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FSP VITA-850GM

FSP VITA GM 850W Power Supply User Manual

Model: VITA-850GM | Brand: FSP

1. Introduction

The FSP VITA GM 850W Power Supply is designed to provide stable and efficient power for your computer system. Featuring 80 PLUS Gold certification, a fully modular design, and advanced protection features, it is suitable for a wide range of applications, including gaming and professional workstations. This manual provides essential information for the proper installation, operation, and maintenance of your power supply unit.

Image 1.1: Top-down view of the FSP VITA GM 850W Power Supply, showcasing its compact design and fan grill.

2. Safety Information

Please read and understand all safety instructions before installing or operating the power supply. Failure to do so may result in personal injury or damage to your equipment.

- **Do not open the power supply casing.** High voltages are present inside, even when the unit is unplugged. There are no user-serviceable parts inside. Opening the casing will void the warranty.
- Install the power supply in a well-ventilated area, away from heat sources, direct sunlight, and moisture.
- Ensure the power supply is connected to a grounded electrical outlet.
- Use only the modular cables provided with this power supply. Using incompatible cables may cause damage to the PSU and connected components.
- Before installation or maintenance, always disconnect the AC power cord from the wall outlet.
- Avoid placing objects on top of the power supply or blocking its ventilation openings.

3. Package Contents

Verify that all items are present in your package:

- FSP VITA GM 850W Power Supply Unit

- Modular Cable Set (including 12V-2x6 PCIe cable)
- AC Power Cord
- Mounting Screws
- User Manual (this document)

4. Product Overview

The FSP VITA GM 850W features a fully modular design, allowing for clean cable management and improved airflow within your PC case. Key components include the main power unit, a 120mm hydraulic bearing fan for cooling, and various modular connectors for system components.

