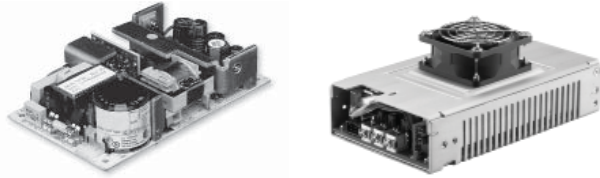


**GL Series: Single & Multi Output Switchers**



The new GL series provides a broad range of AC/DC power supply solutions that covers power ratings from 25 watts to 500 watts for use in various industrial and medical applications requiring standard footprint size and very high reliability.

These low-profile AC/DC switchers offer universal input voltage with no switches or jumpers, ideal for higher volume worldwide applications.

**All models feature:**

- Industry standard footprints
- Universal input
- Full power to 50°C
- High demonstrated MTBF
- Automatic overvoltage protection
- Overload protection
- Built-in EMI Filtering
- Extensive safety approvals
- Derated operation to 70°C
- 250 VA and higher VA size enclosed
- Two year limited warranty

**Many models feature:**

- EN61000-3-2 Compliance
- Supervisory outputs (5 V/12 V)
- Wide-adjustable floating 4<sup>th</sup> output
- Single wire current share
- Medical approvals
- Remote Sense
- Adjustable main output
- Power Fail and DC Good signals
- Wide-adjustable on single output models

**Cover and Bracket Options**

- Cover options can be ordered separately. They are designed to simply mechanical integration of the power supplies into systems and add an extra measure of electrical safety for service personnel.
- Bracket kits can be ordered separately for GL110 series only. It is needed when the cover option is used.

| Catalog Number | Description                              |
|----------------|--|
| GLX40          | Enclosure kit for the GL20 and GL40      |
| GLX50          | Enclosure kit for the GL50               |
| GLX60          | Enclosure kit for the GL60               |
| GLX80          | Enclosure kit for the GL80               |
| GLX110-B       | Bracket kit for the GL110                |
| GLX110-C       | Cover kit for the GL110                  |
| GLX120         | Enclosure kit for the GL120              |
| GLX140-C       | Cover kit for the GLQ140                 |
| GLX140-CF      | Cover with top fan kit for the GLQ140    |
| GLX150-C       | Cover kit for the GL150                  |
| GLX170-C       | Cover kit for the quad output GL170      |
| GLX17S-C       | Cover kit for the single output GL170    |
| GLX250-CEF     | Cover end fan kit for the GL250          |
| GLX250-CF      | Cover with top fan kit for the GL250/350 |

(Table 1)

**Mating Connectors**

- Can be ordered separately for units with Molex connection
- Kits include mating housing and pins for input and output connection

| Catalog Number | Description                                 |
|----------------|---|
| 70-841-006     | GLX40, GLX50 and GLX60 Mating Connector Kit |
| 70-841-007     | GLS110 Mating Connector Kit                 |
| 70-841-008     | GLQ110 Mating Connector Kit                 |
| 70-841-020     | GLS120 Mating Connector Kit                 |
| 70-841-012     | GLQ123 Mating Connector Kit                 |
| 70-841-017     | GLQ142 Mating Connector Kit                 |
| 70-841-009     | GLS150 Mating Connector Kit                 |
| 70-841-010     | GLQ150 Mating Connector Kit                 |
| 70-841-015     | GLQ170 Mating Connector Kit                 |
| 70-841-016     | GLS170 Mating Connector Kit                 |
| 70-841-005     | GLX250 Mating Connector Kit                 |
| 70-841-024     | GLS500 Mating Connector Kit                 |

(Table 2)

Visit our website at [www.solahd.com](http://www.solahd.com) or contact Technical Services at (800) 377-4384 with any questions.

## Specifications

|  | GL20, GL40  | GL50  | GL60, GL110  | GLQ120, GLS120  | GL140  | GL150   | GL170   | GL250, GL350   | GL500   |
|--|---|---|--|---|--|---|---|--|---|
| <b>Input</b>                           |   |   |  |   |  |   |   |  |   |
| <b>Input Voltage</b> <sup>(1)</sup>    | 85 - 264 Vac;<br>120 - 300 Vdc  | 90 - 264 Vac<br>127 - 300 Vdc   | 85 - 264 Vac<br>120 - 300 Vdc  |   | 85 - 132 Vac<br>or 170 - 264 Vac<br>auto-selected.<br>220 - 300 Vdc  |   | 85 - 264 Vac; 120 - 300 Vdc   |  | 85 - 264 Vac  |
| <b>Frequency</b>                       | 47-63 Hz, 400± 40 Hz  |   |  |   |  | 47-63 Hz  |   |  |   |
| <b>Inrush Current</b>                  | GL20: <15A peak @ 115 Vac; <30A peak @ 230 Vac, cold start @ 25°C.<br>GL40: <18A peak @ 115 Vac; <36A peak @ 230 Vac, cold start @ 25°C                                   | <60A peak @ 230 Vac, cold start @ 25°C  | <18A peak @ 115 Vac, <36 A peak @ 230 Vac, cold start @ 25°C                   | GLQ120: 38 A max., cold start @ 25°C<br>GLS120: 40A max., cold start @ 25°C         | 38 A max, cold start @ 25°C  |   |   | GL250: 20 A max., cold start @ 25°C.<br>GL350: 38 A max., cold start @ 25°C. | 50 A max., cold start @ 25°C                                      |
| <b>Efficiency</b>                      | 70% typical at full load  | 80% - 85% typical at full load  | 70% typical at full load   | GLQ120: 65% typical at full load. GLS120: 80% typical at full load                  | 75% typical at full load   |   |   | 85% typical at full load, nominal line                                       |   |
| <b>EMI/RFI</b>                         | FCC Class B ; CISPR 22 Class B ; EN55022 Class B  |   |  |   |  |   |   |  |   |
| <b>Safety Ground Leakage Current</b>   | Non-Medical: <0.5 mA<br>Medical: < 75 µA @ 50/60 Hz, 264 Vac input  | Non-medical: <0.5mA<br>Medical: 275 µA @ 50/60 Hz; 264 Vac input for Class I; <0.25mA @ 50/60 Hz; 264 Vac input for Class II (for single output only) | Non-Medical: <0.5 mA<br>Medical: < 75µA @ 50/60 Hz; 264 Vac input              | GLQ120: <1 mA @ 50/60 Hz, 264 Vac input.<br>GLS120: 0.5mA @ 50/60 Hz, 264 Vac input | 1.0 mA @ 50/60 Hz, 264 Vac input                                     | <0.5 mA @ 50/60 Hz, 264 Vac input   | Non-Medical: 0.1 mA<br>Medical: < 250 µA 1.0 mA @ 50/60 Hz, 264 Vac input | <0.5 mA @ 50/60 Hz, 264 Vac input  | Non-Medical: <0.5 mA<br>Medical: <0.3mA @ 50/60 Hz, 264 Vac input |
| <b>Output</b>                          |   |   |  |   |  |   |   |  |   |
| <b>Power</b>                           | Refer to the selection table  |   |  |   |  |   |   |  |   |
| <b>Adjustment Range on Main Output</b> | -5, +10% minimum  | ±20% minimum for single output only models  | GL60: -5, +10% minimum<br>GL110: ±5% on main, 5-25 V on 4 <sup>th</sup> output | ±5% minimum   | 3.3 - 5.5V on main; -12 - 15V on 3rd output 3.3 - 25 V on 4th output | ±5% minimum on main, 5-25 V on 4 <sup>th</sup> output                     | 2:1 wide ratio minimum  | 2:1 wide ratio   | ±5%   |
| <b>Hold-up Time</b>                    | 20 ms @ full load, 115 Vac nominal line   | 10/20 ms 115/230 Vac Input line   | 20 ms @ full load, 115 Vac nominal line  |   |  |   |   |  |   |
| <b>Overload</b>                        | Short circuit protection on all outputs. Primary overload protection  |   |  |   |  |   |   |  |   |
| <b>Overvoltage Protection</b>          | 5 V output; 5.7 to 6.7 Vdc. Other outputs 10% to 25% above nominal output   | 30-50% above nominal output   | 5 V output; 5.7 - 6.7 Vdc. Other outputs 10% to 25% above nominal output       | 3.3 V and 5 V output: 20% to 35% above nominal output                               | Tracks outputs 1, 3 & 4; 10 to 35%                                   | 5 V output: 5.7 to 6.7 Vdc. Other outputs 10% to 25% above nominal output | 10% to 40% above nominal output   | 5 V output: 5.7 to 6.7 Vdc. Other outputs 10% to 25% above nominal output    | 20-35% above nominal output                                       |
| <b>Remote Sense</b>                    | Compensates for 0.5 V lead drop minimum; Will operate without remote sense connected, Reverse connection protected  |   |  |   |  |   |   |  |   |
| <b>General</b>                         |   |   |  |   |  |   |   |  |   |
| <b>Temperature</b> <sup>(2)</sup>      | <b>Storage:</b> -40°C to +85°C; <b>Operating:</b> 0° to 50°C ambient. Derate each output 2.5% per degree from 50° to 70°C, -20°C start up.                                |   |  |   |  |   |   |  |   |
| <b>Electro-magnetic Susceptibility</b> | Designed to meet IEC 801, -2, -3, -4, -5, -6, Level 3 or EN61000-4; -2, -3, -4, -5, -6, -8, -11 Level 3   |   |  |   |  |   |   |  |   |
| <b>Humidity</b>                        | Operating; non-condensing up to 95% RH  |   |  |   |  |   |   |  |   |
| <b>Vibration</b>                       | Three orthogonal axes, sweep at 1 oct/min, 5 min. dwell at four major resonances 0.75G peak 5Hz to 500 Hz (2 G peak 8 Hz to 500 Hz for GL500)                             |   |  |   |  |   |   |  |   |
| <b>MTBF</b>                            | >550,000 hours demonstrated at full load and 25°C ambient conditions  |   |  |   |  |   |   |  |   |
| <b>Safety</b>                          | Non-Medical: EN60950, UL UL60950 E132002, CSA CSA 22.2-234 Level 3 LR53982C, CB Certificate and report; CE Mark (LVD)<br>Medical: UL 2601; CSA 22.2 No. 601.1; EN 60601-1 |   |  |   |  |   |   |  |   |

## Notes:

(1) Proper circuit protection required when operating with a DC input voltage. (2) Regulation and ripple may deviate from the spec at -20°C start up.

Visit our website at [www.solahd.com](http://www.solahd.com) or  
contact Technical Services at (800) 377-4384 with any questions.

