

■ 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 > 70K 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

■ Applications

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

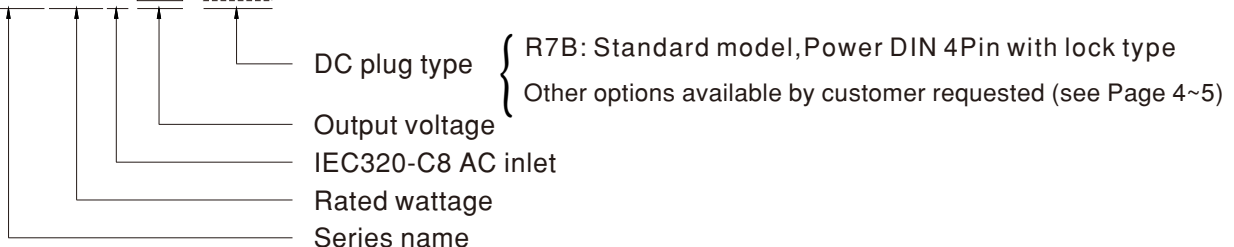
■ Description

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 μA), 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

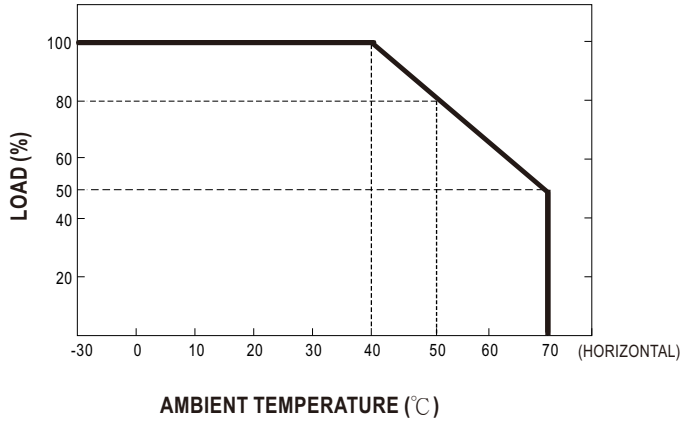
GSM220B 12 - R7B



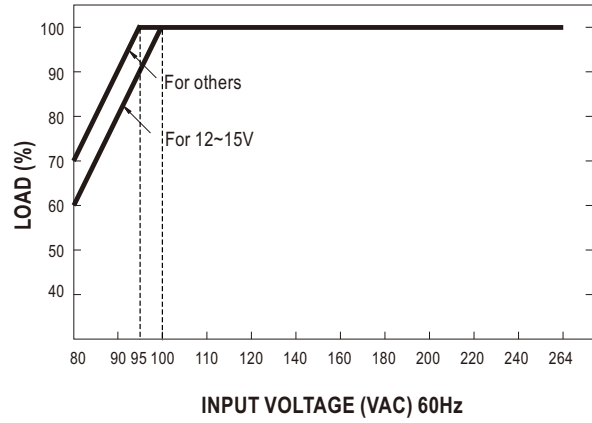
SPECIFICATION

ORDER NO.	GSM220B12-R7B	GSM220B15-R7B	GSM220B20-R7B	GSM220B24-R7B	GSM220B48-R7B		
OUTPUT	SAFETY MODEL NO.	GSM220B12	GSM220B15	GSM220B20	GSM220B24	GSM220B48	
	DC VOLTAGE Note.2	12V	15V	20V	24V	48V	
	RATED CURRENT	15A	13.4A	11A	9.2A	4.6A	
	CURRENT RANGE	0 ~ 15A	0 ~ 13.4A	0 ~ 11A	0 ~ 9.2A	0 ~ 4.6A	
	RATED POWER (max.)	180W	201W	220W	221W	221W	
	RIPPLE & NOISE (max.) Note.3	80mVp-p	80mVp-p	120mVp-p	120mVp-p	150mVp-p	
	VOLTAGE TOLERANCE Note.4	±5.0%	±5.0%	±4.0%	±3.0%	±2.0%	
	LINE REGULATION Note.5	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	
	LOAD REGULATION	±5.0%	±5.0%	±4.0%	±3.0%	±2.0%	
	SETUP, RISE TIME Note.6	2000ms, 50ms / 230VAC 2000ms, 50ms / 115VAC at full load					
HOLD UP TIME (Typ.)	24ms / 230VAC 24ms / 115VAC at full load						
INPUT	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%	94.5%	
	AC CURRENT (Typ.)	4A / 115VAC 2A / 230VAC					
	INRUSH CURRENT (max.)	Cold start 90A / 115VAC 110A / 230VAC					
LEAKAGE CURRENT(max.)	Touch current < 100 μ A/264VAC						
PROTECTION	OVERLOAD	105 ~ 135% 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, recovers automatically after temperature goes down					
ENVIRONMENT	WORKING TEMP.	-30 ~ +70 $^{\circ}$ C (Refer to "Derating Curve")					
	WORKING HUMIDITY	20% ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +85 $^{\circ}$ C, 10 ~ 95% RH non-condensing					
	TEMP. COEFFICIENT	±0.03% / $^{\circ}$ C (0~40 $^{\circ}$ 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 $^{\circ}$ 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	
		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	208.66K hrs min. MIL-HDBK-217F(25 $^{\circ}$ C)					
	DIMENSION	210*85*46mm (L*W*H)					
	PACKING	1.1Kg; 12pcs/14.2Kg/0.81CUFT					
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$^{\circ}$C 70% RH ambient.</p> <p>2. DC voltage: The output voltage set at point measure by plug terminal & 50% load.</p> <p>3. Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1μf & 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. 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.</p> <p>7. Derating may be needed under low input voltage. Please check the derating curve for more details.</p> <p>8. The ambient temperature derating of 3.5$^{\circ}$C/1000m with fanless models and of 5$^{\circ}$C/1000m with fan models for operating altitude higher than 2000m(6500ft).</p> <p>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)</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx</p>						

