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1. Function Description

This power supply is designed for personal computer. There are eight DC outputs:+5V,+12V1,+12V2,+12V3,+12V4,-12V,+3.3V&+5VSB and it provides power to all computer systems and peripherals with maximum protection.

Here are some of the key features:

- **Active Power Factor Correction**
- **All kinds of protection circuits(OCP/OVP/SCP/OPP)**
- **S-ATA ready**
- **Fully supports all Intel&AMD system demands**
- **Tube-tide design to tidy wires**
- **Anti-corrosive nickel plated chassis**
- **High efficiency : not less than 75% at full load**

2. How to Setup

It is rather simple to install this power supply to your precious computer tower. Follow the steps below to finish the setup.

Step1:Open the computer tower cover; put the power supply into the corresponding location of the tower, and then use right screws to fix the power supply to tower.

Step2:Put the Main Power Connector, ATX12V Connector, S-ATA Connector, dual PCI express power connector, Peripheral Connectors and Floppy Connectors to the corresponding male connectors of main-board, peripheral devices(i.e. HDD, CDROM etc.) and floppy drivers respectively. When you connect connectors, please pay attention to the orientation of them because of the different hole sizes. Find the proper orientation and push down firmly making sure that the pins are aligned.

3. Specifications

3.1 Input Requirements

The power supply shall operate as below:

115V(100Vmin.-120Vmax.), 60Hz

230V(200Vmin.-240Vmax.), 50Hz

3.2 Active Power Factor Correction

Active power factor correction (the advance technology most used in high power SMPS) used a per-regulator before the main PWM convert circuit, applied the current feedback technology. Regulated current drawing flow AC sinusoidal wave. Therefore, the THD less than 5 percent,and the power factor increase to 0.99 or higher. This method of PFC knows as Active Power Factor Correction because applied active components and circuit inside. It can provide high power factor(up to 0.95-1),can operate in world wide input range(100-240VAC).An intelligent solution for high regulation, high power density power designs.

3.3 DC Output

Power distribution configuration:

Load range 1 (AC 115V/230V)

Model	+3.3V	+5V	+12V1	+12V2	+12V3	+12V4	-12V	$+5V_{SB}$
APE-900X (CTG-750)	25A	25A	18A	18A	18A	18A	0.5A	3.0A
APE-1000X (CTG-850)	30A	30A	18A	18A	18A	18A	0.5A	3.0A
APE-1100X (CTG-1000)	30A	40A	19A	19A	19A	19A	0.5A	3.0A

Load range 2 (AC 230V)

Model	+3.3V	+5V	+12V1	+12V2	+12V3	+12V4	-12V	$+5V_{SB}$
APE-900X (CTG-750)	30A	30A	18A	18A	18A	18A	0.5A	3.0A
APE-1000X (CTG-850)	30A	35A	18A	18A	18A	18A	0.5A	3.0A
APE-1100X (CTG-1000)	30A	50A	19A	19A	19A	19A	0.5A	3.0A

3.4 Protection

The power supply itself is designed with short circuit, over voltage, over power and over current protection functions described as below:

3.4.1 Short Circuit Protection

A short circuit on any DC output will cause the power to latch. The power supply will withstand a continuous short circuit to the output without damage or overseers to the unit. The $+5V_{SB}$ can be shorted indefinitely and will recover automatically when the short is removed.

3.4.2 Over Voltage Protection

The power supply over voltage protection shall be locally sensed. The power supply shall shutdown and latch off after an over voltage condition occurs. This latch shall be cleared by toggling the PSON # signal or by an AC power

interruption. The below enclosed table contains over voltage limits. The values are measured at the output of the connector for power supply. The voltage shall never trip any lower than the minimum level when measured at the power pins of the power supply connector.

Output Voltage	MIN(V)	MAX(V)
+3.3V	3.76	4.3
+5V	5.5	7.0
+12V1,2,3,4	13.4	15.6

3.4.3 Over Current Protection

The power supply shall have current limit to prevent the +3.3V,+5V,and +12V outputs from exceeding the values shown in below enclosed table. If the current limits are exceed the power supply shall shutdown and latch off. The latch will be cleared by toggling the PSON# signal or by an AC power interruption. The power supply shall not be damaged from repeated power cycling in this condition.-12Vand 5V$_{SB}$ shall be protected under over current or shorted conditions so that no damage can occur to the power supply. All outputs shall be protected so that on damage occurs to the power supply under shorted output condition.