Selection Table

|  | Catalog Number         | Output 1                            | Output 2              | Output 3              | Output 4                             | Case <sup>(3)</sup> | Pin Assignments <sup>(3)</sup> | Mating Connectors <sup>(3)</sup> |
|--|------------------------|-------------------------------------|-----------------------|-----------------------|--------------------------------------|---------------------|--------------------------------|----------------------------------|
| GL20<br>[40 W] 25 W  | GLS22                  | 5 V @ 5 A [8 A] <sup>(6)</sup>      | -                     | -                     | -                                    | 1                   | 1A                             | 1B                               |
|  | GLS23                  | 12 V @ 2.1 A [3.3 A] <sup>(6)</sup> | -                     | -                     | -                                    |                     |                                |                                  |
|  | GLS24                  | 15 V @ 1.7 A [2.7] <sup>(6)</sup>   | -                     | -                     | -                                    |                     |                                |                                  |
|  | GLT22                  | 5 V @ 3 A [4 A]                     | 12 V @ 1.5 A [2 A]    | 12 V @ 0.5 A [0.7 A]  | -                                    |                     | 2A                             |                                  |
|  | GLT23                  | 5 V @ 4 A [5 A]                     | 12 V @ 0.5 A [0.7 A]  | -12 V @ 0.5 A [0.7 A] | -                                    |                     |                                |                                  |
|  | GLT24                  | 5 V @ 3 A [4 A]                     | 12 V @ 1.5 A [2 A]    | -5 V @ 0.5 A [0.7 A]  | -                                    |                     |                                |                                  |
|  | GLT25                  | 5 V @ 3 A [4 A]                     | 15 V @ 1.5 A [2 A]    | -15 V @ 0.5 A [0.7 A] | -                                    |                     |                                |                                  |
| GL40<br>[55 W] 40 W <sup>(1)</sup><br>[40 W] 25 W <sup>(2)</sup>   | GLS42 <sup>(4)</sup>   | 5 V @ 8 A [11 A] <sup>(6)</sup>     | -                     | -                     | -                                    | 1                   | 3A                             | 1B                               |
|  | GLS43 <sup>(4)</sup>   | 12 V @ 3.3 A [4.5] <sup>(6)</sup>   | -                     | -                     | -                                    |                     |                                |                                  |
|  | GLS44 <sup>(4)</sup>   | 15 V @ 2.6 A [3.6 A] <sup>(6)</sup> | -                     | -                     | -                                    |                     |                                |                                  |
|  | GLS45 <sup>(4)</sup>   | 24 V @ 1.6 A [2.3 A] <sup>(6)</sup> | -                     | -                     | -                                    |                     | 4A                             |                                  |
|  | GLT42 <sup>(4)</sup>   | 5 V @ 4 A [5 A]                     | 12 V @ 2 A [2.5 A]    | -12 V @ 0.5 A [0.7 A] | -                                    |                     |                                |                                  |
|  | GLT43                  | 5 V @ 6 A [8 A]                     | 12 V @ 0.5 A [0.7 A]  | -12 V @ 0.5 A [0.7 A] | -                                    |                     |                                |                                  |
|  | GLT44                  | 5 V @ 4 A [5 A]                     | 12 V @ 2 A [2.5 A]    | -5 V @ 0.5 A [0.7 A]  | -                                    |                     |                                |                                  |
|  | GLT45 <sup>(4)</sup>   | 5 V @ 4 A [5 A]                     | 15 V @ 2 A [2.5 A]    | -15 V @ 0.5 A [0.7 A] | -                                    |                     |                                |                                  |
| GLT46  | 5 V @ 4 A [5 A]        | 24 V @ 1 A [1.5 A]                  | +12 V @ 0.5 A [0.7 A] | -                     |                                      |                     |                                |                                  |
| GL50<br>[50 W] 50 W  | GLT52 <sup>(4)</sup>   | 5 V @ 8 A                           | 12 V @ 3 A            | -12 V @ 0.5 A         | -                                    | 2                   | 5A                             | 2B                               |
|  | GLT53 <sup>(4)</sup>   | 5 V @ 8 A                           | 15 V @ 2.4 A          | -15 V @ 0.5 A         | -                                    |                     |                                |                                  |
|  | GLT54 <sup>(4)</sup>   | 5 V @ 8 A                           | 24 V @ 1.5 A          | 12 V @ 0.5 A          | -                                    |                     |                                |                                  |
| GL50<br>[60 W] 60 W  | GLS52 <sup>(4)</sup>   | 5 V @ 11 A                          | -                     | -                     | -                                    | 3                   | 6A                             | 2B                               |
|  | GLS53-I <sup>(5)</sup> | 12 V @ 5A                           | -                     | -                     | -                                    |                     |                                |                                  |
|  | GLS53 <sup>(4)</sup>   | 12 V @ 5 A <sup>(6)</sup>           | -                     | -                     | -                                    |                     |                                |                                  |
|  | GLS54 <sup>(4)</sup>   | 15 V @ 4 A <sup>(6)</sup>           | -                     | -                     | -                                    |                     |                                |                                  |
|  | GLS55 <sup>(4)</sup>   | 24 V @ 2.5 A <sup>(6)</sup>         | -                     | -                     | -                                    |                     |                                |                                  |
|  | GLS58 <sup>(4)</sup>   | 48 V @ 1.25 A <sup>(6)</sup>        | -                     | -                     | -                                    |                     |                                |                                  |
| GL60<br>[80 W] 60 W <sup>(1)</sup><br>[60 W] 40 W <sup>(2)</sup>   | GLS62                  | 5 V @ 12 A [16 A] <sup>(6)</sup>    | -                     | -                     | -                                    | 4                   | 7A                             | 3B                               |
|  | GLS63 <sup>(4)</sup>   | 12 V @ 5 A [6.7 A] <sup>(6)</sup>   | -                     | -                     | -                                    |                     |                                |                                  |
|  | GLS64 <sup>(4)</sup>   | 15 V @ 4 A [5.3 A] <sup>(6)</sup>   | -                     | -                     | -                                    |                     |                                |                                  |
|  | GLS65 <sup>(4)</sup>   | 24 V @ 2.5 A [3.3 A] <sup>(6)</sup> | -                     | -                     | -                                    |                     | 8A                             |                                  |
|  | GLT62 <sup>(4)</sup>   | 5 V @ 7 A [8 A]                     | 12 V @ 3 A [3.5 A]    | -12 V @ 0.7 A [1 A]   | -                                    |                     |                                |                                  |
|  | GLT63 <sup>(4)</sup>   | 5 V @ 7 A [8 A]                     | 15 V @ 2.8 A [3.3 A]  | -15 V @ 0.7 A [1 A]   | -                                    |                     |                                |                                  |
|  | GLT64                  | 5 V @ 7 A [8 A]                     | 12 V @ 3 A [3.5 A]    | -5 V @ 0.7 A [1 A]    | -                                    |                     |                                |                                  |
|  | GLT65                  | 5 V @ 7 A [8 A]                     | 24 V @ 1.5 A [2 A]    | +12 V @ 0.7 A [1 A]   | -                                    |                     |                                |                                  |
| GL110<br>[110 W] 80 W <sup>(1)</sup><br>[90 W] 70 W <sup>(2)</sup> | GLS114                 | 15 V @ 5.3 A [7.3 A] <sup>(6)</sup> | -                     | -                     | -                                    | 5                   | 9A                             | 5B                               |
|  | GLS115                 | 24 V @ 3.3 A [4.6 A] <sup>(6)</sup> | -                     | -                     | -                                    |                     |                                |                                  |
|  | GLQ112                 | 5 V @ 9 A [11 A]                    | 12 V @ 4.5 A [5 A]    | -12 V @ 0.7 A [1 A]   | ±5-25 V @ 2.5 A [3 A] <sup>(6)</sup> |                     | 10A                            |                                  |
|  | GLQ113                 | 5 V @ 9 A [11 A]                    | 15 V @ 4.5 A [5 A]    | -15 V @ 0.7 A [1 A]   | ±5-25 V @ 2.5 A [3 A] <sup>(6)</sup> |                     |                                |                                  |
|  | GLQ114                 | 5 V @ 9 A [11 A]                    | 12 V @ 4.5 A [5 A]    | -12 V @ 0.7 A [1 A]   | 24 V @ 3.5 A [4.5 A]                 |                     |                                |                                  |

Notes:

[ ] Rating with 30 CFM of air

(1) Power rating when no cover option is used

(2) Power rating when the cover/enclosure option is used

(3) Refer to GL Series Dimensions and the sections that follow

(4) Add "-M" suffix for the medical model numbers

(5) Industrial version - Operating temperature -40°C to 80°C

(6) Floating output

Visit our website at [www.solahd.com](http://www.solahd.com) or  
contact Technical Services at (800) 377-4384 with any questions.

Selection Table (continued)

|   | Catalog Number                  | Output 1  | Output 2             | Output 3                              | Output 4                                    | Case <sup>(5)</sup> | Pin Assignments <sup>(5)</sup> | Mating Connectors <sup>(5)</sup> |
|---|---------------------------------|---|----------------------|---------------------------------------|---|---------------------|--------------------------------|----------------------------------|
| <b>GL120</b><br>[120 W] 70 W  | <b>GLQ123</b>                   | 3.3 V @ 14 A [25 A]                                   | 5 V @ 12.5 A [24 A]  | +12 V @ 1 A [2 A]                     | -12 V @ 0.5 A [1 A]                         | 6                   | 11A                            | 7B                               |
| <b>GL120</b><br>[130 W] 80 W  | <b>GLS122</b>                   | 5 V @ 16 A [26 A] <sup>(8)</sup>                      | -                    | -                                     | -   | 7                   | 12A                            | 8B                               |
|   | <b>GLS123</b>                   | 12 V @ 6.6 A [10.8 A] <sup>(8)</sup>                  | -                    | -                                     | -   |                     |                                |                                  |
| <b>GL140</b><br>[145 W] 80 W  | <b>GLQ142</b>                   | 5 V @ 12 A [25 A]<br>(3.3 V - 5 V)                    | 12 V @ 5 A [6 A]     | -12 V @ 1 A [1.5 A]<br>(-12 V - 15 V) | ±3.3-25 V @ 1.5 A<br>[4.5 A] <sup>(8)</sup> | 8                   | 13A                            | 9B                               |
| <b>GL150</b><br>[150 W] 110 W <sup>(1)</sup><br>[130 W] 75 W <sup>(2)</sup> | <b>GLS152</b>                   | 5 V @ 22 A [30 A] <sup>(8)</sup>                      | -                    | -                                     | -   | 9                   | 14A                            | 10B                              |
|   | <b>GLS153</b>                   | 12 V @ 9.1 A [12.5 A] <sup>(8)</sup><br>(12 V - 15 V) | -                    | -                                     | -   |                     |                                |                                  |
|   | <b>GLS155</b>                   | 24 V @ 4.5 A [6.2 A] <sup>(8)</sup><br>(24 V - 28 V)  | -                    | -                                     | -   |                     |                                |                                  |
|   | <b>GLQ152</b>                   | 5 V @ 15 A [22 A]                                     | 12 V @ 2.6 A [8 A]   | -12 V @ 2 A [2.5 A]                   | ±5-25 V @ 2.5 A [3 A] <sup>(8)</sup>        | 10                  | 15A                            | 11B                              |
|   | <b>GLQ153</b>                   | 5 V @ 15 A [22 A]                                     | 15 V @ 4.8 A [6.4 A] | -15 V @ 1.6 A [2 A]                   | ±5-25 V @ 2.5 A [3 A] <sup>(8)</sup>        |                     |                                |                                  |
|   | <b>GLQ154</b>                   | 5 V @ 15 A [22 A]                                     | 12 V @ 6 A [8 A]     | -12 V @ 2 A [2.5 A]                   | 24 V @ 3.5 A [4.5 A]                        |                     |                                |                                  |
| <b>GL170</b><br>[175 W] 110 W <sup>(1)</sup><br>[130 W] 75 W <sup>(2)</sup> | <b>GLS172</b> <sup>(6)</sup>    | 5 V @ 22 A [35 A] <sup>(8)</sup><br>(2.5 V - 6 V)     | -                    | -                                     | -   | 11                  | 16A                            | 12B                              |
|   | <b>GLS173</b> <sup>(6)</sup>    | 12 V @ 9.1 A [15 A] <sup>(8)</sup><br>(6 V - 12 V)    | -                    | -                                     | -   |                     |                                |                                  |
|   | <b>GLS174</b> <sup>(6)</sup>    | 15 V @ 7.3 A [12 A] <sup>(8)</sup><br>(12 V - 24 V)   | -                    | -                                     | -   |                     |                                |                                  |
|   | <b>GLS175</b> <sup>(6)</sup>    | 24 V @ 4.5 A [7.5] <sup>(8)</sup><br>(24 V - 54 V)    | -                    | -                                     | -   |                     |                                |                                  |
|   | <b>GLQ172</b>                   | 5 V @ 15 A [30 A]<br>(3.3 V - 5.5 V)                  | 12 V @ 6 A [8 A]     | -12 V @ 0.2 A [3 A]<br>(-12 V - 15 V) | ±3.3-25 V @ 2 A [5 A] <sup>(8)</sup>        | 12                  | 17A                            | 13B                              |
| <b>GL250</b><br>[250 W] <sup>(3) (4)</sup>                                  | <b>GLS253-C</b>                 | 12 V (6-12 V) @ [21 A]                                | -                    | -                                     | -   | 13                  | 18A                            | 14B                              |
|   | <b>GLS255-C</b>                 | 24 V (24-48) @ [10.4 A] <sup>(8)</sup>                | -                    | -                                     | -   |                     |                                |                                  |
|   | <b>GLQ252-C</b>                 | 5 V @ [35 A]  | 12 V @ [10 A]        | -12 V @ [6 A]                         | ±5-25 V @ [6 A] <sup>(8)</sup>              | 14                  | 19A                            |                                  |
|   | <b>GLQ253-C</b>                 | 5 V @ [35 A]  | 15 V @ [10 A]        | -15 V @ [6A]                          | ±5-25 V @ [6 A] <sup>(8)</sup>              |                     |                                |                                  |
| <b>GL350</b><br>[350 W] <sup>(3) (4)</sup>                                  | <b>GLS352-C</b>                 | 5 V (3-6 V) @ [70 A]                                  | -                    | -                                     | -   | 15                  | 20A                            | 15B                              |
|   | <b>GLS353-C</b>                 | 12 V (6-12 V)<br>@ [29.2 A] <sup>(8)</sup>            | -                    | -                                     | -   |                     |                                |                                  |
|   | <b>GLS354-C</b>                 | 15 V (12-24 V)<br>@ [23.3 A] <sup>(8)</sup>           | -                    | -                                     | -   |                     |                                |                                  |
|   | <b>GLS355-C</b>                 | 24 V (24-48 V)<br>@ [14.6 A] <sup>(8)</sup>           | -                    | -                                     | -   |                     |                                |                                  |
|   | <b>GLS355-CEF</b>               | 24 V (24-48 V)<br>@ [14.6 A] <sup>(8)</sup>           | -                    | -                                     | -   |                     |                                |                                  |
|   | <b>GLQ352-C</b>                 | 5 V @ [50 A]  | 12 V @ [12 A]        | -12 V @ [6 A]                         | ±3.3-24 V @ [6 A] <sup>(8)</sup>            | 16                  | 21A                            | 16B                              |
|   | <b>GLQ352-CEF</b>               | 5 V @ [50 A]  | 12 V @ [12 A]        | -12 V @ [6 A]                         | ±3.3-24 V @ [6 A] <sup>(8)</sup>            |                     |                                |                                  |
| <b>GL500</b><br>[500 W] 200 W   | <b>GLS503-CF</b> <sup>(7)</sup> | 12 V @ 16.6 A [41.7 A]                                | -                    | -                                     | -   | 17                  | 22A                            | 17B                              |
|   | <b>GLS505-CF</b> <sup>(7)</sup> | 24 V @ 8.3 A [20.8 A]                                 | -                    | -                                     | -   |                     |                                |                                  |
|   | <b>GLS508-CF</b> <sup>(7)</sup> | 48 V @ 4.2 A [10.4 A]                                 | -                    | -                                     | -   |                     |                                |                                  |

## Notes:

[ ] Rating with 30 CFM of air

(1) Power rating when no cover option is used

(2) Power rating when the cover/enclosure option is used

(3) Optional fan cover, See Table 1

(4) Optional end fan cover, See Table 1

(5) Refer to GL Series Dimensions and the sections that follow

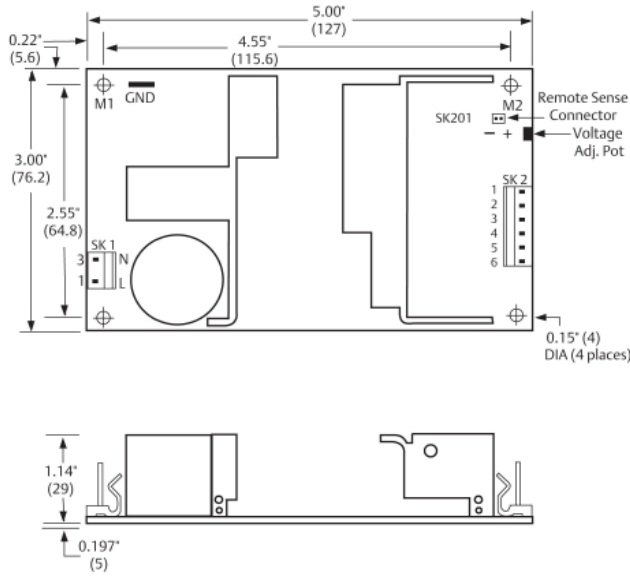
(6) Add "-M" suffix for the medical models numbers.

