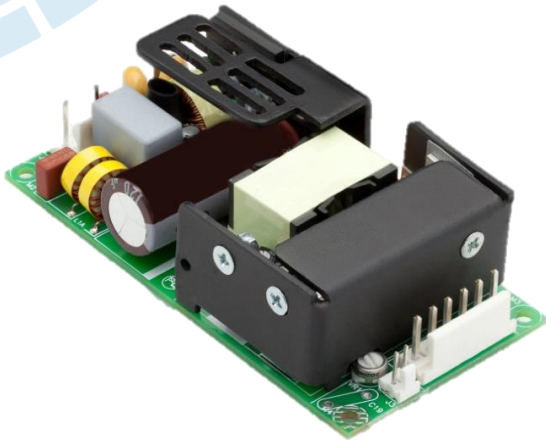


MBC40 Series AC-DC Open Frame Medical Power Supplies



Key Features & Benefits

- 40 W Convection Cooled
- 90-264 VAC Input
- 20 to 50°C Full Load Operation
- 2x MOPP
- 4 x 2 x 1.2" (101.6 mm x 50.8 mm x 30.5 mm)
- No Minimum Load Required - Single Output Models
- No Load Power < 0.3 W
- IEC Protection Class Options:
 - Class I: Earthing Tab J4 (no suffix)
 - Class II: No Earthing Tab (-2 suffix)
- Conducted EMI EN 55022-B, FCC Part 15 Level B
- Medical Safety Agency Approvals
- RoHS Compliant
- CE Marked

The **MBC40 Series** of open-frame medical power supplies, with its wide universal 90-264 VAC input range, is available at 40 W of output power and a variety of single and multiple output voltages. The MBC series was designed to 3rd edition medical approvals and provides 2x MOPP (Means of Patient Protection) isolation for class 1 and class 2 installations.

These medical power supplies are ideal for monitoring, home health equipment as well as surgical devices.

Applications

- Dialysis
- Monitoring
- Pumps
- Surgical Devices
- Home Health
- Portable Device

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MBC40 Series

Model Selection

MODEL	OUTPUT VOLTAGE (VDC) ¹	OUTPUT CURRENT MAX (A)	MINIMUM LOAD (A) ³	RIPPLE & NOISE ²	TOTAL REGULATION	OVP THRESHOLD
MBC40-1005G	5.1	8.0	0.0	1%	± 0.8%	130% Typical
MBC40-1012G	12	3.5	0.0	1%	± 0.8%	130% Typical
MBC40-1015G	15	2.7	0.0	1%	± 0.8%	130% Typical
MBC40-1024G	24	1.7	0.0	1%	± 0.8%	130% Typical
MBC40-1048G	48	0.83	0.0	1%	± 0.8%	130% Typical
MBC40-3000G	5.2	6.0	0.5	1%	± 0.8%	130% Typical
	12.5	2.0	0.1	1%	± 5.3%	
	-12.8	0.5	0.0	1%	± 5.3%	
MBC40-3001G	5.2	6.0	0.5	1%	± 0.8%	130% Typical
	23.8	1.0	0.1	1%	± 5.3%	
	-12.8	0.5	0.0	1%	± 5.3%	
MBC40-3002G	5.2	6.0	0.5	1%	± 0.8%	130% Typical
	14.6	1.5	0.1	1%	± 5.3%	
	-14.8	0.5	0.0	1%	± 5.3%	
MBC40-3003G	3.3	6.0	1.0	1.5%	± 0.8%	130% Typical
	5.2	3.0	0.1	1%	± 5.3%	
	-12.8	0.5	0.0	1%	± 5.3%	

Warranty 2 years.

NOTES:

- ¹ Maximum outputs for each output. Max power rating should not be exceeded.
- ² Ripple and Noise may be 3% at initial start-up at -20 C. Output noise measurement is made with a 20 MHz bandwidth using a 6" twisted pair, terminated with a 10 uF tantalum capacitor in parallel with a 0.1 uF ceramic capacitor.
- ³ Minimum load specified to meet cross regulation.

MBC40 Series

TECHNICAL PARAMETERS

Specifications are for nominal input voltage, 25°C and max load unless otherwise stated.

