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Antec GSK850 US

ANTEC GSK850 ATX3.1 850W Full Modular PSU Instruction Manual

Model: GSK850 US | Brand: Antec

1. Introduction

Thank you for choosing the Antec GSK850 ATX3.1 850W Full Modular Power Supply Unit (PSU). This manual provides essential information for the proper installation, operation, and maintenance of your new power supply. The GSK850 is designed to deliver stable and efficient power to your computer system, featuring ATX3.1 and PCIe 5.1 compatibility, 80 PLUS Gold certification, and a full modular design for optimized cable management.

Figure 1.1: Antec GSK850 850W Full Modular Power Supply Unit

2. Safety Information

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

- **Electrical Hazard:** Do not open the PSU casing. High voltages are present inside, even when the unit is unplugged. There are no user-serviceable parts inside.
- **Ventilation:** Ensure adequate ventilation around the PSU. Do not block the fan or ventilation openings.
- **Moisture:** Do not expose the PSU to water or excessive humidity.
- **Temperature:** Operate the PSU within the specified temperature range. Avoid extreme heat or cold.
- **Grounding:** Always connect the PSU to a grounded power outlet.
- **Power Off:** Always disconnect the AC power cord from the wall outlet before installing, removing, or servicing the PSU or any connected components.

3. Package Contents

Verify that all items are present in the package:

- Antec GSK850 ATX3.1 850W Full Modular Power Supply Unit
- Modular Cable Set (see Section 4.2 for details)
- AC Power Cord
- Mounting Screws
- User Manual (this document)

4. Product Overview

4.1 Key Features

- **ATX3.1 & PCIe 5.1 Compatible:** Designed to meet the latest standards for reliability and power efficiency, ensuring compatibility with modern hardware, including NVIDIA GeForce RTX 40 Series graphics cards.
- **80 PLUS Gold Certified:** Achieves high power efficiency, reducing energy consumption and heat generation.
- **Full Modular Cable Management:** Allows users to connect only the necessary cables, improving airflow and reducing clutter inside the PC case.
- **High-Quality Japanese Capacitors:** Ensures tight voltage regulation, minimal ripple and noise, and extended lifespan.
- **PhaseWave Design (LLC + DC-DC):** Provides stable and efficient power delivery.
- **Zero RPM Manager:** The fan remains off at low loads for silent operation, activating only when necessary.
- **120mm FDB Silent Fan:** Features a fluid-dynamic bearing fan for quiet operation and durability.
- **CircuitShield Protection Suite:** Comprehensive industrial-grade protections including OCP, OVP, UVP, SCP, OPP, OTP, SIP, and NLO for system safety.

4.2 Modular Cable Management and Compatibility

The full modular design of the GSK850 allows for flexible cable management, enabling you to use only the cables required for your system. This reduces cable clutter, improves internal airflow, and simplifies installation.

