

# GUNMETAL Series – BUILT RUGGED, not ruggedized

## 3U VPX MK3X Storage Modules

### SUMMARY

- 3U OpenVPX, 1" pitch storage modules
- SATA, PCIe, or mixed signal module Profiles
- SOSA Aligned options
- 1 or 2 embedded *removable* or *fixed* storage module(s)
- Up to 40TB capacity
- Fanout switch on some PCIe modules
- RAID on some SATA modules
- Optionally embedded FIPS 140-2 cryptographic module
- Optional TCG Opal/Enterprise encryption management
- Secure Erase and Write Protect
- Supports device SMART monitoring
- Built for reliability and longevity

### DESCRIPTION

MEMKOR Gunmetal-series MK3X is a rugged 3U OpenVPX component that forms an integral part of MEMKOR's comprehensive data storage solutions. The MK3X 3U VPX card is designed to accommodate one or two highly reliable, removable or fixed storage modules, which have been specifically optimized for the VPX form factor. This architecture allows for easy scalability of performance, storage capacity, and deployment flexibility.

The MK3X Gunmetal Series VPX cards are available with two interface options: high-performance PCIe/NVMe or low-power SATA. The internal SATA and/or PCIe drives connect either directly to the VPX backplane or via high-speed PCIe fanout switch, SATA to PCIe bridge or SATA bridge as appropriate. This enables RAID functions, expansion to other VPX slots and efficient management of high-speed links to the Host.

Data At Rest (DAR) protection is ensured by MEMKOR's FIPS 197 validated encryption engine and FIPS 140-2 validated or compliant architecture. Optional TCG Opal or Enterprise encryption management is also available.

Designed to perform in extreme temperatures, MK3X Storage Modules can be optimized for Client operations such as boot drives or Enterprise class operations to maximize performance and reduce latencies.

Using the highest reliability MLC and SLC NAND, combined with state-of-the-art flash management techniques, strong EDC/ECC/CRC, end-to-end data protection strategy, and sudden power loss safeguards integrated in software and hardware, MEMKOR's GUNMETAL Series SSDs provide the highest level of reliability, durability, and endurance.

MK3X supports hardware both Secure Erase and Write Protect inputs from backplane for data security and protection.



### APPLICATIONS

- 3U VPX Systems
- High speed data recording
- Ground Vehicle
- Airborne
- Moving map
- Data-At-Rest
- Where high reliability and capacity are required (SLC or MLC NAND)

### VALUES

- MEMKOR end-to-end architecture
- High longevity with either SLC or industrial MLC NAND
- Highest capacity 1" pitch 3U VPX conduction cooled module
- Best performance over full temperature range
- All models FIPS 197 validated
- Optional FIPS 140-2 validated or compliant architecture
- Fanout switch on multiple drive PCIe models
- SOSA Aligned option
- RAID 0/1/JBOD/BIG on some models
- HW or SW triggered Crypto and Secure Erase
- HW or SW enabled Write Protect
- Sudden Power Loss Safeguards
- End-to-end Data Protection
- End-to-end operation monitoring and recording
- Use of high reliability components
- Designed and built for reliability and longevity
- Locked BOM and obsolescence management
- Custom firmware and features available
- 5 year/TBW limited warranty

## ABOUT GUNMETAL SERIES

MEMKOR GUNMETAL Series PCIe and SATA SSDs combine our ruggedization strategy through innovative mechanical design, manufacturing and assembly processes, with the ORANGE, BLUE, and BLACK Series SSD architecture and capabilities. GUNMETAL Series drives are successfully deployed in applications where the most challenging shock and vibration are the norm. The GUNMETAL series includes standard 3U VPX form factor, and proprietary, application specific fixed or removable storage solutions. The GUNMETAL Series shares the security and functional features with the ORANGE, BLUE and BLACK-series devices.

