

Samsung PM893

Samsung PM893 960GB 2.5-inch SATA III SSD User Manual

Model: PM893 | Brand: Samsung

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1. INTRODUCTION

The Samsung PM893 960GB 2.5-inch SATA III Solid State Drive is an enterprise-grade storage solution designed for data center applications. It offers high reliability, consistent performance, and advanced data protection features suitable for demanding workloads. This manual provides essential information for the proper installation, operation, and maintenance of your SSD.



Figure 1: Samsung PM893 960GB 2.5-inch SATA III SSD

2. KEY FEATURES

- **Enterprise-Grade Performance:** Designed for data center applications, offering high reliability and consistent performance for enterprise workloads.
- **Standard Form Factor:** Utilizes the SATA 6Gbps interface and is available in a 2.5-inch form factor, ensuring compatibility with a wide range of server and storage systems.
- **High Endurance:** Features 960GB capacity with 1 DWPD (Drive Writes Per Day) endurance, suitable for read-intensive applications.
- **Advanced Data Protection:** Includes End-to-End Data Protection, Power Loss Protection, and advanced ECC (Error-Correcting Code) for enhanced data integrity and reliability.
- **Energy Efficiency:** Optimized for low power consumption, contributing to reduced operational costs in data center environments.

3. TECHNICAL SPECIFICATIONS

Feature	Description
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Brand	Samsung
Series	PM893
Model Number	4260580377374
Digital Storage Capacity	960 GB
Hard Disk Interface	Serial ATA-600 (SATA 6Gbps)
Connectivity Technology	SATA
Hard Disk Form Factor	2.5 Inches
Installation Type	Internal Hard Drive
Hardware Platform	PC, Laptop

4. SETUP AND INSTALLATION

Installing the Samsung PM893 SSD requires careful handling and adherence to standard computer hardware installation procedures. It is recommended to consult your system's manual for specific drive bay locations and connection types.

4.1 Physical Installation

- Power Off:** Ensure your computer system is completely powered off and disconnected from the power source.
- Open Case:** Open your computer case or laptop chassis to access the internal components.
- Locate Drive Bay:** Identify an available 2.5-inch drive bay. If replacing an existing drive, carefully remove the old drive.
- Mount SSD:** Secure the PM893 SSD into the drive bay using appropriate screws or mounting brackets.
- Connect Cables:** Connect a SATA data cable from the SSD to an available SATA port on your motherboard. Then, connect a SATA power cable from your power supply unit to the SSD.
- Close Case:** Carefully close your computer case or laptop chassis.

4.2 Software Setup

- Boot System:** Power on your computer.
- Initialize Disk:** For new installations, you may need to initialize the disk in your operating system's Disk Management utility (Windows) or Disk Utility (macOS).
- Format Drive:** Format the drive to your preferred file system (e.g., NTFS for Windows, APFS for macOS).
- Install OS/Migrate Data:** Install your operating system or migrate existing data to the new SSD. Samsung Magician software (available from Samsung's website) can assist with data migration and drive optimization.

5. OPERATING YOUR SSD

The Samsung PM893 SSD operates silently and efficiently, providing rapid data access and system responsiveness. Once installed and configured, it functions like any other storage drive but with significantly improved speed.

5.1 General Usage Tips

- OS Drive:** For optimal performance, use the SSD as your primary drive for the operating system and frequently

used applications.

- **Data Storage:** Store large files or less frequently accessed data on a secondary hard disk drive (HDD) if available, to maximize SSD lifespan and performance.
- **Avoid Defragmentation:** Do not defragment your SSD. Unlike HDDs, SSDs do not benefit from defragmentation and it can reduce their lifespan.
- **TRIM Command:** Ensure your operating system has TRIM enabled. TRIM helps the SSD manage data blocks more efficiently, maintaining performance over time.

6. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your Samsung PM893 SSD.

6.1 Software Maintenance

- **Firmware Updates:** Regularly check for and install firmware updates for your SSD using Samsung Magician software. Firmware updates can improve performance, stability, and compatibility.
- **Monitor Health:** Use Samsung Magician software to monitor the health and estimated remaining lifespan of your SSD.
- **Over-Provisioning:** Consider enabling over-provisioning through Samsung Magician to dedicate a portion of the drive for background operations, which can enhance performance and endurance.

6.2 Physical Maintenance

- **Keep Clean:** Ensure your computer case is clean and free of dust to maintain proper airflow and prevent overheating of components, including the SSD.
- **Secure Mounting:** Verify that the SSD is securely mounted to prevent physical damage from vibrations or accidental impacts.

7. TROUBLESHOOTING

If you encounter issues with your Samsung PM893 SSD, refer to the following common troubleshooting steps.

7.1 Common Issues and Solutions

- **SSD Not Detected:**
 - Check SATA data and power cable connections.
 - Verify the SATA port on the motherboard is enabled in BIOS/UEFI settings.
 - Ensure the drive is initialized and formatted in Disk Management (Windows) or Disk Utility (macOS).
- **Slow Performance:**
 - Confirm TRIM is enabled in your operating system.
 - Update SSD firmware using Samsung Magician.
 - Check for sufficient free space on the SSD (ideally keep at least 10-15% free).
 - Ensure the SATA port is operating in AHCI mode in BIOS/UEFI.
- **System Freezes/Crashes:**
 - Run diagnostics using Samsung Magician to check for drive errors.
 - Ensure all system drivers and operating system updates are installed.
 - Check system memory (RAM) for errors.

For more detailed troubleshooting or persistent issues, please refer to the Samsung support website or contact their customer service.

8. INFORMATIONAL VIDEOS

Understanding Solid State Drives

Your browser does not support the video tag.

This video provides a general overview of Solid State Drives, their benefits, and how they differ from traditional hard drives. It helps users understand the core technology behind the Samsung PM893 SSD.

9. WARRANTY AND SUPPORT

The Samsung PM893 SSD comes with a manufacturer's warranty. For specific warranty terms and conditions, please visit the official Samsung website or refer to the documentation included with your product.

9.1 Customer Support

- **Manufacturer:** Samsung
- **Online Support:** Visit the official Samsung support website for drivers, software (e.g., Samsung Magician), FAQs, and troubleshooting guides.
- **Contact:** For direct assistance, refer to the contact information provided on the Samsung support portal for your region.

9.2 Data Recovery Plans

Optional data recovery plans may be available from third-party providers. These plans offer additional protection for your data beyond the standard product warranty.

- **2-Year Data Recovery Plan:** Available for purchase.
- **3-Year Data Recovery Plan:** Available for purchase.

Please note that these are separate services and not directly provided by Samsung.