SiliconMotion

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FerriSSD® Modules

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FerriSSD® Modules are designed optimally to be easily adopted for a wide range of industrial embedded applications requiring faster access, industrial standard form factor and reliable SATA / PATA / PCIe non-volatile memory storage. By combining industry proven controller technology with advanced firmware features, FerriSSD® Modules simplify design efforts, reduces time-to-market while protecting from NAND technology migration concerns.

FerriSSD® Modules are available with 3D SLCmode / MLCmode / TLCmode options and are offered in densities up to 480GB*. To further ensure data integrity, FerriSSD® Modules are designed with advance Dynamic SLCmode and IntelligentScan with DataRefresh can prolong its usage life much beyond typical NAND specifications. The unique features-FastWrite, PowerShield and DataPhoenix - are designed to handle sudden power loss by working together to ensure no data is lost even in the event of a sudden power off. FerriSSD® Modules also provide for customized firmware - enabling highly reliable and differentiable storage solutions, a perfect choice for boot-SSD in server, automotive IVI, network appliances and other systems.

Adopting FerriSSD® Modules will accelerate development time, enable upgradability and replaceability of storage system as well as enhance the overall performance, eliminate potential downtime, and reduce the total cost of ownership.

Why FerriSSD® Modules

Easy to use

- Plug & Play only requires format/fdisk prior to use
- Industrial standard form factors

Lower total cost of ownership

- Rugged & Reliable (no moving parts)
- Eliminate requalification cost from NAND generation change
- Cost saving with low density FerriSSD, HDD are typically > 160GB capacity

Eliminate down time

- Supports self-monitoring, analysis and reporting technology commands (S.M.A.R.T.)
- Remote Field programmable firmware available
- 100% screen before shipping to reduce the fail rate in market

Unique Features

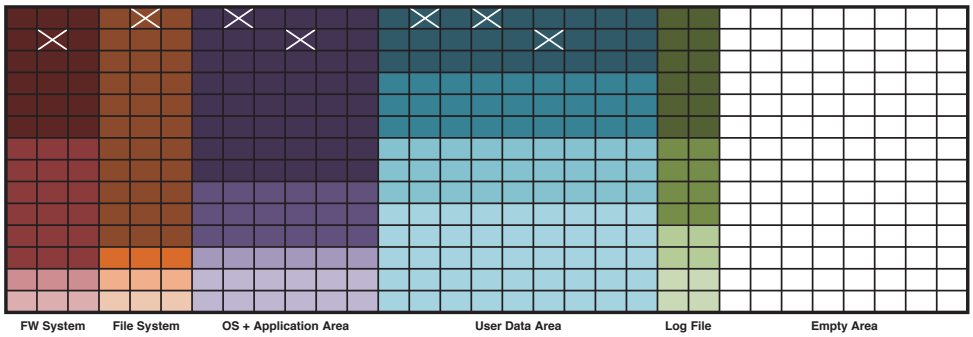
- Intelligent scan and data refresh with a built-in temperature sensor to effectively enhance the reliability and extend the lifespan of the SSD
- SSD LifeGuard® monitor and remote firmware updatability to ensure that each drive remains healthy and utilizing the latest firmware
- SLC mode and Intelligent Clean, two complementary features that provide fast data access as well as high speed sustained data transfers
- Hardware-level quick-erase and full-disk AES encryption for enhanced data protection
- Full sleep/energy saver mode for lower power consumption
- System level protection from voltage surges to avoid a potential fire hazard
- Every unit is tested and guaranteed to operate between -40 to +85 degrees Celsius
- Automotive IVI compliance to the AEC-Q100 requirements*
- PATA, SATA or PCIe up to 480GB capacity options

** on selected models*

FerriSSD®Module

Server grade data protection: IntelligentScan with DataRefresh

IntelligentScan with DataRefresh has proven to be extremely effective against read disturbance and data retention in high temperatures. With IntelligentScan, the FerriSSD® module's firmware will respond to various usage conditions to intelligently determine where, when and how frequently to scan the SSD. When IntelligentScan identifies overstressed cells, SMI's proprietary DataRefresh function will be activated automatically to recharge, repair or retire the cell block accordingly. As a result of the combination of Intelligent Scan and Data Refresh, the FerriSSD® module can prolong its usage life much beyond typical NAND specifications.



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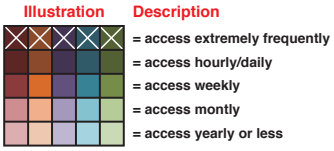
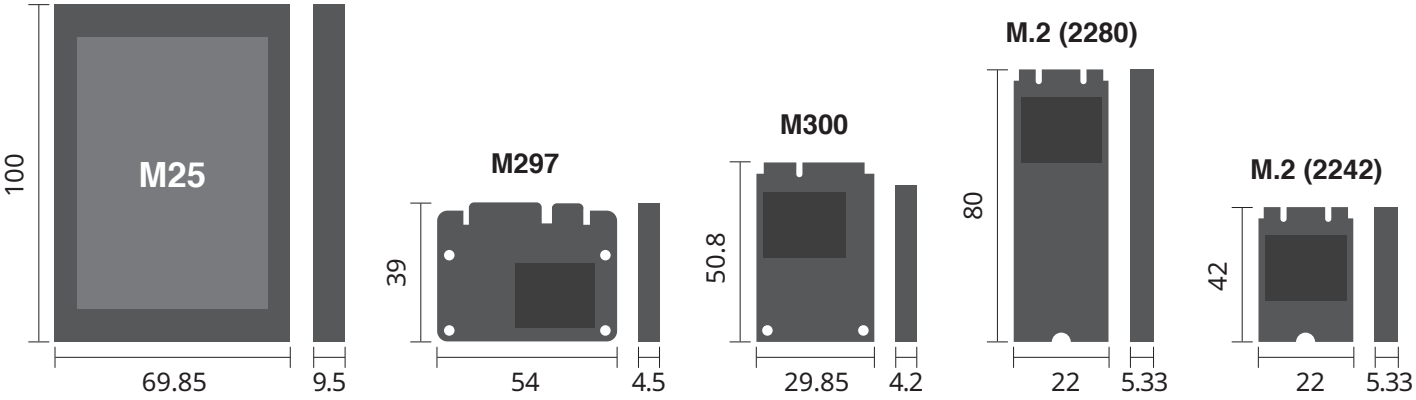


Dimensions



Specifications

Module Name		FerriSSD® M25	FerriSSD® M297	FerriSSD® M300	FerriSSD® M.2	
Form Factor		Standard 2.5"	Half-Slim SATA (MO297)	mSATA (MO300A)	M.2 (2242)	M.2 (2280)
Connector		Standard SATA	Standard SATA	Mini PCIE SATA	M.2 SATA / PCIe	M.2 SATA / PCIe
DC Supply		5V ± 5%	5V ± 5%	3.3V ± 5%	3.3V ± 5%	3.3V ± 5%
Capacity	3D SLCmode	4 - 160GB				
	3D MLCmode	8 - 320GB				
	3D TLCmode	16 - 480GB *				
Temperature	Commercial	0°C to +70°C				
	Industrial	-40°C to +85°C				
Features		End2End DataPath Protection, DRAM & SRAM ECC engine, LDPC ECC engine with SMI Group page RAID, Encryption & Firmware Digital signatures				

* 1TB in Q3'2022

For more information about FerriSSD® module, please go to **www.siliconmotion.com** or send email to **ferri@siliconmotion.com**

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