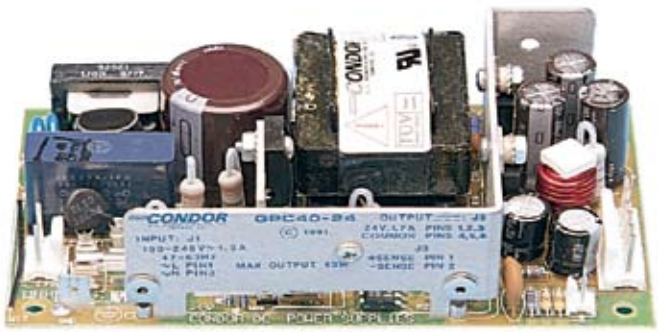
GPC40 Commercial/GPM40 Medical

40 WATT GLOBAL PERFORMANCE SWITCHERS

GLOBAL PERFORMANCE SWITCHERS

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)**
- **CE 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°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 µs typical response time for return to within 0.5% of final value for a 50% load step change. Δi/ Δt<0.2 A/µs. 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	EN55022 Class B; FCC Class B
Conducted Emissions	EN55011 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 kH
Surge Susceptibility	EN61000-4-5, 1 kV diff., 2 kV com.
Line Frequency Harmonics	EN61000-3-2

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

Medical Leakage Current
The maximum leakage current is as follows:

Test Condition	Normal Single	Fault
120 Vac @ 60 Hz input	25 µA	35 µA
264 Vac @ 60 Hz input	40 µA	60 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.

All specifications are typical at nominal input, full load at 25°C unless otherwise stated

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%	C
GPC40B	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%	C
GPC40D	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%	C
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 ±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

J1 CONNECTOR: AMP P/N 640445-3, W/CENTERPIN REMOVED
0.156 [3.96mm] CTR HEADER
J2 CONNECTOR: AMP P/N 640445-6
0.156 [3.96mm] CTR HEADER
GND 0.250 FASTON TAB
INPUT J1
PIN 1) AC LINE
PIN 3) AC NEUTRAL
⏚ GND

OUTPUT:

J2	MULTIPLE OUTPUT MODELS	SINGLE OUTPUT MODELS
PIN 1)	OUTPUT #2	OUTPUT #1
PIN 2)	OUTPUT #1	OUTPUT #1
PIN 3)	OUTPUT #1	OUTPUT #1
PIN 4)	COMMON	COMMON
PIN 5)	COMMON	COMMON
PIN 6)	OUTPUT #3	COMMON

J3 REMOTE SENSE (SINGLE OUTPUT MODELS ONLY)
AMP P/N 640456-2 0.100 [2.54mm] CTR HEADER

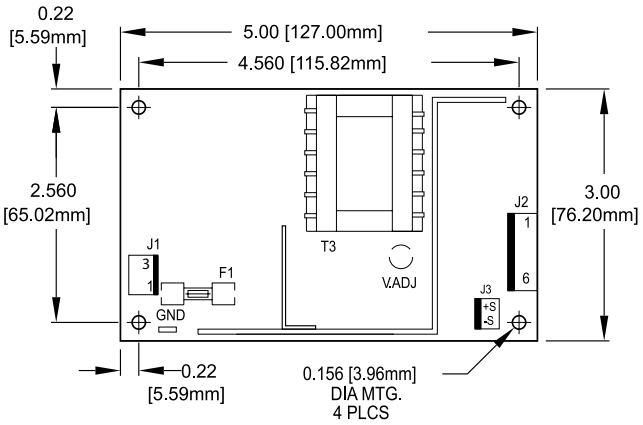
MATING CONNECTORS AMP P/N

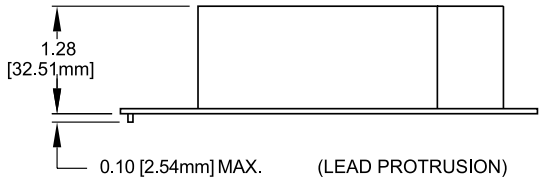
	HOUSING	CONTACT
INPUT	640250-3	770476-1
OUTPUT	640250-6	770476-1

NOTE: 5A MAXIMUM RECOMMENDED CURRENT PER CONNECTOR PIN

WEIGHT: 1.0 LBS MAX. [0.45 kg MAX.] TOLERANCES: X.XX=0.030
X.XXX=0.010 [0.25mm]

OPTION: ENCLOSURE (P/N 08-30466-1040)





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_{pk}	40 g_{pk}
Altitude	-500 to 10,000 ft	-500 to 40,000 ft
Vibration (C)	1.5 g_{rms}, 0.003 g^2/Hz	5 g_{rms}, 0.026 g^2/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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