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> SAMA ARMOR 650W 80 Plus Gold ATX Power Supply Instruction Manual

SAMA ARMOR 650W

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Model: ARMOR 650W (Black)

1. INTRODUCTION

Thank you for choosing the SAMA ARMOR 650W 80 Plus Gold ATX Power Supply. This power supply unit (PSU) is designed to provide stable and efficient power to your desktop computer system. It features 80 PLUS Gold certified efficiency, a quiet FDB fan, and robust protection mechanisms to ensure reliable operation. This manual provides essential information for proper installation, operation, and maintenance of your new power supply.

2. SAFETY INFORMATION

Please read and follow all safety instructions carefully before installing or using this product. Failure to do so may result in damage to the product, personal injury, or electric shock.

- Do not open the power supply unit. High voltages are present inside, and opening the casing will void the warranty.
- Ensure the power supply is disconnected from the main power outlet before installation or maintenance.
- Install the power supply in a well-ventilated area, away from heat sources and moisture.
- This power supply incorporates industrial-level protection features including Over Voltage Protection (OVP), Over Current Protection (OCP), Over Power Protection (OPP), Over Temperature Protection (OTP), Short Circuit Protection (SCP), and Under Voltage Protection (UVP).
- Use only the cables provided with the power supply.

3. PRODUCT FEATURES

3.1. 80 PLUS Gold Certified Efficiency

The SAMA ARMOR 650W PSU is 80 PLUS Gold certified, ensuring up to 92% operational efficiency. This reduces energy waste, generates less heat, and lowers your electricity costs.



ARMOR

80PLUS Gold Certification
Power Supply

Image: The SAMA ARMOR 650W Power Supply highlighting its 80 PLUS Gold certification and ultra-silent 120mm FDB fan with intelligent temperature control.

3.2. FDB Low Noise 12cm Fan

Equipped with a 12cm Fluid Dynamic Bearing (FDB) fan, this power supply operates quietly, maintaining a low-noise environment. The PWM control ensures optimal cooling while minimizing fan noise and extending fan lifespan.

12CM **FDB** Silent fan

Large area copper sheet assists heat radiating, reduce fan pressure and Low the noise long life-time use

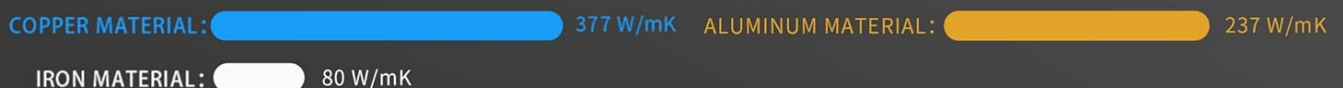
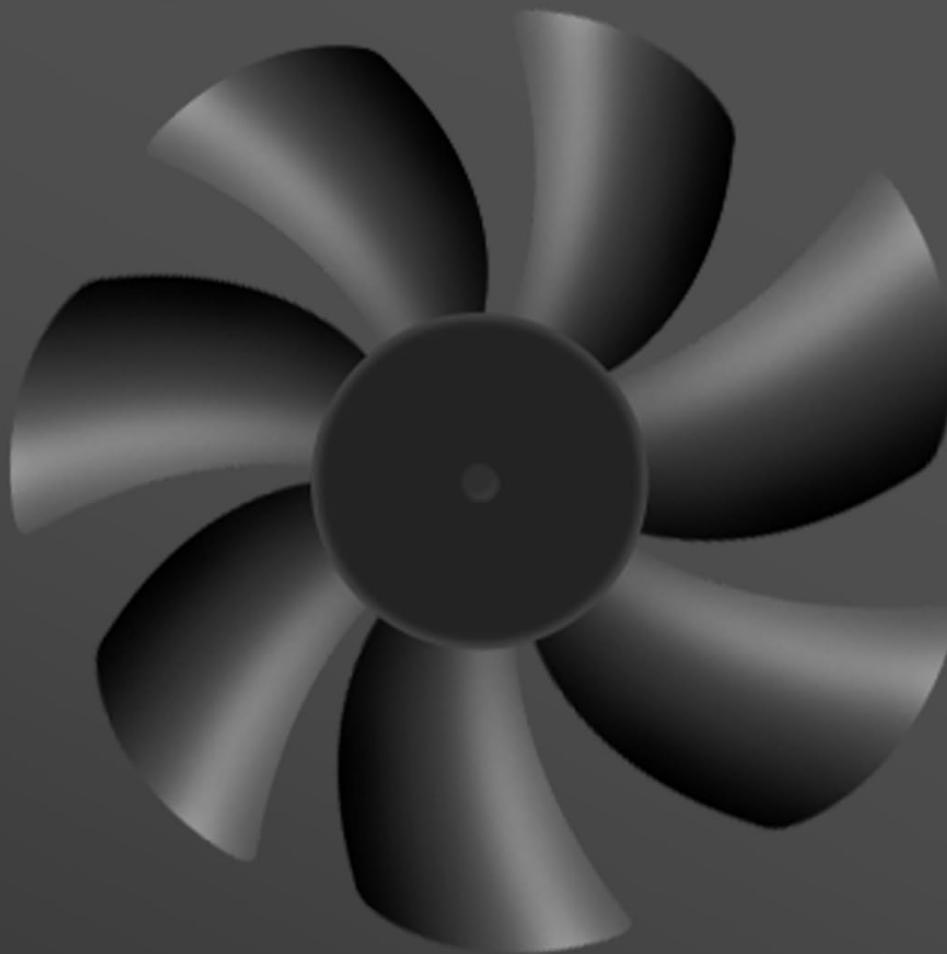


