



User's Manual



Video



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<0.15W
- Energy efficiency level VI and meet CoC Version 5
- -30~+70°C wide range working temperature
- Protections: Short circuit / Overload / Over voltage / Over temperature
- LED indicator for power on
- Lifetime > 105 K hours
- Various DC plug quick adapter accessory available (Plug kit sold sperately, please refer to : [https://www.meanwell.com/upload/pdf/DC\\_plug.pdf](https://www.meanwell.com/upload/pdf/DC_plug.pdf))
- 3 years warranty

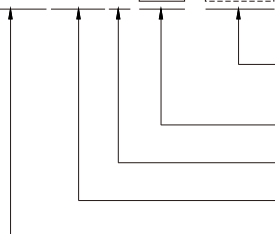
## Description

GSM120B is a highly reliable, 120W 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 12VDC 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 (<100μA), 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 0.15W, GSM120B 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. GSM120B is approved with the international medical safety certificates.

## Model Encoding

**GSM120B 12 - R7B**



DC plug type

Output voltage

IEC320-C8 AC inlet

Rated wattage

Series name

{ R7B: Standard model, Power DIN 4Pin with lock type  
Other options available by customer requested (see Page 4~5)

## Applications

- Mobile clinical workstation
- Oral irrigator
- Portable hemodialysis machine
- Breath Machine
- Medical computer monitor

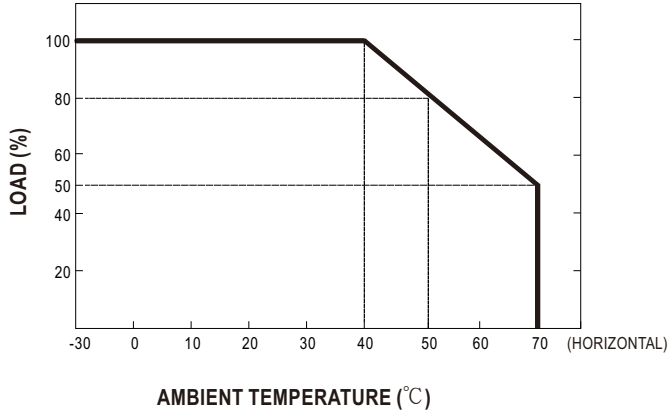


**SPECIFICATION**

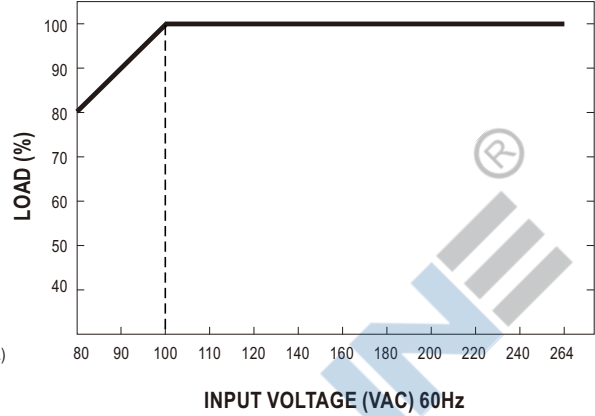
ORDER NO.		GSM120B12-R7B	GSM120B15-R7B	GSM120B20-R7B	GSM120B24-R7B	GSM120B48-R7B	
OUTPUT	SAFETY MODEL NO.	GSM120B12	GSM120B15	GSM120B20	GSM120B24	GSM120B48	
	DC VOLTAGE <span>Note.2</span>	12V	15V	20V	24V	48V	
	RATED CURRENT	8.5A	7A	6A	5A	2.5A	
	CURRENT RANGE	0 ~ 8.5A	0 ~ 7A	0 ~ 6A	0 ~ 5A	0 ~ 2.5A	
	RATED POWER (max.)	102W	105W	120W	120W	120W	
	RIPPLE & NOISE (max.) <span>Note.3</span>	100mVp-p	120mVp-p	150mVp-p	180mVp-p	200mVp-p	
	VOLTAGE TOLERANCE <span>Note.4</span>	± 5.0%	± 5.0%	± 5.0%	± 3.0%	± 2.5%	
	LINE REGULATION <span>Note.5</span>	± 1.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%	
	LOAD REGULATION	± 5.0%	± 5.0%	± 4.0%	± 3.0%	± 2.5%	
	SETUP, RISE TIME <span>Note.6</span>	1500ms, 30ms / 230VAC      2000ms, 30ms / 115VAC at full load					
HOLD UP TIME (Typ.)	40ms / 230VAC      24ms / 115VAC at full load						
INPUT	VOLTAGE RANGE <span>Note.7</span>	80 ~ 264VAC    113 ~ 370VDC					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	PF>0.93 / 230VAC    PF>0.97 / 115VAC at full load					
	EFFICIENCY (Typ.)	88%	89%	89.5%	90%	91.5%	
	AC CURRENT (Typ.)	1.4A / 115VAC    0.7A / 230VAC					
	INRUSH CURRENT (Typ.)	Cold start    35A / 115VAC    70A / 230VAC					
	LEAKAGE CURRENT(max.)	Touch current < 100 $\mu$ A/264VAC					
PROTECTION	OVERLOAD	105 ~ 160% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed					
	OVER VOLTAGE	105 ~ 135% rated output voltage Protection type : Shut down o/p voltage, re-power on to recover					
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover					
ENVIRONMENT	WORKING TEMP.	-30 ~ +70℃ (Refer to "Derating Curve")					
	WORKING HUMIDITY	20% ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing					
	TEMP. COEFFICIENT	± 0.03% / °C (0 ~ 40℃)					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes					
	OPERATING ALTITUDE <span>Note.8</span>	3000 meters					
SAFETY & EMC (Note. 9)	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℃ / 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	
		Voltage flicker	BS EN/EN61000-3-3			-----	
	EMC IMMUNITY	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	
		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		
OTHERS		MTBF	372K hrs min. MIL-HDBK-217F(25℃)				
	DIMENSION	167*67*35mm (L*W*H)					
	PACKING	0.6Kg; 20pcs/13.0Kg/0.89CUFT					
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 0.1 $\mu$ F & 47 $\mu$ F 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 voltage. Please check the derating curve for more details. 8. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/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 <a href="http://www.meanwell.com">http://www.meanwell.com</a> ) ※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a>						



