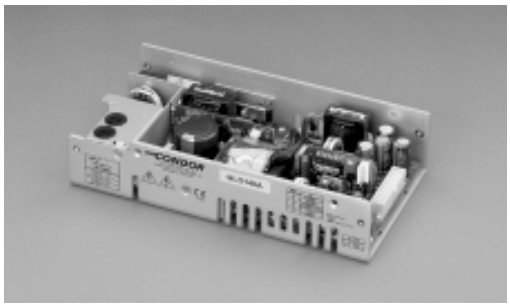
GLD140 GOLD PERFORMANCE MEDICAL SWITCHERS



FEATURES:

- Compact size (4.5" x 8.5" x 1.95")
- Power factor corrected to IEC 1000-3-2 Class A
- Documented FMEA, WCA and EMC test results
- Meets EMC directive
- EMI compliance to CISPR11, FCC Class B, IEC601-1-2
- Approved to UL2601, IEC601-1 and CSA 22.2 No. 601.1-M90 and EN60601: 1990
- CE marked to LVD

SPECIFICATIONS

Ac Input
90-264 Vac, 47-63 Hz single phase.
Output Power
Continuous output power 140 W with unrestricted convection cooling, 180 W with 150 LFM of air.
Input Current
Active Power Factor Correction circuitry assures compliance with IEC1000-3-2, Class A. Maximum input current at minimum input voltage and full load is 3.0 A.
Efficiency
73 – 85 % at full rated load, nominal input voltage, depending on model and load distribution.
Hold-up Time
26 ms total. 16 ms minimum from loss of ac input at full load until activation of the power fail signal. Output voltages remain within specified regulation limits for an additional 9 ms minimum after power fail activates.
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 noise probe directly across output terminals of the power supply.
Transient Response
500 µs typical response time for return to within 0.5% of final value for a 45% load step from any load greater than 10% of full rated load, $\Delta i/\Delta t < 0.2$ A µs. Maximum voltage deviation is 3.5%.
Remote Sense
Provided as a standard feature on V1 and V2.
Overvoltage Protection
Built in on V1, 2 and 3 outputs.
Voltage Adjustment
Factory set to specified voltage with user adjustable potentiometer on V1, 2 and 3. User can adjust V1, 2 and 3 at least ±5% of nominal output voltage.
Output Regulation
Regulation for all outputs is the maximum deviation from initial set point under all line and load conditions. Initial set tolerance is measured with all outputs at 50 % of full rated load.
No Load Turn-On/Standby
A minimum load of 3 A on V1 is required for proper regulation. If not met, no degradation of reliability will occur.
Temperature Coefficient
0.03% / °C typical on all outputs.
Turn-On Time
Less than 1 s at 120 Vac 25°C (inversely proportionate to input voltage and thermistor temperature).
Overshoot
Less than 3.5% overshoot at turn-on under nominal conditions, inversely proportional to input voltage and temperature. Less than 3% overshoot at turn-off under all conditions.

Input Protection
Internal ac fuses provided on both line on all units.
Inrush Current
Inrush is limited by internal thermistors. The inrush at 240 Vac, averaged over the first ac half-cycle under cold start conditions will not exceed 37 A.
Thermal Shutdown
Provided as a standard feature to protect unit from prolonged overtemperature.
Power Fail
TTL / CMOS compatible output goes low (<0.5 V) 10 ms before output voltage drops more than 4% below nominal voltage upon loss of ac power.
Power Good
TTL / CMOS compatible output rises high 100 to 300 ms after V1 reaches regulation and should assure that sufficient energy is stored in the input section to provide normal power fail / shutdown.
Inhibit
Inhibit signal when pulled to the V1 output common will inhibit all output voltages.
Fan Output
An additional thermally controlled 12 Vdc, 250 mA output suitable for powering a dc fan is included in all models (Factory installed cover with fan makes this output unavailable).
EMI/EMC Compliance
All models include built-in EMI filtering to meet the following requirements:

EMC SPECIFICATION	COMPLIANCE LEVEL
Conducted Emissions	EN55011, Class B; FCC Class B
Static Discharge	EN61000-4-2, Level 3
RF Field Susceptibility	EN61000-4-3, Level 3
Fast Transients / Bursts	EN61000-4-4, Level 3
Surge Susceptibility	EN61000-4-5, Level 3
Conducted RF Susceptibility	EN61000-4-6
Voltage Sags & Surges	EN61000-4-11

EMC Compliance for Gold Series
Magnetic Emissions - Emissions will not exceed the limits of the Army curve in MIL-STD-461D, RE101 when measured at 7 cm from 30 Hz - 100 kHz over all nominal inputs and at full rated load.
Leakage Current
70 µA under normal conditions 120 Vac @ 60 Hz
Single fault conditions 280 µA, 264 Vac @ 50 Hz.
SAFETY AGENCY APPROVALS:
All models are Certified to be in compliance with the applicable requirements of UL2601, CSA 22.2 No. 601.1-M90, IEC 601-1 (1988), EN 60601-1: 1990.
DESIGN VERIFICATION DOCUMENTS
The "Gold" series has undergone rigorous review and design analysis. The following product documentation is available upon request:

1. Failure Mode and Effects analysis (FMEA)
2. DVT Data
3. EMC / Susceptibility test results

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GLD140 Medical Switchers 140 Watt Multiple Output