Image: A diagram illustrating the 12cm FDB silent fan, emphasizing its large copper sheet for heat dissipation, reduced fan pressure, and low noise operation. It also shows a comparison of thermal conductivity for copper, aluminum, and iron materials.

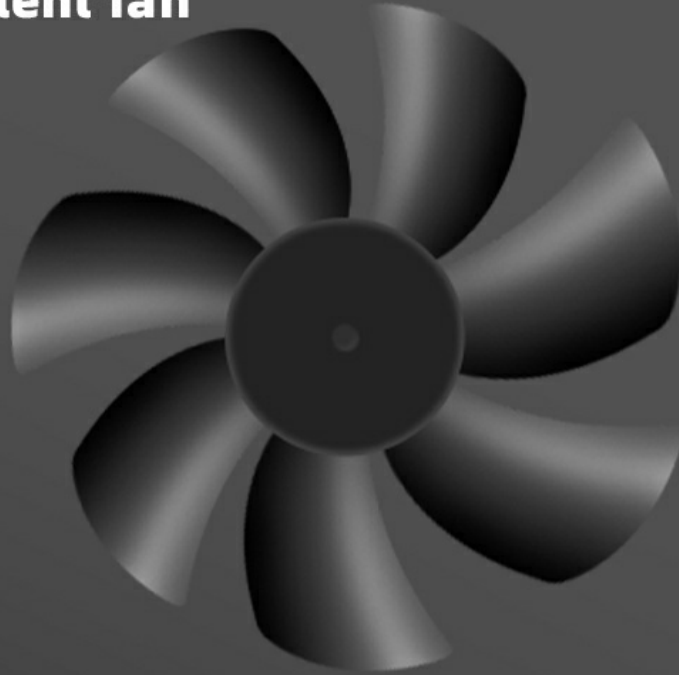
3.3. ATX 3.0 & PCIe 5.1 Ready

This power supply is designed to meet ATX 3.0 standards, capable of handling up to 200% total power excursion and 300% GPU power excursion, making it suitable for modern graphics cards and high-performance systems.

3.4. Japanese Capacitors & LLC+DC To DC Circuit Design

Built with 100% Japanese capacitors and an LLC+DC To DC Circuit Design structure, the power supply provides very stable voltage output, enhancing reliability and longevity.

12CM FDB Silent fan



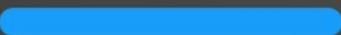


COPPER MATERIAL:  377 W/mK ALUMINUM MATERIAL:  237 W/mK
IRON MATERIAL:  80 W/mK

Image: An internal view of the power supply's circuit board, illustrating the LLC+DC To DC circuit design and the use of Japanese capacitors for stable voltage output.

3.5. Wide Amplitude Voltage (100-240V)

The power supply supports a wide input voltage range of 100-240V, allowing it to operate reliably in various electrical environments.

100~240V Wide Amplitude Voltage

Wideband Voltage Can Fully Cope With
Unstable Voltage Environments In Some
Areas



Image: A rear view of the SAMA ARMOR 650W Power Supply, displaying the power input and on/off switch. The image highlights its compatibility with a wide amplitude voltage range of 100-240V.

