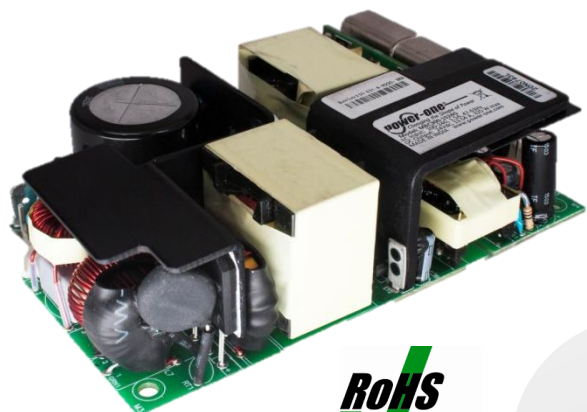


## MBC300 SERIES MEDICAL 300W AC/DC



### FEATURES

- 200 W convection cooled
- -20 to 50 deg C full load operation
- 3" x 5" x 1.5" (76.2 x 127 x 38.1 mm)
- No minimum load required
- 2 x MOPP
- 12 V fan & 5 V standby outputs
- Inhibit and Power Good signals
- Conducted EMI EN 55022-B, FCC Part 15 Level B
- Medical Safety Agency Approvals

### APPLICATIONS

- Diagnostic
- Drug Pump
- Dialysis
- Home Health Care
- Monitoring
- Imaging

## TECHNICAL DATA:

### Input

PARAMETER	DESCRIPTION/CONDITION	
Input Voltage Range	Universal Input	90 - 264 Vac 120 – 390 Vdc
Input Frequency Range	47-63 Hz	
Input Surge Current	230 Vac (cold start)	65 A max.
Safety Ground Leakage Current	264 Vac 50 / 60 Hz	< 250 µA max
Input Current	120 Vac @ Full load 230 Vac @ Full load	3.2 A 1.65 A

### Output

PARAMETER	DESCRIPTION/CONDITION	
Voltage Adjustment	V1	± 3%
Transient Response	Main output 50 to 100% load change, 50 Hz, 50% duty cycle, 0.1 A / µSec	< 10%, recovery time < 5 mSec
Over Voltage Protection	V1	110 to 150% rated max
Over Current Protection	Rated output current	110 to 150% Typical
Short Circuit Protection	Automatic recovery	
Set Point Tolerance	± 1%	
Over Temperature Protection	110°C on primary heatsink	Auto Recovery
Rise Time	<100 mSec	

### Ordering Information

PRODUCT FAMILY	VOLTS (VDC)	MAX LOAD CONVECTION <sup>(2)</sup>	MAX LOAD 300 LFM <sup>(2)</sup>	MINIMUM LOAD (A)	RIPPLE & NOISE <sup>(4)</sup>	CONNECTOR	TOTAL REGULATION
MBC300-1T05G	5	28.0 A	40.0 A	0	2%	Screw Terminal	± 2.5%
MBC300-1T05G-2	5	28.0 A	40.0 A	0	2%	Screw Terminal	± 2.5%
MBC300-1T12G	12	15.0 A	25.0 A	0	2%	Screw Terminal	± 2.5%
MBC300-1T12G-2	12	15.0 A	25.0 A	0	2%	Screw Terminal	± 2.5%
MBC300-1T15G	15	12.0 A	20.0 A	0	2%	Screw Terminal	± 2.5%
MBC300-1T15G-2	15	12.0 A	20.0 A	0	2%	Screw Terminal	± 2.5%
MBC300-1T24G	24	7.5 A	13.54 A	0	2%	Screw Terminal	± 2.5%
MBC300-1T24G-2	24	7.5 A	13.54 A	0	2%	Screw Terminal	± 2.5%
MBC300-1T30G	30	6.0	10.83 A	0	2%	Screw Terminal	± 2.5%
MBC300-1T30G-2	30	6.0	10.83 A	0	2%	Screw Terminal	± 2.5%
MBC300-1T48G	48	3.75 A	6.77 A	0	2%	Screw Terminal	± 2.5%
MBC300-1T48G-2	48	3.75 A	6.77 A	0	2%	Screw Terminal	± 2.5%
Vfan (all models)	12	0.5 A	0.5 A				± 20%
V s/b (all models)	5	2.0 A	2.0 A				± 5%

### Notes:

1. Peak current rating of 120% of max, < 30 Sec with max of 10% duty cycle.
2. Combined power from main output, Vfan and Vs/b should not exceed total power rating.
3. Fan output tolerance is  $\pm 20\%$ . When V1 full load, Vfan needs 20 mA load to be within regulation specification. Peak current for fan output is 1 A.
4. Ripple is 2% up to 20% load and less than 1% above 20% load. Output noise measurement is made with a 20 MHz bandwidth using a 6" twisted pair, terminated with a 10  $\mu$ F.
5. Class 1 models have Earthing Tab J4. Class 2 products (-2 suffix) have no Earthing Tab.
6. Specifications are for nominal input voltage, 25°C and max load unless otherwise stated.
7. Air flow over length of supply recommended (either direction) for forced air rating.
8. Derate power linearly to 80% from 90 Vac to 80 Vac input.
9. Specifications subject to change without notice.
10. Warranty 2 years.

