



The MATX-300U-X1 is a medical grade AC/DC open frame ATX switching power

supply with active PFC. This medical power supply features universal input, ATX output (3.3V/5V/-5V/12V/-12V/+5V stand-by, 300 watt output rating, and utilizes a thermally efficient U bracket chassis with no audible noise. The MATX-300U-X1 is designed for ultra-quiet medical grade and industrial grade applications.

### Key Features:

- 300W at ambient temperature of 50 °C with Active PFC
- Convection cooling with ATX output
- Rated at 50 °C
- Low current leakage
- Support Power Good, Power Fail and Power On signal
- +5V Standby & Remote On/Off
- Short Circuit, Over voltage, Thermal protection
- Efficiency greater than 80%
- Designed for both medical and IT applications

### Input Specification

Input Type	AC
Input Voltage	90-264 VAC continuous input range
Input Frequency	47-63 Hz
Input Current	4A @ 115VAC, 2A @ 230VAC
Inrush Current	30A @115VAC, 60A @ 230VAC
PFC	0.95 minimum at full load and nominal line input voltage
Input leakage current	less than 0.3mA at 240VAC

### Output Specification

Outputs	+3.3V	+5V	-5V	+12V	-12V	+5Vsb
Minimum Load	3A	3A	0A	1A	0A	0A
Rated Load	10A	20A	0.5A	12A	1A	1A
Maximum Load	20A	25A	-	15A	-	2A
Peak Load	-	-	-	18A	-	-
Line Regulation	+/-1%	+/-1%	+/-1%	+/-1%	+/-1%	+/-1%
Load Regulation	+/-5%	+/-5%	+/-10%	+/-5%	+/-10%	+/-5%
Ripple and Noise (peak to peak)	50 mV	50 mV	-	-	-	-
Efficiency	> 80%					

- The maximum combined total output power on the 3.3V and 12V rails is 200W.
- The maximum combined total output power on the 3.3V, 5V and 12V rails is 280W.
- The peak load on 12V rail can work at least 5 seconds at nominal line.

- Line regulation is measured at rated load.

**Interface Signals and Internal Protection**

Power On/Off	The power supply will be turned on when the power On/Off pin is connected to secondary GND.
Power Good Signal	When power is turned on, the power good signal will go high 100 ms to 500 ms after all output DC voltages are within regulation limits.
Power Fail Signal	The power fail signal will go low at least 1 ms before any of the output voltages fall below the regulation limits. The -5V is protected by regulator.
Short Circuit Protection	Fully protected against output overload and short circuit. Automatic recovery upon removal of overload condition.
Over Voltage Protection	The trigger point of O.V.P. is at 3.6V to 5V for +5V, 5.7V to 7V for +5V and 13.4V to 15.6V for 12V.
Thermal Protection	Automatic shut down when inner temperature of power supply exceeds safety limit. The protection is based on built-in thermal switch.

**Safety Approvals, EMI and EMS specification**

Safety Certification	Designed to meet: UL60601-1, CSA 22.2 No.601-1, EN60601
EMS	<p>EN 61204-3</p> <p>EN 61000-4-2            4KV contact; 8KV air discharge. target with criterion A</p> <p>EN 61000-4-3            10V/m with 80% AM criterion A</p> <p>EN 61000-4-4            2KV. target with criterion A</p> <p>EN 61000-4-5            line to line 1KV; line to GND 2KV. target with criterion A</p> <p>EN 61000-4-6            10V/m with 80% AM criterion A</p> <p>EN 61000-4-8            30A/m criterion A</p> <p>                                  30% dips 10 ms, criterion B</p> <p>EN 61000-4-11           60% dips 100ms, criterion C</p> <p>                                  &gt;95% dips 5000ms, criterion C</p>
Radiation/Conduction PFC	Designed to meet: FCC class "B", EN 55001 class "B", EN 60601-1-2, EN 61000-3-2 class "D"  EN 61000-3-3 class "D", EN 61204-3