3.6. +12V MTLR Voltage Output

The power supply features accurate +12V voltage output control within 0.5% tolerance load adjustment, ensuring stable power delivery to critical components.

+12V MTLR Voltage output

Tiny tolerance load adjustment
Accurate voltage output control
within **0.5%**

0.5%



Image: The SAMA ARMOR 650W Power Supply with a graphic overlay demonstrating its +12V MTLR voltage output accuracy, maintaining control within 0.5% tolerance load adjustment.

4. INSTALLATION

Before beginning installation, ensure your computer is powered off and unplugged from the wall outlet. Refer to your computer case manual for specific installation instructions.

4.1. Installing the Power Supply

1. Locate the power supply mounting area in your computer case.
2. Gently slide the SAMA ARMOR 650W PSU into the designated slot.
3. Secure the power supply to the case using the provided screws.

4.2. Connecting Cables

Connect the necessary cables to your motherboard, graphics card, and other components. Ensure all connections are firm and

correctly oriented.

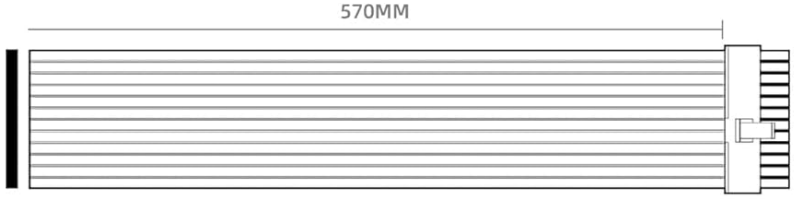

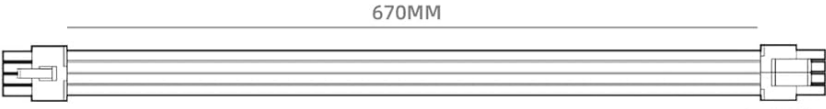
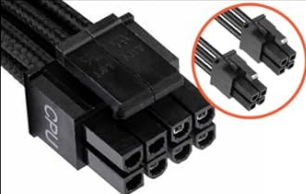


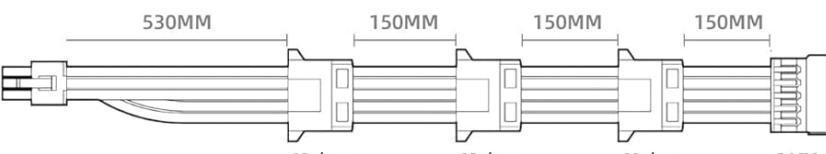

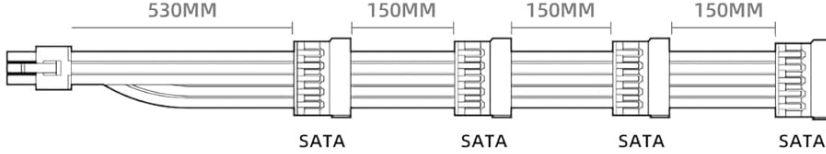

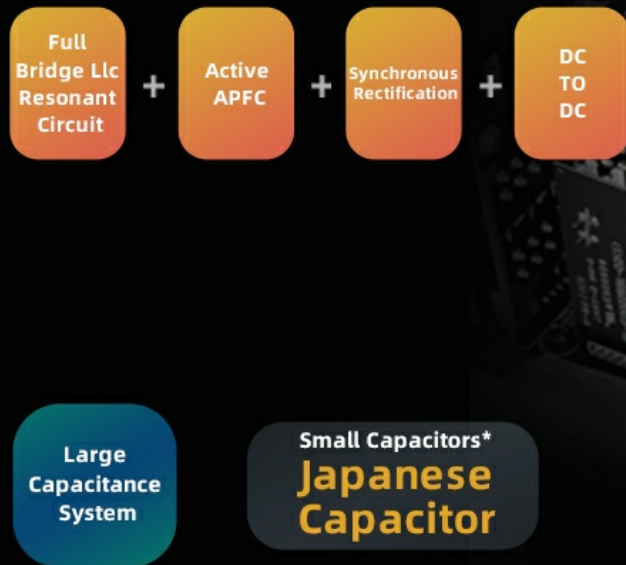
DESCRIPTION	CABLE QTY	CONNECTOR QTY
 <p>570MM</p> <p>20+4PIN</p>	1	 <p>Mainboard Power Connector 24PIN</p>
 <p>670MM</p> <p>4+4PIN</p>	2	 <p>CPU Power Connector 8PIN (4+4)PIN</p>
 <p>530MM</p> <p>6+2Pin</p>	4	 <p>PCI-E Connector 6+2 PIN</p>
 <p>530MM 150MM 150MM 150MM</p> <p>Molex Molex Molex SATA</p>	1	 <p>Molex Peripheral Connector 4PIN</p>
 <p>530MM 150MM 150MM 150MM</p> <p>SATA SATA SATA SATA</p>	2	 <p>SATA Connector</p>

