

# 300 WATT ATX SWITCHING POWER SUPPLY WITH PFC PCB300ATXE-F-W

## GENERAL SPECIFICATION

This specification describes the performance characteristics of a grounded, single phase, 300 watts, 6 output level power supply with ATX Form Factor remote control, +3.3V, +5V, +12V, -5V, -12V and +5Vsb. In addition, it meet a worldwide safety requirement and electromagnetic compatibility requirement for ATX power supply with PFC (Power Factor Correction).



## 1) INPUT

Description	Min.	Nominal	Max.	Condition
Input Voltage	90 VAC ---264 VAC			Full Range
VOLTAGE SELECTION	Full Range Function.			
Input Current (RMS)	6 Amps maximum at 115 VAC input voltage			
	3 Amps maximum at 230 VAC input voltage			
Frequency	47Hz	50/60Hz	63Hz	SINGLE PHASE
Inrush Current	30 Amps peak max. For one half cycle of AC 115V (cold start)			
	60 Amps peak max. For one half cycle of AC 230V (cold start)			
Efficiency	The power supply efficiency should not be less than 65% at the Maximum load with the AC input at any nominal low range of high range voltage.			
POWER FACTOR(WITH PFC)	>0.97 at Low Input Voltage (Nominal 110VAC) >0.92 at High Input Voltage (Nominal 230VAC)			

## 2) OUTPUT

### 2.1) STATIC DC LOAD

NOMINAL VOLTAGE(DC)	LOAD MIN.	CURRENT MAX.	PEAK CURRENT	REGULATION (%)
+3.3V	0.3A	28A		+/-5
+5V	2A	30A		+/-5
-5V	0A	0.3A		+/-5
+12V	1A	15A	20A	+/-5
-12V	0.05A	0.8A		+/-10
+5Vsb	0.05A	2.5A	2.5A	+/-5

NOTE: The total output of 3.3V & 5V should not exceed 180 watts and the total output should be 300 watts the max.

✖ When +5V at min. load, +12V can not sink over 7A.

## 2.2) REMOTE ON/OFF CONTROL

As logic level is LOW: Output voltage is enabled.

As logic level is HIGH or floating: Output voltage is disabled.

Note: Logic high level: >4.0V Logic low level:<0.8V

## 2.3) AC OUTPUT CONNECTOR (Optional)

	Minimum--Maximum	Maximum Output Current
Full Range	90 VAC ---264 VAC	2Amps

## 2.4) RIPPLE AND NOISE

The ripple and noise of the outputs should be measured at the full load

Output Voltage(DC)	Ripple & Noise(p-p)
+3.3V	50mV
+5V	50mV
-5V	50mV
+12V	120mV
-12V	120mV
+5Vsb	50mV

NOTE: 20MHz bandwidth ripple & noise is measured by using 0.1uF C.C. & 47uF/50V E.C. bypassed at the output connector.

## 2.5) HOLD UP TIME

The power supply unit should maintain its proper output voltage within voltage specifications for at least 20 milliseconds after losing input power under the condition of 100 VAC (or 230 VAC input) with full loading.

## 2.6) OPERATION AT NO LOAD

The power supply shall be capable of being operated with no load on any or all outputs without damage. For no load on +3.3V & +5V, the output shall not Exceed +4.5 & +6.5VDC and the power supply may shutdown and require by Remote-control or remove AC power restart.

## 3) OVERSHOOT

Any overshoots during turning-on or turning-off should be less than +/-5% of the nominal output voltage values. All outputs shall fail within the regulation limit of paragraph 3.1 before the power good signal is issued.

## 4) TEMPRATURE COEFICIENT

The temperature coefficient of all outputs is +/-0.05% per degree C maximum.

## 5) PROTECTION:

### 5.1) OVER VOLTAGE PROTECTION:

If any over voltage occurs, the power supply should latch off before any output exceeds its limit below:

NOMINAL VOLTAGE (V)	OVERVOLTAGE RANGE (V)	
	FROM	TO
+3.3	4.0	4.5
+5	5.6	6.5
+12	13.5	15.5

The power supply will not be automatically recovered after the over voltage fault being removed. A manual power reset is necessary.

### 5.2) SHORT CIRCUIT PROTECTION

Any short circuit occurred on any DC output should not cause any damage to the power supply or shut down the power supply. The power supply will not be automatically recovered after the short circuit being removed. A manual power reset is necessary.

### 5.3) OVERLOAD PROTECTION

An over load protection will be effected when either of the loadings +5V combine With +3.3V and +12V exceeds +105% to 160%. The power supply won't be automatically recovered after the overload being removed. It needs to do the input power reset.

