

## ■ Features

- 2 pole AC inlet IEC320-C8, Class II power unit
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1-1111 and IEC/BS EN/EN60601-1-1111
- 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 > 70K hours
- Various DC plug quick adapter accessory available  
(Plug kit sold separately, please refer to : [https://www.meanwell.com/upload/pdf/DC\\_plug.pdf](https://www.meanwell.com/upload/pdf/DC_plug.pdf))
- 3 years warranty

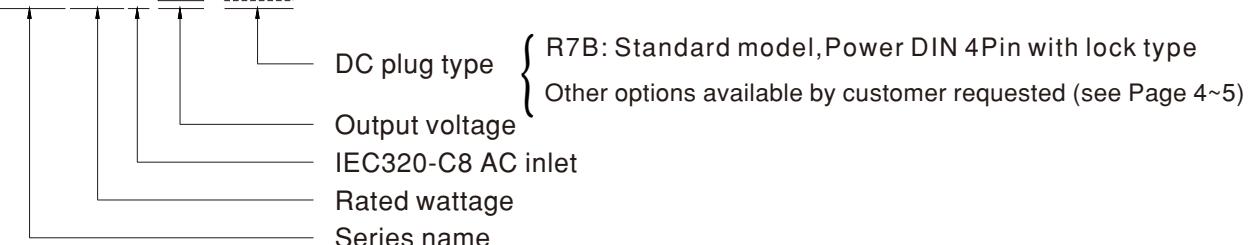
## ■ Description

GSM220B is a highly reliable, 220W 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 (<100  $\mu$ A), fitting the medical devices in direct electrical contact with the patients.

With the efficiency up to 94.5% and the extremely low no-load power consumption below 0.15W, GSM220B 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. GSM220B is approved with the international medical safety certificates.

## ■ Model Encoding

**GSM220B 12-R7B**

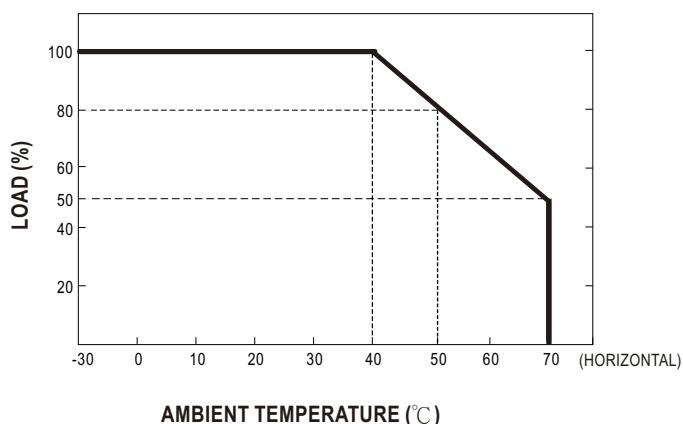
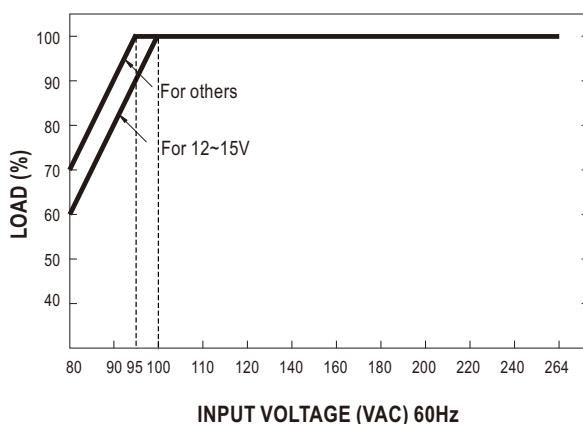


## ■ Applications

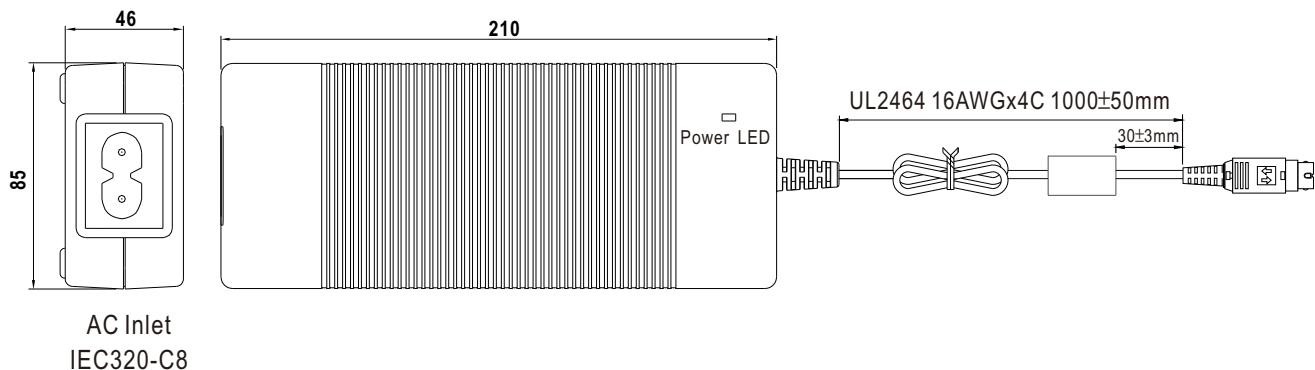
- Mobile clinical workstation
- Oral irrigator
- Portable hemodialysis machine
- Breath Machine
- Medical computer monitor

