



## ■ Features

- Universal AC input / Full range
- 3 pole AC inlet IEC320-C14
- Medical safety approved (2 x MOPP between primary to secondary)
- Suitable for BF application with appropriate system consideration
- Low leakage current <100uA
- No load power consumption<0.15W
- Energy efficiency level VI
- Comply with EISA 2007/DoE,NRCAn, AU/NZ MEPS, EU ErP and meet CoC Version 5
- Built-in active PFC function
- High efficiency up to 94%
- Fanless design with -30~+70°C working temperature
- Class I power (with earth pin)
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Fully enclosed plastic case
- LED indicator for power on
- 100% full load burn-in test
- 3 years warranty

## ■ Applications

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

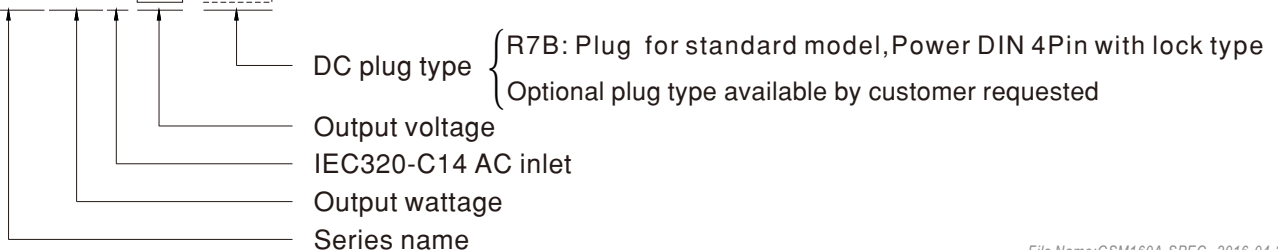
## ■ Description

GSM160A is a highly reliable, 160W 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 (<100uA), fitting the medical devices in direct electrical contact with the patients.

With the efficiency up to 94% and the extremely low no-load power consumption below 0.15W, GSM160A 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. GSM160A is approved with the international medical safety certificates.

