# 18W AC-DC High Reliability Interchangeable Medical Adaptor GEM18I series

## Features

- Interchangeable AC plugs (plug kit sold sperately)
- Medical safety approved (2 x MOPP between primary to secondary)
- Suitable for BF application with appropriate system consideration
- Low leakage current <100μA
- No load power consumption< 0.075W
- Energy efficiency Level VI
- Comply with EISA 2007/DoE and EU ErP
- Class II power (without earth pin)
- Protections: Short circuit / Overload / Over voltage
- Fully enclosed plastic case
- Optional lock type DC plug
- 100% full load burn-in test
- 3 years warranty

## Applications

- Blood glucose meter
- Blood pressure meter
- Nebulizer
- Inhaler
- Portable medical device
- Sleep apnea devices

## Description

GEM18I is a highly reliable, 18W wall-mounted style single-output green medical adaptor series, which is compact and convenient for carry. This product is equipped with an interchangeable AC plug (4 types, including European type, USA type, U.K. type and Australian type) that makes it very suitable for businessmen to use in the major countries around the globe. GEM18I is a class II power unit (without FG), accepting the input range from 80VAC to 264VAC that it can satisfy the demands for various types 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 working efficiency up to 87% and the extremely low no-load power consumption below 0.075W, GEM18I is compliant with the latest USA energy regulation EISA 2007/DoE(Level VI) and EU ErP. The supreme feature allows the adaptor to save the energy when it is under either the operating mode or the standby mode. The entire series is approved for international safety regulations; moreover, it adopts the 94V-0 flame retardant plastic case that it can effectively prevent users from electric hazard.

## Model Encoding

**GEM18 I 05 -P1J**

- DC plug type: P1J: Plug for standard model, 2.1ψ ×5.5ψ ×11mm, C+ tuning fork type; Optional plug type available per request
- Output voltage
- Interchangeable AC plug
- Output wattage
- Series name

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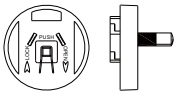
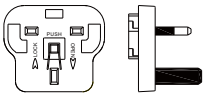
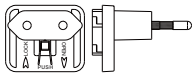
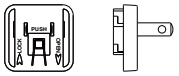
# 18W AC-DC High Reliability Interchangeable Medical Adaptor GEM18I series

## Interchangeable AC plug Specifically for GEM18I

| TYPE |  |  |  |  |  |
|---|---|---|---|---|---|
| | Australian type | U.K type | European type | US type | Mix four type |
| ORDER NO. | AC plug-AU2 | AC plug-UK2 | AC plug-EU2 | AC plug-US2 | AC plug-MIX2 |

## SPECIFICATION

| ORDER NO. | | GEM18I05-P1J | GEM18I09-P1J | GEM18I12-P1J | GEM18I15-P1J | GEM18I18-P1J | GEM18I24-P1J | GEM18I48-P1J |
|---|---|---|---|---|---|---|---|---|
| OUTPUT | SAFETY MODEL NO. | GEM18I05 | GEM18I09 | GEM18I12 | GEM18I15 | GEM18I18 | GEM18I24 | GEM18I48 |
| | DC VOLTAGE Note.2 | 5V | 9V | 12V | 15V | 18V | 24V | 48V |
| | RATED CURRENT | 3A | 2A | 1.5A | 1.2A | 1A | 0.75A | 0.38A |
| | CURRENT RANGE | 0 ~ 3A | 0 ~ 2A | 0 ~ 1.5A | 0 ~ 1.2A | 0 ~ 1A | 0 ~ 0.75A | 0 ~ 0.38A |
| | RATED POWER (max.) | 15W | 18W | 18W | 18W | 18W | 18W | 18W |
| | RIPPLE & NOISE (max.) Note.3 | 60mVp-p | 60mVp-p | 80mVp-p | 80mVp-p | 80mVp-p | 80mVp-p | 80mVp-p |
| | VOLTAGE TOLERANCE Note.4 | ±5.0% | ±5.0% | ±3.0% | ±3.0% | ±2.0% | ±2.0% | ±2.0% |
| | LINE REGULATION Note.5 | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% |
| | LOAD REGULATION Note.6 | ±5.0% | ±5.0% | ±3.0% | ±3.0% | ±2.0% | ±2.0% | ±2.0% |
| | SETUP, RISE, HOLD UP TIME | 500ms, 30ms, 16ms/230VAC 500ms, 30ms, 16ms/115VAC at full load | | | | | | |
| INPUT | VOLTAGE RANGE Note.7 | 80 ~ 264VAC 113 ~ 370VDC | | | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | | |
| | EFFICIENCY (Typ.) | 80% | 84% | 84% | 84% | 84% | 85% | 87% |
| | AC CURRENT | 0.45A / 115VAC 0.25A / 230VAC | | | | | | |
| | INRUSH CURRENT (max.) | 30A / 115VAC 60A / 230VAC | | | | | | |
| | LEAKAGE CURRENT(max.) | Touch current < 100μA/264VAC | | | | | | |
| PROTECTION | OVERLOAD | 105 ~ 160% rated output power | | | | | | |
| | | Protection type : Hiccup mode, recovers automatically after fault condition is removed | | | | | | |
| | OVER VOLTAGE | 110 ~ 140% rated output voltage | | | | | | |
| | | Protection type : Clamp by zener diode, output short | | | | | | |
| ENVIRONMENT | WORKING TEMP. | -20 ~ +50℃ (Refer to "Derating Curve") | | | | | | |
| | WORKING HUMIDITY | 20% ~ 90% RH non-condensing | | | | | | |
| | STORAGE TEMP., HUMIDITY | -20 ~ +85℃, 10 ~ 95% RH | | | | | | |
| | TEMP. COEFFICIENT | ±0.03% / ℃ (0 ~ 40℃) | | | | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes | | | | | | |
| SAFETY & EMC (Note. 8) | SAFETY STANDARDS | ANSI/AAMI ES60601-1 / 60601-1-11, TUV EN60601-1 / 60601-1-11 approved | | | | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:5656VDC | | | | | | |
| | ISOLATION RESISTANCE | I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH | | | | | | |
| | EMC EMISSION | Compliance to EN55011 class B, EN61000-3-2,3, FCC PART 15 / CISPR22 class B | | | | | | |
| | EMC IMMUNITY | Compliance to EN61000-4,-2,3,4,5,6,8,11, light industry level, criteria A | | | | | | |
| OTHERS | LIFE | 3 years : 100% load 40℃, 12hours / day | | | | | | |
| | MTBF | 400Khrs min. MIL-HDBK-217F(25℃) | | | | | | |
| | DIMENSION | 75.5*39.1*56.2mm (L*W*H) | | | | | | |
| | PACKING | 140g ; 60pcs / 14kg / CARTON | | | | | | |
| CONNECTOR | PLUG | See page 3 ; Other type available by customer requested | | | | | | |
| | CABLE | See page 3 ; Other type available by customer requested | | | | | | |