Derating Curve

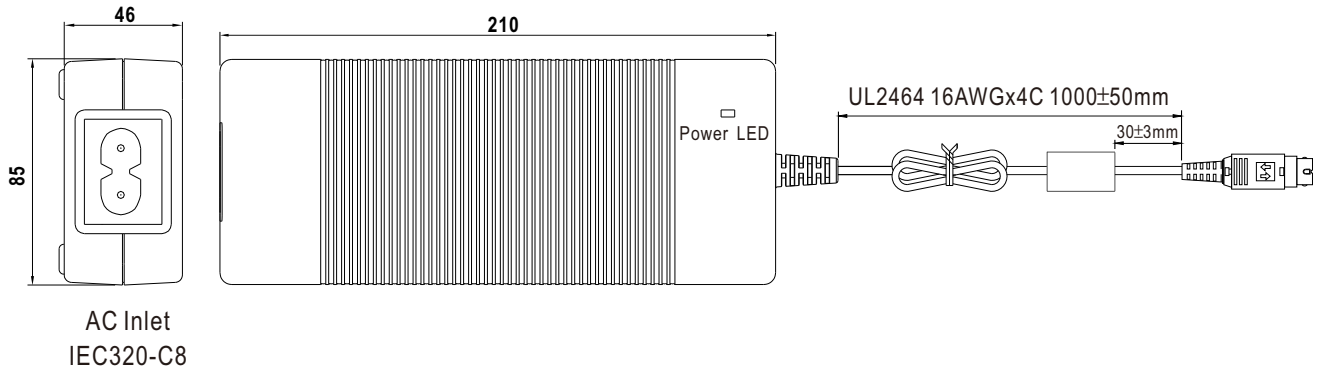


Static Characteristics



Mechanical Specification

Case No. 961A Unit:mm



DC output plug

Standard plug: R7B

R7B		Pin Assignment	
	KYCON KPPX-4P equivalent		
		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)

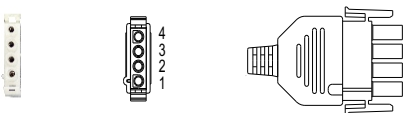
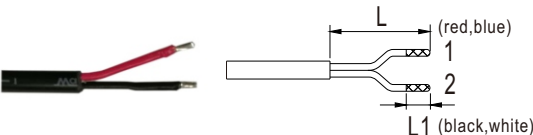
Please refer to below table and online selection guide : https://www.meanwell.com/upload/pdf/DC_plug.pdf

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)	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)	Type No.	Pin Assignment			
 KYCON KPJX-CM-4S equivalent	R7BF	PIN No.	Output		None
		1	+Vo		
		2	-Vo		
		3	-Vo		
 DIN 5 Pin (male)	R1B	PIN No.	Output		None
		1	-Vo		
		2	-Vo		
		3	+Vo		
 NEUTRIK XLR NC4FX equivalent	MIC4	PIN No.	Output		None
		1	+Vo		
		2	+Vo		
		3	-Vo		
 MOLEX 39-01-2060 (4.2mm) equivalent	C6P	PIN No.	Output		None
		1	+Vo		
		2	+Vo		
		3	+Vo		
 FG not connected to output connector	C6P	4	-Vo		
		5	-Vo		
		6	-Vo		

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

■ **Installation Manual**

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