Input Specifications

PARAMETER	DESCRIPTION / CONDITION	CRITERION
Input Voltage	Universal Input	90 - 264 VAC
Input Frequency ¹		47 to 400 Hz
Input Current	120 VAC @ 40 W 230 VAC @ 40 W	0.85 A 0.45 A
No Load Power	Single output models Multiple output models	< 0.3 W < 0.5 W
Inrush Current	120 VAC: 230 VAC:	30 A max. 60 A max.
Leakage Current	120 VAC: 230 VAC:	< 140 µA < 250 µA

¹ Safety Approved: 47 to 63 Hz.

Output Specifications

PARAMETER	DESCRIPTION / CONDITION	CRITERION
Efficiency	Typical	85%
Hold Up Time	120/230 VAC input	6 ms
Output Power		40 W
Line Regulation		+/-0.3%
Load Regulation	V1: V2 & V3:	+/-0.5% +/-5%
Transient Response	Main output 50 to 100% load change, 50/60 Hz, 50% duty cycle, 0.1A / µSec	< 10%, recovery time < 5 ms
Rise Time		< 100 ms
Set Point Tolerance	V1: V2 & V3:	± 3% ± 5%
Voltage Adjustment	V1	± 10%
Remote Sense	V1	0.5 VDC compensation
Over Current Protection		130% typical above rating
Over Voltage Protection	Typical (V1 only)	130%
Short Circuit Protection	Short term, auto recovery	

Other Specifications

PARAMETER	DESCRIPTION / CONDITION	CRITERION
Isolation Voltage	Input to Output, 2M0PP Input to Ground, 1M0PP Output to Ground	Min. 5700 VDC 1500 VAC 500 VAC
Switching Frequency	Typical	67 kHz
Reliability	MTBF according to Telcordia -SR332-Issue 3	1.87 million hours
Operating Temperature	Full Load Derate linearly to 75% at 70° C	-20 to 50°C 50 to 70°C
Storage Temperature		-40 to 70° C

MBC40 Series

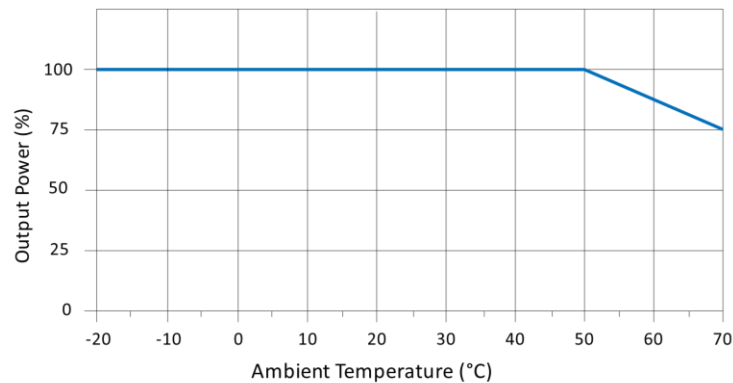
Environmental

PARAMETER	DESCRIPTION / CONDITION	CRITERION
Conducted Emissions	EN55022-B, CISPR22-B, FCC PART15-B	Level B
Radiated Emissions	EN55022-B, CISPR22-B, FCC PART15-B	To be controlled in end system
Harmonic Current	EN61000-3-2	Class A
Static Discharge	EN61000-4-2	Level 3
RF Field Susceptibility	EN61000-4-3	Level 3
Fast Transients/Bursts	EN61000-4-4	Level 3
Surge Susceptibility	EN61000-4-5	Level 3
Humidity	Non Condensing	95%
Altitude	Operating: Non-Operating:	10,000 ft. 40,000 ft.

Safety Approvals

PARAMETER	DESCRIPTION / CONDITION
Agency Approvals	Approved to the latest edition of the following standards: CSA/UL60601-1, EN60601-1 and IEC60601-1
CE mark	Complies with LVD Directive

Figure 1 - Output Power vs. Temperature



Connector & Pin Description

CONNECTOR	PIN	DESCRIPTION / CONDITION	MANUFACTURER / PN
AC Input Connector	J1	Pin 1 AC Neutral Pin 2 AC Line	Molex: 26-60-4030 or equivalent Mating: 09-50-3031; Pins: 08-50-0106
DC Output Connector	J2	Pin 1,2 V1 Pin 3,4 RTN Pin 5 V3 Pin 6 V2	Tyco: 640445-6 or equivalent Mating: 647402-6; Pins: 3-647409-1
Remote Sense	J3	Pin 1 +V1 Sense Pin 2 -V1 Sense	Molex: 22-23-2021 or equivalent Mating: 22-01-2021
Earthing Tab	J4		Molex: 19705-4301 Mating: 190030001

