

MBC201 SERIES MEDICAL 200W AC/DC



FEATURES

- 160 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 Isolation
- 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
- Portable Equipment

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	< 300 μ A max
Input Current	120 Vac @ 200 W 230 Vac @ 200 W	2.4 A 1.2 A

Output

PARAMETER	DESCRIPTION/CONDITION	
Voltage Adjustment	V1	\pm 3%
Transient Response	Main output 50 to 100% load change, 50 Hz, 50% duty cycle, 0.1A / μ Sec	< 10%, recovery time < 5 mS
Over Voltage Protection	V1	110 to 150% rated max
Over Current Protection	Rated output current	110% Typical
Short Circuit Protection	Automatic recovery	
Set Point Tolerance	\pm 1%	
Rise Time	< 100 mSec	

Ordering Information

PRODUCT FAMILY	VOUT (VDC)	MAX LOAD CONVECTION ⁽¹⁾	MAX LOAD 300 LFM ⁽¹⁾	MINIMUM LOAD (A)	RIPPLE & NOISE ⁽³⁾	CONNECTOR	TOTAL REGULATION
MBC201-1005G	5.0	26.0 A	26 A	0	1%	JST	\pm 2.5%
MBC201-1005G-2	5.0	26.0 A	26 A	0	1%	JST	\pm 2.5%
MBC201-1T05G	5.0	26.0 A	35 A	0	1%	Screw Terminal	\pm 2.5%
MBC201-1T05G-2	5.0	26.0 A	35 A	0	1%	Screw Terminal	\pm 2.5%
MBC201-1012G	12	13.33 A	16.67 A	0	1%	JST	\pm 2.5%
MBC201-1012G-2	12	13.33 A	16.67 A	0	1%	JST	\pm 2.5%
MBC201-1T12G	12	13.33 A	16.67 A	0	1%	Screw Terminal	\pm 2.5%
MBC201-1T12G-2	12	13.33 A	16.67 A	0	1%	Screw Terminal	\pm 2.5%
MBC201-1015G	15	10.66 A	13.33 A	0	1%	JST	\pm 2.5%
MBC201-1015G-2	15	10.66 A	13.33 A	0	1%	JST	\pm 2.5%
MBC201-1T15G	15	10.66 A	13.33 A	0	1%	Screw Terminal	\pm 2.5%
MBC201-1T15G-2	15	10.66 A	13.33 A	0	1%	Screw Terminal	\pm 2.5%
MBC201-1024G	24	6.66 A	8.33 A	0	1%	JST	\pm 2.5%
MBC201-1024G-2	24	6.66 A	8.33 A	0	1%	JST	\pm 2.5%
MBC201-1T24G	24	6.66 A	8.33 A	0	1%	Screw Terminal	\pm 2.5%
MBC201-1T24G-2	24	6.66 A	8.33 A	0	1%	Screw Terminal	\pm 2.5%
MBC201-1030G	30	5.33 A	6.66 A	0	1%	JST	\pm 2.5%
MBC201-1030G-2	30	5.33 A	6.66 A	0	1%	JST	\pm 2.5%
MBC201-1T30G	30	5.33 A	6.66 A	0	1%	Screw Terminal	\pm 2.5%
MBC201-1T30G-2	30	5.33 A	6.66 A	0	1%	Screw Terminal	\pm 2.5%
MBC201-1048G	48	3.33 A	4.17 A	0	1%	JST	\pm 2.5%
MBC201-1048G-2	48	3.33 A	4.17 A	0	1%	JST	\pm 2.5%
MBC201-1T48G	48	3.33 A	4.17 A	0	1%	Screw Terminal	\pm 2.5%
MBC201-1T48G-2	48	3.33 A	4.17 A	0	1%	Screw Terminal	\pm 2.5%
Vfan (all models)	12	0.5 A	0.5 A				\pm 20%
V s/b (all models)	5	1.0 A	1.0 A				\pm 5%

Notes:

1. Combined power from main output, Vfan and Vs/b should not exceed total power rating.
2. 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.
3. 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 10uF tantalum capacitor in parallel with a 0.1uF ceramic capacitor.
4. Specifications are for nominal input voltage, 25°C and max load unless otherwise stated.
5. Air flow over length of supply recommended (either direction) for forced air rating.
6. Class 1 products have Earthing tab J4. Class 2 products (-2 suffix) have no Earthing tab.
7. Specifications subject to change without notice.
8. Warranty 2 years.

General Specifications

PARAMETER	DESCRIPTION/CONDITION	
Hold Up Time	120 Vac	10 mSec
	230 Vac	10 mSec
MTBF	>200 kHrs	Bellcore TR-332
Switching Frequency	PFC converter variable 35 to 250 kHz, 90 kHz typical	Resonant converter variable 35 to 250 kHz, 90 kHz typical
Isolation Voltage	Input to Output: Min 4242 Vdc	
Weight	325 g (0.72 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	
Humidity	95%	Non-condensing
Radiated Emissions	EN55022, FCC part 15 Level B	To be controlled in end system
Electromagnetic Susceptibility	EN61000-4	2, 3, 4, 5 Level 3
Harmonic Current	EN61000-3-2, Class D	

Signals

PARAMETER	DESCRIPTION/CONDITION
Power Good Signal	TTL signal goes high after main output is in regulation band. Delay is 0.1 to 0.3 sec.
Power Fail Signal	TTL signal goes low 1 msec advance before output goes out of regulation due to mains failure
Remote ON / OFF	To turn-on power supply short J3 pin 4 to pin 6 (PSU is shipped in this configuration)
Remote Sense	Compensates for 200 mV cable drop

