

Medical Power Supply

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MANGO180H Series

180W AC-DC ADAPTER



FEATURES

- 180W Rated Power / 270W Peak Power @10s
- Medical IEC60601-1 & ITE/AV IEC62368-1 Safety Approvals
- Compact size 165 x 68 x 31 mm
- Suitable for Class I and Class II installations
- High Efficiency up to 95% (Not including Output Cable)
- Universal AC Input with Active PFC(PF>0.9)
- Suitable for Type BF Medical Equipment
- Transient Peak Power up to 360W@ 40ms



CB

CE

UK
CA

GENERAL DESCRIPTION

MANGO180H series is a modern designed medical adapter with Class I & II available construction options. With up to 180w rated power, this product meets all Medical and Commercial compliance requirements including 4th Edition EMC, ITE/AV dual certification, and Level VI Efficiency. The series works perfectly in ventilators, oxygen concentrators, ultrasound equipment and other portable home medical equipment and hospital medical equipment.

APPLICATIONS



MODELS & RATINGS

MODELS	OUTPUT VOLTAGE	OUTPUT CURRENT @ RATED	TOTAL REGULATION	PEAK CURRENT	
				@10S	@40mS
MANGO180H-12	12V	12.50A	±5%	20.00A	26.0A
MANGO180H-15	15V	11.00A	±5%	17.00A	22.0A
MANGO180H-19	19V	9.47A	±5%	14.00A	18.5A
MANGO180H-24	24V	7.50A	±5%	11.25A	15.0A
MANGO180H-28	28V	6.42A	±5%	9.64A	12.8A
MANGO180H-32	32V	5.62A	±5%	8.43A	11.2A
MANGO180H-36	36V	5.00A	±5%	7.50A	10.0A
MANGO180H-48	48V	3.75A	±5%	5.62A	7.5A

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NOTE

- 1). Derate output power by 2% per VAC for input voltage<90vac
- 2). Ripple & Noise test : use a 0.1uF ceramic capacitor in parallel with a 10 uF electrolytic capacitor at the output connector terminals, the bandwidth is set to 20MHz.
- 3). The peak current are performed at 100Vac to 264Vac, derated by 2% per VAC for input voltage<100vac, the duty cycle of peak current is 10%Max.

MODEL ENCODING

MANGO180H	-	xx/xxx	y	z	-	abcd
DESKTOP ADAPTER		OUTPUT VOLTAGE	AC input type	DC output type		CUSTOMER CODE
180 Watts		12: 12V	Class I, A: C14, D: C6	A-Z,0-9		
		125: 12.5V	Class II, B: C8, C: C18	blank: customer identity		

INPUT ELECTRICAL CHARACTERISTICS

Normal voltage range	100-240VAC
Input Voltage Range	90~264Vac (Universal)
Input Frequency	47~63Hz
Input Current	2.5A max. @ 100VAC
Inrush Current	100A typical @ 230 VAC, Cold start

Earth Leakage Current	<250μA @ 264VAC(Class I)
Touch Current	<100μA @ 264VAC
Patient Leakage Current	<100μA @ 264VAC
No Load Input Power	<0.21W @ 230VAC

OUTPUT ELECTRICAL CHARACTERISTICS

Total Regulation	±5%
Line Regulation	±0.5%
Load Regulation	±4.5%
Minimum Load	None
Transient Response	±5%, 5%-50% or 50%-100%

Ripple & Noise	1% pk-pk Max
Turn-On Delay	2 seconds Max @ 100VAC
Hold-Up Time	>20mS
LED Indicator	Power on

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SAFETY & EMC

Safety	IEC60601-1
	IEC62368-1
	CE
	UKCA
EMC	IEC60601-1-2 Edition 4.1
Conduction Emission	EN55011, EN55032, FCC Part J15, Class B
Radiated Emission	EN55011, EN55032, FCC Part J15, Class B
Voltage Fluctuation & Flicker	EN61000-3-3
Harmonic Distortion	EN61000-3-2 Class A
ESD	EN61000-4-2, 8kV contact, 15kV Air Discharge
EFT	EN61000-4-4, Level 3, Criterion A
SURGE	EN61000-4-5 Installation Class 3, Criterion A
DIP ⁽¹⁾	EN61000-4-11
Conducted Immunity	EN61000-4-6, 10Vrms ,Criterion A
Radiated Immunity	EN61000-4-3, 10V/m, Criterion A
Magnetic Fields Immunity	EN61000-4-8, 30A/m, Criterion A