### 5.4) OVER TEMPERATURE PROTECTION (OPTIONAL)

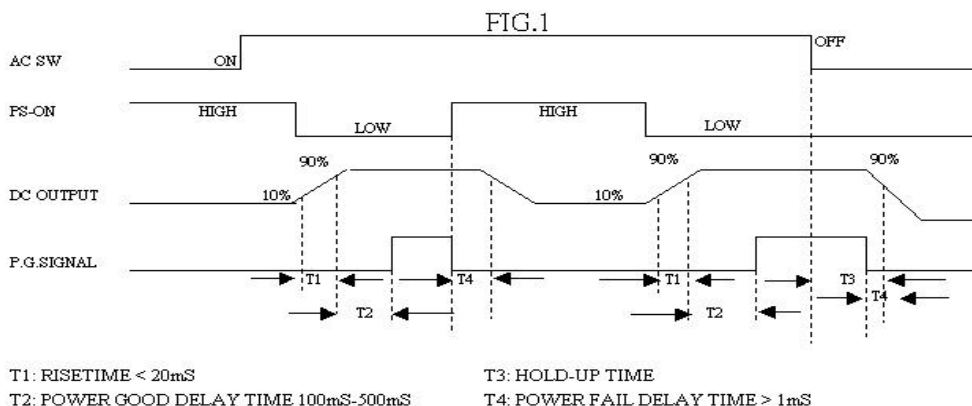
The power supply may include an over-temperature protection sensor, which can trip and shut down the power supply at a preset temperature point.

## 6) TURN-ON DELAY (RISE TIME)

After turning on, at least 20 mS will be needed for the rise of +5V output voltage (measured from 10% point to 95% point on the waveform) to reach Its peak.

## 7) POWER GOOD SIGNAL (POWER-ON TIME)

After power-on with nominal AC input, there might be a turn-on delay (between 100mS to 500mS) before the Power Good Signal is issued, which occurs before +5V output reaches its minimum sense Level of +4.75V. When turn-off, the power Good Signal shall go to a lower level for at least 1 mS before +5V falls under the regulation limit described in paragraph 2.1



## 8) SAFETY PROVIDED

UL	- UL1950, 3rd Edition	- EN 61000-3-2, CLASS D
CSA	- CSA22.2 NO.950	- EN61000-4-2, -3,-4,-5
TUV	- EN60950	VCCI - VCCI Class B ITE
CB	- IEC950	CNS - CNS 13438
FCC	- CFR 47, Part 15, Sub part B	
CE	- EN55022 class " B "	

### 8.1) DIELECTRIC WITHSTAND

- Primary to Secondary : 3000 VAC for 60 Sec.
- Primary to Frame Ground : 1500 VAC for 60 Sec.

### 8.2) INSULATION RESISTANCE

- Primary to Secondary : 20 Meg. Ohms Min. 500 VDC.
- Primary to Frame Ground : 20 Meg. Ohms Min. 500 VDC.

## 9) ENVIRONMENT

### 9.1) OPERATING:

Temperature:	0 to 40 degree centigrade
Relative Humidity:	10 to 90 percent, non-condensing

### 9.2) SHIPPING AND STORAGE

Temperature:	-40 to +70 degree centigrade
Relative Humidity:	5 to 95 percent, non-condensing

## 10) WARRANTY

One Year (MTBF 100,000 Hrs, DC fan not guaranteed)



## 11) DIMENSION

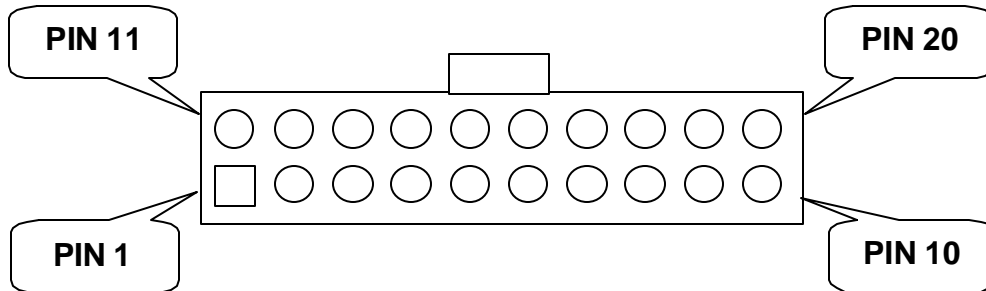
Case dimension: 150(L) × 140(W) × 86(H)mm

## 12) PIN ASSIGNMENT

### 12.1) Standard Pin Assignment.

#### 12.1.1) P1: 20 Pin & Wire

ATX Main Power Supply Connector



FRONT VIEW

Pin	Signal	18AWG Wire	Pin	Signal	18AWG Wire
1	+3.3 VDC	Orange	20	+3.3 VDC	Orange
			20	+3.3 V sense	Brown
2	+3.3 VDC	Orange	19	-12 VDC	Blue
3	COM	Black	18	COM	Black
4	+5 VDC	Red	17	PS-ON	Green
5	COM	Black	16	COM	Black
6	+5 VDC	Red	15	COM	Black
7	COM	Black	14	COM	Black
8	POK	Gray	13	-5 VDC	White
9	+5 V <sub>SB</sub>	Purple	12	+5 VDC	Red
10	+12 VDC	Yellow	11	+5 VDC	Red



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