12W AC-DC Reliable Green Medical Adaptor

GSM12E series

User's Manual

Video



(Cable connection)



(USB connection)

BS EN/EN60601-1
BS EN/EN60601-1-11

TPTC004

IP22

ECO Medical 2xMOPP BF rated

Features

- Universal AC input / Full range
- Medical safety approved (2 x MOPP) accroding to BS EN/EN60601-1/BS EN/EN60601-1-11
- Extremely low leakage current
- No load power consumption< 0.075W(<0.1W for 18V/48V)
- **Energy efficiency Level Ⅵ**
- -20~+70℃ wide range working temperature
- Class Ⅱ power (no earth pin)
- Protections: Short circuit / Overload / Over voltage
- Fully enclosed plastic case
- Various DC plug quick adapter accessory available (Plug kit sold sperately, please refer to : https://www.meanwell.com/upload/pdf/DC_plug.pdf)
- 3 years warranty

Applications

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

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

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 electric hazard.

Model Encoding

GSM12 E 05 - P1J

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

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SPECIFICATION

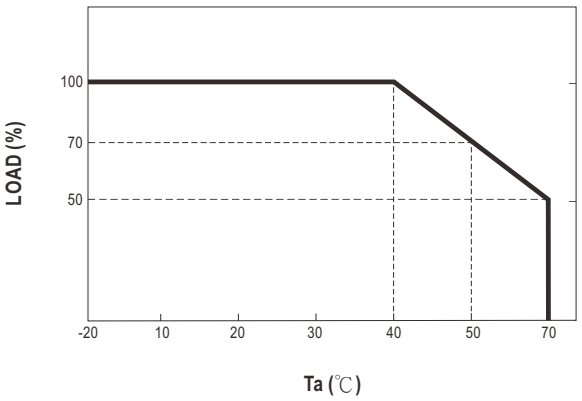
ORDER NO.		GSM12E05-☐ ☐=P1J USB	GSM12E07-P1J	GSM12E09-P1J	GSM12E12-P1J	GSM12E15-P1J	GSM12E18-P1J	GSM12E24-P1J	GSM12E48-P1J
OUTPUT	SAFETY MODEL NO.	GSM12E05	GSM12E07	GSM12E09	GSM12E12	GSM12E15	GSM12E18	GSM12E24	GSM12E48
	DC VOLTAGE Note.2	5V	7.5V	9V	12V	15V	18V	24V	48V
	RATED CURRENT	2.4A	1.6A	1.33A	1A	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.) Note.3	60mVp-p	60mVp-p	60mVp-p	80mVp-p	80mVp-p	80mVp-p	80mVp-p	100mVp-p
	VOLTAGE TOLERANCE Note.4	±5.0%	±5.0%	±4.0%	±3.0%	±3.0%	±3.0%	±2.0%	±2.0%
	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%	±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 Note.7	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℃ (Refer to "Derating Curve")							
	WORKING HUMIDITY	0 ~ 95% RH non-condensing							
	STORAGE TEMP., HUMIDITY	-20 ~ +85℃, 0 ~ 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 BS EN/EN60601-1, BS EN/EN60601-1-11 (3.1 version), EAC TP TC 004 approved GSM12E05-USB without BS EN/EN60601-1-11							
	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	BS EN/EN55011 (CISPR11)	Class B					
		Radiated emission	BS EN/EN55011 (CISPR11)	Class B					
		Harmonic current	BS EN/EN61000-3-2	Class A					
		Voltage flicker	BS EN/EN61000-3-3	-----					
	EMC IMMUNITY	BS EN/EN55024, BS EN/EN60601-1-2, BS EN/EN61204-3							
		Parameter	**Standard**	**Test Level / Note**					
		ESD	BS EN/EN61000-4-2	Level 4, 15KV air ; Level 4, 8KV contact					
		RF field susceptibility	BS EN/EN61000-4-3	Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~5.78GHz)					
		EFT bursts	BS EN/EN61000-4-4	Level 3, 2KV					
		Surge susceptibility	BS EN/EN61000-4-5	Level 3, 1KV/Line-Line					
		Conducted susceptibility	BS EN/EN61000-4-6	Level 2, 3V					
		Magnetic field immunity	BS EN/EN61000-4-8	Level 4, 30A/m					
		Voltage dip, interruption	BS EN/EN61000-4-11	>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods					
OTHERS	LIFE	3 years : 100% load 40℃, 12hours / day							
	MTBF	400Khrs min. MIL-HDBK-217F(25℃)							
	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

