

# RAM Technologies

## PFC650SFX MEDICAL-GRADE POWER SUPPLY



The PFC650SFX 650W SFX PSU is the most compact powerful solution for your high-power medical device applications. It features RAM's unique MultiLoop Technology utilizing the latest Silicon Carbide (SiC) technology, which reduces stress loading and dramatically improves reliability. Able to run two high-end graphics cards, the power supply is ideally suited for imbedded applications in graphics-intensive systems.

Includes Smart Fan Technology and choice of output cables. Made in the USA.

### Input

Input Voltage Range: 100 to 240 Vac  $\pm$ 10%  
Supply Overvoltage: Cat Two < 300V  
Input Current: 7.85A max.  
Frequency: 50/60 Hz  
Inrush Current: 45A cold @ 240 Vac  
Efficiency: 80% typ.  
PFC Correction: Active > .95  
Leakage Current: < 250uA @ 264 Vac 60 Hz  
Input Fuses: 2X 8A 250V Line & Neutral

### Output

Max. Output Power: 600W cont. 650WP (see note 5)  
Hold-Up Time: > 40ms @ full load  
Overvoltage Protection: +15% of set voltage  
Thermal Protection: Auto Recovery / cycle pwr. on  
Minimum Loading: None  
Cross Regulation: < 0.5%  
Line Regulation: < 0.05%  
Load Regulation: < 1%  $\pm$  cable factor  
AC Turn-On Time: < 2 sec

Output Voltage ( $\pm$ 3%)	+12V	+5V	+3.3V	-12V	-5Vsb
Output Current Max.	50A/54.2A	24A	24A	0.5A	3.0A/3.5A
Ripple mV p-p	100	50	50	100	50

### Reliability

MTBF (demonstrated): > 500,000 hours  
Expected Life: > 8 years when used as specified

### Environmental

Op. Temperature: 0 to 50°C  
Storage Temperature: -40 to 80°C  
Operational Humidity: 0 to 95% nc  
Storage Humidity: 0 to 95% nc  
Operational Altitude: -500 to 9,840 ft  
Storage Altitude: -500 to 40,000 ft  
Pollution Degree Class: Two

### EMC Compliance

EN55011 Conducted and Radiated Emissions  
EN61000-3-2 Harmonics  
EN61000-3-3 Flicker  
EN61000-4-2 ESD Level 3  
EN61000-4-3 RF Susceptibility 10V/m  
EN61000-4-4 EFT Level 3  
EN61000-4-5 Surge Level 3  
EN61000-4-6 RF Conducted Immunity  
EN61000-4-11 Voltage Dips, Short Interruptions  
EN61000-4-39 Magnetic Fields

### Standards Compliance

ATX 3.0  
ISO 9001:2015  
EN60601-1 / ES60601-1 3rd edition  
UL file E191947  
Desktop Platform Form Factors: 2018 Rev 002  
Lead free RoHS and REACH compliant  
ECCN# EAR99 Conflict Material compliant  
Recommended Line Cord: SJT, 3X16 or 3X14 AWG

#### Notes:

1. Max. output from +5V & +3.3V = 140W. When loading the +5V and +3.3V, multiple total load by 1.2 and subtract from 600W/650W
2. Over current for +12V reset is accomplished by cycling power-on signal
3. Over current for +5V, +3.3V, -12V, & +5Vsb auto resetting
4. Derate output 9W/volt input from 100 Vac to 90 Vac
5. 650W, 10s every 50s





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## PFC600SFX MEDICAL-GRADE POWER SUPPLY




### Safety Standards

IEC 60601-1: 2005 + CORR. 1 (2006) + CORR. 2 (2007)  
ANSI/AAMI ES60601-1:2005 (Medical Electrical  
Equipment - Part 1: General Requirements for Basic  
Safety and Essential Performance)  
CAN/CSA-C22.2 No. 60601-1 (2008) (Medical Electrical  
Equipment - Part 1: General Requirements for Basic  
Safety and Essential Performance)  
Patient Protection: Two MOPP

 For continued protection, equipment must be grounded at all times in accordance with the requirements of Class I devices.

 RAM Technologies, LLC declares that the power supplies are in conformity with the provisions of the low-voltage directive.

### Symbols Used

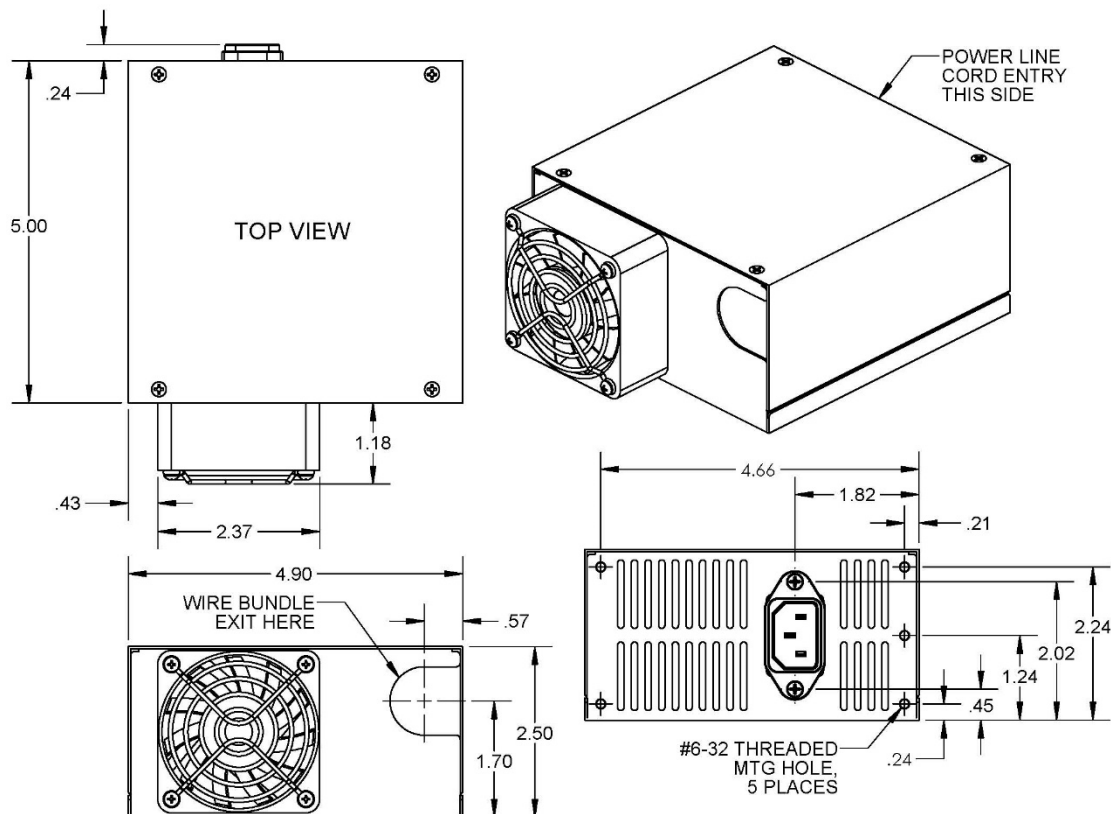
-  Attention, consult accompanying documents
-  Protective earth ground
-  Caution

### Power Good Signal

The Power Good Signal asserts itself high 200ms after all outputs have reached their operational values.

### Intended Use

The PFC650SFX is intended to power imbedded ATX-style motherboards in mission-critical medical and industrial applications.



For output cable selections, please refer to the cable order form on our website.

