



**Features**

- 2 pole AC inlet IEC320-C8, Class II power unit
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 and IEC/EN60601-1
- Extremely low leakage current
- No load power consumption <0.1W
- 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
- 3 years warranty

**Applications**

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

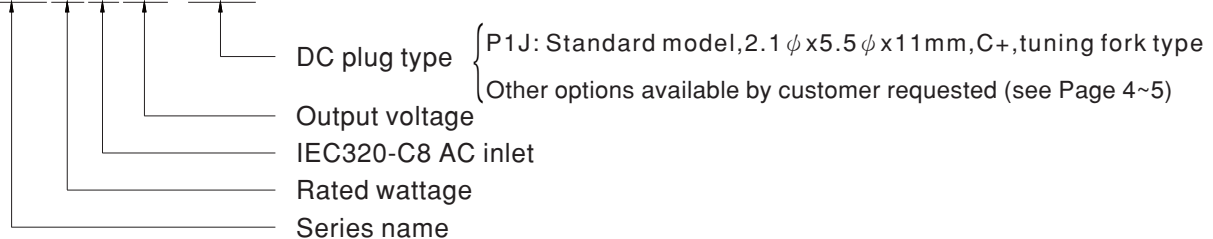
**Description**

GSM40B is a highly reliable, 40W 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 5VDC 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 (<50 μA), 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 0.1W, GSM40B 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. GSM40B is approved with the international medical safety certificates.

