GSM28 Medical

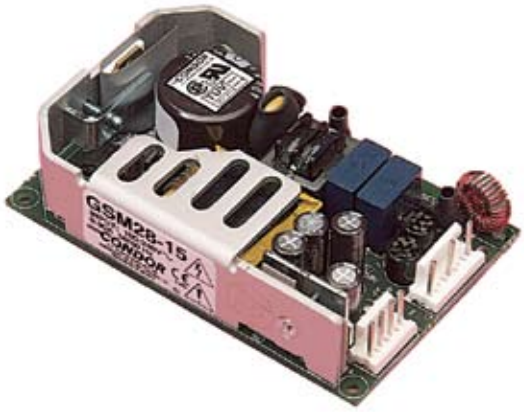
28 Watt Global Performance Switchers

GLOBAL PERFORMANCE SWITCHERS

CONDOR DC Power Supplies

FEATURES:

- **Industry's smallest 28 W medically approved switcher**
- **Compact size (4.00" x 2.59" x 0.92")**
- **Wide-range ac input: 85-264 Vac**
- **Less than 25 µA leakage current @ 120 Vac**
- **Approved to UL2601-1, EN60601-1**
- **EMI to FCC, CISPR 11 Class B/IEC601-1-2**
- **Overvoltage protection standard**
- **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 is 0.85 A.

Hold-up Time
15 ms minimum from loss of ac input at full load, nominal line (120 Vac).

Output Power
Normal continuous output power is 28 W, 32 W peak for 60 s maximum duration, 10% duty cycle. Factory set to begin power limiting at approximately 35 W.

Overload Protection
Fully protected against short circuit and output overload. Short circuit protection is cycling type power limit.

Output Noise
0.5% rms, 1% pk-pk, 20 MHz bandwidth, differential mode. Measured with scope probe directly across output terminals of the power supply with load terminated with 0.1 µF capacitor.

Overvoltage Protection
Built in with firing point set per ratings table. OVP firing reduces voltage to less than 50% of nominal voltage in 50 ms.

Voltage Adjustment
Factory set with fixed resistors to maximize reliability.

Efficiency
70% minimum for the 5.1 V model at full rated load, nominal input voltage. Efficiency increases as output voltage increases.

Input Protection
Internal ac fuse provided on all units. Designed to open only if a catastrophic failure occurs in the unit.

Inrush Current
Inrush limited by internal thermistor. The inrush at 230 Vac, averaged over the first ac half-cycle under cold start conditions will not exceed 32 A.

Minimum Load Requirement 5% of full load rating

Transient Response 3.5% max. dev. 50% load step at 0.2 A/µs. Recovery to 0.5% within 500 µs.

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.

Medical EMI/EMC Compliance
All models include built-in EMI filtering to meet the following emissions requirements:

EMI SPECIFICATIONS	COMPLIANCE LEVEL
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 kHz
Surge Susceptibility	EN61000-4-5, 1 kV diff., 2 kV com.
Line Frequency Harmonics	EN61000-3-2 Class A

Earth Leakage Current
Leakage current measured in the Gnd wire connection when measured per EN60601-1 or UL2601-1 is as follows:

Medical Model	Normal Leakage	SingleFault Leakage	Test Voltage	Test Method
GSM28	25µA	45 µA	132 Vca/60 Hz	UL2601-1
GSM28	50 µA	90 µA	264 Vca/50 Hz	IEC60601-1

Medical Medical Safety
SL Power Electronics Corp. declares under our sole responsibility that all GSM models are in conformity with the applicable requirements of UL2601-1 Patient Care Equipment, CSA-C22.2 No. 234 (with additional tests to C22.2 No. 601.1 per T.I.L. CA-08), EN60601-1.

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

Medical Model	Output	Current	Load Regulation	Initial Setpoint Tolerance	OVP Setpoint	Ripple and Noise
GSM28-5	5.1 V	5.5 A	0.75%	2.5%	6.2 ± 0.6 V	1.4%
GSM28-12	12 V	2.3 A	0.75%	2.5%	14 ± 1.0 V	1%
GSM28-15	15 V	1.9 A	0.75%	2.5%	18.5 ± 1.5 V	1%
GSM28-24	24 V	1.2 A	0.75%	2.5%	28 ± 2.5 V	1%
GSM28-28	28 V	1.0 A	0.75%	2.5%	34 ± 2.8 V	1%

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

GSM28 MECHANICAL SPECIFICATIONS

INPUT J1:
AMP P/N 640445-5, 0.156 CTR
0.045 SQUARE PIN HEADER

PIN 5	AC LINE
PIN 3	AC NEUTRAL
PIN 1	⏚

OUTPUT J2:
AMP P/N 640445-4, 0.156 CTR
0.045 SQUARE PIN HEADER

PIN 1	COMMON
PIN 2	COMMON
PIN 3	OUTPUT #1
PIN 4	OUTPUT #1

MATING CONNECTORS: AMP P/N

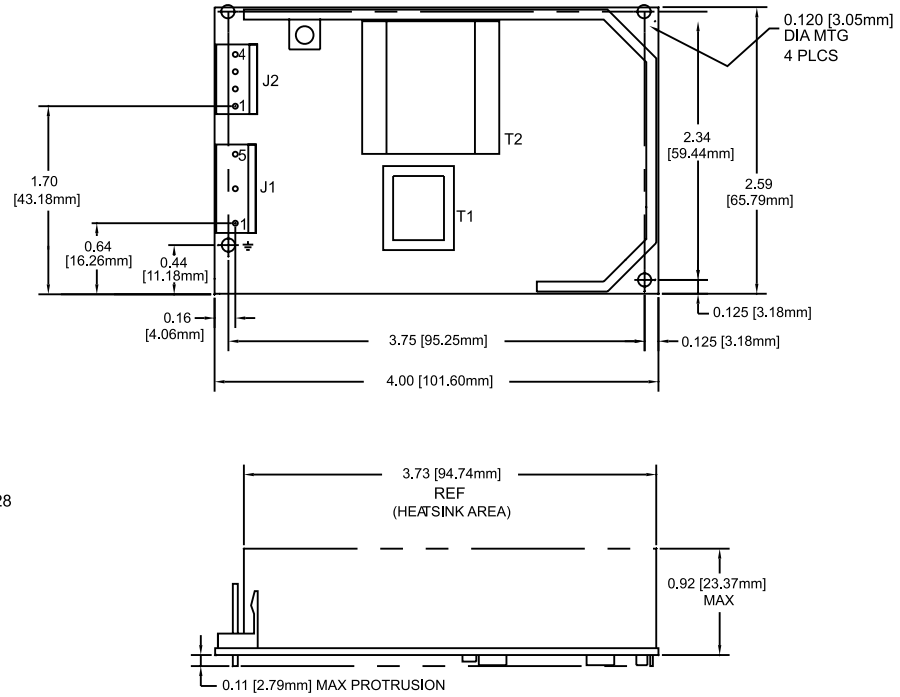
	HOUSING	CONTACTS
INPUT	640250-5	770476-1
OUTPUT	640250-4	770476-1

NOTE: 5A MAXIMUM RECOMMENDED CURRENT PER CONNECTOR PIN

OPTIONAL ENCLOSURE: P/N 08-30466-0028

WEIGHT: 5.0 OZ. (0.142 kg)

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



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 conditions 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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