## ■ Model Encoding

**GSM160A 12 - R7B**

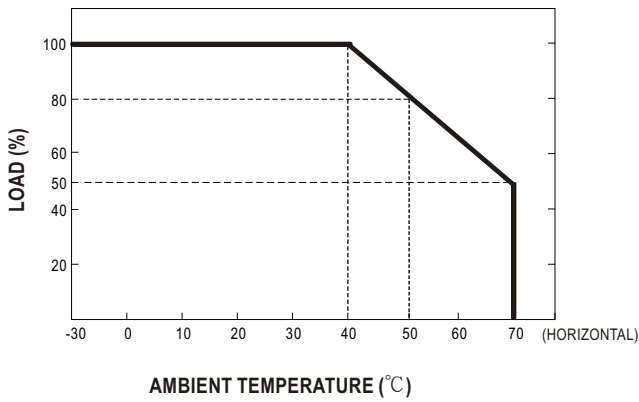




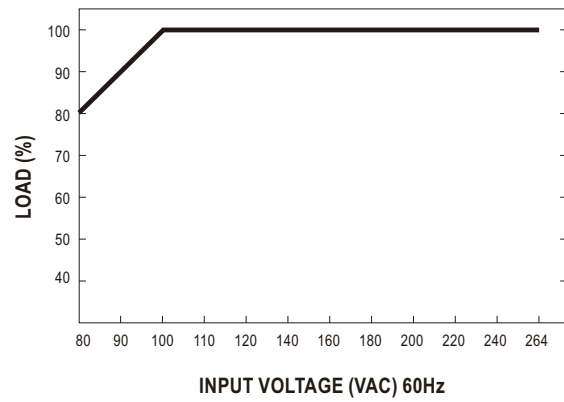
**SPECIFICATION**

ORDER NO.	GSM160A12-R7B	GSM160A15-R7B	GSM160A20-R7B	GSM160A24-R7B	GSM160A48-R7B	
OUTPUT	SAFETY MODEL NO.	GSM160A12	GSM160A15	GSM160A20	GSM160A24	GSM160A48
	DC VOLTAGE <span style="float:right">Note.2</span>	12V	15V	20V	24V	48V
	RATED CURRENT	11.5A	9.6A	8A	6.67A	3.34A
	CURRENT RANGE	0 ~ 11.5A	0 ~ 9.6A	0 ~ 8A	0 ~ 6.67A	0 ~ 3.34A
	RATED POWER (max.)	138W	144W	160W	160W	160W
	RIPPLE & NOISE (max.) <span style="float:right">Note.3</span>	80mVp-p	100mVp-p	150mVp-p	180mVp-p	240mVp-p
	VOLTAGE TOLERANCE <span style="float:right">Note.4</span>	± 5.0%	± 5.0%	± 4.0%	± 3.0%	± 3.0%
	LINE REGULATION <span style="float:right">Note.5</span>	± 1.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%
	LOAD REGULATION	± 5.0%	± 5.0%	± 4.0%	± 3.0%	± 3.0%
	SETUP, RISE TIME <span style="float:right">Note.6</span>	2000ms, 50ms / 230VAC      2500ms, 50ms / 115VAC at full load				
HOLD UP TIME (Typ.)	20ms / 230VAC      20ms / 115VAC at full load					
INPUT	VOLTAGE RANGE <span style="float:right">Note.7</span>	80 ~ 264VAC				
	FREQUENCY RANGE	47 ~ 63Hz				
	POWER FACTOR (Typ.)	12V,15V:PF>0.93 / 230VAC		20V,24V,48V:PF>0.94 / 230VAC		PF>0.98 / 115VAC at full load
	EFFICIENCY (Typ.)	90%	91%	92.5%	93%	94%
	AC CURRENT (Typ.)	1.85A / 115VAC      1A / 230VAC				
	INRUSH CURRENT (Typ.)	120A / 230VAC				
LEAKAGE CURRENT(max.)	Earth leakage current < 100µA/264VAC , Touch current <100µA/264VAC					
PROTECTION	OVERLOAD	105 ~ 150% 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°C (Refer to "Derating Curve")				
	WORKING HUMIDITY	20% ~ 90% RH non-condensing				
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH				
	TEMP. COEFFICIENT	± 0.03% / °C (0~50°C)				
VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes					
SAFETY & EMC (Note. 9)	SAFETY STANDARDS	ANSI/AAMI ES60601-1, TUV EN60601-1 approved				
	ISOLATION LEVEL	Primary-Secondary: 2xMOPP				
	WITHSTAND VOLTAGE <span style="float:right">Note.8</span>	I/P-O/P:4KVAC    I/P-FG:2KVAC    O/P-FG:0.5KVAC				
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH				
	EMC EMISSION	Compliance to EN55011 (CISPR11) Class B, EN61000-3-2,-3, FCC PART 15 class B				
EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN60601-1-2, EN61204-3 medical level, criteria A					
OTHERS	MTBF	290.3K hrs min. MIL-HDBK-217F(25°C)				
	DIMENSION	175*72*35mm (L*W*H)				
	PACKING	0.66Kg; 20pcs/14.2Kg/1.06CUFT				
CONNECTOR	PLUG	See page 3 ; Other type available by customer requested				
	CABLE	See page 3 ; Other type available by customer requested				
NOTE	<ol style="list-style-type: none"> <li>All parameters are specified at 230VAC input, rated load, 25°C 70% RH ambient.</li> <li>DC voltage: The output voltage set at point measure by plug terminal &amp; 50% load.</li> <li>Ripple &amp; noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1uf &amp; 47uf capacitor.</li> <li>Tolerance: includes set up tolerance, line regulation, load regulation.</li> <li>Line regulation is measured from low line to high line at rated load.</li> <li>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.</li> <li>Derating may be needed under low input voltages. Pleas check the derating curve for more details.</li> <li>Optional for 1.5KVAC with BF rated.</li> <li>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.</li> </ol>					

### Derating Curve

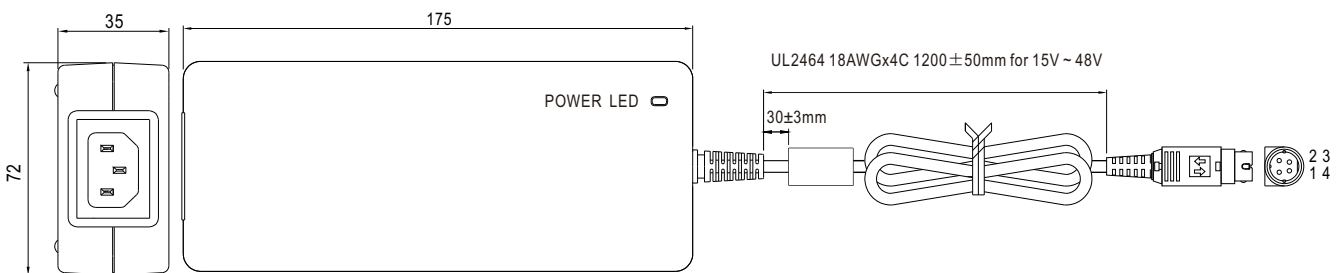


### Static Characteristics



### Mechanical Specification

Case No. GS160A  
Unit:mm



### Plug Assignment

Output plug (Power DIN 4 pin with lock type) : KYCON KPPX-4P equivalent  
Mating plug (customer side , not provide with power supply) : KYCON KPJX-CM-4S equivalent

R7B		
	PIN NO.	OUTPUT
1,4		+V
2,3		-V

AC FG

Outer shell -V not connected to AC FG

### Installation Manual

Please refer to : <http://www.meanwell.com/webnet/search/InstallationSearch.html>

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