40W AC-DC Reliable Green Interchangeable Medical Adaptor GEM40I series



ANSI/AAMI ES60601-1
ES60601-1-11

EN60601-1
EN60601-1-11

IEC60950-1

IP21

ECO | Medical | 2xMOPP | BF rated

Features

- Interchangeable AC plugs (plug kit sold sperately)
- 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℃ 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.

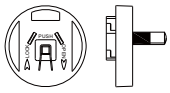
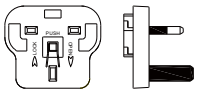
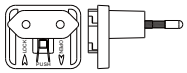
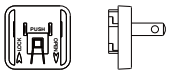
With the working efficiency up to 90.5% and the extremely low no-load power consumption below 0.1W, GEM40I is compliant with the latest USA energy regulation EISA 2007/DoE(Level Ⅵ) and EU ErP. The supreme feature allows the adaptor to save the energy when it is under either the operating mode or the 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

- DC plug type
  - P1J: Plug for standard model, 2.1ψ×5.5ψ×11mm, C+ tuning fork type
  - Other option available by customer requested (See page 4~5)
- Output voltage
- Interchangeable AC plug
- Rated wattage
- Series name

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

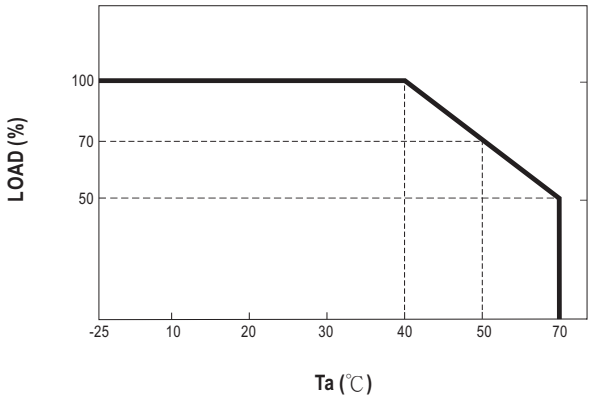
SPECIFICATION

ORDER NO.		GEM40I05-P1J	GEM40I09-P1J	GEM40I12-P1J	GEM40I15-P1J	GEM40I18-P1J	GEM40I24-P1J	GEM40I48-P1J
OUTPUT	SAFETY MODEL NO.	GEM40I05	GEM40I09	GEM40I12	GEM40I15	GEM40I18	GEM40I24	GEM40I48
	DC VOLTAGE Note.2	5V	9V	12V	15V	18V	24V	48V
	RATED CURRENT	5A	4A	3.33A	2.66A	2.22A	1.66A	0.83A
	CURRENT RANGE	0 ~ 5A	0 ~ 4A	0 ~ 3.33A	0 ~ 2.66A	0 ~ 2.22A	0 ~ 1.66A	0 ~ 0.83A
	RATED POWER (max.)	25W	36W	40W	40W	40W	40W	40W
	RIPPLE & NOISE (max.) Note.3	100mVp-p	100mVp-p	100mVp-p	120mVp-p	120mVp-p	120mVp-p	200mVp-p
	VOLTAGE TOLERANCE Note.4	±5.0%	±5.0%	±3.0%	±3.0%	±2.0%	±2.0%	±2.0%
	LINE REGULATION Note.5	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LOAD REGULATION Note.6	±5.0%	±5.0%	±3.0%	±3.0%	±2.0%	±2.0%	±2.0%
	SETUP, RISE, HOLD UP TIME	500ms, 30ms, 16ms/230VAC 500ms, 30ms, 16ms/115VAC at full load						
INPUT	VOLTAGE RANGE Note.7	80 ~ 264VAC 113 ~ 370VDC						
	FREQUENCY RANGE	47 ~ 63Hz						
	EFFICIENCY (Typ.)	84%	87%	88%	88%	88%	89%	90.5%
	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℃ (Refer to "Derating Curve")						
	WORKING HUMIDITY	20% ~ 90% RH non-condensing						
	STORAGE TEMP., HUMIDITY	-25 ~ +85℃, 10 ~ 95% RH non-condensing						
	TEMP. COEFFICIENT	±0.03% / ℃ (0 ~ 40℃)						
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes						
SAFETY & EMC (Note. 8)	SAFETY STANDARDS	TUV EN60601-1/EN60601-1-11,ANSI/ AAMI ES60601-1/ES60601-1-11(3.1 version), CAN/CSA-C22 3rd edition approved						
	ISOLATION LEVEL	Pimary - Secondary: 2 x MOPP						
	WITHSTAND VOLTAGE	I/P-O/P:5656VDC						
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 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	EN55024 , 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℃, 12hours / day						
	MTBF	400Khrs min. MIL-HDBK-217F(25℃)						
	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						

