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1. Function Description

This power supply is designed for personal computer. There are six DC outputs: +5V, +12V1, +12V2, -12V, +3.3V, +5V_{SB}, and it provides power to all computer systems and peripherals with maximum protection.

Here are some of the key features:

- ▶ **12cm fan design, long life, noiseless and fastest cooling time**
- ▶ **All kinds of protection circuits (OVP/OPP/OCP/SCP)**
- ▶ **High efficiency: not less than 75% at full load**
- ▶ **Externally selectable 3-band TMS(Thermal Management System: Low/AUTO/High) to meet vast majority end users demands**
- ▶ **S-ATA connector ready**
- ▶ **Qualified with Intel standards**
- ▶ **Alumtnum chassis**
- ▶ **SLI ready**

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, Peripheral Connectors, Floppy Connectors, PCI-Express Conntector and many others(when available) to the corresponding male sockets such as 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:

100-240V, 15-8A, 47-63Hz

3.2 DC Output

Power distribution configuration:

Model	CW-650T(A/PFC)
DC O/P Load	Max. 650W
+3.3V	30A
+5V	60A
+12V1	19A
+12V2	19A
-12V	1.0A
+5V _{SB}	2.5A

+3.3V and +5V total output shall not exceed 320 watts

+12V1 and +12V2 total output shall not exceed 440 watts

+3.3V, +5V, +12V1 and +12V2 total output shall not exceed 625.5 watts

3.3 Protection

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

3.3.1 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.

3.3.2 No Load Operation

No hazardous conditions or damage to the supply will occur with all of the DC output connectors disconnected from the load.

3.3.3 Over Load Protection

When the total load exceed 130%~160% of the maximum output current, the power supply shall be latched into the state of shutdown.

3.3.4 Over Current Protection

Overload currents applied to +12V1 & +12V2 will cause the output to trip before reaching or exceeding 240 VA. For testing purposes, the overload currents should be ramped at a minimum rate of 10 A/s starting from full load.

3.4 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 environ-mental conditions:

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

3.5 3-Band Thermal Management System

In the front panel of the PSU it equips a temperature control SW. To allow the end-user manually adjusts the supply fan speed so as to minimize the ambient noise level at the precondition that the system works reliably.

Low: fan speed at 1000RPM 10%

High: fan speed at 1800RPM 10%

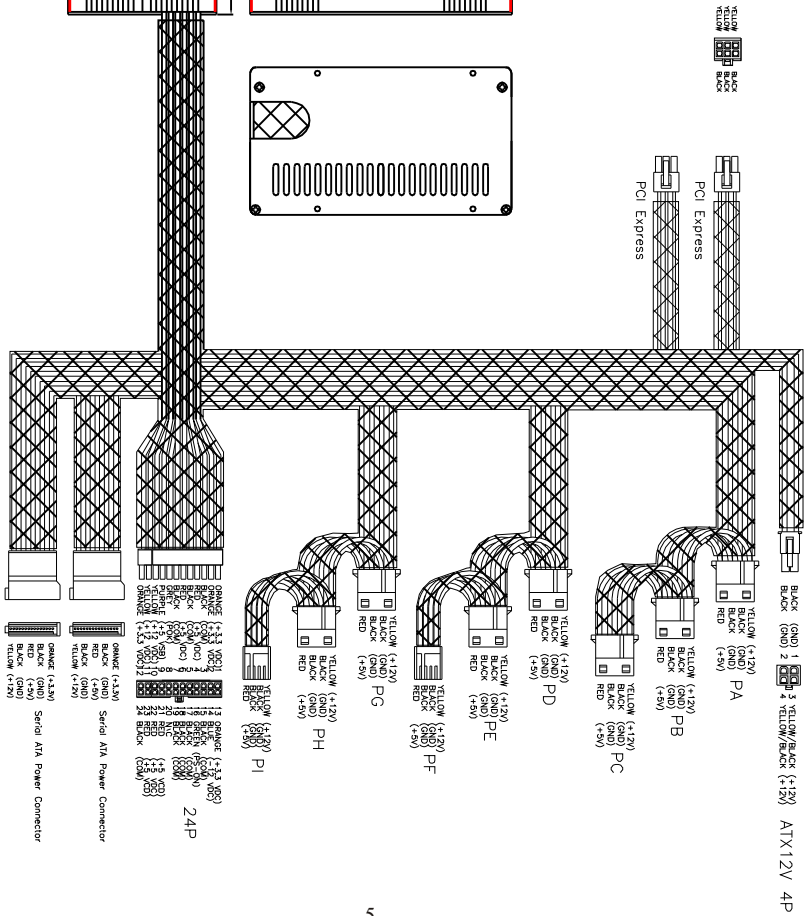
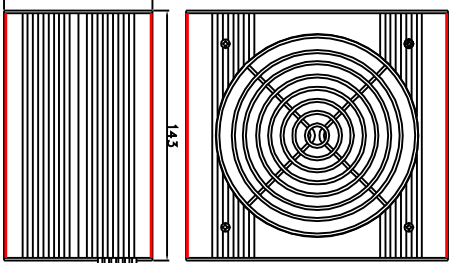
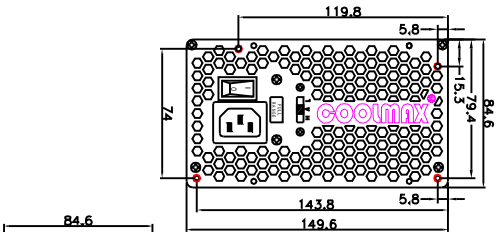
AUTO: fan speed is auto controlled by built in smart temp control circuit.