(7) Insert (-M) as in GLS 50x-M-CF for medical model numbers

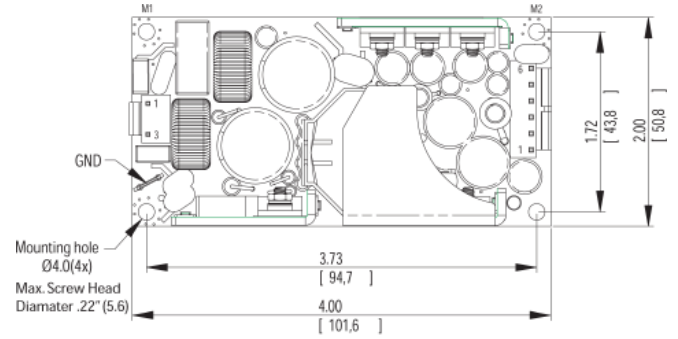
(8) Floating output

Visit our website at [www.solahd.com](http://www.solahd.com) or  
contact Technical Services at (800) 377-4384 with any questions.

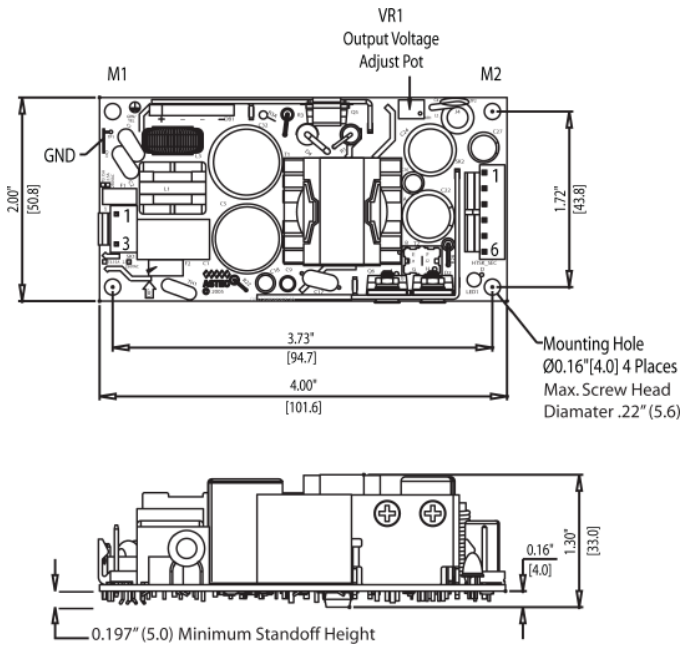
GL Series Dimensions



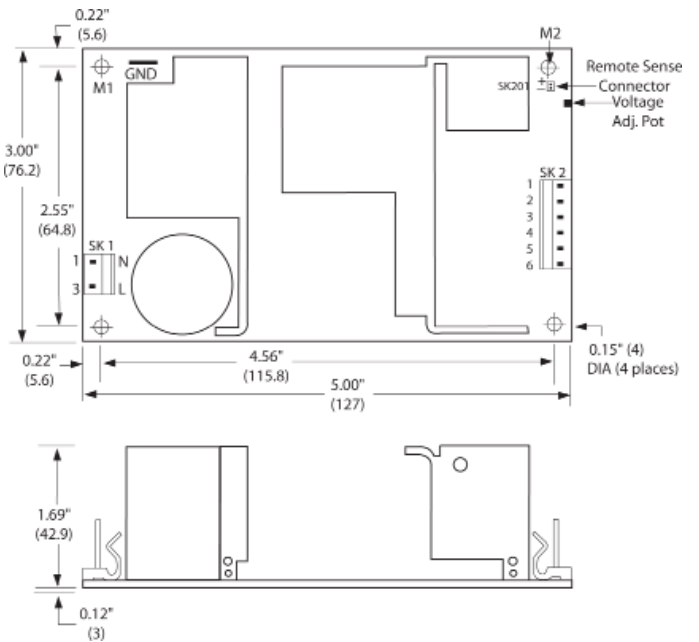
Case 1  
(Weight: 0.5 lbs/0.23 kg approx.)



Case 2  
(Weight: 0.45 lbs/0.20 kg approx.)



Case 3  
(Weight: 0.41 lbs/0.18 kg approx.)



Case 4  
(Weight: 0.75 lbs/0.34 kg approx.)

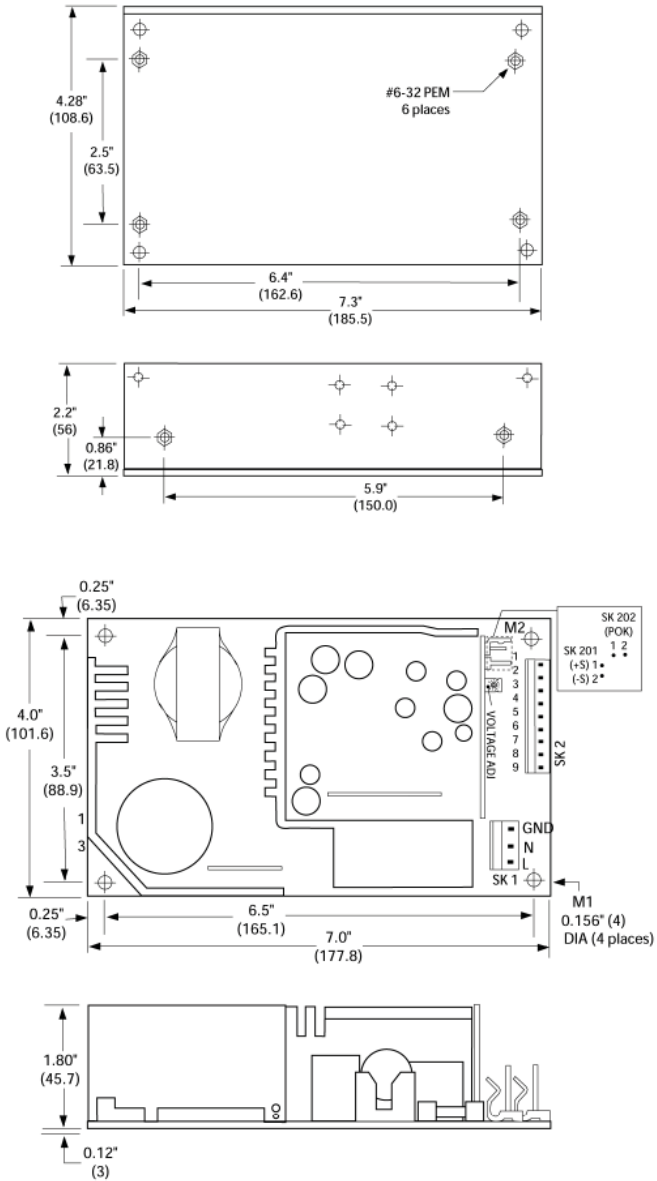
Notes:

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is  $\pm 0.02"$  ( $\pm 0.5$  mm)
3. Mounting holes M1 and M2 should be grounded for EMI purposes.
4. Mounting hole M1 is safety ground connection.
5. Specifications are for convection rating at factory settings at 115 Vac input, 25°C unless otherwise stated.

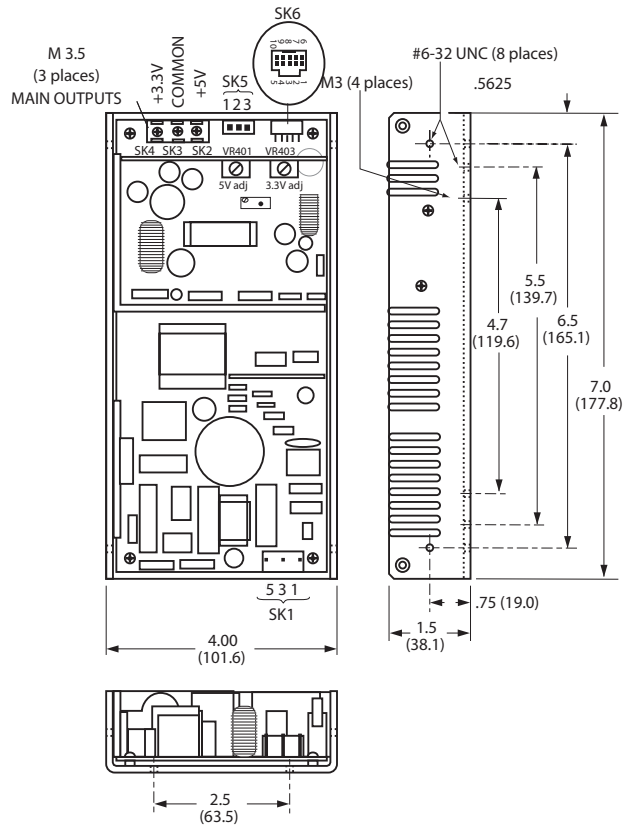
Visit our website at [www.solahd.com](http://www.solahd.com) or contact Technical Services at (800) 377-4384 with any questions.

## GL Series Dimensions (continued)

### Bracket



**Case 5**  
(Weight: 1.25 lbs/0.57 kg approx.)

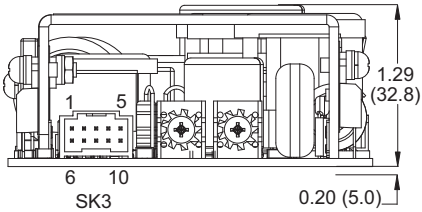
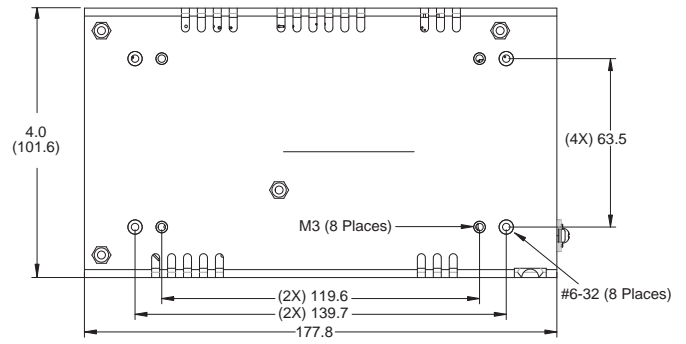
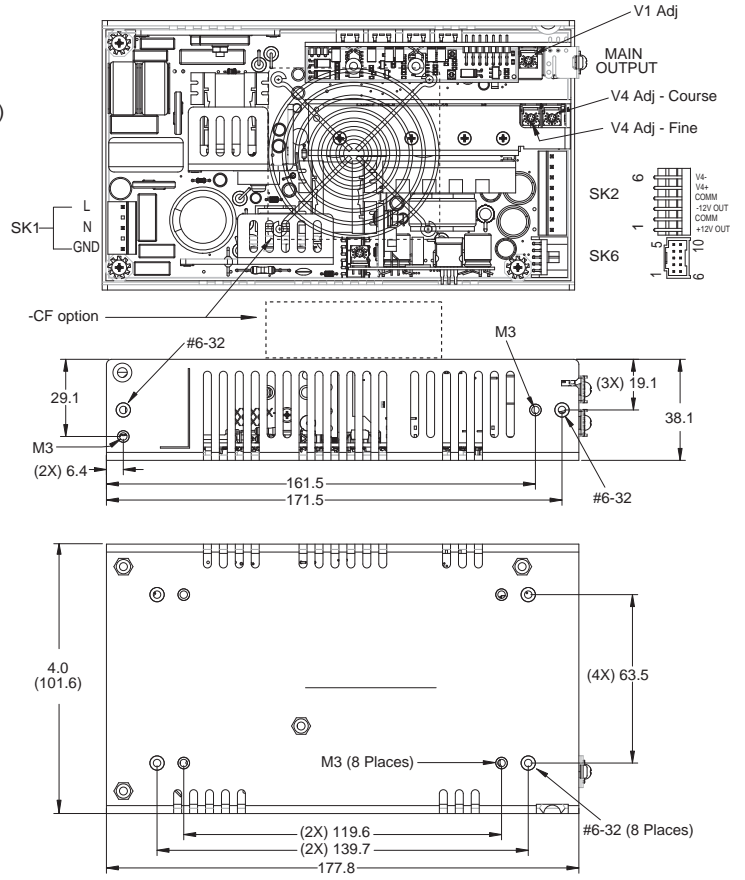
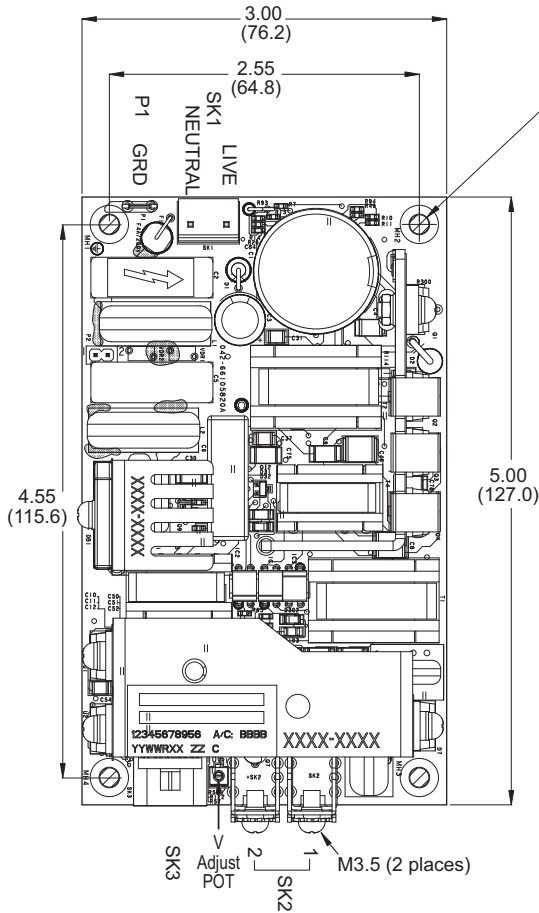


