

Medical Power Supply

MANGO68H Series

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68W AC-DC ADAPTER



FEATURES

- 68W Rated Power / 100W Peak Power @5s
- Medical IEC60601-1 & ITE/AV IEC62368-1 Safety Approvals
- Compact size 105 x 50 x 29 mm
- Suitable for Class I and Class II installations
- High Efficiency up to 92%
- Suitable for Type BF Medical Equipment



GENERAL DESCRIPTION

The MANGO68H series meets all Medical and Commercial compliance requirements including 4th Edition EMC and Level VI Efficiency. MANGO68H adapters feature user-definable IEC 320 Inlet plug styles for Class I and Class II installation options and standard DC outputs from 12V to 24V.

APPLICATIONS



MODELS & RATINGS

MODELS	OUTPUT VOLTAGE	OUTPUT CURRENT @ RATED	TOTAL REGULATION	PEAK CURRENT @5S
MANGO68H-12	12V	5.41A	±5%	7.0A
MANGO68H-15	15V	4.53A	±5%	6.0A
MANGO68H-19	19V	3.58A	±5%	5.2A
MANGO68H-24	24V	2.83A	±5%	4.2A

NOTES

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, 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.

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MODEL ENCODING

MANGO68H	-	xx/xxx	yy	z	-	abcd
DESKTOP ADAPTER 68 Watts		OUTPUT VOLTAGE 12: 12V 165: 16.5V	AC INLET Class I, A: C14, D: C6 Class II, B: C8, C: C18	OUTPUT CONNECTOR B: Barrel, 5.5x2.5x10.5, Straight B2: Barrel, 5.5x2.1x10.5, Straight B2R: Barrel, 5.5x2.1, 90deg Right angle		CUSTOMER CODE OR OTHERS

INPUT ELECTRICAL CHARACTERISTICS

Normal Voltage Range	100-240VAC
Input Voltage Range	90~264Vac (Universal)
Input Frequency	47~63Hz
Input Current	1.5A max. @ 100VAC
Inrush Current	100A typical @ 230VAC, Cold start
Power Factor	EN61000-3-2, Class A

Earth Leakage Current(NC)	<100μA @ 264VAC(Class I)
Earth Leakage Current (SFC)	<200μA @ 264VAC(Class I)
Touch Current (NC)	<100μA @ 264VAC
Touch Current (SFC)	<200μA @ 264VAC
Patient Leakage Current	<100μA @ 264VAC
No Load Input Power	<0.15W @ 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	>10ms @115VAC Full Load

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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% , Hiccup, Auto-Recovery
Over-Temperature	Auto Recovery with hysteric
Over-Load	Hiccup, Auto-Recovery
Short Circuit	Hiccup, Auto-Recovery
Input Brown Out	AC On Voltage <=80Vac
	AC Off Voltage >=55Vac
	Minimum Hysteresis 5Vac

RELIABILITY & ENVIRONMENTAL REQUIREMENTS

Operating Temperature	0°C to +40°C
Derating	2.0%/°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	294 m/s ² (30G), 10ms, 6 times on each of 3axes
Vibration	10-500 Hz,19.6 m/s ² (2G), 20 mins on 3 axes

DIMENSION & PACKING

Efficiency	90%-92% 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	300g ref
Dimensions	105x50x29mm
	4.13x1.97x1.14" 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	B

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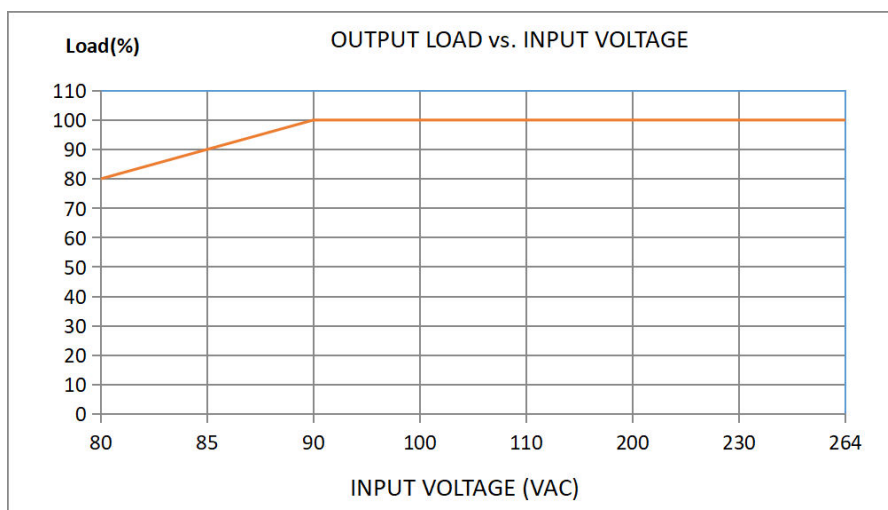
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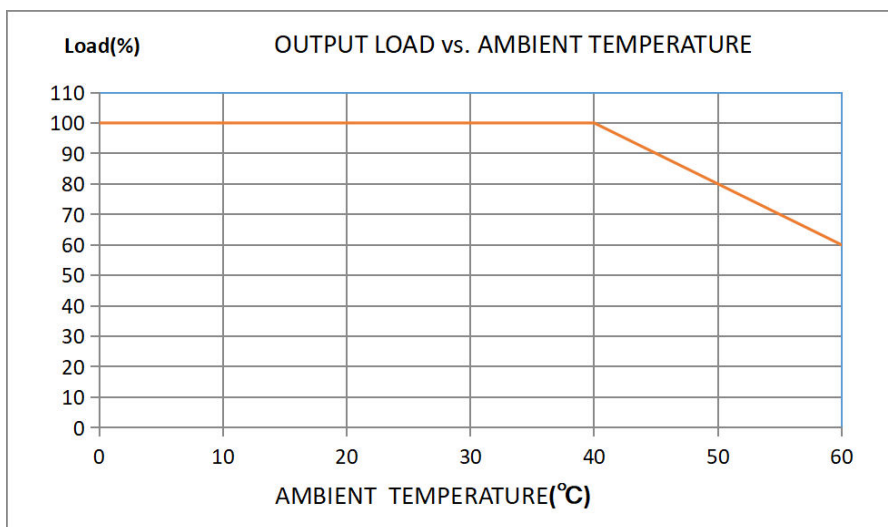
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DERATING CURVE

