SAMA P1000

SAMA P1000 1000W Platinum Power Supply User Manual

Model: P1000-WHPFF001-US

1. Introduction

The SAMA P1000 is a 1000W Platinum-rated fully modular power supply designed for high-performance PC builds. It features 80 PLUS and Cybenetics Platinum efficiency, ATX 3.1 compliance, and a quiet 140mm Fluid Dynamic Bearing (FDB) fan with Zero RPM mode for silent operation under light loads. This manual provides essential information for installation, operation, and maintenance.

Figure 1.1: SAMA P1000 1000W Platinum Power Supply, showcasing its design and efficiency ratings.

2. Safety Information

Please read and follow all safety instructions before installing or operating the power supply. Failure to do so may result in injury or damage to the product or system components.

- Ensure the power supply is disconnected from the AC power outlet before installation or maintenance.
- Do not open the power supply casing. High voltages are present inside, which can cause electric shock.
- Install the power supply in a well-ventilated area, away from heat sources and moisture.
- Use only the modular cables provided with this power supply. Using incompatible cables may damage the PSU or connected components.
- Ensure all cables are securely connected before powering on the system.

3. Package Contents

Verify that all items are present in the package:

- SAMA P1000 1000W Platinum Power Supply
- Modular Cable Set (including 12V-2x6 cable)
- AC Power Cord
- Mounting Screws
- User Manual

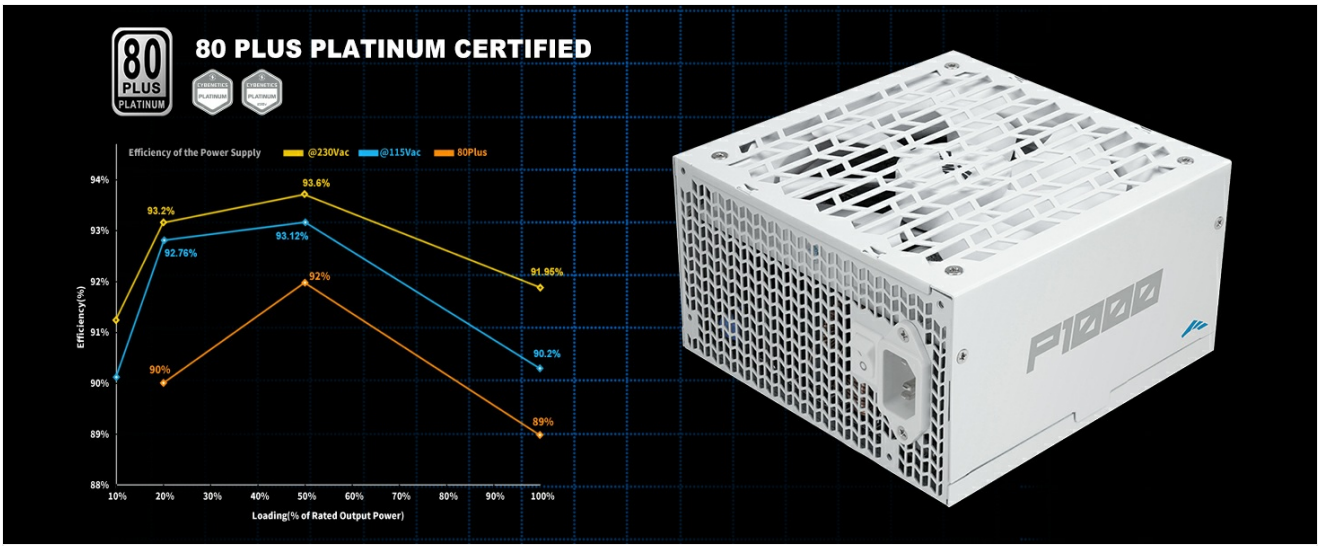

Figure 3.1: Overview of the SAMA P1000 unit and included modular cables, showing quantities for ATX, CPU, PCIe 5.1, PCIe, SATA, and Molex connectors.

4. Installation

4.1 Mounting the Power Supply

1. Ensure your PC case has adequate space for an ATX form factor power supply.
2. Position the SAMA P1000 into the designated PSU bay in your PC case.
3. Secure the power supply to the case using the provided mounting screws.

4.2 Connecting Modular Cables

The SAMA P1000 is fully modular, allowing you to connect only the necessary cables for a cleaner build and improved airflow. Refer to your motherboard and component manuals for specific power requirements.