PROTECTION

Over shoot	5%
Over-Voltage	110-140%, Latch off, Recycle input to recovery
Over-Temperature	Auto Recovery with hysteretic
Over-Load	Hiccup, Auto-Recovery
Short Circuit	Hiccup, Auto-Recovery

RELIABILITY & ENVIRONMENTAL REQUIREMENTS

Operating Temperature	0°C to +40°C
Derating	2.5%/°C, > 40°C, up to 60°C max
Storage Temperature	-40°C to +85°C
Operating Humidity	5% to 95% (non-condensing)
Storage Humidity	5% to 95% (non-condensing)
Operating Altitude	5000m
Storage Altitude	5000m
Shock	294m/s ² (30G), 11ms, 6 directions, 3 axis
Vibration	10-500Hz, 19.6m/s ² (2G), 20minutes each along X, Y and Z axis

DIMENSION & PACKING

Efficiency	90%-93% typical@115/230 VAC, Full Load
Isolation	4000 VAC – Input to Output; 2xMOPP
	1500 VAC – Input to Ground; 1xMOPP
	1500 VAC – Output to Ground; 1xMOPP
MTBF	500K Hours, Telecordia SR-332 @ 25 °C
Weight	550g ref
Dimensions	165x68x31mm
	6.5x2.68x1.22" inch

(1) Power supply DIP voltage sag requirements table:

Drop	Time	Criterion
0%Ut	0.5cycle	A
0%Ut	1cycle	A
70%Ut	25/30 cycles	B
0%Ut	300cycles	C

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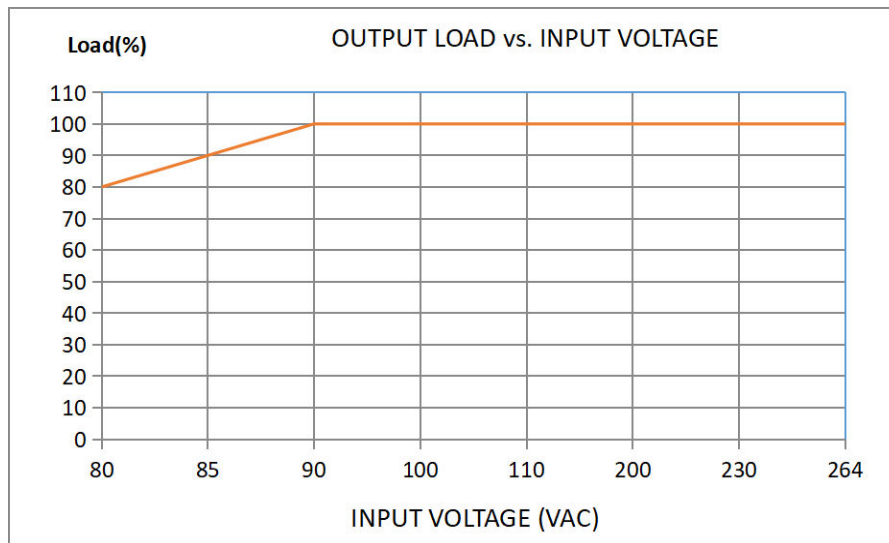
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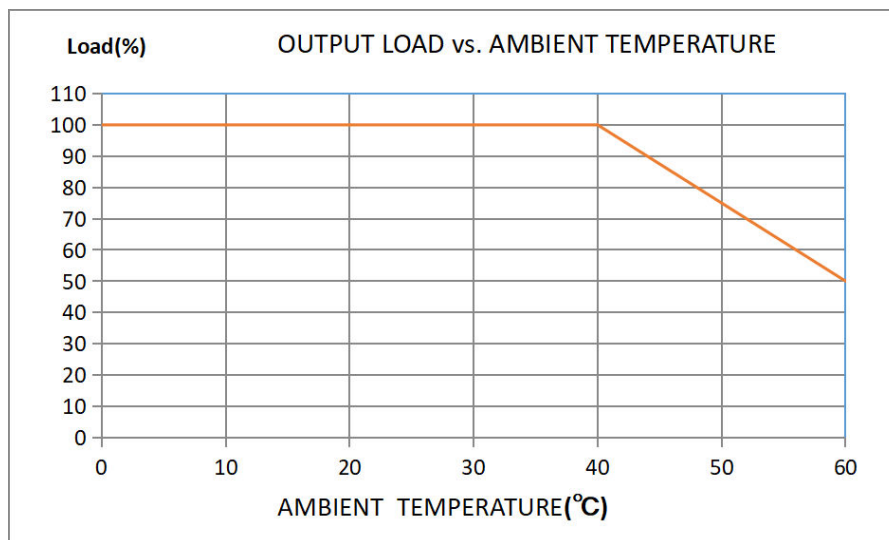
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DERATING CURVE