Safety

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

Figure 1 Output Power Vs. Temperature

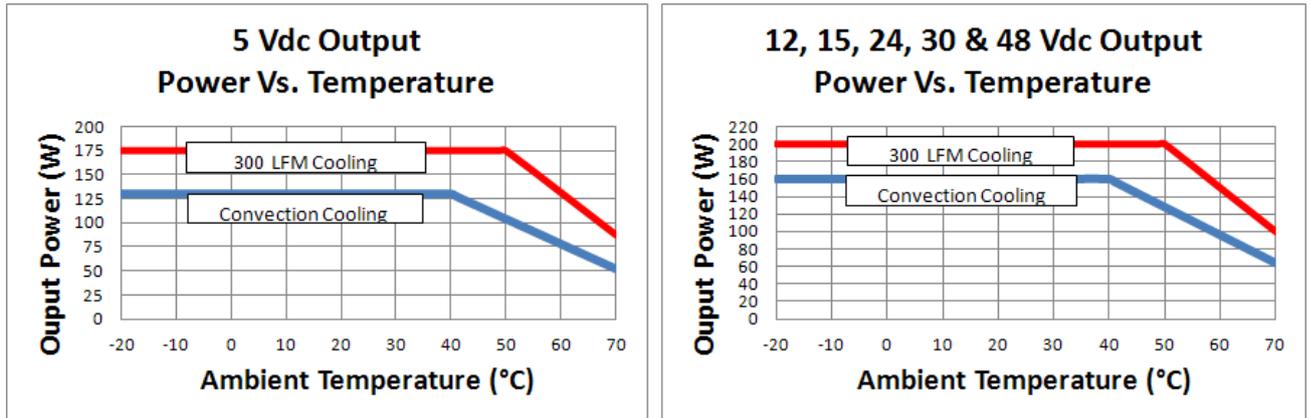
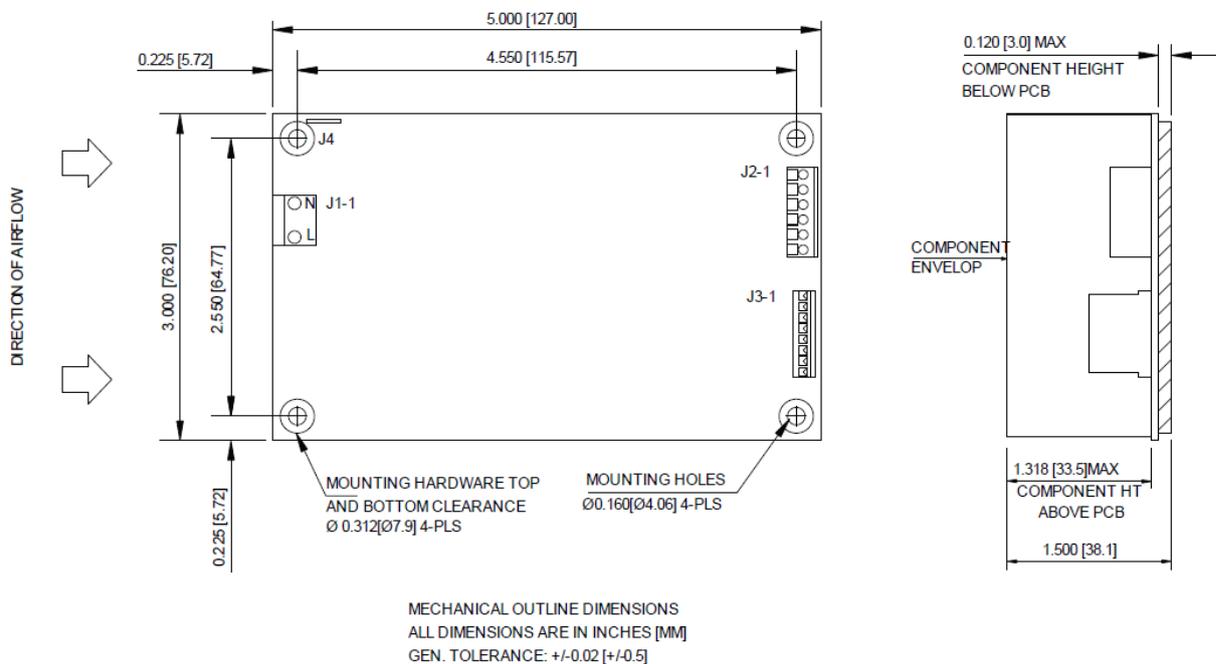


Figure 2 Dimension Drawing (Top and Side View)



Mechanical

INPUT = J1	EARTHING TAB = J4	DC OUTPUT = J2	SIGNALS & AUX POWER= J3
Pin 1: AC Neutral Pin 2: Removed Pin 3: AC Line	Molex: 19705-4301	Pin 1 = RTN Pin 2 = RTN Pin 3 = RTN	Pin 4 = Vout Pin 5 = Vout Pin 6 = Vout
Pin 1 = + Remote Sense Pin 2 = Vfan (+12 V) Pin 3 = - Remote Sense Pin 4 = Inhibit	Pin 5 = Vs/b (5 Vdc) Pin 6 = Return (Signal) Pin 7 =Power Fail Pin 8 = Power Good	Mating Connector: JST VHR-6M, Pins: SVH-41T-P1.1. AWG #20 to #16	Mating Connector: Molex: 22-01-2087, Pins: 08-50-0113

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