



### ■ Features

- Ultra slim, compact size
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1/ES60601-1-11
- Extremely Low leakage current
- 2 pole USA 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

### ■ Applications

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

Various DC plug quick adaptor accessories available. Contact TRC Electronics for details.  
3 years warranty

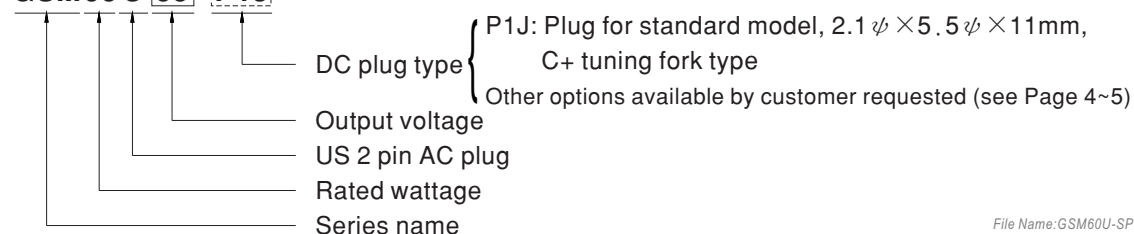
### ■ Description

GSM60U is a 60W ultra slim wall-mounted style single-output green medical adaptor series, which is compact and convenient for carry. GSM60U is a class II power unit (no FG) equipped with the standard 2-Pin U.S. 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, GSM60U is compliant with the latest U.S. 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 users from electric hazards.

### ■ Model Encoding

**GSM60U 05 -P1J**



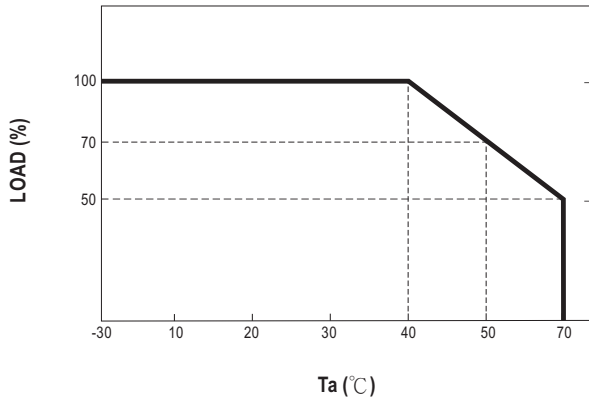
File Name:GSM60U-SPEC 2020-04-30

**SPECIFICATION**

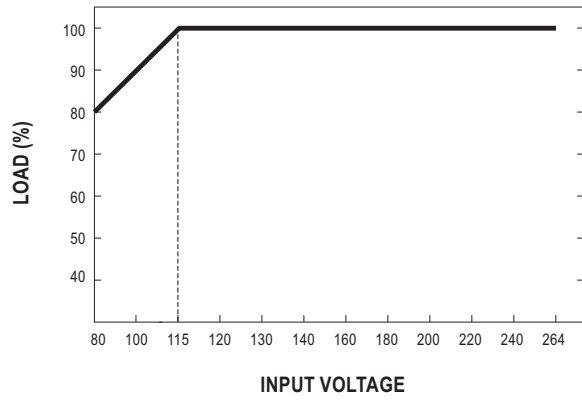
ORDER NO.		GSM60U05-P1J	GSM60U07-P1J	GSM60U09-P1J	GSM60U12-P1J	GSM60U15-P1J	GSM60U18-P1J	GSM60U24-P1J	GSM60U48-P1J
OUTPUT	SAFETY MODEL NO.	GSM60U05	GSM60U07	GSM60U09	GSM60U12	GSM60U15	GSM60U18	GSM60U24	GSM60U48
	DC VOLTAGE <small>Note.2</small>	5V	7.5V	9V	12V	15V	18V	24V	48V
	RATED CURRENT	6A	6A	5.5A	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	50W	54W	60W	60W	60W	60W
	RIPPLE & NOISE (max.) <small>Note.3</small>	100mVp-p	100mVp-p	100mVp-p	100mVp-p	120mVp-p	120mVp-p	120mVp-p	150mVp-p
	VOLTAGE TOLERANCE <small>Note.4</small>	±5.0%	±5.0%	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%
	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%	±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 <small>Note.7</small>	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°C (Refer to "Derating Curve")							
	WORKING HUMIDITY	20% ~ 90% RH non-condensing							
	STORAGE TEMP., HUMIDITY	-30 ~ +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 <small>(Note. 8)</small>	SAFETY STANDARDS	ANSI/ AAMI ES60601-1/ES60601-1-11(3.1 version), CAN/CSA-C22 NO. 60601-1 3 <sup>rd</sup> edition approved							
	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, 8hours / day							
	MTBF	400Khrs min. MIL-HDBK-217F(25°C)							
	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	<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."</p>								

