

SAMA GT850

SAMA GT850-White 850W Power Supply Instruction Manual

Fully Modular 80 Plus Gold Certified ATX 3.1 & PCIe 5.1 Compliant

1. INTRODUCTION

Thank you for choosing the SAMA GT850-White 850W Power Supply. This unit is designed to provide stable and efficient power to your computer system, featuring a fully modular design, 80 PLUS Gold certification, and compatibility with the latest ATX 3.1 and PCIe 5.1 standards. Please read this manual carefully before installation and use to ensure optimal performance and safety.

2. SAFETY INFORMATION

- Always disconnect the AC power cord from the wall outlet before installing or removing the power supply.
- Do not open the power supply unit. High voltages are present inside, which can cause serious injury or death.
- Ensure your computer case and components are properly grounded.
- Use only genuine SAMA modular cables. Third-party cables might not be compatible and could cause serious damage to your system.
- Avoid operating the power supply in high humidity or high-temperature environments.
- Do not insert any objects into the fan grille or ventilation openings.

3. PACKAGE CONTENTS

Verify that all items are present in your package:

- SAMA GT850-White 850W Power Supply Unit
- Modular Cable Set (Flat White Cables)
- AC Power Cord
- Mounting Screws (4x)
- User Manual (this document)

80 PLUS GOLD POWER

ATX 3.1

Steady power output at up to 90%

Lower power consumption

Less noise



Figure 1: SAMA GT850-White 850W Power Supply with its fully modular white flat cables.

4. PRODUCT FEATURES

- **Fully Modular Design & Streamlined Cable Management:** Connect only the necessary cables, reducing clutter and improving airflow within your PC case. Flat cables further enhance cable management.
- **ATX 3.1 & PCIe 5.1 Compatibility:** Designed to meet the latest ATX 3.1 standards, featuring native PCIe 5.1 ports and cables for seamless compatibility with high-end GPUs like the RTX 3090 Ti and RTX 40 series.
- **80 PLUS Gold Certification:** Achieves up to 91.15% efficiency at 50% load, minimizing energy waste, heat generation, and enhancing system stability.
- **ECO Fan with FDB Bearing & Quiet Operation:** Equipped with a 120mm ECO fan featuring Fluid Dynamic Bearing (FDB) technology, providing efficient cooling with noise levels as low as ≤ 20 dB-A under heavy loads.
- **Premium Japanese Capacitors:** Built with high-quality Japanese capacitors for stable power delivery and long-term reliability.
- **Compact Body Size:** The 140mm compact design allows for greater flexibility in case compatibility.
- **Comprehensive Protection:** Features multiple power protection circuit designs, including OCP, OVP, UVP, OPP, and SCP.



GT850

ATX3.1 Gold Series Power Supply

Figure 2: Key features of the SAMA GT850-White Power Supply, including 80 Plus Gold efficiency and ATX 3.1 / PCIe 5.1 readiness.

140mm compact body size

Meet the needs of more installations with limited PC power supply chamber sizes.



Figure 3: The compact 140mm body size of the SAMA GT850-White Power Supply, with dimensions indicated.

5. SETUP AND INSTALLATION

1. **Prepare Your PC Case:** Ensure your PC case has adequate space for the power supply and proper ventilation.
2. **Mount the Power Supply:** Secure the SAMA GT850-White into the designated PSU bay of your PC case using the provided mounting screws.
3. **Connect Modular Cables:** Identify the necessary cables for your motherboard, CPU, GPU, and peripherals. Connect these cables to the corresponding modular ports on the power supply. Refer to the labels on the PSU for correct connections.
4. **Connect to Components:**
 - **Motherboard:** Connect the 24-pin ATX cable to your motherboard.
 - **CPU:** Connect the 4+4-pin or 8-pin CPU power cable(s) to your motherboard.
 - **GPU:** Connect the appropriate PCIe cables (e.g., 12V-2x6 for RTX 40 series, or 6+2-pin for other GPUs) to your graphics card(s).
 - **Peripherals:** Connect SATA power cables to SSDs, HDDs, and other SATA-powered devices. Connect Molex cables if needed.
5. **Cable Management:** Route the cables neatly behind the motherboard tray or in designated cable management channels to improve airflow and aesthetics. Use cable ties if necessary.
6. **Connect AC Power:** Once all internal connections are secure, connect the AC power cord to the power supply and then to a wall outlet.



Figure 4: Overview of the modular cable connection ports on the SAMA GT850-White Power Supply.

