



MEMKOR
Solid Advantage



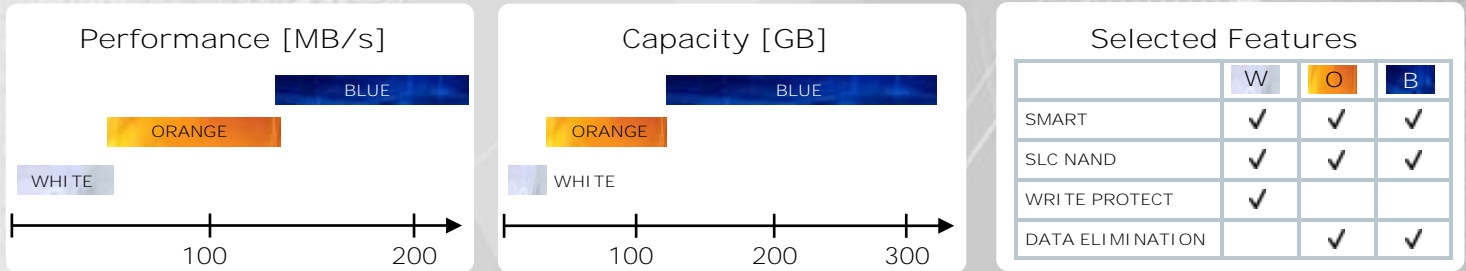
Flash Solid State Storage
Defense
Industrial
Enterprise

Flash SSD: "one size does not fit all"

Flash SSD applications span from boot drives to portable computers to high performance servers to data recorders.

As compared to the mechanical drives, SSDs are deployed for their superior reliability and resilience to challenging environments. Certain SSD applications require extreme performance. Others aim to minimize power consumption, potentially sacrificing performance. Special features enhancing user data integrity, protection, and secure data elimination are becoming very important in Military and Security markets. There is no one SSD that can meet all, often conflicting requirements. One size does not fit all.

Memkor introduces *WHITE*, *ORANGE* and *BLUE* Series SSDs.



WHITE Series SSD

Memkor White Series SSDs address requirements of traditional flash SSD applications, such as industrial boot drives and data logging devices. Built using industrial grade parts⁽¹⁾ for superior reliability, equipped with the true static wear-leveling and ECC mechanisms implemented for industrial grade requirements, they offer data integrity that will outlast the lifecycle duration of your equipment. White Series SSDs include features such as Write Protect, the ability to create multiple partitions, and Access Control ensuring data security. The SMART feature can be used to monitor **flash health**. **Memkor White Series SSDs are offered in standard 1.8", 2.5" and 3.5" form factors as well as Drive on Module (DoM) and Compact Flash (CF).** White Series SSDs are built with PATA, SATA and SCSI interfaces, 1 to 16GB capacity range and achieve sustained read/write performance of up to 50/40 MB/s.

PATA and SATA

(1) SATA and PATA SSDs

Standard Form Factor	1.8" (PATA only), 2.5" and 3.5"
Fast boot time and application response	<ul style="list-style-type: none"> • 50 MB/s max sustained read rate • 40 MB/s max sustained write rate
High speed interfaces	<ul style="list-style-type: none"> • Ultra DMA Mode-4 • Multiword DMA Mode-2 • PIO Mode-4
Capacity range	• 1 GB – 16 GB
Industrial Temperature Range is standard	<ul style="list-style-type: none"> • -40°C to 85°C operating • -40°C to 90°C storage
Operating voltage	• 5V±10%
High Data Reliability	<ul style="list-style-type: none"> • SLC NAND managed by static wear leveling and ECC/EDC • 27+ years write endurance when overwriting disk 10 times per day • 10 years data retention
Unmatched Data Integrity	• Up to 8 read-only partitions to prevent accidental/malicious data alteration
Unmatched Data Security	• Password control implementation prevents unauthorized access
Unique Flash Health monitoring	• S.M.A.R.T. to report flash usage
High level of ruggedization	<ul style="list-style-type: none"> • Humidity (non-condensing): 95% • Shock 1500g: (20Hz–2000Hz) • Vibration: 16.5g
Dimensions (L x W x D)	• 3.92" x 2.75" x 0.37" (9.5 mm) for 2.5"; 5.77" x 4" x 1.02" for 3.5"