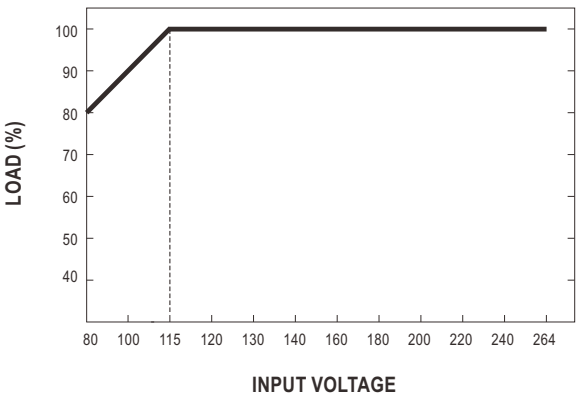
1.All parameters are specified at 230VAC input, rated load, 25℃ 70% RH ambient.
2.DC voltage: The output voltage set at point measure by plug terminal & 50% load.
3.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1μf & 47μf capacitor.
4.Tolerance: includes set up 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)
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

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■ Derating Curve



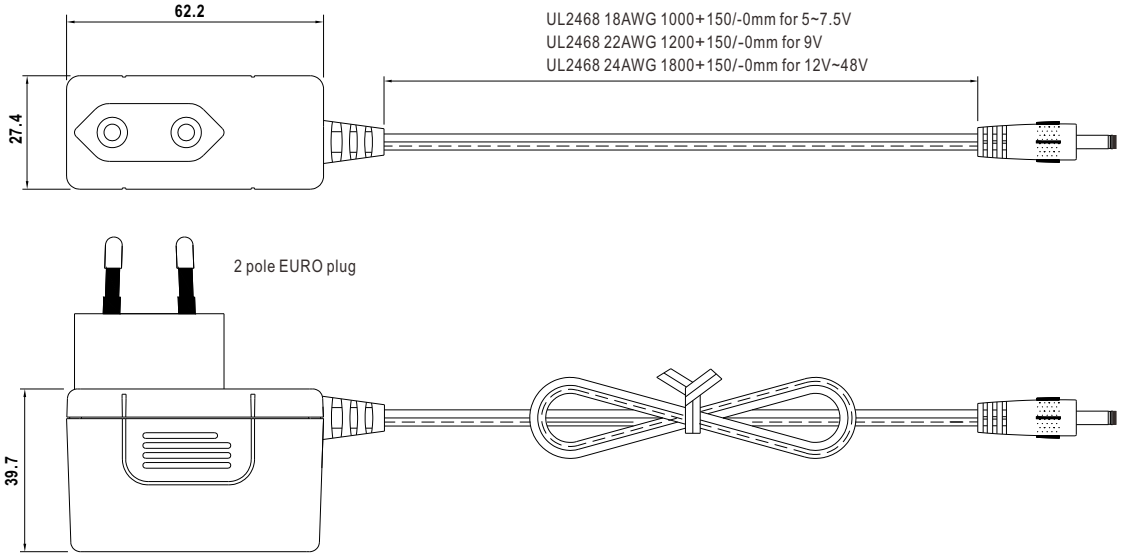
■ Static Characteristics



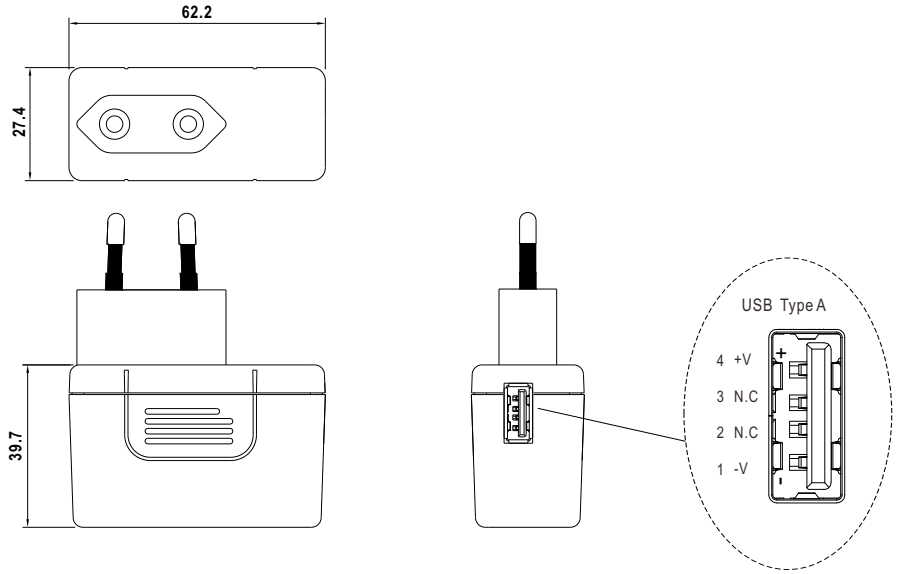
■ Mechanical Specification

Unit:mm

※Cable Connection



※USB Connection

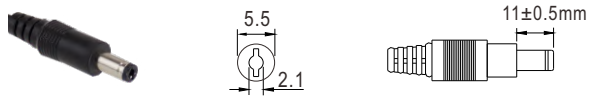


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■ DC output plug

◎ Standard plug: P1J

Unit:mm

P1J	Pin Assignment
	 Outside  Inside

◎ DC plug changeable through:

(1) Customization of the standard part with an optional DC plug according to the table (MOQ applicable)

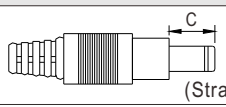
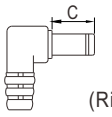
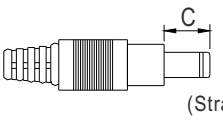
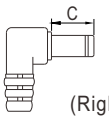
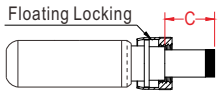
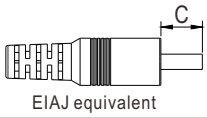
(2) Quick adapter accessory (sold separately without MOQ)

Please refer to below table and online selection guide : https://www.meanwell.com/upload/pdf/DC_plug.pdf

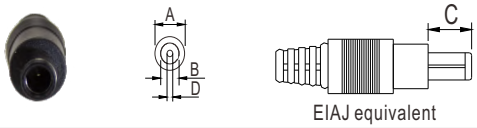
Example quick adapter accessory:

