



### ■ 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

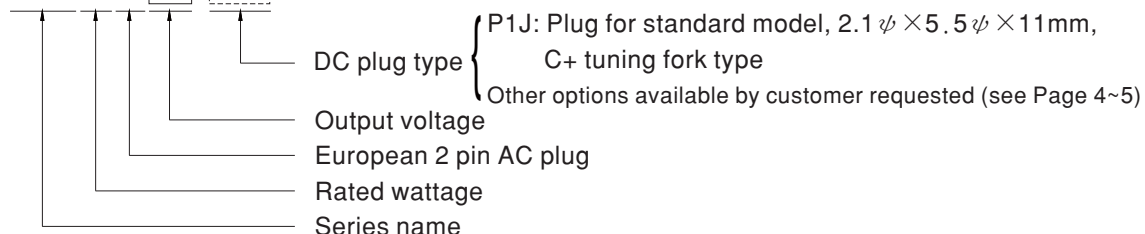
### ■ Description

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

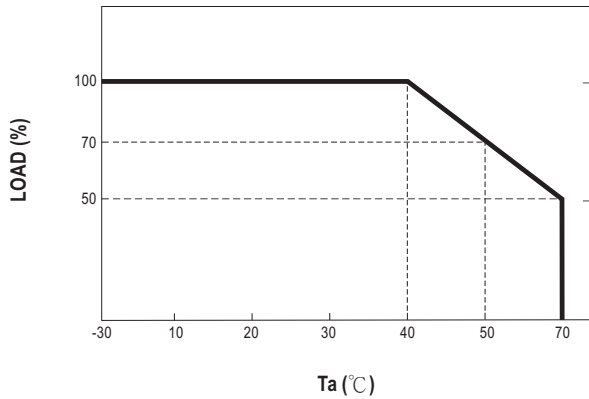
**GSM60 E 05 -P1J**



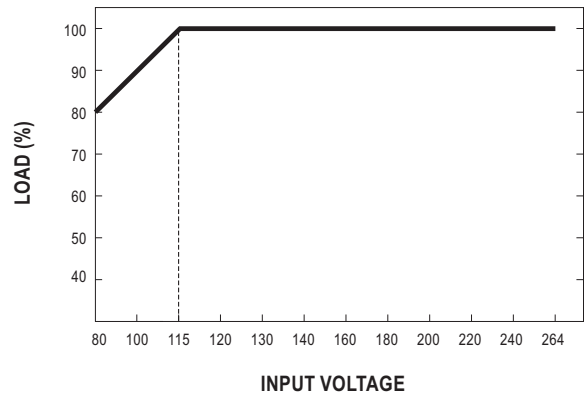
## SPECIFICATION

ORDER NO.	GSM60E05-P1J	GSM60E07-P1J	GSM60E09-P1J	GSM60E12-P1J	GSM60E15-P1J	GSM60E18-P1J	GSM60E24-P1J	GSM60E48-P1J		
OUTPUT	<b>SAFETY MODEL NO.</b>	GSM60E05	GSM60E07	GSM60E09	GSM60E12	GSM60E15	GSM60E18	GSM60E24	GSM60E48	
	<b>DC VOLTAGE</b> <small>Note.2</small>	5V	7.5V	9V	12V	15V	18V	24V	48V	
	<b>RATED CURRENT</b>	6A	6A	5.5A	4.5A	4A	3.33A	2.5A	1.25A	
	<b>CURRENT RANGE</b>	0 ~ 6A	0 ~ 6A	0 ~ 5.5A	0 ~ 4.5A	0 ~ 4A	0 ~ 3.33A	0 ~ 2.5A	0 ~ 1.25A	
	<b>RATED POWER (max.)</b>	30W	45W	49.5W	54W	60W	60W	60W	60W	
	<b>RIPPLE &amp; NOISE (max.)</b> <small>Note.3</small>	100mVp-p	100mVp-p	100mVp-p	100mVp-p	120mVp-p	120mVp-p	120mVp-p	150mVp-p	
	<b>VOLTAGE TOLERANCE</b> <small>Note.4</small>	±5.0%	±5.0%	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	
	<b>LINE REGULATION</b> <small>Note.5</small>	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	
	<b>LOAD REGULATION</b> <small>Note.6</small>	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%	±2.0%	±2.0%	±2.0%	
<b>SETUP, RISE, HOLD UP TIME</b>	500ms, 30ms, 10ms/230VAC      500ms, 30ms, 10ms/115VAC at full load									
INPUT	<b>VOLTAGE RANGE</b> <small>Note.7</small>	80 ~ 264VAC      113 ~ 370VDC								
	<b>FREQUENCY RANGE</b>	47 ~ 63Hz								
	<b>EFFICIENCY (Typ.)</b>	80%	85%	87%	88%	88%	88%	88%	90%	
	<b>AC CURRENT</b>	1.5A / 115VAC      0.8A / 230VAC								
	<b>INRUSH CURRENT (max.)</b>	Cold start 50A / 115VAC      100A / 230VAC								
	<b>LEAKAGE CURRENT(max.)</b>	Touch current < 100µA/264VAC								
PROTECTION	<b>OVERLOAD</b>	105 ~ 160% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed								
	<b>OVER VOLTAGE</b>	110 ~ 140% rated output voltage Protection type : Clamp by zener diode, output short								
ENVIRONMENT	<b>WORKING TEMP.</b>	-30 ~ +70°C (Refer to "Derating Curve")								
	<b>WORKING HUMIDITY</b>	20% ~ 90% RH non-condensing								
	<b>STORAGE TEMP., HUMIDITY</b>	-30 ~ +85°C, 10 ~ 95% RH non-condensing								
	<b>TEMP. COEFFICIENT</b>	±0.03% / °C (0 ~ 40°C)								
	<b>VIBRATION</b>	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes								
SAFETY & EMC <small>(Note. 8)</small>	<b>SAFETY STANDARDS</b>	TUV EN60601-1/EN60601-1-11, EAC TP TC 004 approved								
	<b>ISOLATION LEVEL</b>	Primary - Secondary: 2 x MOPP								
	<b>WITHSTAND VOLTAGE</b>	I/P-O/P:5656VDC								
	<b>ISOLATION RESISTANCE</b>	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH								
	EMC EMISSION	<b>Parameter</b>	<b>Standard</b>					<b>Test Level / Note</b>		
		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								
		<b>Parameter</b>	<b>Standard</b>					<b>Test Level / Note</b>		
		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 interconnect 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	<b>LIFE</b>	3 years : 100% load 40°C, 8hours / day								
	<b>MTBF</b>	400Khrs min. MIL-HDBK-217F(25°C)								
	<b>DIMENSION</b>	75.5*32*47.5mm (L*W*H)								
	<b>PACKING</b>	200g ; 60pcs / 13kg / CARTON								
CONNECTOR	<b>PLUG</b>	See page 4-5 ; other type available by customer requested								
	<b>CABLE</b>	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.  2.DC voltage: The output voltage set at point measure by plug terminal &amp; 50% load.  3.Ripple &amp; noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µf &amp; 47µf 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 <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</p>									

