



( Cable connection )



( USB connection )



**Features**

- Universal AC input / Full range
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1/ES60601-1-11
- 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

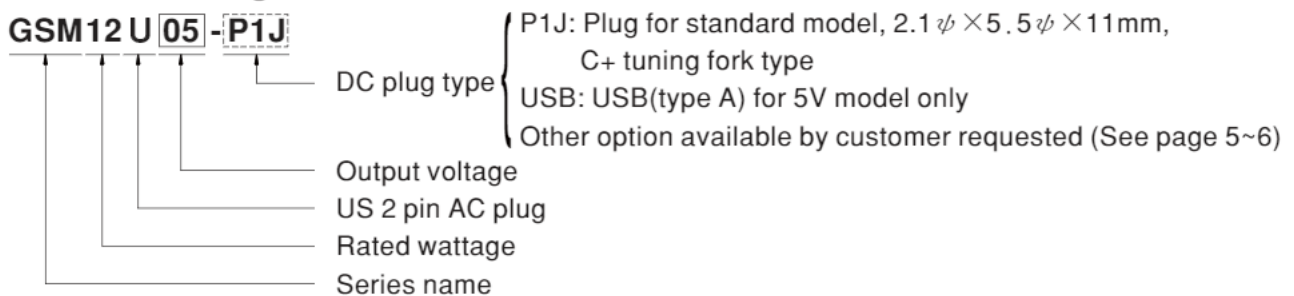
**Description**

GSM12U 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 U.S. plug. GSM12U 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), GSM12U is compliant with the latest USA energy regulation EISA 2007/DoE (Level VI). 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

