

# GLC50 Commercial/GLM50 Medical

50 WATT GLOBAL PERFORMANCE SWITCHERS

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## **Features:**

- Cost-effective power source
- Universal input 90-264 Vac
- 2-year warranty
- Compact (4.25" x 2.50" x 1.25"; meets 1U applications)
- Overload and overvoltage protection
- Conducted EMI exceeds FCC Class B and CISPR 22 Class B (Commercial models) and CISPR 11 Class B (Medical models)
- Commercial UL/CSA/IEC60950-1, EN60950 approvals
- Medical UL/EN/IEC60601-1, CSA22.2 No. 601,
- RoHS compliant models available (G suffix)
- (€ marked to LVD



# SPECIFICATIONS

#### Ac Input

90-264 Vac, 47-63 Hz single phase..

#### Input Current

Maximum input current at 120 Vac, 60 Hz with full rated output load: 1.5 A

### Hold-Up Time

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

#### **Output Power**

50 W continuous, 60 W peak. Peak ratings are for 60 s maximum duration, 10% duty cycle. During peak load condition, output regulation may exceed total regulation limits.

#### **Output Regulation**

To maintain specified regulation on multi-output models, output #1 load power must be at least 1/5th of, and not greater than 5 times output #2 load power.

#### **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 output 3. Recovery after fault is automatic. See output ratings chart for additional notes or conditions.

#### Efficiency

70-85% at full rated load, nominal input voltage, depending on model and load distribution.

#### Minimum Load

Operating without minimum load will not degrade reliability, but regulation may be affected. Multiple output models require 20% minimum load on V1 for proper regulation. Single models require 5% minimum load when a transient load greater than 30% is applied or removed, but will operate without load.

#### Input Protection

Internal ac fuse provided. Designed to blow only if a catastrophic failure occurs in the unit—fuse does not blow on overload or short circuit.

Inrush is limited by internal thermistors. Inrush at 240 Vac, averaged over the first ac half-cycle under cold start conditions will not exceed 37 A.

Temperature Coefficient 0.03%/°C typical on all outputs.

#### **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 50% load step change.  $\Delta i/\Delta t$ <0.2 A/µs. Maximum voltage deviation is 3.5%. Startup/shutdown overshoot less than 3%.

#### Voltage Adjustment

Built-in potentiometer adjusts V1 ±5%.

#### EMI/EMC Compliance

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

EMI SPECIFICATIONS	COMPLIANCE LEVEL
Conducted Emissions GLC	EN55022 Class B; FCC Class B
Conducted Emissions GLM	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

160  $\mu A$  254 Vac @ 60 Hz input (with no deviations).

Commercial Safety All GLC models are approved to UL1950, CSA22.2 No. 234 Level 3, IEC950 and EN60950.

Medical Leakage Current 100 µA 264 Vac @ 60 Hz input (normal conditions).

Medical Safety All GLM50 models are approved to UL/EN/IEC60601-1, CSA22.2 No. 601.

Commercial Model	Medical Model	Output No.	Output	Current	Minimum Load (B)	OVP Setpoint	Noise P-P	Total Regulation (A)
GLC50A	GLM50A	1	+5.05 V	4 A	0.8 A	$6.2\pm0.6V$	50 mV	2%
		2	+12 V	2.5 A			120 mV	+10%,-5%
		3	-12 V	0.2 A			120 mV	3%
GLC50B	GLM50B	1	+5.05 V	4 A	0.8 A	$6.2\pm0.6\mathrm{V}$	50 mV	2%
		2	+15 V	2.5 A			150 mV	+10%,-5%
		3	-15 V	0.2 A			150 mV	3%
GLC50D	GLM50 D	1	+5.05 V	4 A	0.8 A	$6.2 \pm 0.6  V$	50 mV	2%
		2	+24 V	1.5 A			240 mV	+10%,-5%
		3	-12 V	0.2 A			120 mV	3%
GLC50G	GLM50G	1	+3.3 V	4 A	0.8 A	$4.2\pm0.6\mathrm{V}$	33 mV	2%
		2	+12 V	2.5 A			120 mV	+10%-5%
		3	-12 V	0.2 A			120 mV	3%
GLC50-3.3	GLM50-3.3	1	3.3 V	8 A	0.2	$4.2 \pm 0.6  V$	66 mV	2%
GLC50-5	GLM50-5	1	5.1 V	8 A	0.4	$6.2 \pm 0.6  V$	75 mV	2%
GLC50-12	GLM50-12	1	12 V	4.2 A	0.2	$14 \pm 1.1$ V	120 mV	2%
GLC50-15	GLM50-15	1	15 V	3.3 A	0.16	18.5 ± 1.5 V	150 mV	2%
GLC50-24	GLM50-24	1	24 V	2.1 A	0.1	$28 \pm 2.5$ V	240 mV	2%
GLC50-28	GLM50-28	1	28 V	1.8 A	0.09	$34.5 \pm 2.8  V$	280 mV	2%
GLC50-48	GLM50-48	1	48 V	1.1 A	0.05	$54 \pm 3.0$ V	480 mV	2%

Notes:

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. To maintain specified regulation on multi-output models, output #1 load power must be at least 1/5th of, and not greater than 5 times output #2 load power.

## C. Add "G" suffix to model number for RoHS compliant model.

## **GLC50 MECHANICAL SPECIFICATIONS**

INPUT J1: AMP P/N 640445-3, 0.156 CTR 0.045 SQUARE PIN HEADER PIN 3) AC NEUTRAL PIN 2) NO PIN PIN 1) AC LINE OUTPUT J2: AMP P/N 640445-6, 0.156 CTR 0.045 SQUARE PIN HEADER MULTIPLE OUTPUT SINGLE OUTPUT PIN 1) OUTPUT #2 PIN 1-3) OUTPUT PIN 2) OUTPUT #1 PIN 4-6) RETURN PIN 3) OUTPUT #1 PIN 4) COMMON PIN 5) COMMON PIN 6) OUTPUT #3 MATING CONNECTORS: AMP P/N HOUSING CONTACTS INPUT 640250-3 770476-1 OUTPUT 640250-6 770476-1 NOTE: 5A MAXIMUM RECOMMENDED CURRENT PER CONNECTOR PIN WEIGHT 5 OZ. [0.142 KG]

TOLERANCES:X.XX=0.030 [0.76mm]

X.XXX=0.010 [0.25mm]

Ţ ٥ 2 50 [63.50mm] ٥ ۰ ٥ 2.25 ٥ [57.15mm] ٥ ٥ 0.125 🔳 [3.18mm] 1.25" [31.75mm] MOUNTING HOLE 0.138 TYP [3.51mm]

MAX. LEAD PROTRUSION 0.10" [2.54mm] MAX. COMPONENT HEIGHT 1.15" [29.21mm]

4.25 [107.95mm]

4.00 [101.60mm]

ENVIRONMENTAL SPECIFICATIONS	OPERATING	NON-OPERATING
Temperature (A)	0 TO 50°C	-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 g²/Hz	5 g <sub>rms'</sub> 0.026 g²/Hz

A. Units should be allowed to warm up/operate under non-condensing conditions before application of power. derate output current and total output power by 2.5% per °C above 50°C.

- 0.125 [3.18mm]

B. Shock testing—half-sinusoidal, 10  $\pm$  3 ms duration,  $\pm$  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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