



( Cable connection )



( USB connection )



### ■ Features

- Universal AC input / Full range
- Medical safety approved (2 x MOPP) according to EN60601-1/EN60601-1-11
- Extremely low leakage current
- No load power consumption < 0.075W (< 0.1W for 18V/48V)
- **Energy efficiency Level VI**
- -20~+70°C wide range working temperature
- Class II power (no earth pin)
- 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

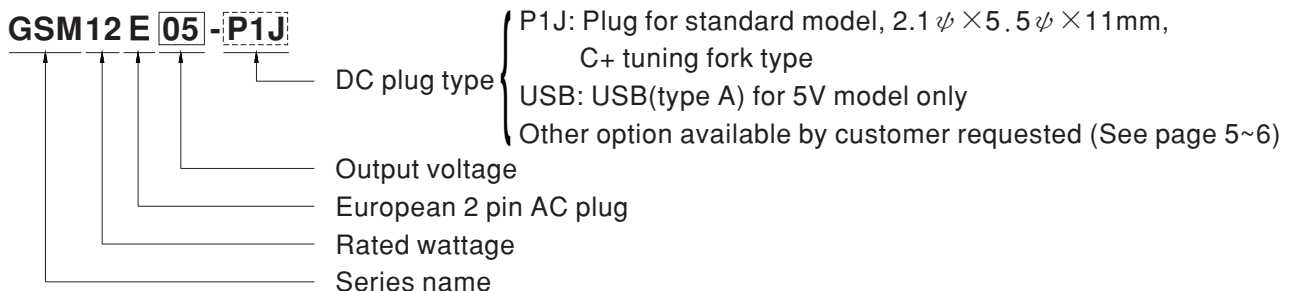
### ■ Description

GSM12E is a highly reliable, 12W wall-mounted style single-output green medical adaptor series, which is compact and convenient for carry. This product is equipped with the standard 2-pin European plug. GSM12E is a class II power unit (no 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 (< 0.1W for 18V/48V), GSM12E is compliant with EU ErP and meet CoC version 5 (Except for 18V/48V). 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

