

MBC1200 / MBE1200 Series

1200 W AC-DC Power Supplies

The MBC1200 / MBE1200 Series of AC-DC power supplies provides up to 1200 W of regulated output power through wide input voltage range 85 – 305 VAC in a single output of 24 VDC or 48 VDC.

The MBC1200 / MBE1200 Series is available in three compact 1U height compatible packages offering 12 and 5 VSB standby outputs and a full set of protection features.

The MBC1200 / MBE1200 Series supports digital power management over the Power Management Bus communications protocol. Multiple units may be connected in parallel for redundancy and / or higher power, enabled with the internal OR-ing and current sharing functions.

The MBC1200 / MBE1200 Series complies with the latest edition of the IEC/EN 60601-1 safety standards for medical equipment requiring 2x MoPP protection grade and displays the CE-Mark for the European Low Voltage Directive (LVD).



Key Features & Benefits

- Universal input voltage range
90 – 305 V_{AC}, MoOP; 90 – 264 V_{AC}, MoPP
- Input inrush current limiting
- 1200 W rated power
- High efficiency up to 94%
- 24 VDC / 48 VDC output voltage available
- Active PFC, EN61000-3-2 compliant (Class C, >25% load)
- Low earth / touch leakage current
- Fan speed control function
- 800 LFM airflow for MBC1200 models
- Over temperature, OV, OC and SC protections
- +12 V, 0.5 A; +5 V, 1 A Stand by outputs
- Built-in current sharing and OR-ing for parallel operation and N+1 redundancy
- Remote On / Off signal
- Power good and remote sense signals
- Power Management Bus communication protocol supported
- Medical safety approval to IEC 60601-1 3rd edition, 2x MoPP rated and BF appliances compatible
- IEC 60601-1-2 4th edition EMC compliant

Applications

- X-Ray / CT Scanner
- Dental Equipment
- Laboratory / Analysis Equipment
- Medical Devices / Applications



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1. MODEL SELECTION

MODEL NUMBER	PACKAGE & COOLING	INPUT VOLTAGE RANGE [VAC]	NOM. OUTPUT VOLTAGE [VDC]	MAX. OUTPUT POWER [W]	MAX. OUTPUT CURRENT [A]	DIMENSIONS
MBC1200-1T24-UCF	U-chassis, external air flow	85 - 305	24	1200	50	101.6 x 234.0 x 41.0 mm 4.00 x 9.21 x 1.61 in
MBC1200-1T24-PCF	Protective cover, external air flow	85 - 305	24	1200	50	101.6 x 234.7 x 41.0 mm 4.00 x 9.24 x 1.61 in
MBE1200-1T24	Enclosed, front mounted fan	85 - 305	24	1200	50	101.6 x 264.1 x 41.0 mm 4.00 x 10.4 x 1.61 in
MBE1200-1T48	Enclosed, front mounted fan	85 - 305	48	1200	25	101.6 x 264.1 x 41.0 mm 4.00 x 10.4 x 1.61 in

2. INPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	MIN	NOM	MAX	UNIT
AC Input Voltage	PS starts at 85 V _{AC} at all load conditions Operating input voltage range MBC1200 / MBE1200 Series is designed to operate with a square or trapezoidal input voltage wave form (i.e. from UPS)	85	100-277	305	V _{RMS}
DC Input Voltage	Built in fuses safety certified up to 250 V _{DC} . Operating the 1200 W Series above that limit up to 300 V _{DC} , does require an external fuse protection *	120	-	300	V _{DC}
Input Frequency		47	50/60	63	Hz
Input Current	At 180 V _{AC} , maximum load, 50 / 60 Hz At 85 V _{AC} , 1000 W load, 50 / 60 Hz 163 V _{DC} , maximum load 120 V _{DC} , 1000 W	-	-	8.0 14.5 9.0 10.0	A _{RMS} A
Inrush Current	At power-on asserted Cold start, 25 °C ambient, full load Any point of the AC input sine			230 V _{AC} 277 V _{AC} 30	A
Fusing	High breaking, 16 / 20 A, 277 V _{AC} (250 V _{DC}) on each AC line.	-	-	16 / 20	A
Efficiency	At 120 V _{AC} 20% rated load 50% rated load 100% rated load	88 92 92	- - -	- - -	%
Input Power Consumption	At power on, no load, 100-277 V _{AC} range (MBE1200-1T24 / -1T48) At power on, no load, 100-277 V _{AC} range (MBC1200-1T24-UCF / -PCF) Stand by, no load, nominal 100-277 V _{AC} range	- - -	7.0 6 4.0	- - -	W
Power Factor	Any nominal input line voltage, 50/60 Hz, from 50 to 100% maximum load	0.95	-	-	-
THDi	From 50 to 100% rated load, 100-277 V _{AC} , 50/60 Hz.	-	-	20	%
Harmonic Current Fluctuations and Flicker	Complies with EN 61000-3-2 at 230 V _{AC} , 50/60 Hz, Class A, D. Complies with EN 61000-3-2 Class C at 230 V _{AC} , 50/60 Hz, >300 W load. Complies with EN 61000-3-3 at nominal voltages and full load.				
Earth Leakage Current	Normal conditions 115 V _{RMS} , 60 Hz 230 V _{RMS} , 50 Hz 264 V _{RMS} , 60 Hz (worst case)	- - -	130 240 -	- - 400	μA
Touch Leakage Current	264 V _{RMS} , 60 Hz Normal Condition (NC) Single Fault Condition (SFC)	- -	- -	100 500	μA
Patient Leakage Current	264 V _{RMS} , 60 Hz Normal Condition (NC) Single Fault Condition (SFC)	- -	- -	100 500	μA

* Suggested fuse SIBA 5012434.16 and fuse holder SIBA 5105805.1