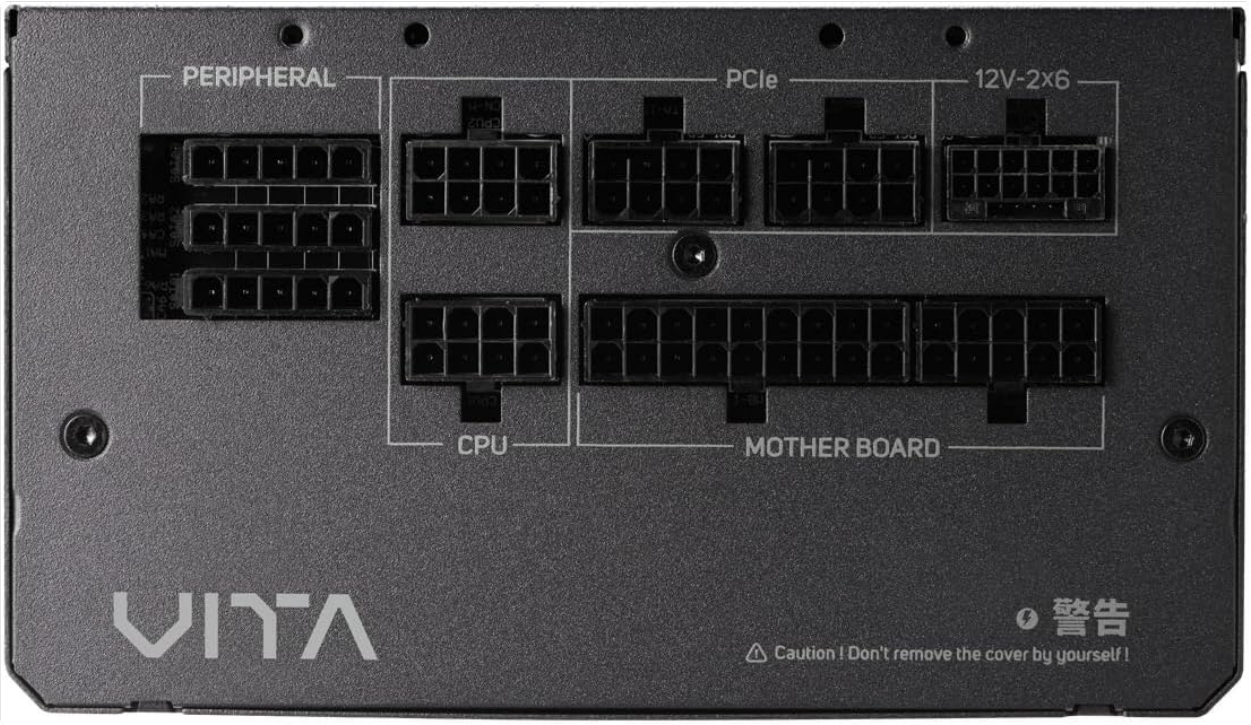

Image 4.1: Close-up view of the modular connector panel on the FSP VITA GM 850W Power Supply, showing labeled ports for Motherboard, CPU, PCIe, Peripheral, and 12V-2x6.

4.1. Modular Connectors

The power supply features clearly labeled ports for connecting various components:

- **Motherboard:** Main 24-pin ATX connector.
- **CPU:** 8-pin (4+4 pin) EPS connectors for CPU power.
- **PCIe:** 8-pin (6+2 pin) connectors for graphics cards.
- **12V-2x6:** Dedicated 12V-2x6 connector for high-power PCIe 5.1 graphics cards.
- **Peripheral:** Connectors for SATA and Molex devices.

Image 4.2: Rear view of the FSP VITA GM 850W Power Supply, showing the AC power inlet, power switch, and ventilation grille.

5. Setup and Installation

Follow these steps to properly install your FSP VITA GM 850W Power Supply into your computer system.

5.1. Physical Installation

1. Ensure your computer is powered off and unplugged from the wall outlet.
2. Open your computer case to access the power supply mounting area.
3. Carefully place the FSP VITA GM 850W Power Supply into the designated bay, ensuring the fan faces the correct direction for optimal airflow (typically facing downwards if there's a bottom vent, or inwards if mounted at the top).
4. Secure the power supply to the case using the provided mounting screws.

5.2. Cable Connections

Connect the necessary modular cables to your power supply and system components. Only connect the cables you need to minimize clutter and improve airflow.

