

# GLD150 Gold Performance Medical Switchers

## 150 Watt Single Output



### SPECIFICATIONS:

#### Ac Input

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

#### Input Current

2.8 A line current maximum, at 90 Vac, 60 Hz with full rated load, power factor .99 typical, .96 minimum. Input current harmonic content meets the requirements of IEC1000-3-2.

#### Output Power

150 W with convection cooling, 180 W with fan cooling.

#### Efficiency

Minimum 80% at full rated load with 230 Vac Input. Approximately 3% less at 115 Vac.

#### Hold-Up Time

Outputs will remain within regulation limits for 25 ms minimum from loss of ac input at full load, 10 ms before Power Fail indication.

#### Dc Output

Total regulation is the maximum deviation from the nominal voltage for all steady state loading conditions. Peak ratings are for 60 s maximum duration, 10% duty cycle.

#### Overload Protection

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

#### Minimum Load

No minimum load required to maintain output specifications.

#### 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,  $Di/Dt < 0.2$  A  $\mu$ s. Maximum voltage deviation is 3%.

#### Remote Sense

Provided as a standard feature on all models.

#### Overvoltage Protection

Built in on all models.

#### Input Protection

Internal ac fuses provided on both lines on all units.

#### Voltage Adjustment

Output Voltage is adjustable  $\pm 5\%$  with user adjustable potentiometer.

#### Temperature Coefficient

0.03% /  $^{\circ}$ C typical on all outputs.

#### Overshoot

Less than 2% overshoot at turn-on under all conditions, less than 1% overshoot at turn-off under all conditions.

#### Inhibit

Inhibit signal is pulled to the V1 output common to reduce average output voltage to less than 5% of nominal.

### FEATURES:

- Compact 4.5" x 7" x 1.7" size
- Power factor corrected to IEC 1000-3-2 Class A
- Less than 300  $\mu$ A leakage
- EMI compliance to CISPR11, FCC Class B
- Power fail and remote sense standard
- **Medical Approved to UL2601-1, IEC601-1/60601-1 and CSA-C22.2 No. 601.1**
- 2 year warranty
- **CE** marked to LVD

#### EMI/EMC Compliance

All models include built-in EMI filtering to meet the EMC requirements of IEC601-1. Unless otherwise stated, all tests are done at full load and 115 and 230 Vac input.

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, 3V/meter
Fast Transients / Bursts	EN61000-4-4, 2 kV, 5 kHz
Surge Susceptibility	EN61000-4-5, 1 kV diff., 2 kV com.
Conducted RF Susceptibility	EN61000-4-6, 3V
Voltage Sags & Surges	EN61000-4-11

#### Inrush Current

Inrush 240 Vac is less than 37 A, averaged over the first ac half-cycle under cold start conditions. Limiting provided by internal thermistors.

#### Fan Output

An additional 12 Vdc, 250 mA output suitable for powering a dc fan is included in all models. The fan output is both current limited and thermally protected.

#### Thermal Shutdown

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

#### Power Fail

TTL / CMOS compatible output goes low ( $< 0.5$  V) 8 ms before output voltage drops more than 4% below nominal voltage upon loss of ac power.

#### Power Good

TTL / CMOS compatible output goes high more than 100 ms after V1 reaches regulation and should assure that sufficient energy is stored in the input section to provide normal power fail/shutdown.

#### Medical Approvals

All models are Certified to be in compliance with the applicable requirements of UL2601-1, CSA-C22.2 No. 601.1, IEC601-1/60601-1.

#### Leakage Current

70  $\mu$ A, 132 Vac @ 60 Hz normal conditions. Single fault conditions, 130  $\mu$ A, 254 Vac @ 50 Hz.

