



## 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](https://www.meanwell.com/upload/pdf/DC_plug.pdf))
- 3 years warranty

## Applications

- Blood glucose meter
- Blood pressure meter
- Nebulizer
- Inhaler
- Portable medical device
- Sleep apnea devices

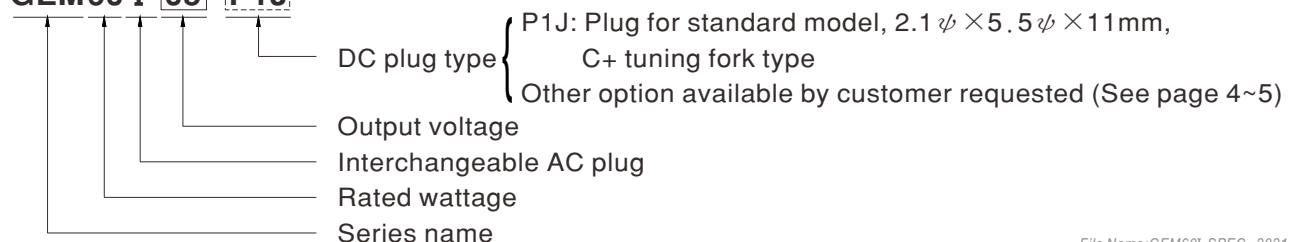
## Description

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**



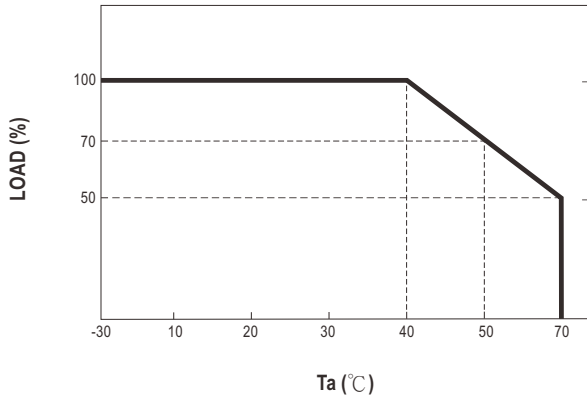
Interchangeable AC plug Specifically for GEM06/12/18/30/40/60I

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

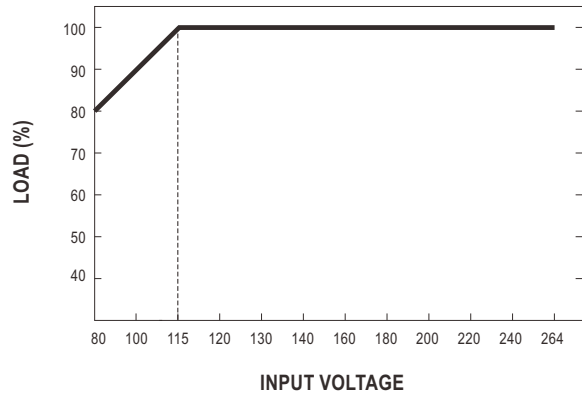
**SPECIFICATION**

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	GEM60I48	
	DC VOLTAGE <small>Note.2</small>	5V	7.5V	9V	12V	15V	18V	24V	48V	
	RATED CURRENT	6A	6A	5.5A	4.5A	4A	3.33A	2.5A	1.25A	
	CURRENT RANGE	0 ~ 6A	0 ~ 6A	0 ~ 5.5A	0 ~ 4.5A	0 ~ 4A	0 ~ 3.33A	0 ~ 2.5A	0 ~ 1.25A	
	RATED POWER (max.)	30W	45W	50W	54W	60W	60W	60W	60W	
	RIPPLE & NOISE (max.) <small>Note.3</small>	100mVp-p	100mVp-p	100mVp-p	100mVp-p	120mVp-p	120mVp-p	120mVp-p	150mVp-p	
	VOLTAGE TOLERANCE <small>Note.4</small>	± 5.0%	± 5.0%	± 5.0%	± 5.0%	± 5.0%	± 3.0%	± 3.0%	± 3.0%	
	LINE REGULATION <small>Note.5</small>	± 1.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%	
	LOAD REGULATION <small>Note.6</small>	± 5.0%	± 5.0%	± 5.0%	± 3.0%	± 3.0%	± 2.0%	± 2.0%	± 2.0%	
SETUP, RISE, HOLD UP TIME	500ms, 30ms, 10ms/230VAC      500ms, 30ms, 10ms/115VAC at full load									
INPUT	VOLTAGE RANGE <small>Note.7</small>	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									
PROTECTION	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								
ENVIRONMENT	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								
	TEMP. COEFFICIENT	± 0.03% / °C (0 ~ 40°C)								
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes								
SAFETY & EMC <small>(Note. 8)</small>	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 <sup>rd</sup> 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		
	Voltage flicker	BS EN/EN61000-3-3					-----			
	EMC IMMUNITY	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 interconnect 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			
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				
OTHERS	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								
CONNECTOR	PLUG	See page 4 - 5 ; other type available by customer requested								
	CABLE	See page 4 - 5 ; other type available by customer requested								
NOTE	<p>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 &amp; 50% load.                  3.Ripple &amp; noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µf &amp; 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 <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a></p>									

