



# MBS601 Series

## 600 W AC-DC Power Supplies

### Sealed IP66/67/68



The MBS601 Series of AC-DC power supplies provides up to 600 W of regulated output power through a wide input voltage range 85 – 264 VAC in a single output of 24 VDC or 48 VDC.

The MBS601 Series comes in a 4.92 x 9.86 x 2.36 inch form factor with a full set of protection features.

The MBS601 Series is available in an aluminium extruded chassis having fins for an optimal heat dispersion via natural convection. The input / output connections are fixed to the chassis through water tight glands, which combined with the sealed enclosure, give the power supply an IP66/67/68 ingress protection grade.

The -SL option offers a 5 V<sub>DC</sub> stand-by output and a set of control signals: +/- remote sense, remote On/Off (-PS\_Inhibit), power good (PS\_Ok), I-share (ISHARE1+V\_SLOGIC).

The MBS601 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

- Sealed enclosure, IP66/67/68 Ingress Protection grade
- High efficiency up to 94% (50% to 100% load)
- Low stand-by power consumption (< 0.35 W)
- Universal input voltage range 85 – 264 VAC
- Input inrush current limiting <30 A
- 800 W peak power (up to 10 s)
- Single 24, 48 VDC voltages
- Active PFC, EN61000-3-2 compliant (Class C, >25% load)
- Low earth / touch leakage current
- Over temperature, OV, OC and SC protections.
- Stand by +5 V, 1.5 A output.
- Remote On / Off signal
- Overall dimensions 125.0 x 250.5 x 60.0 mm (4.92 x 9.86 x 2.36 in)
- Medical safety approval to IEC 60601-1 3rd edition, 2xMoPP protection grade BF appliances compatible  
IEC 60601-1-2 4th edition EMC compliant

### Applications

- Clinical Analysers
- Dental units / chairs
- MRI / Full Body TC Systems
- Medical Diagnostic & Imaging Systems



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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
MBS601-1T24	Sealed Chassis Natural Convection	85 - 305	24	600	25	125.0 x 250.5 x 60.0 mm 4.92 x 9.86 x 2.36 in
MBS601-1T24-SL	Sealed Chassis Natural Convection + Control Signals	85 - 305	24	600	25	
MBS601-1T48	Sealed Chassis Natural Convection	85 - 305	48	600	12.5	
MBS601-1T48-SL	Sealed Chassis Natural Convection + Control Signals	85 - 305	48	600	12.5	

## 2. INPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	MIN	NOM	MAX	UNIT	
AC Input Voltage	MoPP grade	85	100-240	264	V <sub>RMS</sub>	
	MoOP grade	85	100-277	305		
	PS starts and operates at 85 V <sub>AC</sub> at all load conditions					
DC Input Voltage	Built in fuses has been safety certified up to 250 V <sub>DC</sub> . Operating the MBS601 above that limit up to 300 V <sub>DC</sub> does require an external fuse protection.	170	-	300	V <sub>DC</sub>	
Input Frequency	440 Hz with reduced PFC and output power rating. Consult factory for details.	47	50/60	63	Hz	
Input Current	RMS at 180 V <sub>AC</sub> , maximum load, 50 / 60 Hz	-	-	4.0	A	
	RMS at 85 V <sub>AC</sub> , maximum load, 50 / 60 Hz	-	-	8.5		
Inrush Current	Cold start, 25 °C ambient, full load	115 V <sub>AC</sub>	-	-	20	A
		230 V <sub>AC</sub>	-	-	30	
Fusing	High breaking, 10 A, 250 V on each AC lines.	-	-	10	A	
Efficiency	At 115 V <sub>AC</sub>	20% rated load	89	-	-	%
		50% rated load	93	-	-	
		100% rated load	92	-	-	
	At 230 / 264 V <sub>AC</sub>	20% rated load	90	-	-	
		50% rated load	94	-	-	
		100% rated load	94	-	-	
Input Power Consumption	Power on, 115 V <sub>AC</sub> , no load	-	-	5	W	
	Power on, 230 V <sub>AC</sub> , no load	-	-	4		
	Stand by, 115, 230 V <sub>AC</sub> , no load	-	-	0.35		
Power Factor	From 50 to 100% of rated load, 230, 115 V <sub>AC</sub> , 50 / 60 Hz input voltages.	0.90	-	-	-	
THDi	From 50 to 100% rated load, 115, 230, 264 V <sub>AC</sub> 50 / 60 Hz.	-	-	20	%	
Harmonic Current Fluctuations and Flicker	Complies with EN 61000-3-2 at 230 V <sub>AC</sub> , 50/60 Hz, Class A, D. Complies with EN 61000-3-2 Class C at 230 V <sub>AC</sub> , 50/60 Hz, >150 W load. Complies with EN 61000-3-3 at nominal voltages and full load.					
Earth Leakage Current	Normal conditions					
	115 V <sub>RMS</sub> , 60 Hz	-	170	-	μA	
	230 V <sub>RMS</sub> , 50 Hz	-	290	-		
264 V <sub>RMS</sub> , 60 Hz (worst case)	-	-	460			