#### Design Verification Documents

The "Gold" series has undergone rigorous review and design analysis. The following product documentation is available upon request;

1. MTBF study
2. DVT Data
3. EMC / Susceptibility test results

# GLD150 Medical Switchers 150 Watt Multiple Output

Medical Model	Output Voltage	Output Current (A)	Output Current (B)	Voltage Adjustment	Total Regulation	OVP Setpoint	Ripple/ Noise
GLD150-12	12 V	12.5 A	15 A	± 5%	2%	14 ± 1.1 V	1%
GLD150-15	15 V	10 A	12 A	± 5%	2%	18.5 ± 1.5 V	1%
GLD150-24	24 V	6.2 A	7.5 A	± 5%	2%	28 ± 2.5 V	1%
GLD150-28	28 V	5.3 A	6.4 A	± 5%	2%	34 ± 2.8 V	1%
GLD150-48	48 V	3.2 A	3.75 A	± 5%	2%	55 ± 4.0 V	1%

## Notes:

- A. Maximum continuous current rating for unrestricted convection cooling.  
 B. Maximum continuous current rating with 150 LFM air or peak rating.  
 C. Add "C" suffix for cover option and derate convection rating to 130 W.

## GLD150 MECHANICAL SPECIFICATIONS

### INPUT

J1  
 MOLEX P.C.B. HEADER P/N: 39-30-2056  
 PIN 1) AC GROUND  
 PIN 2) N/C  
 PIN 3) AC NEUTRAL  
 PIN 4) N/C  
 PIN 5) AC LINE  
 MATING CONNECTOR MOLEX P/N  
 HOUSING 39-01-4051  
 CONTACT 39-00-0182

### SIGNALS

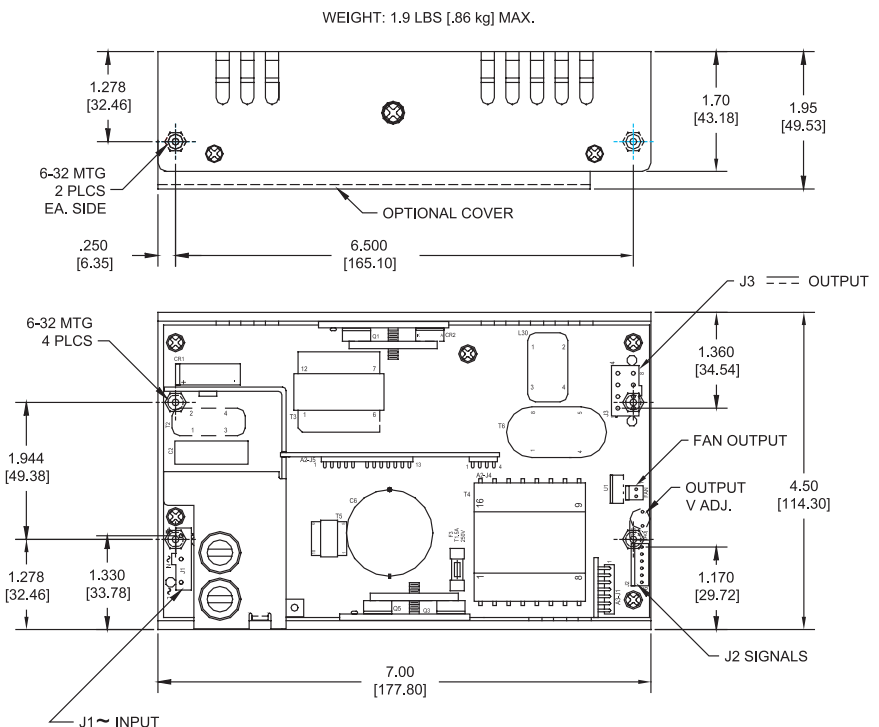
J2  
 AMP P.C.B. HEADER P/N 641215-3  
 PIN 1) INHIBIT  
 PIN 2) +SENSE  
 PIN 3) POWER GOOD  
 PIN 4) -SENSE  
 PIN 5) COMMON  
 PIN 6) POWER FAIL  
 MATING CONNECTOR AMP P/N  
 HOUSING 770602-6  
 CONTACT 770666-6

### OUTPUT

J3  
 MOLEX P.C.B. HEADER P/N: 39-29-9085  
 PINS 3,4,7,8) +Vout  
 PINS 1,2,5,6) RETURN  
 MATING CONNECTOR MOLEX P/N  
 HOUSING 39-01-2080  
 CONTACT 39-00-0182

### FAN

AMP P.C.B. HEADER P/N: 641215-2  
 PINS 1) RTN  
 PINS 2) +12V  
 MATING CONNECTOR AMP P/N  
 HOUSING 770602-2  
 CONTACT 770666-02



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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