- **24-pin ATX Cable:** Connect to the motherboard's main power connector.
- **8-pin (4+4) CPU Cable:** Connect to the CPU power connector(s) on the motherboard.
- **12V-2x6 (600W) Cable:** For PCIe 5.1 compatible graphics cards. Connect directly to the GPU.

- **6+2-pin PCIe Cables:** For other graphics cards or additional PCIe devices.
- **SATA Power Cables:** For SATA hard drives, SSDs, and optical drives.
- **Molex Cables:** For older peripherals or case fans.

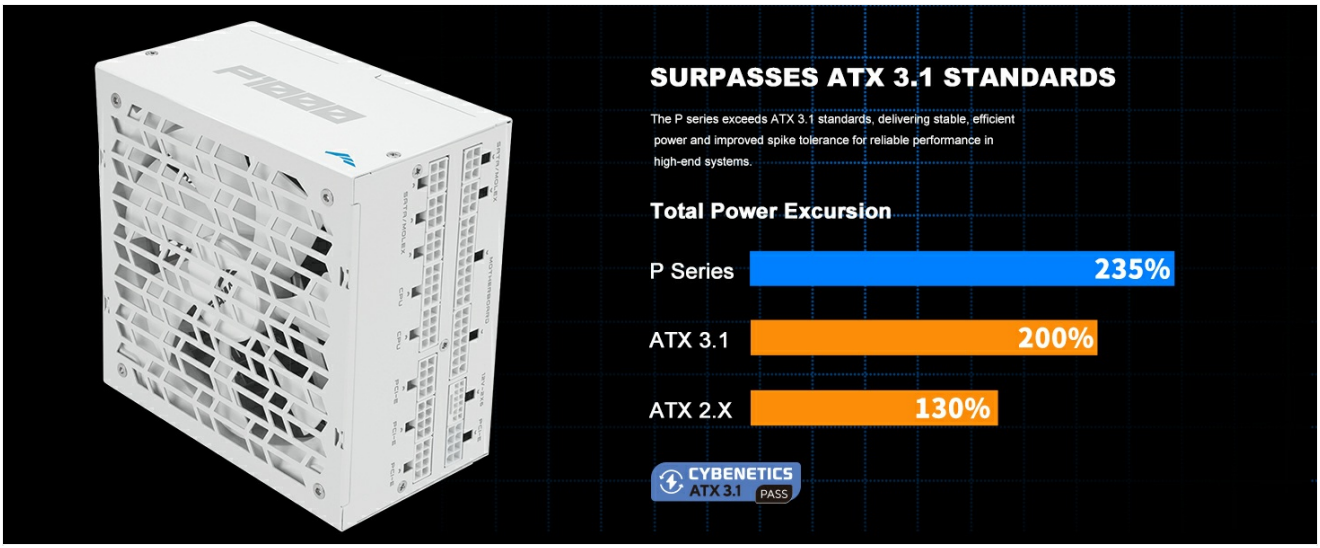

Figure 4.1: Detail of the native 12V-2x6 connector on the SAMA P1000, designed for high-power PCIe 5.1 graphics cards.

Figure 4.2: Rear panel of the SAMA P1000 showing the clearly labeled modular cable ports for various components.

4.3 Powering On

After all connections are secure, connect the AC power cord to the power supply and a wall outlet. Flip the power switch on the PSU to the 'ON' position. You can then power on your computer system.

5. Operation

5.1 Zero RPM Fan Mode

The SAMA P1000 features a Zero RPM fan mode. The 140mm FDB fan remains off when the power supply load is below 60% or the internal temperature is below 55°C, ensuring silent operation during light tasks. The fan will automatically activate and adjust its speed based on load and temperature to maintain optimal cooling.

