

# GPFC160 Commercial

## 160 Watt Global Performance Switchers



### FEATURES:

- 3.0 watts/cu.in. power density
- Compact size (4.5" x 7.0" x 1.7"; meets 1U height)
- Power factor corrected to IEC 1000-3-2; Class A
- Less than 300  $\mu$ A leakage
- EMI compliance to CISPR22, FCC Class B
- [Commercial Approved to UL1950, IEC950, EN60950 and CSA 22.2 No. 950](#)
- 2-year warranty
- **CE** marked to LVD

### SPECIFICATIONS:

#### Ac Input

85-264 Vac, 47-63 Hz single phase.

#### Input Current

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.

#### Hold-upTime

25 ms minimum from loss of ac input at full load, nominal line (115 Vac).

#### Output Power

Total regulation is the maximum deviation from the nominal voltage for all steady-state loading conditions. Each individual output is to be used within its specified limits of that output. Peak ratings are for 60 s maximum duration, 10% duty cycle.

#### Overload Protection

Fully protected against short circuit and output overload. Short circuit protection is cycling type power limit. Recovery after fault is automatic.

#### Output Noise

0.5% rms, 1% pk-pk, 20 MHz Bandwidth, differential mode. Measured with noise probe directly across output terminals of the power supply.

#### 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%.

#### Remote Sense

Provided as a standard feature. Capable of compensating for 0.25 V total of cabling losses.

#### Overvoltage Protection

Built in on all models. OVP crowbar reduces output voltage below nominal rating in less than 50 ms.

#### Voltage Adjustment

Main output  $\pm 5\%$ .

#### Input Protection

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.

#### 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.

#### Fan Output

An additional 12 Vdc, 250 mA output suitable for powering a dc fan is included in all models. The output is protected by an internal PTC in the event of an overload.

#### Thermal Shutdown

Provided as a standard feature. Designed to protect the unit from prolonged over temperature.

#### Power Fail

TTL or CMOS compatible output goes low ( $< 0.5$  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.

#### Temperature Coefficient

0.03%/°C typical on all outputs.

#### EMI/EMC Compliance

All models include built-in EMI filtering to meet the following emissions requirements:

EMI SPECIFICATIONS	COMPLIANCE LEVEL
Conducted Emissions	EN55022 Class B; FCC Class B
Static Discharge	EN61000-4-2, 6 kV contact, 8 kV air
RF Field Susceptibility	EN61000-4-3, 3 V/meter
Fast Transients/Bursts	EN61000-4-4, 2 kV, 5 kHz
Surge Susceptibility	EN61000-4-5, 1 kV diff., 2 kV com.

#### Commercial Safety

Approved to UL1950, CSA22.2 950, IEC950, and EN60950. UL file #E135803 commercial; CSA #LR46516. The output(s) are intended for safety earthed Signal Output and Intermediate Circuits only. All dc outputs are SELV under normal and single fault conditions.

# GPFC160 Commercial 160 Watt Single Output

Model	Output No.	Output	Output Maximum (A)	Output Peak (B)	OVP Setpoint	Ripple & Noise
GPFC160-5	1	5.1 V	25 A	31.3 A	6.2 ± 0.6 V	1%
GPFC160-12	1	12 V	11.7 A	13.3 A	14 ± 1.1 V	1%
GPFC160-15	1	15 V	9.3 A	10.7 A	18.5 ± 1.5 V	1%
GPFC160-24	1	24 V	5.8 A	6.7 A	28 ± 2.5 V	1%
GPFC160-28	1	28 V	5 A	5.7 A	34 ± 2.8 V	1%
GPFC160-48	1	48 V	2.9 A	3.4 A	55 ± 4.0 V	1%

A. Output rating with unrestricted convection cooling.  
 B. Output rating with 26 cfm airflow.

## GPFC160 MECHANICAL SPECIFICATIONS

### INPUT:

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

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

FAN  
 AMP P.C.B. HEADER P/N 640456-2  
 MATING CONNECTOR P/N 640440-2  
 PIN 1) -  
 PIN 2) +

### OUTPUT

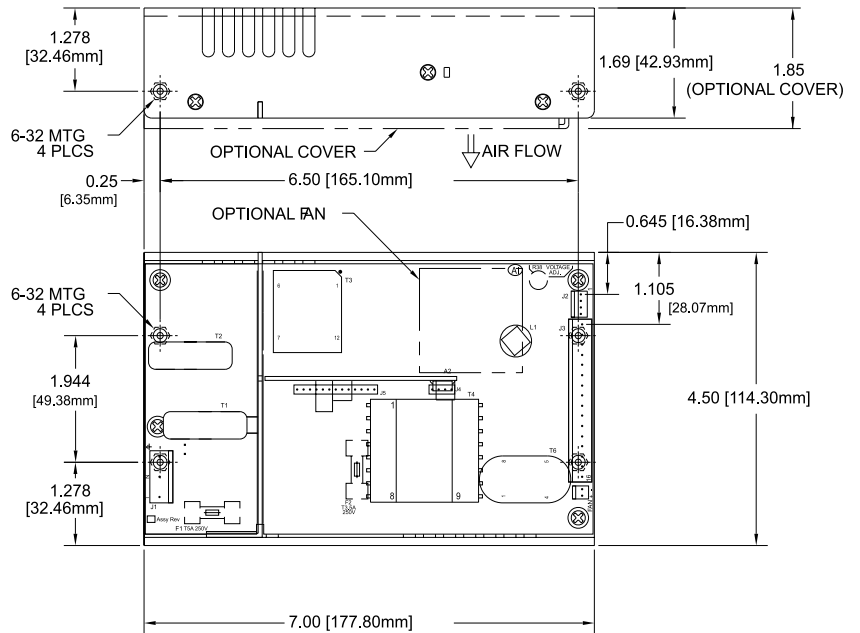
J3  
 AMP P.C.B. HEADER P/N 1-640445-6  
 PINS 1-4) +Vout MATING CONNECTOR AMP P/N  
 PINS 5-12) COMMON HOUSING 1-640250-6  
 PINS 13-16) +Vout CONTACT 770476-1

5A MAXIMUM RECOMMENDED CURRENT PER CONNECTOR PIN  
 MAX. SCREW PROTRUSION THROUGH CHASSIS = 0.120" [3.05mm]  
 CHASSIS THICKNESS = 0.125"

OPTIONAL COVER/FAN ASSEMBLY  
 AVAILABLE, ORDER P/N 09-160CF

WEIGHT: 1.9 LBS [.86 kg] MAX.

TOLERANCES:  
 X.XX ± 0.030 (0.76MM)  
 X.XXX ± 0.010 (0.25MM)



Environmental Specification	Operating	Non-operating
Temperature (A)	0 to 50°C	-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. Derated output current and total output power by 2.5% per 50°C.
- B. 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.
- C. Shock testing—half-sinusoidal, 10 ± 3 ms duration, ± direction, 3 orthogonal axes, total 6 shocks.