Voltage	Over Current Limit
+3.3V	110% minimum, 150% maximum
+5V	110% minimum, 150% maximum
+12V	110% minimum, 150% maximum

3.4.4 240VA Protection

System designs may require user access to energized areas of the system. In these cases the power supply may be required to meet regulatory 240VA energy limits for any power rail. Since the +12V rail combined power exceeds 240VA it must be divided into separate channels +12V rails do not necessarily need to be independently regulated outputs. They can share a common power conversion stage. The +12V rail is split into four rails. Refer to section 6.4 for how the 12V rail is split between different output connectors.

Voltage	Over Current Limit
+3.3V	110% minimum, 150% maximum
+5V	110% minimum, 150% maximum
+12V1	Peak current minimum, 20A maximum
+12V2	Peak current minimum, 20A maximum
+12V3	Peak current minimum, 20A maximum
+12V4	Peak current minimum, 20A maximum

3.4.5 Over Power Protection

When the total load exceed 110%~160% of the maximum output current, the power supply shall be latched into the state of shutdown.

3.5 Physical Environment

Operation Conditions

The power supply shall be capable of continuous operation and meet all electrical specification without need for adjustment when subjected to the following environmental conditions:

	Temp. Vs Load Condition	Humidity
Operation	0 ~30℃@Full Load	10% ~90%RH
	40℃@90% Rated Load	
	50℃@80% Rated Load	
Storage	-20℃ ~80℃	5% ~90%RH

No degradation of the power supply shall occur during shipping or storage at the specified condition.

3.6 Regulatory Compliance

Our power supply has been certified to comply with multi-national Safety and EMI.

TUV, UL, CUL, CSA, CE, FCC

4. Precaution

Caution: Unauthorized personnel should not do this to avoid electrical shock!

4.1 Do not open the top cover of the power supply case.

4.2 Please keep the power supply from humidity.

5. Simple Maintainance

If power supply cannot work properly, before send for repair, please check the following items:

5.1 Does power cord indeed plug into electrical outlet?

5.2 Does Input Voltage set in power supply correspond to the main source in your environment?

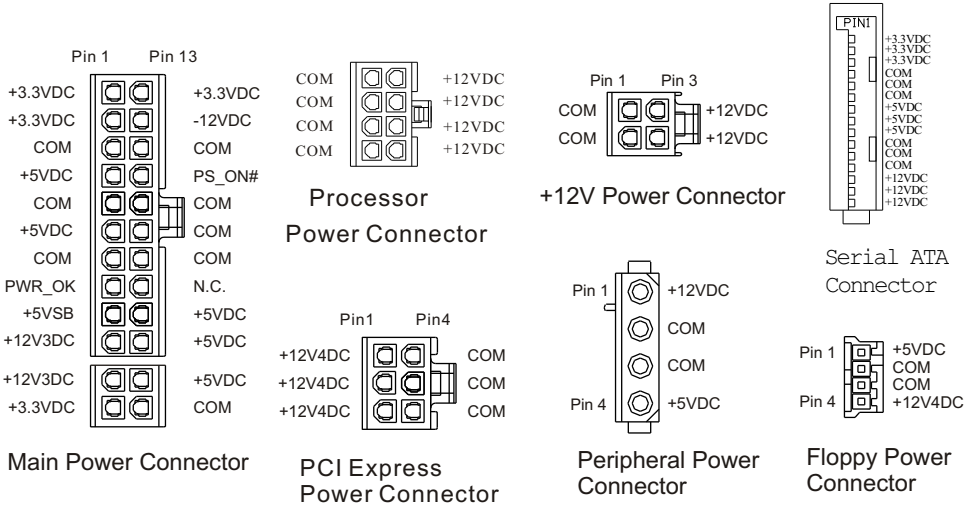
5.3 Please check the output connectors plugging in proper direction and connecting firmly.