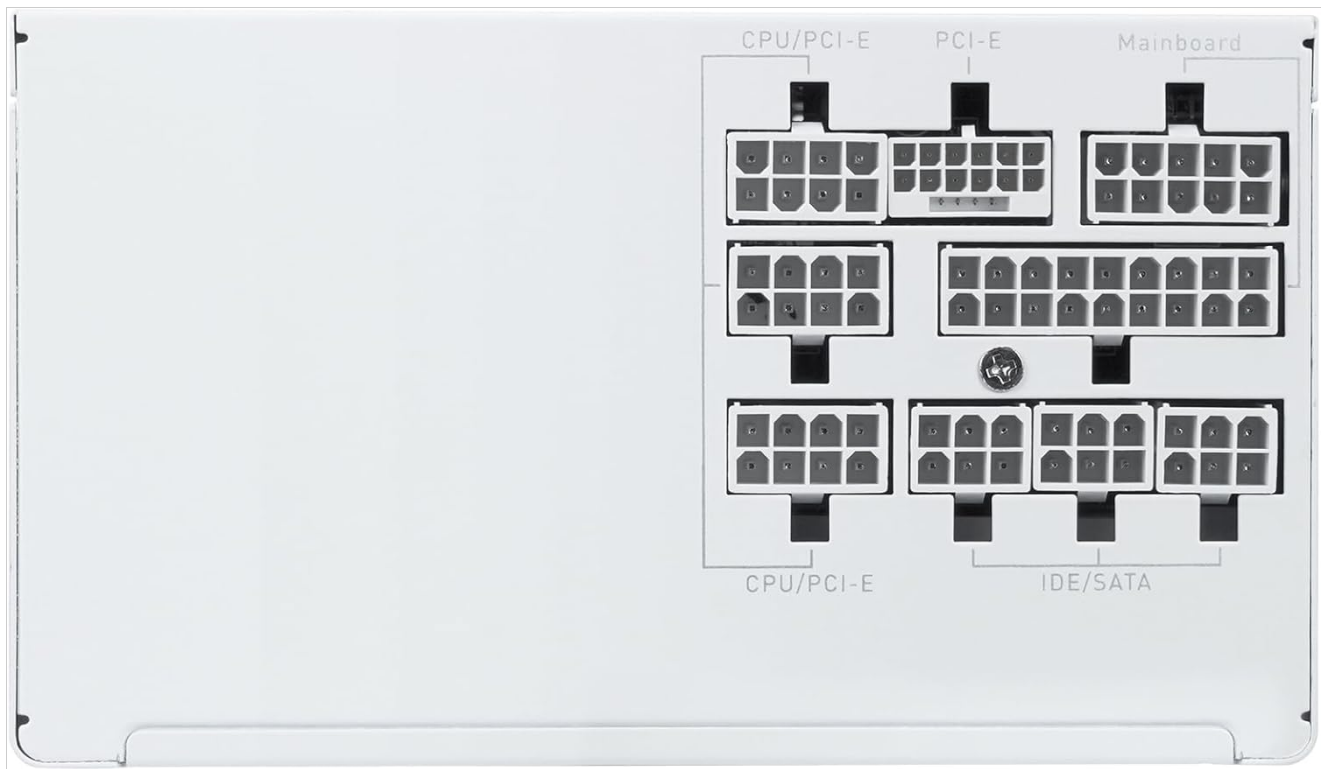


Figure 5: Close-up of the clearly labeled modular ports for organized cable management.

6. OPERATING INSTRUCTIONS

- **Powering On:** After connecting all cables, flip the power switch on the back of the PSU to the 'ON' (I) position. Then, power on your computer using the case's power button.
- **Powering Off:** To shut down your system, use the operating system's shutdown function. For a complete power cycle, flip the power switch on the back of the PSU to the 'OFF' (O) position and disconnect the AC power cord.
- **ECO Fan Mode:** The 120mm ECO fan operates intelligently. At low loads, the fan may remain off for silent operation. It will automatically activate as the load increases to maintain optimal temperatures.

7. MAINTENANCE

- **Cleaning:** Periodically clean the exterior of the power supply and its fan grille to prevent dust buildup, which can hinder cooling performance. Use compressed air or a soft, dry cloth. Ensure the power supply is off and disconnected from the AC outlet before cleaning.
- **Cable Management:** Regularly check cable connections to ensure they are secure. Re-organize cables if they become dislodged or interfere with airflow.

8. TROUBLESHOOTING

- **No Power:**
 - Check if the AC power cord is securely connected to both the wall outlet and the power supply.
 - Ensure the power switch on the back of the PSU is in the 'ON' (I) position.
 - Verify all modular cables are correctly and firmly seated in both the power supply and the respective components.
 - Test the wall outlet with another device to confirm it has power.

- **System Instability/Random Shutdowns:**

- Ensure your system's power requirements do not exceed the 850W capacity of the PSU.
- Check for proper ventilation within your PC case to prevent overheating.
- Confirm all power connections are secure.

- **Excessive Fan Noise:**

- The fan speed adjusts based on load. High load will result in higher fan speed and noise.
- Ensure the fan grille is free from dust and obstructions.
- If the fan is constantly loud even under low load, contact customer support.

9. SPECIFICATIONS

Feature	Specification
Model	GT850-White
Output Wattage	850 Watts
Efficiency Certification	80 PLUS Gold
ATX Standard	ATX 3.1 Compatible
PCIe Standard	PCIe 5.1 Compliant
Form Factor	ATX
Cooling Method	Air (120mm FDB ECO Fan)
Product Dimensions (L x W x H)	5.51 x 5.91 x 3.39 inches (140 x 150 x 86 mm)
Item Weight	4.66 pounds
Minimum Input Voltage	85 Volts (AC)
Capacitors	Japanese Capacitors

10. WARRANTY AND SUPPORT

The SAMA GT850-White Power Supply comes with a 5-year warranty, ensuring long-term reliability and peace of mind. For technical support, warranty claims, or any questions regarding your product, please contact SAMA customer service through their official website or the retailer where the product was purchased. Please retain your proof of purchase for warranty validation.