30W AC-DC Reliable Green Interchangeable Medical Adaptor GEM30I series

User's Manual

Video



ANSI/AAMI ES60601-1
ES60601-1-11

BS EN/EN60601-1
BS EN/EN60601-1-11

IEC60950-1

TPTC004

IP21

ECO

Medical

2xMOPP

BF rated

Features

- Interchangeable AC plugs (plug kit sold sperately)
- Medical safety approved (2 x MOPP) accroding 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< 0.1W
- **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
- Various DC plug quick adapter accessory available (Plug kit sold sperately, please refer to : 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

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

GEM30I is a highly reliable, 30W 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. GEM30I 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 0.1W, GEM30I 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

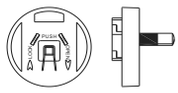
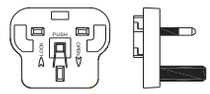
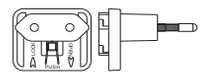
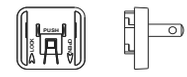
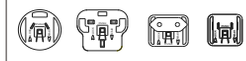
GEM30 I 05 -P1J

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

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30W AC-DC Reliable Green Interchangeable Medical Adaptor GEM30I series

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.		GEM30I05-P1J	GEM30I07-P1J	GEM30I09-P1J	GEM30I12-P1J	GEM30I15-P1J	GEM30I18-P1J	GEM30I24-P1J	GEM30I48-P1J
OUTPUT	SAFETY MODEL NO.	GEM30I05	GEM30I07	GEM30I09	GEM30I12	GEM30I15	GEM30I18	GEM30I24	GEM30I48
	DC VOLTAGE Note.2	5V	7.5V	9V	12V	15V	18V	24V	48V
	RATED CURRENT	4A	3.33A	3.33A	2.5A	2A	1.66A	1.25A	0.625A
	CURRENT RANGE	0 ~ 4A	0 ~ 3.33A	0 ~ 3.33A	0 ~ 2.5A	0 ~ 2A	0 ~ 1.66A	0 ~ 1.25A	0 ~ 0.625A
	RATED POWER (max.)	20W	25W	30W	30W	30W	30W	30W	30W
	RIPPLE & NOISE (max.) Note.3	100mVp-p	100mVp-p	100mVp-p	100mVp-p	100mVp-p	100mVp-p	100mVp-p	100mVp-p
	VOLTAGE TOLERANCE Note.4	±5.0%	±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%	±1.0%
	LOAD REGULATION Note.6	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%	±2.0%	±2.0%	±2.0%
	SETUP, RISE, HOLD UP TIME	500ms, 100ms, 16ms/230VAC 500ms, 100ms, 16ms/115VAC at full load							
INPUT	VOLTAGE RANGE Note.7	80 ~ 264VAC 113 ~ 370VDC							
	FREQUENCY RANGE	47 ~ 63Hz							
	EFFICIENCY (Typ.)	82%	86%	87%	87%	87%	88%	88.5%	90%
	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	120 ~ 200% 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	ANSI/AAMI ES60601-1 / 60601-1-11, TUV BS EN/EN60601-1 / 60601-1-11, EAC TP TC 004 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	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/EN60601-1-2, BS EN/EN61204-3							
		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~5.78GHz)					
		EFT bursts	BS EN/EN61000-4-4	Level 3, 2KV					
		Surge susceptibility	BS EN/EN61000-4-5	Level 3, 1KV/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℃, 12hours / day							
	MTBF	400Khrs min. MIL-HDBK-217F(25℃)							
	DIMENSION	75.5*39.1*56.2mm (L*W*H)							
	PACKING	192g ; 60pcs / 12.5kg / CARTON							
CONNECTOR	PLUG	See page 4~5 ; other type available by customer requested							
	CABLE	See page 4~5 ; other type available by customer requested							

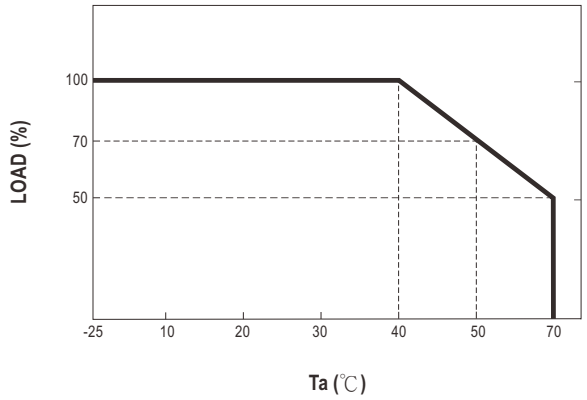
NOTE

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)

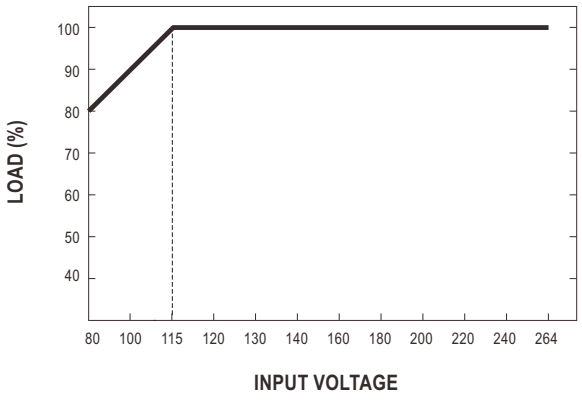
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