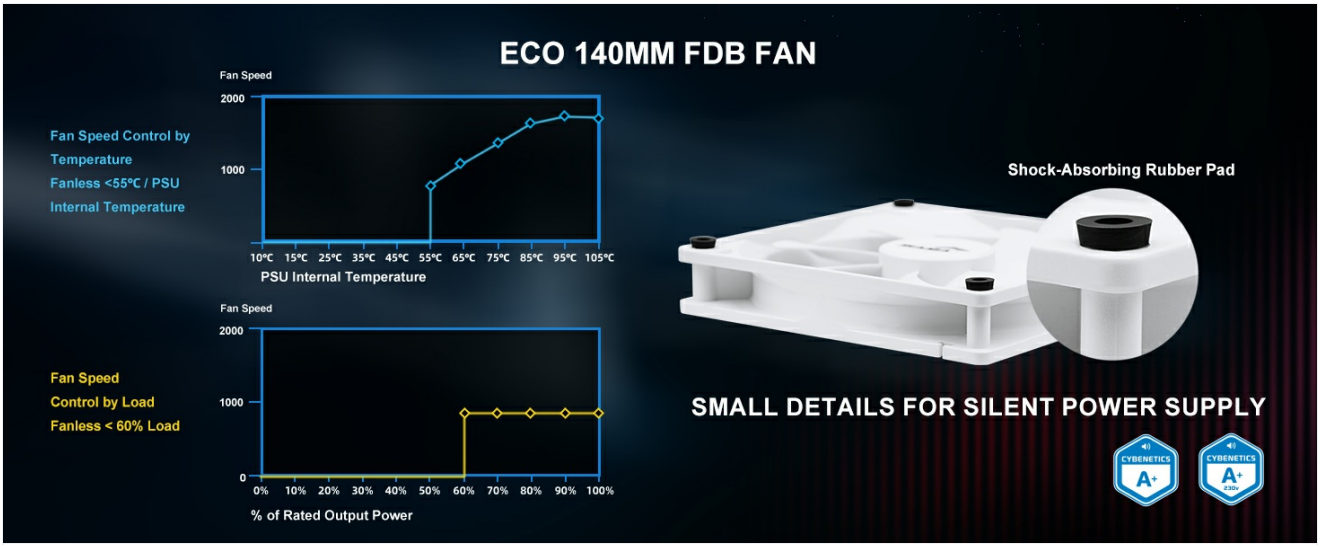

Figure 5.1: Graphs illustrating the fan speed control by load and temperature, demonstrating the Zero RPM mode below 60% load or 55°C internal temperature.

5.2 Efficiency and ATX 3.1 Compliance

The P1000 is 80 PLUS Platinum and Cybenetics Platinum certified, indicating high power efficiency. It also complies with ATX 3.1 standards, supporting up to 200% power excursions for 100 microseconds, providing stable power delivery for modern high-performance components.

Figure 5.2: Efficiency curves for the SAMA P1000 at different voltages and a comparison of power excursion capabilities with ATX 3.1 standards.

6. Internal Components and Reliability

The SAMA P1000 is built with high-quality components to ensure stable and reliable performance.

- **Japanese Capacitors:** Utilizes 100% high-quality Japanese capacitors, including 105°C high-temperature electrolytic capacitors, for stable power delivery.
- **LLC Resonant Converter:** For higher efficiency and continuous output.
- **DC to DC Converter:** Provides voltage step-down for rock-solid power stability.
- **12V Synchronous Rectification:** For lower delay and improved performance.