### ■ Model Encoding

**GSM12E05-P1J**

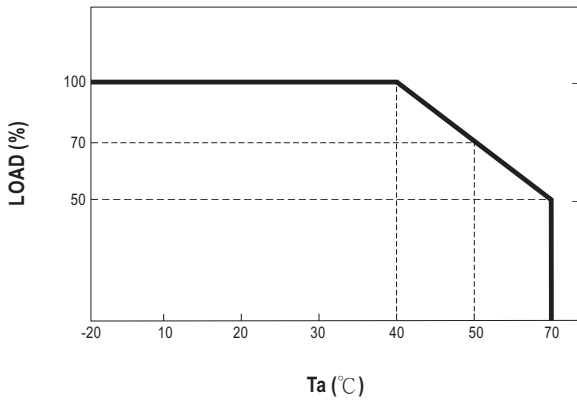




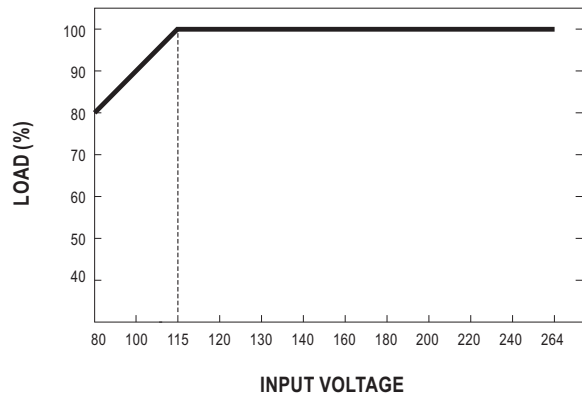
**SPECIFICATION**

ORDER NO.		GSM12E05-□ □=P1J USB	GSM12E07-P1J	GSM12E09-P1J	GSM12E12-P1J	GSM12E15-P1J	GSM12E18-P1J	GSM12E24-P1J	GSM12E48-P1J	
OUTPUT	SAFETY MODEL NO.	GSM12E05	GSM12E07	GSM12E09	GSM12E12	GSM12E15	GSM12E18	GSM12E24	GSM12E48	
	DC VOLTAGE <small>Note.2</small>	5V	7.5V	9V	12V	15V	18V	24V	48V	
	RATED CURRENT	2.4A	1.6A	1.33A	1A	0.8A	0.66A	0.5A	0.25A	
	CURRENT RANGE	0 ~ 2.4A	0 ~ 1.6A	0 ~ 1.33A	0 ~ 1A	0 ~ 0.8A	0 ~ 0.66A	0 ~ 0.5A	0 ~ 0.25A	
	RATED POWER (max.)	12W	12W	12W	12W	12W	12W	12W	12W	
	RIPPLE & NOISE (max.) <small>Note.3</small>	60mVp-p	60mVp-p	60mVp-p	80mVp-p	80mVp-p	80mVp-p	80mVp-p	100mVp-p	
	VOLTAGE TOLERANCE <small>Note.4</small>	±5.0%	±5.0%	±4.0%	±3.0%	±3.0%	±3.0%	±2.0%	±2.0%	
	LINE REGULATION <small>Note.5</small>	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	
	LOAD REGULATION <small>Note.6</small>	±5.0%	±5.0%	±4.0%	±3.0%	±3.0%	±3.0%	±2.0%	±2.0%	
SETUP, RISE, HOLD UP TIME	500ms, 30ms, 16ms/230VAC      500ms, 30ms, 16ms/115VAC at full load									
INPUT	VOLTAGE RANGE <small>Note.7</small>	80 ~ 264VAC		113 ~ 370VDC						
	FREQUENCY RANGE	47 ~ 63Hz								
	EFFICIENCY (Typ.)	80%	82%	82%	82.5%	84%	85%	85%	87%	
	AC CURRENT	0.4A / 115VAC		0.2A / 230VAC						
	INRUSH CURRENT (max.)	Cold start 30A / 115VAC		60A / 230VAC						
LEAKAGE CURRENT(max.)	Touch current < 100µA/264VAC									
PROTECTION	OVERLOAD	110 ~ 200% 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 ~ +70°C (Refer to "Derating Curve")								
	WORKING HUMIDITY	20% ~ 90% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-20 ~ +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 (3.1 version), EAC TP TC 004 approved GSM12E05-USB without EN60601-1-11								
	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	EN55024 , EN60601-1-2, EN61204-3								
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~5.78GHz)					
EFT bursts		EN61000-4-4			Level 3, 2KV					
Surge susceptibility		EN61000-4-5			Level 3, 1KV/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, 12hours / day								
	MTBF	400Khrs min. MIL-HDBK-217F(25°C)								
	DIMENSION	62.2*27.4*39.7mm (L*W*H)								
	PACKING	100g, 90pcs / 10kg / CARTON for cable connection ; 76g, 150pcs / 12.5kg / CARTON for USB connection								
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 &amp; 50% load.</p> <p>3.Ripple &amp; noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µf &amp; 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 <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</p>									

### Derating Curve



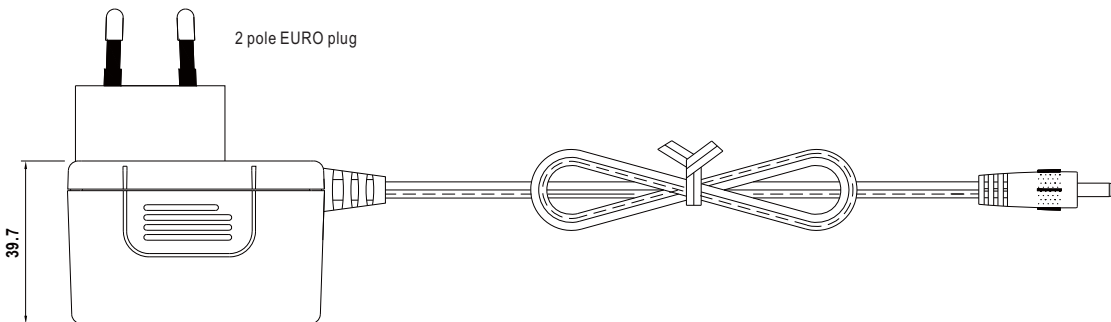
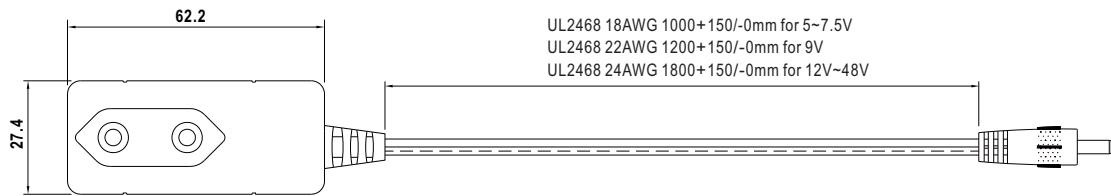
### Static Characteristics