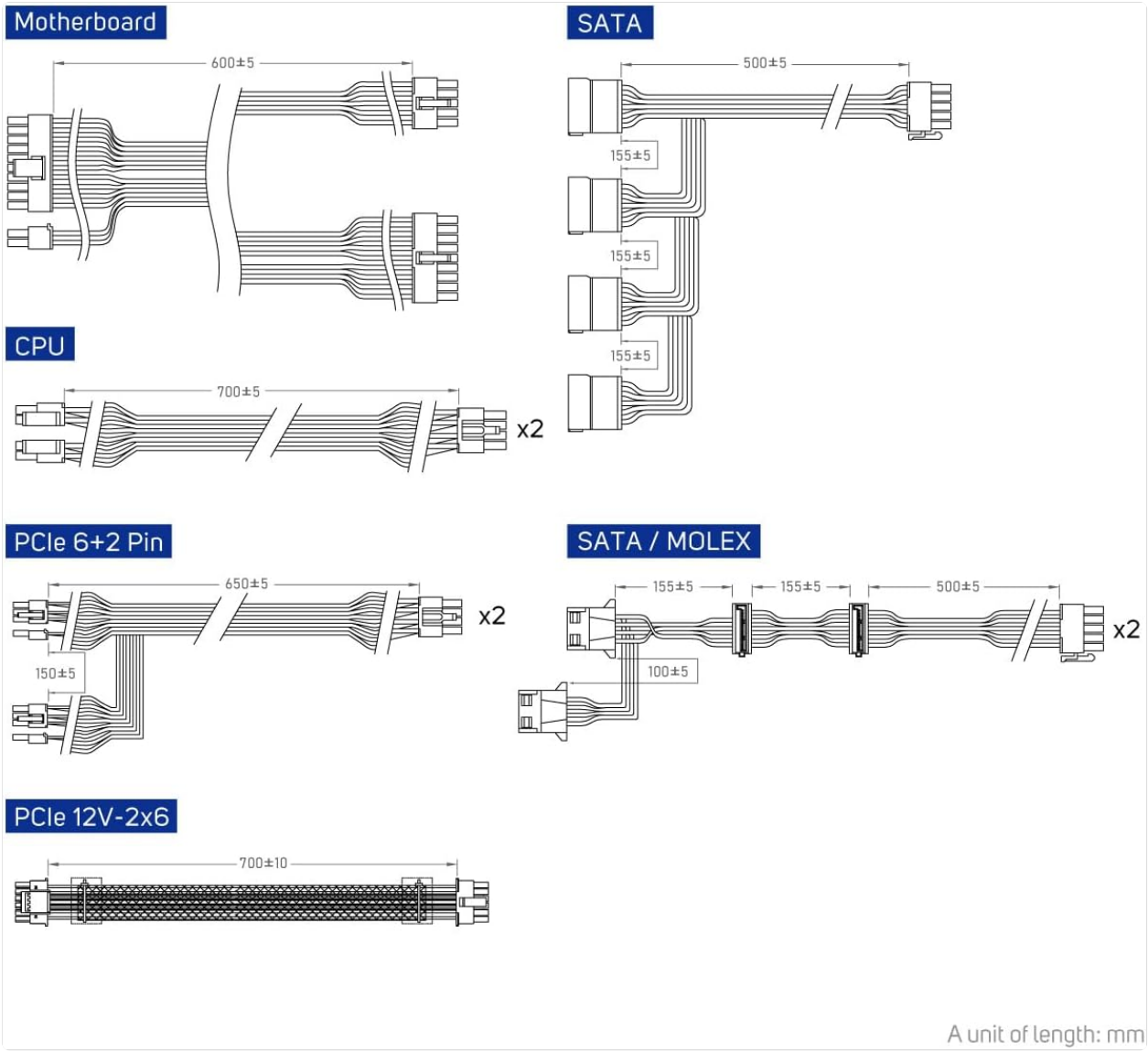

Image 5.1: Diagram illustrating the various modular cables included with the FSP VITA GM 850W Power Supply, including Motherboard, CPU, PCIe 6+2 Pin, PCIe 12V-2x6, SATA, and SATA/Molex cables, along with their approximate lengths in millimeters.

1. Connect the 24-pin ATX cable from the power supply to the motherboard.
2. Connect the 8-pin (4+4 pin) EPS cable(s) from the power supply to the CPU power connector(s) on the motherboard.
3. For graphics cards, connect the appropriate 8-pin (6+2 pin) PCIe cables or the 12V-2x6 cable (for compatible PCIe 5.1 GPUs) from the power supply to the graphics card(s).
4. Connect SATA power cables to your storage drives (HDDs, SSDs) and other SATA-powered devices.
5. Connect Molex cables to any peripheral devices that require them.
6. Ensure all cable connections are secure and properly seated.
7. Close your computer case.
8. Connect the AC power cord to the power supply and then to a grounded wall outlet.

6. Operating Instructions

Once installed, operating your FSP VITA GM 850W Power Supply is straightforward.

6.1. Powering On/Off

1. Ensure the power switch on the rear of the power supply is in the 'ON' (I) position.
2. Press the power button on your computer case to start the system.
3. To power off, shut down your operating system normally. For complete power disconnection, switch the power supply to the 'OFF' (O) position and unplug the AC cord.

6.2. Efficiency and Fan Operation

The VITA GM 850W is 80 PLUS Gold certified, meaning it operates with over 90% efficiency at typical loads. This reduces wasted energy, heat generation, and noise. The integrated 120mm HYB fan is designed for quiet and efficient cooling, adjusting its speed based on the power supply's temperature and load to maintain optimal performance and acoustics.