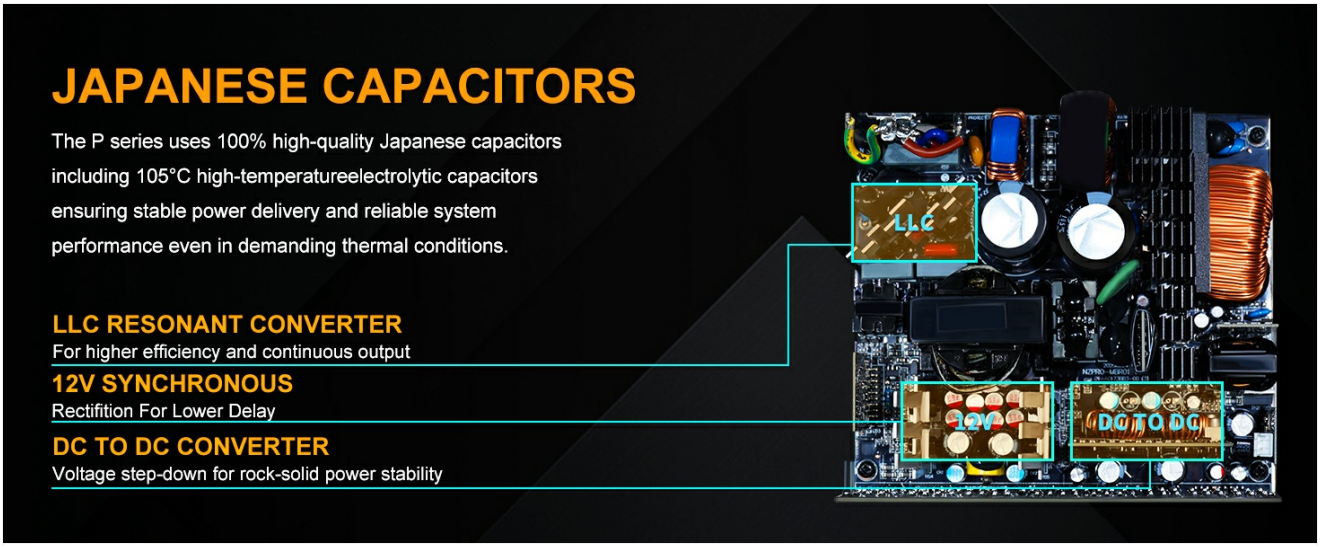

Figure 6.1: Internal view of the SAMA P1000, highlighting the Japanese capacitors and converter technologies.

6.1 Protection Features

The P1000 incorporates multiple protection circuits to safeguard your system:

- **OCP** (Over Current Protection)
- **OTP** (Over Temperature Protection)
- **OPP** (Over Power Protection)
- **SCP** (Short Circuit Protection)
- **OVP** (Over Voltage Protection)
- **UVP** (Under Voltage Protection)
- **SIP** (Surge and Inrush Protection)
- **NLO** (No Load Protection)

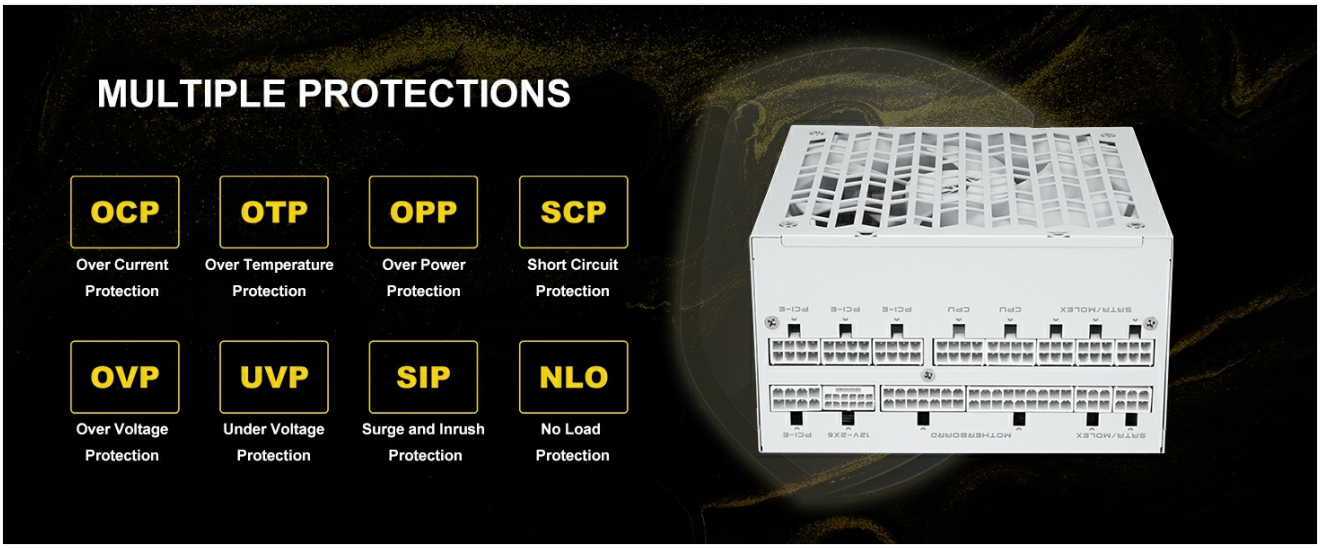

Figure 6.2: Diagram illustrating the various protection features integrated into the SAMA P1000 power supply.

