220W AC-DC Reliable Green Medical Adaptor

GSM220A series

User's Manual Click Me

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Energy Verified Rendement Énergétique Vérifié

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

TPTC004

Features

- 3 pole AC inlet IEC320-C14, Class I power unit
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 and IEC/BS EN/EN60601-1
- Extremely low leakage current
- No load power consumption<0.15W
- Energy efficiency level VI and meet CoC Version 5
- -30~+70℃ wide range working temperature
- Protections: Short circuit / Overload / Over voltage / Over temperature
- LED indicator for power on
- Lifetime > 80 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)
- 3 years warranty

Applications

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

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

GSM220A is a highly reliable, 220W desktop style single-output green medical adaptor series. This product is equipped with a 3-pin (with FG) standard IEC320-C14 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 94.5% and the extremely low no-load power consumption below 0.15W, GSM220A 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. GSM220A is approved with the international medical safety certificates.

Model Encoding

GSM220A 12 - R7B

- DC plug type: R7B: Standard model,Power DIN 4Pin with lock type; Other options available by customer requested (see Page 4~5)
- Output voltage
- IEC320-C14 AC inlet
- Rated wattage
- Series name

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SPECIFICATION

ORDER NO.		GSM220A12-R7B	GSM220A15-R7B	GSM220A20-R7B	GSM220A24-R7B	GSM220A48-R7B
OUTPUT	SAFETY MODEL NO.	GSM220A12	GSM220A15	GSM220A20	GSM220A24	GSM220A48
	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.)	20ms / 230VAC 20ms / 115VAC at full load				
INPUT	VOLTAGE RANGE Note.7	80 ~ 264VAC				
	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.)	Earth leakage current < 115 μA/264VAC , Touch current <100 μA/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℃ (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% / ℃ (0~40℃)				
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes				
	OPERATING ALTITUDE Note.8	3000 meters				
SAFETY & EMC (Note. 10)	SAFETY STANDARDS	IEC 60601-1:2005+A1+A2, TUV BS EN/ EN 60601-1:2006+A1+A12+A2, ANSI/AAMI ES60601-1:2005+A2, CAN/CSA C22.2 No. 60601-1:2014+A2, EAC TP TC 004 approved				
	ISOLATION LEVEL	Primary-Secondary: 2xMOPP, Primary-Earth: 1xMOPP				
	WITHSTAND VOLTAGE Note.9	I/P-O/P:4KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC				
	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	Class B		
		Radiated emission	BS EN/EN55011 (CISPR11), FCC PART 15 / CISPR22	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 , 2KV/Line-FG		
		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	2028.6K hrs min. Telcordia SR-332 (Bellcore) ; 210.8K hrs min. MIL-HDBK-217F (25℃)				
	DIMENSION	210*85*46mm (L*W*H)				
	PACKING	1.1Kg; 12pcs/14.2Kg/0.87CUFT				
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 μF & 47 μF 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. Pleas 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. Optional for 1.5KVAC with BF rated.
10 .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 https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

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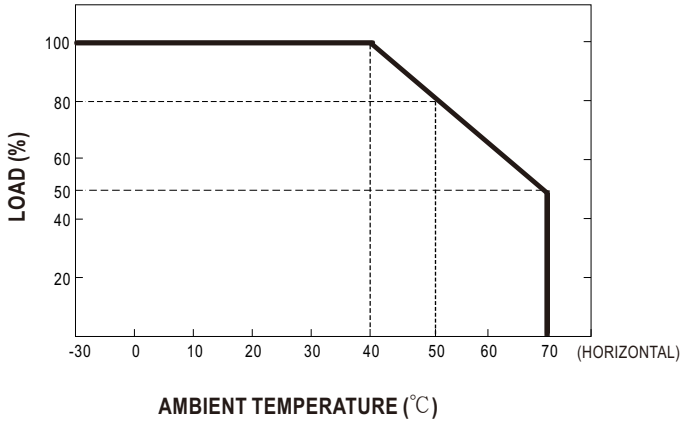
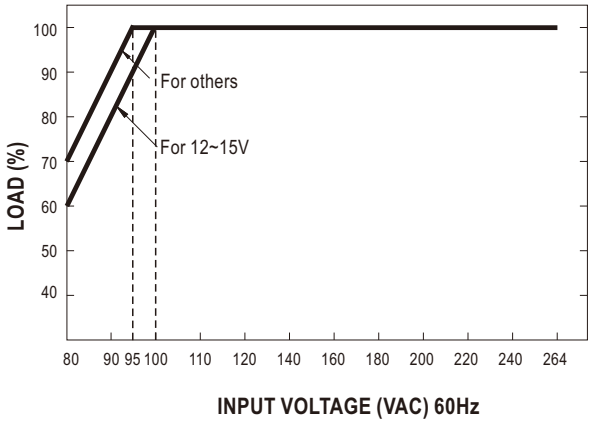
■ Derating Curve