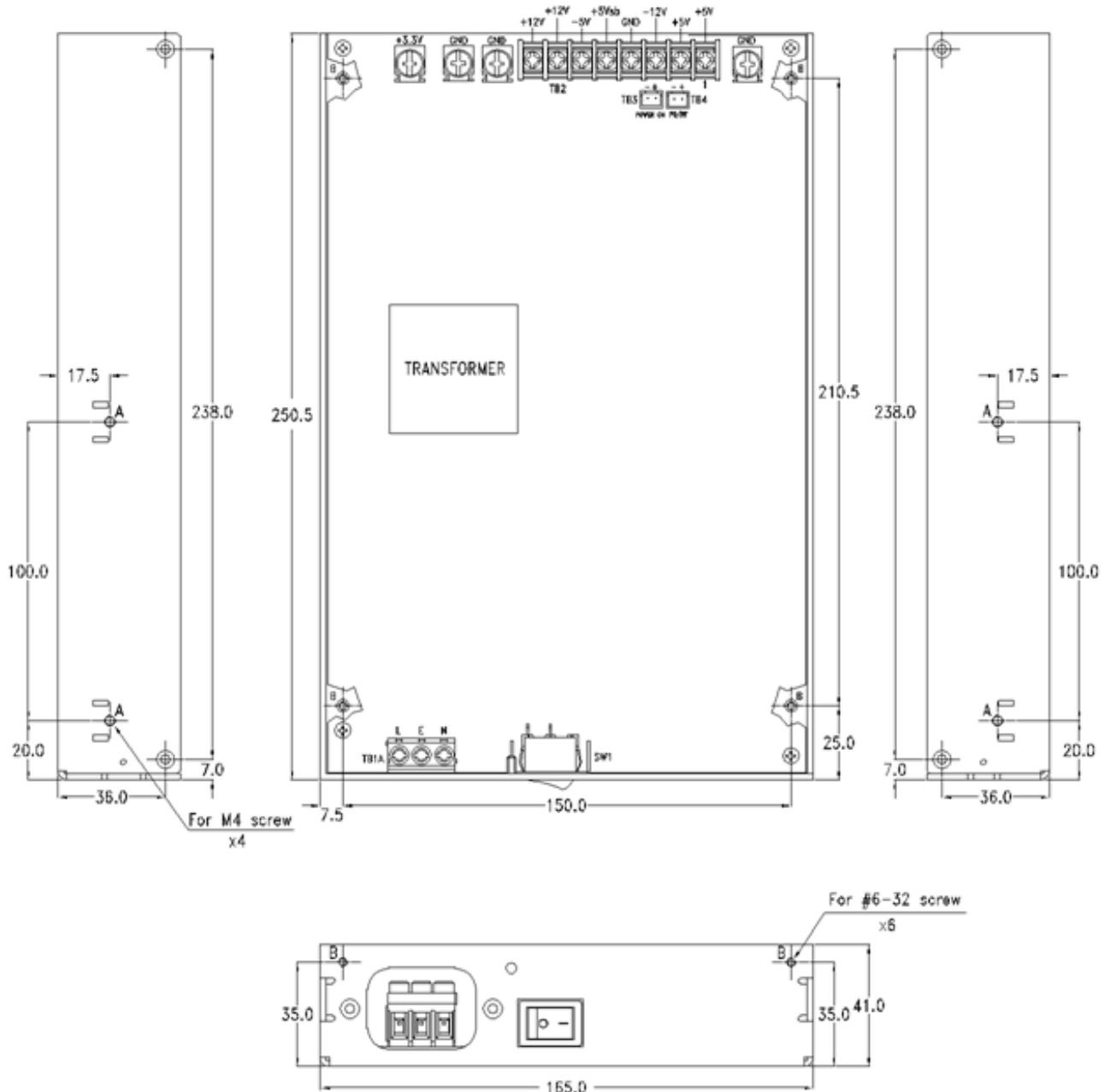
**Environment Specification**

Operating Temperature	0~50 °C at 100 % load, derate linearly above 50 °C by 2.5% per °C to maximum temperature of 70 °C at 50% load
Storage Temperature	-20~70 °C
Altitude (max)	up to 10,000 ft, operating.

**Dimension**

Width x Length x Height	245(L)x165(W)x41(H) (mm)
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## Mechanical Specifications



### AC Connectors

AC Inlet: Terminal Block

### DC Connectors

- Use Fast-On terminal block, Dinkle type 2EHDVM or equivalent, Pin assignment or pin number open to design
- Power Good/Power Fail or remote ON/OFF optional separate Molex connector