

Medical Power Supply

MP130S Series

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130W AC-DC OPEN FRAME



FEATURES

- 100W Convection / 130W Forced-cooled Ratings
- Medical 60601-1 & ITE/AV 62368-1 Safety Approvals
- Small 2" x 3" x 1.03" & 2.08" x 4.06" x 1.18" Package
- Class I or Class II Construction Compatible
- Suited for Type BF Medical Equipment
- High Efficiency up to 95%
- EN55011 / FCC Part 15J Class B Emissions
- 3-Year Warranty

GENERAL DESCRIPTION

The MP130S series is an AC-DC converter that provides an output power of 100W as convection (130W with airflow). A metal base plate is optional at the bottom for flexible installation choices. This series is high efficiency and integrated with low power consumption. With the excellent EMC performance, this reliable meets all medical compliance requirements including 4th Edition EMC and Level VI efficiency.



APPLICATIONS



MODELS & RATINGS

MODELS	OUTPUT VOLTAGE	CONVECTION COOLED CURRENT	FORCED -COOLED CURRENT	CONVECTION -COOLED RIPPLE & NOISE	FORCED -COOLED RIPPLE & NOISE	TOTAL REGULATION
MP130S-12	12V	8.33A	10.83A	150mV	180mV	±3%
MP130S-15	15V	6.66A	8.66A	180mV	200mV	±3%
MP130S-18	18V	5.55A	7.22A	180mV	200mV	±3%
MP130S-19	19V	5.26A	6.84A	190mV	220mV	±3%
MP130S-24	24V	4.16A	5.41A	240mV	240mV	±3%
MP130S-28	28V	3.57A	4.64A	280mV	280mV	±3%
MP130S-48	48V	2.08A	2.70A	480mV	480mV	±3%

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 a distance of 10cm min from the output connector terminals ,the bandwidth is set to 20MHz

3). To ensure EMC performance, all mounting holes shall be connected to metal base plate

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MODEL ENCODING

MP130S	-	xx/xxx/xxB	-	abc
OPEN FRAME 130 Watts		OUTPUT VOLTAGE 12: 12V 165: 16.5V xxB: Metal base plate		CUSTOMER CODE OR OTHERS

INPUT ELECTRICAL CHARACTERISTICS

Normal Voltage Range	100-240VAC
Input Voltage Range	90~264Vac (Universal)
Input Frequency	47~63Hz
Input Current	1.8ARMS at 115VAC
Inrush Current	<120A @ 230 VAC, Cold start
Power Factor	0.98 min. @100Vac 60Hz Full load 0.90 min. @240Vac 50Hz Full load

Earth Leakage Current(NC)	<200μA @ 264VAC(Class I)
Earth Leakage Current (SFC)	<300μA @ 264VAC(Class I)
Touch Current (NC)	<100μA @ 264VAC
Touch Current (SFC)	<200μA @ 264VAC
Patient Leakage Current	<100μA @ 264VAC
No Load Input Power	<0.21W @ 230VAC

OUTPUT ELECTRICAL CHARACTERISTICS

Total Regulation	±3%
Line Regulation	±0.5%
Load Regulation	±2%
Minimum Load	None
Transient Response	±5%,5%-50% or 50%-100%, Slew Rate 1A/μS

Ripple & Noise	See Table
Turn-On Delay	2 seconds Max @ 100VAC
Hold-Up Time	>20ms @ 115VAC

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SAFETY & EMC

Safety	IEC60601-1
	ANSI / AAMI ES60601-1
	CSA C22.2 No. 60601-1
	IEC 62368-1, CE-LVD (EN 62368-1)
EMC	IEC60601-1-2 4th Edition EN 55032, EN 55035
Conduction Emission	EN55011, FCC Part J15, Class B
Radiated Emission	EN55011, 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 hysteresis
Over-Load	Hiccup, Auto-Recovery
Short Circuit	Hiccup, Auto-Recovery
Input Brown Out	AC On Voltage $\leq 80V_{AC}$
	AC Off Voltage $\geq 55V_{AC}$
	Minimum Hysteresis 5Vac

