



■ Features

- Ultra slim, compact size
- Medical safety approved (2 x MOPP) according to EN60601-1/EN60601-1-11
- Extremely Low leakage current
- 2 pole EURO plug, Class II power unit
- No load power consumption <0.15W
- **Energy efficiency Level VI** (except 5~9V for Level V)
- -30~+70°C wide range working temperature
- Protections: Short circuit / Overload / Over voltage
- Fully enclosed plastic case
- 3 years warranty

■ Applications

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

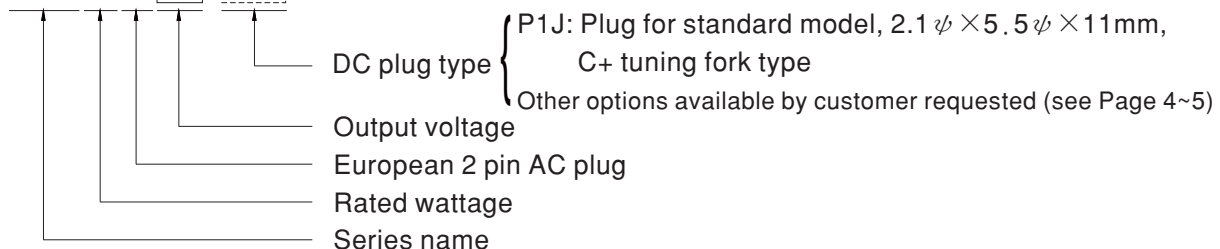
■ Description

GSM60E is a 60W ultra slim wall-mounted style single-output green medical adaptor series, which is compact and convenient for carry. GSM60E is a class II power unit (no FG) equipped with the standard 2-Pin European plug, accepting the input range from 80VAC to 264VAC. The whole series provides different models with output voltages ranging between 5VDC and 48VDC that it can satisfy the demands for various types of medical electronic 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 90% and the extremely low no-load power consumption below 0.15W, GSM60E is compliant with EU ErP and meet CoC version 5 (5~9V for Level V). 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 hazards.