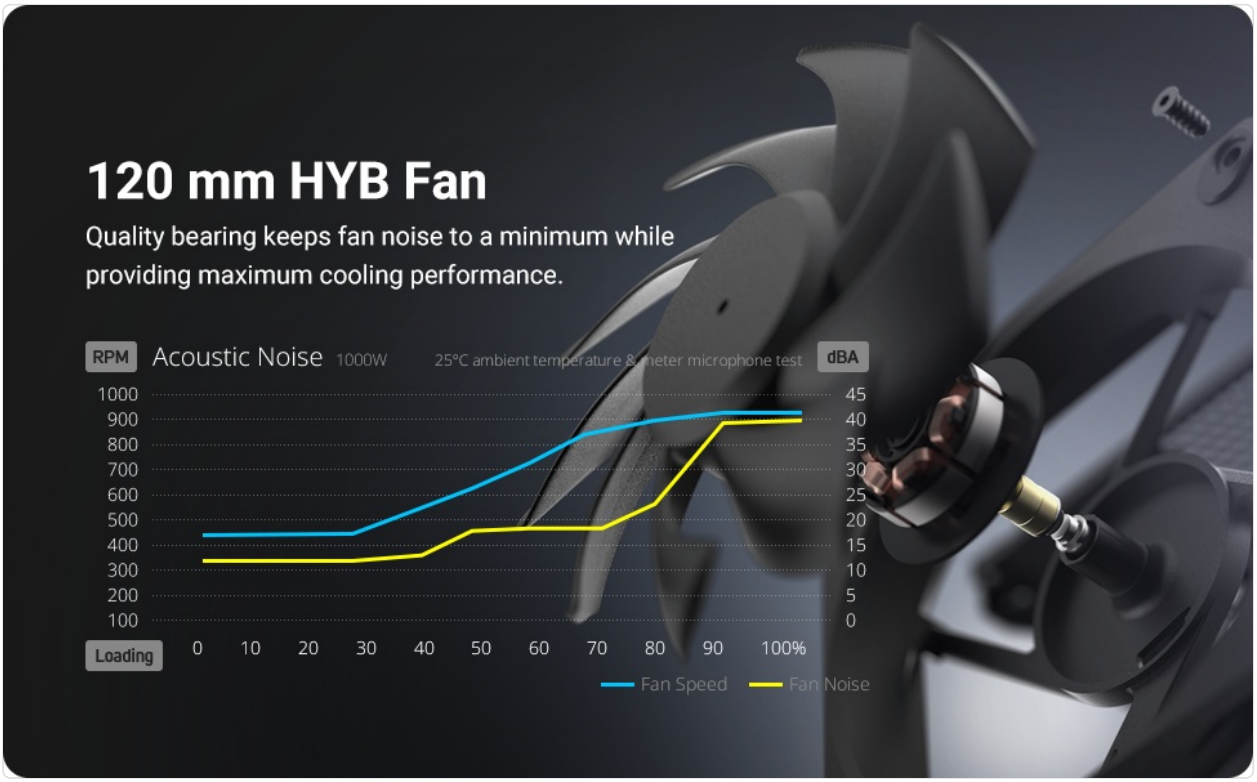

Image 6.1: Graph illustrating the fan speed (RPM) and acoustic noise (dBA) of the 120mm HYB fan in the FSP VITA GM 850W Power Supply across different load percentages, demonstrating quiet operation at lower loads.

7. Maintenance

Proper maintenance ensures the longevity and optimal performance of your power supply.

- **Cleaning:** Periodically clean the exterior of the power supply and its fan grille to prevent dust buildup. Use a soft, dry cloth or compressed air. Ensure the power supply is unplugged before cleaning.
- **Airflow:** Ensure that the power supply's intake and exhaust vents are not obstructed. Good airflow is crucial for efficient cooling.
- **Cable Management:** Maintain tidy cable management within your PC case to promote better airflow and prevent cables from interfering with the power supply fan.

