

ANSI/AAMI ES60601-1
ES60601-1-11BS EN/EN60601-1
BS EN/EN60601-1-11IEC60601-1
TPTC004(VI
for 5~9V)

■ Features

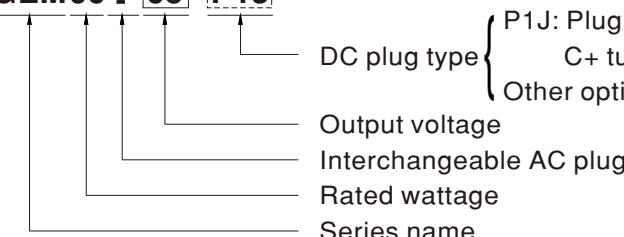
- Interchangeable AC plugs (plug kit sold separately)
- Ultra slim, compact size
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1/ES60601-1-11, BS EN/EN60601-1/BS EN/EN60601-1-11
- Extremely Low leakage current
- No load power consumption < 0.15W
- **Energy efficiency Level VI** (except 5~9V for Level V)
- -30~+70°C wide range working temperature
- Class II power (no earth pin)
- Protections: Short circuit / Overload / Over voltage
- Fully enclosed plastic case
- [Various DC plug quick adapter accessory available](#)
(Plug kit sold separately, please refer to :https://www.meanwell.com/upload/pdf/DC_plug.pdf)
- 3 years warranty

■ Description

GEM60I is a highly reliable, 60W wall-mounted style single-output green medical adaptor series, which is compact and convenient for carry. This product is equipped with an interchangeable AC plug (4 types, including European type, USA type, U.K. type and Australian type) that makes it very suitable for businessmen to use in the major countries around the globe. GEM60I is a class II power unit (no FG), accepting the input range from 80VAC to 264VAC that it 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 (<100μA), fitting the medical devices in direct electrical contact with the patients.

With the working efficiency up to 90% and the extremely low no-load power consumption below 0.15W, GEM60I is compliant with the latest USA energy regulation EISA 2007/DoE(Level VI) and EU ErP (5~9V for Level V). The supreme feature allows the adaptor to save the energy when it is under either the operating mode or the standby mode. The entire series is approved for international safety regulations; moreover, it adopts the 94V-0 flame retardant plastic case that it can effectively prevent users from electric hazard.

■ Model Encoding

GEM60 I 05-P1J

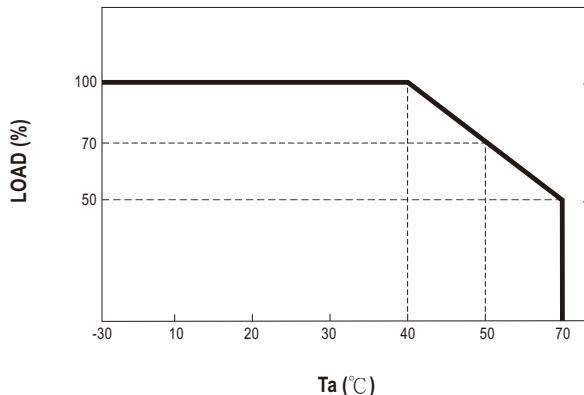
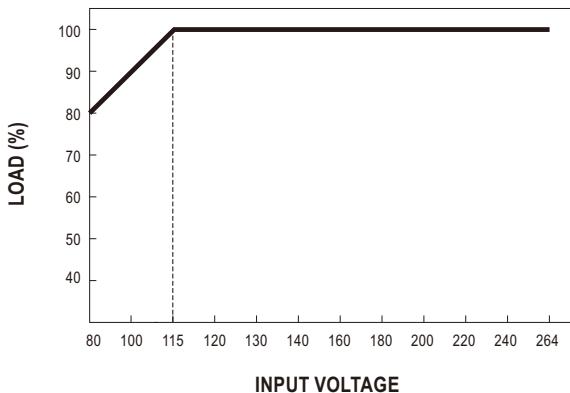
P1J: Plug for standard model, 2.1 ϕ × 5.5 ϕ × 11mm,
C+ tuning fork type
Other option available by customer requested (See page 4~5)

Interchangeable AC plug Specifically for GEM06/12/18/30/40/60I

TYPE					
	Australian type	U.K type	European type	US type	Mix four type
ORDER NO.	AC plug-AU2	AC plug-UK2	AC plug-EU2	AC plug-US2	AC plug-MIX2