■ Model Encoding

GSM60 E 05 -P1J



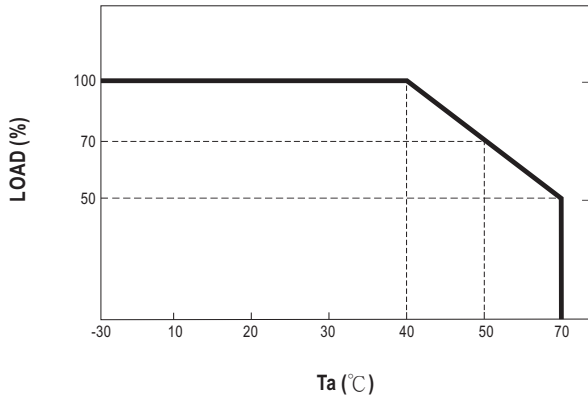


60W AC-DC Reliable Green Slim Wall-mounted Medical Adaptor **GSM60E** series

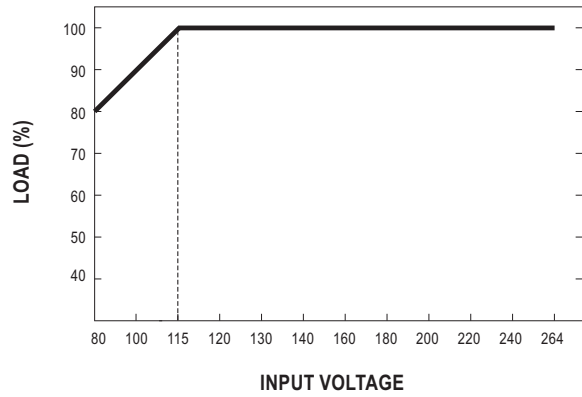
SPECIFICATION

| ORDER NO. | GSM60E05-P1J | GSM60E07-P1J | GSM60E09-P1J | GSM60E12-P1J | GSM60E15-P1J | GSM60E18-P1J | GSM60E24-P1J | GSM60E48-P1J | | |
|---------------------------|--|---|-------------------|---|--|---|--------------|--------------|-----------|--|
| OUTPUT | SAFETY MODEL NO. | GSM60E05 | GSM60E07 | GSM60E09 | GSM60E12 | GSM60E15 | GSM60E18 | GSM60E24 | GSM60E48 | |
| | DC VOLTAGE Note.2 | 5V | 7.5V | 9V | 12V | 15V | 18V | 24V | 48V | |
| | RATED CURRENT | 6A | 6A | 5.5A | 4.5A | 4A | 3.33A | 2.5A | 1.25A | |
| | CURRENT RANGE | 0 ~ 6A | 0 ~ 6A | 0 ~ 5.5A | 0 ~ 4.5A | 0 ~ 4A | 0 ~ 3.33A | 0 ~ 2.5A | 0 ~ 1.25A | |
| | RATED POWER (max.) | 30W | 45W | 49.5W | 54W | 60W | 60W | 60W | 60W | |
| | RIPPLE & NOISE (max.) Note.3 | 100mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 120mVp-p | 120mVp-p | 120mVp-p | 150mVp-p | |
| | VOLTAGE TOLERANCE Note.4 | ±5.0% | ±5.0% | ±5.0% | ±5.0% | ±5.0% | ±3.0% | ±3.0% | ±3.0% | |
| | LINE REGULATION Note.5 | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | |
| | LOAD REGULATION Note.6 | ±5.0% | ±5.0% | ±5.0% | ±3.0% | ±3.0% | ±2.0% | ±2.0% | ±2.0% | |
| SETUP, RISE, HOLD UP TIME | 500ms, 30ms, 10ms/230VAC 500ms, 30ms, 10ms/115VAC at full load | | | | | | | | | |
| INPUT | VOLTAGE RANGE Note.7 | 80 ~ 264VAC 113 ~ 370VDC | | | | | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | | | | |
| | EFFICIENCY (Typ.) | 80% | 85% | 87% | 88% | 88% | 88% | 88% | 90% | |
| | AC CURRENT | 1.5A / 115VAC 0.8A / 230VAC | | | | | | | | |
| | INRUSH CURRENT (max.) | Cold start 50A / 115VAC 100A / 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. | -30 ~ +70°C (Refer to "Derating Curve") | | | | | | | | |
| | WORKING HUMIDITY | 20% ~ 90% RH non-condensing | | | | | | | | |
| | STORAGE TEMP., HUMIDITY | -30 ~ +85°C, 10 ~ 95% RH non-condensing | | | | | | | | |
| | 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. 8) | SAFETY STANDARDS | TUV EN60601-1/EN60601-1-11, EAC TP TC 004 approved | | | | | | | | |
| | ISOLATION LEVEL | Primary - Secondary: 2 x MOPP | | | | | | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:5656VDC | | | | | | | | |
| | ISOLATION RESISTANCE | I/P-O/P:100M Ohms / 500VDC / 25°C/ 70% RH | | | | | | | | |
| | EMC EMISSION | Parameter | Standard | | | Test Level / Note | | | | |
| | | Conducted emission | EN55011 (CISPR11) | | | Class B | | | | |
| | | Radiated emission | EN55011 (CISPR11) | | | Class B | | | | |
| | | Harmonic current | EN61000-3-2 | | | Class A | | | | |
| | Voltage flicker | EN61000-3-3 | | | ----- | | | | | |
| | EMC IMMUNITY | EN55011, EN60601-1-2 | | | | | | | | |
| | | Parameter | Standard | | | Test Level / Note | | | | |
| | | ESD | EN61000-4-2 | | | Level 4, 15KV air ; Level 4, 8KV contact | | | | |
| | | RF field susceptibility | EN61000-4-3 | | | Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~6GHz) | | | | |
| EFT bursts | | EN61000-4-4 | | | Level 3, 2KV Line-Line, 1KV ineterconnect Lines at 100KHz rate | | | | | |
| Surge susceptibility | | EN61000-4-5 | | | Level 3, 2KV/Line-Line | | | | | |
| Conducted susceptibility | | EN61000-4-6 | | | Level 2, 3V | | | | | |
| Magnetic field immunity | | EN61000-4-8 | | | Level 4, 30A/m | | | | | |
| Voltage dip, interruption | EN61000-4-11 | | | >95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods | | | | | | |
| OTHERS | LIFE | 3 years : 100% load 40°C, 8hours / day | | | | | | | | |
| | MTBF | 400Khrs min. MIL-HDBK-217F(25°C) | | | | | | | | |
| | DIMENSION | 75.5*32*47.5mm (L*W*H) | | | | | | | | |
| | PACKING | 200g ; 60pcs / 13kg / CARTON | | | | | | | | |
| CONNECTOR | PLUG | See page 4 - 5 ; other type available by customer requested | | | | | | | | |
| | CABLE | See page 4 - 5 ; other type available by customer requested | | | | | | | | |
| NOTE | <p>1.All parameters are specified at 230VAC input, rated load, 25°C 70% RH ambient.</p> <p>2.DC voltage: The output voltage set at point measure by plug terminal & 50% load.</p> <p>3.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µf & 47µf capacitor.</p> <p>4.Tolerance: includes set up tolerance, line regulation, load regulation.</p> <p>5.Line regulation is measured from low line to high line at rated load.</p> <p>6.Load regulation is measured from 10% to 100% rated load.</p> <p>7.Derating may be needed under low input voltage. Please check the derating curve for more details.</p> <p>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)</p> | | | | | | | | | |