**Case 6**  
(Weight: 1.38 lbs/0.63 kg approx.)  
(See notes 7 & 8)

### Notes:

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is  $\pm 0.02$ ".
3. Specifications are for convection rating at factory settings unless otherwise stated.
4. Mounting holes M1 and M2 should be grounded for EMI purposes.
5. Mounting hole M1 is safety ground connection.
6. L Bracket mounting (6-32) maximum insertion depth is .20" (5).
7. Remote inhibit requires an external 5 V @ 10 mA to activate.
8. Mounting maximum insertion depth is 0.12".

GL Series Dimensions (continued)



Case 7  
(Weight: .71 lbs/0.32 kg approx.)

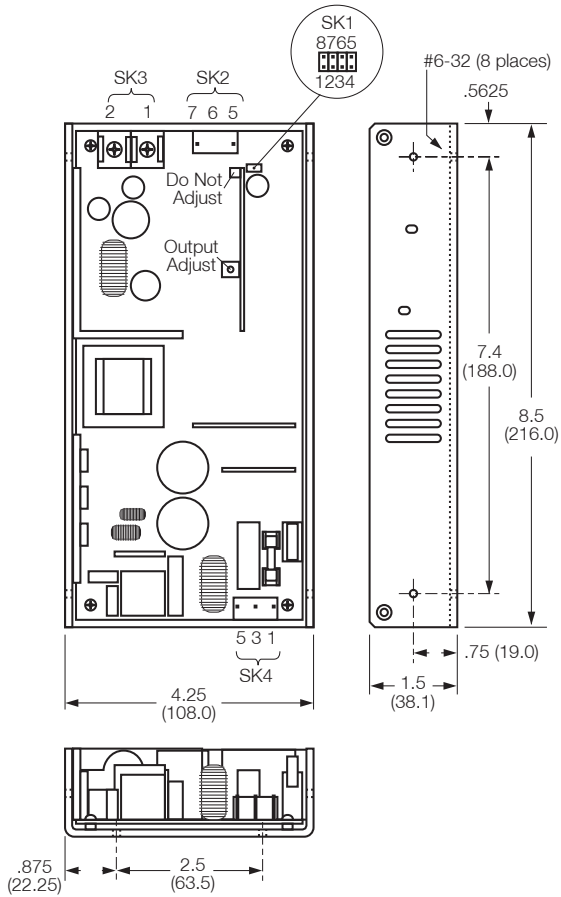
Case 8  
(Weight: 1.63 lbs/0.74 kg approx.)  
(See notes 6 & 7)

Notes:

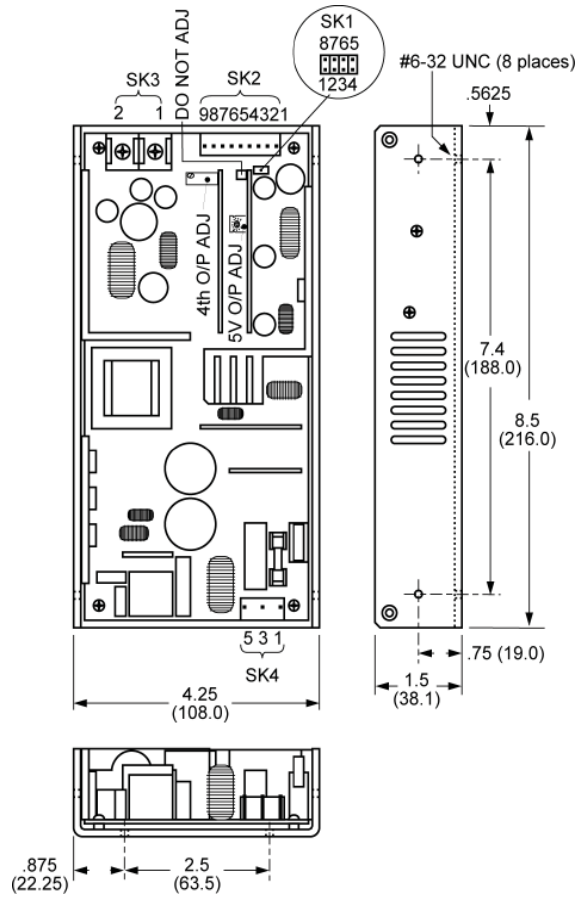
1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is  $\pm 0.02$ ".
3. Mounting holes MH1, MH2 and MH3 should be grounded for EMI purposes.
4. Mounting hole M1 is safety ground connection.
5. This power supply requires mounting on metal standoffs 0.20" (5 m) in height.
6. Specifications are for convection rating at factory settings at 115 Vac input 25°C unless otherwise stated.
7. Mounting screw maximum insertion depth is 0.12".

Visit our website at [www.solahd.com](http://www.solahd.com) or contact Technical Services at (800) 377-4384 with any questions.

GL Series Dimensions (continued)



Case 9  
(Weight: 1.75 lbs/0.80 kg approx.)



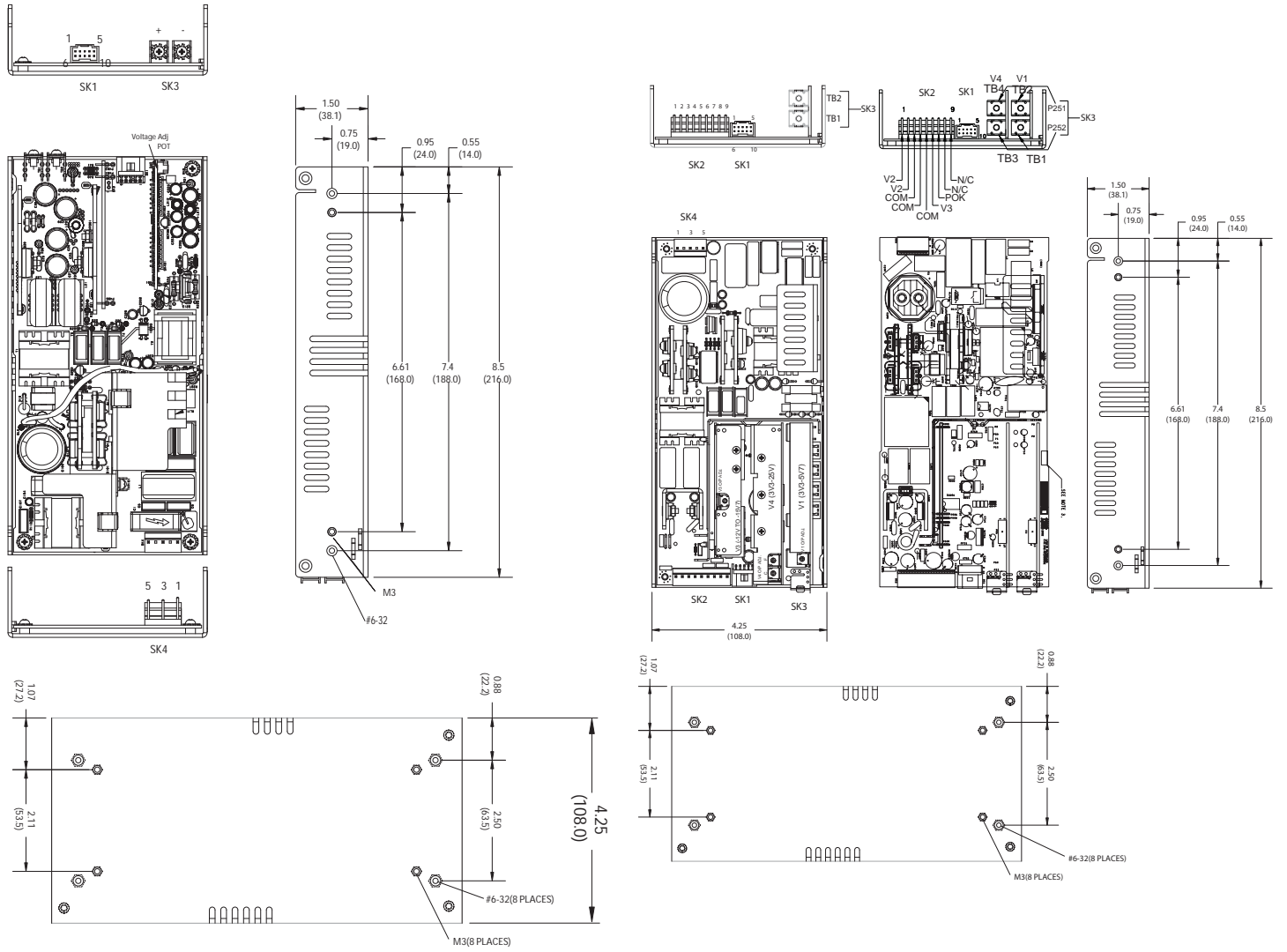
Case 10  
(Weight: 1.75 lbs/0.80 kg approx.)

Notes:

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is  $\pm 0.02$ ".
3. Specifications are for convection rating at factory settings unless otherwise stated.
4. Remote inhibit requires an external 5 V @ 10 mA to activate.
5. Mounting (6-32) maximum insertion depth is 0.12".



GL Series Dimensions (continued)



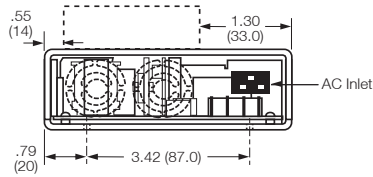
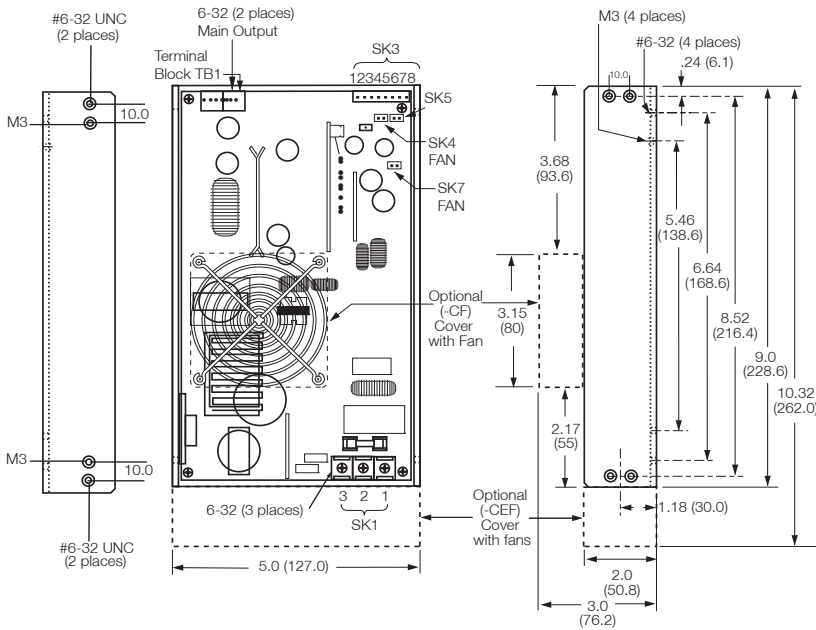
Case 11  
(Weight: 0.5 lb/0.23 kg approx.)

