180W, Rugged Power Supply for Medical Applications MPS 520 Series

- Certified for medical applications CSA 601.1
- Leakage current less than 200µA
- Made in North America
- 3.3V output for NLX applications
- Fully enclosed with internal fan
- Auto-ranging input
- Fully protected



The MPS 520 Series rugged medical grade AC/DC power supply uses field-proven topology to generate 180W output power. It is a mature design with a track record in various applications. This power supply is in mini AT format and is fully compatible with industry standard power supplies for personal computers and associated applications. Electrical and mechanical design enhancements have been incorporated to meet the specific needs of the medical industry as well as the stringent requirements of North American and European Medical standards. The MPS 520 is fully compatible with NLX platform. It is cooled by an internal fan and is rated for operation over a 0°C to 50°C temperature range without de-rating. Low component count and the use of components with established reliability results in a high MTBF. The unit is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage

115/230Vac +/- 15%, 47 - 63Hz, Autoranging Input current 3.7A max

Input Protection

Inrush current limiting Varistor Internal safety fuse Lower voltage than the specified minimum input will not damage the unit

Isolation

2250VDC input to chassisLoad Regulation5660VDC input to output; 8mm spacingLoad RegulationOutput is connected to GND inside+5V output: +/-2%the chassis+12V output: +/-6

Approvals

CAN/CSA-C22.2 No. 601.1 UL 2601, CAN/CSA-C22.2 No 950-95, UL 1950 certified. CSA, NRTL/C safety marking

EMI EN55022 Class B

Switching Frequency 100KHz +/-10KHz Hold Up Time Minimum 15ms at full load range for all outputs

Output Voltage/Current +5V/20A, -5V/0. 3A +12V/3.5A, -12V/0.3A, +3.3V/10A, +5V (SB)/0.75A

Redundancy Diode None

Line Regulation +/- 1% over full input range

Load Regulation +5V output: +/-2% +12V output: +/-6% +3.3V output: +/-2% -12V output: +/-1% -5V output: +/-1% +5VSB output: +/-1%

Dynamic Response

Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time

Output Ripple / Noise Less than 1% of output voltage peak to peak or 0.2% RMS of the output voltage (20MHZ BW)

Leakage Current Less than 200µA (lower than CSA-C2.2 No. 601.1 requirements) **Output Overload Protection** Rectangular current limiting with short-circuit protection by hiccup on the main 5V/20A output and non-hiccup on other outputs Thermal shutdown in case of insufficient cooling (self resetting)

Output Overvoltage Protection Double regulator loop completely stable and independent of main loop

Efficiency 72% at full load, depending on output voltage

Operating Temperature Range 0 to +50 °C for full specification with proper cooling

Temperature Drift 0.03% per °C over operating temperature range

Cooling Forced air cooling by internal fan 29CFM min.

Environmental Protection Basic ruggedizing

MTBF 110,000 hours @ 45 °C Demonstrated MTBF is significantly higher. Indicators None

Control Input None

Power On/Off Control Complies with NLX requirements

Alarm Output None

Package/Dimensions (W x H x L) 140 x 86 x 151 mm (5.5" x 3.4" x 5.95")

Weight 1.8kg (4lb)

Connections

AC input receptacle EAC 309 or IEC 60320 C16 Main output power connector 20pole (female) AMP (Qty 1) Peripheral and floppy connector 4-pin (female) AMP or MOLEX (Qty 4) Drive-A connector 4-pin (female) MASCON or AMP

RoHS Compliance Fully compliant

Warranty

Two years subject to application within good engineering practice