### General Specifications

PARAMETER	DESCRIPTION/CONDITION	
Hold Up Time	120 Vac	10 mSec
	230 Vac	10 mSec
MTBF	>250 khrs	Belcore TR-332
Switching Frequency	PFC converter 80 kHz typical	Resonant converter: Variable 35 to 250 kHz, 90 kHz typical
Isolation Voltage	Input to Output: Min 5900 Vdc	
Weight	450 g (0.99 lbs)	

### Environmental

PARAMETER	DESCRIPTION/CONDITION	
Operating Temperature	Operating	-20 to +70°C. See derating charts below.
	Storage	-40 to +85°C
Altitude	Operating 10,000 ft.	Non-operation 40,000 ft.
Conducted Emissions	EN55022, FCC part 15 Level B	
Relative Humidity	95%	Non-condensing
Radiated Emissions	EN55022, FCC part 15 Level B	
Electromagnetic Susceptibility	EN61000-4 3	2, 3, 4, 5 level 3
Harmonic Current	EN61000-3-2, Class D	

### Signals

PARAMETER	DESCRIPTION/CONDITION
Power Good	TTL signal goes high after main output is within regulation, delay is 0.1 to 0.3 sec
Inhibit	To turn on power supply short J3 pin 1 to J3 pin 2 or J3 pin 7
Remote Sense	Compensates for 200 mV drop