Case 12  
(Weight: 2 lbs/0.91 kg approx.)  
(See notes 1-4)

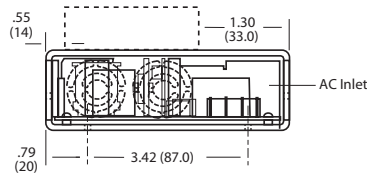
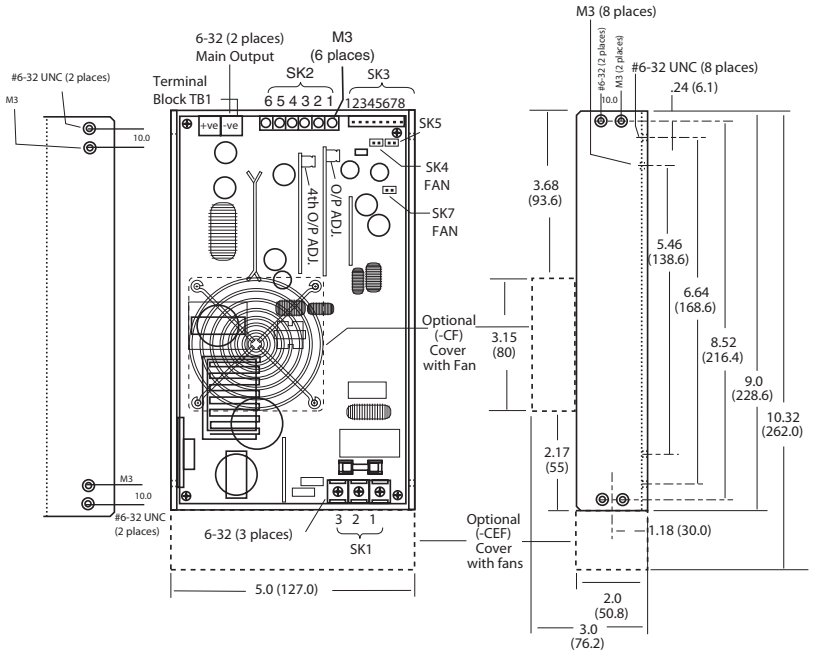
Notes:

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is  $\pm 0.02$ ".
3. Specifications are for convection rating at factory settings at 115 Vac input, 25°C unless otherwise stated.
4. Mounting screw maximum insertion depth is 0.12".
5. Mounting holes M1 and M2 should be grounded for EMI purposes.
6. Mounting hole M1 is safety ground connection.

GL Series Dimensions (continued)



Case 13  
(Weight: 2.6 lbs/1.19 kg approx.)

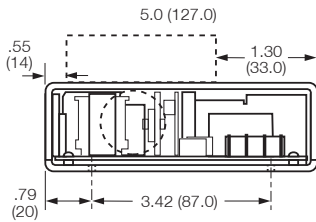
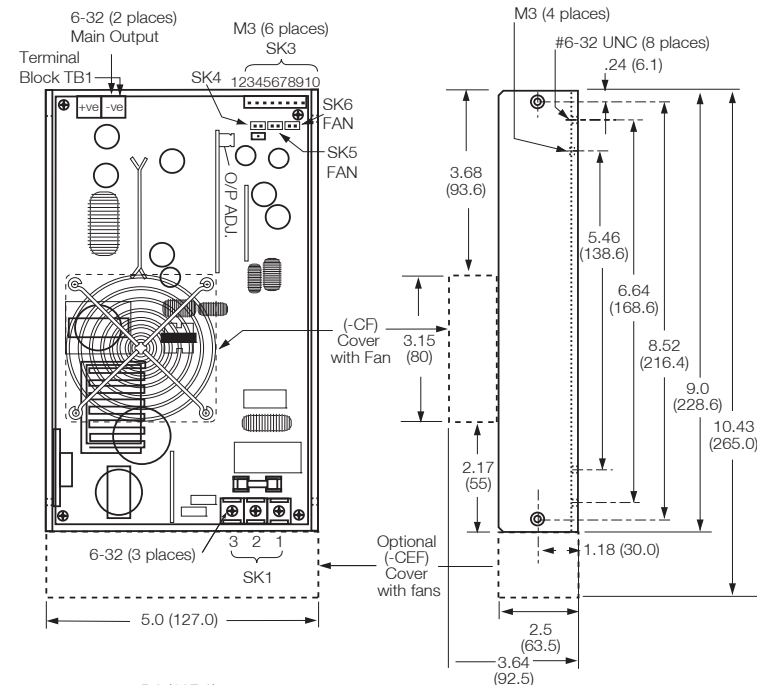


Case 14  
(Weight: 3.1 lbs/1.41 kg approx.)

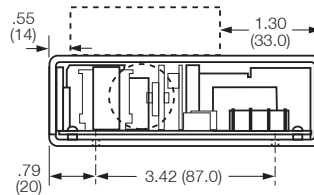
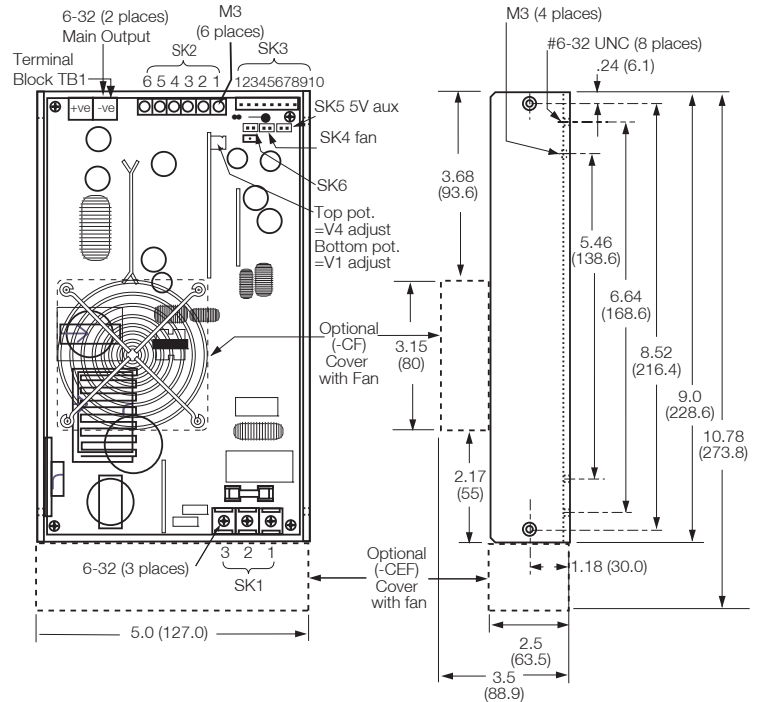
Notes:

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is  $\pm 0.02$ ".
3. Specifications are at factory settings.
4. To enable normally closed remote inhibit, cut jumper J1.
5. Mounting maximum insertion depth is 0.12".

GL Series Dimensions (continued)



Case 15  
(Weight: 3.6 lbs/1.64 kg approx.)

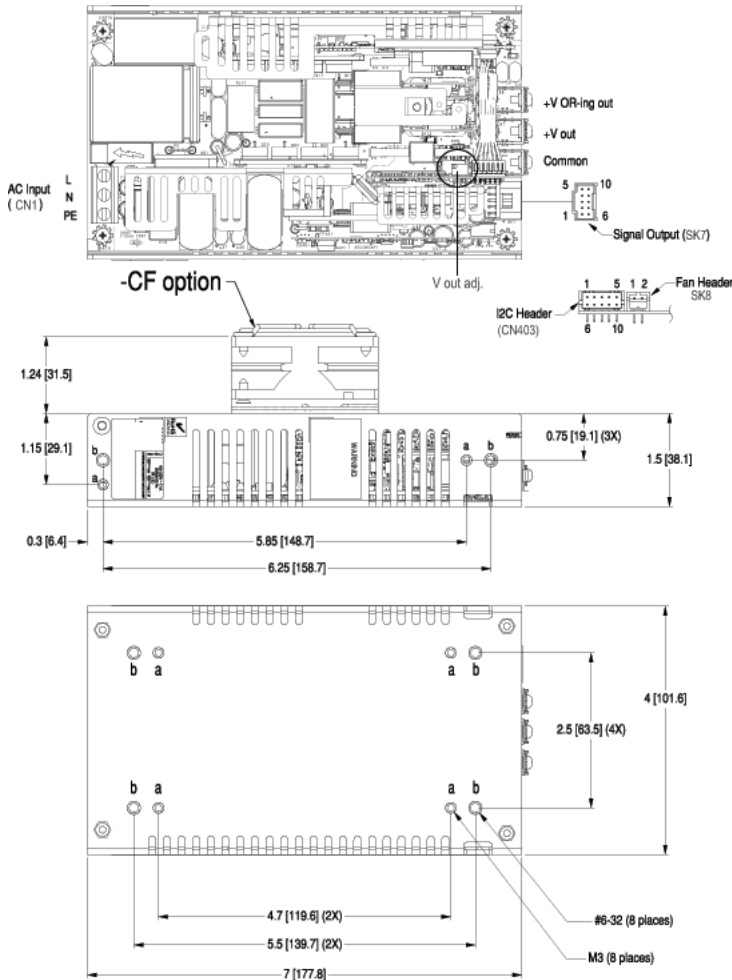


Case 16  
(Weight: 4 lbs/1.8 kg approx.)

Notes:

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is  $\pm 0.02$ ".
3. Specifications are at factory settings.
4. To enable normally closed remote inhibit, cut jumper J1.
5. Mounting maximum insertion depth is 0.12".

### GL Series Dimensions (continued)



**Case 17**  
(Weight: 3.016 lbs/1.18 kg approx.)

**Notes:**

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is  $\pm 0.02$ ".
3. Specifications are at factory settings.
4. Mounting maximum insertion depth is 0.12".

### GL Series Pin Assignments

#### 1A

| Connector | GLS22 | GLS23   | GLS24 |
|-----------|-------|---------|-------|
| SK1       | PIN 1 | Line    |       |
|           | PIN 3 | Neutral |       |
| SK2       | PIN 1 | +5 V    | +12 V |
|           | PIN 2 | +5 V    | +12 V |
|           | PIN 3 | +5 V    | +12 V |
|           | PIN 4 | Common  |       |
|           | PIN 5 | Common  |       |
|           | PIN 6 | Common  |       |
| SK201     | PIN 1 | +Sense  |       |
|           | PIN 2 | -Sense  |       |

### GL Series Pin Assignments (continued)

#### 2A

| Connector | GLT22 | GLT23   | GLT24 | GLT25 |
|-----------|-------|---------|-------|-------|
| SK1       | PIN 1 | Line    |       |       |
|           | PIN 3 | Neutral |       |       |
| SK2       | PIN 1 | +12 V   | +12 V | +12 V |
|           | PIN 2 | +5 V    | +5 V  | +5 V  |
|           | PIN 3 | +5 V    | +5 V  | +5 V  |
|           | PIN 4 | Common  |       |       |
|           | PIN 5 | Common  |       |       |
|           | PIN 6 | -12 V   | -12 V | -5 V  |
| SK201     | PIN 1 | +Sense  |       |       |
|           | PIN 2 | -Sense  |       |       |

#### 3A

| Connector | GLS42* | GLS43*  | GLS44* | GLS45* |
|-----------|--------|---------|--------|--------|
| SK1       | PIN 1  | Line    |        |        |
|           | PIN 3  | Neutral |        |        |
| SK2       | PIN 1  | +5 V    | +12 V  | +15 V  |
|           | PIN 2  | +5 V    | +12 V  | +15 V  |
|           | PIN 3  | +5 V    | +12 V  | +15 V  |
|           | PIN 4  | Common  |        |        |
|           | PIN 5  | Common  |        |        |
|           | PIN 6  | Common  |        |        |
| SK201     | PIN 1  | +Sense  |        |        |
|           | PIN 2  | -Sense  |        |        |

#### 4A

| Connector | GLT42* | GLT43   | GLT44 | GLT45 | GLT45* |
|-----------|--------|---------|-------|-------|--------|
| SK1       | PIN 1  | Line    |       |       |        |
|           | PIN 3  | Neutral |       |       |        |
| SK2       | PIN 1  | +12 V   |       | +15 V | +24 V  |
|           | PIN 2  |         | +5 V  |       |        |
|           | PIN 3  |         | +5 V  |       |        |
|           | PIN 4  | Common  |       |       |        |
|           | PIN 5  | Common  |       |       |        |
|           | PIN 6  | -12 V   | -5 V  | -15 V | +12 V  |
| SK201     | PIN 1  | +Sense  |       |       |        |
|           | PIN 2  | -Sense  |       |       |        |

#### 5A

| Connector | GLT52* | GLT53*  | GLT54* |       |
|-----------|--------|---------|--------|-------|
| SK1       | PIN 1  | Neutral |        |       |
|           | PIN 3  | Line    |        |       |
| SK2       | PIN 1  | +5 V    |        |       |
|           | PIN 2  | +5 V    |        |       |
|           | PIN 3  | Common  |        |       |
|           | PIN 4  | Common  |        |       |
|           | PIN 5  | -12 V   | -15 V  | +12 V |
|           | PIN 6  | +12 V   | +15 V  | +24 V |

\* Same Pin Assignments are attributed to both the non-medical and medical models.

