



## ■ Features

- Interchangeable AC plugs (plug kit sold separately)
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1/ES60601-1-11, EN60601-1/EN60601-1-11
- Extremely Low leakage current
- No load power consumption < 0.1W
- **Energy efficiency Level VI**
- -25~+70°C wide range working temperature
- Class II power (no earth pin)
- Protections: Short circuit / Overload / Over voltage
- Fully enclosed plastic case
- 3 years warranty

## ■ Applications

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

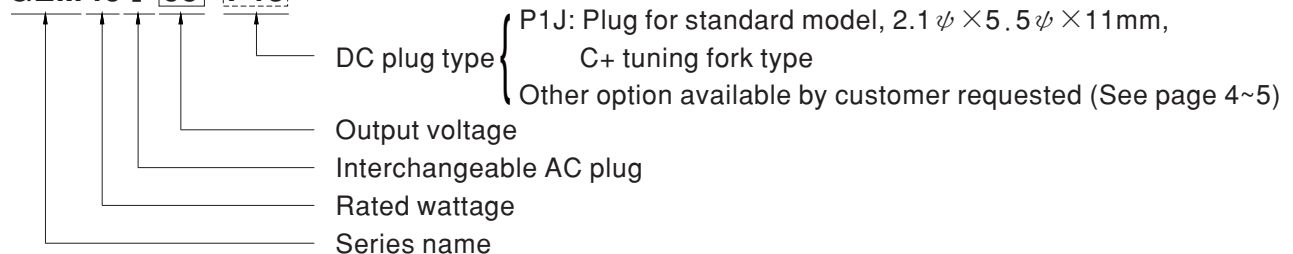
## ■ Description

GEM40I is a highly reliable, 40W 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. GEM40I 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 90.5% and the extremely low no-load power consumption below 0.1W, GEM40I is compliant with the latest USA energy regulation EISA 2007/DoE (Level VI) and EU ErP. 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

**GEM40 I 05 -P1J**



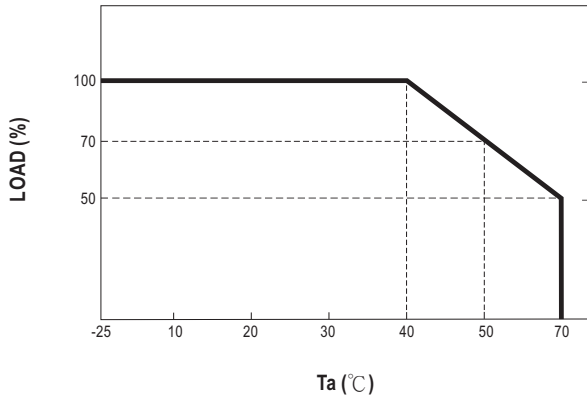
## Interchangeable AC plug Specifically for GEM12I/18I/30I/40I