### Safety

PARAMETER	DESCRIPTION/CONDITION
EN / UL / CSA	60601-1 3rd Edition

Figure 1 Output Power Vs. Temperature

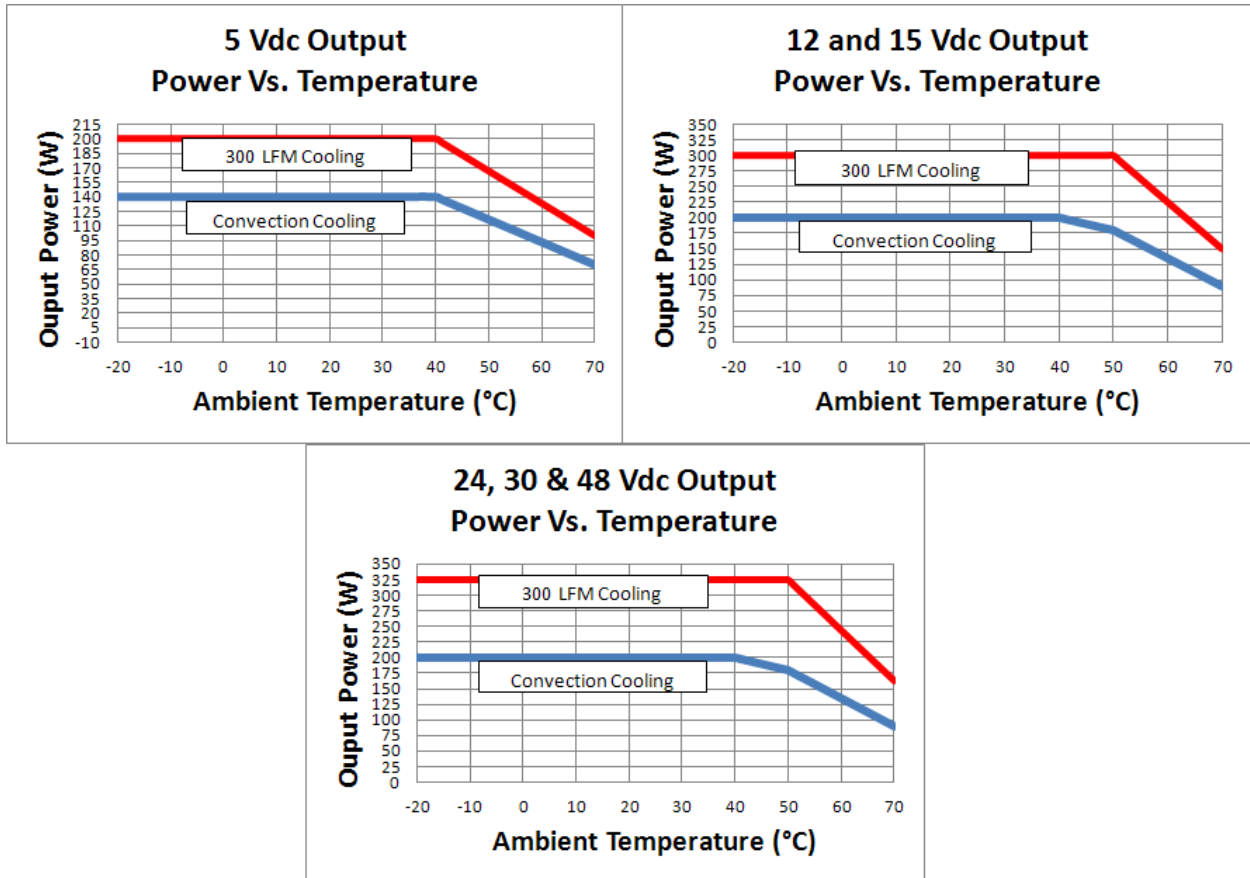
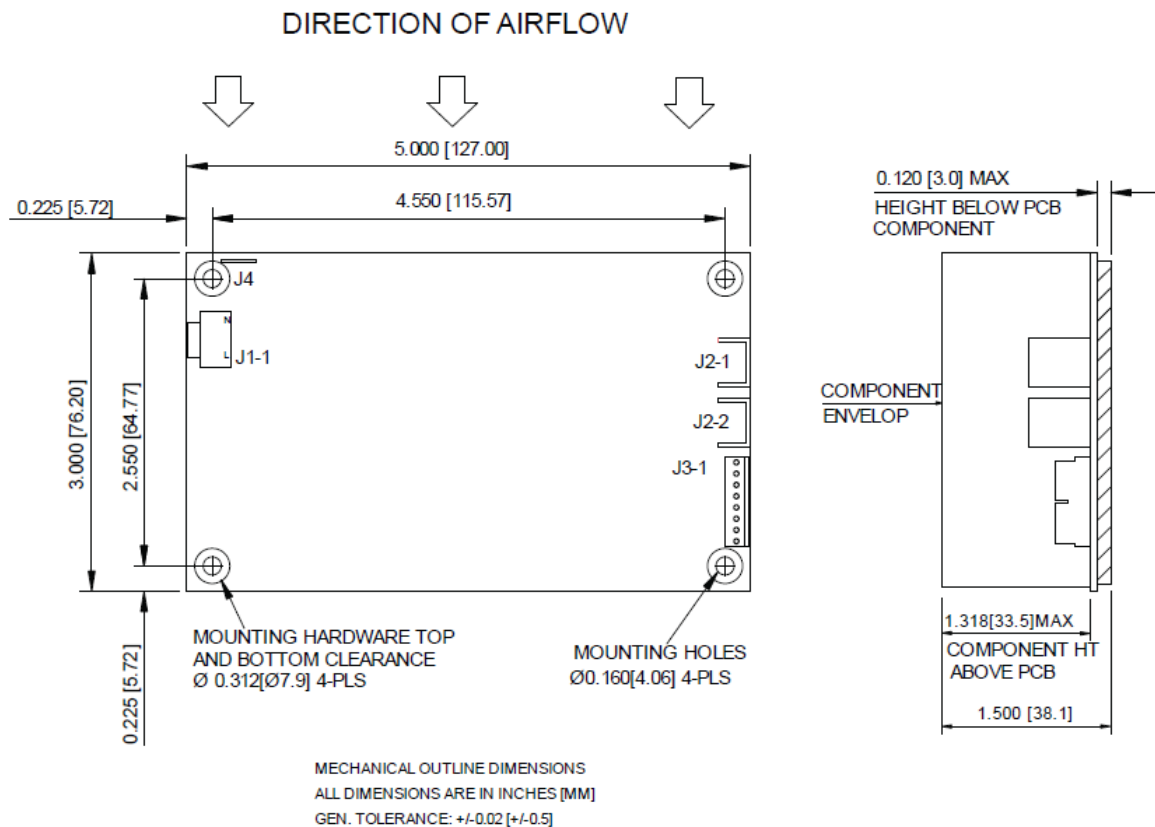


Figure 2 Dimension Drawing (Top and Side View)



## Mechanical

INPUT = J1	EARTHING TAB = J4	DC OUTPUT = J2	SIGNALS & AUX POWER= J3	
Pin 1: AC Line Pin 2: AC Neutral	Molex: 19705-4301	2 x 6-32 inches Screw Pan Head. Pin 1 = RTN Pin 2 = V1	Pin 1 = Inhibit Pin 2 = Signal Return Pin 3 = Vfan (+12 V) Pin 4 = - Remote Sense	Pin 5 = Vs/b (5 Vdc) Pin 6 = + Remote Sense Pin 7 = Signal Return Pin 8 = Power Good
Mating Connector: Molex: 09-50-3031 Pins: 08-50-0106	Mating Connector: Molex: 190030001	Mating Connector: 16 AWG wire crimped to Ring Tongue Terminal. AMP: 8-31886-1	Mating Connector: Molex: 22-01-2087, Pins: 08-50-0113	

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