### Derating Curve

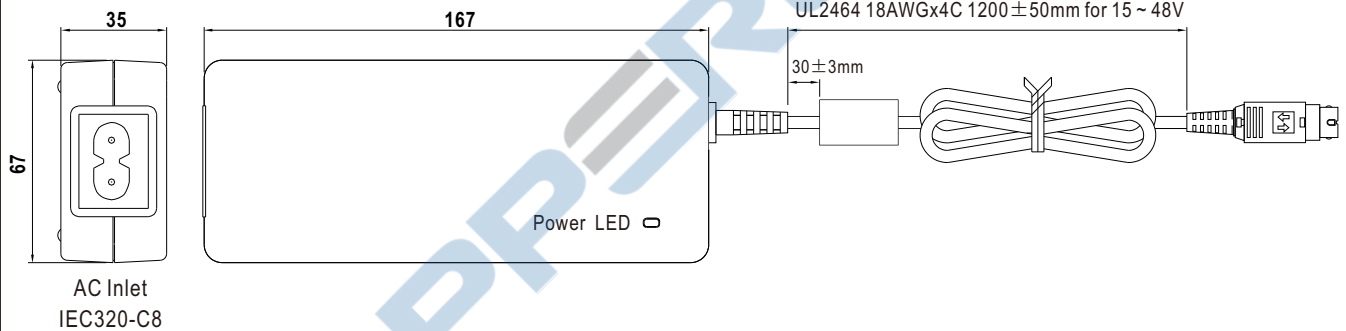


### Static Characteristics




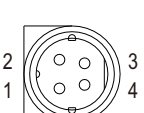
### Mechanical Specification

Case No. GS120A Unit:mm



### DC output plug

Standard plug: R7B

R7B		Pin Assignment	
	2 3		PIN NO.
	1 4		OUTPUT
			1 +Vo
			2 -Vo
KYCON KPPX-4P equivalent		3 -Vo	
		4 +Vo	

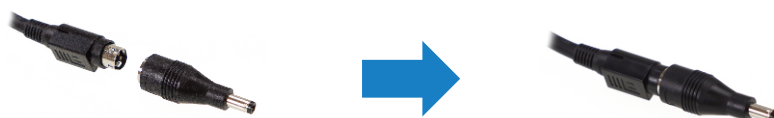


⦿ DC plug changeable through:



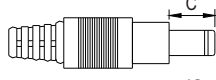


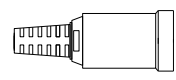


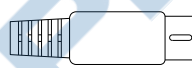


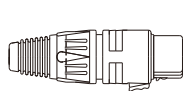



- (1) Customization of the standard part with an optional DC plug according to the table (MOQ applicable)
- (2) Quick adapter accessory (sold separately without MOQ)

Please refer to below table and online selection guide : [https://www.meanwell.com/upload/pdf/DC\\_plug.pdf](https://www.meanwell.com/upload/pdf/DC_plug.pdf)

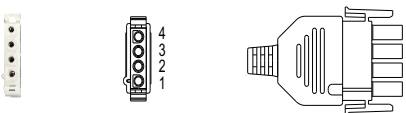

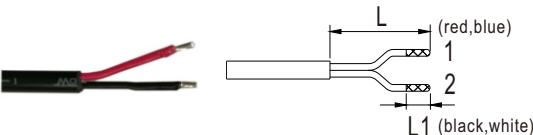

Example quick adapter accessory:



⦿ 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)	P1J	5.5	2.1	11.0	Available for 15 ~ 48V (Current rating: 7.5A max.)
	P1M	5.5	2.5	11.0	
Min. DIN 4 Pin with Lock (female)	Type No.	Pin Assignment			
   KYCON KPJX-CM-4S equivalent	R7BF	PIN No.	Output		
		1	+Vo		
		2	-Vo		
		3	-Vo		
		4	+Vo		
DIN 5 Pin (male)	Type No.	Pin Assignment			
  	R1B	PIN No.	Output		
		1	-Vo		
		2	-Vo		
		3	+Vo		
		4	-Vo		
		5	+Vo		
NEUTRIK XLR NC4FX equivalent	Type No.	Pin Assignment			
  	MIC4	PIN No.	Output		
		1	+Vo		
		2	+Vo		
		3	-Vo		
		4	-Vo		
MOLEX 39-01-2060 (4.2mm) equivalent	Type No.	Pin Assignment			
   FG not connected to output connector	C6P	PIN No.	Output		
		1	+Vo		
		2	+Vo		
		3	+Vo		
		4	-Vo		
		5	-Vo		
		6	-Vo		



AMP 1-480702-0 (6.35mm) equivalent	Type No.	Pin Assignment		Quick Adapter Accessory
		PIN No.	Output	
 FG not connected to output connector	C4P	1	+Vo	 None
		2	+Vo	
		3	-Vo	
		4	-Vo	
Stripped and tinned leads	Type No.	Pin Assignment		
		PIN No.	Output	
 Length of Land L and L1 by request (MW's standard length, L: <u>25</u> mm, L1: <u>5</u> mm)	by customer	1	+Vo	 None
		2	-Vo	

## ■ Installation Manual

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