

FCC Compliance Statements

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

Warning : You are cautioned that any change or modifications to the equipment not expressly approved by the party responsible for compliance could void your authority to operate such equipment.

1. Safety Precautions

■ The following precautions and directions are measures against possible accidents and injuries. Please read them thoroughly before using this product.

Warning

**Neglecting the following may cause
Serious injury or death.**

- ▶ Opening the cover of the product while the power cord is plugged into an outlet may cause electrocution or critical damage to the product.
- ▶ Handling the power cord with wet hands may cause in electrocution.
- ▶ Inserting fingers or metallic objects into the cooling fan may cause in injury or electrocution.

Caution

Neglecting the following may cause minor injuries, degrade product conditions or cause malfunction.

- ▶ Operating the product in an extremely cold or hot environment can degrade product performance and lifespan.
- ▶ Liquids that enter the product may cause malfunction.
- ▶ Operation in a humid or non-ventilated environment may reduce product lifespan.

2. Components

- 1) One Power Supply
- 2) One Cable for CPU2
- 3) One Cable for PCI-E2
- 4) Three Cables for ODD/HDD
- 5) Two Cables for S-ATA
- 6) One Fan Dual-connector (ZM-DC1)
(See page 4 for details)
- 7) One Power Cord for AC Power Source (Not included in some countries)
- 8) One User's Manual
- 9) Five Cable Ties

3. Notes on Installation

※ To ensure a safe and easy installation, please read the safety precautions above and the following notes.

- Plugging the main power connector P1 into the motherboard while the product is connected to the AC power source may result in damage to the motherboard.
- Make sure that the connectors are connected to their designated locations, and that the connectors are not oriented in the wrong direction when connecting the DC output connectors.
- If the Power on LED fails to light up when the main power button is pressed after completing the installation procedure, some devices may be connected incorrectly or the motherboard may be faulty.

4. The Zalman Advantage

Zalman's CNPS products enable a noiseless computing environment, in accordance with our policy of developing people-friendly products.

This ultra-quiet power supply complies with ATX12V Version 2.2, and supports the Latest dual-core CPUs(Intel Core2 series/AMD Athlon64-X2 series), as well as the Latest dual graphic card systems(SLI/CrossFire).

* CNPS (Computer Noise Prevention System) refers to a system that reduces a conventional computer's noise level (30dB or more) to an inaudible level (20dB or less).

Zalman's silent/ultra-quiet computers of the highest quality.

■ Heatpipe Installed for Maximum Cooling Performance and Ultra-Quiet Operation

A heatpipe with ultra-high cooling performance incorporated on the power supply's main Rectifiers enables high load operation even at low RPM for a dramatic reduction in noise levels.



■ Improved Power Factor & Reduced Harmonics through Active PFC

By implementing Active PFC(Power Factor Correction), the Power Factor (PF) is improved from 75% (Passive PFC) up to 99% while harmful harmonic frequencies are reduced to meet the line harmonic distortion requirements of IEC61000-3-2 Class D.

■ High Efficiency Design

This power supply is capable of reaching a maximum of 84% efficiency(230VAC, Full & Typical Load) through its use of high switching frequency and low power-loss circuitry.

■ ATX20+4 Pin Main Connector

ATX20+4 pin main connector broadens the range of motherboard compatibility.

■ Supports ATX12V CPU 4-Pin and EPS12V CPU 8-Pin

Two ATX12V CPU 2 x 2(4-Pin) power cables can be combined to form an EPS12V CPU 8-Pin power cable.

■ Dual PCI Express VGA Power 6-Pin Connector

Supports Nvidia SLI and ATI CrossFire dual graphic card systems.

■ Module Cables

Module cables provide organized cable management and improved air circulation inside the computer case.

■ Ultra Quiet 120mm Fan

Ultra quiet 2-Ball Bearing ADDA 120mm fan maximizes the airflow and minimizes the noise level enabling a noiseless computing environment with optimized cooling.

■ Four Independent +12VDC Outputs

Four +12VDC rails supply power independently to the CPU, VGA, motherboard, and peripheral components for the highest level of stability and performance.

■ EZ Grip Connectors for ODDs & HDDs

EZ Grip Connectors for easy removal of the plugs from ODDs & HDDs.

■ Gold-Plated Terminals

Gold-plating the terminals minimize power loss by reducing contact resistance.

■ Sleeved Cables

All power cables are sleeved for easy cable management and improved air circulation inside the computer case.

■ Multiple Safety Features

Over-voltage Protection, Over-current Protection, Short-circuit Protection, Under-voltage Protection, Over-temperature Protection.

■ Internal Blue LED

Blue LEDs are installed inside the power supply for cool aesthetics.

■ WEEE & RoHS

Complies to WEEE & RoHS Environmental Directives of Europe.

