b></p>	<p><b>Power Fail</b> TTL or CMOS compatible output goes low (<math>&lt; 0.5</math> V) 8 ms before output voltage drops more than 4% below nominal voltage upon loss of ac power. The signal is factory set to trip when input power can no longer sustain the output.</p>	
<p><b>Input Protection</b> Internal ac fuse provided on all models. Fuse does not blow on overload or short circuit—fuse blows only if catastrophic failure occurs in the unit.</p>	<p><b>Temperature Coefficient</b> 0.03%/<math>^{\circ}</math>C typical on all outputs.</p>	
	<p><b>Environmental</b> Designed for 0 to 50<math>^{\circ}</math>C operation at full rated output power; derate output current and total output power by 2.5% per <math>^{\circ}</math>C above 50<math>^{\circ}</math>C. See Environmental and Packaging Specifications on the next page.</p>	
	<p><b>Commercial Safety Approvals</b> 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</p>	

Commercial Model	Output No.	Output	Output Minimum (A)	Output Maximum (A)	Output Maximum (B)	Total Regulation	OVP Setpoint	Notes
GPFC 110-5	1	5.1 v	0 A	11 A	15 A	2%	6.2 ± 0.6 V	C
GPFC 110-12	1	12 V	0 A	6.7 A	9.2 A	2%	14 ± 1.1 V	C
GPFC 110-15	1	15 V	0 A	5.3 A	7.3 A	2%	18.5 ± 1.5 V	C
GPFC 110-24	1	24 V	0 A	3.4 A	4.6 A	2%	28 ± 2.5 V	C
GPFC110-28	1	28 V	0 A	2.9 A	3.9 A	2%	34 ± 2.8 V	C
GPFC110-48	1	48 V	0 A	1.7 A	2.3 A	2%	55 ± 4 V	C

**Notes:**

A. With unrestricted convection cooling.

B. With 26cfm airflow.

C. Add "G" suffix to part number for RoHS compliant model.

## GPFC110 MECHANICAL SPECIFICATIONS

**INPUT:**

- J1**  
 AMP P.C.B. HEADER/P/N 640445-5  
 PIN 1) AC GROUND  
 PIN 2) N/C  
 PIN 3) AC NEUTRAL  
 PIN 4) N/C  
 PIN 5) AC LINE  
 MATING CONNECTOR AMP P/N  
 HOUSING 640250-5  
 CONTACT 770476-1

**OUTPUT:**

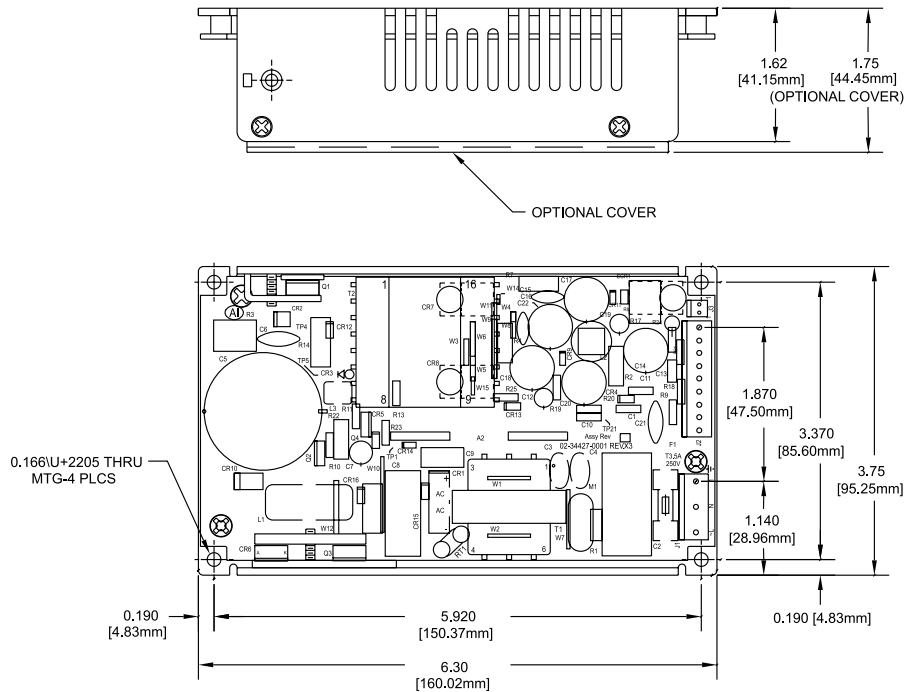
- J2**  
 AMP P.C.B. HEADER P/N 1-640445-9  
 PINS 1-3) +Vout  
 PIN 4) +SENSE  
 PIN 5) -SENSE  
 PIN 6-8) RETURN  
 PIN 9) PWR FAIL  
 MATING CONNECTOR AMP P/N  
 HOUSING 640250-9  
 CONTACT 770476-1

- FAN J3**  
 AMP P.C.B. HEADER P/N 640456-2  
 MATING CONNECTOR P/N 640621-2  
 PIN 1) -  
 PIN 2) +

OPTIONAL COVER: 08-30466-2110  
 5A MAXIMUM RECOMMENDED CURRENT PER  
 CONNECTOR PIN.

WEIGHT: 1.9 LBS [0.86kg] MAX.

TOLERANCES: X.XX=0.030 [0.76mm]  
 X.XXX=0.010 [0.25mm]



ENVIRONMENTAL SPECIFICATIONS	OPERATING	NON-OPERATING
Temperature (A)	See Individual Specs.	-40 to +85°C
Humidity (A)	0 to 95% RH	0 to 95% RH
Shock (B)	20 g <sub>pk</sub>	40 g <sub>pk</sub>
Altitude	-500 to 10,000 ft	-500 to 40,000 ft
Vibration (C)	1.5 g <sub>rms</sub> 0.003 g <sup>2</sup> /Hz	5 g <sub>rms</sub> 0.026 g <sup>2</sup> /Hz

- A. Units should be allowed to warm up/operate under non-condensing conditions before application of power.
- B. Shock testing—half-sinusoidal, 10 ± 3 ms duration, ± direction, 3 orthogonal axes, total 6 shocks.
- C. Random vibration—10 to 2000Hz, 6dB/octave roll-off from 350 to 2000Hz, 3 orthogonal axes. Tested for 10 min./axis operating and 1 hr./axis non-operating.