Medical Model	Output No.	Output Voltage	Output Current (A)	Output Current (B)	Set Tolerance	Line Load	OVP Trip	Ripple and Noise
GLD140A	1	+5.0 V	16 A	20 A	1%	1%	6.2 ± 0.3 V	1%
	2	+12 V	6 A	8 A	1%	1%	14 ± 0.7 V	1%
	3	12 V (C)	4 A	5 A	1%	1%	14 ± 1.2 V	1%
	4	-12 V	0.75 A	1.2 A	2.2%	1%	-------	1%
GLD140B	1	+5.0 V	16 A	20 A	1%	1%	6.2 ± 0.3 V	1%
	2	+12 V	6A	8 A	1%	1%	14 ± 0.7 V	1%
	3	5 V (C)	4 A	5 A	1%	1%	6.3 ± .5 V	1%
	4	-12 V	0.75	1.2 A	2.2%	1%	-------	1%
GLD140C	1	+5.0 V	16 A	20 A	1%	1%	6.2 ± 0.3 V	1%
	2	+12 V	6 A	8 A	1%	1%	14 ± 0.7 V	1%
	3	15 V (C)	4 A	5 A	1%	1%	18 ± 1.2 V	1%
	4	-15 V	0.75 A	1.2 A	2.2%	1%	-------	1%
GLD140D	1	+5.0 V	16 A	20 A	1%	1%	6.2 ± 0.3 V	1%
	2	+24 V	4 A	6 A	1%	1%	27 ± 1 V	1%
	3	12 V (C)	4 A	5 A	1%	1%	14 ± 1.2 V	1%
	4	-12 V	0.75	1.2 A	2.2%	1%	-------	1%
GLD140E	1	+5.0 V	16 A	20 A	1%	1%	6.2 ±0.3 V	1%
	2	+24 V	4 A	6 A	1%	1%	27 ± 1 V	1%
	3	15 V (C)	4 A	5 A	1%	1%	18 ± 1.2 V	1%
	4	-15 V	0.75 A	1.2 A	2.2%	1%	-------	1%
GLD140F	1	+5.0 V	16 A	20 A	1%	1%	6.2 ± 0.3 V	1%
	2	+15 V	5 A	7 A	1%	1%	18 ± 1.2 V	1%
	3	12V (C)	4 A	5 A	1%	1%	14 ± 1.2 V	1%
	4	-12 V	0.75 A	1.2 A	2.2%	1%	-------	1%
GLD140G	1	+5.0 V	16 A	20 A	1%	1%	6.2 ± 0.3 V	1%
	2	+3.3 V	10 A	12 A	1%	1%	4.2 ± 0.4 V	1%
	3	12 V (C)	4 A	5 A	1%	1%	14 ± 1.2 V	1%
	4	-12 V	0.75 A	1.2 A	2.2%	1%	-------	1%

Output Current for Individual Outputs:

A. Output current for unrestricted natural convection.
B. Output current with 150 LFM forced air convection or peak current rating.
C. Isolated (floating) output may be referenced positive or negative.

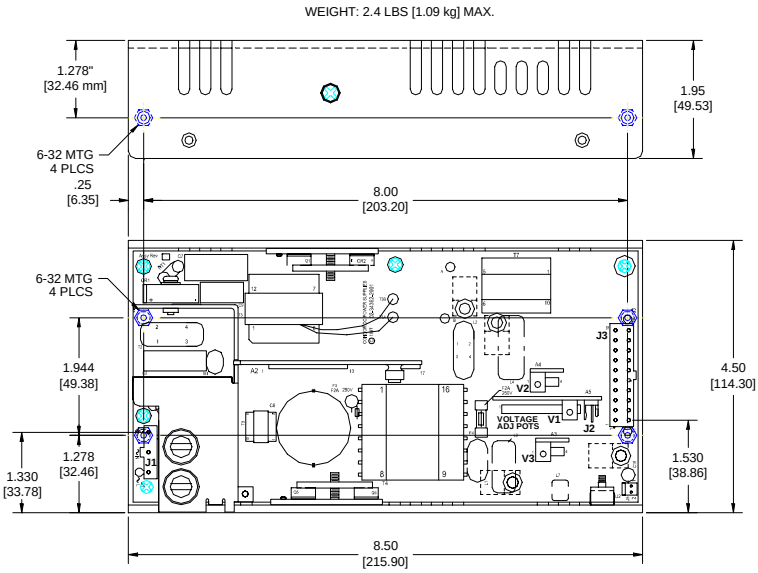
GLD140 MECHANICAL SPECIFICATIONS

INPUT: JI
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 39-00-0164

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

OUTPUT: J3
MOLEX P.C.B. HEADER P/N: 39-29-9206
PINS 1) +V3out
PINS 2) -V4out
PINS 3,12,13) COMMON
PINS 4) +V2 SENSE
PINS 5,14,15) +V2out
PINS 6-8, 16) COMMON
PINS 9,10,19,20) +V1out
PINS 11) +V3Rtn
PINS 17,18) COMMON
MATING CONNECTOR MOLEX P/N:
HOUSING 39-01-2200, CONTACT 39-00-0164

FAN: J5
AMP P.C.B. HEADER P/N 641215-2
PINS 1) FAN RTN
PINS 2) +FAN
MATING CONNECTOR AMP P/N:
HOUSING 770602-2, CONTACT 39-00-0164



Environmental Specification	Operating	Non-operating
Temperature (A)	0 to 50ºC	-40 to +85ºC
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. 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.