* WEEE : Waste Electrical and Electronic Regulations

* RoHS : Restriction of Hazardous Substances Regulations

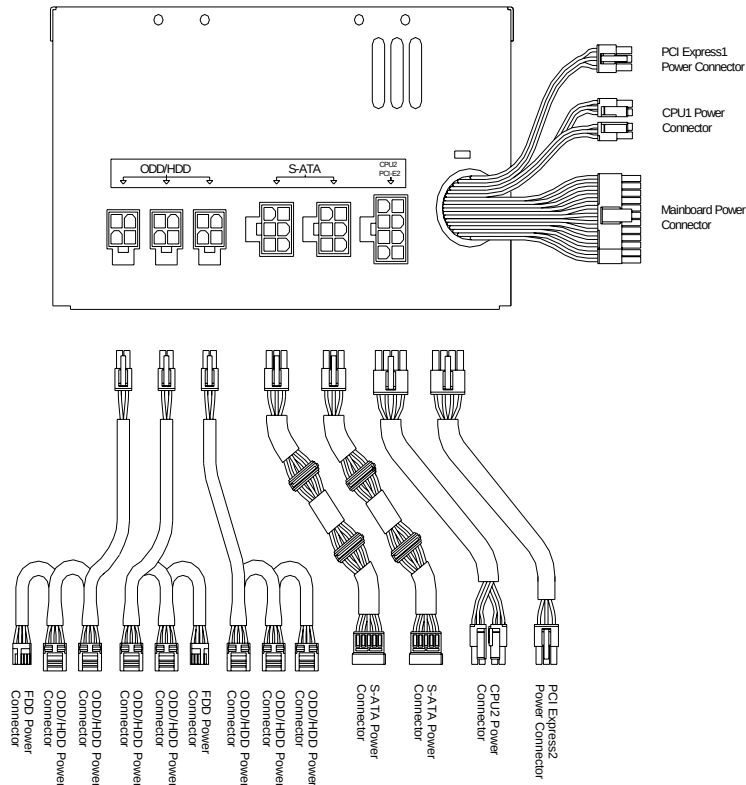
■ International Safety and EMC Certifications



FCC IDENTIFIER :
SAOZM600-HP

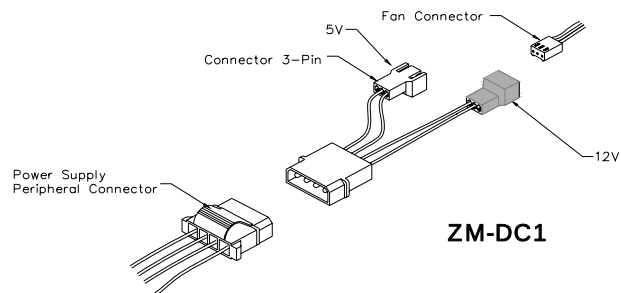
5. Specifications

■Output Power Cable Specifications



Cable Types and Function

Using the Dual-Connector (ZM-DC1)



■Electrical & Physical Characteristics

AC Input Range	Voltage	100VAC ~ 240VAC ±10%		DC OUTPUT					
	Frequency	47Hz~63Hz		ZM600-HP					
AC Input Range (Rated)	115VAC	10A		Vout	Output Load Rating			Combined Power	
	230VAC	5A			Imin	Imax	Ipeak		
PFC Type	Active PFC			+3.3V	0.8A	24A		155W	
Power Factor	99% Maximum			+5V	0.3A	24A			
Inrush Current Limit (@ Cold start at 25°C)	115VAC	60A		+12V1	0A	16A		504W	600W
	230VAC	100A		+12V2	0A	16A			
Efficiency	84% Maximum @230VAC, Full & Typical Load			+12V3	1A	16A			
DC Output Voltage Regulations	Vout	Regulation Range		At Full Load	+12V4	1A	16A		18.5W
	+3.3VDC	±5%	+3.14V ~ +3.47V		-12V	0.0A	0.5A		
	+5VDC	±5%	+4.75V ~ +5.25V		+5VSB	0.0A	2.5A	3.5A	
	+12V1DC	±5%	+11.4V ~ +12.6V		Protection				
	+12V2DC	±5%	+11.4V ~ +12.6V		Over-voltage Protection (OVP)				
	+12V3DC	±5%	+11.4V ~ +12.6V		Over-current Protection (OCP)				
	+12V4DC	±5%	+11.4V ~ +12.6V		Under-voltage Protection (UVP)				
	-12VDC	±10%	-10.8V ~ -13.0V		Short-circuit Protection(SCP)				
	+5VSB	±5%	+4.75V ~ +5.25V		Over-temperature Protection (OTP)				
	DC Output Ripple & Noise	Vout	Specification		At Full Load	Ambient Temperature			
+3.3VDC		100mV		Operation		0℃ ~ +50℃			
+5VDC		100mV		Stored		-20℃ ~ +80℃			
+12V1DC		200mV		Ambient Humidity					
+12V2DC		200mV		Operation		5 %RH ~ 95 %RH			
+12V3DC		200mV		Stored		5 %RH ~ 95 %RH			
+12V4DC		200mV		Dimensions					
-12VDC		200mV		150mm(L) * 165mm(W) * 86mm(H)					
+5VSB		100mV							

6. Zalman's CNPS (Computer Noise Prevention System) Products

For a stable and noiseless system of the highest quality, use Zalman's ultra Quiet CPU Coolers, Quiet VGA Coolers, Heatpipe HDD Coolers, Fanless Northbridge Coolers, and Noiseless Case Fans.



Ultra Quiet CPU Cooler



Quiet VGA Cooler



Heatpipe HDD Cooler



Quiet CPU Cooler



Fanless Northbridge Cooler



Noiseless Case Fan

6. Product Warranty (International)

Thank you for purchasing Zalman's product.

Warranty– If this product has any defects, then Zalman guarantees that it can be exchanged within three (3) years from the time of purchase.

* Product exchange is made with the reseller where the product was purchased.

For further inquiries, contact Zalman headquarters at www.zalman.co.kr or via e-mail to a representative.

There will be no exchanges in the following cases:

- A) Violation of the Safety Precautions and the Notes on Installation in this manual.
- B) Human fatality and/or property damage due to events of natural causes.
- C) External case damage, electrical problems, and damage to components caused by careless mishandling.

Disclaimer – Zalman Tech co., Ltd and Zalman USA, INC. are not responsible for any damages due to external cause, including but not limited to, improper use, problems with electrical power, accident, neglect, alteration, repair, improper installation, or improper testing.

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Disposal of Old Electrical & Electronic Equipment
(Applicable in the European Union and other European countries with separate collection systems)