

# GPC200 Commercial/GPM200 Medical

## 200 Watt Global Performance Switchers



### 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: 5.5 A

#### Hold-Up Time

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

#### Output Power

150 W convection; 200 with 26 cfm air; 220 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.

#### Overvoltage Protection

Main outputs: 124%  $\pm$  12% typical.

#### Efficiency

Minimum 65% 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 60 A.

#### Temperature Coefficient

0.03%/°C typical on all outputs.

#### Thermal Shutdown

Provided as a standard feature. Designed to protect unit from prolonged overtemperature.

#### 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. See Environmental and Packaging Specifications on next page.

### FEATURES:

- 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)
- Commercial Approved to UL1950, IEC950 and CSA22.2-234 L3
- Medical Approved to UL2601-1, IEC601-1 and CSA22.2 No. 601
- Multiple outputs
- $\text{CE}$  marked to LVD

#### Power Fail

TTL- or CMOS-compatible output goes low ( $< 0.5$  V) 5 ms before output voltage drops more than 4% below nominal voltage upon loss of ac power. The signal is factory set to trip on 84 to 94 Vac brown-out depending upon incoming line impedance and distortion. Other settings are available to the user through adjustment of built-in potentiometer.

#### 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 main 5 V output.

#### Voltage Adjustment

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

#### EMI/EMC Compliance

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

| EMI SPECIFICATIONS         | COMPLIANCE LEVEL                    |
|----------------------------|-------------------------------------|
| Conducted Emissions GPC200 | EN55022 Class B; FCC Class B        |
| Conducted Emissions GPM200 | 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 kHz            |
| Surge Susceptibility       | EN61000-4-5, 1 kV diff., 2 kV com.  |

#### Commercial Leakage Current

0.95 mA 254 Vac @ 60 Hz input (with no deviations).

#### Commercial Safety

Approved to UL1950, CSA22.2 No. 234 Level 3, IEC950 and EN60950. UL file #E135803 commercial; CSA #LR46516 all models. 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.

#### Medical Leakage Current

60  $\mu$ A 254 Vac @ 60 Hz input.

#### Medical Safety

Approved to UL2601-1, CSA-C22.2 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.



Condor D.C. Power Supplies, Inc., 2311 Statham Parkway, Oxnard, CA 93033  
800-235-5929 • 805-486-4565 • FAX 805-487-8911 • www.condorpower.com

# GPC200 Commercial/GPM200 Medical 200 Watt Multiple Output

| Commercial Model | Medical Model | Output No. | Output   | Output Minimum | Output Maximum (B) | Output Maximum (C) | Output Peak | Noise P-P | Total Regulation (A) |
|------------------|---------------|------------|----------|----------------|--------------------|--------------------|-------------|-----------|----------------------|
| GPC200A          | GPM200A       | 1          | +5 V     | 4 A            | 18 A               | 26 A               | 32 A        | 50 mV     | 2%                   |
|                  |               | 2          | +12 V    | 0 A            | 5 A                | 8 A                | 12 A        | 120 mV    | 2%                   |
|                  |               | 3          | -12 V    | 0 A            | 1 A                | 1.2 A              | 1.5 A       | 120 mV    | 3%                   |
|                  |               | 4          | 12 V (D) | 0 A            | 3 A                | 4 A                | 4.5 A       | 120 mV    | 3%                   |
| GPC200B          | GPM200B       | 1          | +5 V     | 4 A            | 18 A               | 26 A               | 32 A        | 50 mV     | 2%                   |
|                  |               | 2          | +12 V    | 0 A            | 5 A                | 8 A                | 12 A        | 120 mV    | 2%                   |
|                  |               | 3          | -5 V     | 0 A            | 1 A                | 1.2 A              | 1.5 A       | 50 mV     | 3%                   |
|                  |               | 4          | 12 V (D) | 0 A            | 3 A                | 4 A                | 4.5 A       | 120 mV    | 3%                   |
| GPC200D          | GPM200D       | 1          | +5 V     | 4 A            | 18 A               | 26 A               | 32 A        | 50 mV     | 2%                   |
|                  |               | 2          | +24 V    | 0 A            | 3 A                | 5 A                | 6.5 A       | 240 mV    | 2%                   |
|                  |               | 3          | -12 V    | 0 A            | 1 A                | 1.2 A              | 1.5 A       | 120 mV    | 3%                   |
|                  |               | 4          | 12 V (D) | 0 A            | 3 A                | 4 A                | 4.5 A       | 120 mV    | 3%                   |
| GPC200E          | GPM200E       | 1          | +5 V     | 4 A            | 18 A               | 26 A               | 32 A        | 50 mV     | 2%                   |
|                  |               | 2          | +24 V    | 0 A            | 3 A                | 5 A                | 6.5 A       | 240 mV    | 2%                   |
|                  |               | 3          | -15 V    | 0 A            | 1 A                | 1.2 A              | 1.5 A       | 150 mV    | 3%                   |
|                  |               | 4          | 15 V (D) | 0 A            | 3 A                | 4 A                | 4.5 A       | 150 mV    | 3%                   |
| GPC200F          | GPM200F       | 1          | +5 V     | 4 A            | 18 A               | 26 A               | 32 A        | 50 mV     | 2%                   |
|                  |               | 2          | +12 V    | 0 A            | 5 A                | 8 A                | 12 A        | 120 mV    | 2%                   |
|                  |               | 3          | -12 V    | 0 A            | 1 A                | 1.2 A              | 1.5 A       | 120 mV    | 3%                   |
|                  |               | 4          | 5 V (D)  | 0 A            | 3 A                | 4 A                | 4.5 A       | 50 mV     | 3%                   |