8. Troubleshooting

If you encounter issues with your FSP VITA GM 850W Power Supply, refer to the following common problems and solutions.

8.1. Common Issues

- **No Power:**
  - Check if the AC power cord is securely connected to both the power supply and the wall outlet.
  - Ensure the power switch on the PSU is in the 'ON' (I) position.
  - Verify that the wall outlet is functioning by plugging in another device.
  - Check all modular cable connections to the motherboard and components.
- **System Instability/Random Shutdowns:**
  - This could indicate an overloaded system or a component issue. Ensure your system's power requirements do not exceed 850W.
  - Check for proper ventilation and ensure the power supply fan is spinning. Overheating can trigger protection mechanisms.
  - Verify all cable connections are secure.
- **Loud Fan Noise:**
  - Ensure the power supply's fan intake/exhaust is not obstructed.
  - Clean any dust buildup on the fan blades or grille.
  - High system load will naturally increase fan speed. If noise is excessive at low loads, contact support.

8.2. Protection Features

The FSP VITA GM 850W Power Supply includes several protection features to safeguard your system:

- **OVP (Overvoltage Protection):** Shuts down the PSU if output voltages exceed a safe level.
- **OCP (Overcurrent Protection):** Shuts down the PSU if current on a single rail exceeds a safe level.
- **OPP (Overpower Protection):** Shuts down the PSU if the total power draw exceeds its maximum wattage.
- **UVP (Undervoltage Protection):** Shuts down the PSU if output voltages drop below a safe level.
- **SCP (Short Circuit Protection):** Shuts down the PSU in case of a short circuit on any output rail.
- **OTP (Overtemperature Protection):** Shuts down the PSU if internal temperatures become too high.

Image 8.1: Diagram illustrating the comprehensive protection features of the FSP VITA GM 850W Power Supply, including OVP, OCP, OPP, NLO, OTP, SCP, UVP, and SIP.

If any of these protections are triggered, the power supply will shut down. Disconnect the AC power, check your system for faults, and then reconnect power to attempt a restart.

9. Specifications

Detailed technical specifications for the FSP VITA GM 850W Power Supply:

Feature	Specification
Model Name	VITA-850GM
Brand	FSP
Output Wattage	850 Watts
80 PLUS Certification	Gold
Form Factor	ATX
Dimensions (L x W x H)	140 x 150 x 86 mm (5.5 x 5.9 x 3.4 inches)
Item Weight	3.1 Kilograms (6.82 pounds)
Cooling Method	Air (120mm HYB Fan)
Capacitors	105°C Japanese Bulk Capacitors
Connector Type	ATX, PCI Express (Full Modular)
Compatible Devices	Computer, Gaming Console

Feature	Specification
Protection Features	OVP, OCP, SCP, OPP, UVP, OTP, NLO, SIP

10. Warranty

The FSP VITA GM 850W Power Supply comes with a**10-year warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims. The warranty does not cover damage caused by improper installation, accident, abuse, misuse, natural disaster, insufficient or excessive electrical supply, abnormal mechanical or environmental conditions, or any unauthorized disassembly, repair, or modification.

11. Support

For technical assistance, troubleshooting beyond this manual, or warranty inquiries, please visit the official FSP website or contact FSP customer support. You can often find FAQs, driver downloads, and contact information on the manufacturer's support pages.
For more information, visit: FSP Official Store on Amazon

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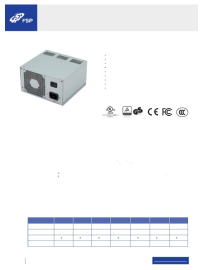
Product specifications are subject to change without notice.

