



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_{DC} 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 _{RMS} | |
| | MoOP grade | 85 | 100-277 | 305 | | |
| | PS starts and operates at 85 V _{AC} at all load conditions | | | | | |
| DC Input Voltage | Built in fuses has been safety certified up to 250 V _{DC} . Operating the MBS601 above that limit up to 300 V _{DC} does require an external fuse protection. | 170 | - | 300 | V _{DC} | |
| 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 _{AC} , maximum load, 50 / 60 Hz | - | - | 4.0 | A | |
| | RMS at 85 V _{AC} , maximum load, 50 / 60 Hz | - | - | 8.5 | | |
| Inrush Current | Cold start, 25 °C ambient, full load | 115 V _{AC} | - | - | 20 | A |
| | | 230 V _{AC} | - | - | 30 | |
| Fusing | High breaking, 10 A, 250 V on each AC lines. | - | - | 10 | A | |
| Efficiency | At 115 V _{AC} | 20% rated load | 89 | - | - | % |
| | | 50% rated load | 93 | - | - | |
| | | 100% rated load | 92 | - | - | |
| | At 230 / 264 V _{AC} | 20% rated load | 90 | - | - | |
| | | 50% rated load | 94 | - | - | |
| | | 100% rated load | 94 | - | - | |
| Input Power Consumption | Power on, 115 V _{AC} , no load | - | - | 5 | W | |
| | Power on, 230 V _{AC} , no load | - | - | 4 | | |
| | Stand by, 115, 230 V _{AC} , no load | - | - | 0.35 | | |
| Power Factor | From 50 to 100% of rated load, 230, 115 V _{AC} , 50 / 60 Hz input voltages. | 0.90 | - | - | - | |
| THDi | From 50 to 100% rated load, 115, 230, 264 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, >150 W load. Complies with EN 61000-3-3 at nominal voltages and full load. | | | | | |
| Earth Leakage Current | Normal conditions | | | | | |
| | 115 V _{RMS} , 60 Hz | - | 170 | - | μA | |
| | 230 V _{RMS} , 50 Hz | - | 290 | - | | |
| 264 V _{RMS} , 60 Hz (worst case) | - | - | 460 | | | |