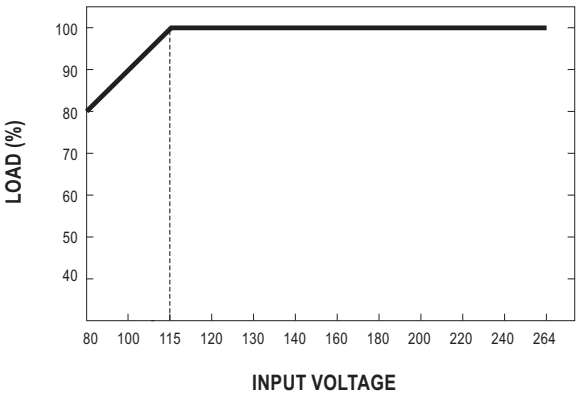
NOTE

1.All parameters are specified at 230VAC input, rated load, 25℃ 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)

■ Derating Curve

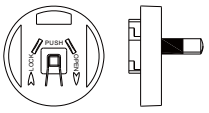
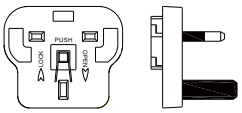
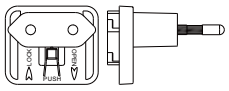
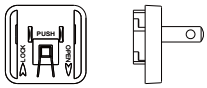


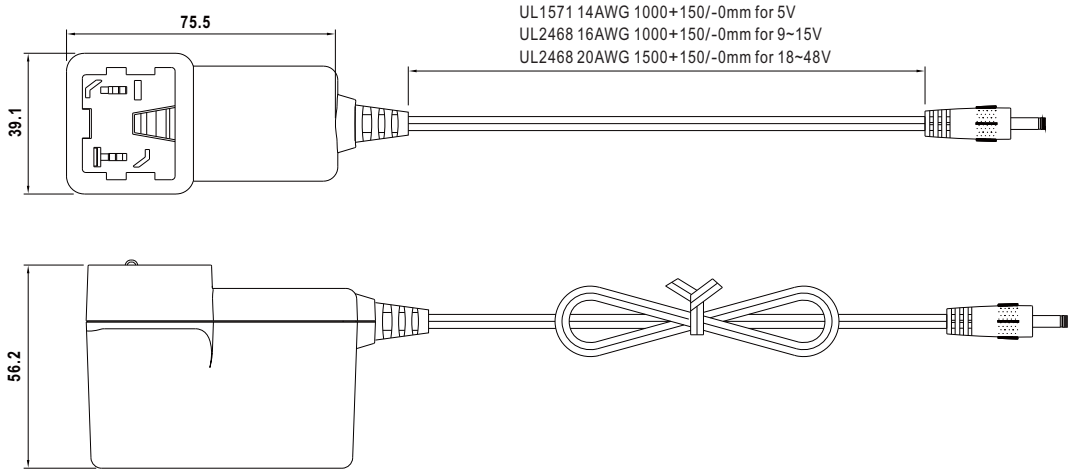
■ Static Characteristics



■ Mechanical Specification

Unit:mm

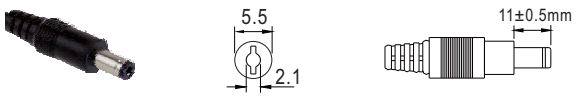
TYPE				
	Australian type	U.K type	European type	US type