Figure 4.1: Modular Cable Connectors and ATX 3.1 / PCIe 5.1 Compatibility

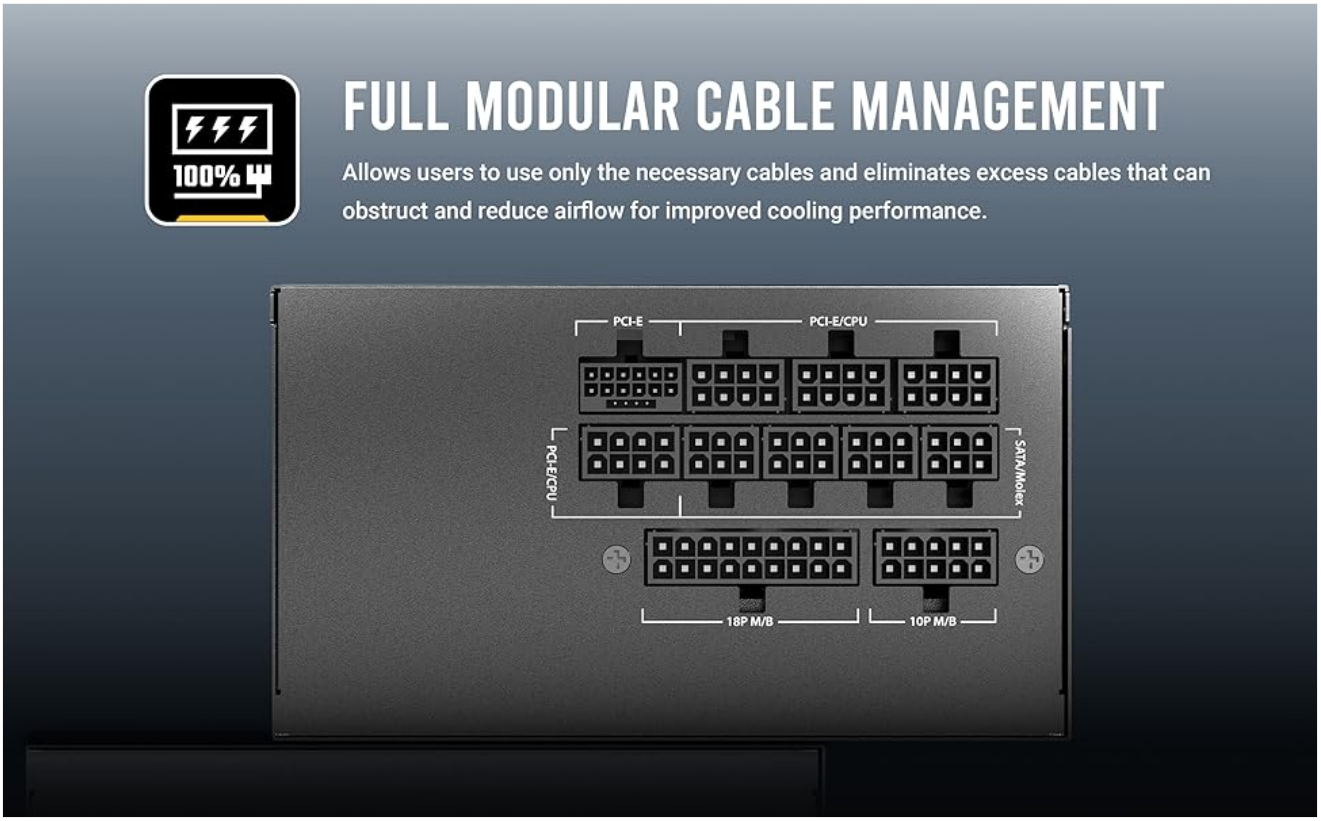

Figure 4.2: Detailed Cable and Connector Information

4.3 Internal Components and Design

The GSK850 incorporates high-quality components for reliable performance and longevity.

Figure 4.3: High-Quality Japanese Capacitors for enhanced stability and lifespan.

Figure 4.4: PhaseWave Design (LLC + DC-DC) for superior power delivery efficiency.

4.4 Cooling System

The PSU features an advanced cooling system to maintain optimal temperatures and quiet operation.