OUTPUT POWER VS INPUT VOLTAGE



OUTPUT POWER VS AMBIENT TEMPERATURE



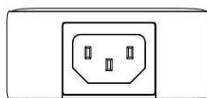
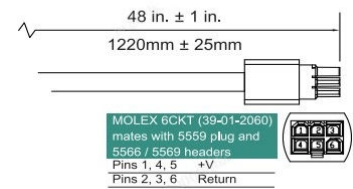
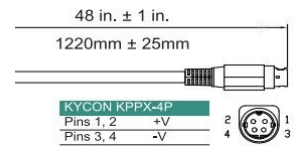
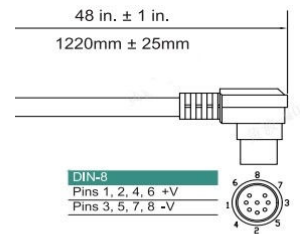
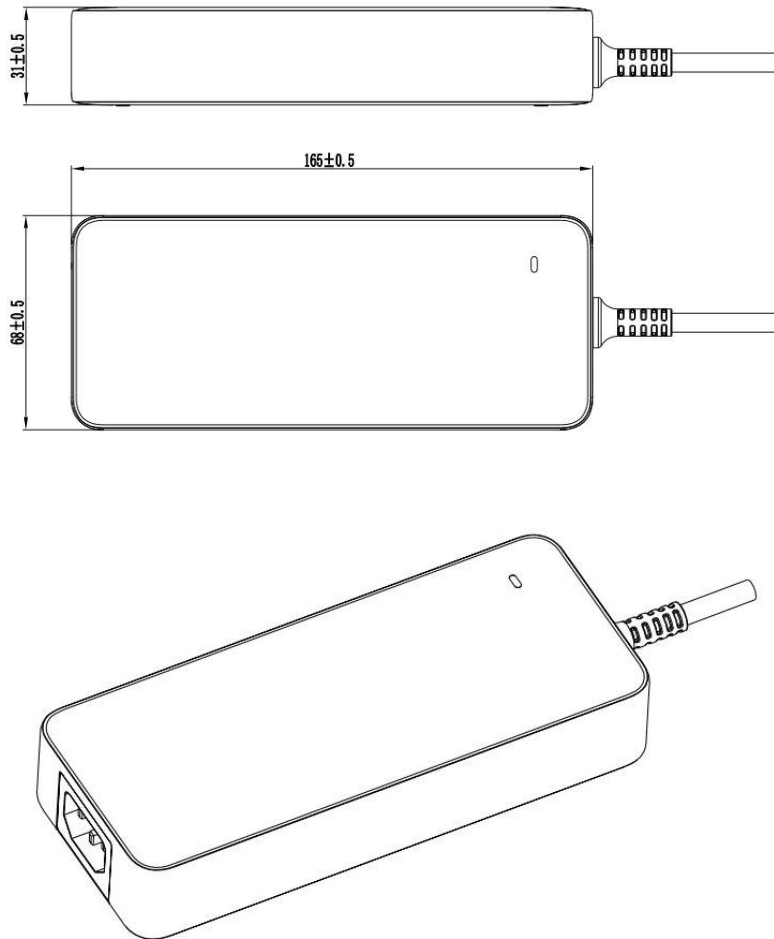
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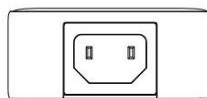
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MECHANICAL AND CONNECTOR INFORMATION



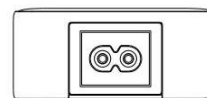
Inlet C14
Class I Safety Approvals



Inlet C18
Class II Safety Approvals



Inlet C6
Class I Safety Approvals



Inlet C8
Class II Safety Approvals

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GLOBAL OPERATION AND SERVICE



MANUFACTURER

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TECHNICAL SUPPORT

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