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

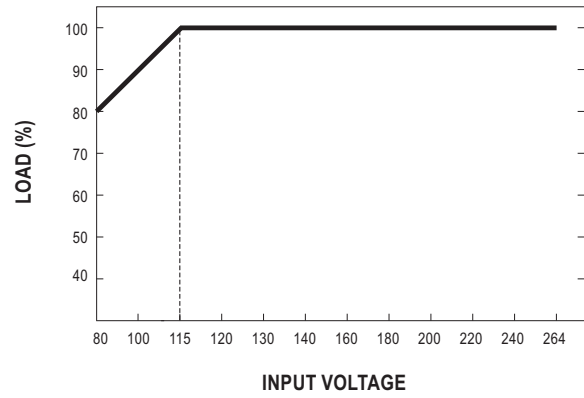
### SPECIFICATION

ORDER NO.	GEM40I05-P1J	GEM40I09-P1J	GEM40I12-P1J	GEM40I15-P1J	GEM40I18-P1J	GEM40I24-P1J	GEM40I48-P1J	
OUTPUT	<b>SAFETY MODEL NO.</b>	GEM40I05	GEM40I09	GEM40I12	GEM40I15	GEM40I18	GEM40I24	GEM40I48
	<b>DC VOLTAGE</b> <small>Note.2</small>	5V	9V	12V	15V	18V	24V	48V
	<b>RATED CURRENT</b>	5A	4A	3.33A	2.66A	2.22A	1.66A	0.83A
	<b>CURRENT RANGE</b>	0 ~ 5A	0 ~ 4A	0 ~ 3.33A	0 ~ 2.66A	0 ~ 2.22A	0 ~ 1.66A	0 ~ 0.83A
	<b>RATED POWER (max.)</b>	25W	36W	40W	40W	40W	40W	40W
	<b>RIPPLE &amp; NOISE (max.)</b> <small>Note.3</small>	100mVp-p	100mVp-p	100mVp-p	120mVp-p	120mVp-p	120mVp-p	200mVp-p
	<b>VOLTAGE TOLERANCE</b> <small>Note.4</small>	±5.0%	±5.0%	±3.0%	±3.0%	±2.0%	±2.0%	±2.0%
	<b>LINE REGULATION</b> <small>Note.5</small>	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	<b>LOAD REGULATION</b> <small>Note.6</small>	±5.0%	±5.0%	±3.0%	±3.0%	±2.0%	±2.0%	±2.0%
	<b>SETUP, RISE, HOLD UP TIME</b>	500ms, 30ms, 16ms/230VAC    500ms, 30ms, 16ms/115VAC at full load						
INPUT	<b>VOLTAGE RANGE</b> <small>Note.7</small>	80 ~ 264VAC		113 ~ 370VDC				
	<b>FREQUENCY RANGE</b>	47 ~ 63Hz						
	<b>EFFICIENCY (Typ.)</b>	84%	87%	88%	88%	88%	89%	90.5%
	<b>AC CURRENT</b>	1A / 115VAC	0.6A / 230VAC					
	<b>INRUSH CURRENT (max.)</b>	Cold start 30A / 115VAC		65A / 230VAC				
	<b>LEAKAGE CURRENT(max.)</b> Touch current < 100µA/264VAC							
PROTECTION	<b>OVERLOAD</b>	105 ~ 160% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed						
	<b>OVER VOLTAGE</b>	110 ~ 140% rated output voltage Protection type : Clamp by zener diode, output short						
ENVIRONMENT	<b>WORKING TEMP.</b>	-25 ~ +70°C (Refer to "Derating Curve")						
	<b>WORKING HUMIDITY</b>	20% ~ 90% RH non-condensing						
	<b>STORAGE TEMP., HUMIDITY</b>	-25 ~ +85°C, 10 ~ 95% RH non-condensing						
	<b>TEMP. COEFFICIENT</b>	±0.03% / °C (0 ~ 40°C)						
	<b>VIBRATION</b>	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes						
SAFETY & EMC <small>(Note. 8)</small>	<b>SAFETY STANDARDS</b>	TUV EN60601-1/EN60601-1-11,ANSI/ AAMI ES60601-1/ES60601-1-11(3.1 version), CAN/CSA-C22 3 <sup>rd</sup> edition approved						
	<b>ISOLATION LEVEL</b>	Primary - Secondary: 2 x MOPP						
	<b>WITHSTAND VOLTAGE</b>	I/P-O/P:5656VDC						
	<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 18			Class B		
		Radiated emission	EN55011 (CISPR11),FCC PART 18			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 2, 3V			
Magnetic field immunity		EN61000-4-8			Level 4, 30A/m			
Voltage dip, interruption	EN61000-4-11			>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods				
OTHERS	<b>LIFE</b>	3 years : 100% load 40°C, 12hours / day						
	<b>MTBF</b>	400Khrs min. MIL-HDBK-217F(25°C)						
	<b>DIMENSION</b>	75.5*39.1*56.2mm (L*W*H)						
	<b>PACKING</b>	200g ; 60pcs / 13kg / CARTON						
CONNECTOR	<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						
NOTE	<p>1.All parameters are specified at 230VAC input, rated load, 25°C 70% RH ambient.</p> <p>2.DC voltage: The output voltage set at point measure by plug terminal &amp; 50% load.</p> <p>3.Ripple &amp; noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µf &amp; 47µf capacitor.</p> <p>4.Tolerance: includes set up tolerance, line regulation, load regulation.</p> <p>5.Line regulation is measured from low line to high line at rated load.</p> <p>6.Load regulation is measured from 10% to 100% rated load.</p> <p>7.Derating may be needed under low input voltage. Please check the derating curve for more details.</p> <p>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>							