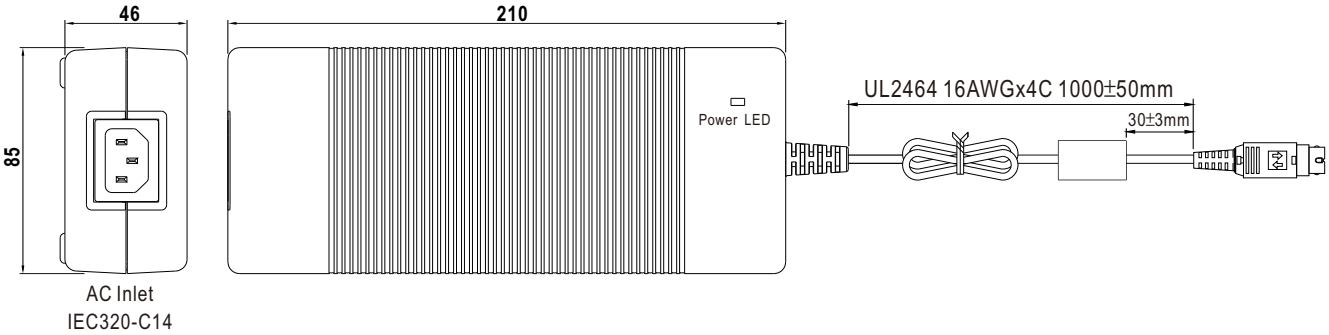
■ Static Characteristics



■ Mechanical Specification

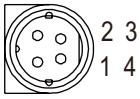
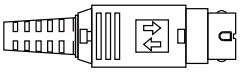
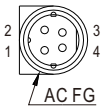
(Unit: mm , tolerance ± 1mm)

Case No. 961A



■ DC output plug

◎ Standard plug: R7B

R7B	Pin Assignment		
  KYCON KPPX-4P equivalent	 Outer shell connected to AC FG -V not connected to AC FG	PIN NO.	OUTPUT
		1	+Vo
		2	-Vo
		3	-Vo
		4	+Vo

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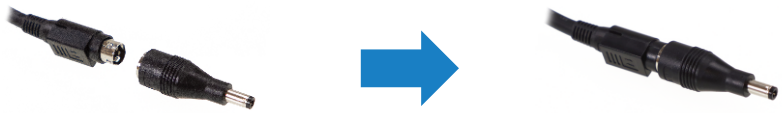
◎ DC plug changeable through:

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

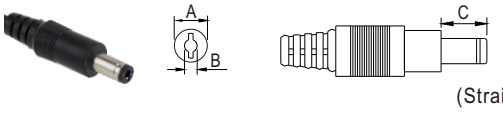
(2) Quick adapter accessory (sold separately without MOQ)

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)

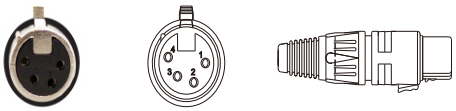
Tuning Fork Style	Type No.	A / OD	B / ID	C / L	Quick Adapter Accessory
 (Straight)	P1J	5.5	2.1	11.0	Available for 48V (Current rating: 7.5A max.)
	P1M	5.5	2.5	11.0	

Min. DIN 4 Pin with Lock (female)	Type No.	Pin Assignment	
		PIN No.	Output
KYCON KPJX-CM-4S equivalent	R7BF	1	+Vo
		2	-Vo
		3	-Vo
		4	+Vo

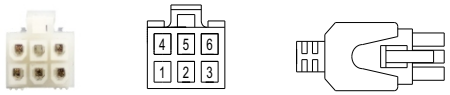
None

DIN 5 Pin (male)	Type No.	Pin Assignment	
		PIN No.	Output
	R1B	1	-Vo
		2	-Vo
		3	+Vo
		4	-Vo
		5	+Vo

None

NEUTRIK XLR NC4FX equivalent	Type No.	Pin Assignment	
		PIN No.	Output
	MIC4	1	+Vo
		2	+Vo
		3	-Vo
		4	-Vo

None

MOLEX 39-01-2060 (4.2mm) equivalent	Type No.	Pin Assignment	
		PIN No.	Output
 FG not connected to output connector	C6P	1	+Vo
		2	+Vo
		3	+Vo
		4	-Vo
		5	-Vo
		6	-Vo

None

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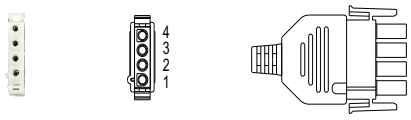
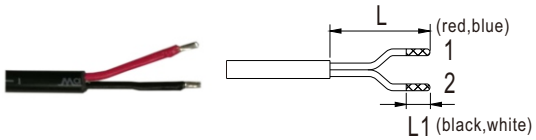
AMP 1-480702-0 (6.35mm) equivalent	Type No.	Pin Assignment		Quick Adapter Accessory
		PIN No.	Output	
 FG not connected to output connector	C4P	1	+Vo	None
		2	+Vo	
		3	-Vo	
		4	-Vo	

Stripped and tinned leads	Type No.	Pin Assignment		
		PIN No.	Output	
 Length of Land L1 by request (MW's standard length, L: 25 mm, L1: 5 mm) (NOTE: The wire color is for reference only, please refer to the actual product)	by customer	1	+Vo	None
		2	-Vo	

■ Installation Manual

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

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