



2.5" 4TB Orange Series SSD

## ORANGE Series

### 2.5" 4 TB SATA/PCIe

#### Overview

Memkor's 3rd generation Orange Series PCIe and SATA SSDs aim to provide the highest throughput performance combined with the highest densities currently available. Memkor offers up to 4096/2048 GB of MLC/SLC NAND in the most popular SSD form factor: 2.5".

The latest Memkor 2.5" SSDs, besides dramatically increased capacity and the addition of PCIe/NVMe interface offer more options for self encrypted drive (SED) management and superior reliability through the enhanced end-to-end data path protection.

Memkor's Orange Series 2.5" SSD offers Write Protect and military grade Secure Erase features, provide built-in hardware AES-256 encryption engine and built in firmware functions enabling either traditional FIPS-like or OPAL data at rest protection management scenarios.

State of the art flash management techniques combined with a strong EDC/ECC/CRC and end-to-end data protection approach ensures performance stability and consistency, along with the highest reliability and unparalleled user data integrity.

Sudden power loss safeguards integrated in software and hardware ensures data at rest protection and integrity.

Memkor Orange Series SSDs are built to meet both Commercial and Defense focused environmental requirements.

All Memkor products are available with locked BOM configurations and Supply Chain component management for long-term deployment applications.

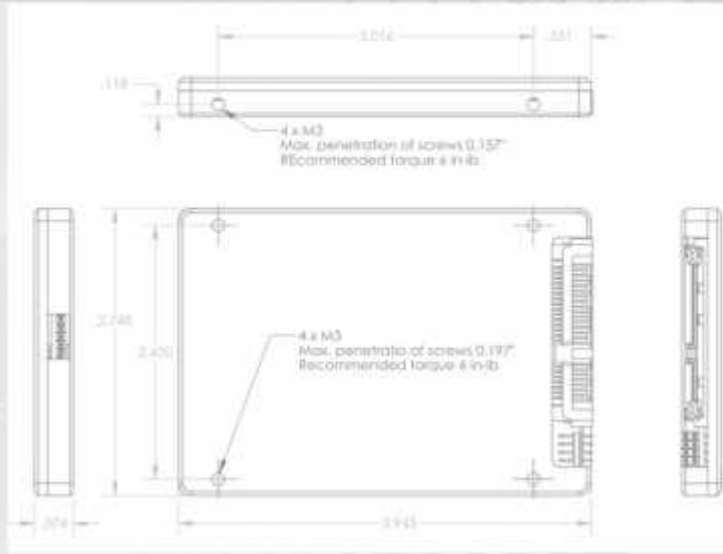
#### Features and Values

- The most popular SSD form factor
- Highest capacity 2.5"/9.5 mm SSD in the world
- Highest performance 2.5" SSD in the world
- Available with HiVibe® ruggedized SATA connector
- Available with either PCIe or SATA interface
- Enterprise or Client applications
- Streaming/recording/cloud applications
- Rugged design for Defense and Industrial applications
- Extensive SMART for health monitoring
- Military grade Data Elimination
- Hardware and/or software triggered Data Elimination
- Hardware or software enabled Write Protect
- AES-256, various SED management schemes
- MBR shadowing to allow graceful SED boot process
- Sudden Power Loss Safeguard logic and circuit
- All Industrial grade SSDs include conformal coating
- Custom firmware and feature set are available

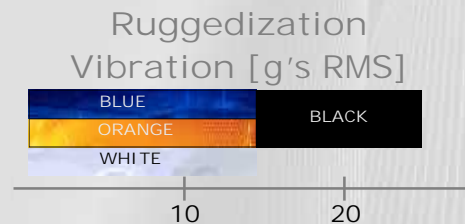
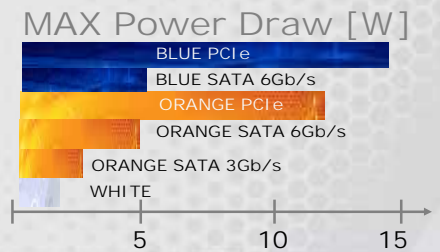
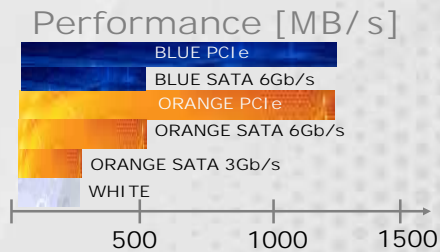
#### Specification

Standard Form Factor	<ul style="list-style-type: none"> <li>• Standard 2.5"</li> <li>• SFF-8369 or Standard SATA 15+7 Connector</li> </ul>
Interface	<ul style="list-style-type: none"> <li>• PCIe V2.0/NVMe 1.1a or SATA 6Gb/s or SATA 3Gbps</li> </ul>
Data throughput	<ul style="list-style-type: none"> <li>• SATA III: up to 500/540 MB/s Write/Read</li> <li>• PCIe: 1200/1200 Write/Read</li> </ul>
Maximum Capacity	<ul style="list-style-type: none"> <li>• up to 4192 GB MLC NAND</li> <li>• up to 2048 GB SLC NAND</li> </ul>
Temperature Range	<ul style="list-style-type: none"> <li>• -40°C to 85°C Industrial/Military</li> <li>• 0°C to 70°C Commercial</li> </ul>
Vibration/shock	<ul style="list-style-type: none"> <li>• 16.3 GRMS/100G</li> </ul>
Data Reliability	<ul style="list-style-type: none"> <li>• Flash managed by static and dynamic wear leveling and powerful ECC/EDC/CRC</li> <li>• End-to-end Data Protection</li> <li>• Uncorrectable bit error rate (UBER): less than 10<sup>-16</sup></li> </ul>
Data Retention	<ul style="list-style-type: none"> <li>• 10 y beginning of SSD life</li> <li>• 1 y at the end of life</li> </ul>
Endurance	<ul style="list-style-type: none"> <li>• up to 3072 TB (4192 GB MLC NAND)</li> <li>• up to 24576 TB (2048 GB SLC NAND)</li> </ul>
Data Security	<ul style="list-style-type: none"> <li>• Optional TCG OPAL V2.0 Self Encrypted Drive (SED)</li> <li>• Enhanced ATA Security/Authentication support</li> <li>• Military grade Data Elimination</li> <li>• HW and/or SW Write Protect</li> </ul>
Component reliability	<ul style="list-style-type: none"> <li>• MTBF: 1,000,000</li> </ul>
Health monitoring	<ul style="list-style-type: none"> <li>• S.M.A.R.T. to report system health</li> <li>• Thermal performance monitoring and management</li> </ul>

# Memkor Orange M.2 2280 and 22110 — Mechanical



## Memkor General Application and Product Guide



## Ordering Information

**Model: MKD 25 ii xxx y O - O2 s n ee ww**

Model: MKD ff ii xxx y O					
Memkor SSD	Form Factor ff:	Interface ii:	Capacity xxx:	Operating temp	Series
MKD	25 - 2.5" ff	P2 - PCIe 2.0 2-lanes P3 - PCIe 2.0 4-lanes ST - SATA	1T0 - 1024 GB	C - 0° to 70°C I - -40° to 85°C	O - ORANGE

- O2 s n ee ww				
Technology Code	Secure Erase: s	NAND: n	Encryption: ε	Write Protect: ww
O2	0 - no SE (D) Ask us about available option	- SLC (D) M - MLC	- No Encryption (D) Ask us about available option	- no WP (D) Ask us about available option

D - default  
L - Low  
H - High  
E - Enabled  
SE - Secure Erase  
WP - Write Protect