



BS EN/EN60601-1-1-11 ANSI/AAMI ES60601-1-1-11 IEC60601-1-1-11 TPTC004

■ Features

- 2 pole AC inlet IEC320-C8, Class II power unit
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1-1-11 and IEC/BS EN/EN60601-1-1-11
- Extremely low leakage current
- No load power consumption<0.1W
- Energy efficiency level VI and meet CoC Version 5 (Except 5~9V for Level V)
- -30~+70°C wide range working temperature
- Protections: Short circuit / Overload / Over voltage / Over temperature
- LED indicator for power on
- Lifetime > 95 K hours
- [Various DC plug quick adapter accessory available](#)
(Plug kit sold separately, please refer to : https://www.meanwell.com/upload/pdf/DC_plug.pdf)
- 3 years warranty

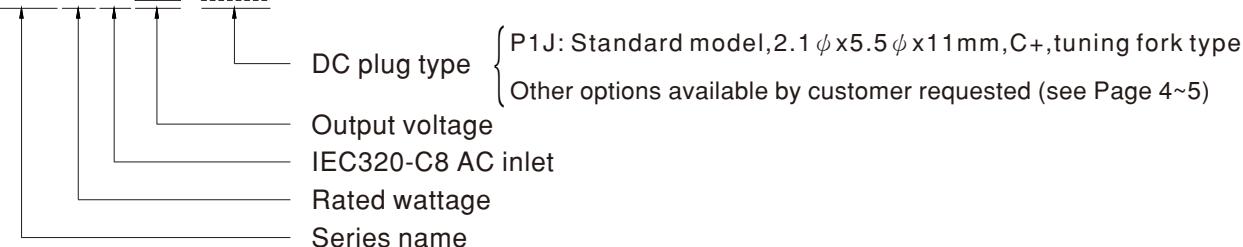
■ Description

GSM60B is a highly reliable, 60W desktop style single-output green medical adaptor series. This product is equipped with a 2-pin (no FG) standard IEC320-C8 power plug, adopting the input range from 80VAC to 264VAC. The entire series supplies different output voltages between 5VDC and 48VDC that can satisfy the demands for various kinds of medical electrical devices. The circuitry design meets the international medical standards (2*MOPP), having an ultra low leakage current (<50μA), fitting the medical devices in direct electrical contact with the patients.

With the efficiency up to 91.5% and the extremely low no-load power consumption below 0.1W, GSM60B is compliant with USA EISA 2007/DoE, Canada NRCan, Australia and New Zealand MEPS, EU ErP, and meet Code of Conduct (CoC) Version 5. The supreme feature allows the adaptor to save the energy when it is either under the operating mode or the standby mode. The entire series utilizes the 94V-0 flame retardant plastic case, providing the double insulation that effectively prevents electrical shock. GSM60B is approved with the international medical safety certificates.

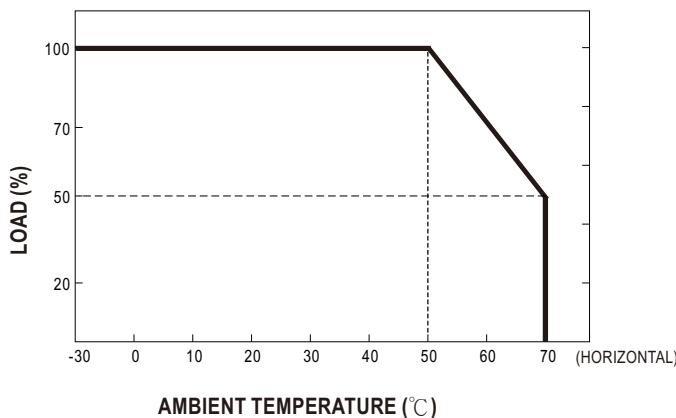
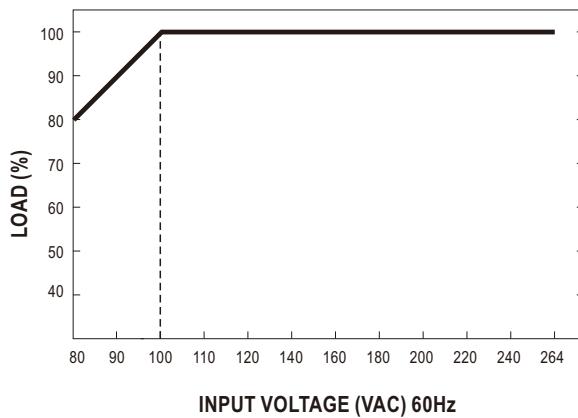
■ Model Encoding

