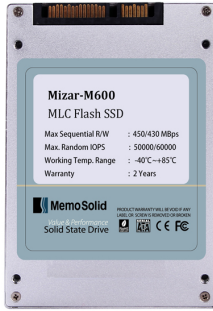


## Product Overview



# MemoSolid

*It's high-end Industrial & Military Secure SSDs  
Provider and Manufacturer.*

## Mizar-M

MemoSolid Mizar-M is 2.5-inch SATA-III 6Gbps military-grade Solid State Disk with MLC NAND Flash. Mizar-M series SSDs carry 256MB DDR which brings higher performance. Mizar-M series SSDs adapt military-grade controller with advanced flash-management algorithm that guarantee the data reliability and enhance the reliability and durability of SSD. Mizar-M supports integral power fail protection, to ensure that all system and user data will be written back to the NAND from DDR. Mizar-M can support all kinds of military secure erase protocols, such as NSA130-2, NSA 9-12, IRIG, AR380-19, DoD 5220.22-M NISPOM, NAVSO P-5239-26, AFSSI-5020...etc.

### Applications

MemoSolid military grade rugged Mizar-M SSDs are designed to meet the needs of mission-critical applications in the defense, aerospace, industrial and embedded markets where high shock, vibration and High-low temperature tolerances are as important as high Read & Write performance and long-term reliability. The MemoSolid Military-grade rugged Mizar-M drive also support all kinds of military secure erase protocols, such as NSA130-2, NSA 9-12, IRIG, AR380-19, DoD 5220.22-M NISPOM, NAVSO P-5239-26, AFSSI-5020...etc.

### Integral Power Fail protection

A high-reliability power back-up system protects against data loss and corruption in the event of unexpected power interruptions. Mizar-M series is designed with a 3F industrial-grade Capacitor, which supports Integral Power Fail Protection under extreme environments. It supports at least 3 Seconds of power supply, so as to ensure that all systems and user data will be written back to the NAND from DDR. The super capacitor inside Mizar-M drive will never occur liquid leaking accident, which is very dangerous in military devices.

### Features

- AES 256 Encryption
- Rugged and conformal coating
- Integral power fail protection
- Military protocols Secure Erase (Optional)

### Mizar MLC SSD Family

Model Name	Available Capacity	Performance
Mizar-M	60/120/240/480/600GB	450/430 MB/s
Mizar-M-FE	60/120/240/480/600GB	450/430 MB/s



## Mizar-M SATA Specifications

<b>2.5-inch SATA-III MLC Military Grade SSD</b>	
<b>Performance</b>	
Access time	0.1 ms
Sustained Read/Write	450/ 430 MB/s
Random IOPS Read/Write	50000/ 60000
<b>Capacity</b>	
MLC	60, 120, 240, 480, 600GB
<b>Reliability</b>	
MTBF	> 2 000 000 hours, Telcordia 25°C
Data Reliability	< 1 non-recoverable error in 10 <sup>14</sup> bits read
Data Retention	> 10 years at 25°C
Warranty	2 Years
<b>Power</b>	
Input Voltage	5 V +/-5%
Idle (typ)	0.3 W
Operational (typ)	2 W
<b>Environmental</b>	
Operating Shock	1500G peak, 0.5ms, Half sine
Vibration	20G peak, 20Hz to 2000Hz, Sine
Altitude	24,384 m [80,000 ft.]
Relative Humidity <sup>3</sup>	5% to 95% non-condensing
Conformal Coating	Yes
Operating Temp	Industrial -40°C to +85°C
Storage Temp	-55°C to 95°C
<b>Mechanical</b>	
Length	100 mm
Width	70 mm
Height	9.4 mm

## Mizar MLC SSD Ordering Information

Model number	Capacity (GB)	Remark
Mizar-M60	60	Standard without secure erase function
Mizar-M120	120	Standard without secure erase function
Mizar-M240	240	Standard without secure erase function
Mizar-M480	480	Standard without secure erase function
Mizar-M600	600	Standard without secure erase function
Mizar-M60-FE	60	Product with secure erase function
Mizar-M120-FE	120	Product with secure erase function
Mizar -M240-FE	240	Product with secure erase function
Mizar-M480-FE	480	Product with secure erase function
Mizar-M600-FE	600	Product with secure erase function

## Mizar-M Military protocols Secure Erase Specifications

ATA Command	Protocol Name	Description
F4h-0000	Fast erase	Erase all blocks, overwrite all locations with 0xFF
F4h-0001	DoD 5220.22-M NISPOM 8-306	Erase all blocks then overwrite all addressable locations with a single character "0x53", then perform erase of all blocks
F4h-0010	DoD 5220.22-M NISPOM Supplement1	Erase all blocks, overwrite with "0x53", Erase all blocks, and then overwrite with "0xAC". Erase, overwrite with a pseudo-random character
F4h-0100	NSA130-2	Erase all blocks and overwrite all locations with a pseudo-random pattern two times, erase all blocks and overwrite with a pattern "0xAA".
F4h-0110	AR380-19	Erase all blocks; overwrite all locations with a pseudo-random character. Erase all blocks, overwrite with "0x65", erase all blocks, and overwrite with 0x9A.
F4h-1000	NAVSO P-5239-26	Erase all blocks; overwrite all locations with a random pattern. Wait 2 minutes, erase all blocks, program all locations with another random pattern, and verify 100%.
F4h-1010	AFSSI-5020	Erase all blocks, verify then overwrite with "0x55" pattern.
F4h-1011	NSA 9-12	Erase all blocks, overwrite all locations with a pattern 0xAA and verify 0.1% of randomly chosen locations
F4h-1100	IRIG	Erase all blocks; overwrite all locations with a pattern 0x55. Erase all blocks, and then overwrite with 0xAA. Erase all blocks.

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