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■ Derating Curve

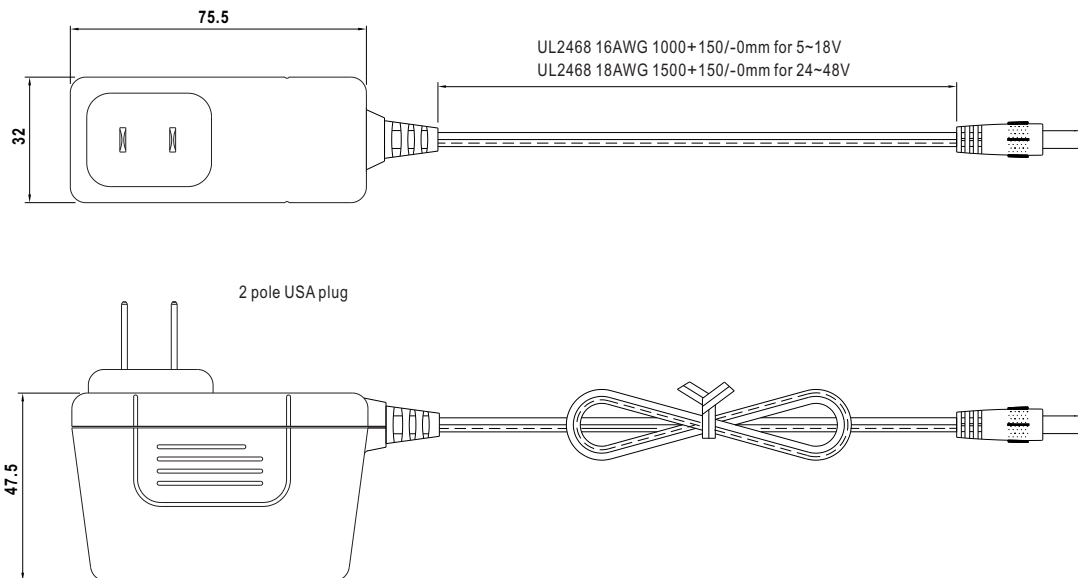


■ Static Characteristics



■ Mechanical Specification




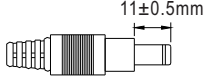

Unit:mm



■ DC output plug

◎ Standard plug: P1J

Unit:mm

P1J		Pin Assignment
		
		Outside  Inside



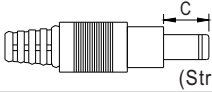


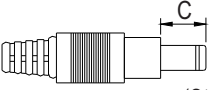


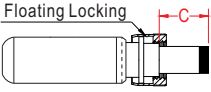


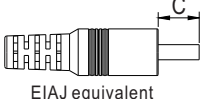
◎ DC plug changeable through:

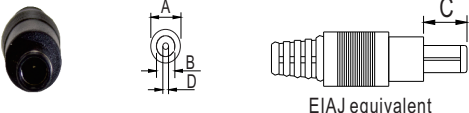
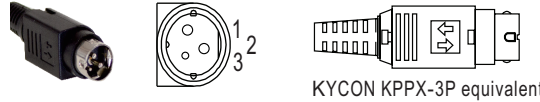
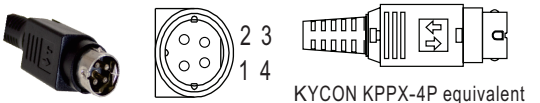
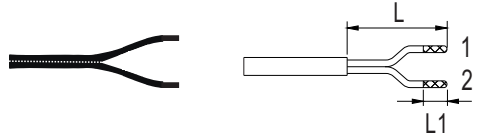
- (1) Customization of the standard part with an optional DC plug according to the table (MOQ applicable)
- (2) Quick adapter accessory (sold separately without MOQ)

Please refer to below table : 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)	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	None	
		 (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
			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	None	
		 Floating Locking 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 OD	B ID	C L	Available (Current rating: 5A max.)	
		 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	Quick Adapter Accessory
		OD	ID	L	Center Pin	
 <p>EIAJ equivalent</p>	P4A	5.5	3.4	11.0	1.0	<b>Available</b> (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				<b>Available</b> (Current rating: 7.5A max.)
 <p>KYCON KPPX-3P equivalent</p>	R6B	PIN No.		Output		
		1		+Vo		
		2		-Vo		
3		+Vo				
Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment				<b>Available</b> (Current rating: 7.5A max.)
 <p>KYCON KPPX-4P equivalent</p>	R7B	PIN No.		Output		
		1		+Vo		
		2		-Vo		
		3		-Vo		
4		+Vo				
Stripped and tinned leads	Type No.	Pin Assignment				<b>None</b>
 <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				