



■ Features

- Interchangeable AC plugs (plug kit sold separately)
- Medical safety approved (2 x MOPP) according to ANSIAAMI 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
- Various DC plug quick adaptor accessories available. Contact TRC Electronics for details.
- 3 years warranty

■ Applications

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

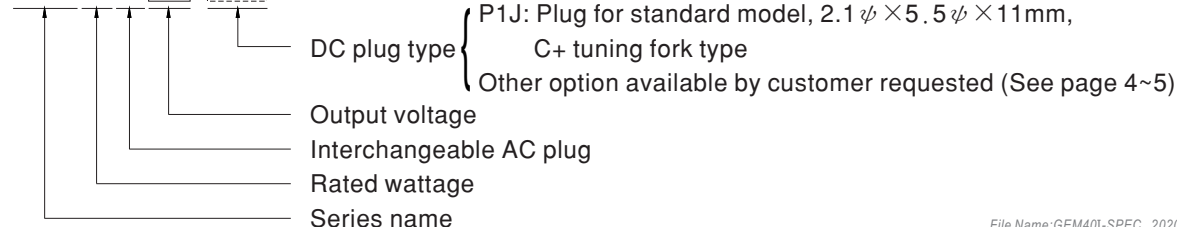
■ Description

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.

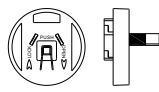
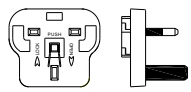
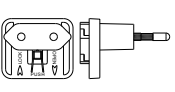
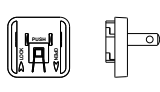
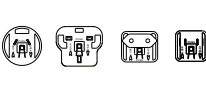
■ Model Encoding

GEM40 I 05 -P1J



File Name: GEM40I-SPEC 2020-04-30

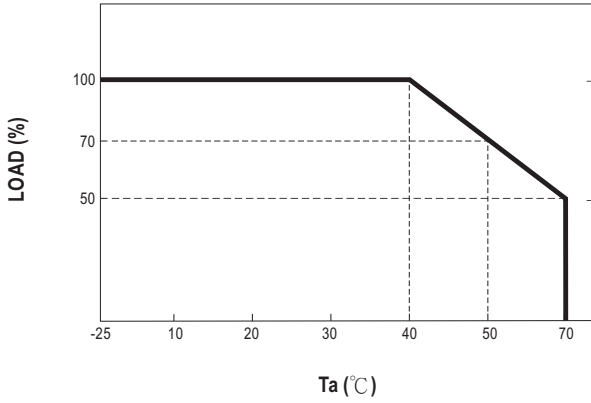
Interchangeable AC plug Specifically for GEM06/12/18/30/40/60I

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

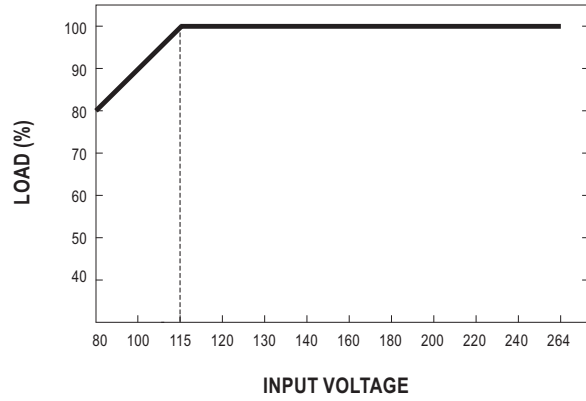
SPECIFICATION

ORDER NO.	GEM40I05-P1J	GEM40I09-P1J	GEM40I12-P1J	GEM40I15-P1J	GEM40I18-P1J	GEM40I24-P1J	GEM40I48-P1J
OUTPUT	SAFETY MODEL NO.	GEM40I05	GEM40I09	GEM40I12	GEM40I15	GEM40I18	GEM40I48
	DC VOLTAGE <small>Note.2</small>	5V	9V	12V	15V	18V	24V
	RATED CURRENT	5A	4A	3.33A	2.66A	2.22A	1.66A
	CURRENT RANGE	0 ~ 5A	0 ~ 4A	0 ~ 3.33A	0 ~ 2.66A	0 ~ 2.22A	0 ~ 1.66A
	RATED POWER (max.)	25W	36W	40W	40W	40W	40W
	RIPPLE & NOISE (max.) <small>Note.3</small>	100mVp-p	100mVp-p	100mVp-p	120mVp-p	120mVp-p	120mVp-p
	VOLTAGE TOLERANCE <small>Note.4</small>	±5.0%	±5.0%	±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%
LOAD REGULATION <small>Note.6</small>	±5.0%	±5.0%	±3.0%	±3.0%	±2.0%	±2.0%	
SETUP, RISE, HOLD UP TIME	500ms, 30ms, 16ms/230VAC 500ms, 30ms, 16ms/115VAC at full load						
INPUT	VOLTAGE RANGE <small>Note.7</small>	80 ~ 264VAC 113 ~ 370VDC					
	FREQUENCY RANGE	47 ~ 63Hz					
	EFFICIENCY (Typ.)	84%	87%	88%	88%	88%	89%
	AC CURRENT	1A / 115VAC 0.6A / 230VAC					
	INRUSH CURRENT (max.)	Cold start 30A / 115VAC 65A / 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.	-25 ~ +70°C (Refer to "Derating Curve")					
	WORKING HUMIDITY	20% ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-25 ~ +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 EN60601-1/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:565VDC					
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH					
	EMC EMISSION	Parameter	Standard		Test Level / Note		
		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		-----			
	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 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	LIFE	3 years : 100% load 40°C, 12hours / 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 & 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."</p>						

