



E-Star Power Development Co., Ltd. (E-STAR)

1F., No.40, Juren Ln., Sec. 2, Sanmin Rd., Banciao Dist., New Taipei City 22069, Taiwan (R.O.C.)

Phone : 886-2-2957 5580 Fax : 886-2-2957 7473

**25W Desktop Single power supply > GSM25B**



**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, EN60601-1/-1-11
- 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)
- -25~+60°C wide range working temperature
- Protections: Short circuit / Overload / Over voltage
- LED indicator for power on
- Various DC plug quick adapter accessory available
- 3 years warranty

**Applications**

- Blood glucose meter
- Blood pressure meter
- Nebulizer
- Inhaler
- Portable medical device

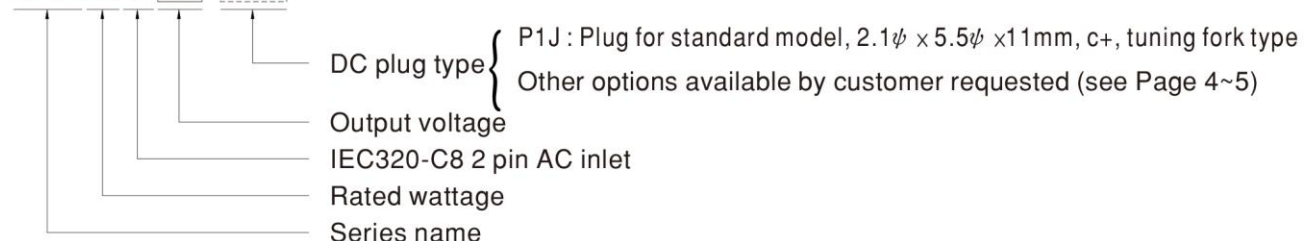
**Description**

GSM25B is a highly reliable, 25W 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 miniature medical devices. The circuitry design meets the international medical standards (2 x MOPP), having an ultra low leakage current (<50µA), fitting the medical devices in direct electrical contact with the patients.

With the efficiency up to 88% and the extreme low no-load power consumption below 0.1W, GSM25B 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. GSM25B is approved with the international medical safety certificates.

