

# **GPC40 Commercial/GPM40 Medical**

40 WATT GLOBAL PERFORMANCE SWITCHERS

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# Summary:

- Wide-range ac input 85-264 Vac
- 2-year warranty
- Conducted EMI exceeds FCC Class B and CISPR 22 Class B (Commercial models) and CISPR 11 Class B (Medical models)
- Single and multiple outputs
- Commercial Approved to UL1950, EN60950 E3:2000 and CSA-C22.2 No. 234
- Medical Approved to UL2601-1, EN60601-1 and CSA22.2 No. 601
- Single and multiple outputs
- RoHS compliant models available (G suffix)
- C€ marked to LVD

# SPECIFICATIONS

#### Ac Input

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

Input Current

Maximum input current at 120 Vac, 60 Hz with full rated output load: 1.3 A

Hold-Up Time

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

Output Power

40 W continuous, 50 W peak. Peak ratings are for 60 s maximum duration, 10% duty cycle. During peak load condition, output regulation may exceed total regulation limits.

## **Overload Protection**

Fully protected against short circuit and output overload. Short circuit protection is cycling type power limit on outputs 1 & 2; foldback type on output 3. Recovery after fault is automatic. See output ratings chart for additional notes or conditions.

Overvoltage Protection.

Main outputs: 124% ± 12%.

## Efficiency

70% at full rated load, nominal input voltage, depending on model and load distribution.

# Turn-on Time

Less than 1 second at 120 Vac,  $25^{\circ}$ C (inversely proportional to input voltage and thermistor temperature).

# Input Protection

Internal ac fuse provided. Designed to blow only if a catastrophic failure occurs in the unit.

# Inrush Current

Inrush is limited by internal thermistors. Inrush at 240 Vac under cold start conditions will not exceed 34 A.

# Temperature Coefficient

0.03%/°C typical on all outputs.

## Environmental

Designed for 0 to 50°C operation at full rated output power; derate output current and total output power by 2.5% per °C above 50°C.







# 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

Main output—500  $\mu s$  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/ $\mu s.$  Maximum voltage deviation is 3.5%. Startup/ shutdown overshoot less than 3%.

Remote Sense

Provided as a standard feature on single-output models.

Voltage Adjustment

Built-in potentiometer adjusts main output voltage ±5%.

## EMI/EMC Compliance

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

EMI SPECIFICATIONS	COMPLIANCE LEVEL
Conducted Emissions Conducted Emissions Static Discharge RF Field Susceptibility Fast Transients/Bursts Surge Susceptibility Line Frequency Harmonics	EN55022 Class B; FCC Class B EN55011 Class B; FCC Class B EN61000-4-2, 6 kV contact, 8 kV air EN61000-4-3, 3 V/meter EN61000-4-4, 2 kV, 5 kH EN61000-4-5, 1 kV diff., 2 kV com. EN61000-3-2
Line rrequercy numbriles	

#### Commercial Safety

Approved to UL1950, CSA22.2 No. 950, IEC950, EN60950. All dc outputs are SELV under normal and single fault conditions.

Fault

35 µA

60 µA

#### Medical Leakage Current The maximum leakage current is as follows: Test Condition Normal Single 120 Vac @ 60 Hz input 25 μA 264 Vac @ 60 Hz input 40 μA

## Medical Safety

Approved to UL2601-1, CSA22.2 No. 601 Level 3 and EN60601-1. UL file E116994; CSA #LR46516. The output(s) are intended for safety earthed Signal Output and Intermediate Circuits only. The output(s) are not acceptable for patient connection without additional isolation. All dc outputs are SELV under normal and single fault conditions.