**Model Encoding**

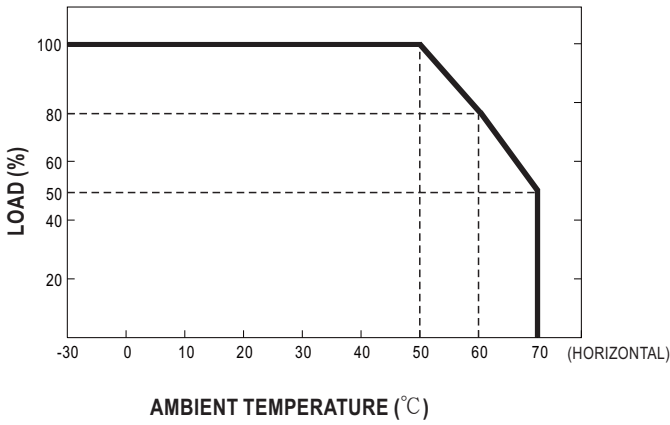
**GSM40 B 05 - P1J**



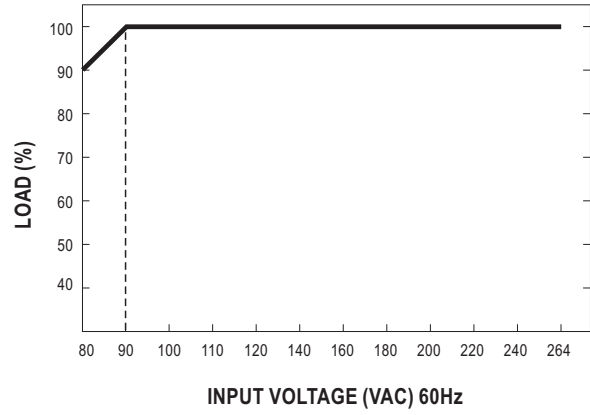
**SPECIFICATION**

ORDER NO.	GSM40B05-P1J	GSM40B07-P1J	GSM40B09-P1J	GSM40B12-P1J	GSM40B15-P1J	GSM40B18-P1J	GSM40B24-P1J	GSM40B48-P1J		
<b>OUTPUT</b>	<b>SAFETY MODEL NO.</b>	GSM40B05	GSM40B07	GSM40B09	GSM40B12	GSM40B15	GSM40B18	GSM40B24	GSM40B48	
	<b>DC VOLTAGE</b> Note.2	5V	7.5V	9V	12V	15V	18V	24V	48V	
	<b>RATED CURRENT</b>	5A	5.34A	4.45A	3.34A	2.67A	2.22A	1.67A	0.84A	
	<b>CURRENT RANGE</b>	0 ~ 5A	0 ~ 5.34A	0 ~ 4.45A	0 ~ 3.34A	0 ~ 2.67A	0 ~ 2.22A	0 ~ 1.67A	0 ~ 0.84A	
	<b>RATED POWER (max.)</b>	25W	40W	40W	40W	40W	40W	40W	40W	
	<b>RIPPLE &amp; NOISE (max.)</b> Note.3	80mVp-p	80mVp-p	100mVp-p	100mVp-p	100mVp-p	120mVp-p	150mVp-p	150mVp-p	
	<b>VOLTAGE TOLERANCE</b> Note.4	± 5.0%	± 5.0%	± 5.0%	± 3.0%	± 3.0%	± 3.0%	± 2.5%	± 2.5%	
	<b>LINE REGULATION</b> Note.5	± 1.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%	
	<b>LOAD REGULATION</b>	± 5.0%	± 5.0%	± 5.0%	± 3.0%	± 3.0%	± 3.0%	± 2.5%	± 2.5%	
	<b>SETUP, RISE TIME</b> Note.6	1000ms, 30ms / 230VAC		1500ms, 30ms / 115VAC		at full load				
<b>HOLD UP TIME (Typ.)</b>	50ms / 230VAC		24ms / 115VAC		at full load					
<b>INPUT</b>	<b>VOLTAGE RANGE</b> Note.7	80 ~ 264VAC		113 ~ 370VDC						
	<b>FREQUENCY RANGE</b>	47 ~ 63Hz								
	<b>EFFICIENCY (Typ.)</b>	81%	85.5%	86%	88%	88.5%	89%	90%	91%	
	<b>AC CURRENT (Typ.)</b>	1A / 115VAC		0.5A / 230VAC						
	<b>INRUSH CURRENT (Typ.)</b>	Cold start 30A / 115VAC		60A / 230VAC						
<b>LEAKAGE CURRENT(max.)</b>	Touch current < 50µA/264VAC									
<b>PROTECTION</b>	<b>OVERLOAD</b>	105 ~ 160% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed								
	<b>OVER VOLTAGE</b>	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	
<b>ENVIRONMENT</b>	<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 ~ 50°C)								
	<b>VIBRATION</b>	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes								
	<b>OPERATING ALTITUDE</b> Note.8	3000 meters								
<b>SAFETY &amp; EMC (Note 9)</b>	<b>SAFETY STANDARDS</b>	IEC60601-1, EN60601-1/ 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 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	EN55011 (CISPR11), FCC PART 15 / CISPR22, CAN ICES-3(B)/NMB-3(B)					Class B		
		Radiated emission	EN55011 (CISPR11), FCC PART 15 / CISPR22, CAN ICES-3(B)/NMB-3(B)					Class B		
		Harmonic current	EN61000-3-2					Class A		
	Voltage flicker	EN61000-3-3					-----			
	<b>EMC IMMUNITY</b>	EN55024, EN60601-1-2, EN61204-3								
		<b>Parameter</b>	<b>Standard</b>					<b>Test Level / Note</b>		
		ESD	EN61000-4-2					Level 4, 15KV air ; Level 4, 8KV contact		
		RF field susceptibility	EN61000-4-3					Level 3, 10V/m( 80MHz~2.7GHz ) Table 9, 9~28V/m( 385MHz~5.78GHz )		
		EFT bursts	EN61000-4-4					Level 3, 2KV		
Surge susceptibility		EN61000-4-5					Level 3, 1KV/Line-Line			
Conducted susceptibility		EN61000-4-6					Level 3, 10V			
Magnetic field immunity		EN61000-4-8					Level 4, 30A/m			
Voltage dip, interruption	EN61000-4-11					100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods				
<b>OTHERS</b>	<b>MTBF</b>	740K hrs min. MIL-HDBK-217F(25°C)								
	<b>DIMENSION</b>	125*50*31.5mm (L*W*H)								
	<b>PACKING</b>	0.29Kg; 40pcs/12.6Kg/1.05CUFT								
<b>CONNECTOR</b>	<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								
<b>NOTE</b>	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> )									