**Model Encoding**

**GSM25 B 05 -P1J**





**25W Desktop Single power supply > GSM25B**

**SPECIFICATION**

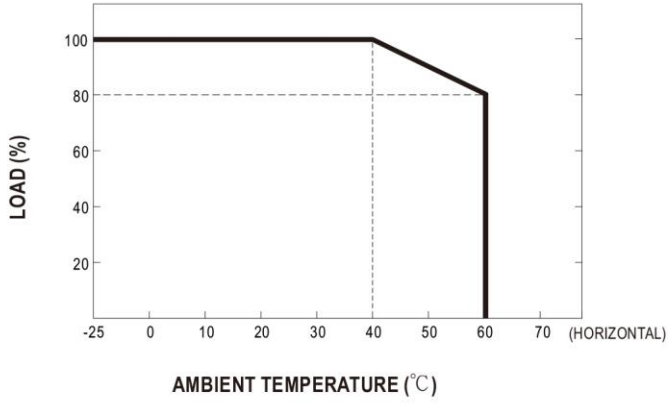
ORDER NO.		GSM25B05-P1J	GSM25B07-P1J	GSM25B09-P1J	GSM25B12-P1J	GSM25B15-P1J	GSM25B18-P1J	GSM25B24-P1J	GSM25B48-P1J	
OUTPUT	SAFETY MODEL NO.	GSM25B05	GSM25B07	GSM25B09	GSM25B12	GSM25B15	GSM25B18	GSM25B24	GSM25B48	
	DC VOLTAGE <small>Note.2</small>	5V	7.5V	9V	12V	15V	18V	24V	48V	
	RATED CURRENT	4A	2.93A	2.77A	2.08A	1.66A	1.38A	1.04A	0.52A	
	CURRENT RANGE	0 ~ 4A	0 ~ 2.93A	0 ~ 2.77A	0 ~ 2.08A	0 ~ 1.66A	0 ~ 1.38A	0 ~ 1.04A	0 ~ 0.52A	
	RATED POWER (max.)	20W	22W	25W	25W	25W	25W	25W	25W	
	RIPPLE & NOISE (max.) <small>Note.3</small>	60mVp-p	80mVp-p	80mVp-p	120mVp-p	120mVp-p	150mVp-p	180mVp-p	240mVp-p	
	VOLTAGE TOLERANCE <small>Note.4</small>	±6.0%	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±2.0%	±2.0%	
	LINE REGULATION <small>Note.5</small>	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	
	LOAD REGULATION	±6.0%	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±2.0%	±2.0%	
	SETUP, RISE TIME <small>Note.6</small>	500ms, 30ms / 230VAC      1000ms, 30ms / 115VAC at full load								
HOLD UP TIME (Typ.)	16ms / 230VAC      16ms / 115VAC at full load									
INPUT	VOLTAGE RANGE <small>Note.7</small>	80 ~ 264VAC    113 ~ 370VDC								
	FREQUENCY RANGE	47 ~ 63Hz								
	EFFICIENCY (Typ.)	80%	83%	84%	86%	86%	86%	87%	88%	
	AC CURRENT (Typ.)	0.7A / 115VAC    0.35A / 230VAC								
	INRUSH CURRENT (Typ.)	55A / 230VAC    30A / 115VAC								
	LEAKAGE CURRENT(max.)	Touch current < 50 $\mu$ A/264VAC								
PROTECTION	OVERLOAD	105 ~ 170% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed								
	OVER VOLTAGE	5.25 ~ 7.5V	7.88 ~ 10.5V	9.45 ~ 13V	12.6 ~ 17.2V	15.75 ~ 20.25V	18.9 ~ 25.2V	25.2 ~ 32.4V	50.4 ~ 64.8V	
ENVIRONMENT	WORKING TEMP.	-25 ~ +60 $^{\circ}$ C (Refer to "Derating Curve")								
	WORKING HUMIDITY	20% ~ 90% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-40 ~ +85 $^{\circ}$ C, 10 ~ 95% RH non-condensing								
	TEMP. COEFFICIENT	±0.03% / $^{\circ}$ C (0~40 $^{\circ}$ C)								
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes								
SAFETY & EMC (Note. 8)	SAFETY STANDARDS	ANSI/AAMI ES60601-1 / ES60601-1-11(3.1 version), CAN/CSA-C22 3 <sup>rd</sup> Edition, TUV EN60601-1 / EN60601-1-11, EAC TP TC 004 approved								
	ISOLATION LEVEL	Primary-Secondary: 2xMOPP								
	WITHSTAND VOLTAGE	I/P-O/P:4KVAC								
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25 $^{\circ}$ C / 70% RH								
	EMC EMISSION	Parameter	Standard						Test Level / Note	
		Conducted emission	EN55011 (CISPR11), FCC PART 15 / CISPR22, CAN ICES-3(B)/NMB-3(B),MSIP KN32						Class B	
		Radiated emission	EN55011 (CISPR11), FCC PART 15 / CISPR22, CAN ICES-3(B)/NMB-3(B),MSIP KN32						Class B	
		Harmonic current	EN61000-3-2						Class A	
		Voltage flicker	EN61000-3-3						-----	
	EMC IMMUNITY	EN60601-1-2, EN61204-3								
		Parameter	Standard						Test Level / Note	
		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		
OTHERS	MTBF	796.7K hrs min. MIL-HDBK-217F(25 $^{\circ}$ C)								
	DIMENSION	79*54*33mm (L*W*H)								
	PACKING	235g ; 60pcs / 15.1Kg / CARTON								
CONNECTOR	PLUG	See page 4~5 ; Other type available by customer requested								
	CABLE	See page 4~5 ; Other type available by customer requested								
NOTE	<ol style="list-style-type: none"> <li>All parameters are specified at 230VAC input, rated load, 25<math>^{\circ}</math>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 0.1<math>\mu</math>f &amp; 47<math>\mu</math>f 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 voltage. Please check the derating curve for more details.</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. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."</li> </ol>									



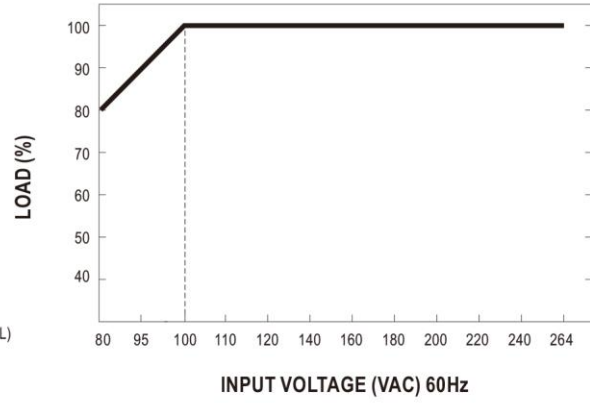
E-Star Power Development Co., Ltd. (E-STAR)  
1F, No.40, Juren Ln., Sec. 2, Sanmin Rd., Banciao Dist., New Taipei City  
22069, Taiwan (R.O.C.)  
Phone : 886-2-2957 5580 Fax : 886-2-2957 7473

