

## 75 Watt Multiple Output Global Performance Switchers

## FEATURES:

- Cost-effective multiple output power source
- Universal input 90-264 Vac
- 7.00"x 4.25"x 1.30" (Meets 1U height)
- 2-year warranty
- Conducted EMI exceeds FCC Class B and CISPR 22 Class B (Commercial models) and CISPR 11 Class B (Medical models)
- Complies with EN61000-3-2 Class A
- Also available in single output versions
- Commercial UL1950 3rd Edition, CSA22.2 No. 950 and EN60950-1 approvals
- Medical Approved to UL2601-1, CSA22.2 No. 601.1-M90, and IEC/EN60601-1
- RoHS Compliant Model Available (G suffix)




## SPECIFICATIONS

| Ac Input<br>90-264 Vac, 47-63 Hz single phase.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Efficiency<br>68% -78% depending on model and load distribution.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                  |                           |                              |                           |                              |                  |                                     |                         |                        |                        |                          |                      |                                    |                          |                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------|---------------------------|------------------------------|---------------------------|------------------------------|------------------|-------------------------------------|-------------------------|------------------------|------------------------|--------------------------|----------------------|------------------------------------|--------------------------|---------------------|
| Input Current<br>Maximum input current at 120 Vac, 60 Hz with full rated output load not to exceed 2.3 A.                                                                                                                                                                                                                                                                                                                                                                                                                    | Input Protection<br>Internal ac fuse provided on all units. Designed to blow only if a catastrophic failure occurs in the unit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                  |                           |                              |                           |                              |                  |                                     |                         |                        |                        |                          |                      |                                    |                          |                     |
| Output Power<br>Normal continuous output power is 75 W for unrestricted natural convection cooling or 110 W with 26 cfm airflow. During peak load conditions output regulation may exceed total regulation and noise limits.                                                                                                                                                                                                                                                                                                 | Inrush Current<br>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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                  |                           |                              |                           |                              |                  |                                     |                         |                        |                        |                          |                      |                                    |                          |                     |
| Output Regulation<br>Measured by $\pm 40\%$ load change from 60% rated load with all other outputs at 60% rated load and input voltage change from minimum to maximum ratings. 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. Output #2 requires 0.5A minimum load for proper regulation.                                                                                                                          | Hold Up Time<br>20 ms minimum from loss of ac input power at full load, nominal line (120 Vac).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                  |                           |                              |                           |                              |                  |                                     |                         |                        |                        |                          |                      |                                    |                          |                     |
| Overload Protection<br>Factory set to begin power limiting at approximately 120 W. Fully protected against short circuit and output overload. Short circuit protection is cycling type power limit.                                                                                                                                                                                                                                                                                                                          | Temperature Coefficient<br>0.03%/°C typical on all outputs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                    |                  |                           |                              |                           |                              |                  |                                     |                         |                        |                        |                          |                      |                                    |                          |                     |
| Output Noise<br>0.5% rms, 1% pk-pk, 20 MHz bandwidth, differential mode. Measured with noise probe directly across output terminals of the power supply.                                                                                                                                                                                                                                                                                                                                                                     | Power Fail<br>A standard TTL or CMOS compatible output goes low ( $< 0.5$ V) 5ms before output voltage drops more than 4% below nominal voltage upon loss of ac power. Signal is factory set to trip on 84 to 94 Vac brown-out depending upon incoming line impedance and distortion. Other settings are available through adjustment of built-in potentiometer (consult factory for assistance). Output will stay low for 20 ms minimum.                                                                                                                                                                                                                                                        |                    |                  |                           |                              |                           |                              |                  |                                     |                         |                        |                        |                          |                      |                                    |                          |                     |
| Transient Response<br>Main Output: 500 $\mu$ Sec 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/ $\mu$ Sec. Maximum voltage deviation is 3.5%.                                                                                                                                                                                                                                                                                                       | EMI/EMC Compliance<br>All models include built-in EMI filtering to meet the following emissions requirements:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                  |                           |                              |                           |                              |                  |                                     |                         |                        |                        |                          |                      |                                    |                          |                     |
| Overvoltage Protection<br>Built in on V1 with firing point set per table. OVP firing reduces output #1 and #2 to less than 50% of nominal voltage in 50 ms.                                                                                                                                                                                                                                                                                                                                                                  | <table border="1"> <thead> <tr> <th>EMI SPECIFICATIONS</th><th>COMPLIANCE LEVEL</th></tr> </thead> <tbody> <tr> <td>Conducted Emissions GLC75</td><td>EN55022 Class B; FCC Class B</td></tr> <tr> <td>Conducted Emissions GLM75</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 GLC75 | EN55022 Class B; FCC Class B | Conducted Emissions GLM75 | 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 |
| EMI SPECIFICATIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | COMPLIANCE LEVEL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                  |                           |                              |                           |                              |                  |                                     |                         |                        |                        |                          |                      |                                    |                          |                     |
| Conducted Emissions GLC75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | EN55022 Class B; FCC Class B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                    |                  |                           |                              |                           |                              |                  |                                     |                         |                        |                        |                          |                      |                                    |                          |                     |
| Conducted Emissions GLM75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                  |                           |                              |                           |                              |                  |                                     |                         |                        |                        |                          |                      |                                    |                          |                     |
| Voltage Adjust<br>Factory set on standard unit; however, optional potentiometer ("V" suffix) adjusts voltage from 4.7 V to OVP point (6.2 V nominal) on the +5 V output. Note: Output #1 must not be more than 1% below nominal to achieve full output voltage range on Output #2. Output regulation limits in some models may be exceeded when the main output is adjusted beyond +1% of nominal voltage. High voltage settings may degrade the reliability of the unit due to excessive power dissipation in some outputs. | Commercial Safety<br>All GLC models are approved to UL1950 3rd Edition, CSA22.2 No. 950, and EN60950-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                  |                           |                              |                           |                              |                  |                                     |                         |                        |                        |                          |                      |                                    |                          |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Medical Leakage Current<br>70 $\mu$ A 264 V @ 50 Hz (normal conditions).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                  |                           |                              |                           |                              |                  |                                     |                         |                        |                        |                          |                      |                                    |                          |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Medical Safety<br>GLM models are approved to UL2601-1, CSA22.2 No. 601.1M90, IEC/EN60601-1. CB Report available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                  |                           |                              |                           |                              |                  |                                     |                         |                        |                        |                          |                      |                                    |                          |                     |