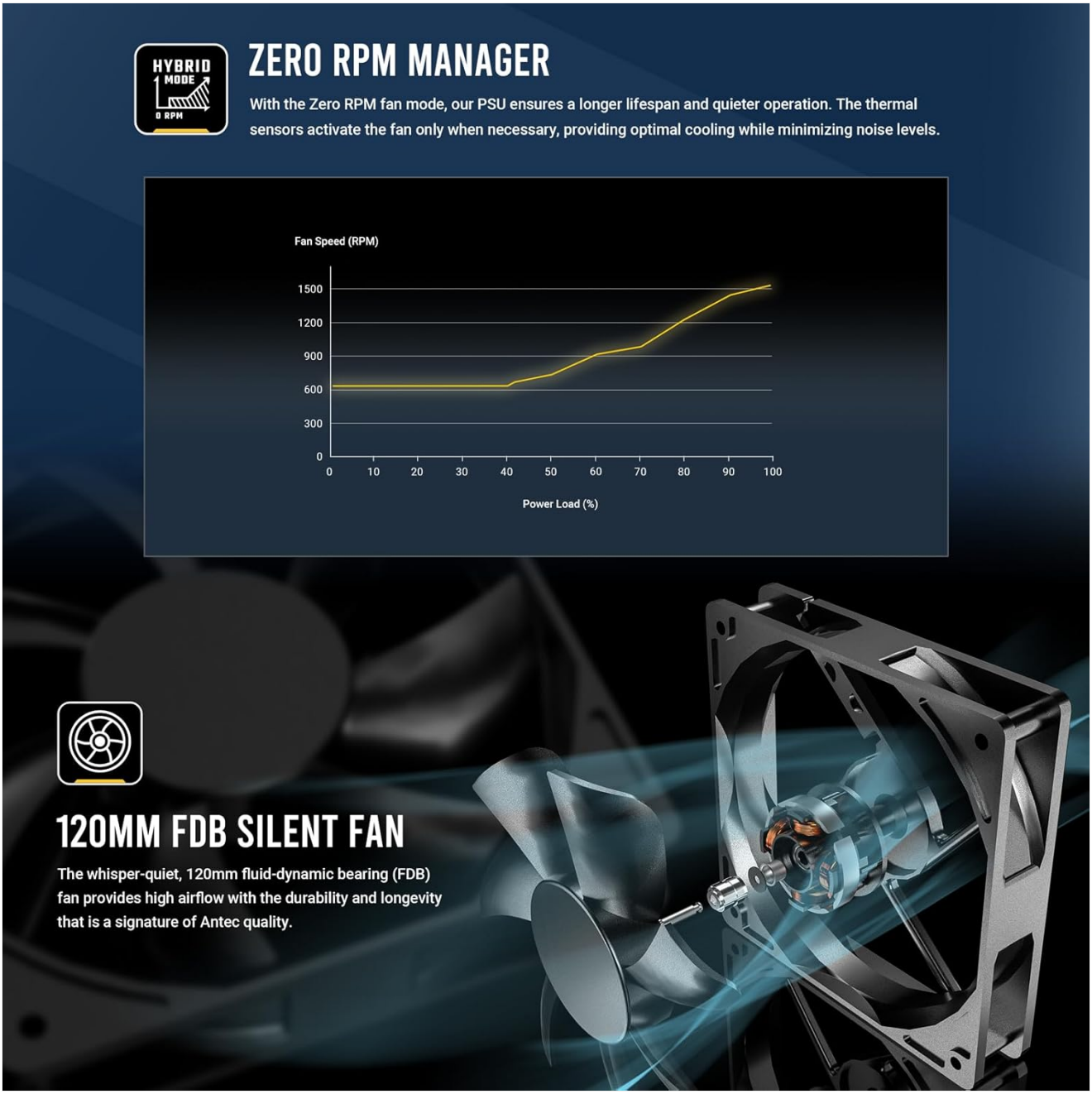

Figure 4.5: Zero RPM Manager fan curve, illustrating silent operation at low loads.

Figure 4.6: The 120mm Fluid-Dynamic Bearing (FDB) fan provides high airflow with low noise.

4.5 Compact Size

The GSK850 is designed with a compact form factor, making it suitable for a wide range of PC cases.

