

## 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

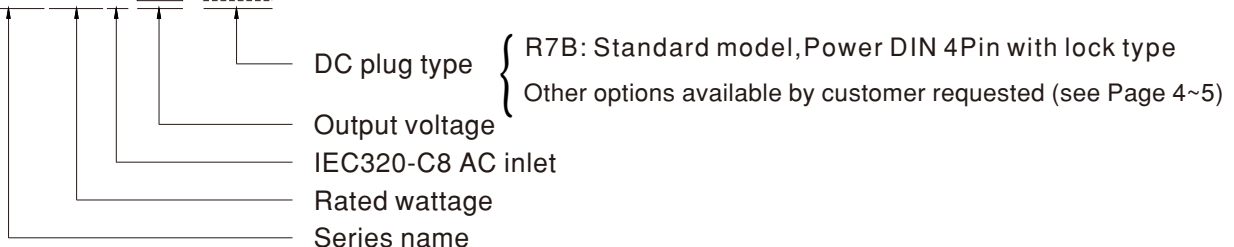
## Description

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

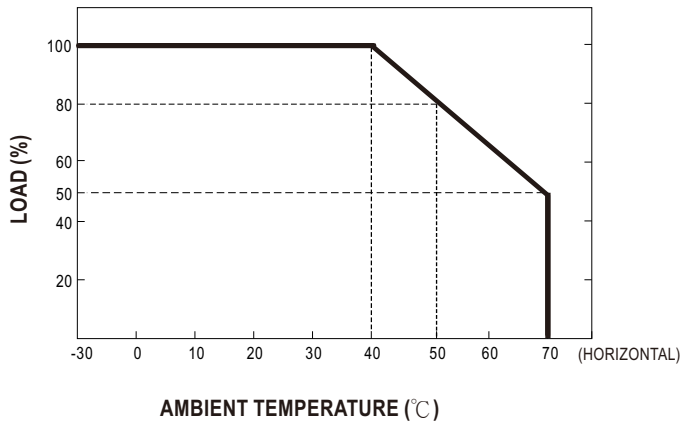
**GSM220B 12 - R7B**



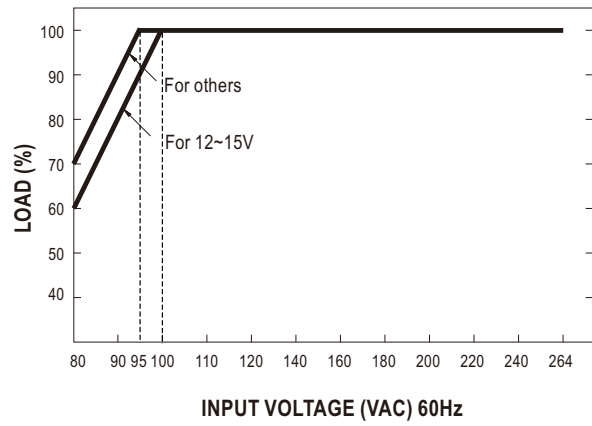
**SPECIFICATION**

ORDER NO.	GSM220B12-R7B	GSM220B15-R7B	GSM220B20-R7B	GSM220B24-R7B	GSM220B48-R7B		
OUTPUT	<b>SAFETY MODEL NO.</b>	GSM220B12	GSM220B15	GSM220B20	GSM220B24	GSM220B48	
	<b>DC VOLTAGE</b> <small>Note.2</small>	12V	15V	20V	24V	48V	
	<b>RATED CURRENT</b>	15A	13.4A	11A	9.2A	4.6A	
	<b>CURRENT RANGE</b>	0 ~ 15A	0 ~ 13.4A	0 ~ 11A	0 ~ 9.2A	0 ~ 4.6A	
	<b>RATED POWER (max.)</b>	180W	201W	220W	221W	221W	
	<b>RIPPLE &amp; NOISE (max.)</b> <small>Note.3</small>	80mVp-p	80mVp-p	120mVp-p	120mVp-p	150mVp-p	
	<b>VOLTAGE TOLERANCE</b> <small>Note.4</small>	±5.0%	±5.0%	±4.0%	±3.0%	±2.0%	
	<b>LINE REGULATION</b> <small>Note.5</small>	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	
	<b>LOAD REGULATION</b>	±5.0%	±5.0%	±4.0%	±3.0%	±2.0%	
	<b>SETUP, RISE TIME</b> <small>Note.6</small>	2000ms, 50ms / 230VAC      2000ms, 50ms / 115VAC at full load					
<b>HOLD UP TIME (Typ.)</b>	24ms / 230VAC      24ms / 115VAC at full load						
INPUT	<b>VOLTAGE RANGE</b> <small>Note.7</small>	80 ~ 264VAC    113 ~ 370VDC					
	<b>FREQUENCY RANGE</b>	47 ~ 63Hz					
	<b>POWER FACTOR (Typ.)</b>	PF>0.91 / 230VAC    PF>0.98 / 115VAC at full load					
	<b>EFFICIENCY (Typ.)</b>	90%	90%	92%	93.5%	94.5%	
	<b>AC CURRENT (Typ.)</b>	4A / 115VAC      2A / 230VAC					
	<b>INRUSH CURRENT (max.)</b>	Cold start 90A / 115VAC    110A / 230VAC					
<b>LEAKAGE CURRENT(max.)</b>	Touch current < 100µA/264VAC						
PROTECTION	<b>OVERLOAD</b>	105 ~ 135% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed					
	<b>OVER VOLTAGE</b>	105 ~ 135% rated output voltage Protection type : Shut down o/p voltage, re-power on to recover					
	<b>OVER TEMPERATURE</b>	Shut down o/p voltage, recovers automatically after temperature goes down					
ENVIRONMENT	<b>WORKING TEMP.</b>	-30 ~ +70°C (Refer to "Derating Curve")					
	<b>WORKING HUMIDITY</b>	20% ~ 90% RH non-condensing					
	<b>STORAGE TEMP., HUMIDITY</b>	-40 ~ +85°C, 10 ~ 95% RH non-condensing					
	<b>TEMP. COEFFICIENT</b>	±0.03% / °C (0~40°C)					
	<b>VIBRATION</b>	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes					
	<b>OPERATING ALTITUDE</b> <small>Note.8</small>	3000 meters					
SAFETY & EMC <small>(Note. 9)</small>	<b>SAFETY STANDARDS</b>	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					
	<b>ISOLATION LEVEL</b>	Primary-Secondary: 2xMOPP					
	<b>WITHSTAND VOLTAGE</b>	I/P-O/P: 4KVAC					
	<b>ISOLATION RESISTANCE</b>	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH					
	<b>EMC EMISSION</b>	<b>Parameter</b>	<b>Standard</b>			<b>Test Level / Note</b>	
		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			-----	
	<b>EMC IMMUNITY</b>	BS EN/EN60601-1-2, BS EN/EN61204-3					
		<b>Parameter</b>	<b>Standard</b>			<b>Test Level / Note</b>	
		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	<b>MTBF</b>	208.66K hrs min. MIL-HDBK-217F(25°C)					
	<b>DIMENSION</b>	210*85*46mm (L*W*H)					
	<b>PACKING</b>	1.1Kg; 12pcs/14.2Kg/0.81CUFT					
CONNECTOR	<b>PLUG</b>	See page 4-5; Other type available by customer requested					
	<b>CABLE</b>	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.</p> <p>2. DC voltage: The output voltage set at point measure by plug terminal &amp; 50% load.</p> <p>3. Ripple &amp; noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µf &amp; 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°C/1000m with fanless models and of 5°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 <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a></p>						