### Derating Curve



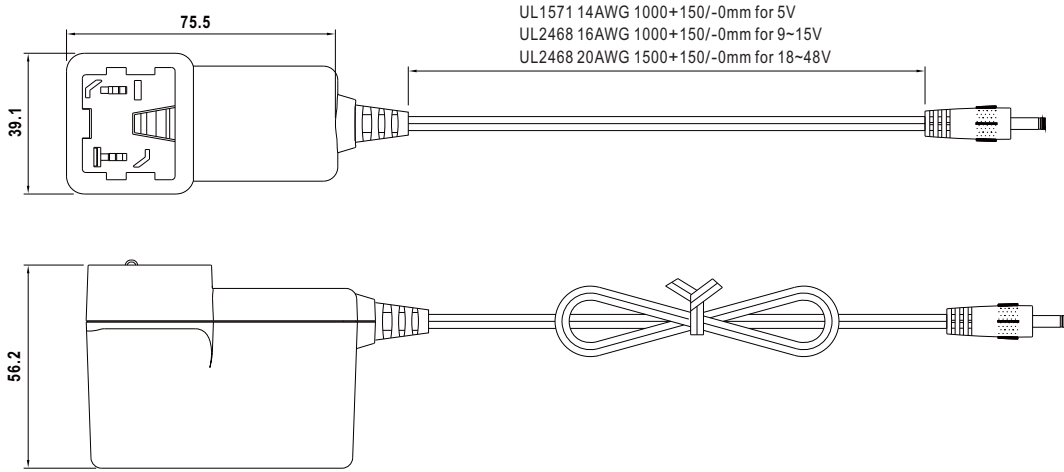
### Static Characteristics



### Mechanical Specification

Unit:mm

TYPE				
	Australian type	U.K type	European type	US type





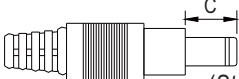
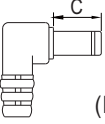


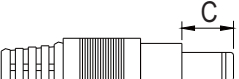
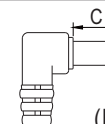


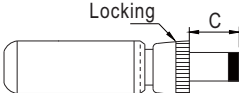


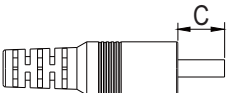

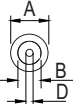
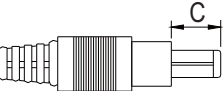

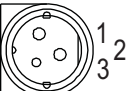
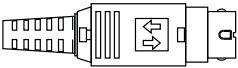
### Plug Assignment

Standard plug: P1J

Unit:mm

P1J	Pin Assignment
	Outside   Inside

◎ Optional DC plug:

Tuning Fork Style		Type No.	A	B	C	
			OD	ID	L	
 	 (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	B	C	
			OD	ID	L	
 	 (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	B	C	
			OD	ID	L	
   Locking 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	
			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
			OD	ID	L	Center Pin
   EIAJ equivalent	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			
			PIN No.	Output		
   KYCON KPPX-3P equivalent	R6B	1	+Vo			
			2	-Vo		
			3	+Vo		

Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment	
		PIN No.	Output
	R7B	1	+Vo
		2	-Vo
		3	-Vo
		4	+Vo
Min. DIN 4 Pin with Lock (female)	Type No.	Pin Assignment	
		PIN No.	Output
	R7BF	1	+Vo
		2	-Vo
		3	-Vo
		4	+Vo
Stripped and tinned leads	Type No.	Pin Assignment	
		PIN No.	Output
<p>Length of Land L1 by request (MW's standard length, L: 25 mm, L1: 10 mm)</p>	by customer	1 (Ribbed or White)	+Vo
		2 (Letter or Black)	-Vo

■ **Installation Manual**

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