GL Series Pin Assignments (continued)

6A

| Connector | GLS52* | GLS53*  | GLS54* | GLS55* | GLS58* |       |
|-----------|--------|---------|--------|--------|--------|-------|
| SK1       | PIN 1  | Line    |        |        |        |       |
|           | PIN 3  | Neutral |        |        |        |       |
| SK2       | PIN 1  | +5 V    | +12 V  | +15 V  | +24 V  | +48 V |
|           | PIN 2  | +5 V    | +12 V  | +15 V  | +24 V  | +48 V |
|           | PIN 3  | Common  |        |        |        |       |
|           | PIN 4  | Common  |        |        |        |       |
|           | PIN 5  | -Sense  |        |        |        |       |
|           | PIN 6  | +Sense  |        |        |        |       |

7A

| Connector | GLS62 | GLS63<br>(GLS62-M) | GLS64<br>(GLS63-M) | GLS65 |       |
|-----------|-------|--------------------|--------------------|-------|-------|
| SK1       | PIN 1 | Neutral            |                    |       |       |
|           | PIN 3 | Line               |                    |       |       |
| SK2       | PIN 1 | 5 V                | +12 V              | +15 V | +24 V |
|           | PIN 2 | 5 V                | +12 V              | +15 V | +24 V |
|           | PIN 3 | 5 V                | +12 V              | +15 V | +24 V |
|           | PIN 4 | Common             |                    |       |       |
|           | PIN 5 | Common             |                    |       |       |
|           | PIN 6 | Common             |                    |       |       |
| SK201     | PIN 1 | +Sense             |                    |       |       |
|           | PIN 2 | -Sense             |                    |       |       |

8A

| Connector | GLT62 | GLT63   | GLT64 | GLT65 |       |
|-----------|-------|---------|-------|-------|-------|
| SK1       | PIN 1 | Neutral |       |       |       |
|           | PIN 3 | Line    |       |       |       |
| SK2       | PIN 1 | +12 V   | +15 V | +12 V | +24 V |
|           | PIN 2 | +5 V    | +5 V  | +5 V  | +5 V  |
|           | PIN 3 | +5 V    | +5 V  | +5 V  | +5 V  |
|           | PIN 4 | Common  |       |       |       |
|           | PIN 5 | Common  |       |       |       |
|           | PIN 6 | -12 V   | -15 V | -5 V  | +12 V |
| SK201     | PIN 1 | +Sense  |       |       |       |
|           | PIN 2 | -Sense  |       |       |       |

9A

| Connector | GLS114 | GLS115   |       |
|-----------|--------|----------|-------|
| SK1       | PIN 1  | Ground   |       |
|           | PIN 3  | Neutral  |       |
|           | PIN 5  | Line     |       |
| SK2       | PIN 1  | +15 V    | +24 V |
|           | PIN 2  | +15 V    | +24 V |
|           | PIN 3  | +15 V    | +24 V |
|           | PIN 4  | Common   |       |
|           | PIN 5  | Common   |       |
|           | PIN 6  | Common   |       |
|           | PIN 7  | Common   |       |
|           | PIN 8  | +15 V    | +24 V |
| SK201     | PIN 1  | +Sense   |       |
|           | PIN 2  | -Sense   |       |
| SK202     | PIN 1  | Power OK |       |
|           | PIN 2  | Ground   |       |

10A

| Connector | GLQ112 | GLQ113   | GLQ114  |        |
|-----------|--------|----------|---------|--------|
| SK1       | PIN 1  | Ground   |         |        |
|           | PIN 3  | Neutral  |         |        |
|           | PIN 5  | Line     |         |        |
| SK2       | PIN 1  | +5 V     |         |        |
|           | PIN 2  | +5 V     |         |        |
|           | PIN 3  | +5 V     |         |        |
|           | PIN 4  | Common   |         |        |
|           | PIN 5  | Common   |         |        |
|           | PIN 6  | Common   |         |        |
|           | PIN 7  | Common   |         |        |
|           | PIN 8  | +12 V    | +15 V   | +12 V  |
|           | PIN 9  | +12 V    | +15 V   | +12 V  |
|           | PIN 10 | -12 V    | -15 V   | -12 V  |
|           | PIN 11 | +5-25 V  | +5-25 V | +24 V  |
|           | PIN 12 | -5-25 V  | -5-25 V | Common |
| SK201     | PIN 1  | +Sense   |         |        |
|           | PIN 2  | -Sense   |         |        |
| SK202     | PIN 1  | Power OK |         |        |
|           | PIN 2  | Ground   |         |        |

11A

| Connector | GLQ123 |                            |
|-----------|--------|----------------------------|
| SK1       | PIN 1  | Ground                     |
|           | PIN 3  | Neutral                    |
|           | PIN 5  | Line                       |
| SK5       | PIN 1  | +12 V                      |
|           | PIN 2  | Common                     |
|           | PIN 3  | -12 V                      |
| SK6       | PIN 1  | 3.3 V Single Wire Parallel |
|           | PIN 2  | -3.3 V Sense               |
|           | PIN 3  | +3.3 V +Sense              |
|           | PIN 4  | 5 V Single Wire Parallel   |
|           | PIN 5  | Common                     |
|           | PIN 6  | +5 V Sense                 |
|           | PIN 7  | -5 V Sense                 |
|           | PIN 8  | + Inhibit                  |
|           | PIN 9  | - Inhibit                  |
|           | PIN 10 | Power Fail                 |

12A

| Connector | GLS120 |                      |
|-----------|--------|----------------------|
| SK1       | PIN 1  | Neutral              |
|           | PIN 3  | Line                 |
| SK2       | TB-1   | Common               |
|           | TB-2   | Main Output          |
| SK3       | PIN 1  | +V1 Remote Sense     |
|           | PIN 2  | -V1 Remote Sense     |
|           | PIN 3  | +Remote Inhibit      |
|           | PIN 4  | -Remote Inhibit      |
|           | PIN 5  | +Power Fail          |
|           | PIN 6  | Common               |
|           | PIN 7  | Single Wire Parallel |
|           | PIN 8  | +12 V                |
|           | PIN 9  | 12 V Common          |
|           | PIN 10 | +5 V Standby         |

\* Same Pin Assignments are attributed to both the non-medical and medical models.

## GL Series Pin Assignments (continued)

## 13A

| Connector | GLQ142 |                         |
|-----------|--------|-------------------------|
| SK1       | PIN 1  | Ground                  |
|           | PIN 3  | Neutral                 |
|           | PIN 5  | Line                    |
| SK2       | PIN 1  | +12 V                   |
|           | PIN 2  | Common                  |
|           | PIN 3  | -12 V                   |
|           | PIN 4  | Common                  |
|           | PIN 5  | +5 V to +25 V (Float)   |
|           | PIN 6  | Common (Float)          |
| SK4       | TB-1   | Common                  |
|           | TB-2   | +5 V                    |
| SK3       | PIN 1  | No Connection           |
|           | PIN 2  | DC Power Good           |
|           | PIN 3  | No Connection           |
|           | PIN 4  | V1 Single Wire Parallel |
|           | PIN 5  | Common                  |
|           | PIN 6  | +V1 Sense               |
|           | PIN 7  | Sense Common            |
|           | PIN 8  | +Inhibit                |
|           | PIN 9  | -Inhibit                |
|           | PIN 10 | Power Fail              |

## 14A

| Connector | GLS152 | GLS153        | GLS155         |
|-----------|--------|---------------|----------------|
| SK1       | PIN 1  | Inhibit -ve   |                |
|           | PIN 2  | Inhibit +ve   |                |
|           | PIN 3  | VCC           |                |
|           | PIN 4  | No Connection |                |
|           | PIN 5  | Common        |                |
|           | PIN 6  | -Sense        |                |
|           | PIN 7  | +Sense        |                |
|           | PIN 8  | Current Share |                |
| SK2       | PIN 5  | Common        |                |
|           | PIN 6  | Pin Removed   |                |
|           | PIN 7  | Power OK      |                |
| SK3       | TB-1   | Common        |                |
|           | TB-2   | +5 V          | +12 V to +15 V |
| SK4       | PIN 1  | Ground        |                |
|           | PIN 3  | Line          |                |
|           | PIN 5  | Neutral       |                |

## 15A

| Connector | GLQ152         | GLQ153                | GLQ154 |        |
|-----------|----------------|-----------------------|--------|--------|
| SK1       | PIN 1          | Inhibit -ve           |        |        |
|           | PIN 2          | Inhibit +ve           |        |        |
|           | PIN 3          | +12 V                 | +15 V  | +12V   |
|           | PIN 4          | No Connection         |        |        |
|           | PIN 5          | Common                |        |        |
|           | PIN 6          | -Sense                |        |        |
|           | PIN 7          | +Sense                |        |        |
|           | PIN 8          | I Share               |        |        |
| SK2       | PIN 1,2        | +12 V                 | +15 V  | +12 V  |
|           | PIN 3,4,5      | Common                | Common | Common |
|           | PIN 6          | -12 V                 | -15 V  | -12 V  |
|           | PIN 7          | Power OK              |        |        |
|           | PIN 8          | +5 V to +25 V (Float) |        | +24 V  |
| PIN 9     | Common (Float) |                       | Common |        |
| SK3       | TB-1           | Common                |        |        |
|           | TB-2           | +5 V                  |        |        |
| SK4       | PIN 1          | Ground                |        |        |
|           | PIN 3          | Line                  |        |        |
|           | PIN 5          | Neutral               |        |        |

## 16A

| Connector | GLS17x* |                         |
|-----------|---------|-------------------------|
| SK1       | PIN 1   | +12 V                   |
|           | PIN 2   | 5 V Standby             |
|           | PIN 3   | Common                  |
|           | PIN 4   | V1 Single Wire Parallel |
|           | PIN 5   | Common                  |
|           | PIN 6   | +V1 Sense               |
|           | PIN 7   | Sense Common            |
|           | PIN 8   | Remote Inhibit          |
|           | PIN 9   | DC Power Good           |
|           | PIN 10  | Power OK                |
| SK2       | TB-1    | Common                  |
|           | TB-2    | Main Output             |
| SK3       | PIN 1   | Ground                  |
|           | PIN 2   | Line                    |
|           | PIN 5   | Neutral                 |

\* Same Pin Assignments are attributed to both the non-medical and medical models.

## 17A

| Connector | GLQ172         | GLQ173                  |                         |
|-----------|----------------|-------------------------|-------------------------|
| SK1       | PIN 1          | No Connection           | V4 Single Wire Parallel |
|           | PIN 2          | 5 V Standby             |                         |
|           | PIN 3          | No Connection           | +V4 Sense               |
|           | PIN 4          | V1 Single Wire Parallel |                         |
|           | PIN 5          | Common                  |                         |
|           | PIN 6          | +V1 Sense               |                         |
|           | PIN 7          | Sense Common            |                         |
|           | PIN 8          | Remote Inhibit          |                         |
|           | PIN 9          | DC Power Good           |                         |
|           | PIN 10         | Power OK                |                         |
| SK2       | PIN 1,2        | +12 V                   |                         |
|           | PIN 3,4,5      | Common                  |                         |
|           | PIN 6          | -12 V                   |                         |
|           | PIN 7          | Power OK                |                         |
|           | PIN 8          | +3.3 V to +25 V (Float) | No Connection           |
| PIN 9     | Common (Float) | No Connection           |                         |
| SK3       | TB-1,3         | Common                  |                         |
|           | TB-2           | +5 V (3.3 V to 5.5 V)   |                         |
|           | TB-4           | No Connection           | +5 V (3.3 V to 5.5 V)   |
| SK4       | PIN 1          | Ground                  |                         |
|           | PIN 3          | Line                    |                         |
|           | PIN 5          | Neutral                 |                         |

## 18A

| Connector | GLS250 |   |
|-----------|--------|---|
| SK1       | PIN 1  | Neutral                                   |
|           | PIN 2  | Line                                      |
|           | PIN 3  | Ground                                    |
| SK3       | PIN 1  | +Remote Sense                             |
|           | PIN 2  | -Remote Sense                             |
|           | PIN 3  | Remote Inhibit (N.O)                      |
|           | PIN 4  | Remote Inhibit (N.C)                      |
|           | PIN 5  | Common                                    |
|           | PIN 6  | Current Share                             |
|           | PIN 7  | Power Fail                                |
|           | PIN 8  | DC Power Good                             |
| SK4       | PIN 1  | +Fan's power source (12 V @ 500 mA)       |
|           | PIN 2  | -Fan's power source (12 V @ 500 mA)       |
| SK5       | PIN 1  | +Supervisory output supply (5 V @ 100 mA) |
|           | PIN 2  | -Supervisory output supply (5 V @ 100 mA) |
| SK7       | PIN 1  | +Fan's power source (12 V @ 500 mA)       |
|           | PIN 2  | +Fan's power source (12 V @ 500 mA)       |

GL Series Pin Assignments (continued)

19A

| Connector |       | GLQ250                                    |
|-----------|-------|---|
| SK1       | PIN 1 | Neutral                                   |
|           | PIN 2 | Line                                      |
|           | PIN 3 | Ground                                    |
| SK2       | PIN 1 | +12 / 15 V                                |
|           | PIN 2 | Common                                    |
|           | PIN 3 | Common                                    |
|           | PIN 4 | -12 / 15 V                                |
|           | PIN 5 | 5-25 V RET Float                          |
|           | PIN 6 | 5-25 V Float                              |
| SK3       | PIN 1 | +Remote Sense                             |
|           | PIN 2 | -Remote Sense                             |
|           | PIN 3 | Remote Inhibit (N.O.)                     |
|           | PIN 4 | Remote Inhibit (N.C.)                     |
|           | PIN 5 | Common                                    |
|           | PIN 6 | Current Share                             |
|           | PIN 7 | Power Fail                                |
|           | PIN 8 | DC Power Good                             |
| SK4       | PIN 1 | +Fan's power source (12 V @ 500 mA)       |
|           | PIN 2 | +Fan's power source (12 V @ 500 mA)       |
| SK5       | PIN 1 | +Supervisory output supply (5 V @ 100 mA) |
|           | PIN 2 | -Supervisory output supply (5 V @ 100 mA) |
| SK7       | PIN 1 | +Fan's power source (12 V @ 500 mA)       |
|           | PIN 2 | +Fan's power source (12 V @ 500 mA)       |