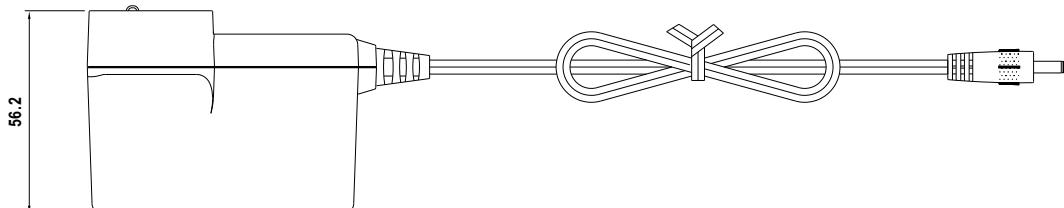
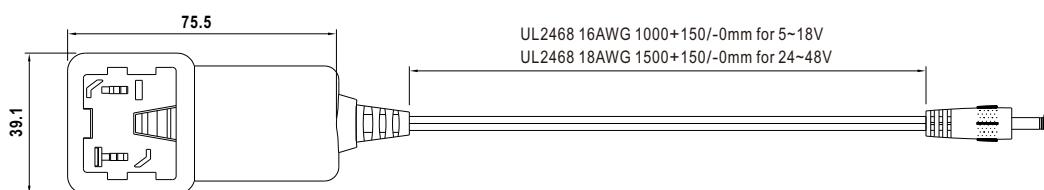
SPECIFICATION

ORDER NO.	GEM60I05-P1J	GEM60I07-P1J	GEM60I09-P1J	GEM60I12-P1J	GEM60I15-P1J	GEM60I18-P1J	GEM60I24-P1J	GEM60I48-P1J																						
OUTPUT	SAFETY MODEL NO.	GEM60I05	GEM60I07	GEM60I09	GEM60I12	GEM60I15	GEM60I18	GEM60I24																						
	DC VOLTAGE Note.2	5V	7.5V	9V	12V	15V	18V	24V																						
	RATED CURRENT	6A	6A	5.5A	4.5A	4A	3.33A	2.5A																						
	CURRENT RANGE	0 ~ 6A	0 ~ 6A	0 ~ 5.5A	0 ~ 4.5A	0 ~ 4A	0 ~ 3.33A	0 ~ 2.5A																						
	RATED POWER (max.)	30W	45W	50W	54W	60W	60W	60W																						
	RIPPLE & NOISE (max.) Note.3	100mVp-p	100mVp-p	100mVp-p	100mVp-p	120mVp-p	120mVp-p	150mVp-p																						
	VOLTAGE TOLERANCE Note.4	±5.0%	±5.0%	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%																						
	LINE REGULATION Note.5	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%																						
INPUT	LOAD REGULATION Note.6	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%	±2.0%	±2.0%																						
	SETUP, RISE, HOLD UP TIME	500ms, 30ms, 10ms/230VAC	500ms, 30ms, 10ms/115VAC	at full load																										
PROTECTION	VOLTAGE RANGE Note.7	80 ~ 264VAC	113 ~ 370VDC																											
	FREQUENCY RANGE	47 ~ 63Hz																												
	EFFICIENCY (Typ.)	80%	85%	87%	88%	88%	88%	88%	90%																					
	AC CURRENT	1.5A / 115VAC	0.8A / 230VAC																											
	INRUSH CURRENT (max.)	Cold start 50A / 115VAC 100A / 230VAC																												
	LEAKAGE CURRENT(max.)	Touch current < 100µA/264VAC																												
ENVIRONMENT	OVERLOAD	105 ~ 160% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed																												
	OVER VOLTAGE	110 ~ 140% rated output voltage Protection type : Clamp by zener diode, output short																												
	WORKING TEMP.	-30 ~ +70°C (Refer to "Derating Curve")																												
	WORKING HUMIDITY	20% ~ 90% RH non-condensing																												
	STORAGE TEMP., HUMIDITY	-30 ~ +85°C, 10 ~ 95% RH non-condensing																												
SAFETY & EMC (Note. 8)	TEMP. COEFFICIENT	±0.03% / °C (0 ~ 40°C)																												
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes																												
	SAFETY STANDARDS	TUV BS EN/EN60601-1/BS EN/EN60601-1-11,ANSI/AAMI ES60601-1/ES60601-1-11(3.1 version), CAN/CSA-C22 NO. 60601-1 3 rd edition, EAC TP TC 004 approved																												
	ISOLATION LEVEL	Primary - Secondary: 2 x MOPP																												
	WITHSTAND VOLTAGE	I/P-O/P:5656VDC																												
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH																												
	EMC EMISSION	Parameter	Standard	Test Level / Note																										
		Conducted emission	BS EN/EN55011 (CISPR11),FCC PART 18	Class B																										
		Radiated emission	BS EN/EN55011 (CISPR11),FCC PART 18	Class B																										
		Harmonic current	BS EN/EN61000-3-2	Class A																										
	EMC IMMUNITY	Voltage flicker	BS EN/EN61000-3-3	-----																										
		BS EN/EN55011, BS EN/EN60601-1-2																												
		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~6GHz)																										
		EFT bursts	BS EN/EN61000-4-4	Level 3, 2KV Line-Line,1KV ineterconnect Lines at 100KHz rate																										
		Surge susceptibility	BS EN/EN61000-4-5	Level 3, 2KV/Line-Line																										
		Conducted susceptibility	BS EN/EN61000-4-6	Level 2, 3V																										
OTHERS	Magnetic field immunity	BS EN/EN61000-4-8	Level 4, 30A/m																											
	Voltage dip, interruption	BS EN/EN61000-4-11	>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods																											
CONNECTOR	LIFE	3 years : 100% load 40°C, 8hours / day																												
	MTBF	400Khrs min. MIL-HDBK-217F(25°C)																												
	DIMENSION	75.5*39.1*56.2mm (L*W*H)																												
	PACKING	200g ; 60pcs / 13kg / CARTON																												
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.Load regulation is measured from 10% to 100% rated load. 7.Derating may be needed under low input voltage. Please check the derating curve for more details. 8.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 http://www.meanwell.com)																														
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx																														