| Commercial Model | Medical Model | RoHS Suffix* | Output No.          | Output                            | Output Minimum             | Output Maximum (A)           | Output Maximum (B)          | Output Peak                   | V1 OVP Set  | Noise P-P                           | Regulation                     |
|------------------|---------------|--------------|---------------------|-----------------------------------|----------------------------|------------------------------|-----------------------------|-------------------------------|-------------|-------------------------------------|--------------------------------|
| GLC75A           | GLM75A        | G            | 1<br>2<br>3<br>4    | +5.1 V<br>+12 V<br>-12 V<br>+12 V | 1 A<br>0.5 A<br>0 A<br>0 A | 8 A<br>2.5 A<br>1 A<br>2.5 A | 10 A<br>3 A<br>1 A<br>3 A   | 12 A<br>4 A<br>1.2 A<br>4 A   | 6.2 ± 0.6 V | 50 mV<br>120 mV<br>120 mV<br>120 mV | 2%<br>+10%,-5% (D)<br>3%<br>2% |
| GLC75B           | GLM75B        | G            | 1<br>2<br>3<br>4    | +5.1 V<br>+12 V<br>-5 V<br>+12 V  | 1 A<br>0.5 A<br>0 A<br>0 A | 8 A<br>2.5 A<br>1 A<br>2.5 A | 10 A<br>3 A<br>1 A<br>3 A   | 12 A<br>4 A<br>1.2 A<br>4 A   | 6.2 ± 0.6 V | 50 mV<br>120 mV<br>50 mV<br>120 mV  | 2%<br>+10%,-5% (D)<br>3%<br>2% |
| GLC75C           | GLM75C        | G            | 1<br>2<br>3<br>4    | +5.1 V<br>+12 V<br>-15 V<br>+15 V | 1 A<br>0.5 A<br>0 A<br>0 A | 8 A<br>2.5 A<br>1 A<br>2.5 A | 10 A<br>3 A<br>1 A<br>3 A   | 12 A<br>4 A<br>1.2 A<br>4 A   | 6.2 ± 0.6 V | 50 mV<br>120 mV<br>150 mV<br>150 mV | 2%<br>+10%,-5% (D)<br>3%<br>2% |
| GLC75D           | GLM75D        | G            | 1<br>2<br>3<br>4    | +5.1 V<br>+24 V<br>-12 V<br>+12 V | 1 A<br>0.5 A<br>0 A<br>0 A | 8 A<br>2.5 A<br>1 A<br>2.5 A | 10 A<br>2.5 A<br>1 A<br>3 A | 12 A<br>3.5 A<br>1.2 A<br>4 A | 6.2 ± 0.6 V | 50 mV<br>240 mV<br>120 mV<br>120 mV | 2%<br>+10%,-5% (D)<br>3%<br>2% |
| GLC75E           | GLM75E        | G            | 1<br>2<br>3<br>4    | +5.1 V<br>+24 V<br>-15 V<br>+15 V | 1 A<br>0.5 A<br>0 A<br>0 A | 8 A<br>2.5 A<br>1 A<br>2.5 A | 10 A<br>2.5 A<br>1 A<br>3 A | 12 A<br>3.5 A<br>1.2 A<br>4 A | 6.2 ± 0.6 V | 50 mV<br>240 mV<br>150 mV<br>150 mV | 2%<br>+10%,-5% (D)<br>3%<br>2% |
| GLC75F           | GLM75F        | G            | 1<br>2<br>3<br>4    | +5.1 V<br>+15 V<br>-5 V<br>-15 V  | 1 A<br>0.5 A<br>0<br>0     | 8 A<br>2.5 A<br>1 A<br>2.5 A | 10 A<br>3 A<br>1 A<br>3 A   | 12 A<br>4 A<br>1.2 A<br>4 A   | 6.2 ± 0.6 V | 50 mV<br>150 mV<br>50 mV<br>150 mV  | 2%<br>+10%,-5% (D)<br>3%<br>2% |
| GLC75H           | GLM75H        | G            | 1<br>2<br>3<br>4    | +5.1 V<br>+15 V<br>-15 V<br>+15 V | 1 A<br>0.5 A<br>0<br>0     | 8 A<br>2.5 A<br>1 A<br>2.5 A | 10 A<br>3 A<br>1 A<br>3 A   | 12 A<br>4 A<br>1.2 A<br>4 A   | 6.2 ± 0.6 V | 50 mV<br>150 mV<br>150 mV<br>150 mV | 2%<br>+10%,-5% (D)<br>3%<br>2% |
| GLC75J           | GLM75J        | G            | 1<br>2<br>3<br>4(C) | +5.1 V<br>+12 V<br>-12 V<br>5 V   | 1 A<br>0.5 A<br>0<br>0     | 8 A<br>2.5 A<br>1 A<br>2.0 A | 10 A<br>3 A<br>1 A<br>3 A   | 12 A<br>4 A<br>1.2 A<br>4 A   | 6.2 ± 0.6 V | 50 mV<br>120 mV<br>120 mV<br>50 mV  | 2%<br>+10%,-5% (D)<br>3%<br>2% |
| GLC75P           | GLM75P        | G            | 1<br>2<br>3<br>4    | +5.1 V<br>+24 V<br>-12 V<br>+12 V | 1 A<br>0.5 A<br>0 A<br>0 A | 8 A<br>4 A<br>1 A<br>2.5 A   | 10 A<br>4 A<br>1 A<br>3 A   | 12 A<br>4.5 A<br>1.2 A<br>4 A | 6.2 ± 0.6 V | 50 mV<br>240 mV<br>120 mV<br>120 mV | 2%<br>+10%,-5% (D)<br>3%<br>2% |