Related Documents

	FSP500-50ANB 500W ATX Power Supply Technical Datasheet Detailed technical specifications for the FSP500-50ANB, a 500W ATX power supply unit compliant with Intel ATX 3.1 and 80 Plus Gold standards, ideal for industrial 4U and tower chassis applications.
	FSP900M-60PJ 900W Medical ATX Power Supply Datasheet | FSP Technical datasheet for the FSP900M-60PJ, a 900W Medical ATX Power Supply from FSP. Features 1U size, IEC 60601-1 certification, 80 Plus Gold efficiency, and ATX12V V3.0 compliance.

	[FSP500-80AGGBM(M) 500W ATX Power Supply Datasheet] Technical datasheet for the FSP500-80AGGBM(M) 500W ATX power supply. This industrial-level switching power supply offers 500 Watts, 80 Plus Gold efficiency, and features like cable management, high reliability, and over-protection circuits. It is designed for server, workstation, and automation applications.
	[FSP1000M-60PG 1000W Medical ATX Power Supply Datasheet] Technical datasheet for the FSP1000M-60PG, a 1000W Medical ATX Power Supply. Features IEC 60601-1 & IEC 62368-1 certification, 80 Plus Gold efficiency, and BF class isolation, suitable for medical applications.

Documents - FSP – VITA-850GM

[pdf] Specifications Datasheet

FSP PSU ProductSheet VITAGM DatasheetFSP VITA GM 750W ATX 3 1 80PLUS Gold Modular Retailcontent ekatalog biz katalog 1930500272 |||

VITA GM 650W / 750W / 850W / 1000W Complies with ATX 12V v3.1 EPS 12V v2.92 Efficiency 90 Ty ... W 3.6W 650W 5Vsb 3.0A 15W AC Input DC Output Max Output Current Max Combined Power Total Power **VITA-850GM** 100-240V- 8-4A 50-60Hz 3.3V 5V 12V -12V 20A 20A 70.83A 0.3A 100W 850W 3.6W 8...

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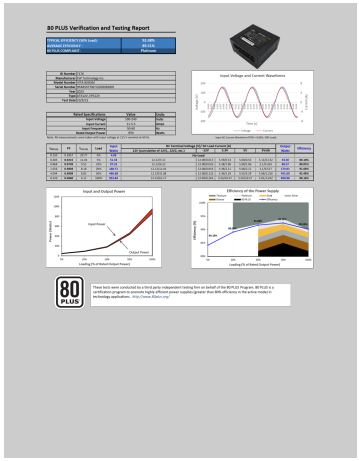

[pdf] Specifications

Peter Ostendorp d9d2b9d88e606fec7990cfe4a77b3a7d5afd gzhls at blob ldb 2 c e 6 |||

80 PLUS Verification and Testing Report TYPICAL EFFICIENCY 50 Load : AVERAGE EFFICIENCY : 80 PLUS COMPLIANT: 92.48 89.51 Platinum ID Number 7176 Manufacturer FSP Technology Inc. Model Number **VITA-850GM** Serial Number 9PA8507700 S3200030005 Year 2023 Type ATX12V, EPS12V Test Date 10/9/23 Input...

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[pdf] Specifications

FSP PSU ProductSheet VITAGM Efficiency 120mm Hydraulic Bearing HYB Fan Fully Modular Cabling Design HIGHLIGHTS VERSION 03 2024 Model Name VITA 650GM 750GM 850GM 1000GM Color Wattage 650W 750W 850W ATX12V V3 1 80 PLUS® Gold 230V EU Cybenetics katalog atcomp cz 1930500271 |||

VITA GM 650W / 750W / 850W / 1000W Complies with ATX 12V v3.1 EPS 12V v2.92 Efficiency 90 Ty ... W 3.6W 650W 5Vsb 3.0A 15W AC Input DC Output Max Output Current Max Combined Power Total Power **VITA-850GM** 100-240V- 8-4A 50-60Hz 3.3V 5V 12V -12V 20A 20A 70.83A 0.3A 100W 850W 3.6W 8...

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