60W AC-DC Reliable Green Interchangeable Medical Adaptor **GEM60I** series**■ Derating Curve****■ Static Characteristics****■ Mechanical Specification**

Unit:mm

TYPE	Australian type	U.K type	European type	US type



■ DC output plug

- ◎ Standard plug: P1J

Unit:mm

P1J	Pin Assignment
	
5.5 2.1 	Outside  Inside

- ◎ DC plug changeable through:

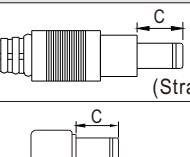
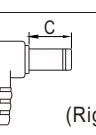
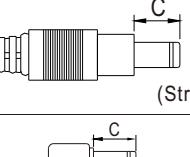
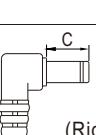
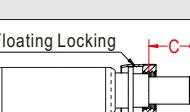
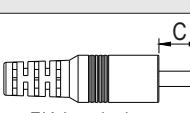
- (1) Customization of the standard part with an optional DC plug according to the table (MOQ applicable)
- (2) Quick adapter accessory (sold separately without MOQ)

Please refer to below table and online selection guide : https://www.meanwell.com/upload/pdf/DC_plug.pdf

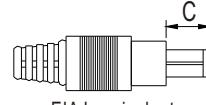
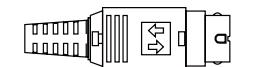
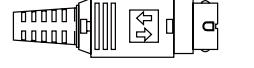
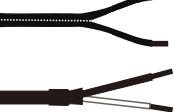
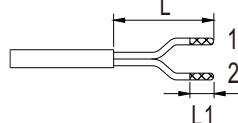
Example quick adapter accessory:



- ◎ Optional DC plug: (Available in customized cable or quick adapter)

Tuning Fork Style	Type No.	A	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	
Barrel Style		Type No.	A	B	None
  	Type No.	OD	ID		
	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	
Lock Style		Type No.	A	B	None
  	Type No.	OD	ID		
	P2S(S761K)	5.53	2.03	12.06	
	P2K(761K)	5.53	2.54	12.06	
	P2C(S760K)	5.53	2.03	9.52	
Min. Pin Style		Type No.	A	B	Available (Current rating: 5A max.)
 	Type No.	OD	ID		
	P3A	2.35	0.7	11.0	
	P3B	4.0	1.7	11.0	
	P3C	4.75	1.7	11.0	

60W AC-DC Reliable Green Interchangeable Medical Adaptor **GEM60I** series

Center Pin Style	Type No.	A	B	C	D	Quick Adapter Accessory		
		OD	ID	L	Center Pin			
	P4A	5.5	3.4	11.0	1.0	Available (Current rating: 7.5A max.)		
	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.)		
		PIN No.	Output					
		R6B	1	+Vo				
			2	-Vo				
			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	-Vo				
			3	-Vo				
		4	+Vo					
Stripped and tinned leads	Type No.	Pin Assignment				None		
		PIN No.			Output			
		by customer	1 (Ribbed or White)	+Vo				
			2 (Letter or Black)	-Vo				
Length of Land L by request (MW's standard length, L: <u>25</u> mm, L1: <u>10</u> mm)								

■ Installation Manual

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