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

EN60601-1
EN60601-1-11

IEC60601-1

(Ⅴ for 5~9V)

ECO | Medical | 2xMOPP | BF rated

■ 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℃ 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

- DC plug type
  - P1J: Plug for standard model, 2.1ψ×5.5ψ×11mm, C+ tuning fork type
  - Other options available by customer requested (see Page 4~5)
- Output voltage
- European 2 pin AC plug
- Rated wattage
- Series name

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

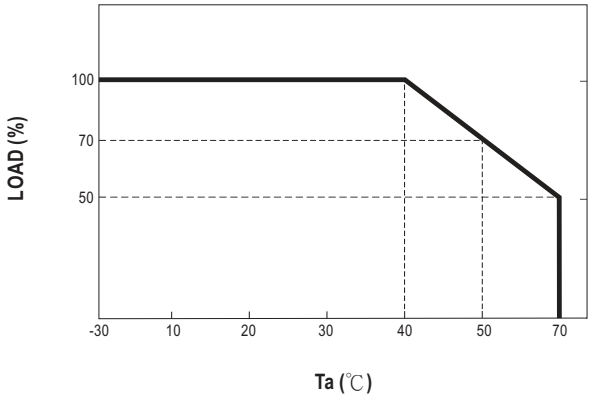
SPECIFICATION

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℃ (Refer to "Derating Curve")							
	WORKING HUMIDITY	20% ~ 90% RH non-condensing							
	STORAGE TEMP., HUMIDITY	-30 ~ +85℃, 10 ~ 95% RH non-condensing							
	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	TUV EN60601-1/EN60601-1-11, EAC TP TC 004 approved							
	ISOLATION LEVEL	Pimary - Secondary: 2 x MOPP							
	WITHSTAND VOLTAGE	I/P-O/P:5656VDC							
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 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℃, 8hours / day							
	MTBF	400Khrs min. MIL-HDBK-217F(25℃)							
	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							

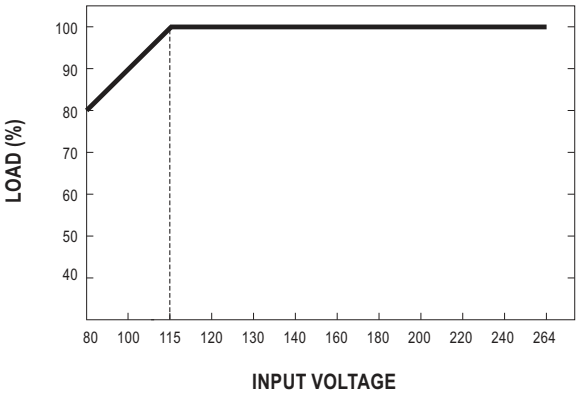
NOTE

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 0.1μf & 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 http://www.meanwell.com)

■ Derating Curve

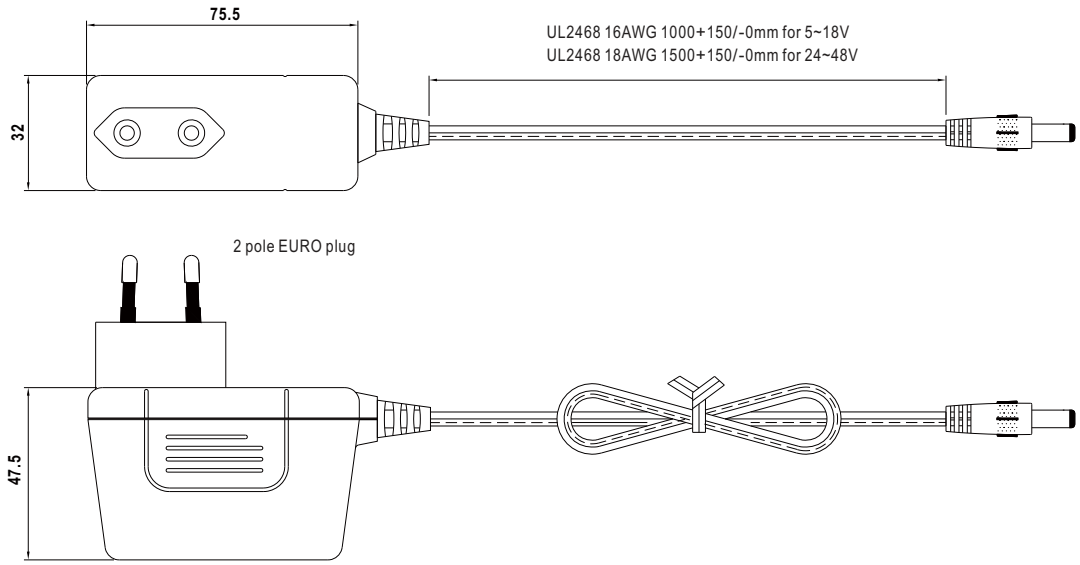


■ Static Characteristics



■ Mechanical Specification

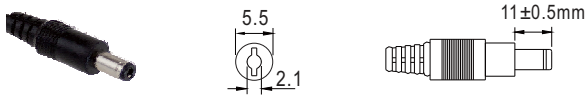
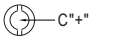
Unit:mm



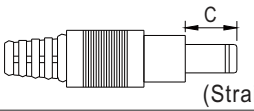
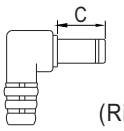
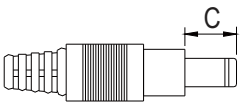
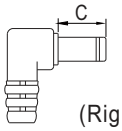
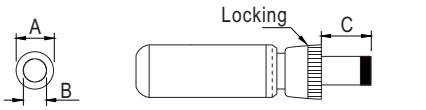
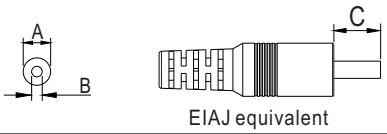
■ DC output plug

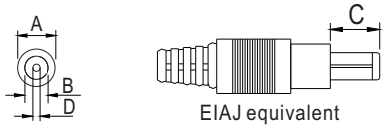
◎ Standard plug: P1J

Unit:mm

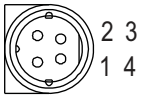
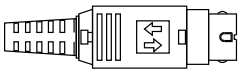
P1J	Pin Assignment
	
	

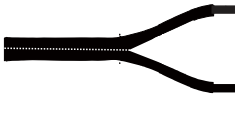
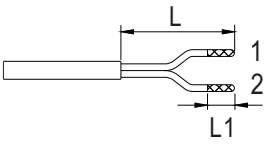
◎ Optional DC plug:

Tuning Fork Style		Type No.	A	B	C
			OD	ID	L
	 (Straight)	P1I	5.5	2.1	9.5
		P1L	5.5	2.5	9.5
		P1M	5.5	2.5	11.0
	 (Right-angled)	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
			OD	ID	L
	 (Straight)	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
	 (Right-angled)	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
			OD	ID	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	B	C
			OD	ID	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	B	C	D
			OD	ID	L	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	
			PIN No.	Output
	 KYCON KPPX-3P equivalent	R6B	1	+Vo
			2	-Vo
			3	+Vo

Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment	
		PIN No.	Output
   KYCON KPPX-4P equivalent	R7B	1	+Vo
		2	-Vo
		3	-Vo
		4	+Vo

Stripped and tinned leads	Type No.	Pin Assignment	
		PIN No.	Output
  Length of Land L1 by request (MW's standard length, L: 25 mm, L1: 10 mm)	by customer	1 (Ribbed)	+Vo
		2 (Letter)	-Vo

■ Installation Manual

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