MEMKOR

FRED - BLACK series | Portable. Secure. Rugged.

Flexible Rugged External Drive (FRED)

MEMKOR FRED SSD FAMILY

MEMKOR FRED is an easy-to-deploy, portable, highly rugged, high-performance non-volatile storage module. It offers up to 8TB of capacity and can be connected to ATR enclosures via 38999 connectors, cable, or USB, providing a streamlined solution that frees up valuable system slots and extends the life of existing systems.

Data protection options include AES 256 Encryption, Secure Erase (SE), and/or Write Protect (WP) functions. Encryption ensures data is unintelligible without the encryption key. SE ensures security parameters and data are completely and irreversibly wiped, preventing unauthorized access or recovery attempts by adversaries. WP option ensures data integrity and prevents malicious or accidental data alteration.

FRED can be optimized for various applications, including maximizing performance or reducing power consumption. Custom mounting feet / case designs optional.

KEY FEATURES

• **HIGH PERFORMANCE**:
  • Up to PCIe Gen3x4 data transfer speeds

• **HIGH CAPACITY**:
  • Up to 8TB in C-temp (0 to +70C)
  • Up to 4TB in I-temp (-40C to +85C)

• **HIGH ENDURANCE**:
  • Up to 50K PEC for longer SSD lifespan

• **RUGGED**:
  • Designed to meet MIL-STD-810F/G

• **INTERFACES**:
  • SATA III
  • PCIe Gen3
  • USB

• **SECURITY / DATA PROTECTION**:
  • AES 256 / TCG OPAL
  • Hardware Secure Erase
  • Hardware Write Protect

• **LOCKED-BOM**
  • Locked Bill-of-Materials available

VALUES

o Reliability in harsh operating environments
o Security to protect sensitive data and ensure compliance
o Performance enabling rapid access to mission-critical information and real-time data processing
o Longevity and endurance for extended lifecycle for write-intensive applications
o MEMKOR Technical support
o Lower power consumption, reducing dissipated heat
o HW triggered Secure Erase | Write Protect
o Sudden Power Loss Safeguards
o End-to-end Data Protection
o End-to-end operation monitoring and recording
o Designed and built for reliability and longevity
o Locked BOM
o Custom firmware and features available
o 1 year/TBW limited warranty

APPLICATIONS

o Surveillance and Reconnaissance
o High speed data recording | Moving Map
o Command and Control Centers
o Cybersecurity Applications, Data-At-Rest
o Enterprise-like Military applications
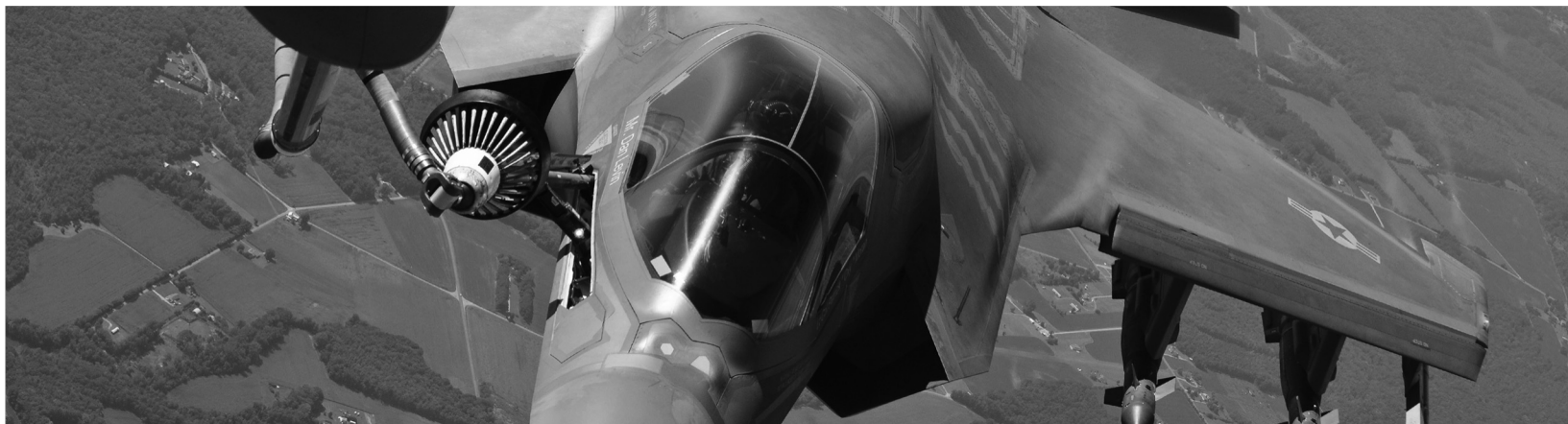o Boot drive

ABOUT FRED SERIES

MEMKORs FRED SSDs seamlessly integrate advanced security and ruggedization strategies into their design. Engineered for resilience, FRED SSDs excel in write-intensive applications, where performance, capacity, and high endurance are required. The FRED series offers versatile deployment options – from PCIe to SATA to USB. Custom mounting designs are available. MEMKOR FRED SSD stands as the epitome of reliability, versatility, and security, redefining military-grade storage solutions with its cutting-edge design and proven performance.

MEMKOR—PART OF YOUR PROJECT

- We will support you throughout the design and product lifecycle
- We offer Locked BOM Management
- We offer Obsolescence Management

MEMKOR FRED SSD SPECIFICATION

Form Factors	Small handheld – custom available
	L= 2.81" to 4.98" (depends on capacity and interface)
	W/H = 1.1" for SATA interface
	       = 1.2" for USB interface
	       = 1.3" for PCIe interface

Supported Interfaces	• PCIe Gen3 x4 | Gen2 x4 • SATA III (backward compatible for legacy systems)
Data Security	• Hardware Encryption AES 256 • TCG OPAL
Maximum Capacity	• Up to 8TB C-temp (0C to +70C) • Up to 4TB I-temp (-40C to +85C)
Maximum Data Throughput	• Up to PCIe Gen3 speeds
Operating Temperature Range	• I-Temp: -40°C to 85°C | C-temp: 0°C to 70°C
Storage Temperature Range	• -40°C to 85°C
Vibration/Shock	• 30 GRMS 10-2000hz / 50G 11ms
ECC	• LDPC
Data Reliability	• Uncorrectable bit error rate (UBER): less than 10^{-16}
Endurance	• Ask MEMKOR. Up to 50K PEC Write Endurance NAND
Power	• Ask MEMKOR (depends on Form Factor, Interface, Capacity)
Component Reliability	• MTBF 2,000,000 hours
Health Monitoring	• S.M.A.R.T. system health reporting • End-to-end system performance monitoring and active management
Warranty	• 1-year limited warranty

DISCLAIMER: MEMKOR, Inc. reserves the right to change products, specifications and information without notice.

MEMKOR® is an American engineering company dedicated to providing flash solid state storage solutions for Defense 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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