5.4 Please turn off the power and turn it on for several times, and the interval must be at least 5 minutes.

5.5 Having checked above items, if the power supply still does not function, please send it back to your retailer or distributor for repair.

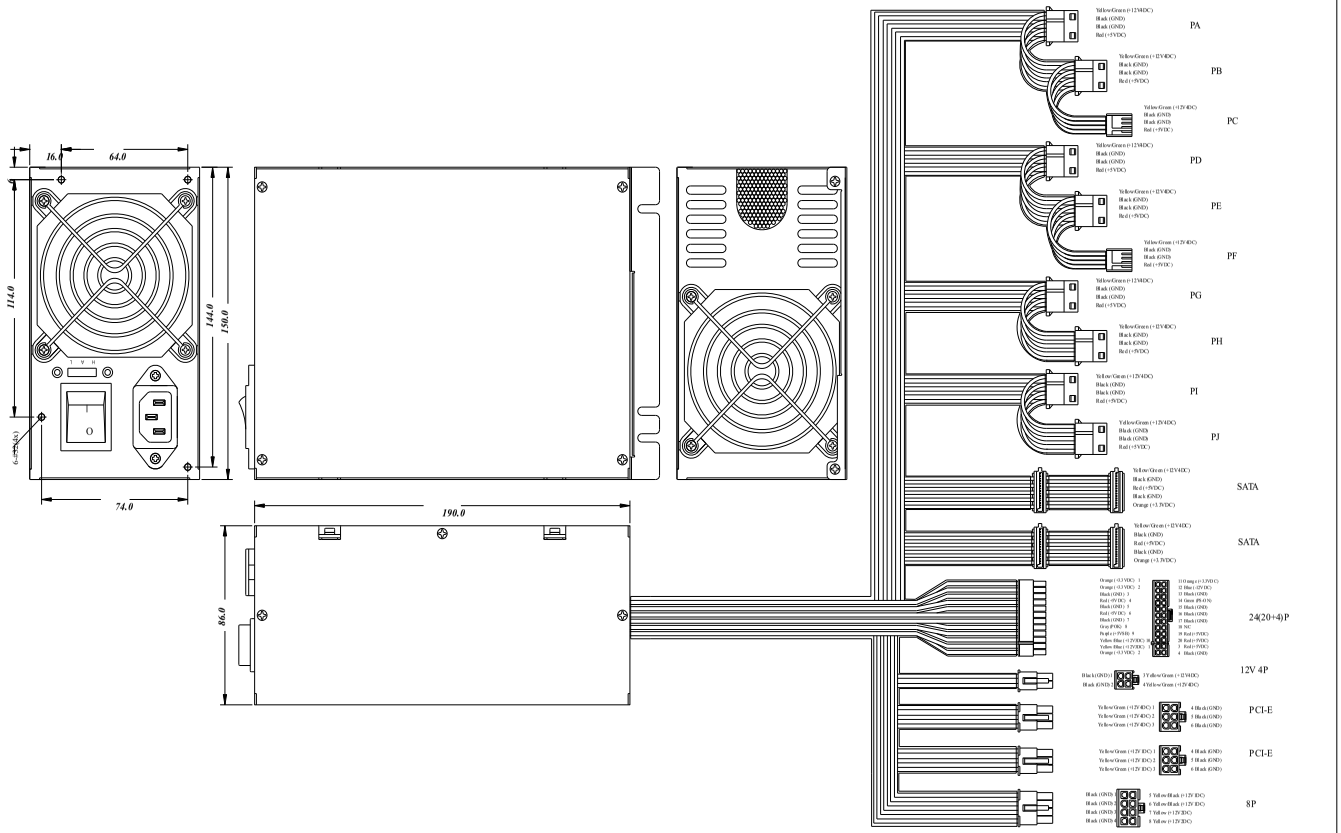
6. Mechanical Diagram

6.1 Power Connector Drawing



Pin-side view, not to scale

6.2 Mechanical Diagram



NOTE: The size of the Fan is 8cm.

CTG-750/850/1000				REV: 1	PRELIMINARY
				MATERIAL	
DESCRIPTION		UNIT	MM	APPROVED	CHECKED	DRAWN
PART NO.		SCALE	NON			
MODEL		TOLERANCE				