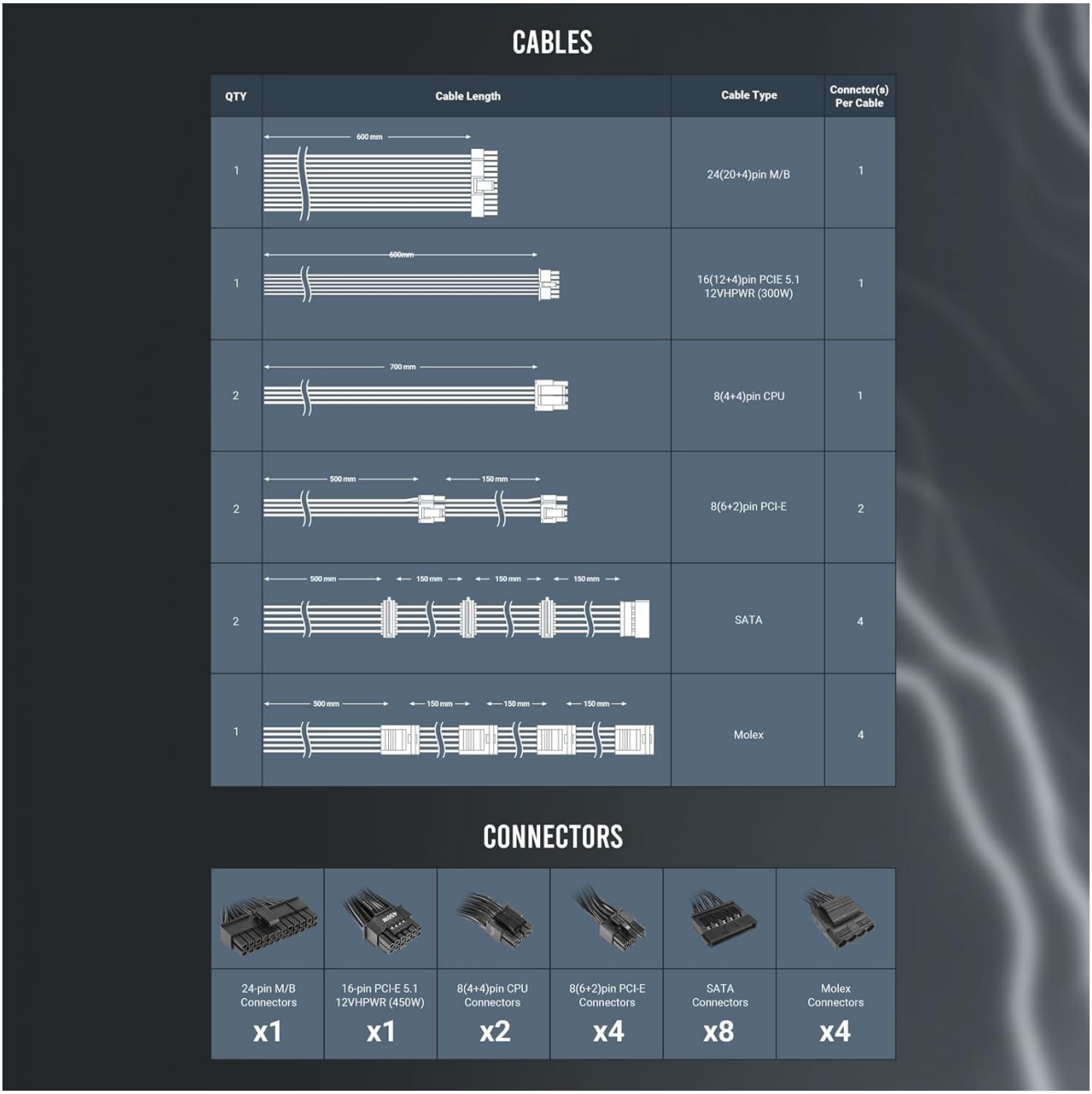

Figure 4.7: Compact dimensions of the GSK850 PSU, showing reduced volume compared to larger units.

5. Setup and Installation

Follow these steps to install your Antec GSK850 PSU into your computer system:

1. **Prepare Your System:** Ensure your computer is completely powered off and unplugged from the wall outlet. Open your computer case.
2. **Remove Old PSU (if applicable):** If replacing an existing PSU, disconnect all cables from the old PSU and remove its mounting screws. Carefully slide it out of the case.
3. **Mount the New PSU:** Slide the Antec GSK850 into the PSU mounting bay of your computer case. Align the screw holes and secure the PSU with the provided mounting screws.
4. **Connect Essential Cables:** Refer to Figure 4.2 for cable types and lengths. Connect the necessary modular cables to the PSU first, then to your motherboard and components:
    - **24-pin ATX Motherboard Cable:** Connect to your motherboard's main power connector.
    - **8-pin (4+4) CPU Power Cable(s):** Connect to your motherboard's CPU power connector(s).