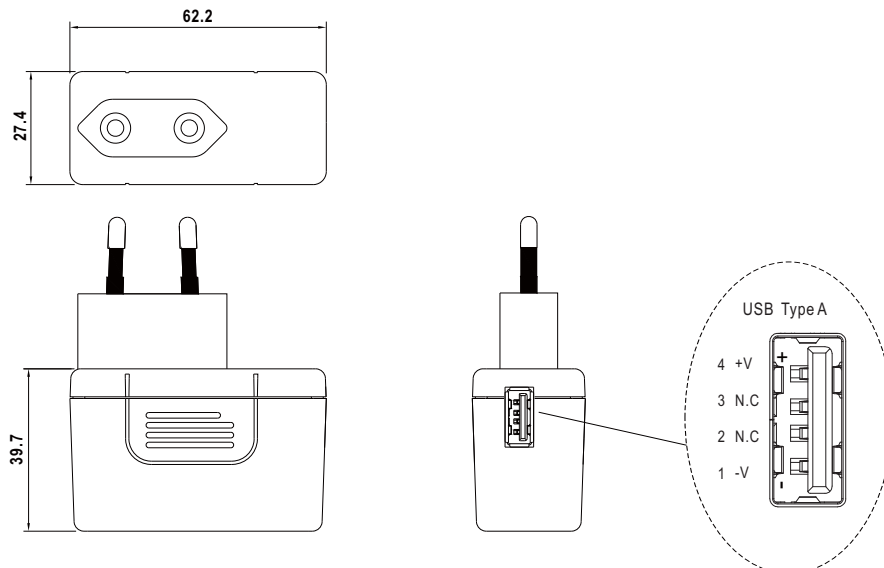
### Mechanical Specification

Unit:mm

#### ※ Cable Connection






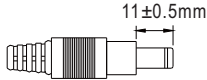


#### ※ USB Connection





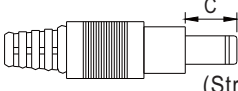
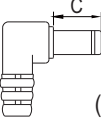


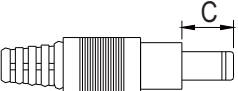
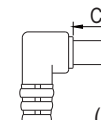

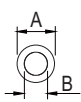
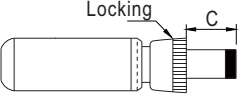


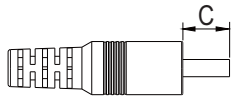
■ DC output plug

☉ Standard plug: P1J

Unit:mm

P1J		Pin Assignment
		
		Outside  Inside 

☉ Optional DC plug:

Tuning Fork Style		Type No.	A	B	C	
			OD	ID	L	
			P1I	5.5	2.1	9.5
		(Straight)	P1L	5.5	2.5	9.5
		(Right-angled)	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	
			OD	ID	L	
			P2I	5.5	2.1	9.5
		(Straight)	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	
			OD	ID	L	
			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
			SWITCHCRAFT original or equivalent			
Min. Pin Style		Type No.	A	B	C	
			OD	ID	L	
			P3A	2.35	0.7	11.0
			P3B	4.0	1.7	11.0
			P3C	4.75	1.7	11.0
			EIAJ equivalent			

Center Pin Style	Type No.	A	B	C	D
		OD	ID	L	Center Pin
	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			
	R6B	PIN No.		Output	
		1		+Vo	
		2		-Vo	
		3		+Vo	
Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment			
	R7B	PIN No.		Output	
		1		+Vo	
		2		-Vo	
		3		-Vo	
		4		+Vo	
Stripped and tinned leads	Type No.	Pin Assignment			
<p>Length of Land L1 by request (MW's standard length, L: <u>25</u> mm, L1: <u>10</u> mm)</p>	by customer	PIN No.		Output	
		1 (Ribbed)		+Vo	
		2 (Letter)		-Vo	

■ **Installation Manual**

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