Caution: The channel Low is designed for professional users, if you are a new hand, it is strongly suggested to set the switch at AUTO

3.6 Regulatory Compliance

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

-- UL, CUL, CSA, TUV, CE, FCC.



- ORANGE (+3.3V) Serial ATA Power Connector
- RED (+5V) Serial ATA Power Connector
- BLACK (GND)
- ORANGE (+3.3V) Serial ATA Power Connector
- RED (+5V) Serial ATA Power Connector
- BLACK (GND)
- ORANGE (+3.3V) Serial ATA Power Connector
- RED (+5V) Serial ATA Power Connector
- BLACK (GND)

Note:
 1. Actual product may slightly different from the drawings;
 2. Output cables may be different in designated model on the length, connector type and/or quantity.

COOLMAX TECHNOLOGY INC.				REV:1	Preliminary
DESCRIPTION	CW-650T	UNIT	MM	APPROVED	CHECKED
PART NO.	CW-650T	SCALE	NON		DRAWN
MODEL	CW-650T	TOLERANCE			

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.

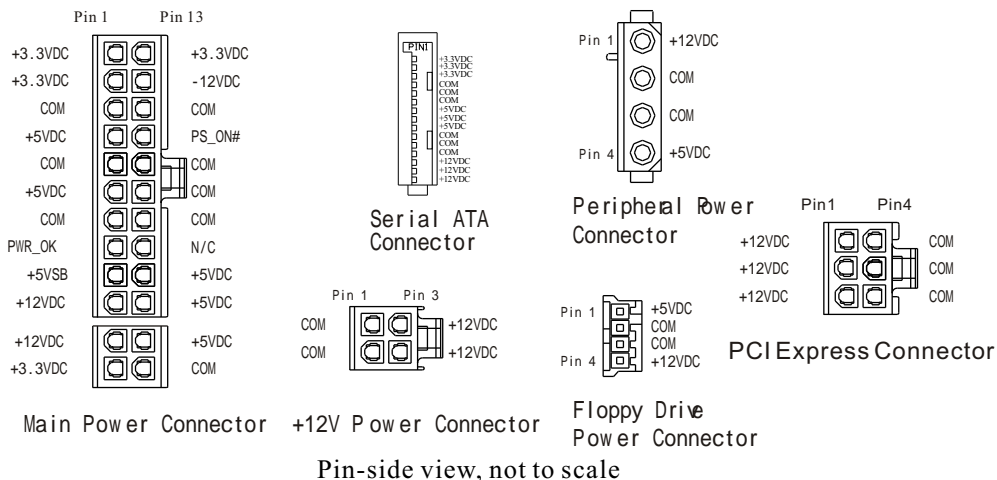
5. Simple Maintenance

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



6.2 Overall Drawing (see attached page)