RELIABILITY & ENVIRONMENTAL REQUIREMENTS

Operating Temperature	0°C to +50°C
Derating	2.5%/°C, > 50°C, up to 70°C max
Storage Temperature	-40°C to +80°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	92%/94% 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	800K Hours, Telecordia SR-332 @ 35 °C
Weight	120g ref
Dimensions	50.8x76.2x26mm & 52.83x103x30mm
	2x3x1.03" & 2.08x4.06x1.18"inch

(1) Power supply DIP voltage sag requirements table:

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

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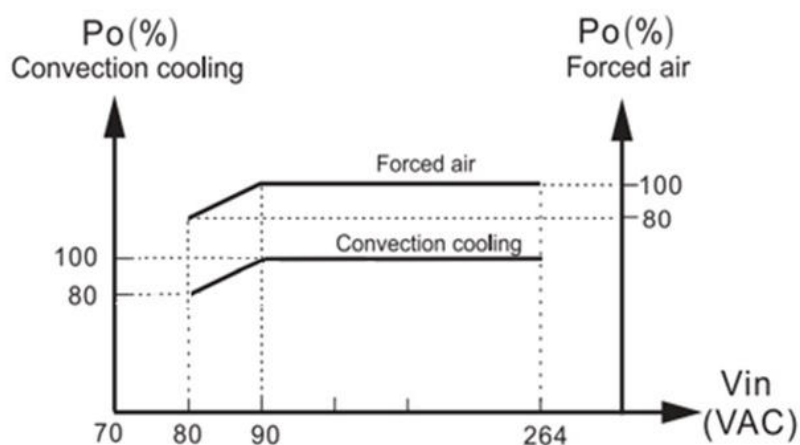
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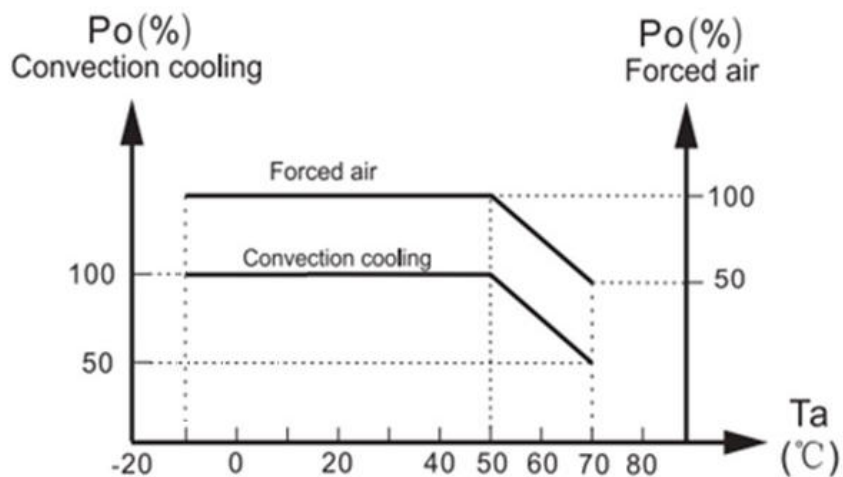
130W AC-DC OPEN FRAME

