



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

IEC60601-1

TPTC004



CB



2xMOPP

## ■ 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 (Except 5~9V for Level V)
- -30~+70°C wide range working temperature
- Protections: Short circuit / Overload / Over voltage
- LED indicator for power on
- Lifetime > 90 K 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

## ■ Applications

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

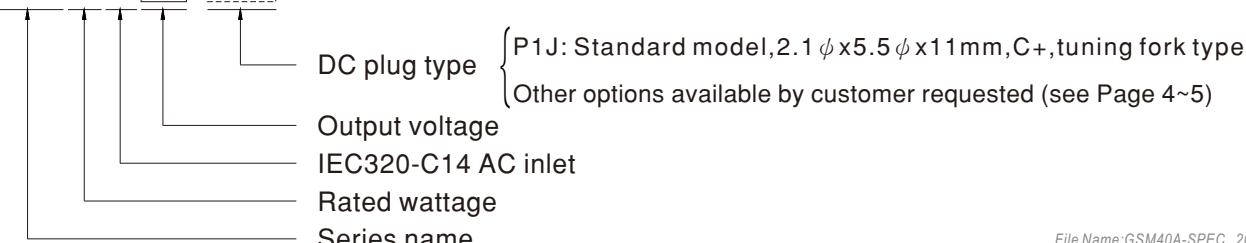
## ■ Description

GSM40A is a highly reliable, 40W single-output green medical adaptor series. This product is a class I power unit(with FG), equipped with a standard IEC320-C14 AC inlet and adopting the input range from 80VAC to 264VAC. The entire series supplies different models with output voltages between 5VDC and 48VDC that can satisfy the demands for various types of medical electrical devices. The circuitry design meets the international medical standards (2\*MOPP), having an ultra low leakage current (<90μA), fitting the medical devices in direct electrical contact with the patients.

With the efficiency up to 91% and the extremely low no-load power consumption below 0.15W, GSM40A 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. GSM40A is certified for the international medical safety regulations.

## ■ Model Encoding

GSM40 A 05 - P1J



## SPECIFICATION

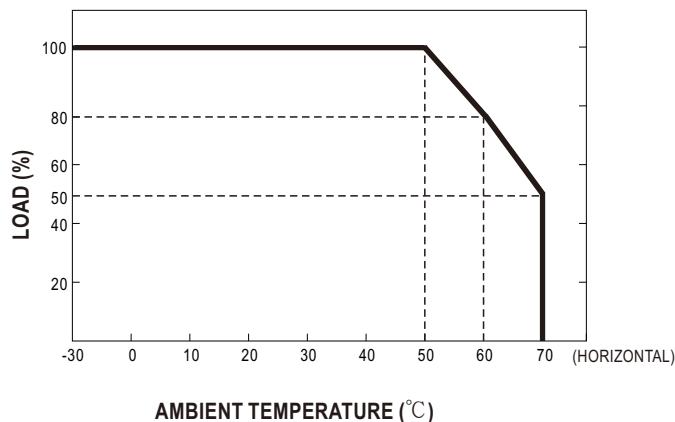
ORDER NO.	GSM40A05-P1J	GSM40A07-P1J	GSM40A09-P1J	GSM40A12-P1J	GSM40A15-P1J	GSM40A18-P1J	GSM40A24-P1J	GSM40A48-P1J															
OUTPUT	SAFETY MODEL NO.	GSM40A05	GSM40A07	GSM40A09	GSM40A12	GSM40A15	GSM40A18	GSM40A24															
	DC VOLTAGE Note.2	5V	7.5V	9V	12V	15V	18V	24V															
	RATED CURRENT	5A	5.34A	4.45A	3.34A	2.67A	2.22A	1.67A															
	CURRENT RANGE	0.1 ~ 5A	0.1 ~ 5.34A	0.1 ~ 4.45A	0.1 ~ 3.34A	0.1 ~ 2.67A	0.1 ~ 2.22A	0.1 ~ 1.67A															
	RATED POWER (max.)	25W	40W	40W	40W	40W	40W	40W															
	RIPLKE & NOISE (max.) Note.3	80mVp-p	80mVp-p	100mVp-p	100mVp-p	100mVp-p	120mVp-p	150mVp-p															
	VOLTAGE TOLERANCE Note.4	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±2.5%															
	LINE REGULATION Note.5	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%															
	LOAD REGULATION	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%	±2.5%	±2.5%															
INPUT	SETUP, RISE TIME Note.6	1000ms, 30ms / 230VAC		1500ms, 30ms / 115VAC at full load																			
	HOLD UP TIME (Typ.)	50ms / 230VAC		24ms / 115VAC at full load																			
PROTECTION	VOLTAGE RANGE Note.7	80 ~ 264VAC																					
	FREQUENCY RANGE	47 ~ 63Hz																					
	EFFICIENCY (Typ.)	81%	85.5%	86%	88%	88.5%	89.5%	90%	91%														
	AC CURRENT (Typ.)	1A / 115VAC	0.5A / 230VAC																				
	INRUSH CURRENT (Typ.)	Cold start 30A/115VAC		60A / 230VAC																			
ENVIRONMENT	LEAKAGE CURRENT(max.)	Earth leakage current < 90µA/264VAC , Touch current < 90µA/264VAC																					
	OVERLOAD	105 ~ 160% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed																					
	OVER VOLTAGE	5.2 ~ 7.0V	7.8 ~ 10.2V	9.4 ~ 12.2V	12.6 ~ 16.2V	15.7 ~ 20.3V	18.9 ~ 24.3V	25.2 ~ 32.4V	50.4 ~ 64.8V														
		Protection type : Shut down o/p voltage, re-power on to recover																					
	WORKING TEMP.	-30 ~ +70°C (Refer to "Derating Curve")																					
SAFETY & EMC (Note 9)	WORKING HUMIDITY	20% ~ 90% RH non-condensing																					
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH non-condensing																					
	TEMP. COEFFICIENT	±0.03% / °C (0~50°C)																					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes																					
	OPERATING ALTITUDE Note.8	3000 meters																					
OTHERS	SAFETY STANDARDS	IEC60601-1, TUV BS EN/EN60601-1, ANSI/AAMI ES60601-1(3.1 version), CAN/CSA-C22.2 No. 60601-1:14 - Edition 3, EAC TP TC 004 approved																					
	ISOLATION LEVEL	Primary-Secondary: 2xMOPP, Primary-Earth:1xMOPP																					
	WITHSTAND VOLTAGE	I/P-O/P:4KVAC I/P-FG:2KVAC O/P-FG:SHORT																					
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG: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/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																	
CONNECTOR	MTBF	740K hrs min. MIL-HDBK-217F(25°C )																					
	DIMENSION	125*50*31.5mm (L*W*H)																					
	PACKING	0.29Kg; 40pcs/ 12.6 Kg/1.04CUFT																					
NOTE	PLUG	See page 4~5 ; Other type available by customer requested																					
	CABLE	See page 4~5 ; Other type available by customer requested																					
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 0.1µf & 47µf 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. 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-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> )																							
※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a>																							



