

# **GPC55 Commercial/GPM55 Medical**

55 Watt Global Performance Switchers

# **GLOBAL PERFORMANCE SWITCHERS**

#### **FEATURES:**

- Wide-range ac input 85-264 Vac
- 2-year warranty
- Conducted EMI complies with FCC Class B and CISPR 22 Class B (Commercial models) and CISPR 11 Class B (Medical models)
- Commercial Approved to UL1950, IEC950 and CSA22.2-234 L3
- Medical Approved to UL2601-1, IEC601-1 and CSA22.2 No. 601
- Complies with EN61000-3-2 Class A
- Single and multiple outputs
- (E marked to LVD
- RoHS Compliant Model Available (G suffix)



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### **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: 1.7 A

Hold-Up Time

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

#### **Output Power**

55 W continuous, 70 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 outputs 3 & 4. Recovery after fault is automatic. See output ratings chart for additional notes or conditions. Factory set to begin power limiting at approximately 75 W.

Overvoltage Protection

Main outputs: 124% + 12%

#### Efficiency

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

#### 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.

#### Environmenta

Designed for 0 to  $50^{\circ}$ C operation at full rated output power; derate output current and total output power by 2.5% per °C above  $50^{\circ}$ C. See Environmental and Packaging Specifications on next page.

#### **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.  $\Delta i/\Delta t < 0.2 \text{ A}/\mu$ s. Maximum voltage deviation is 3.5%. Startup/shutdown overshoot less than 3%.

#### Voltage Adjustment

Built-in potentiometer adjusts voltage  $\pm 5\%$  on outputs 1 & 2.

#### **EMI/EMC Compliance**

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

| EMI SPECIFICATIONS   | COMPLIANCE LEVEL   |
|--|--|
| Conducted Emissions GPC55 Static<br>Conducted Emissions GPM55<br>Static Discharge<br>RF Field Susceptibility<br>Fast Transients/Bursts<br>Surge Susceptibility<br>Line Frequency Harmonics | EN55022 Class B; FCC Class B<br>EN55011 Class B; FCC Class B<br>EN61000-4-2, 6 kV contact, 8 kV air<br>EN61000-4-3, 3 V/meter<br>EN61000-4-4, 2 kV, 5 kHz<br>EN61000-4-5, 1 kV diff., 2 kV com.<br>EN61000-3-2 Class A |
|  |  |

# Commercial Leakage Current 0.7 mA 254 Vac @ 60 Hz input.

#### **Commercial Safety**

Approved to UL1950, CSA22.2 No. 234 Level 3, IEC950 and EN60950. UL file #E135803 commercial; CSA #LR46516 all models. All dc outputs are SELV under normal and single fault conditions.

#### Medical Leakage Current

 $35 \,\mu\text{A}~254\,\text{Vac} @ 60\,\text{Hz}$  input.

## **Medical Safety**

Approved to UL2601, CSA22.2 No. 601 Level 3 and IEC601. 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<br>Model | Medical<br>Model | Output No.       | Output                          | Output<br>Minimum          | Output<br>Maximun          | Output<br>Peak               | Noise P-P                           | Total<br>Regulation (A) |
|---------------------|------------------|------------------|---------------------------------|----------------------------|----------------------------|------------------------------|-------------------------------------|-------------------------|
| GPC55A              | GPM55A           | 1<br>2<br>3<br>4 | +5 V<br>+12 V<br>+12 V<br>-12 V | 0.7 A<br>0 A<br>0 A<br>0 A | 6 A<br>3 A<br>1 A<br>1 A   | 8 A<br>5 A<br>1.2 A<br>1.2 A | 50 mV<br>120 mV<br>120 mV<br>120 mV | 2%<br>2%<br>3%<br>3%    |
| GPC55B              | GPM55B           | 1<br>2<br>3<br>4 | +5 V<br>+12 V<br>-5 V<br>-12 V  | 0.7 A<br>0 A<br>0 A<br>0 A | 6 A<br>3 A<br>1 A<br>1 A   | 8 A<br>5 A<br>1.2 A<br>1.2 A | 50 mV<br>120 mV<br>50 mV<br>120 mV  | 2%<br>2%<br>3%<br>3%    |
| GPC55C              | GPM55C           | 1<br>2<br>3<br>4 | +5 V<br>+15 V<br>-5 V<br>-15 V  | 0.7 A<br>0 A<br>0 A<br>0 A | 6 A<br>3 A<br>1 A<br>1 A   | 8 A<br>5 A<br>1.2 A<br>1.2 A | 50 mV<br>150 mV<br>50 mV<br>150 mV  | 2%<br>2%<br>3%<br>3%    |
| GPC55D              | GPM55D           | 1<br>2<br>3<br>4 | +5 V<br>+24 V<br>+12 V<br>-12 V | 0.7 A<br>0 A<br>0 A<br>0 A | 6 A<br>1.5 A<br>1 A<br>1 A | 8 A<br>5 A<br>1.2 A<br>1.2 A | 50 mV<br>240 mV<br>120 mV<br>120 mV | 2%<br>2%<br>3%<br>3%    |
| GPC55E              | GPM55E           | 1<br>2<br>3<br>4 | +5 V<br>+24 V<br>+15 V<br>-15 V | 0.7 A<br>0 A<br>0 A<br>0 A | 6 A<br>1.5 A<br>1 A<br>1 A | 8 A<br>5 A<br>1.2 A<br>1.2 A | 50 mV<br>120 mV<br>150 mV<br>150 mV | 2%<br>2%<br>3%<br>3%    |
| GPC55F              | GPM55F           | 1<br>2<br>3<br>4 | +5 V<br>+12 V<br>+15 V<br>-15 V | 0.7 A<br>0 A<br>0 A<br>0 A | 6 A<br>3 A<br>1 A<br>1 A   | 8 A<br>5 A<br>1.2 A<br>11    | 50 mV<br>120 mV<br>150 mV<br>150 mV | 2%<br>2%<br>3%<br>3%    |
| GPC55-5             | GPM55-5          | 1                | 5 V                             | 0 A                        | 11 A                       | 14 A                         | 50 mV                               | 2%                      |
| GPC55-12            | GPM55-12         | 1                | 12 V                            | 0 A                        | 4.7 A                      | 5.8 A                        | 120 mV                              | 2%                      |
| GPC55-15            | GPM55-15         | 1                | 15 V                            | 0 A                        | 3.7 A                      | 4.7 A                        | 150 mV                              | 2%                      |
| GPC55-24            | GPM55-24         | 1                | 24 V                            | 0 A                        | 2.3 A                      | 2.9 A                        | 240 mV                              | 2%                      |
| GPC55-28            | GPM55-28         | 1                | 28 V                            | 0 A                        | 2.0 A                      | 2.4 A                        | 280 mV                              | 2%                      |
| GPC55-48            |                  | 1                | 48 V                            | 0 A                        | 1.5 A                      | 1.5 A                        | 480 mV                              | 2%                      |

