

# SPECIFICATION

**Model: P1400P 1F12**

1U 400W 12VDC out PFC  
Universal Input  
Industrial Grade Power Supply  
(closed frame)

Specification subject to change without prior notice.  
(unless we have an agreement with you on file.)



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This specification is for a 400W ATX switching mode power supply in 1U closed frame form factor with active PFC and forced fan cooling.

## 1. Input Characteristics:

1.1 Input Voltage Range --- 90~264Vac, full range with active power factor 90% min

1.2 Input Frequency Range --- 47Hz to 63Hz.

1.3 Input Ac Current ( Max ) --- 8.0A Max, full load.

1.4 Inrush Current --- At 132Vac / 264Vac, full load condition, no damage occur, input fuse shall not blow.

1.5 Efficiency --- 63% min, at nominal line input full load.

1.6 Input Leakage Current --- Leakage current from line to ground will be less 3.5mA rms, measurement will be made at 240Vac/60Hz.

## 2. Output Characteristics:

### 2.1 Static Output Characteristics.

	Output Voltage	Load Range		Regulation		Ripple Max		Ripple & Noise	
		Min.	Max.	Min.	Max.	mV P-P		Max.	mV P-P
1.	+12.0 V	0.0 A	33.4 A	- 5 %	+ 5 %	100	mV	150	mV

#### Note:

- Noise Test --- Noise bandwidth is from Dc to 20MHz.
- Ripple frequencies greater than 1 MHz shall be attenuated by the measurement system.
- Add 0.1uF / 10uF capacitor at output connector terminals for ripple & noise measurements.
- The total output power shall not exceed 400W.

### 2.2 Dynamic Output Characteristics:

2.2.1 Initial Delay Time --- NONE.

2.2.2 Rise Time --- 50 mS max, at nominal line full load.

2.2.3 Turn-on Delay Time --- 600mS max, at nominal line full load.

2.2.4 Hold-up Time --- 16mS min, at nominal line full load.

2.2.5 Transient Overshoot --- 10% Max. of delay state after load change of 25% within the range of 50% to 100% of full load.

2.2.6 Temperature Coefficient --- 0.03% per °C max.

### 3. Protections:

3.1 Over Voltage Protection --- Standard on +12.0V output set at 13.5Vdc – 14.5Vdc.

3.2 Short Circuit Protection --- A short circuit placed between DC return and output shall cause no damage and the power supply shall shutdown.

3.3 Over Power Protection --- The power supply can use electronic circuit to limit the output. Power against excessing +120% - 170% of full load, or protected against excessive power delivery due to short circuit of any output or over total power.

3.4 No load Operation --- No parts damaged on power supply.

### 4. Dielectric Withstand Voltage:

4.1 Primary to Secondary ----- 1500Vac for 1 minute, or 2200Vdc for 3 sec.

4.2 Primary to Safety Ground --- 1500Vac for 1 minute, or 2200Vdc for 3 sec.

4.3 Insulation Resistance ----- Primary to safety ground - 500Vdc, 100M ohms min.

### 5. Conducted EMI: Internal Filter Can Meet.

5.1 FCC Requirement --- Part15, SUB-Part J, Computing Devices “ Class A “ Limits.

5.2 VDE Requirement --- Class “ A “ ( General Operating Permit ) Requirements Of VFG 234/1991.

5.3 CISPR Requirement --- Class “ A “ Requirements Of CLSPR 22.

5.4 Harmonic Requirement --- IEC10000-3-2 & IEC10000-3-3 Class “ D “.

### 6. Product Safety: This Power Supply Is Designed Can Meet The Following Spec.

6.1 UL/CUL ----- UL60950

6.2 TUV ----- EN 60950

## 7. Environment:

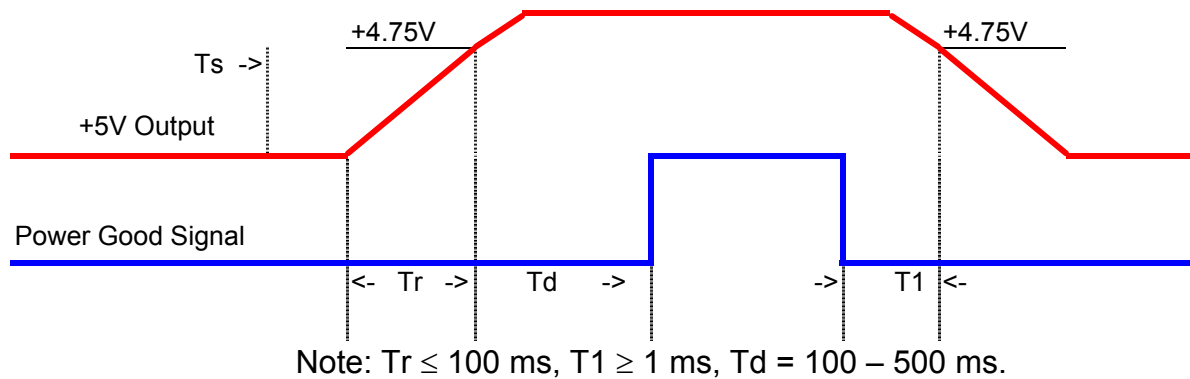
- 7.1 Operation Temperature ----- Air temperature 0 °C to 50 °C.
- 7.2 Operation Relative Humidity ----- 20% to 90%.
- 7.3 Storage Temperature ----- Air temperature -20 °C to 60 °C.
- 7.4 Storage Relative Humidity ----- 5% to 95%.
- 7.5 Altitude ----- Operate properly at any altitude between 0 to 100,000 feet, storage 40,000 feet.
- 7.6 Vibration ----- 0.38mm. 5-55-5Hz, 1 minutes per cycle; 30 minutes for each axis ( X,Y,Z ).