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. Ratings for unrestricted natural convection cooling; outputs 1 & 2 combined load not to exceed 22A continuous; total power -150W.

C. Ratings with 26cfm forced air cooling; outputs 1 & 2 combined load not to exceed 32A continuous; total power -200W.

D. Isolated output which may be referenced as a positive or negative voltage.

## GPC200/GPM200 MECHANICAL SPECIFICATIONS

### INPUT TB1

TERMINAL BLOCK .375 X 6-32

- PIN 1) AC LINE
- PIN 2) AC NEUTRAL
- PIN 3) 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) N/C

### OUTPUT TB2

TERMINAL BLOCK .375 X 6-32

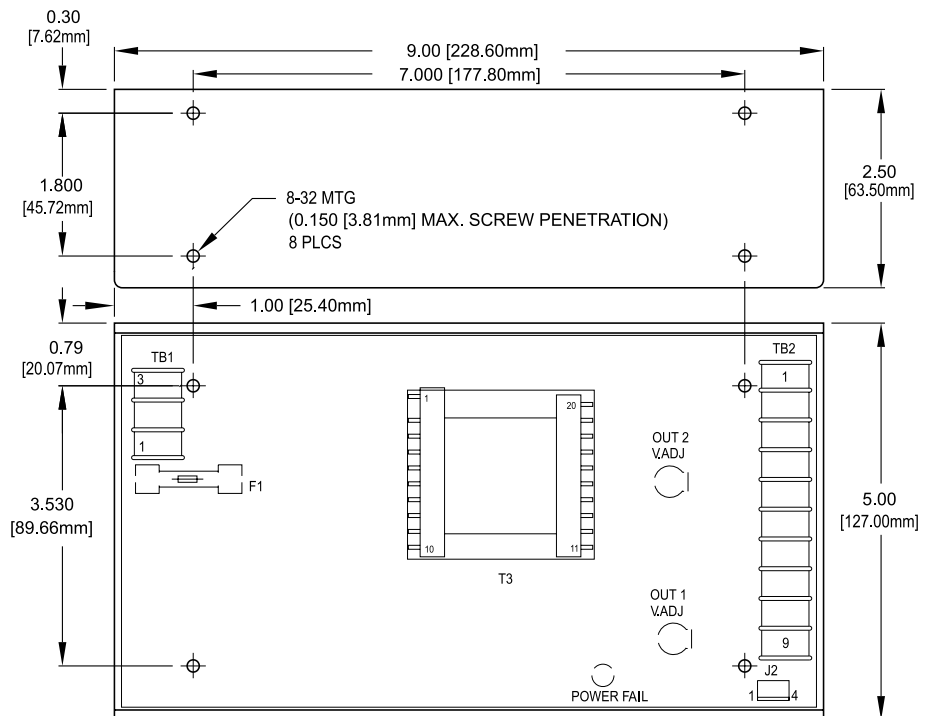
- PIN 1) OUTPUT #1
- PIN 2) OUTPUT #1
- PIN 3) COMMON
- PIN 4) COMMON
- PIN 5) COMMON
- PIN 6) OUTPUT #2
- PIN 7) OUTPUT #3
- PIN 8) OUTPUT(+)#4
- PIN 9) OUTPUT(-)#4

OPTIONAL COVER AVAILABLE, ORDER P/N 08-30466-1200

WEIGHT: 3.90 LBS MAX. [1.77 kg MAX.]

TOLERANCES: X,XX=0.030 [0.76mm]

X,XXX=0.010 [0.25mm]



| Environmental Specification | 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. 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.



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