**25W Desktop Single power supply > GSM25B**

**Derating Curve**



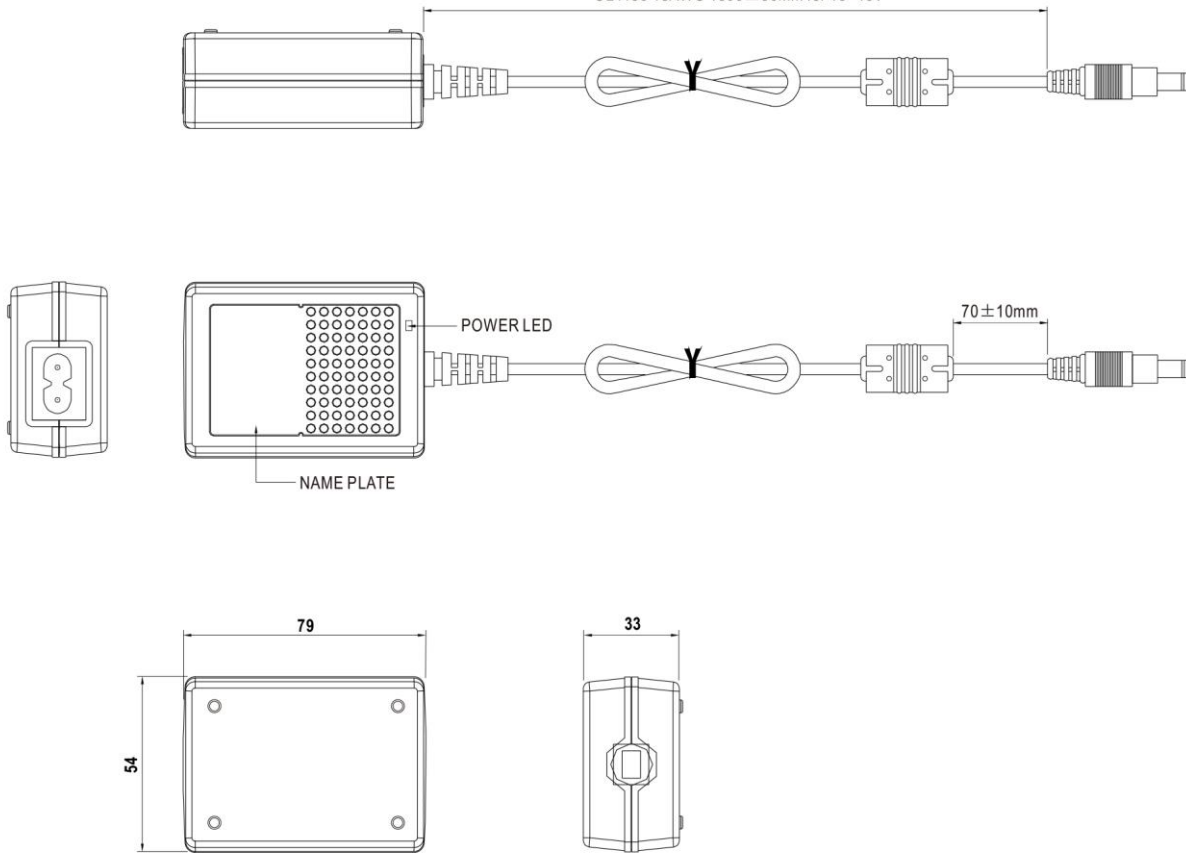
**Static Characteristics**



**Mechanical Specification**

Unit:mm

UL1185 16AWG 1200±50mm for 5-9V  
UL1185 16AWG 1800±50mm for 12V  
UL1185 18AWG 1800±50mm for 15-48V




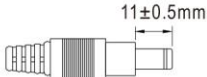





**25W Desktop Single power supply > GSM25B**

■ DC output plug

◎ Standard plug: P1J

P1J		Pin Assignment
		
		Outside  Inside



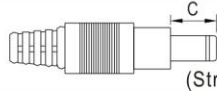







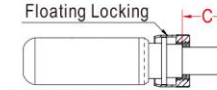
◎ DC plug changeable through:

- (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)

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)	P1I	5.5	2.1		9.5
			P1L	5.5	2.5	9.5	
			P1M	5.5	2.5	11.0	
		 (Right-angled)	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 OD	B ID	C L	None	
		 (Straight)	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
		 (Right-angled)	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 OD	B ID	C L	None	
		 Floating Locking	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	
		SWITCHCRAFT original or equivalent					



**25W Desktop Single power supply > GSM25B**

Min. Pin Style	Type No.	A	B	C	Quick Adapter Accessory	
		OD	ID	L		
	P3A	2.35	0.7	11.0	Available (Current rating: 5A max.)	
	P3B	4.0	1.7	11.0		
	P3C	4.75	1.7	11.0		
Center Pin Style	Type No.	A	B	C	D	Available (Current rating: 7.5A max.)
	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		Available (Current rating: 7.5A max.)		
	R6B	PIN No.	Output			
		1	+Vo			
		2	-Vo			
3	+Vo					
Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment		Available (Current rating: 7.5A max.)		
	R7B	PIN No.	Output			
		1	+Vo			
		2	-Vo			
		3	-Vo			
4	+Vo					
Min. DIN 4 Pin with Lock (female)	Type No.	Pin Assignment		None		
	R7BF	PIN No.	Output			
		1	+Vo			
		2	-Vo			
		3	-Vo			
4	+Vo					
DIN 5 Pin (male)	Type No.	Pin Assignment		Available (Current rating: 7.5A max.)		
	R1B	PIN No.	Output			
		1	-Vo			
		2	-Vo			
		3	+Vo			
		4	-Vo			
5	+Vo					
Stripped and tinned leads	Type No.	Pin Assignment		None		
<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			
2	-Vo					