Commercial Model	Medical Model	Output No.	Output	Output Minimum	Output Maximum	Output Peak	Noise P-P	Total Regulation	Notes
GPC40A	GPM40A	1	+5.1 V	0.4 A	4 A	5 A	50 mV	2%	
		2	+12 V	0 A	2 A	3 A	120 mV	5%	B,C
		3	-12 V	0 A	0.4 A	0.7 A	120 mV	3%	С
GPC40B GPM40B	GPM40B	1	+5.1 V	0.4 A	4 A	5 A	50 mV	2%	
		2	+15 V	0 A	2 A	3 A	150 mV	5%	B,C
		3	-15 V	0 A	0.4 A	0.7 A	150 mV	3%	С
GPC40D GPM40D	GPM40D	1	+5.1 V	0.4 A	4 A	5 A	50 mV	2%	
		2	+24 V	0.A	1 A	1.5 A	240 mV	5%	B,C
		3	-12 V	0.A	0.4 A	0.7 A	120 mV	3%	С
GPC40-3.3	GPM40-3.3	1	3.3 V	0	8 A	10 A	35 mV	2%	
GPC40-5	GPM40-5	1	5 V	0	8 A	10 A	50 mV	2%	
GPC40-9	GPM40-9	1	9 V	0 A	4.5 A	6 A	90mV	2%	
GPC40-12	GPM40-12	1	12 V	0 A	3.3 A	4.2 A	120 mV	2%	
GPC40-15	GPM40-15	1	15 V	0 A	2.7 A	3.3 A	150 mV	2%	
GPC40-24	GPM40-24	1	24 V	0 A	1.7 A	2.1 A	240 mV	2%	
GPC40-28	GPM40-28	1	28 V	0 A	1.4 A	1.8 A	280 mV	2%	

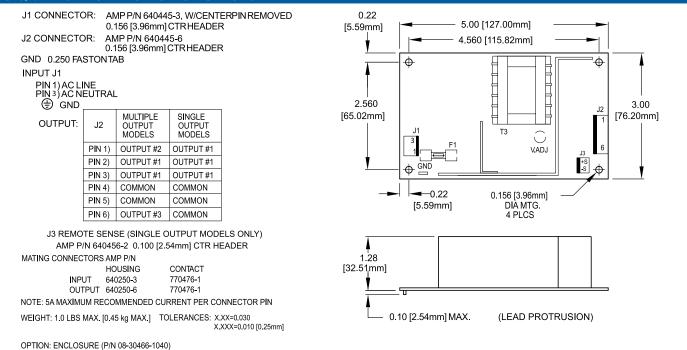
Note: For 48 volt model, GPC40-48 or GPM40-48, contact factory for availability.

A. Total regulation is defined as the maximum deviation from the nominal voltage for all steady-state conditions of initial voltage setting, input line voltage and output load. B. To maintain these regulation conditions, the 5.1V current must be at least 1/4 of V2 and not greater than 5 times the V2 current.

C. Requires +5.1V to be adjusted within  $\pm 1\%$  with at least a 0.4A load to maintain regulation on this output.

D. Add "G" suffix to model number for RoHS compliant model.

#### **GPC40/GPM40 MECHANICAL SPECIFICATIONS**



ENVIRONMENTAL SPECIFICA- TIONS	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 g²/Hz

A. Units should be allowed to warm up/operate under non-condensing onditions 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.

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# **Mouser Electronics**

Authorized Distributor

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Advanced Energy:

 GPC40-12
 GPC40-24
 GPC40-3.3
 GPM40-5
 GPC40A
 GPC40D
 GPC40B
 GPC40-5
 GPC40-9
 GPM40A

 GPM40B
 GPM40-12
 GPM40-28
 GPM40-15
 GPM40-24
 GPM40AG
 GPM40-12G
 GPC40-5G
 GPC40-12G

 GPM40-15G
 GPC40-24G
 GPM40-5G
 GPC40-3.3G
 GPC40-15G
 GPC40-9G
 GPM40-24G
 GPC40DG
 GPM40BG

 GPC40AG
 GPC40BG
 GPM40-28G
 GPC40-28G
 GPC40-28G
 GPC40-28G