22A

| Connector                        |                   | GL500*                  |
|----------------------------------|-------------------|-------------------------|
| CN1                              | PIN 1             | Line                    |
|                                  | PIN 3             | Neutral                 |
|                                  | PIN 5             | Ground                  |
| SK7                              | PIN 1             | V1 Single Wire Parallel |
|                                  | PIN 2             | -Remote Sense           |
|                                  | PIN 3             | +Remote Sense           |
|                                  | PIN 4             | 5 VSB (Standby)         |
|                                  | PIN 5             | 5 VSB Return            |
|                                  | PIN 6             | +12 V                   |
|                                  | PIN 7             | Common                  |
|                                  | PIN 8             | Inhibit                 |
|                                  | PIN 9             | DC Power Good           |
|                                  | PIN 10            | Power Fail (POK)        |
| CN403                            | PIN 1             | 5 V_I <sup>2</sup> C    |
|                                  | PIN 2             | Ground                  |
|                                  | PIN 3             | A2                      |
|                                  | PIN 4             | A0                      |
|                                  | PIN 5             | SVCC2_OR                |
|                                  | PIN 6             | I <sup>2</sup> C_SDA    |
|                                  | PIN 7             | I <sup>2</sup> C_SLC    |
|                                  | PIN 8             | A1                      |
|                                  | PIN 9             | No Connection           |
|                                  | PIN 10            | +12V_RTN_CTRL           |
| <b>Adjustment Potentiometers</b> |                   |                         |
| P1                               | +V1 Output Adjust |                         |

20A

| Connector |        | GLS350                  |
|-----------|--------|-------------------------|
| SK1       | PIN 1  | Neutral                 |
|           | PIN 2  | Line                    |
|           | PIN 3  | Ground                  |
| SK3       | PIN 1  | No Connection           |
|           | PIN 2  | No Connection           |
|           | PIN 3  | +Sense                  |
|           | PIN 4  | -Sense                  |
|           | PIN 5  | Power OK                |
|           | PIN 6  | Current Share           |
|           | PIN 7  | DC Power Good           |
|           | PIN 8  | Inhibit (N.O.)          |
|           | PIN 9  | Inhibit (N.C.)          |
|           | PIN 10 | Common                  |
| SK4       | PIN 1  | +5 V aux (5 V @ 100 mA) |
|           | PIN 2  | -Common                 |
| SK5       | PIN 1  | +Fan 1 (12 V @ 150 mA)  |
|           | PIN 2  | -Common                 |
| SK6       | PIN 1  | +Fan 2 (12 V @ 150 mA)  |
|           | PIN 2  | -Common                 |

\* Same Pin Assignments are attributed to both the non-medical and medical models.

21A

| Connector |        | GLQ350                  |
|-----------|--------|-------------------------|
| SK1       | PIN 1  | Neutral                 |
|           | PIN 2  | Line                    |
|           | PIN 3  | Ground                  |
| SK2       | PIN 1  | +12 / 15 V              |
|           | PIN 2  | Common                  |
|           | PIN 3  | Common                  |
|           | PIN 4  | -12 / 15 V              |
|           | PIN 5  | 3.3-25 V RET Float      |
|           | PIN 6  | 3.3-25 V Float          |
| SK3       | PIN 1  | +Sense V4               |
|           | PIN 2  | -Sense V4               |
|           | PIN 3  | +Sense V1               |
|           | PIN 4  | -Sense V1               |
|           | PIN 5  | Power OK                |
|           | PIN 6  | Current Share           |
|           | PIN 7  | DC Power Good           |
|           | PIN 8  | Inhibit (N.O.)          |
|           | PIN 9  | Inhibit (N.C.)          |
|           | PIN 10 | Common                  |
| SK4       | PIN 1  | +Fan 1 (12 V @ 150 mA)  |
|           | PIN 2  | -Common                 |
| SK5       | PIN 1  | +5 V aux (5 V @ 100 mA) |
|           | PIN 2  | -Common                 |
| SK6       | PIN 1  | +Fan 2 (12 V @ 150 mA)  |
|           | PIN 2  | -Common                 |

## GL Series Mating Connectors

## 1B\*

|   |  |
|---|--|
| Connector Kit #70-841-006 includes the following: |  |
| <b>AC Input:</b>                                  | Molex 09-50-8031 (USA)<br>Not required for (-T) option<br>09-91-0300 (UK)<br>PINS: 08-52-0113<br>(-0111 for medical) |
| <b>DC Outputs:</b>                                | Molex 09-50-8061 (USA)<br>Not required for (-T) option<br>09-91-0600 (UK)<br>PINS: 08-52-0113<br>(-0111 for medical) |
| <b>Remote Sense:</b>                              | Molex 22-01-2025<br>PINS: 08-52-0123<br>(-0114 for medical)  |

## 2B\*

|   |   |
|---|---|
| Connector Kit #70-841-006 includes the following: |   |
| <b>AC Input:</b>                                  | Molex 09-50-8031 (USA)<br>09-91-0300 (UK)<br>PINS: 08-52-0113 |
| <b>DC Outputs:</b>                                | Molex 09-50-8061 (USA)<br>09-91-0600 (UK)<br>PINS: 08-52-0113 |

## 3B\*

|   |  |
|---|--|
| Connector Kit #70-841-006 includes the following: |  |
| <b>AC Input:</b>                                  | Molex 09-50-8031 (USA)<br>Not required for (-T) option<br>09-91-0300 (UK)<br>PINS: 08-58-0111<br>(-0113 for medical) |
| <b>DC Outputs:</b>                                | Molex 09-50-8061 (USA)<br>Not required for (-T) option<br>09-91-0600 (UK)<br>PINS: 08-58-0113                        |
| <b>Remote Sense:</b>                              | Molex 22-01-2025<br>PINS: 08-52-0113   |

## 4B\*

|   |   |
|---|---|
| Connector Kit #70-841-006 includes the following: |   |
| <b>AC Input:</b>                                  | Molex 09-50-8031 (USA)<br>09-91-0300 (UK)<br>PINS: 08-58-0111 |
| <b>DC Outputs:</b>                                | Molex 09-50-8061 (USA)<br>09-91-0600 (UK)<br>PINS: 08-52-0113 |
| <b>Remote Sense:</b>                              | Molex 22-01-2025<br>PINS: 08-52-0113                          |

## 5B

|   |   |
|---|---|
| Connector Kit #70-841-007 includes the following: |   |
| <b>AC Input:</b>                                  | Molex 09-50-8051 (USA)<br>09-91-0500 (UK)<br>PINS: 08-58-0111 |
| <b>DC Outputs:</b>                                | Molex 09-50-8091 (USA)<br>09-91-0900 (UK)<br>PINS: 08-58-0111 |
| <b>Remote Sense/<br/>Power Fail:</b>              | Molex 22-01-1022 (USA)<br>22-01-1023 (UK)<br>PINS: 08-50-0114 |

## 6B

|   |   |
|---|---|
| Connector Kit #70-841-008 includes the following: |   |
| <b>AC Input:</b>                                  | Molex 09-50-8051 (USA)<br>09-91-0500 (UK)<br>PINS: 08-58-0111 |
| <b>DC Outputs:</b>                                | Molex 09-50-8121 (USA)<br>09-91-1200 (UK)<br>PINS: 08-58-0111 |
| <b>Remote Sense/<br/>Power Fail:</b>              | Molex 22-01-1022 (USA)<br>22-01-1023 (UK)<br>PINS: 08-50-0114 |

## 7B

|   |  |
|---|--|
| Connector Kit #70-841-012 includes the following: |  |
| <b>(SK1)<br/>AC Input:</b>                        | Molex 09-50-8051 (USA)<br>09-91-0500 (UK)<br>PINS: 08-58-0111            |
| <b>SK2,3,4:</b>                                   | Molex series 19141-0058/0063   |
| <b>(SK5)<br/>±12V:</b>                            | Molex: 09-50-8031 (USA)<br>Molex: 09-91-0300 (UK)<br>PINS: 08-58-0111    |
| <b>(SK6)<br/>Control Signals:</b>                 | Molex: 90142-0010;<br>PINS: 90119-2110 or<br>AMP: 87977-3; PINS: 87309-8 |

## 8B

|   |   |
|---|---|
| Connector Kit #70-841-020 includes the following: |   |
| <b>(SK1)<br/>AC Input:</b>                        | Molex 09-50-8031 (connector)<br>PINS: 08-52-0113                                |
| <b>(SK2)<br/>DC Outputs:</b>                      | Molex series 19141-<br>0058/0063 Spade lug                                      |
| <b>(SK3)<br/>Control Signals:</b>                 | Molex: 90142-0010 (USA)<br>PINS: 90119-2110 or<br>AMP: 87977-3<br>PINS: 87309-8 |

## 9B

|   |   |
|---|---|
| Connector Kit #70-841-017 includes the following: |   |
| <b>(SK1)<br/>AC Input:</b>                        | Molex 09-50-8051 (USA)<br>09-91-0500 (UK)<br>PINS: 08-58-0111                   |
| <b>(SK2) Aux<br/>DC Outputs:</b>                  | Molex: 09-50-8061 (USA)<br>Molex: 09-91-0600 (UK)<br>PINS: 08-58-0111           |
| <b>(SK6)<br/>Control Signals:</b>                 | Molex: 90142-0010 (USA)<br>PINS: 90119-2110 or<br>AMP: 87977-3<br>PINS: 87309-8 |
| <b>(SK4)<br/>Main Output:</b>                     | Molex: BB-124-08  |

\* Same Mating Connectors are attributed to both standard and medical models.



GL Series Mating Connectors (continued)

10B

|   |   |
|---|---|
| Connector Kit #70-841-009 includes the following: |   |
| <b>(SK4) AC Input:</b>                            | Molex: 09-50-8051 (USA)<br>Molex:09-91-0500 (UK)<br>PINS: 08-58-0111  |
| <b>(SK2) Power Fail:</b>                          | Molex: 09-50-8031 (USA)<br>Molex: 09-91-0300 (UK)<br>PINS: 08-58-0111 |
| <b>(SK1) Remote Sense/<br/>Remote Inhibit:</b>    | Molex 51110-0851 (USA)<br>PINS: 50394-8100                            |

11B

|   |   |
|---|---|
| Connector Kit #70-841-010 includes the following: |   |
| <b>(SK4) AC Input:</b>                            | Molex: 09-50-8051 (USA)<br>Molex:09-91-0500 (UK)<br>PINS: 08-58-0111  |
| <b>(SK2) Aux DC Outputs/<br/>Power Fail:</b>      | Molex: 09-50-8091 (USA)<br>Molex: 09-91-0900 (UK)<br>PINS: 08-58-0111 |
| <b>(SK1) Remote Sense/<br/>Remote Inhibit:</b>    | Molex 51110-0851 (USA)<br>PINS: 503-94-8100                           |

12B\*

|   |   |
|---|---|
| Connector Kit #70-841-016 includes the following: |   |
| <b>(SK4) AC Input:</b>                            | Molex: 09-50-8051 (USA)<br>Molex:09-91-0500 (UK)<br>PINS: 08-58-0111        |
| <b>(SK3) DC Outputs:</b>                          | Molex: 19141-0058   |
| <b>(SK1) Remote Sense/<br/>Remote Inhibit:</b>    | Molex 90142-0010 (USA)<br>PINS: 90119-2110<br>Amp: 87977-3<br>PINS: 87309-8 |

13B

|   |   |
|---|---|
| Connector Kit #70-841-015 includes the following: |   |
| <b>(SK4) AC Input:</b>                            | Molex 09-50-8051 (USA)<br>Molex:09-91-0500 (UK)<br>PINS: 08-58-0111             |
| <b>(SK3) Main Output:</b>                         | Molex series 19141-0058/0063  |
| <b>(SK2) Aux DC Outputs/<br/>Power Fail:</b>      | Molex 09-50-8091 (USA)<br>Molex:09-91-0900 (UK)<br>PINS: 08-58-0111             |
| <b>(SK1) Control Signals:</b>                     | Molex: 90142-0010 (USA)<br>PINS: 90119-2110 or<br>AMP: 87977-3<br>PINS: 87309-8 |

14B

|   |                                    |
|---|------------------------------------|
| Connector Kit #70-841-005 includes the following: |                                    |
| <b>SK3</b>  | Molex 22-01-1084; PINS: 08-70-0057 |
| <b>SK4</b>  | Molex 22-01-3027; PINS: 08-50-0114 |
| <b>SK5</b>  | Molex 22-01-3027; PINS:08-50-0114  |
| <b>SK7</b>  | Molex: 22-01-3027 PINS: 08-50-0114 |

15B

|   |                                     |
|---|-------------------------------------|
| Connector Kit #70-841-011 includes the following: |                                     |
| <b>SK3</b>  | Molex 22-01-1104; PINS: 08-70-0057  |
| <b>SK4</b>  | Molex 22-01-3027; PINS: 08-50-0114  |
| <b>SK5</b>  | Molex 22-01-3027; PINS:08-50-0114   |
| <b>SK6</b>  | Molex: 22-01-3027; PINS: 08-50-0114 |

16B

|   |                                     |
|---|-------------------------------------|
| Connector Kit #70-841-011 includes the following: |                                     |
| <b>SK3</b>  | Molex 22-01-1084; PINS: 08-70-0057  |
| <b>SK4</b>  | Molex 22-01-3027; PINS: 08-50-0114  |
| <b>SK5</b>  | Molex 22-01-3027; PINS:08-50-0114   |
| <b>SK6</b>  | Molex: 22-01-3027; PINS: 08-50-0114 |

17B

|   |   |
|---|---|
| Connector Kit #70-841-024 includes the following: |   |
| <b>SK4,5,6</b>                                    | Molex 19141-0058  |
| <b>SK7 Control Signals</b>                        | Molex 90142-0010;<br>PINS: 90119-2110 or<br>AMP: 87977-3; PINS: 87309-8                       |
| <b>SK8</b>  | Molex 22-01-2025; PINS:08-52-0123   |
| <b>CN403</b>                                      | JST PHDR-10VS<br>PINS: JST 5PHD-002T-PO.5-L/P<br>or<br>Landwin 2050 S1000;<br>PINS: 2053T011P |

\* Same Mating Connectors are attributed to both standard and medical models.

