



## Features

- Universal AC input / Full range
- 3 pole AC inlet IEC320-C14
- Medical safety approved (2 x MOPP between primary to secondary)
- Optional models suitable for BF application with appropriate system consideration
- Low leakage current <100uA
- No load power consumption<0.15W
- Energy efficiency level VI
- Comply with EISA 2007/DoE,NRCAn, AU/NZ MEPS, EU ErP and meet CoC Version 5
- Built-in active PFC function
- High efficiency up to 91.5%
- Fanless design with -30~+70°C working temperature
- Class I power (with earth pin)
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Fully enclosed plastic case
- LED indicator for power on
- 100% full load burn-in test
- 3 years warranty

## Applications

- Mobile clinical workstation
- Oral irrigator
- Portable hemodialysis machine
- Breath Machine
- Medical computer monitor

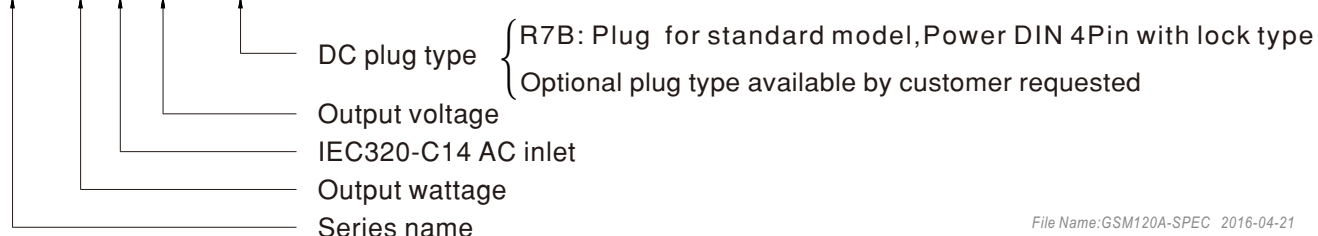
## Description

GSM120A is a highly reliable, 120W desktop style single-output green medical adaptor series. This product is equipped with a 3-pin (with FG) standard IEC320-C14 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 (<100uA), fitting the medical devices in direct electrical contact with the patients.

With the efficiency up to 91.5% and the extremely low no-load power consumption below 0.15W, GSM120A is compliant with USA EISA 2007/DoE, Canada NRCAn, Australia and New Zealand MEPS, EU ErP, and meet Code of Conduct (CoC) Version 5. 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. GSM120A is approved with the international medical safety certificates.