■ Derating Curve



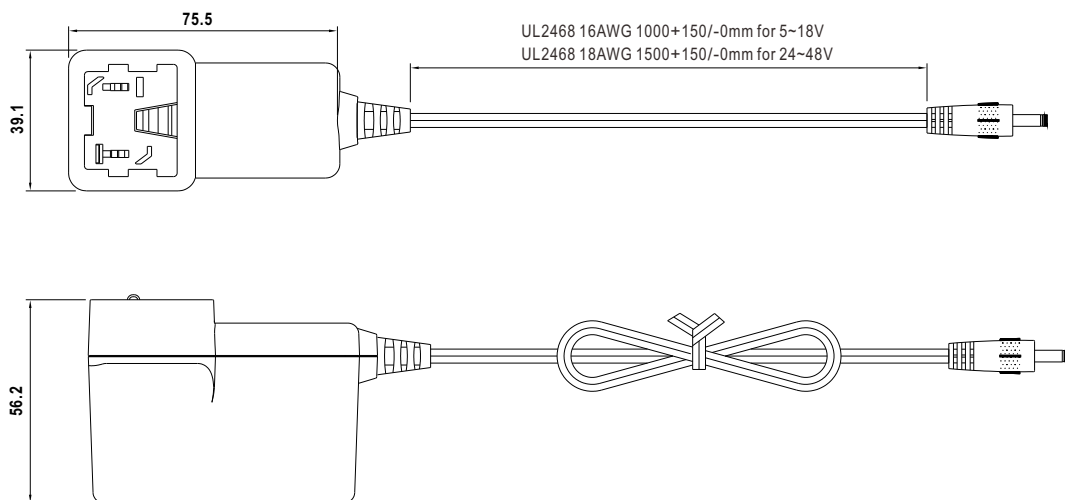
■ Static Characteristics



■ 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
	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](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	C	None		
			OD	ID	L			
		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			
		Lock Style		Type No.	A	B	C	None
					OD	ID	L	
	 SWITCHCRAFT original or equivalent	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	Available (Current rating: 5A max.)		
			OD	ID	L			
	 EIAJ equivalent	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	Quick Adapter Accessory	
		OD	ID	L	Center Pin		
<p>EIAJ equivalent</p>	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					
<p>KYCON KPPX-3P equivalent</p>	R6B	PIN No.	Output				
		1	+Vo				
		2	-Vo				
<th>Min. DIN 4 Pin with Lock (male)</th> <th>Type No.</th> <th colspan="2">Pin Assignment</th> <th colspan="3"></th>	Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment				
	<p>KYCON KPPX-4P equivalent</p>	R7B	PIN No.	Output			
			1	+Vo			
			2	-Vo			
3			-Vo				
<th>Stripped and tinned leads</th> <th>Type No.</th> <th colspan="2">Pin Assignment</th> <th colspan="3"></th>	Stripped and tinned leads	Type No.	Pin Assignment				
	<p>Length of Land L1 by request (MW's standard length, L: 25 mm, L1: 10 mm)</p>	by customer	PIN No.	Output			
1 (Ribbed or White)			+Vo				
		2 (Letter or Black)	-Vo				

**■ Installation Manual**

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