■ Derating Curve

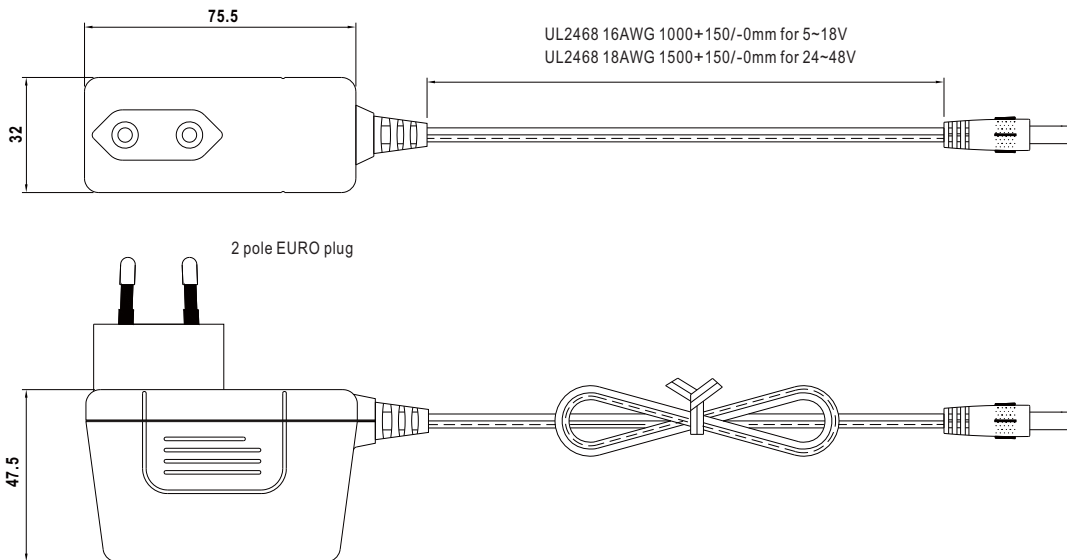


■ Static Characteristics



■ Mechanical Specification

Unit:mm





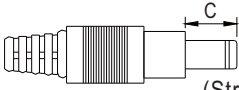
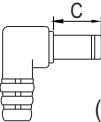



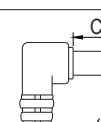


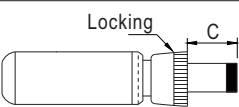


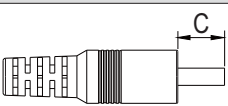

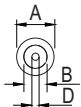
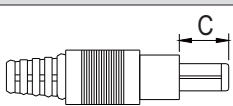

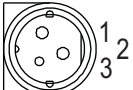
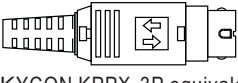
■ DC output plug

