### Features
- Universal AC input / Full range
- 2 pole AC inlet IEC320-C8
- Built-in active PFC function, PF>0.91
- High efficiency up to 91%
- Low leakage current <100μA
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Fully enclosed plastic case
- Medical safety approved (2xMOPP between primary to secondary)
- Class II power (without earth pin)
- LED indicator for power on
- No load power consumption<0.15W
- ErP step2 compliant (level V)
- Meet EISA 2007 (Energy Independence and Security Act)
- 100% full load burn-in test
- Optional lock type DC plug
- Suitable for BF application with appropriate system consideration
- 3 years warranty

### Description
GSM90B is a highly reliable, 90W single-output green medical adaptor series. This product is equipped with a 2-pin (no FG) standard IEC320-C8 power plug, adopting the input range from 80VAC to 264VAC. The entire series supplies different output voltages between 12VDC and 48VDC that can satisfy the demands for various kinds of medical electrical devices. The circuitry design meets the international medical standards (2*MOPP), having an ultra low leakage current (<100μA), fitting the medical devices in direct electrical contact with the patients.

With the efficiency up to 91% and the extremely low no-load power consumption below 0.15W, the design of GSM90B observes the latest energy regulation (Level V); the supreme feature allows the adaptor to save the energy when it is either under the operating mode or the standby mode. The entire series utilizes the 94V-0 flame retardant plastic case, providing the double insulation that effectively prevents electrical shock. GSM90B is approved with the international medical safety certificates.

### Model Encoding
GSM90B [T2-P1M]

- DC plug type
- Output voltage
- IEC320-C8 AC inlet
- Output wattage
- Series name

File Name: GSM90B-SPEC 2015-02-03
**SPECIFICATION**

**ORDER NO.**

<table>
<thead>
<tr>
<th>SAFETY MODEL NO.</th>
<th>GSM90B12-P1M</th>
<th>GSM90B15-P1M</th>
<th>GSM90B19-P1M</th>
<th>GSM90B24-P1M</th>
<th>GSM90B48-P1M</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DC VOLTAGE</strong></td>
<td>12V</td>
<td>15V</td>
<td>19V</td>
<td>24V</td>
<td>48V</td>
</tr>
<tr>
<td><strong>RATED CURRENT</strong></td>
<td>6.7A</td>
<td>6A</td>
<td>4.74A</td>
<td>3.75A</td>
<td>1.87A</td>
</tr>
<tr>
<td><strong>CURRENT RANGE</strong></td>
<td>0 – 6.7A</td>
<td>0 – 6A</td>
<td>0 – 4.74A</td>
<td>0 – 3.75A</td>
<td>0 – 1.87A</td>
</tr>
<tr>
<td><strong>RATED POWER (max.)</strong></td>
<td>80W</td>
<td>90W</td>
<td>90W</td>
<td>90W</td>
<td>90W</td>
</tr>
<tr>
<td><strong>RIPPLE &amp; NOISE (max.)</strong></td>
<td>120mVp-p</td>
<td>150mVp-p</td>
<td>180mVp-p</td>
<td>200mVp-p</td>
<td>240mVp-p</td>
</tr>
<tr>
<td><strong>VOLTAGE TOLERANCE</strong></td>
<td>±5.0%</td>
<td>±5.0%</td>
<td>±4.0%</td>
<td>±3.0%</td>
<td>±2.5%</td>
</tr>
<tr>
<td><strong>LINE REGULATION</strong></td>
<td>±1.0%</td>
<td>±1.0%</td>
<td>±1.0%</td>
<td>±1.0%</td>
<td>±1.0%</td>
</tr>
<tr>
<td><strong>LOAD REGULATION</strong></td>
<td>±5.0%</td>
<td>±4.0%</td>
<td>±3.0%</td>
<td>±3.0%</td>
<td>±2.5%</td>
</tr>
</tbody>
</table>

**ENVIRONMENT**

- **WORKING TEMP.**
  - -30 ~ +60°C (Refer to "Derating Curve")
- **WORKING HUMIDITY**
  - 20% ~ 90% RH non-condensing
- **STORAGE TEMP. HUMIDITY**
  - -40 ~ +85°C, 10 ~ 95% RH
- **TEMP COEFFICIENT**
  - ±0.03% / °C (0 ~ 40°C)
- **VIBRATION**
  - 10 ~ 500Hz, 2G 10min./cycle, period for 60min. each along X, Y, Z axes

**SAFETY & EMC (Note. 7)**

- **ANSI/AAMI ES60601-1 / ES60601-1-11, TUV EN60601-1 / EN60601-1-11 approved**
- **EMC IMMUNITY**
  - Compliance to EN55011(CISPR11) class B, EN61000-3-2,3, FCC PART 15 class B
- **EMC EMISSION**
  - Compliance to EN60600-4-2,3, 4,5, 6, 8, 11, EN55022, EN60601-1-2, EN61204-3 medical level, criteria A
- **OVER TEMPERATURE**
  - Shut down o/p voltage, re-power on to recover

**OVERLOAD**

- Protection type : Hiccup mode, recovers automatically after fault condition is removed
- 110 ~ 150% rated output power
- 105 ~ 135% rated output voltage

**OVER VOLTAGE**

- Protection type : Shut down o/p voltage, re-power on to recover
- Protection type : Shut down o/p voltage, re-power on to recover

**NOTE**

1. All parameters are specified at 230VAC input, rated load, 25°C, 70% RH ambient.
2. DC voltage: The output voltage set at point measure by plug terminal & 50% load.
3. Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1uf & 47uf capacitor.
4. Tolerance: includes set up tolerance, line regulation, load regulation.
5. Line regulation is measured from low line to high line at rated load.
6. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time.
7. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com)
Derating Curve

![Derating Curve Graph]

Static Characteristics

![Static Characteristics Graph]

Mechanical Specification

![Mechanical Specification Diagram]

Plug Assignment

Standard plug: P1M

<table>
<thead>
<tr>
<th>P/N</th>
<th>OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CENTER</td>
<td>+</td>
</tr>
</tbody>
</table>

Optional lock type plug: P2S

SWITCHCRAFT S761K plug equivalent

Installation Manual

Please refer to: http://www.meanwell.com/webnet/search/InstallationSearch.html

Case No. GS90A  Unit:mm

UL1185 14AWG 1000±50mm for 12 – 15V
UL1185 16AWG 1200±50mm for 19 – 48V
Mean Well:

GSM90B19-P1M  GSM90B15-P1M  GSM90B12-P1M  GSM90B48-P1M  GSM90B24-P1M