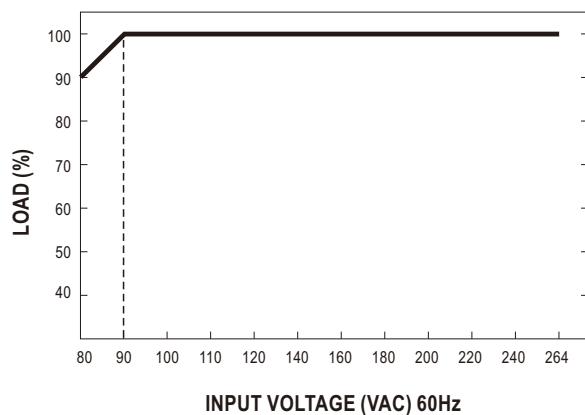
40W AC-DC Reliable Green Medical Adaptor

GSM40A series

## ■ Derating Curve

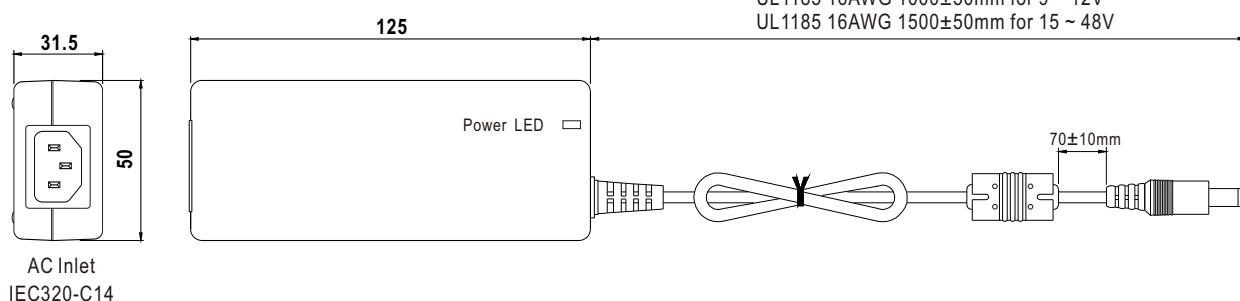


## ■ Static Characteristics



## ■ Mechanical Specification

Case No. GS60A Unit:mm



## ■ DC output plug

◎ Standard plug: P1J

P1J	Pin Assignment
	Outside      Inside -V connected to AC FG(standard) -V not connected to AC FG(optional)