DERATING CURVE

OUTPUT POWER VS INPUT VOLTAGE



OUTPUT POWER VS AMBIENT TEMPERATURE



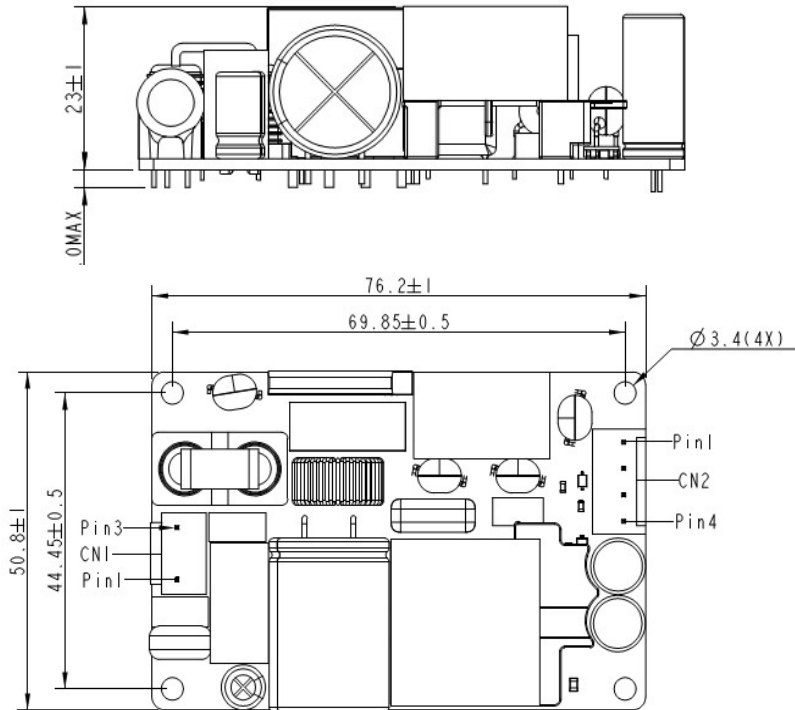
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MECHANICAL AND CONNECTOR INFORMATION



AC INPUT: CN1

JST P/N: B2P3-VH(LF)(SN)
Mates With: JST VHR-3N

Pin 1	Neutral
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Pin 3	Line
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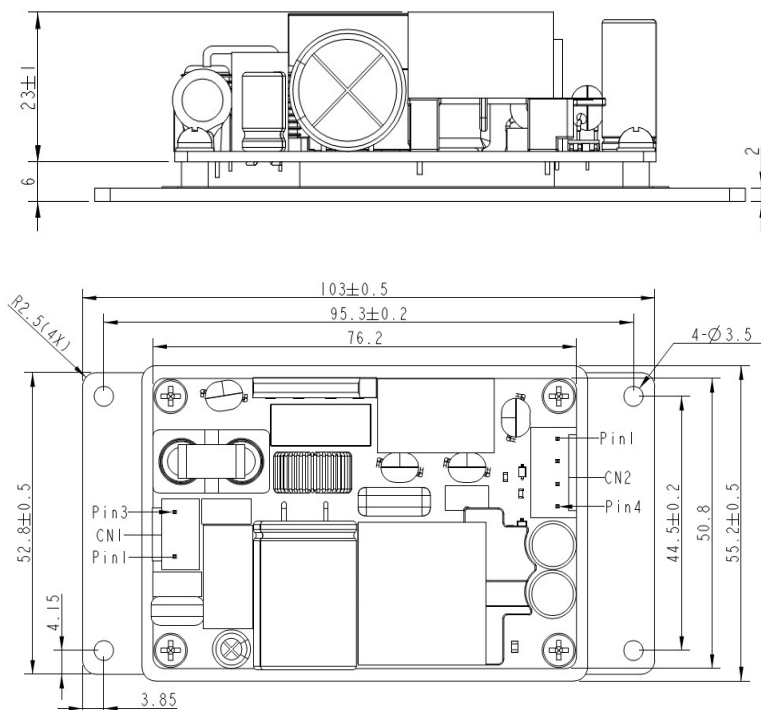
DC OUTPUT: CN2

JST P/N: B4P-VH (LF)(SN)
Mates With: JST VHR-4N

Pin 1, 2	+V
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Pin 3, 4	RTN
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Note: The outer diameter of the screw post of the mounting hole on the metal plate should not exceed 5.5mm.



AC INPUT: CN1

JST P/N: B2P3-VH(LF)(SN)
Mates With: JST VHR-3N

Pin 1	Neutral
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Pin 3	Line
-------	------

DC OUTPUT: CN2

JST P/N: B4P-VH (LF)(SN)
Mates With: JST VHR-4N

Pin 1, 2	+V
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Pin 3, 4	RTN
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GLOBAL OPERATION AND SERVICE



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THAILAND

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TECHNICAL SUPPORT

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