**Model Encoding**

**GSM12U05-P1J**

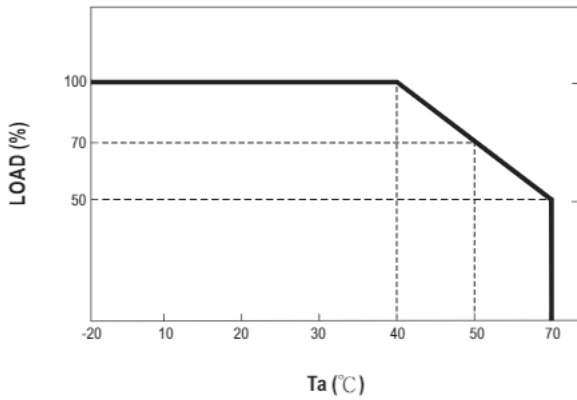




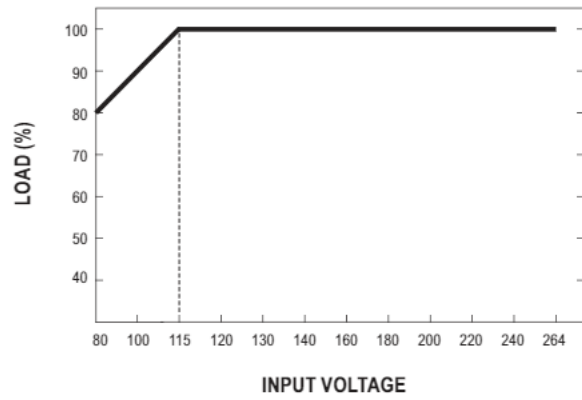
SPECIFICATION

ORDER NO.		GSM12U05- <input type="checkbox"/> <input type="checkbox"/> =P1J USB	GSM12U07-P1J	GSM12U09-P1J	GSM12U12-P1J	GSM12U15-P1J	GSM12U18-P1J	GSM12U24-P1J	GSM12U48-P1J
OUTPUT	SAFETY MODEL NO.	GSM12U05	GSM12U07	GSM12U09	GSM12U12	GSM12U15	GSM12U18	GSM12U24	GSM12U48
	DC VOLTAGE <span style="float:right">Note.2</span>	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.) <span style="float:right">Note.3</span>	60mVp-p	60mVp-p	60mVp-p	80mVp-p	80mVp-p	80mVp-p	80mVp-p	100mVp-p
	VOLTAGE TOLERANCE <span style="float:right">Note.4</span>	±5.0%	±5.0%	±4.0%	±3.0%	±3.0%	±3.0%	±2.0%	±2.0%
	LINE REGULATION <span style="float:right">Note.5</span>	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LOAD REGULATION <span style="float:right">Note.6</span>	±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 <span style="float:right">Note.7</span>	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	ANSI/AAMI ES60601-1/ES60601-1-11(3.1 version), CAN/CSA-C22 3 <sup>rd</sup> edition, EAC TP TC 004 approved GSM12U05-USB without ANSI/AAMII ES60601-1-11							
	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		
OTHERS	LIFE	3 years : 100% load 40°C, 12hours / day							
	MTBF	400Khrs min. MIL-HDBK-217F(25°C)							
	DIMENSION	62.2*27.4*45.5mm (L*W*H)							
	PACKING	109g, 110pcs / 13kg / CARTON for cable connection ; 73g, 150pcs / 12kg / 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 115VAC 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



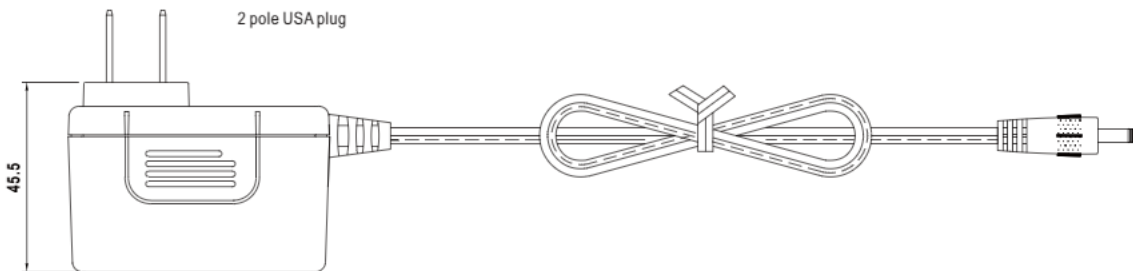
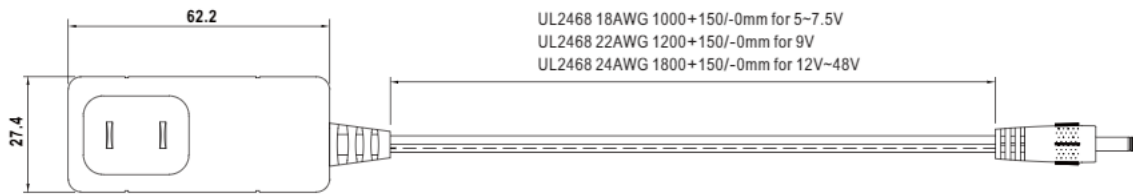
### Static Characteristics



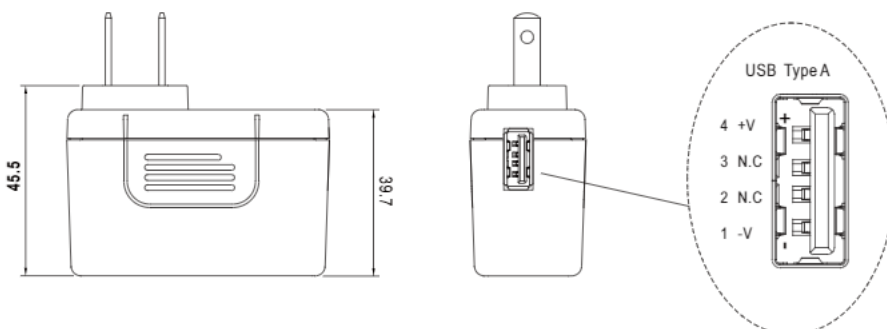
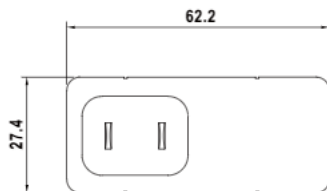
### Mechanical Specification

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	
	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
			OD	ID	L
	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
			OD	ID	L
<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
			OD	ID	L
<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
		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>