1.8" and 2.5" White Series PATA SSD

SCSI

Standard Form Factor	3.5" (50-pin)
Performance	<ul style="list-style-type: none"> • 20 MB/s max FAST—20 • 5 MB/s (Asynchronous)
Interface	• Single-Ended NARROW SCSI
Capacity range	• 1GB – 8GB
Temperature Range	• 0°C to 60°C operating; -20°C to 65°C storage
Operating voltage	• 5V±10%
High Data Reliability	<ul style="list-style-type: none"> • SLC NAND managed by dynamic wear leveling and ECC/EDC • 27+ years write endurance when overwriting disk 10 times per day • 10 years data retention
High level of ruggedization	<ul style="list-style-type: none"> • Humidity (non-condensing): 95% • Shock 1500g: (20Hz–2000Hz); Vibration: 16.5g
Dimensions (L x W x D)	• 5.77" x 4" x 1.02" for 3.5"



3.5" White Series SCSI SSD

ORANGE Series SSD

Memkor Orange Series SSDs are designed as a replacement for traditional mechanical drives where superior ruggedization and/or extra performance are required in portable computers, desktops, or servers. The state of the art static wear-leveling ensures even flash use across the entire drive, regardless of the drive capacity or the application. The Orange Series SSDs achieve up to 120MB/s sustained read and 100MB/s sustained write performance and are offered in 16-128 GB capacity range. Orange Series SSDs are built to meet both Commercial and Industrial environment requirements. They support SMART for flash health monitoring and optionally can include s/w or h/w triggered pre-programmed Data Elimination procedures. Orange Series SSDs support PATA and SATA interfaces.

PATA and SATA

Standard Form Factor	1.8" (PATA only), 2.5" and 3.5"
Fast boot time and application response	<ul style="list-style-type: none"> • 120 MB/s max sustained read rate • 100 MB/s max sustained write rate
High speed interfaces	<ul style="list-style-type: none"> • Ultra DMA Mode-6 • Multiword DMA Mode-2 • PIO Mode-4
Capacity range	• 16 GB – 128 GB
Operating Temperature Range	<ul style="list-style-type: none"> • -40°C to 85°C Industrial • 0°C to 70°C Commercial
Operating voltage	• 5V±10%
High Data Reliability	<ul style="list-style-type: none"> • SLC NAND managed by static wear leveling and ECC/EDC • 27+ years write endurance when overwriting disk 10 times per day • 10 years data retention
Unique Flash Health monitoring	• S.M.A.R.T. to report flash usage
High level of ruggedization	<ul style="list-style-type: none"> • Humidity (non-condensing): 95% • Shock 1500g: (20Hz—2000Hz) • Vibration: 16.5g
Dimensions (L x W x D)	• 3.92" x 2.75" x 0.37" (9.5 mm) for 2.5"; 5.748" x 4" x 0.583" for 3.5"



Orange Series: 1.8" PATA, 2.5" and 3.5" SATA

BLUE Series SSD

Memkor Blue Series SSDs offer an exceptional performance of up to 190MB/s sustained read, up to 170MB/s sustained write performance and an exceptional capacity of 256GB in 2.5" form factor. Blue Series SSDs can optionally include pre-programmed Data Elimination procedures such as CLEAR and PURGE. If storage capacity and density are driving factors, Blue Series SSD can be optimized for capacity and reach up to 320GB.

SATA

Standard Form Factor	2.5" and 3.5"
Fast boot time and application response	<ul style="list-style-type: none"> • 190 MB/s max sustained read rate • 170 MB/s max sustained write rate
High speed interfaces	<ul style="list-style-type: none"> • Ultra DMA Mode-6 • Multiword DMA Mode-2 • PIO Mode-4
Capacity range	• 128 GB – 256 GB
Operating Temperature Range	<ul style="list-style-type: none"> • 0°C to 70°C Commercial (contact us for Industrial version)
Operating voltage	• 5V±10%
High Data Reliability	<ul style="list-style-type: none"> • SLC NAND managed by static wear leveling and ECC/EDC • 27+ years write endurance when overwriting disk 10 times per day • 10 years data retention
Unique Flash Health monitoring	• S.M.A.R.T. to report flash usage
High level of ruggedization	<ul style="list-style-type: none"> • Humidity (non-condensing): 95% • Shock 1500g: (20Hz—2000Hz) • Vibration: 16.5g
Dimensions (L x W x D)	• 3.92" x 2.75" x 1" (25.4 mm) for 256GB 2.5" SSD



Blue Series: 2.5" SATA The "Brick"

Data Elimination

Memkor Orange and Blues series SSDs can optionally be equipped with two security levels of Data Elimination: CLEAR and PURGE. CLEAR eliminates the data from the flash by performing a single erase of the drive and its execution takes 10 to 20 seconds. PURGE eliminates the data and the data remanence effects that can be used to re-construct the drive content in the lab. PURGE procedures require multiple media erase and overwrite cycles defined by various standards. PURGE duration can be estimated assuming 80MB/s erase/overwrite rate.