GSM60 B 05 - P1J

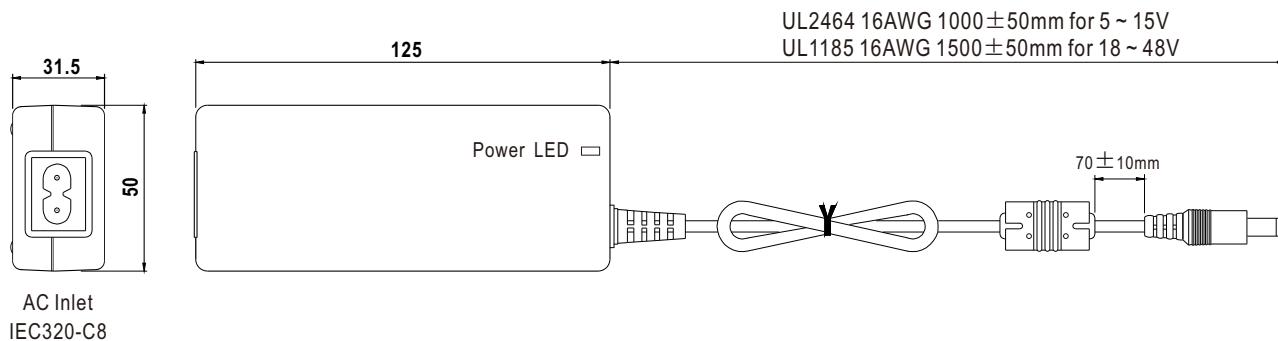


SPECIFICATION

ORDER NO.	GSM60B05-P1J	GSM60B07-P1J	GSM60B09-P1J	GSM60B12-P1J	GSM60B15-P1J	GSM60B18-P1J	GSM60B24-P1J	GSM60B48-P1J											
OUTPUT	SAFETY MODEL NO.	GSM60B05	GSM60B07	GSM60B09	GSM60B12	GSM60B15	GSM60B18	GSM60B24											
	DC VOLTAGE Note.2	5V	7.5V	9V	12V	15V	18V	24V											
	RATED CURRENT	6A	6A	6A	5A	4A	3.33A	2.5A											
	CURRENT RANGE	0 ~ 6A	0 ~ 6A	0 ~ 6A	0 ~ 5A	0 ~ 4A	0 ~ 3.33A	0 ~ 2.5A											
	RATED POWER (max.)	30W	45W	54W	60W	60W	60W	60W											
	RIPLPE & NOISE (max.) Note.3	80mVp-p	80mVp-p	100mVp-p	100mVp-p	100mVp-p	120mVp-p	200mVp-p											
	VOLTAGE TOLERANCE Note.4	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±2.5%											
	LINE REGULATION Note.5	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%											
	LOAD REGULATION	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±2.5%											
INPUT	SETUP, RISE TIME Note.6	1000ms, 30ms / 230VAC	1500ms, 30ms / 115VAC	at full load															
	HOLD UP TIME (Typ.)	50ms / 230VAC	16ms / 115VAC	at full load															
PROTECTION	VOLTAGE RANGE Note.7	80 ~ 264VAC																	
	FREQUENCY RANGE	47 ~ 63Hz																	
	EFFICIENCY (Typ.)	81.5%	86%	87.5%	88%	88.5%	89%	90%											
	AC CURRENT (Typ.)	1.4A / 115VAC	1A / 230VAC																
	INRUSH CURRENT (Typ.)	Cold start 30A / 115VAC	60A / 230VAC																
ENVIRONMENT	LEAKAGE CURRENT(max.)	Touch current < 50µA/264VAC																	
	OVERLOAD	105 ~ 160% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed																	
	OVER VOLTAGE	5.2 ~ 7.0V	7.8 ~ 10.2V	9.4 ~ 12.2V	12.6 ~ 16.2V	15.7 ~ 20.3V	18.9 ~ 24.3V	25.2 ~ 32.4V											
SAFETY & EMC (Note.9)	OVER TEMPERATURE	Protection type : Shut down o/p voltage, re-power on to recover																	
	WORKING TEMP.	-30 ~ +70°C (Refer to "Derating Curve")																	
	WORKING HUMIDITY	20% ~ 90% RH non-condensing																	
	STORAGE TEMP., HUMIDITY	-40 ~ +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.9)	OPERATING ALTITUDE Note.8	3000 meters																	
	SAFETY STANDARDS	IEC60601-1/IEC60601-1-11, BS EN/EN60601-1/ BS EN/EN60601-1-11, ANSI/AAMI ES60601-1 / ES60601-1-11(3.1 version), CAN/CSA-C22.2 No. 60601-1:14 - Edition 3, EAC TP TC 004 approved																	
	ISOLATION LEVEL	Primary-Secondary: 2xMOPP																	
	WITHSTAND VOLTAGE	I/P-O/P:4KVAC																	
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH																	
	EMC EMISSION	Parameter	Standard	Test Level / Note															
		Conducted emission	BS EN/EN55011 (CISPR11), FCC PART 15 / CISPR22, CAN ICES-3(B)/NMB-3(B)	Class B															
		Radiated emission	BS EN/EN55011 (CISPR11), FCC PART 15 / CISPR22, CAN ICES-3(B)/NMB-3(B)	Class B															
		Harmonic current	BS EN/EN61000-3-2	Class A															
	EMC IMMUNITY	Voltage flicker	BS EN/EN61000-3-3	-----															
		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 3, 10V															
OTHERS	Magnetic field immunity	BS EN/EN61000-4-8	Level 4, 30A/m																
	Voltage dip, interruption	BS EN/EN61000-4-11	100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods																
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°C 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.	Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time.																	
	7.	Derating may be needed under low input voltages. Please check the derating curve for more details.																	
	8.	The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).																	
	9.	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																		