Image: A detailed diagram illustrating the types and quantities of cables included with the SAMA ARMOR 650W Power Supply, such as the 20+4PIN Mainboard Power Connector, 8PIN (4+4)PIN CPU Power Connector, 6+2PIN PCI-E Connector, Molex Peripheral Connector, and SATA Connectors, along with their respective lengths.

Adopting LLC+DC To DC Circuit Design

Japanese Capacitors



*please Refer To The Actual Product For Details

Image: A diagram showcasing the embossed cables of the power supply, detailing their lengths and quantities for various connectors like 20+4PIN, SATA, IDE, and PCI-E, designed for easier organization.

- **24-Pin Mainboard Power Connector:** Connect to the motherboard's 24-pin ATX power socket.
- **CPU Power Connector (4+4 Pin):** Connect to the motherboard's CPU power socket.
- **PCI-E Power Connector (6+2 Pin):** Connect to your graphics card(s).
- **SATA Power Connectors:** Connect to SATA devices such as SSDs, HDDs, and optical drives.
- **Molex Peripheral Connectors:** Connect to older peripheral devices if needed.

After all connections are made, organize the cables using the included cable ties to improve airflow and aesthetics within your case.

5. OPERATION

Once installed and connected, plug the power supply into a wall outlet and flip the main power switch on the back of the PSU to the 'ON' position. The power supply will then be ready to power your system.

5.1. ECO Mode (if applicable)

This power supply features an ECO mode for silent operation at low loads. In ECO mode, the fan may stop spinning when the power supply is under light load, reducing noise. The fan will automatically start spinning when the load increases to maintain optimal temperatures.

6. MAINTENANCE

To ensure the longevity and optimal performance of your SAMA ARMOR 650W Power Supply, follow these maintenance guidelines:

- Keep the power supply's fan intake and exhaust vents clear of obstructions to ensure proper airflow.
- Periodically clean the power supply and its fan grille with compressed air to remove dust buildup. Ensure the power supply

is unplugged before cleaning.

- Avoid exposing the power supply to extreme temperatures or humidity.

7. TROUBLESHOOTING

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

- **No Power:** Ensure the power cable is securely plugged into both the power supply and the wall outlet. Check that the main power switch on the PSU is in the 'ON' position. Verify that the wall outlet is functional.
- **System Instability/Crashes:** Check all power cable connections to the motherboard, CPU, and graphics card to ensure they are firmly seated. Ensure your system's power requirements do not exceed the 650W capacity of the PSU.
- **Fan Not Spinning:** If the fan is not spinning at low loads, it may be operating in ECO mode, which is normal. If the fan does not spin even under load, or if the system overheats, contact support.
- **Unusual Noises:** If you hear unusual noises (e.g., grinding, buzzing), immediately power off your system and disconnect the power supply. Contact support.

If these steps do not resolve the issue, please contact SAMA customer support for further assistance.

8. SPECIFICATIONS

Detailed technical specifications for the SAMA ARMOR 650W Power Supply:

Feature	Specification
Model Name	ARMOR 650W (Black)
Brand	SAMA
Compatible Devices	Desktop
Connector Type	ATX
Output Wattage	650 Watts
Form Factor	ATX
Cooling Method	Air
Item Dimensions (L x W x H)	13 x 7.99 x 5 inches
Power Supply Design	Non-Modular
Number of Fans	1
Fan Size	12 Centimeters
Maximum Input Voltage	100 Volts
Minimum Input Voltage	100 Volts
Upper Temperature Rating	105 Degrees Celsius
System Bus Connector Type	24 Pin

Feature	Specification
UPC	732262573687

9. WARRANTY AND SUPPORT

The SAMA ARMOR 650W Power Supply comes with a **10-year warranty**, covering defects in materials and workmanship under normal use. For warranty claims or technical support, please contact SAMA customer service through their official website or your retailer.