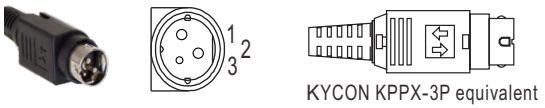


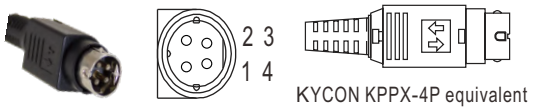
◎ Optional DC plug: (Available in customized cable or quick adapter)

Tuning Fork Style	Type No.	A (OD)	B (ID)	C (L)	Quick Adapter Accessory
  (Straight)  (Right-angled)	P1I	5.5	2.1	9.5	Available (Current rating: 7.5A max.)
	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	None
	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	None
	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	Available (Current rating: 5A max.)
	P3B	4.0	1.7	11.0	
	P3C	4.75	1.7	11.0	

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Center Pin Style	Type No.	A OD	B ID	C L	D Center Pin	Quick Adapter Accessory
 EIAJ equivalent	P4A	5.5	3.4	11.0	1.0	Available (Current rating: 7.5A max.)
	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		Quick Adapter Accessory
		PIN No.	Output	
 KYCON KPPX-3P equivalent	R6B	1	+Vo	Available (Current rating: 7.5A max.)
		2	-Vo	
		3	+Vo	

Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment		Quick Adapter Accessory
		PIN No.	Output	
 KYCON KPPX-4P equivalent	R7B	1	+Vo	Available (Current rating: 7.5A max.)
		2	-Vo	
		3	-Vo	
		4	+Vo	

Stripped and tinned leads	Type No.	Pin Assignment		Quick Adapter Accessory
		PIN No.	Output	
 Length of Land L1 by request (MW's standard length, L: 25 mm, L1: 10 mm)	by customer	1 (Ribbed)	+Vo	None
		2 (Letter)	-Vo	

■ Installation Manual

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

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