MBC40 Series

Mechanical

PARAMETER	DESCRIPTION / CONDITION
Weight	150 g (0.33 lbs.)
Dimensions	101.6 x 50.8 x 30.48 mm (4 x 2 x 1.2 inch)

Figure 2 - Mechanical Drawing MBC40-1xxxG

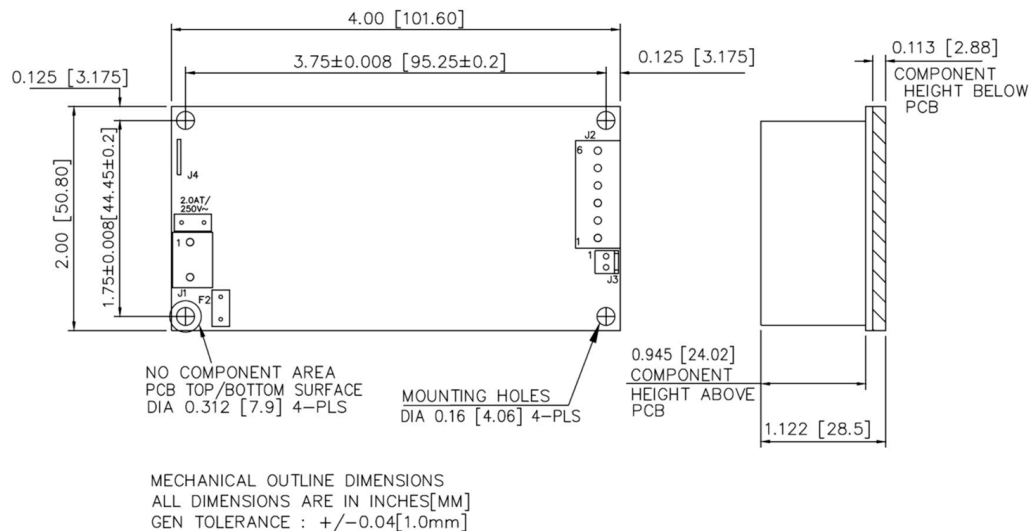
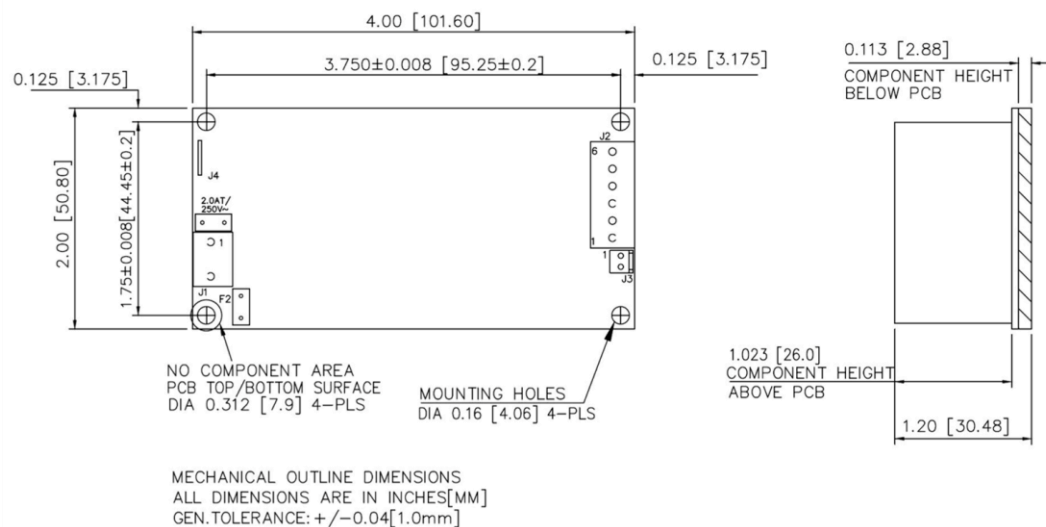


Figure 3 - Mechanical Drawing MBC40-3xxxG



For more information on these products consult: tech.support@psbel.com

NUCLEAR AND MEDICAL APPLICATIONS - Products are not designed or intended for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems.

TECHNICAL REVISIONS - The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.