

# MEDICAL PRODUCT SELECTION GUIDE





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## AC-DC POWER SUPPLIES

## MBC/MBS/MBE/MCC SERIES





The medical grade series provide up to 1200 W of output power through the wide input voltage range 85 – 305 VAC in various low profile, 1U compatible packages, each designed for specific cooling conditions that best suit space constrained environments.

The medical series are approved to the latest medical standards IEC/EN60601 for medical grade power supplies, including 2x MoPP means of patient protection and BF appliances compatibility, making the series suitable for use in a wide range of medical equipment applications.

#### Features:

- Wide input voltage range 85 305 VAC
- Variety of single outputs form 5 V to 58 V
- Multiple outputs with MBC40 & MBC60
- Class I & II options
- Low profile series height  $\leq$  1 inch
- Efficiency up to 94 %
- Operating temperature range -40 to +70°C
- Variety of packages and cover kits available

#### **Applications:**

- Monitoring systems
- Diagnostic, ultrasound & dialysis equipment
- Pump & ventilation devices
- Home health care
- Surgical tables, dental chairs
- Aesthetic laser equipment
- MRI systems

SERIES	OUTPUT POWER [W]	OUTPUT VOLTAGES [V]	MECHANICAL PACKAGE	DIMENSIONS [in]
MBC40	40	5, 12, 15, 24, 48	Open Frame	2 x 4 x 1.2
MBC41	40	5, 12, 15, 24, 30, 48, 58	B Open Frame	2 x 3 x 0.75
MBC60	60	5, 12, 15, 24, 48	Open Frame	2 x 4 x 1.2
MBC75	75	12, 15, 24, 30, 48, 58	B Open Frame	2 x 3 x 1
MBC120	120	12, 15, 24, 30, 48, 58	B Open Frame	2 x 3 x 1.18
MBC150	150	5, 12, 15, 24, 48	Open Frame	2 x 4 x 1.3
MBC180	180	12, 15, 24, 30, 48, 58	B Open Frame	2 x 4 x 0.75
MBC201	200	5, 12, 15, 24, 30, 48	Open Frame	3 x 5 x 1.5
MBC225	225	12, 15, 24, 30, 48, 58	B Open Frame	2 x 4 x 1
MBC250	250	12, 24, 48	U-Channel	3 x 5 x 1.5
MBC275	275	12, 15, 24, 30, 48, 58	B Open Frame	3 x 5 x 0.75
MBC300	300	5, 12, 15, 24, 30, 48	Open Frame	3 x 5 x 1.5
MBC350	350	12, 15, 24, 30, 48, 58	B Open Frame	3 x 5 x 1
MBS400	400	12, 24, 36, 48	Sealed Chassis (heatsink)	3.27 x 8.34 x 1.65(2.76)
MBC401	400	12, 24, 28, 36, 48	Open Frame, U-Channel, Perforated Cover, Vented Cover (Top Fan), Enclosed (Front Fan)	Multiple options
MBC450	450	5, 12, 15, 24, 30, 48	U-Channel	4 x 6.5 x 1.6
MBC550	550	12, 15, 24, 30, 48, 58	B Open Frame	3 x 5 x 1.5
MBC600	600	12, 24, 48	U-Channel	5 x 8 x 1.6
MCC600	600	12, 15, 24, 30, 48, 58	3 U-Channel	5 x 8.5 x 1.61
MBS601	600	24, 48	Sealed Chassis	4.92 x 9.86 x 2.36
MCC750	600	24, 48	U-Channel, Protective Cover	4 x 9.24 x 1.61
MBC800	800	12, 15, 24, 30, 48, 58	3 U-Channel	5 x 8.5 x 1.6
MBE1000	1000	12, 15, 24, 30, 48, 58	B Enclosed (Front Fan)	5 x 9.45 x 1.61
MBC/MBE1200	1200	12, 24	U-Channel, Protective Cover, Enclosed (Front Fan)	4 x 10.4 x 1.61

## MODULAR AC-DC CONVERTERS

## LMM SERIES





The LMM series of AC-DC power supplies offers the flexibility of a modular architecture and the combination of high efficiency 92% and a market-leading power density 18 W/in<sup>3</sup> in an extra low 1U profile. Forced-air cooling with airflow direction from input to output is provided by internal fans.

Designed for medical equipment, the LMM series is approved according to the medical standards EN/IEC 60601-1, UL/CSA 60601-1.

#### **Features**

- AC input voltage range 85 264 VAC with PFC
- DC input voltage range 120 380 VDC (440 Hz)
  Up to 12 DC outputs from 1.5 to 54 VDC (up to 200 VDC when connected in series)
- 1 to 4 or 6 isolated output slots, fully user configurable
- Output power up to 1600 W
- Leakage current < 0.5 mA
- Operating temperature -20 °C to 50 °C
- Low fan noise levels intelligent speed control by load & temperature (LMM616)
- Dimensions: 303.7 x 127 x 40.64 mm (11.9 x 5 x 1.6 in)

### **Applications**

- Imaging equipment
- Anesthesiology
- Surgical devices
- Diagnostic equipment
- Patient beds
- Home health care
- Ultrasound equipment

MODULAR DESIGNATOR	SINGLE OUTPUT *	ADJUSTABLE OUTPUT VOLTAGE RANGE	MAX. OUTPUT CURRENT	MAX. OUTPUT POWER	OUTPUT MODULE
E	5 VDC	2.0 to 5.3 VDC	53 A	265 W	LPM126-OUTA1-05
F	12 VDC	5.2 to 15 VDC	22 A	265 W	LPM126-OUTA1-12
G	24 VDC	14 to 30 VDC	11 A	265 W	LPM126-OUTA1-24
Н	36 VDC	29 to 44 VDC	7.4 A	265 W	LPM126-OUTA1-36
J	48 VDC	43 to 54 VDC	5.5 A	265 W	LPM126-OUTA1-48
К	15 VDC	1.5 to 15 VDC	6 A	90 W	LPM109-OUTA1-10
L	30 VDC	3.0 to 32 VDC	3 A	90 W	LPM109-OUTA1-20
М	15 VDC	2x 1.5 to 12 VDC	2x 6 A	2x 90 W	LPM118-OUTA2-10
Ν	30 VDC	2x 3.0 to 32 VDC	2x 3 A	2x 90 W	LPM118-OUTA2-20

\* Factory set

To determine the desired part number, see the part number description: or

Use our online configuration tool:

LMM	6	16	-	x	x	x	x	x	x	-DXXX
Chassis Type				Module Designator						
Number of SI			E through N (0 = Blank Plate)							
Max. Power [W] (2 digits)			Assembly Facility and ID							



#### **About Bel**

Bel (www.belfuse.com) designs, manufactures and markets a broad array of products that power, protect and connect electronic circuits. These products are primarily used in networking, telecommunications, computing, military, aerospace, transportation and broadcasting industries. Bel's product groups include Magnetic Solutions (integrated connector modules, power transformers, power inductors and discrete components), Power Solutions and Protection (front-end, board-mount and industrial power products, module products and circuit protection), and Connectivity Solutions (expanded beam fiber optic, copper-based, RF and RJ connectors and cable assemblies). The Company operates facilities around the world.



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BCB.00106\_AD Medical Product Selection Guide © Feb 2020 Bel Power Solutions & Protection