■ Derating Curve


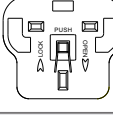
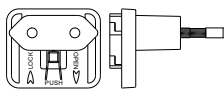
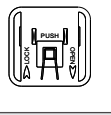


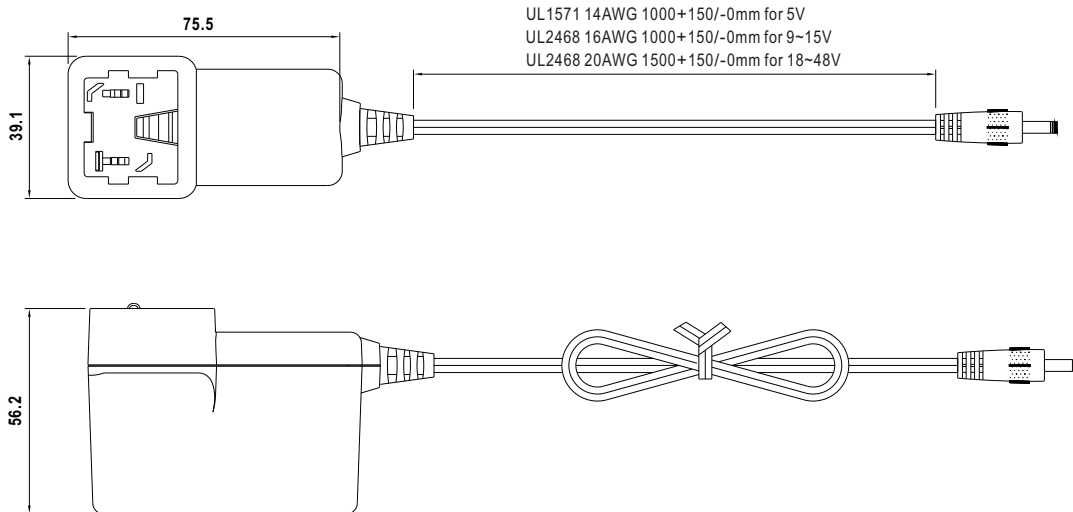
■ Static Characteristics



■ Mechanical Specification

Unit:mm




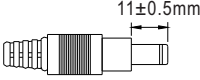

TYPE				
	Australian type	U.K type	European type	US type



■ DC output plug

◎ Standard plug: P1J

Unit:mm

P1J		Pin Assignment
		
		Outside 

◎ DC plug changeable through:



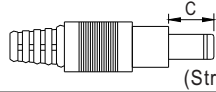
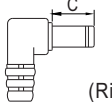


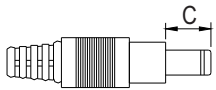
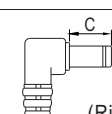


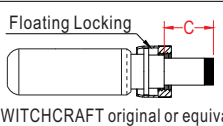


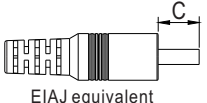
(1) Customization of the standard part with an optional DC plug according to the table (MOQ applicable)

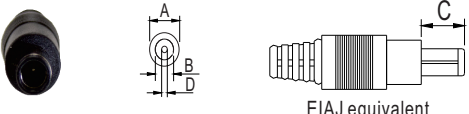
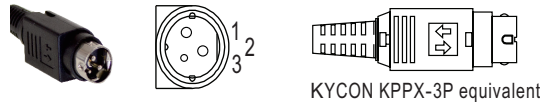

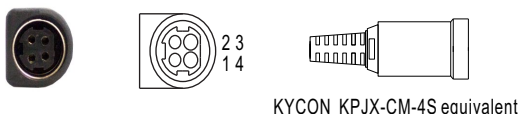
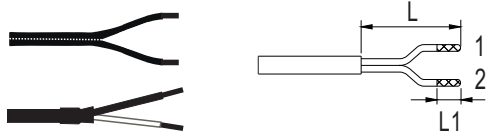
(2) Quick adapter accessory (sold separately without MOQ)

Please refer to below table : 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	
   (Straight)  (Right-angled)	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	Quick Adapter Accessory
		OD	ID	L	
   (Straight)  (Right-angled)	P2I	5.5	2.1	9.5	None
	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	Quick Adapter Accessory
		OD	ID	L	
  	P2S(S761K)	5.53	2.03	12.06	None
	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	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	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			
		3	+Vo			
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			
		4	+Vo			
Min. DIN 4 Pin with Lock (female)	Type No.	Pin Assignment				
 <p>KYCON KPJX-CM-4S equivalent</p>	R7BF	PIN No.	Output			
		1	+Vo			
		2	-Vo			
		3	-Vo			
		4	+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>10</u> mm)</p>	by customer	PIN No.	Output			
		1 (Ribbed or White)	+Vo			
		2 (Letter or Black)	-Vo			