**NOTE**

1.All parameters are specified at 230VAC input, rated load, 25℃ 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.Load regulation is measured from 10% to 100% rated load.
7.Derating may be needed under low input voltage. Please check the derating curve for more details.
8.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)



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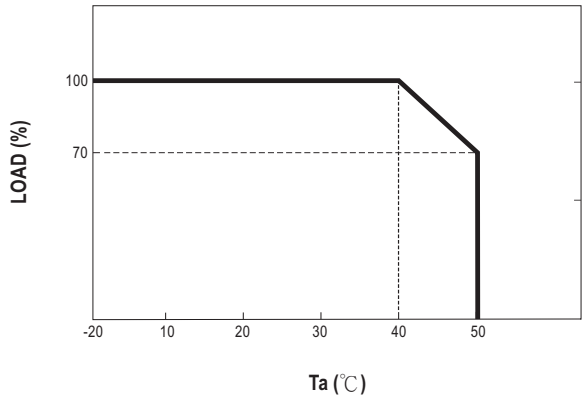
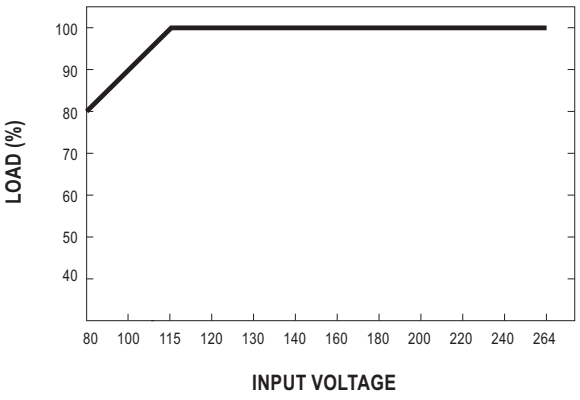
## ■ Derating Curve



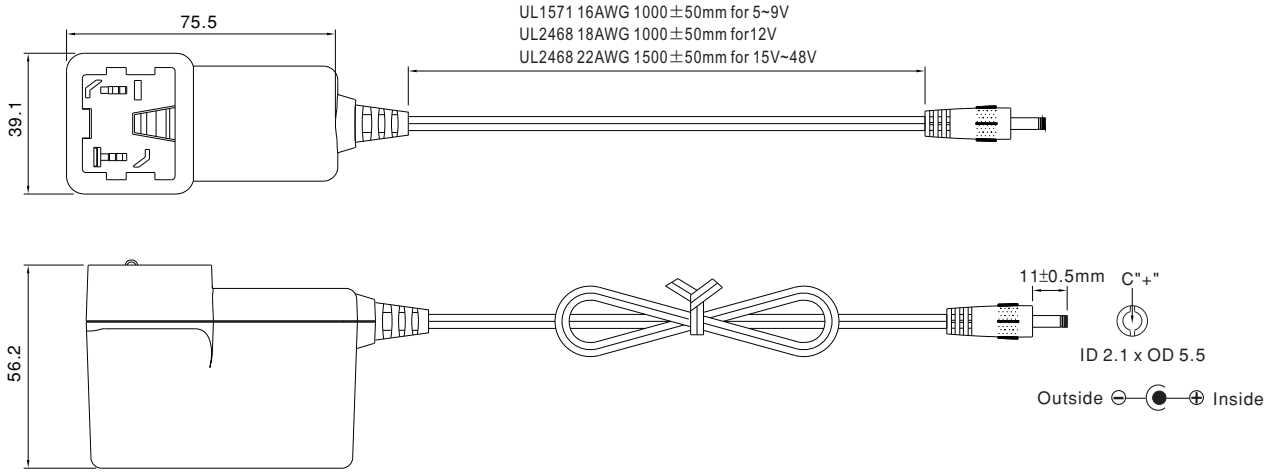

## ■ Static Characteristics




## ■ Mechanical Specification

Unit:mm

| TYPE | | | | |
|---|---|---|---|---|
| | Australian type | U.K type | European type | US type |




## ■ Plug Assignment

Standard plug: P1J

| P1J | |
|---|---|
| **P/N** | **OUTPUT** |
| CENTER | + |

Optional lock type plug: P2S

SWITCHCRAFT S761K plug equivalent

## ■ Installation Manual

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



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