## Model Encoding

**GSM120A 12 - R7B**

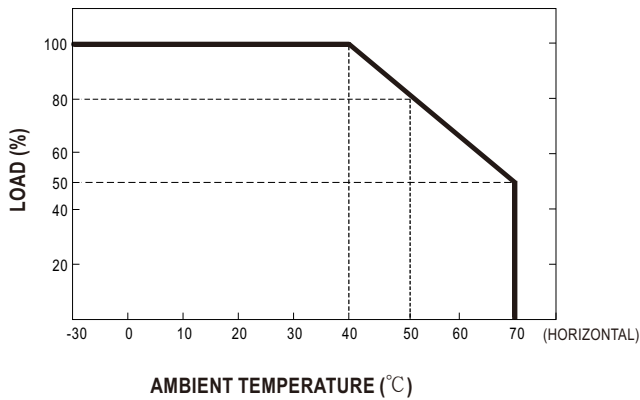




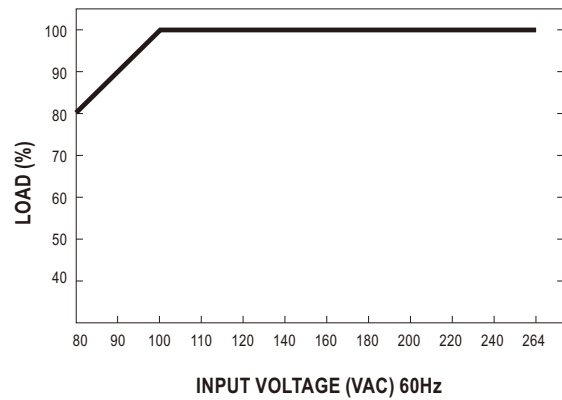
## SPECIFICATION

| ORDER NO.              |                              | GSM120A12-R7B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | GSM120A15-R7B | GSM120A20-R7B | GSM120A24-R7B | GSM120A48-R7B |
|------------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------|
| OUTPUT                 | SAFETY MODEL NO.             | GSM120A12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | GSM120A15     | GSM120A20     | GSM120A24     | GSM120A48     |
|                        | DC VOLTAGE Note.2            | 12V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 15V           | 20V           | 24V           | 48V           |
|                        | RATED CURRENT                | 8.5A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 7A            | 6A            | 5A            | 2.5A          |
|                        | CURRENT RANGE                | 0 ~ 8.5A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 0 ~ 7A        | 0 ~ 6A        | 0 ~ 5A        | 0 ~ 2.5A      |
|                        | RATED POWER (max.)           | 102W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 105W          | 120W          | 120W          | 120W          |
|                        | RIPPLE & NOISE (max.) Note.3 | 120mVp-p                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 150mVp-p      | 180mVp-p      | 200mVp-p      | 240mVp-p      |
|                        | VOLTAGE TOLERANCE Note.4     | ± 5.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ± 5.0%        | ± 5.0%        | ± 3.0%        | ± 2.5%        |
|                        | LINE REGULATION Note.5       | ± 1.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ± 1.0%        | ± 1.0%        | ± 1.0%        | ± 1.0%        |
|                        | LOAD REGULATION              | ± 5.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ± 5.0%        | ± 4.0%        | ± 3.0%        | ± 2.5%        |
|                        | SETUP, RISE TIME Note.6      | 1500ms, 30ms / 230VAC      2000ms, 30ms / 115VAC at full load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               |               |               |               |
| INPUT                  | HOLD UP TIME (Typ.)          | 20ms / 230VAC      20ms / 115VAC at full load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               |               |               |               |
|                        | VOLTAGE RANGE Note.7         | 80 ~ 264VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |               |               |               |               |
|                        | FREQUENCY RANGE              | 47 ~ 63Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |               |               |               |
|                        | POWER FACTOR (Typ.)          | PF>0.93 / 230VAC      PF>0.97 / 115VAC at full load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               |               |               |               |
|                        | EFFICIENCY (Typ.)            | 88%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 89%           | 89%           | 90%           | 91.5%         |
|                        | AC CURRENT (Typ.)            | 1.4A / 115VAC      0.7A / 230VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |               |               |               |               |
|                        | INRUSH CURRENT (Typ.)        | 35A / 115VAC      70A / 230VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |               |               |               |               |
| PROTECTION             | LEAKAGE CURRENT(max.)        | Earth leakage current < 100μA/264VAC , Touch current <100μA/264VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |               |               |               |               |
|                        | OVERLOAD                     | 105 ~ 160% rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |               |               |               |               |
|                        | OVER VOLTAGE                 | 105 ~ 135% rated output voltage<br>Protection type : Shut down o/p voltage, re-power on to recover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |               |               |               |               |
|                        | OVER TEMPERATURE             | Shut down o/p voltage, re-power on to recover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               |               |               |               |
| ENVIRONMENT            | WORKING TEMP.                | -30 ~ +70°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./1cycle, period for 60min. each along X, Y, Z axes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |               |               |               |               |
| SAFETY & EMC (Note. 9) | SAFETY STANDARDS             | ANSI/AAMI ES60601-1, TUV EN60601-1 approved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |               |               |               |               |
|                        | ISOLATION LEVEL              | Primary-Secondary: 2xMOPP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |               |               |               |
|                        | WITHSTAND VOLTAGE Note. 8    | I/P-O/P:4KVAC    I/P-FG:2KVAC    O/P-FG:0.5KVAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |               |               |               |               |
|                        | ISOLATION RESISTANCE         | I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |               |               |               |               |
|                        | EMC EMISSION                 | Compliance to EN55011 (CISPR11) Class B, EN61000-3-2,-3, FCC PART 15 class B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |               |               |               |               |
|                        | EMC IMMUNITY                 | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN60601-1-2, EN61204-3 medical level, criteria A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |               |               |               |               |
| OTHERS                 | MTBF                         | 372K hrs min. MIL-HDBK-217F(25°C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |               |               |               |               |
|                        | DIMENSION                    | 167*67*35mm (L*W*H)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               |               |               |               |
|                        | PACKING                      | 0.6Kg; 20pcs/13.0Kg/0.9CUFT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |               |               |               |               |
| CONNECTOR              | PLUG                         | See page 3 ; Other type available by customer requested                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |               |               |               |               |
|                        | CABLE                        | See page 3 ; Other type available by customer requested                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |               |               |               |               |
| NOTE                   |                              | <ol style="list-style-type: none"><li>1. All parameters are specified at 230VAC input, rated load, 25°C 70% RH ambient.</li><li>2. DC voltage: The output voltage set at point measure by plug terminal &amp; 50% load.</li><li>3. Ripple &amp; noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1uf &amp; 47uf capacitor.</li><li>4. Tolerance: includes set up tolerance, line regulation, load regulation.</li><li>5. Line regulation is measured from low line to high line at rated load.</li><li>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.</li><li>7. Derating may be needed under low input voltages. Please check the derating curve for more details.</li><li>8. Optional for 1.5KVAC with BF rated.</li><li>9. 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.</li></ol> |               |               |               |               |

### Derating Curve

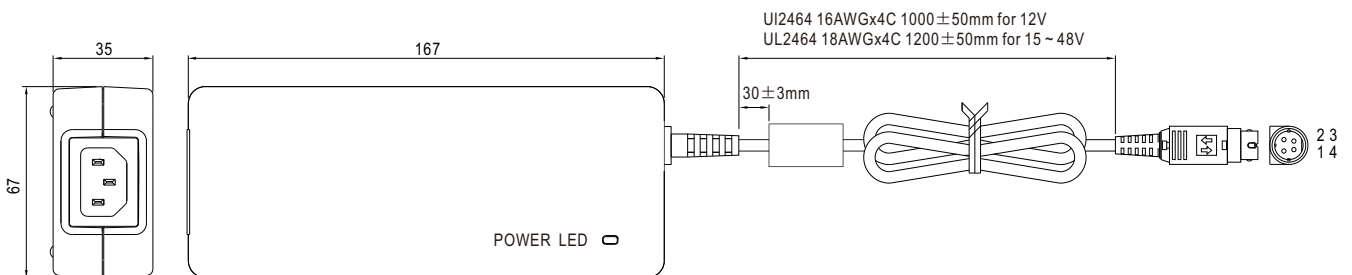


### Static Characteristics



### Mechanical Specification

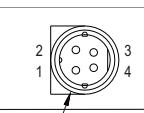
Case No. GS120A Unit:mm



### Plug Assignment

Output plug (Power DIN 4 pin with lock type) : KYCON KPPX-4P equivalent

Mating plug (customer side , not provide with power supply) : KYCON KPJX-CM-4S equivalent

| R7B                                                                                 |         |        |
|-------------------------------------------------------------------------------------|---------|--------|
|                                                                                     | PIN NO. | OUTPUT |
|  | 1,4     | +V     |
|                                                                                     | 2,3     | -V     |

AC FG  
Outer shell connected to AC FG  
-V not connected to AC FG

### Installation Manual

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