OUTPUT POWER VS INPUT VOLTAGE



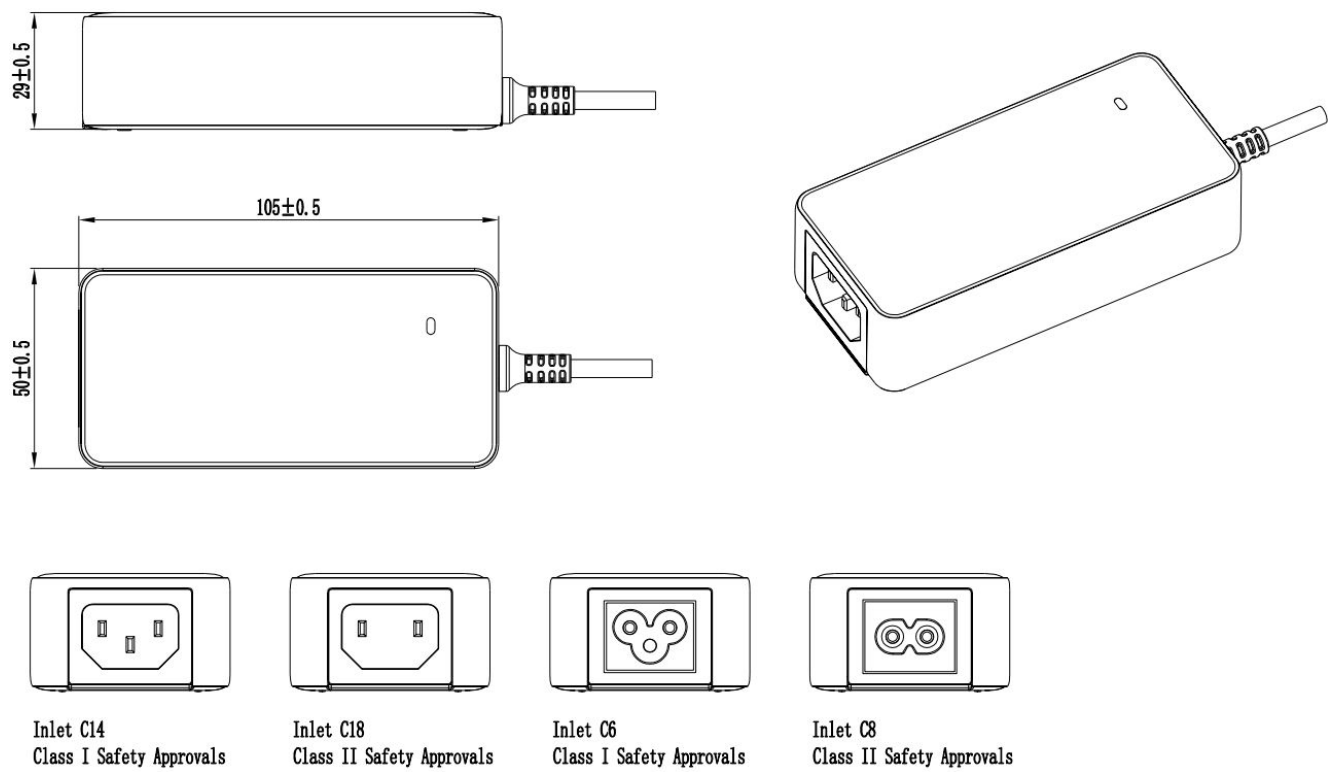
OUTPUT POWER VS AMBIENT TEMPERATURE



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MECHANICAL AND CONNECTOR INFORMATION



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GLOBAL OPERATION AND SERVICE



MANUFACTURER

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