■ Derating Curve

■ Static Characteristics

■ Mechanical Specification

Case No. GSM60B Unit:mm


■ DC output plug

◎ Standard plug: P1J

P1J	Pin Assignment
 	 Outside Inside
	 C"+"

◎ DC plug changeable through:

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

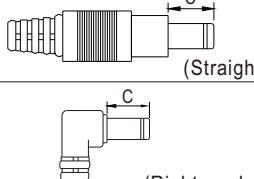
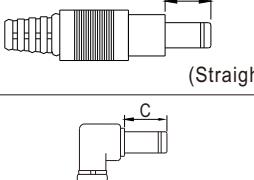
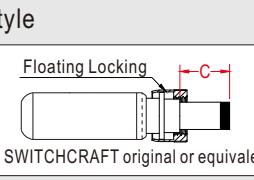
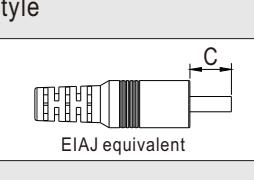
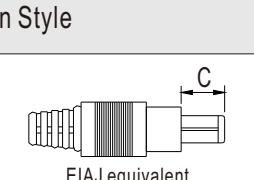
(2) Quick adapter accessory (sold separately without MOQ)

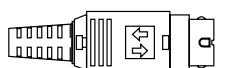
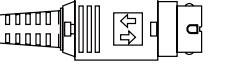
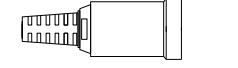
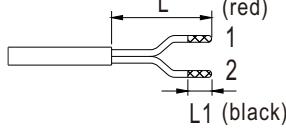
Please refer to below table and online selection guide : https://www.meanwell.com/upload/pdf/DC_plug.pdf

Example quick adapter accessory:



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

Tuning Fork Style	Type No.	A	B	C	Quick Adapter Accessory
		OD	ID	L	
  (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	
  (Straight)	Type No.	A	B	C	None
	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	
	Type No.	A	B	C	
  Floating Locking	OD	ID	L	None	
	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	
  EIAJ equivalent	Type No.	A	B	C	Available (Current rating: 5A max.)
	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	Type No.	A	B	C	Available (Current rating: 7.5A max.)
	OD	ID	L	Center Pin	
	P4A	5.5	3.4	11.0	
	P4B	6.5	4.4	11.0	
	P4C	7.4	5.1	11.0	

Min. DIN 3 Pin with Lock (male)	Type No.	Pin Assignment		Quick Adapter Accessory
		PIN No.	Output	
	R6B	1	+Vo	Available (Current rating: 7.5A max.)
 1 2 3		2	-Vo	
		3	+Vo	
Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment		Available (Current rating: 7.5A max.)
		PIN No.	Output	
	R7B	1	+Vo	
 2 3 1 4		2	-Vo	
		3	-Vo	
		4	+Vo	
Min. DIN 4 Pin with Lock (female)	Type No.	Pin Assignment		None
		PIN No.	Output	
	R7BF	1	+Vo	
 2 3 14		2	-Vo	
		3	-Vo	
		4	+Vo	
DIN 5 Pin (male)	Type No.	Pin Assignment		Available (Current rating: 7.5A max.)
		PIN No.	Output	
	R1B	1	-Vo	
 1 2 3 4 5		2	-Vo	
		3	+Vo	
		4	-Vo	
		5	+Vo	
Stripped and tinned leads	Type No.	Pin Assignment		None
		PIN No.	Output	
	by customer	1	+Vo	
 L (red) 1 L1 (black) 2		2	-Vo	
Length of Land L1 by request (MW's standard length, L: <u>25</u> mm, L1: <u>5</u> mm)				

■ Installation Manual

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