■ Derating Curve



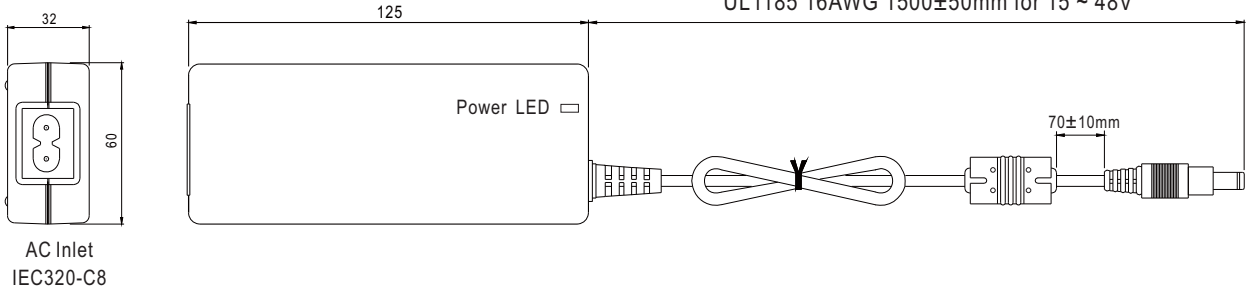
■ Static Characteristics



■ Mechanical Specification

Case No. GS60B Unit:mm

UL2464 16AWG 1000±50mm for 5 ~ 7.5V  
 UL1185 16AWG 1000±50mm for 9 ~ 12V  
 UL1185 16AWG 1500±50mm for 15 ~ 48V



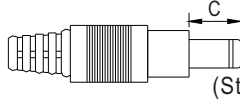
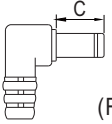

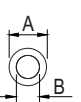
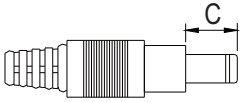
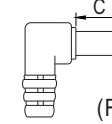

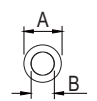
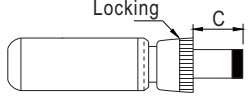


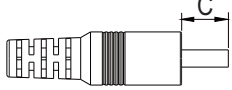

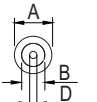
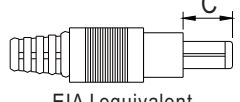

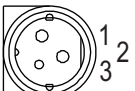
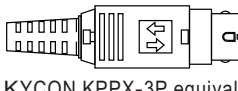



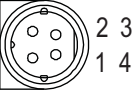
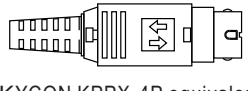


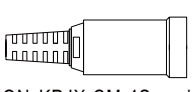




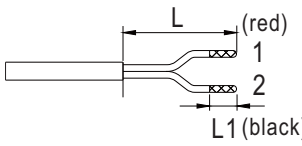
■ DC output plug

☉ Standard plug: P1J

P1J	Pin Assignment
	Outside  Inside

© Optional DC plug:

Tuning Fork Style		Type No.	A	B	C	
 	 <p>(Straight)</p>	P1I	5.5	2.1	9.5	
		P1L	5.5	2.5	9.5	
		P1M	5.5	2.5	11.0	
	 <p>(Right-angled)</p>	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	
Barrel Style		Type No.	A	B	C	
 	 <p>(Straight)</p>	P2I	5.5	2.1	9.5	
		P2J	5.5	2.1	11.0	
		P2L	5.5	2.5	9.5	
	 <p>(Right-angled)</p>	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	
Lock Style		Type No.	A	B	C	
   <p>Locking</p> <p>SWITCHCRAFT original or equivalent</p>	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		
Min. Pin Style		Type No.	A	B	C	
   <p>EIAJ equivalent</p>	P3A	2.35	0.7	11.0		
	P3B	4.0	1.7	11.0		
	P3C	4.75	1.7	11.0		
Center Pin Style		Type No.	A	B	C	D
   <p>EIAJ equivalent</p>	P4A	5.5	3.4	11.0	1.0	
	P4B	6.5	4.4	11.0	1.4	
	P4C	7.4	5.1	11.0	0.6	
Min. DIN 3 Pin with Lock (male)		Type No.	Pin Assignment			
   <p>KYCON KPPX-3P equivalent</p>	R6B	PIN No.		Output		
		1	+Vo			
		2	-Vo			
		3	+Vo			

Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment	
		PIN No.	Output
   <p>KYCON KPPX-4P equivalent</p>	R7B	1	+Vo
		2	-Vo
		3	-Vo
		4	+Vo
Min. DIN 4 Pin with Lock (female)	Type No.	Pin Assignment	
   <p>KYCON KPJX-CM-4S equivalent</p>	R7BF	1	+Vo
		2	-Vo
		3	-Vo
		4	+Vo
DIN 5 Pin (male)	Type No.	Pin Assignment	
  	R1B	1	-Vo
		2	-Vo
		3	+Vo
		4	-Vo
		5	+Vo
Stripped and tinned leads	Type No.	Pin Assignment	
  <p>Length of Land L1 by request (MW's standard length, L: <u>25</u> mm, L1: <u>5</u> mm)</p>	by customer	1	+Vo
		2	-Vo

**■ Installation Manual**

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