### Derating Curve

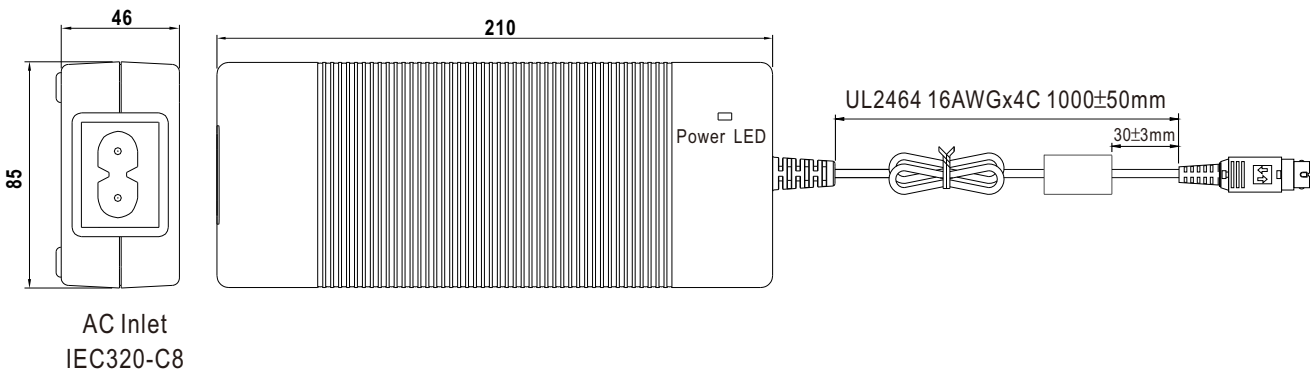


### Static Characteristics



### Mechanical Specification

Case No. 961A Unit:mm



### DC output plug

Standard plug: R7B

R7B		Pin Assignment	
	KYCON KPPX-4P equivalent		
		<b>PIN NO.</b>	<b>OUTPUT</b>
		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)

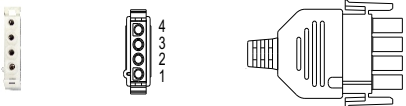
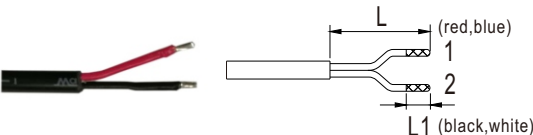
Please refer to below table and online selection guide : [https://www.meanwell.com/upload/pdf/DC\\_plug.pdf](https://www.meanwell.com/upload/pdf/DC_plug.pdf)

Example quick adapter accessory:



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

Tuning Fork Style	Type No.	A 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)	Type No.	Pin Assignment			
	R1B	PIN No.	Output		None
		1	-Vo		
		2	-Vo		
		3	+Vo		
		4	-Vo		
NEUTRIK XLR NC4FX equivalent	Type No.	Pin Assignment			
	MIC4	PIN No.	Output		None
		1	+Vo		
		2	+Vo		
		3	-Vo		
MOLEX 39-01-2060 (4.2mm) equivalent	Type No.	Pin Assignment			
 FG not connected to output connector	C6P	PIN No.	Output		None
		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	
 <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	None
2	-Vo			

■ **Installation Manual**

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