7. Specifications

Feature	Specification
Brand	SAMA

Feature	Specification
Model Number	P1000-WHPFF001-US
Output Wattage	1000 Watts
Form Factor	ATX
ATX Standard	ATX 3.1
Efficiency Certification	80 PLUS Platinum, Cybenetics Platinum
Cooling Method	Air (140mm FDB Fan)
Fan Control	Zero RPM mode below 60% load / 55°C
Dimensions (L x W x H)	150 x 150 x 86 mm (5.91 x 5.91 x 3.39 inches)
Minimum Input Voltage	90 Volts (AC)
Maximum Input Voltage	240 Volts (AC)
MTBF (Mean Time Between Failures)	100,000 Hours
Capacitors	100% Japanese Capacitors
Recommended Graphics Card	NVIDIA 5090 and below

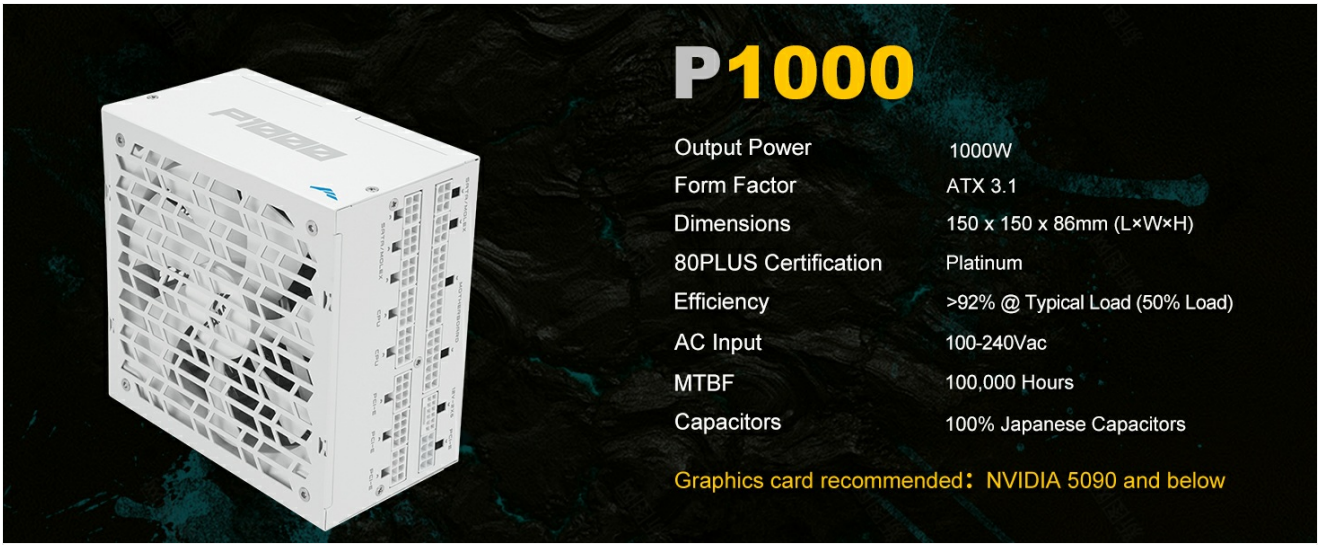

Figure 7.1: Summary of key specifications for the SAMA P1000 power supply.

8. Troubleshooting

If you encounter issues with your SAMA P1000 power supply, refer to the following common troubleshooting steps:

- **No Power:**
  - Ensure the AC power cord is securely connected to both the PSU and the wall outlet.
  - Check that the power switch on the PSU is in the 'ON' position.
  - Verify all modular cables are firmly seated in both the PSU and the respective components (motherboard, GPU, etc.).

- Test the wall outlet with another device to confirm it has power.

- **System Instability/Crashes:**
  - Ensure your system's total power draw does not exceed the PSU's 1000W capacity.
  - Check for loose cable connections.
  - Monitor system temperatures to ensure components are not overheating.

- **Fan Not Spinning:**
  - The SAMA P1000 features a Zero RPM fan mode. The fan will not spin under low loads (below 60%) or low internal temperatures (below 55°C). This is normal operation.
  - If the system is under heavy load and the fan is still not spinning, ensure there are no obstructions to the fan.

9. Maintenance

Proper maintenance helps ensure the longevity and optimal performance of your power supply:

- **Keep Clean:** Regularly clean dust from the power supply's fan grille and vents using compressed air. Ensure the PSU is powered off and unplugged before cleaning.
- **Ensure Airflow:** Maintain good airflow within your PC case to prevent heat buildup around the power supply.
- **Avoid Obstructions:** Do not block the intake or exhaust vents of the power supply.

10. Warranty and Support

The SAMA P1000 power supply is backed by a **10-year warranty**, ensuring long-term reliability and peace of mind. For technical support, warranty claims, or further assistance, please contact SAMA Official Store customer service through your purchase platform or visit the official SAMA website.

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Video 10.1: SAMA P Series Power Supply Product Video. This video provides a visual overview of the P Series power supplies, highlighting key features and design elements.