

# RAM Technologies

## PFC310PCX 310 WATT MEDICAL GRADE POWER SUPPLY



The PFC310PCX is the latest generation ATX power supply. The high efficiency design is an affordable solution for powering the most critical medical applications. Standard features include low noise dual Smart Fan Technology and optional interface to our patented Ultra capacitor UPS modules.

MADE IN THE USA

## Specifications

### Input

Input Voltage Range: 100 to 250 VAC +/-10%  
Supply overvoltage: Cat Two <300V  
Input current: 4.75A A MAX  
Frequency: 50/60 HZ  
Inrush Current: 35A Cold @ 264 VAC  
Efficiency: 75% to 80% TYP.  
PFC Correction: Active > .95  
Leakage Current: < 250uA @ 264 VAC 60HZ  
Input Fuses: 2X 6.3A 250V Line & Neutral

### Output

Max output power: 310 Watts continuous  
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% +/- cable factor  
AC turn on time: < 2 sec

Output Voltage	+12V	+5V	+3.3V	-12	-5	+5Vsb
Output current max.	25A	30A	28A	1.2A	0.5A	2.0A
Ripple mV P-P	100	50	50	100	50	50

1. Max output from +5V & +3.3V= 180 Watts. When loading the +5 & +3.3V, multiply total load by 1.2 and subtract from 310W.
2. Output derates from 100VAC to 85VAC 3.5W/Volt
3. Total output from all outputs shall not exceed 310Watts
4. Initial voltage +/-3%

## Environmental

Operational 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 9840 FT  
Storage Altitude: -500 to 40,000 FT  
Pollution Degree Class: Two

## Reliability

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

## EMC Compliance

EN61000-4-2 ESD level3  
EN61000-4-3 RF susceptibility 3v/m  
EN61000-4-4 EFT level3  
EN61000-4-5 Surge Level3  
EN61000-3-2 Harmonics  
EN61000-3-3 Flicker  
EN61000-4-11 Voltage Dips, Short Interruptions  
EN55011 Conducted and radiated emissions

## STANDARDS Compliance

Desktop Platform Form Factors: REV 1.1 March 07  
IEC60601-1 2<sup>nd</sup> & 3<sup>rd</sup> edition  
RoHS compliant. UL file E191947 ISO9001:2008  
Lead free ROHS and REACH compliant  
Patient Protection: Two MOPP  
ECCN# EAR99

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# PFC310PCX MEDICAL GRADE POWER SUPPLY

**Safety** Approved to the following standards  
 ANSI/AAMI ES 60601-1:2005 ME-Part 1 and CSA C22.2  
 No. 60601-1:08( ME-Part 1: General Requirements for  
 Basic Safety and Essential Performance)  
 IEC 60601-1:2005 (ME Part 1: General Requirements for  
 Basic Safety and Essential Performance – Edition 3)



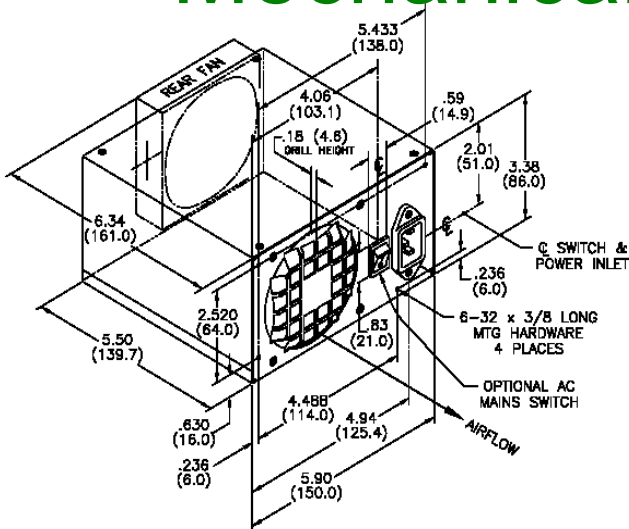
For Continued protection equipment must be grounded at all times in accordance with the requirements of class 1 devices.



RAM TECHNOLOGIES LLC declares that the PC and PCX power supplies are in conformity with the provisions of the low voltage directive.

See website [DOWNLOADS](#) for enclosure CAD files

## Mechanical Specifications



WE OFFER A WIDE VARIETY OF OUTPUT CABLES PLEASE CONTACT FACTORY FOR DETAILS

## Symbols Used



Attention, consult accompanying documents



Protective earth ground

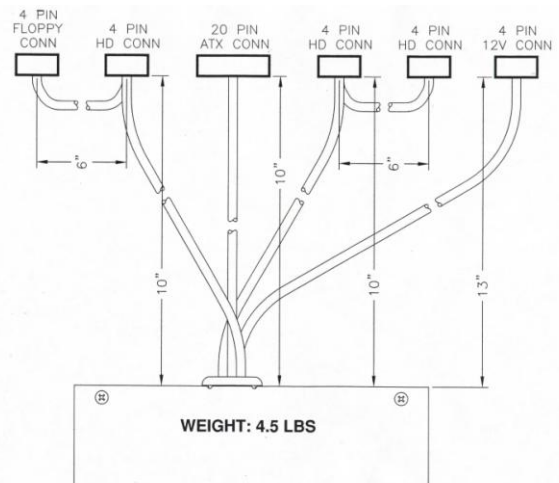


Caution

## Power Good Signal

The Power Good Signal asserts itself high 200ms after all outputs have reached their operational values. Power Good Signal will go low when input stored energy can no longer support the outputs.

**Intended Use:** The PFC310PCX is intended to power imbedded ATX style motherboards in mission critical medical applications.



RAM P/N  
#620012  
Order #  
0012

GND	Black	1	5	White (+12V)
GND	Black	2	6	White (+12V)
GND	Black	3	7	White (+12V)
GND	Black	4	8	White (+12V)

(GND)	Black	1	3	Yellow (+12V)
(GND)	Black	2	4	Yellow (+12V)

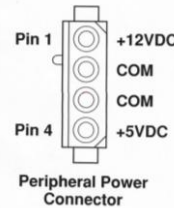
ATX12V Connector

(+3.3V)	Orange	1	11	Orange (+3.3V)
(+3.3V)	Orange	2	12	Blue (-12V)
(GND)	Black	3	13	Black (GND)
(+5V)	Red	4	14	Green (PS-ON)
(GND)	Black	5	15	Black (GND)
(+5V)	Red	6	16	Black (GND)
(GND)	Black	7	17	Black (GND)
(PG)	Gray	8	18	White (-5V)
(+5VSB)	Violet	9	19	Red (+5V)
(+12V)	Yellow	10	20	Red (+5V)

20 Pin ATX Connector

RAM P/N  
#620002  
+  
#620031

(+3.3V)	Orange	1	13	Orange (+3.3V)
(+3.3V)	Orange	2	14	Blue (-12V)
(GND)	Black	3	15	Black (GND)
(+5V)	Red	4	16	Green (PS-ON)
(GND)	Black	5	17	Black (GND)
(+5V)	Red	6	18	Black (GND)
(GND)	Black	7	19	Black (GND)
(PG)	Gray	8	20	White (-5V)
(+5VSB)	Violet	9	21	Red (+5V)
(+12V)	Yellow	10	22	Red (+5V)
(+12V)	Yellow	11	23	Red (+5V)
(+3.3V)	Orange	12	24	Black (GND)



Peripheral Power Connector



Floppy Drive Power Connector

Example:  
PFC400PCX-0016

24 PIN Optional  
PCI-X Connector

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