## GL Compact Series: Single Output Switchers



The GL Compact Series combines both medical and non-medical approvals into one unit. These models offer very high reliability, high efficiency, active Power Factor Correction, compact size and very low ground leakage current.

Each model of GL100-M and GL200-M series complies with the medical and ITE safety standards, enabling it to be used for both medical or non-medical standard applications.

### Features:

- Medical Approvals
- Smaller Size
- Dual Rating
- High demonstrated MTBF
- Automatic overvoltage protection
- Overload protection
- Extensive safety approvals
- Two year limited warranty



### Specifications

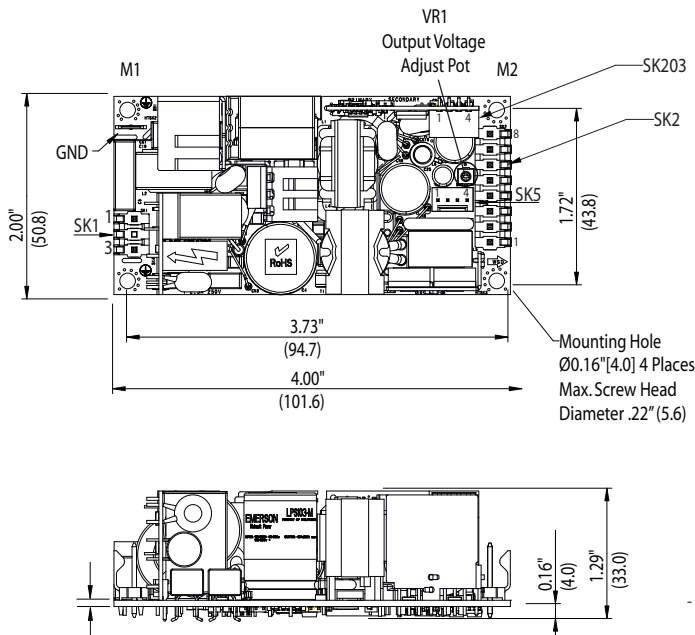
|  | GL100-M Series   | GL200-M Series                    |
|--|--|-----------------------------------|
| <b>Input</b>                           |  |                                   |
| <b>Input Voltage</b>                   | 90 - 264 Vac; 120 - 300 Vdc  |                                   |
| <b>Frequency</b>                       | 47-63 Hz   |                                   |
| <b>Inrush Current</b>                  | 50 A max., cold start @ 25°C   |                                   |
| <b>Efficiency</b>                      | 88% typical at full load   |                                   |
| <b>EMI/RFI</b>                         | FCC Class B conducted; CISPR 22 Class B conducted; EN55022 Class B conducted; VDE0878PT3 Class B conducted                                 |                                   |
| <b>Power Factor</b>                    | 0.99 typical   |                                   |
| <b>Safety Ground Leakage Current</b>   | 275 uA @ 50/60 Hz, 264 Vac input   |                                   |
| <b>Output</b>                          |  |                                   |
| <b>Power</b>                           | 100 W convection (80 W for GLS102-M)   | 125 W for convection; 200W        |
| <b>Adjustment Range on Main Output</b> | ±10% minimum on the main outputs   |                                   |
| <b>Fan Output</b>                      | 12 V @ 1 A isolated, ±5%   |                                   |
| <b>Hold-up Time</b>                    | 10 ms @ 150 W load, 120 Vac input  | 16 ms @ 250 W load, 120 Vac input |
| <b>Overload</b>                        | Short circuit protection on all outputs. Case overload protected @ 110-160% above rating   |                                   |
| <b>Overvoltage Protection</b>          | 15-35% above nominal output  |                                   |
| <b>Logical Control</b>                 |  |                                   |
| <b>Power Failure</b>                   | Open collector logic signal goes high 100-500 msec after main output; it goes low at least 6 msec before loss of regulation                |                                   |
| <b>Remote Sense</b>                    | Compensates for 0.5 V lead drop minimum; Will operate without remote sense connected, Reverse connection                                   |                                   |
| <b>General</b>                         |  |                                   |
| <b>Temperature</b>                     | <b>Storage:</b> -40°C to +85°C; <b>Operating:</b> 0° to 50°C ambient. Derate each output 2.5% per degree from 50° to 70°C, -20°C start up. |                                   |
| <b>Electromagnetic Susceptibility</b>  | Designed to meet EN61000-4; -2, -3, -4, -5, -6, -8, -11 Level 3  |                                   |
| <b>Humidity</b>                        | Operating; non-condensing 10% to 95% RH  |                                   |
| <b>Vibration</b>                       | IEC68-2-6 to the levels of IEC721-3-2  |                                   |
| <b>MTBF</b>                            | >550,000 hours demonstrated at full load, and 25°C ambient conditions  |                                   |
| <b>Safety</b>                          | IEC/EN/UL 60950-1, IEC/EN/UL 60601-1   |                                   |

Selection Table

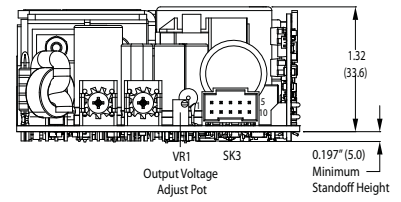
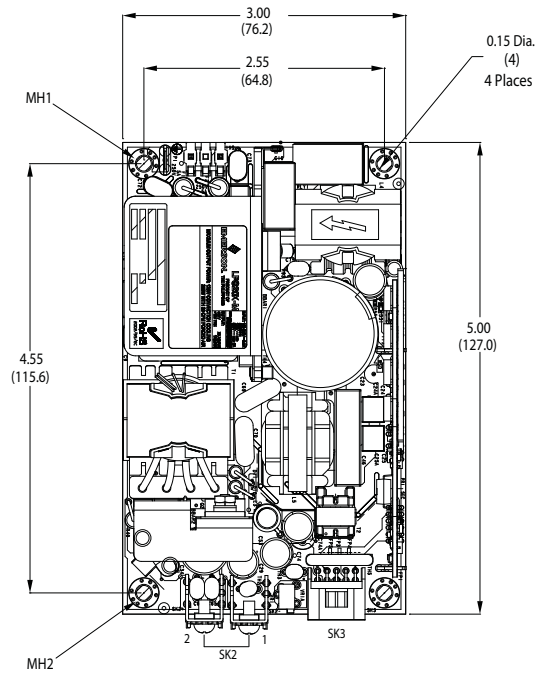
| Medical and Non-Medical Series |                |                   |                        |          |          |          |       |                  |                    |
|--------------------------------|----------------|-------------------|------------------------|----------|----------|----------|-------|------------------|--------------------|
|                                | Catalog Number | Description       | Output 1               | Output 2 | Output 3 | Output 4 | Case* | Pin Assignments* | Mating Connectors* |
| GL100-M                        | GLS102-M       | 5 V 150W 2" X 4"  | 5 V @ 16 A [24 A]      | -        | -        | -        | 1     | 1A               | 1B                 |
|                                | GLS103-M       | 12 V 150W 2" X 4" | 12 V @ 8.3 A [12.5 A]  | -        | -        | -        |       |                  |                    |
|                                | GLS104-M       | 15 V 150W 2" X 4" | 15 V @ 6.7 A [10 A]    | -        | -        | -        |       |                  |                    |
|                                | GLS105-M       | 24 V 150W 2" X 4" | 24 V @ 4.2 A [6.3 A]   | -        | -        | -        |       |                  |                    |
|                                | GLS108-M       | 48 V 150W 2" X 4" | 48 V @ 2.1 A [3.1 A]   | -        | -        | -        |       |                  |                    |
| GL200-M                        | GLS202-M       | 5 V 250W 3" X 5"  | 5 V @ 20 A [40 A]      | -        | -        | -        | 2     | 2A               | 2B                 |
|                                | GLS202-M       | 12 V 250W 3" X 5" | 12 V @ 10.3 A [20.8 A] | -        | -        | -        |       |                  |                    |
|                                | GLS202-M       | 15 V 250W 3" X 5" | 15 V @ 8.3 A [16.6 A]  | -        | -        | -        |       |                  |                    |
|                                | GLS202-M       | 24 V 250W 3" X 5" | 24 V @ 5.2 A [10.4 A]  | -        | -        | -        |       |                  |                    |
|                                | GLS202-M       | 48 V 250W 3" X 5" | 48 V @ 2.6 A [5.2 A]   | -        | -        | -        |       |                  |                    |

\* Refer to GL Series Dimensions and the sections that follow

GL Compact Series Dimensions



Case 1  
(Weight: 0.44 lb/0.20 kg approx.)



Case 2  
(Weight: 0.75 lb/0.34 kg approx.)

Notes:

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is ±0.02".
3. Mounting holes MH1, MH2, MH3 should be grounded for EMI purposes.
4. Mounting MH1 is safety ground connection.
5. Specifications are for convection rating at factory settings at 115 Vac input 25°C unless otherwise stated.
6. This power supply requires mounting on metal standoffs 0.20" (5 m) in height.

Visit our website at [www.solahd.com](http://www.solahd.com) or contact Technical Services at (800) 377-4384 with any questions.

## GL Compact Series Pin Assignments

## 1A

| Connector |       | GLS100-M      |
|-----------|-------|---------------|
| SK1       | PIN 1 | Neutral       |
|           | PIN 3 | Line          |
| SK2       | PIN 1 | Ground        |
|           | PIN 2 | Ground        |
|           | PIN 3 | Ground        |
|           | PIN 4 | Ground        |
|           | PIN 5 | +V out        |
|           | PIN 6 | +V out        |
|           | PIN 7 | +V out        |
|           | PIN 8 | +V out        |
| SK 203    | PIN 1 | Ground        |
|           | PIN 2 | Power Fail    |
|           | PIN 3 | -Remote Sense |
|           | PIN 4 | +Remote Sense |
| SK5       | PIN 1 | +12 V Fan     |
|           | PIN 2 | +12 V Fan     |
|           | PIN 3 | Fan Ground    |
|           | PIN 4 | Fan Ground    |

## 2A

| Connector |        | GLS200-M         |
|-----------|--------|------------------|
| SK1       | PIN 1  | Neutral          |
|           | PIN 3  | Line             |
| SK2       | TB-1   | Common           |
|           | TB-2   | Main Output      |
| SK3       | PIN 1  | +V1 Remote Sense |
|           | PIN 2  | -V1 Remote Sense |
|           | PIN 3  | No Connection    |
|           | PIN 4  | No Connection    |
|           | PIN 5  | +Power Fail      |
|           | PIN 6  | Common           |
| SK 203    | PIN 7  | No Connection    |
|           | PIN 8  | Common           |
|           | PIN 9  | +12 V Fan        |
|           | PIN 10 | +12 V Fan Ground |

## GL Compact Series Mating Connectors

## 1B

|   |  |
|---|--|
| Connector Kit #70-841-025 includes the following: |  |
| <b>(SK1)<br/>AC Input:</b>                        | Molex P/N 09-50-3031 or Landwin P/N: 3060S0302 |
| <b>(SK2)<br/>DC Outputs:</b>                      | Molex P/N 09-50-3081 or Landwin P/N: 3060S0802 |
| <b>(SK203)<br/>Remote Sense:</b>                  | Molex P/N 35155-0400 or Landwin P/N: 2640S04A0 |
| <b>(SK5) Fan:</b>                                 | Molex P/N 22-10-2047 or Landwin P/N: 2510S0400 |

## 2B

|   |  |
|---|--|
| Connector Kit #70-841-018 includes the following: |  |
| <b>(SK1)<br/>AC Input:</b>                        | Molex 09-50-8031 (connector)<br>PINS: 08-52-0113                               |
| <b>(SK2)<br/>DC Outputs:</b>                      | Molex 19141-0058/0063<br>Spade lug   |
| <b>(SK3)<br/>Control Signals:</b>                 | Molex: 90142-0010 (USA)<br>PINS: 90119-2110 or<br>Amp: 87977-3 / PINS: 87309-8 |

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Switching Power Supplies](#) category:*

*Click to view products by [Sola](#) manufacturer:*

Other Similar products are found below :

[70841011](#) [73-551-0005](#) [73-551-0048](#) [PS3E-B12F](#) [PS3E-E12F](#) [AAD600S-4-OP](#) [R22095](#) [KD0204](#) [9021](#) [LDIN100150](#) [LPM000-BBAR-01](#)  
[LPX17S-C](#) [EVS57-10R6/R](#) [FP80](#) [FRV7000G](#) [22929](#) [PS3E-F12F](#) [CQM1IA121](#) [40370121900](#) [VI-PU22-EXX](#) [40370121910](#) [LDIN5075](#)  
[LPM615-CHAS](#) [LPX140-C](#) [09-160CFG](#) [70841025](#) [VPX3000-CBL-DC](#) [VI-LUL-IU](#) [LPM000-BBAR-05](#) [LPM000-BBAR-08](#) [LPM124-](#)  
[OUTA1-48](#) [LPM000-BBAR-07](#) [LPM109-OUTA1-10](#) [LPM616-CHAS](#) [08-30466-1055G](#) [08-30466-2175G](#) [08-30466-2125G](#) [DMB-EWG](#)  
[TVQF-1219-18S](#) [6504-226-2101](#) [CQM1IPS01](#) [SP-300-5](#) [CQM1-IPS02](#) [VI-MUL-ES](#) [22829](#) [08-30466-0065G](#) [VI-RU031-EWWX](#) [08-30466-](#)  
[0028G](#) [EP3000AC48INZ](#) [VP-C2104853](#)