Supported Purge Procedures

DoD	NISPOM 8-306 DoD 5220.22-M 1995
DoD	DOD 5220.22-M NISPOM Supplement 1
NSA	NSA 130-2
Army	AR 380-19
Navy	NAVSOP-5239-26
AF	AFSSI-5020

Compact Flash and Drive on Module

Memkor industrial grade Compact Flash (CF) and Drive on Module (DoM) are extensions to the White Series SSD family of products. Built using industrial grade parts for superior reliability, equipped with the true static wear-leveling and ECC mechanisms compliant with the industrial grade requirements, Memkor CF and DoM offer data integrity that will outlast the lifecycle duration of your equipment. Memkor CF and DoM include data security features such as Password Controlled Access, and the ability to create multiple partitions with Write Protect option. The unique CF and DoM SMART feature can be used to monitor flash health.

Optionally, Memkor CF supports CLEAR and selected PURGE Data Elimination procedures.

Compact Flash - Industrial

Standard Form Factor	Compact Flash Type I
Fast boot time and application response	<ul style="list-style-type: none"> • 25 MB/s max sustained read rate • 11 MB/s max sustained write rate
High speed interfaces	<ul style="list-style-type: none"> • Ultra DMA Mode-4 • Multiword DMA Mode-2 • PIO Mode-4
Capacity range	• 1 GB – 8 GB
Industrial Temperature Range is standard	<ul style="list-style-type: none"> • -40°C to 85°C operating • -40°C to 90°C storage
Operating voltage	• 5V±10%; 3.3V±5%
High Data Reliability	<ul style="list-style-type: none"> • SLC NAND managed by static wear leveling and ECC/EDC • 27+ years write endurance when overwriting disk 10 times per day • 10 years data retention
Unmatched Data Integrity	• Up to 8 read-only partitions to prevent accidental/malicious data alteration
Unmatched Data Security	• Password control implementation prevents unauthorized access
Unique Flash Health monitoring	• S.M.A.R.T. to report flash usage
High level of ruggedization	<ul style="list-style-type: none"> • Humidity (non-condensing): 95% • Shock 1500g: (20Hz—2000Hz) • Vibration: 16.5g
Dimensions (L x W x D)	• 1.685" x 1.43" x 0.13"



Compact Flash

Drive on Module

Interface	• 40-pin and 44-pin PATA: Straight, Angle and Reverse Angle
Performance	• 25 / 11 MB/s max sustained read / write rate
High speed interfaces	• Ultra DMA Mode-4; Multiword DMA Mode-2; PIO Mode-4
Capacity range	• 1GB – 8GB
Industrial Temperature Range is standard	<ul style="list-style-type: none"> • -40°C to 85°C operating • -40°C to 90°C storage
Operating voltage	• 5V±10%
High Data Reliability	<ul style="list-style-type: none"> • Data stored on SLC NAND managed by static wear leveling and ECC/EDC • 27+ years write endurance when overwriting disk 10 times per day • 10 years data retention
Unmatched Data Integrity	Up to 8 read-only partitions to prevent accidental/malicious data alteration
Unmatched Data Security	• Password control implementation prevents unauthorized access
Unique Flash Health monitoring	• S.M.A.R.T. to report flash usage
High level of ruggedization	<ul style="list-style-type: none"> • Humidity (non-condensing): 95% • Shock 1500g: (20Hz—2000Hz) • Vibration: 16.5g
Dimensions (L x W x D)	<ul style="list-style-type: none"> • 40-pin plane: 2.33" x 0.27" x 1.07" • 44-pin plane: 1.96" x 0.26" x 1.30" • 44-pin angle: 1.99" x 1.28" x 0.30" • 44-pin reverse: 1.99" x 1.28" x 0.27"



40-pin Straight DoM and 44-pin Angle DoM

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