- **PCIe 5.1 12VHPWR (16-pin) or 8-pin (6+2) PCIe Cables:** Connect to your graphics card(s) as required.
- **SATA Power Cables:** Connect to SSDs, HDDs, and optical drives.
- **Molex Cables:** Connect to any peripherals requiring Molex power.

5. **Cable Management:** Route cables neatly behind the motherboard tray or in designated cable management areas to improve airflow and aesthetics.
6. **Close Case and Connect Power:** Once all connections are secure, close your computer case. Plug the AC power cord into the PSU and then into a grounded wall outlet.

6. Operating Instructions

Operating the Antec GSK850 PSU is straightforward:

- **Power On:** After installation, ensure the power switch on the back of the PSU is in the 'ON' (I) position. Then, power on your computer using the case's power button.
- **Zero RPM Mode:** The PSU's fan will remain off when the power load is low, providing silent operation. As the system load increases, the fan will automatically activate and adjust its speed to maintain optimal temperatures. This is normal operation and indicates the Zero RPM Manager is functioning correctly.
- **Power Off:** To power off your system, use the operating system's shutdown function. For complete power disconnection, switch the PSU's power switch to the 'OFF' (O) position and unplug the AC power cord from the wall outlet.

7. Maintenance

Proper maintenance ensures the longevity and optimal performance of your PSU:

- **Dust Removal:** Periodically clean dust from the PSU's fan grille and ventilation openings using compressed air. Ensure the PSU is powered off and unplugged before cleaning.
- **Cable Inspection:** Occasionally inspect all connected cables for any signs of wear, damage, or loose connections.
- **Environment:** Ensure the PSU operates in a clean, dry, and well-ventilated environment.

8. Troubleshooting

If you encounter issues with your Antec GSK850 PSU, refer to the following common troubleshooting steps:

- **No Power:**
  - Ensure the AC power cord is securely plugged into both the PSU and the wall outlet.
  - Check that the PSU's power switch on the back is in the 'ON' (I) position.
  - Verify all modular cables are securely connected to both the PSU and the components.
  - Test the wall outlet with another device to ensure it has power.
- **System Instability/Crashes:**
  - Ensure your PSU wattage is sufficient for all your system components.
  - Check for loose cable connections.
  - The PSU's CircuitShield protection suite (OCP, OVP, UVP, SCP, OPP, OTP, SIP, NLO) will automatically shut down the PSU in case of an electrical fault to protect your components. If this occurs, disconnect power, check for short circuits or faulty components, and then attempt to restart.

Figure 8.1: CircuitShield Protection Suite

- **Fan Not Spinning:**
  - The GSK850 features Zero RPM mode. The fan will not spin at low loads. This is normal. The fan will activate when the system load increases.
  - If the fan does not spin even under high load, ensure there are no obstructions and contact support if the issue persists.

If the problem persists after following these steps, please contact Antec customer support.

9. Specifications

Feature	Specification
Model Name	GSK850 US
Brand	Antec
Output Wattage	850W
Form Factor	ATX
Efficiency Certification	80 PLUS Gold
PFC	Active PFC
Cooling Method	Air (120mm FDB Fan)
Modular Type	Full Modular
Dimensions (LxWxH)	5.51 x 3.38 x 5.9 inches (140 x 86 x 150 mm)

Feature	Specification
Weight	5.6 pounds
Color	Black
Compatible Devices	Personal Computer
Connector Type	ATX

10. Warranty and Support

The Antec GSK850 ATX3.1 850W Full Modular PSU comes with a**7-Year Warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use.
For technical support, warranty claims, or further assistance, please visit the official Antec website or contact their customer service department. Keep your proof of purchase for warranty validation.
Antec Official Website: www.antec.com