■ Derating Curve

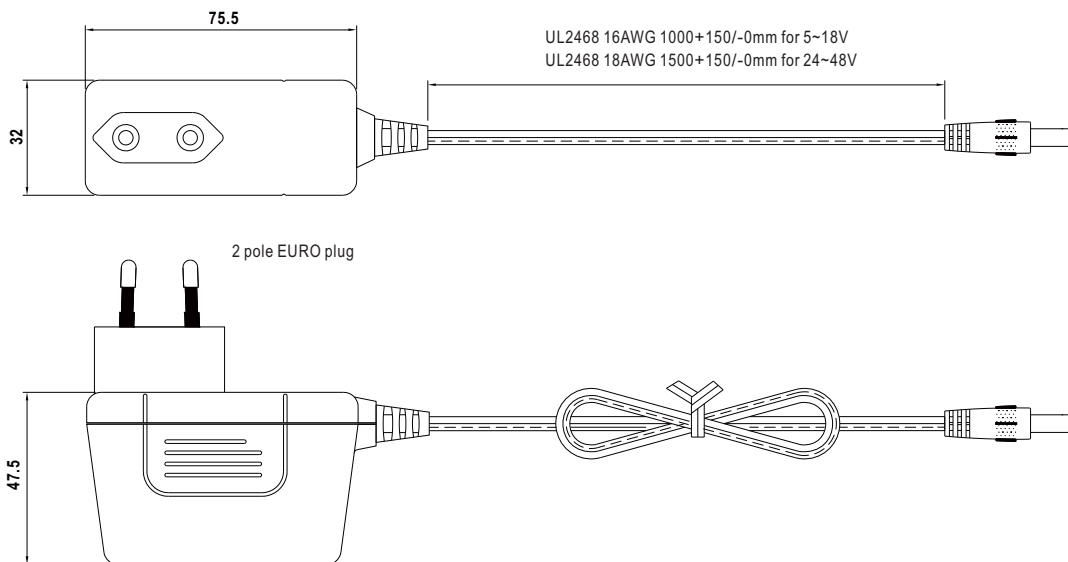


■ Static Characteristics



■ Mechanical Specification

Unit:mm





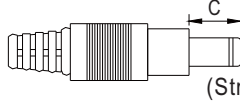
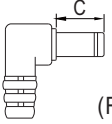


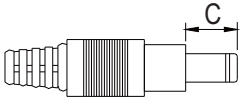
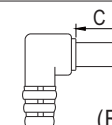


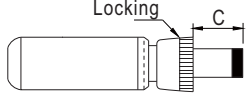




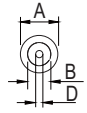


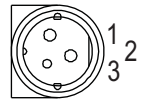
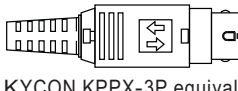
■ DC output plug


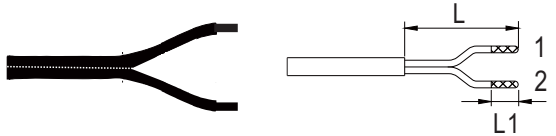
◎ Standard plug: P1J

Unit:mm

P1J	Pin Assignment
	Outside ⊖ ⊕ Inside

© Optional DC plug:

Tuning Fork Style		Type No.	A	B	C	
   <p>(Straight)</p>  <p>(Right-angled)</p>	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	B	C	
   <p>(Straight)</p>  <p>(Right-angled)</p>	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	B	C	
   <p>Locking</p> <p>SWITCHCRAFT original or equivalent</p>	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	B	C	
   <p>EIAJ equivalent</p>	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	B	C	D
   <p>EIAJ equivalent</p>	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			
   <p>KYCON KPPX-3P equivalent</p>		PIN No.	Output			
	R6B	1	+Vo			
	R6B	2	-Vo			
R6B	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>