## SPECIFICATION

ORDER NO.	GSM220B12-R7B	GSM220B15-R7B	GSM220B20-R7B	GSM220B24-R7B	GSM220B48-R7B
OUTPUT	SAFETY MODEL NO.	GSM220B12	GSM220B15	GSM220B20	GSM220B24
	DC VOLTAGE Note.2	12V	15V	20V	24V
	RATED CURRENT	15A	13.4A	11A	9.2A
	CURRENT RANGE	0 ~ 15A	0 ~ 13.4A	0 ~ 11A	0 ~ 9.2A
	RATED POWER (max.)	180W	201W	220W	221W
	RIPLPE & NOISE (max.) Note.3	80mVp-p	80mVp-p	120mVp-p	120mVp-p
	VOLTAGE TOLERANCE Note.4	±5.0%	±5.0%	±4.0%	±3.0%
	LINE REGULATION Note.5	±1.0%	±1.0%	±1.0%	±1.0%
	LOAD REGULATION	±5.0%	±5.0%	±4.0%	±3.0%
	SETUP, RISE TIME Note.6	2000ms, 50ms / 230VAC	2000ms, 50ms / 115VAC	at full load	
INPUT	HOLD UP TIME (Typ.)	24ms / 230VAC	24ms / 115VAC	at full load	
	VOLTAGE RANGE Note.7	80 ~ 264VAC	113 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 63Hz			
	POWER FACTOR (Typ.)	PF>0.91 / 230VAC	PF>0.98 / 115VAC	at full load	
	EFFICIENCY (Typ.)	90%	90%	92%	93.5%
	AC CURRENT (Typ.)	4A / 115VAC	2A / 230VAC		
PROTECTION	INRUSH CURRENT (max.)	Cold start	90A / 115VAC	110A / 230VAC	
	LEAKAGE CURRENT(max.)	Touch current < 100 $\mu$ A/264VAC			
	OVERLOAD	105 ~ 135% rated output power	Protection type : Hiccup mode, recovers automatically after fault condition is removed		
ENVIRONMENT	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, recovers automatically after temperature goes down			
	WORKING TEMP.	-30 ~ +70°C (Refer to "Derating Curve")			
ENVIRONMENT	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			
	OPERATING ALTITUDE Note.8	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, KC K60950-1 (for GSM220B24 only) 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/EN16000-3-2	Class A	
		Voltage flicker	BS EN/EN16000-3-3	-----	
	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	208.66K hrs min. MIL-HDBK-217F(25°C)			
	DIMENSION	210*85*46mm (L*W*H)			
CONNECTOR	PACKING	1.1Kg; 12pcs/14.2Kg/0.81CUFT			
	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 0.1 $\mu$ 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°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-confirmed 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. 961A Unit:mm


 AC Inlet  
 IEC320-C8

**■ DC output plug**

◎ Standard plug: R7B

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

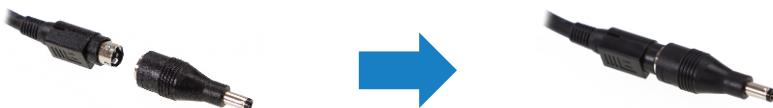
◎ DC plug changeable through:

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

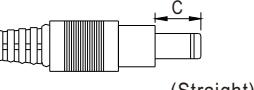
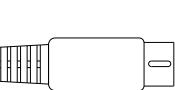
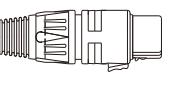
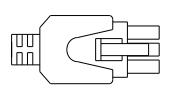
(2) Quick adapter accessory (sold separately without MOQ)

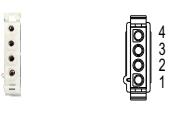
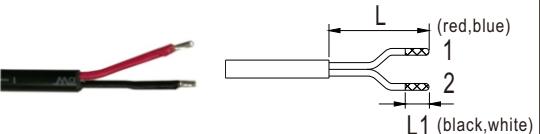
Please refer to below table and online selection guide : [https://www.meanwell.com/upload/pdf/DC\\_plug.pdf](https://www.meanwell.com/upload/pdf/DC_plug.pdf)

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 48V (Current rating: 7.5A max.)
	P1M	5.5	2.5	11.0	
Min. DIN 4 Pin with Lock (female)    KYCON KPJX-CM-4S equivalent	Type No.	Pin Assignment		None	
		PIN No.	Output		
   DIN 5 Pin (male)	Type No.	Pin Assignment		None	
		PIN No.	Output		
		1	+Vo		
		2	-Vo		
		3	-Vo		
NEUTRIK XLR NC4FX equivalent   	Type No.	Pin Assignment		None	
		PIN No.	Output		
		1	+Vo		
		2	+Vo		
		3	-Vo		
MOLEX 39-01-2060 (4.2mm) equivalent    FG not connected to output connector	Type No.	Pin Assignment		None	
		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			
		by customer	PIN No.	Output		
 Length of Land L1 by request (MW's standard length, L: <u>25</u> mm, L1: <u>5</u> mm)			1	+Vo		
			2	-Vo		

### ■ Installation Manual

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