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GLM110-12](#)

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# GLC110 Commercial/GLM110 Medical

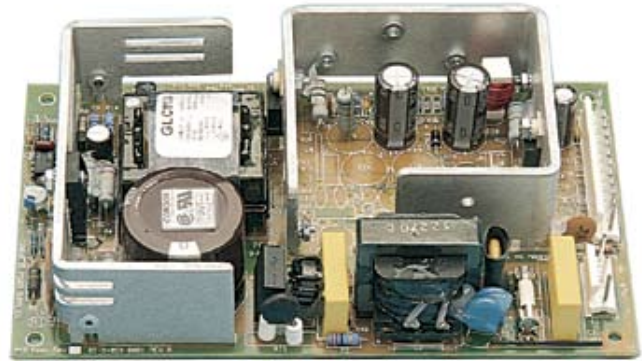
## 110 Watt Global Performance Switchers

### GLOBAL PERFORMANCE SWITCHERS



#### FEATURES:

- Cost-effective power source
- Single- and dual-output units
- Low height (1.30")
- 2-year warranty
- Power fail signal standard
- Commercial Approved to UL60950-1, EN60950-1, CSA22.2 No. 950-95 3rd Ed.
- Medical Approved to UL2601-1, EN60601-1, CSA-C22.2 No. 601.1
- Complies with EN61000-3-2 Class A
- RoHS Compliant Model Available (G suffix)



#### SPECIFICATIONS

Ac Input 90-264 Vac, 47-63 Hz single phase.																	
Input Current Maximum input current at 90 Vac, 60 Hz with full rated output load not to exceed 2.9 A.	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, $\Delta i/\Delta t < 0.2$ A/ $\mu$ s. Maximum voltage deviation is 3.5%. Startup/shutdown overshoot less than 3%. Turn-On Time less than 1 second at 120 Vac, 25.																
Hold-up Time 20 ms minimum from loss of ac input at full load, nominal line (120 Vac).	Overvoltage Protection Built in on main output.																
Output Power Normal continuous output power is 75 W for unrestricted natural convection, or 110 W with 26 cfm air flow.	Efficiency 72-85% depending on model.																
Output Regulation Load regulation on dual output models is measured by $\pm 40\%$ load change from 60% rated load and input voltage change from minimum to maximum ratings.	Input Protection Internal ac fuse provided on all units. Designed to blow only if a catastrophic failure occurs in the unit.																
Output #1 requires 1A minimum load for proper regulation of other outputs. Initial set tolerance is measured with all outputs at 60% of full rated load. Load regulation for single-output models measured by changing load from 5% to 50% load or 50% to full load in either direction.	Inrush Current Inrush limited by internal thermistors. Inrush at 240 Vac, averaged over the first ac half-cycle under cold start conditions will not exceed 37 A.																
Voltage Adjustment Output #1 adjustment is $\pm 5\%$ . Note: output #1 must not be more than 1% below nominal to achieve full output regulation on output #2. High voltage settings may degrade the reliability of the unit due to excessive power dissipation in some outputs.	Temperature Coefficient 0.03%/ $^{\circ}$ C typical on all outputs.																
Overload Protection Fully protected against short circuit and output overload. Short circuit protection is cycling type power limit. Factory set to begin power limiting at 120 W.	EMI/EMC Compliance All models include built-in EMI filtering to meet the following emissions requirements:																
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.	<table border="1"> <thead> <tr> <th>EMI SPECIFICATIONS</th> <th>COMPLIANCE LEVEL</th> </tr> </thead> <tbody> <tr> <td>Conducted Emissions GLC110</td> <td>EN55022 Class B; FCC Class B</td> </tr> <tr> <td>Conducted Emissions GLM110</td> <td>EN55011 Class B; FCC Class B</td> </tr> <tr> <td>Static Discharge</td> <td>EN61000-4-2, 6 kV contact, 8 kV air</td> </tr> <tr> <td>RF Field Susceptibility</td> <td>EN61000-4-3, 3 V/meter</td> </tr> <tr> <td>Fast Transients/Bursts</td> <td>EN61000-4-4, 2 kV, 5 kHz</td> </tr> <tr> <td>Surge Susceptibility</td> <td>EN61000-4-5, 1 kV diff, 2 kV com.</td> </tr> <tr> <td>Line Frequency Harmonics</td> <td>EN61000-3-2 Class A</td> </tr> </tbody> </table>	EMI SPECIFICATIONS	COMPLIANCE LEVEL	Conducted Emissions GLC110	EN55022 Class B; FCC Class B	Conducted Emissions GLM110	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
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POWER FAIL Power fail signal is TTL or CMOS compatible (output goes low $< 0.5$ V) 5 ms before output voltage drops more than 4% below nominal voltage upon loss of AC power. The signal is factory set to trip on 84 to 94 Vac brown-out depending upon incoming line impedance and distortion. Other settings are available to the user through adjustment of built in potentiometer (consult factory for assistance). Output will stay low for 20 ms minimum.	Commercial Safety All GLC models are approved to UL60950-1, CSA22.2 No. 950-95 3rd Ed, and EN60950-1.																
	Medical Safety All GLM models are approved to UL2601-1, CSA-C22.2 No. 601.1, EN60601-1.																