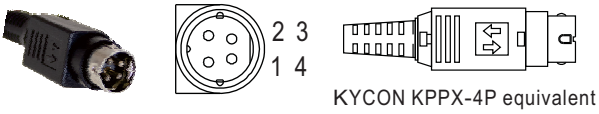
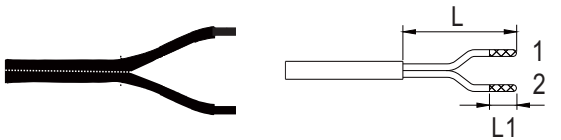
◎ Standard plug: P1J

Unit:mm

| P1J | Pin Assignment |
|-----|----------------------|
| | |
| | Outside ⊖ ⊙ ⊕ Inside |

◎ Optional DC plug:

| Tuning Fork Style | | Type No. | A OD | B ID | C L | |
|---|--|----------|----------------|---------|--------|-----------------|
|    (Straight) |  (Right-angled) | P1I | 5.5 | 2.1 | 9.5 | |
| | | P1L | 5.5 | 2.5 | 9.5 | |
| | | P1M | 5.5 | 2.5 | 11.0 | |
| | | P1IR | 5.5 | 2.1 | 9.5 | |
| | | P1JR | 5.5 | 2.1 | 11.0 | |
| | | P1LR | 5.5 | 2.5 | 9.5 | |
| P1MR | 5.5 | 2.5 | 11.0 | | | |
| Barrel Style | | Type No. | A OD | B ID | C L | |
|    (Straight) |  (Right-angled) | P2I | 5.5 | 2.1 | 9.5 | |
| | | P2J | 5.5 | 2.1 | 11.0 | |
| | | P2L | 5.5 | 2.5 | 9.5 | |
| | | P2M | 5.5 | 2.5 | 11.0 | |
| | | P2IR | 5.5 | 2.1 | 9.5 | |
| | | P2JR | 5.5 | 2.1 | 11.0 | |
| | | P2LR | 5.5 | 2.5 | 9.5 | |
| | | P2MR | 5.5 | 2.5 | 11.0 | |
| Lock Style | | Type No. | A OD | B ID | C L | |
|    SWITCHCRAFT original or equivalent | P2S(S761K) | 5.53 | 2.03 | 12.06 | | |
| | P2K(761K) | 5.53 | 2.54 | 12.06 | | |
| | P2C(S760K) | 5.53 | 2.03 | 9.52 | | |
| | P2D(760K) | 5.53 | 2.54 | 9.52 | | |
| Min. Pin Style | | Type No. | A OD | B ID | C L | |
|    EIAJ equivalent | P3A | 2.35 | 0.7 | 11.0 | | |
| | P3B | 4.0 | 1.7 | 11.0 | | |
| | P3C | 4.75 | 1.7 | 11.0 | | |
| Center Pin Style | | Type No. | A OD | B ID | C L | D Center Pin |
|    EIAJ equivalent | P4A | 5.5 | 3.4 | 11.0 | 1.0 | |
| | P4B | 6.5 | 4.4 | 11.0 | 1.4 | |
| | P4C | 7.4 | 5.1 | 11.0 | 0.6 | |
| Min. DIN 3 Pin with Lock (male) | | Type No. | Pin Assignment | | | |
|    KYCON KPPX-3P equivalent | R6B | PIN No. | Output | | | |
| | 1 | +Vo | | | | |
| | 2 | -Vo | | | | |
| | 3 | +Vo | | | | |

| Min. DIN 4 Pin with Lock (male) | Type No. | Pin Assignment | |
|---|-------------|----------------|--------|
| | | PIN No. | Output |
|  <p>KYCON KPPX-4P equivalent</p> | R7B | 1 | +Vo |
| | | 2 | -Vo |
| | | 3 | -Vo |
| | | 4 | +Vo |
| Stripped and tinned leads | Type No. | Pin Assignment | |
| | | PIN No. | Output |
|  <p>Length of Land L1 by request (MW's standard length, L: <u>25</u> mm, L1: <u>10</u> mm)</p> | by customer | 1 (Ribbed) | +Vo |
| | | 2 (Letter) | -Vo |

■ **Installation Manual**

Please refer to : <http://www.meanwell.com/manual.html>