GLD150 Gold Performance Medical Switchers

150 Watt Multiple Output

PERFORMANCE MEDICAL SWITCHERS

FEATURES:

- **Compact 4.5" x 7" x 1.7" size**
- **Power factor corrected to IEC 1000-3-2 Class A**
- **Less than 300 µA 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**
- **RoHS Compliant Model Available (G suffix)**

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. Peak ratings are for 60 s maximum duration, 10% duty cycle.

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.

Output Regulation
Total regulation is the maximum deviation from the nominal voltage for all steady state loading conditions.

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 µs typical response time for return to within 0.5% of final value for a 50% load step change, di/dt< 0.2 A µs. Maximum voltage deviation is 3%.

Remote Sense
Standard feature on all models, includes open sense lead protection.

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 +/- 5% with user adjustable potentiometer.

Temperature Coefficient
0.03% / °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.

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.

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, 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 halfcycle 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 µA, 132 Vac @ 60 Hz normal conditions. Single fault conditions, 130 µA, 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

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

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

Notes:
* Add "G" suffix to part number for RoHS compliant model. Contact factory for availability.
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

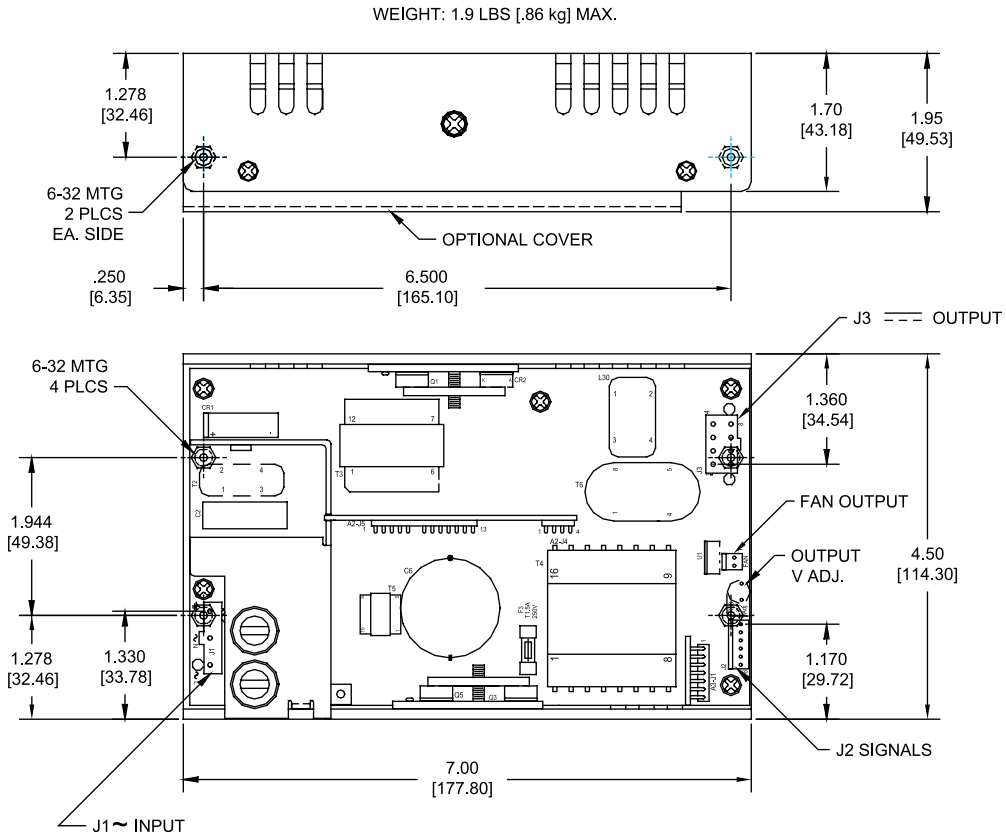
INPUT
J1
MOLEX P.C.B. HEADER P/N: 39-30-2056
PIN 1) AC GROUND
PIN 2) N/C
PIN 3) AC NEUTRAL
PIN 4) N/C
PIN 5) AC LINE
MATING CONNECTOR MOLEX P/N
HOUSING 39-01-4051
CONTACT 39-00-0182

SIGNALS
J2
AMP P.C.B. HEADER P/N 641215-6
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 770666-2

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

Cover option: P/N 08-30466-0150
Cover with fan option: P/N 09-150CF



ENVIRONMENTAL SPECIFICATIONS	OPERATING	NON-OPERATING
Temperature (A, D)	0 to +50°C	-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.
D. Derate output power to 50% at 70°C.