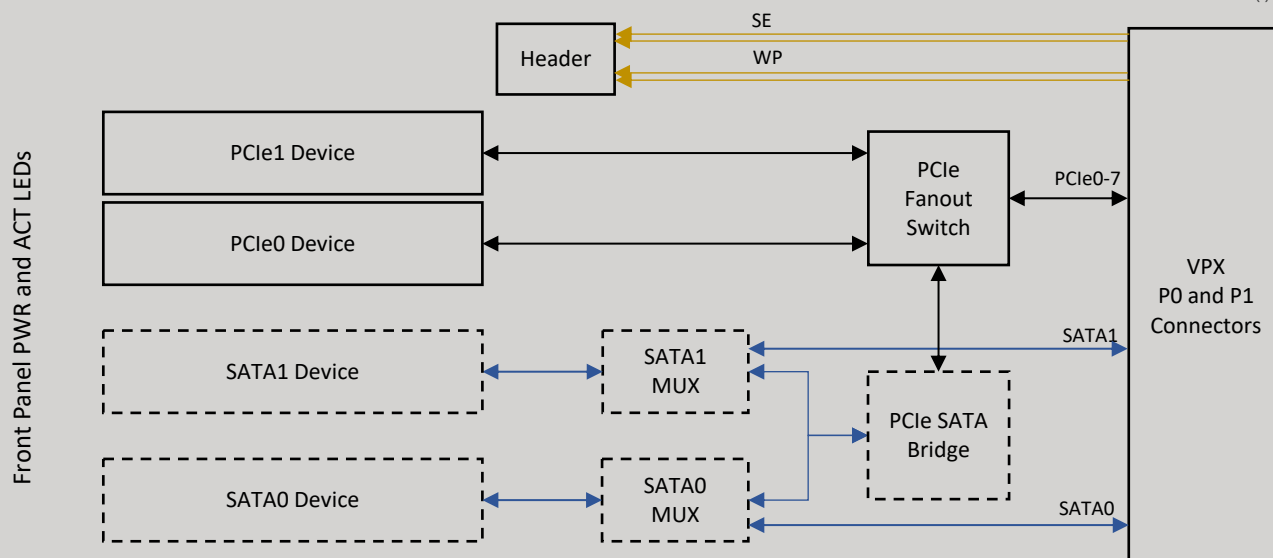
## MEMKOR—PART OF YOUR PROJECT

- We will support you throughout the design and product lifecycle
- Each SSD undergoes ESS test
- We offer Locked BOM Management
- We offer obsolescence management

## MEMKOR GUNMETAL MK3X SERIES 3U VPX SPECIFICATION

Form Factor	3U OpenVPX, 1" pitch, VITA-46.0/48.0/65.0 compliant
Cooling Options	Conduction cooled to VITA 48.2
Supported Slot Profiles	Ask MEMKOR
Supported Interfaces	PCIe Gen2/4, SATA or mixed
Storage	Up to 40 TB (Industrial MLC NAND)
Data throughput	Up to 500 MB/s for SATA and up to 1200 MB/s for PCIe single devices
Operating Temperature Range	VITA 47.1 Class CC4 -40 to 85°C
Storage Temperature Range	VITA 47.1 Class C4 -55 to 95°C
Vibration/Shock	VITA 47.1 Class V3 0.1g <sup>2</sup> /Hz / VITA 47.1 Class OS2 40G 11ms
Operating Altitude	80,000 ft
Data Reliability	Uncorrectable bit error rate (UBER): less than 10 <sup>-16</sup>
Data Retention	1y @ when NAND TBW reached
Endurance	Ask MEMKOR (depends on Capacity)
Power	Dependent upon capacity and mode of operation
Weight	Less than 2lbs

(1) Contact MEMKOR For more information



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MEMKOR® is an American engineering company dedicated to providing flash solid state storage solutions for defense, industrial and enterprise applications. We create secure, reliable, robust and innovative solutions with rich feature sets, tailored, as required, to meet your technology investment objectives. We are dedicated to delivering on our promises. We simply believe that your satisfaction enables the continuous success of our company.



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