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. Add "G" suffix to model to indicate RoHS compliant moel.

0.22

[5.59mm]

3.94

[100.08mm]

0.75

3.500 [88.90mm]

> 3.150 [80.01mm]

#### GPC55/GPM55 MECHANICAL SPECIFICATIONS

INPUT J1 AMP P/N 640445-5 0.156 [3.96mm] CTR HEADER

PIN 1) AC GROUND PIN 3) AC NEUTRAL PIN 5) AC LINE

PIN 2) N/C PIN 4) N/C

OUTPUT J2 AMP P/N 640445-9 0.156 [3.96mm] CTR HEADER

| J2     | MULTIPLE<br>OUTPUT<br>MODELS | SINGLE<br>OUTPUT<br>MODELS |
|--------|------------------------------|----------------------------|
| PIN 1) | OUTPUT #2                    | OUTPUT #1                  |
| PIN 2) | OUTPUT #2                    | OUTPUT #1                  |
| PIN 3) | OUTPUT #1                    | OUTPUT #1                  |
| PIN 4) | OUTPUT #1                    | OUTPUT #1                  |
| PIN 5) | COMMON                       | COMMON                     |
| PIN 6) | COMMON                       | COMMON                     |
| PIN 7) | COMMON                       | COMMON                     |
| PIN 8) | OUTPUT #4                    | N/C                        |
| PIN 9) | OUTPUT #3                    | N/C                        |

#### MATING CONNECTORS AMP P/N

HOUSING CONTACT INPLIT 640250-5 770476-1 OUTPUT 640250-9 770476-1

NOTE: 5A MAXIMUM RECOMMENDED CURRENT PER CONNECTOR PIN OPTIONAL ENCLOSURE AVAILABLE ORDER P/N 08-30466-1055 WEIGHT 1.5 LBS MAX. TOLERANCES: X.XX=0.030 [0.76mm] [0.68 kg MAX.]

|                    | [10.16mm] [19.05mm]  |
|--------------------|--|
|                    | 1.68   |
|                    | [42.67mm]<br>MAX.  |
|                    | ·····  |
|                    | 0.10 [2.54mm] MAX. (LEAD PROTRUSION)                                 |
|                    | 0.10 (2.04HIIII) WAX. (LEAD PROTRUSION)                              |
| NON-OPERATING      |  |
| -40 to +85°C       | A. Units should be allowed to war conditions before application of p |
| 0 to 95% RH        | B. Shock testing—half-sinusoidal                                     |
| 40 g <sub>pk</sub> | orthogonal axes, total 6 shocks.                                     |
|                    |  |

- X.XXX=0.010 [0.25mm] **ENVIRONMENTAL SPECIFICATIONS OPERATING** Temperature (A) See individual Specs 0 to 95% RH Humidity (A) Shock (B) 20 g<sub>pk</sub> Altitude -500 to 10,000 ft -500 to 40,000 ft Vibration (C)  $1.5 g_{rms'} 0.003 g^2/Hz$  $5 g_{rms'} 0.026 g^2/Hz$
- ld be allowed to warm up/operate under non-condensing efore application of power.

4.800 [121.92mm]

6.30 [160.02mm]

6.100 [154.94mm]

- 0.10 [2.54mm]

0.120 [3.05mm]

0.156 [3.96mm]

- mg—half-sinusoidal,  $10 \pm 3$  ms duration,  $\pm$  direction, 3xes, 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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