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■ Derating Curve



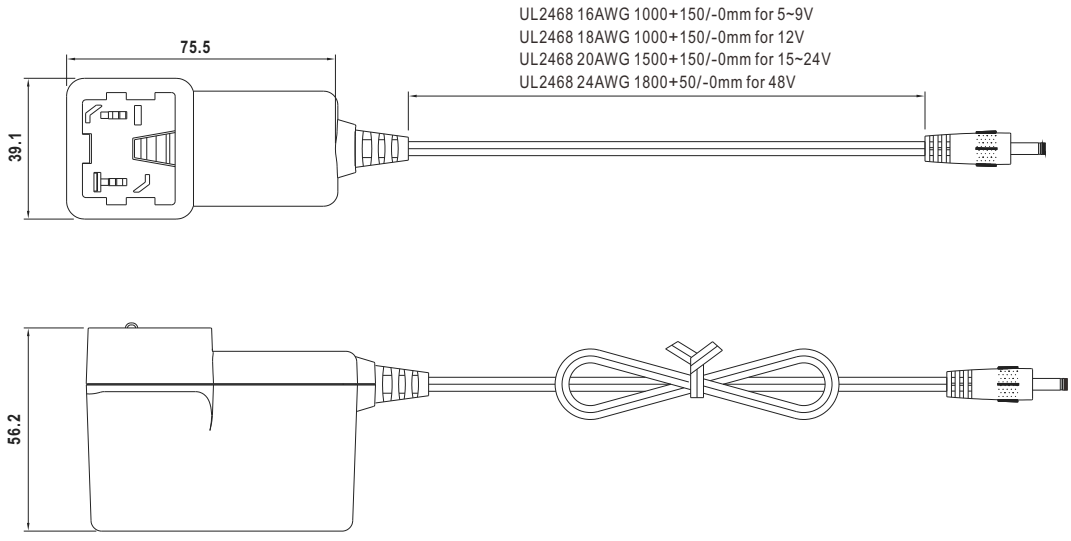
■ Static Characteristics



■ Mechanical Specification

Unit:mm

TYPE				
	Australian type	U.K type	European type	US type

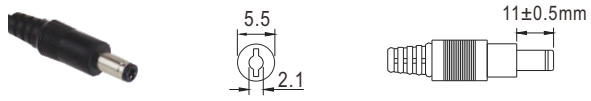
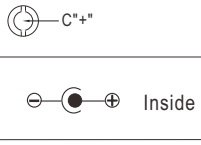


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■ DC output plug

◎ Standard plug: P1J

Unit:mm

P1J	Pin Assignment
	

◎ DC plug changeable through:

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

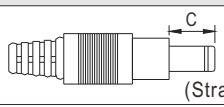
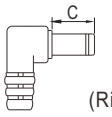
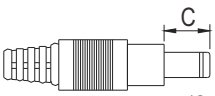
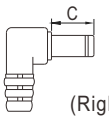
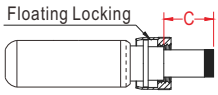
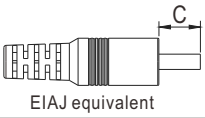
(2) Quick adapter accessory (sold separately without MOQ)

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

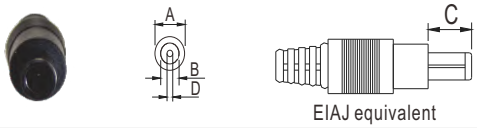
Example quick adapter accessory:

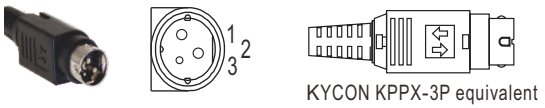


◎ Optional DC plug: (Available in customized cable or quick adapter)

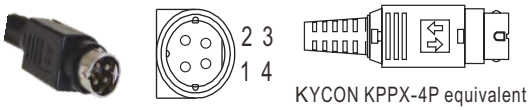
Tuning Fork Style		Type No.	A OD	B ID	C L	Quick Adapter Accessory
	 (Straight)	P1I	5.5	2.1	9.5	Available (Current rating: 7.5A max.)
		P1L	5.5	2.5	9.5	
		P1M	5.5	2.5	11.0	
	 (Right-angled)	P1IR	5.5	2.1	9.5	
		P1JR	5.5	2.1	11.0	
		P1LR	5.5	2.5	9.5	
		P1MR	5.5	2.5	11.0	
Barrel Style		Type No.	A OD	B ID	C L	
	 (Straight)	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	
	 (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 OD	B ID	C L	
	 SWITCHCRAFT original or equivalent	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 OD	B ID	C L	
	 EIAJ equivalent	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	

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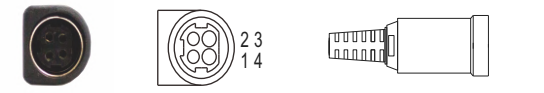
Center Pin Style	Type No.	A OD	B ID	C L	D Center Pin	Quick Adapter Accessory
 EIAJ equivalent	P4A	5.5	3.4	11.0	1.0	Available (Current rating: 7.5A max.)
	P4B	6.5	4.4	11.0	1.4	
	P4C	7.4	5.1	11.0	0.6	

Min. DIN 3 Pin with Lock (male)	Type No.	Pin Assignment	
		PIN No.	Output
 KYCON KPPX-3P equivalent	R6B	1	+Vo
		2	-Vo
		3	+Vo

Quick Adapter Accessory: Available (Current rating: 7.5A max.)

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

Quick Adapter Accessory: Available (Current rating: 7.5A max.)

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

Quick Adapter Accessory: None

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)	+Vo
		2 (Letter)	-Vo

Quick Adapter Accessory: None

■ Installation Manual

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

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