All specifications are typical at nominal input, full load at 25 $^{\circ}$ C unless otherwise stated

Commercial Model	Medical Model	RoHS Suffix*	Output No.	Output	Output Minimum	Output Normal (A)	Forced Air (B)	Output Peak	Noise P-P	OVP	Total Regulation (C)
GLC110-212	GLM110-212	G	1	+12 V	1 A	6.3 A	9.1 A	9.5 A	100 mV	15.6 ± 1.1 V	2%
			2	-12 V	0 A	2.5 A	3 A	4 A	120 mV		2%
GLC110-215	GLM110-215	G	1	+15 V	1 A	5 A	7.3 A	7.7 A	120 mV	18.5 ± 1.5 V	2%
			2	-15 V	0 A	2.5 A	3 A	4 A	150 mV		2%
GLC110-524	GLM110-524	G	1	+24 V	1 A	3.2 A	4.6 A	4.75 A	200 mV	28 ± 2.5 V	2%
			2	+5 V	0 A	1.5 A	2 A	2.5 A	50 mV	6.2 ± 0.6 V	2%
GLC110-12	GLM110-12	G	1	12 V	0 A	6.3 A	9.1 A	9.5 A	120 mV	15.6 ± 1.1 V	2%
GLC110-15	GLM110-15	G	1	15 V	0 A	5 A	7.3 A	7.7 A	150 mV	18.5 ± 1.5 V	2%
GLC110-24	GLM110-24	G	1	24 V	0 A	3.2 A	4.6 A	5 A	240 mV	28 ± 2.5 V	2%

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

A. Rating with unrestricted convection cooling. Total power not to exceed 75 W; no output can exceed rated current.

B. Rating with 26 cfm forced air cooling. Total power not to exceed 110 W.

C. To maintain regulation V1 current must be at least 1/5 of V2. V1 must not be adjusted more than 1% below nominal and have at least 10% of rated load.

### GLC110/GLM110 MECHANICAL SPECIFICATIONS

#### INPUT J1

AMP P/N: 643495-2  
 0.312 CTRS CONNECTOR, 3 CIRCUIT  
 PIN 1 AC GROUND  
 PIN 3 AC NEUTRAL  
 PIN 5 AC LINE

#### OUTPUT J2

AMP P/N: 1-640445-3  
 0.156 CTR HEADER  

PIN #	MULTI-OUTPUT MODEL	SINGLE OUTPUT MODELS
1	OUTPUT #1	OUTPUT #1
2	OUTPUT #1	OUTPUT #1
3	OUTPUT #1	OUTPUT #1
4	OUTPUT #1	OUTPUT #1
5	COMMON	RETURN
6	COMMON	RETURN
7	COMMON	RETURN
8	COMMON	RETURN
9	COMMON	RETURN
10	POWER FAIL	POWER FAIL
11	N/C	N/C
12	OUTPUT #2(-)	N/C
13	OUTPUT #2(+)	N/C

#### MATING CONNECTOR AMP P/N'S

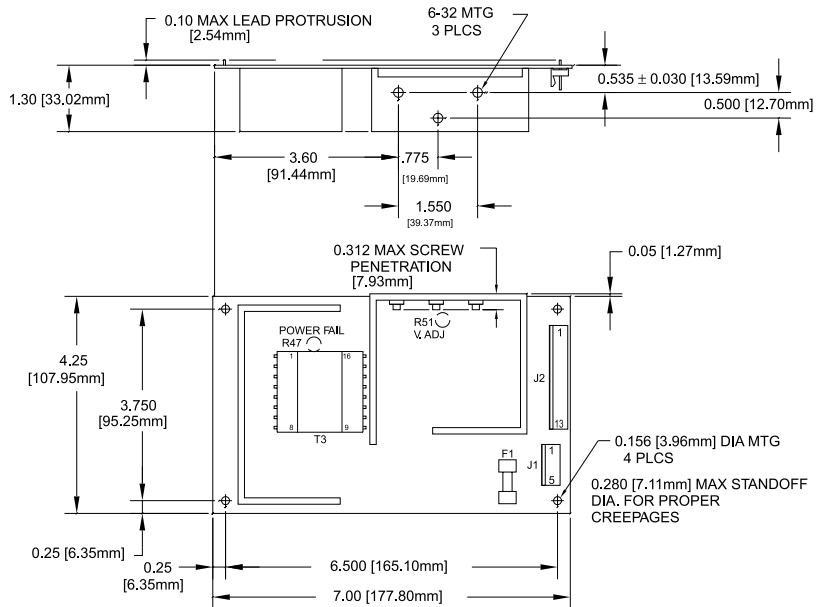
	HOUSING
INPUT	640250-5
OUTPUT	1-640250-3
	CONTACT
INPUT	770476-1
OUTPUT	770476-1

NOTE: 5A MAXIMUM RECOMMENDED CURRENT PER CONNECTOR PIN.

WEIGHT: 1.2 LBS. MAX. [0.544 kg]

TOLERANCES: X.XX=0.030 [0.76mm]

X.XXX=0.010 [0.25mm]



ENVIRONMENTAL SPECIFICATIONS	OPERATING	NON-OPERATING
Temperature (A)	0 to 50°	-40 to +85°C
Humidity (A)	0 to 95% RH	0 to 95% RH
Shock (C)	20 g <sub>pk</sub>	40 g <sub>pk</sub>
Altitude	-500 to 10,000 ft	-500 to 40,000 ft
Vibration (B)	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. Derated output current and total output power by 2.5% per °C above 50°C.

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.