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

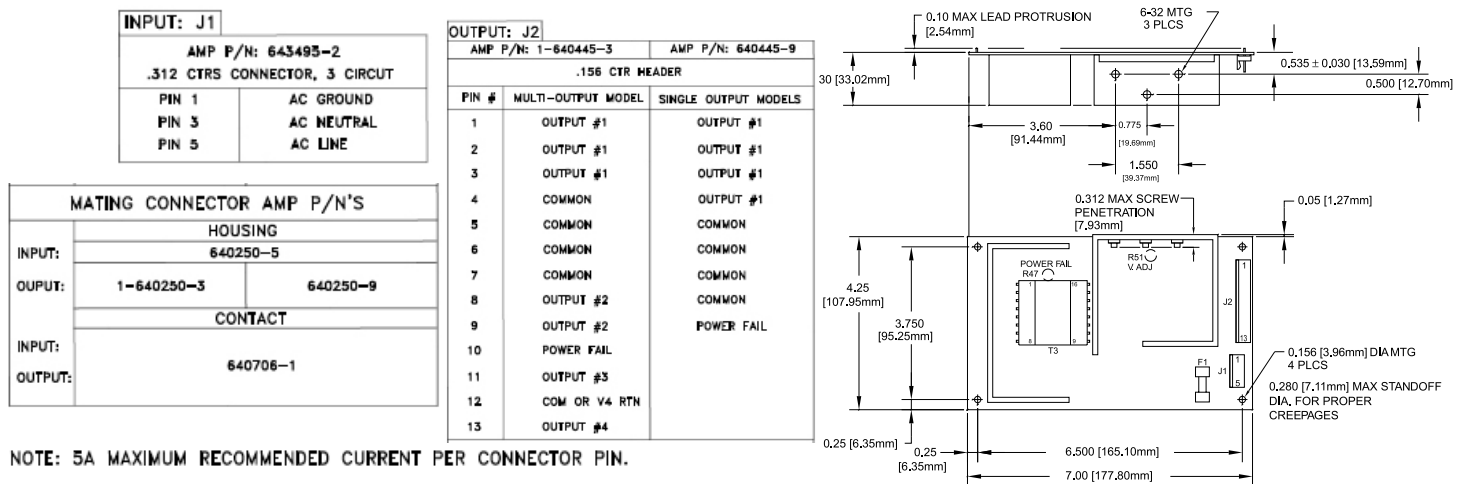
A. Rating with unrestricted convection cooling. Total power not to exceed 75 W.

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

C. Floating fourth output can be referenced as either positive or negative. Connect pin 12 to Return to provide a positive voltage at Pin 13. Connect pin 13 to Return to provide a negative voltage at Pin 12.

D. To maintain these regulations conditions, the +5V current must be at least 1/5 of V2 and not greater than 5 times the V2 current. Requires +5V to be adjusted to within 1% with at least a 1 A load to maintain regulation on this output.

## GLC75/GLM75 - MULTIPLE OUTPUT - MECHANICAL SPECIFICATIONS



| 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 (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. Derate output current and total output power by 2.5% per °C above 50°C.

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.