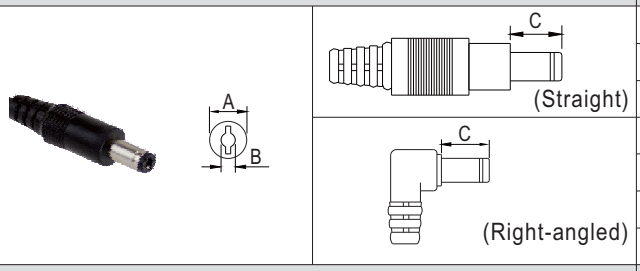
■ Plug Assignment

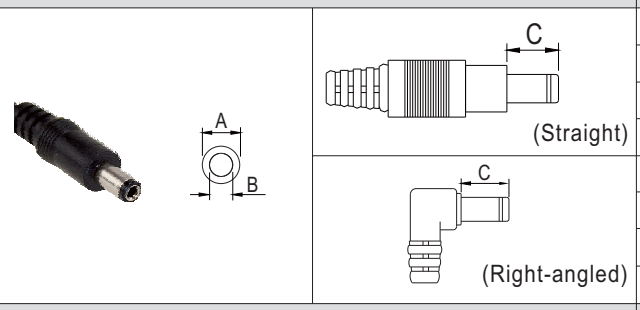
Standard plug: P1J

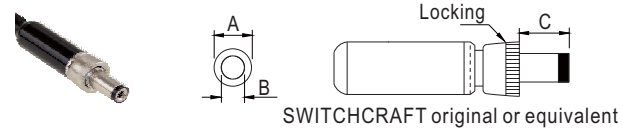
Unit:mm

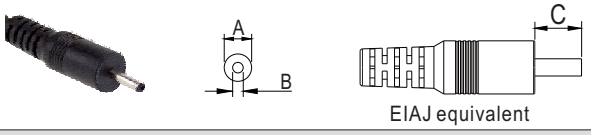
P1J	Pin Assignment
	
	Outside  Inside

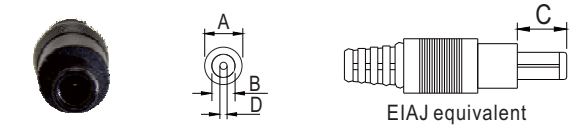
◎ Optional DC plug:

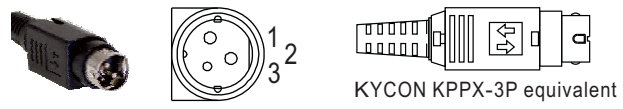
Tuning Fork Style	Type No.	A	B	C
		OD	ID	L
	P1I	5.5	2.1	9.5
	P1L	5.5	2.5	9.5
	P1M	5.5	2.5	11.0
	P1IR	5.5	2.1	9.5
	P1JR	5.5	2.1	11.0
	P1LR	5.5	2.5	9.5
	P1MR	5.5	2.5	11.0

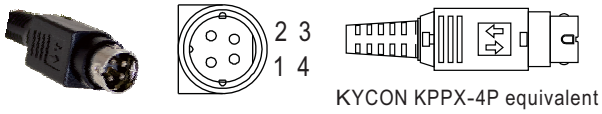
Barrel Style	Type No.	A	B	C
		OD	ID	L
	P2I	5.5	2.1	9.5
	P2J	5.5	2.1	11.0
	P2L	5.5	2.5	9.5
	P2M	5.5	2.5	11.0
	P2IR	5.5	2.1	9.5
	P2JR	5.5	2.1	11.0
	P2LR	5.5	2.5	9.5
	P2MR	5.5	2.5	11.0

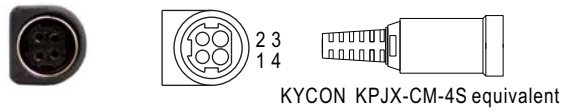
Lock Style	Type No.	A	B	C
		OD	ID	L
	P2S(S761K)	5.53	2.03	12.06
	P2K(761K)	5.53	2.54	12.06
	P2C(S760K)	5.53	2.03	9.52
	P2D(760K)	5.53	2.54	9.52

Min. Pin Style	Type No.	A	B	C
		OD	ID	L
	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
	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
	R6B	1	+Vo
		2	-Vo
		3	+Vo

Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment	
		PIN No.	Output
 KYCON KPPX-4P equivalent	R7B	1	+Vo
		2	-Vo
		3	-Vo
		4	+Vo

Min. DIN 4 Pin with Lock (female)	Type No.	Pin Assignment	
		PIN No.	Output
 KYCON KPJX-CM-4S equivalent	R7BF	1	+Vo
		2	-Vo
		3	-Vo
		4	+Vo

Stripped and tinned leads	Type No.	Pin Assignment	
		PIN No.	Output
 Length of Land L1 by request (MW's standard length, L: 25 mm, L1: 10 mm)	by customer	1 (Ribbed or White)	+Vo
		2 (Letter or Black)	-Vo

■ Installation Manual

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