◎ DC plug changeable through:

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

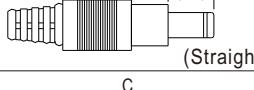
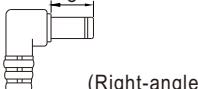
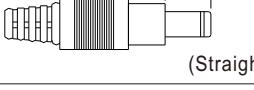
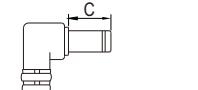
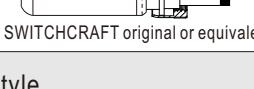
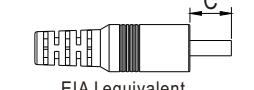
(2) Quick adapter accessory (sold separately without MOQ)

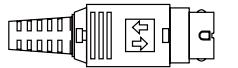
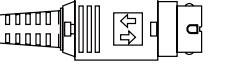
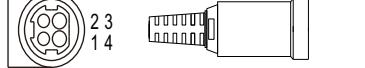
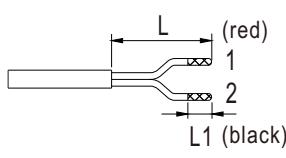
Please refer to below table and online selection guide : [https://www.meanwell.com/upload/pdf/DC\\_plug.pdf](https://www.meanwell.com/upload/pdf/DC_plug.pdf)

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	
  	P1I	5.5	2.1	9.5	Available (Current rating: 7.5A max.)
	P1L	5.5	2.5	9.5	
	P1M	5.5	2.5	11.0	
	P1IR	5.5	2.1	9.5	
	P1JR	5.5	2.1	11.0	
	P1LR	5.5	2.5	9.5	
	P1MR	5.5	2.5	11.0	
  	Type No.	A	B	C	None
	P2I	5.5	2.1	9.5	
	P2J	5.5	2.1	11.0	
	P2L	5.5	2.5	9.5	
	P2M	5.5	2.5	11.0	
	P2IR	5.5	2.1	9.5	
	P2JR	5.5	2.1	11.0	
	P2LR	5.5	2.5	9.5	
	P2MR	5.5	2.5	11.0	
	Type No.	A	B	C	
  	OD	ID	L	None	
	P2S(S761K)	5.53	2.03	12.06	
	P2K(761K)	5.53	2.54	12.06	
	P2C(S760K)	5.53	2.03	9.52	
	P2D(760K)	5.53	2.54	9.52	
 	Type No.	A	B	C	Available (Current rating: 5A max.)
	OD	ID	L		
	P3A	2.35	0.7	11.0	
	P3B	4.0	1.7	11.0	
	P3C	4.75	1.7	11.0	
 	Type No.	A	B	C	Available (Current rating: 7.5A max.)
	OD	ID	L		
	P4A	5.5	3.4	11.0	
	P4B	6.5	4.4	11.0	
	P4C	7.4	5.1	11.0	

Min. DIN 3 Pin with Lock (male)	Type No.	Pin Assignment		Quick Adapter Accessory
		PIN No.	Output	
	R6B	1	+Vo	Available (Current rating: 7.5A max.)
 1 2 3		2	-Vo	
 KYCON KPPX-3P equivalent		3	+Vo	
Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment		Available (Current rating: 7.5A max.)
		PIN No.	Output	
	R7B	1	+Vo	
 2 3 1 4		2	-Vo	
 KYCON KPPX-4P equivalent		3	-Vo	
		4	+Vo	
Min. DIN 4 Pin with Lock (female)	Type No.	Pin Assignment		None
		PIN No.	Output	
	R7BF	1	+Vo	
 KYCON KPJX-CM-4S equivalent		2	-Vo	
		3	-Vo	
		4	+Vo	
DIN 5 Pin (male)	Type No.	Pin Assignment		Available (Current rating: 7.5A max.)
		PIN No.	Output	
	R1B	1	-Vo	
 1 4 2 5 3		2	-Vo	
 1 4 2 5 3		3	+Vo	
 1 4 2 5 3		4	-Vo	
 1 4 2 5 3		5	+Vo	
Stripped and tinned leads	Type No.	Pin Assignment		None
		PIN No.	Output	
	by customer	1	+Vo	
 Length of Land L1 by request (MW's standard length, L: <u>25</u> mm, L1: <u>5</u> mm)		2	-Vo	

### ■ Installation Manual

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