## 8. Burn-In

- 8.1 Burn-In ----- At 45 °C, max. load, 4 hours.

- 9. Mean Time Between Failure ----- 100 K Hrs minimum at 75% load for 25 °C ambient temperature.

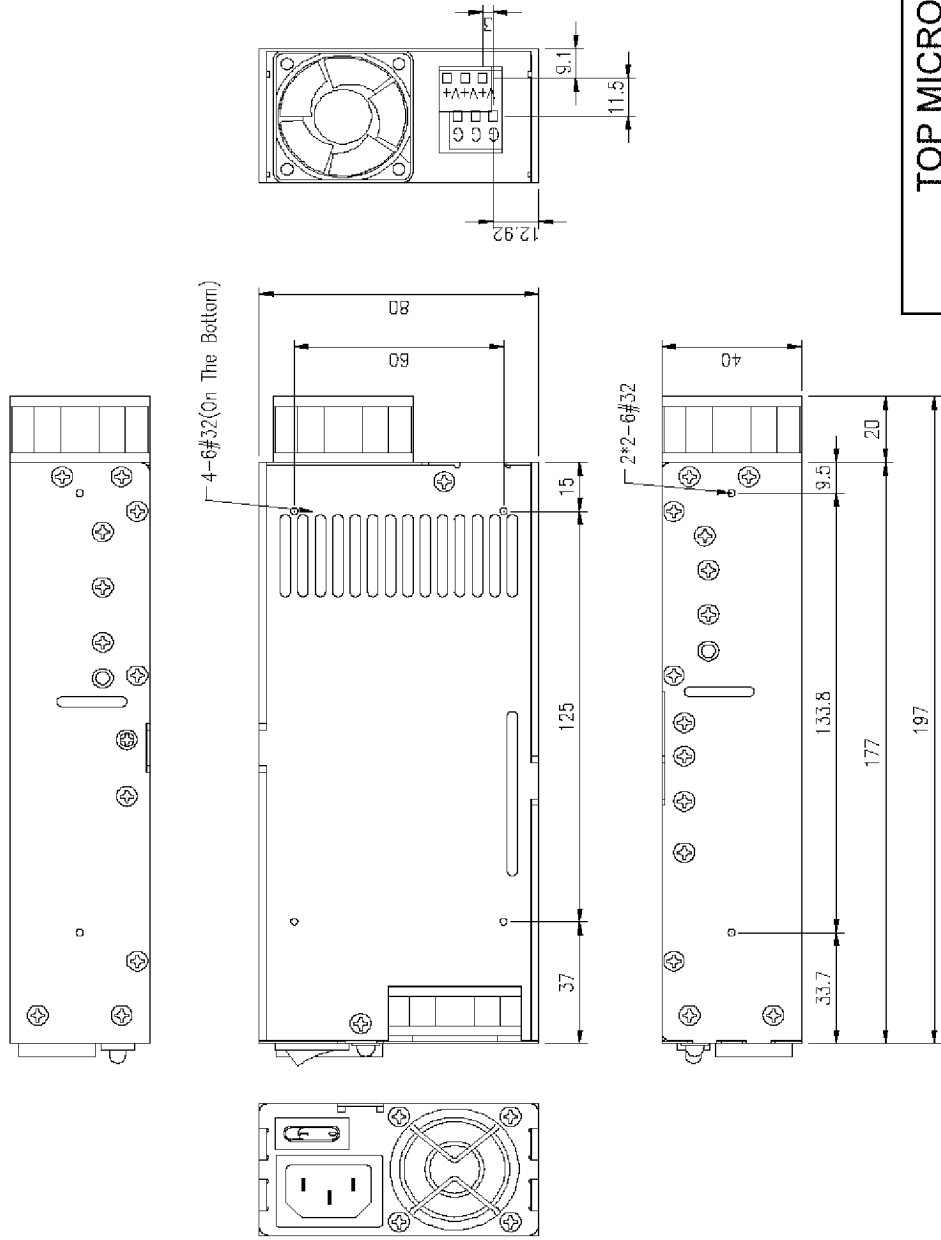
## 10. Power-Good Signal:



## 11. Dimension

- 11.1 W x H x D ----- 80.0 x 40.0 x 197.0( mm )

REVISIONS			
NO	DESCRIPTION	DATE	APPROVED



TOP MICROSYSTEMS					
APPROVED	DATE	TITLE	PART NO.	REV.	
		P1400P 1F12		A	
CHECKED	DATE	DRAWING NO.	MODEL NO.	SHEET	
			Single Output	1 of 1	
DESIGNED	DATE	SCALE: MM(INCHES)	TOLERANCES:		
<i>yj/c</i>		1:2	.XX - +.10 .XXX - .010		

FINISH:		MATERIAL:	
表面	处理	材质	规格