

Enterprise PCIe Gen5 M.2 2280 Opal SED - 3.84TB

TAA COMPLIANT

TCG OPAL 2.0

M.2 2280

PCIe GEN5 X4

This is a DigiStor Enterprise PCIe Gen5 x4 Solid State Drive in the M.2 2280 form factor. Applying the NVMe high-speed interface, delivers outstanding sequential and random performance, hardware-based AES-XTS 256-bit encryption, low latency, and enterprise-class reliability — purpose-built for demanding data center and enterprise storage workloads.

Top Features

- PCIe Gen5 x4 interface
- Sequential Read up to 13,800 MB/s
- Sequential Write up to 6,900 MB/s
- Random Read up to 2,200K IOPS
- Random Write up to 220K IOPS
- Hardware AES-XTS 256-bit Encryption

- TCG Opal 2.0 Security
- Hardware-Based Power Loss Data Protection
- End-to-End Data Path Protection (SECDED)
- Up to 128 Namespaces supported
- Thermal Throttling with multi-stage protection

Available Models — 3.84TB

Part Number	Capacity	Form Factor	Interface	Encryption	DWPD
DIG-P5M20G31-3T8	3.84TB	M.2 2280	PCIe Gen5 x4	AES-256 / TCG Opal	1

Performance Summary — 3.84TB

Capacity	Seq. Read	Seq. Write	Rand. Read	Rand. Write	Flash
3.84TB	13,800 MB/s	6,900 MB/s	2,200K IOPS	220K IOPS	3D TLC

Note: Sequential performance measured at 512KB, QD=32, Job=1. Random performance measured at 4KB, QD=128, Jobs=8. Tested on Ubuntu 20.04.2 LTS with Intel Xeon Gold 5416S, Giga Computing MS03-CE0-000, DDR5 64GB. FIO on Linux, full unformatted drive. Performance may differ according to flash configuration and platform. Tables are for reference only.

This document describes a product that is currently under development. Specifications, features, and performance characteristics are subject to change without notice as the product design is finalized. The information provided herein is for reference and evaluation purposes only and should not be relied upon for final design decisions. Photos in this document are for illustrative purposes only and might not be representative of the exact product described.

Reliability & Environmental

Parameter	Rating
MTBF	2.0 million hours
UBER	< 1 sector per 10 ¹⁷ bits read
TBW	8,100 TB
DWPD	1 (5-year warranty)
Op. Temp.	0°C to 70°C
Storage Temp.	-40°C to 85°C
Op. Humidity	0% to 90% RH
Shock (op / non-op)	1000G, 0.5ms / 1500G, 0.5ms
Vibration (op)	3.08 Grms (7–800 Hz)
Vibration (non-op)	20G (20–2000 Hz)
ESD	±4 kV (EN 61000-4-2 / IEC 61000-4-2)
Active Power (Read)	< 6.7 W (Avg. RMS)
Active Power (Write)	< 7.8 W (Avg. RMS)
Idle Power	2.5 W (Avg. RMS)
Inrush Current	2 A @ 3.3V
Op. Voltage	3.3V ± 5%
Dimensions	80.00 × 22.00 × 4.08 mm
Weight	TBD

Compliance

- CE / FCC / RCM
- TAA Compliant
- TCG Opal 2.0 Compliant

📧 **Contact:** sales@digistor.com | support@digistor.com |
©2026 DigiStor. All Rights Reserved. DigiStor may make changes to specifications without notice.

Security Capabilities

- Hardware AES-XTS 256-bit Encryption
- TCG Opal 2.0 (via separate firmware setting)
- Sanitize (via separate firmware setting)
- Hardware-Based Power Loss Data Protection
- End-to-End Data Path Protection
- SECDED (Single Error Correction, Double Error Detection)
- Reservation support
- Up to 128 Namespaces
- NVMe Security Send / Security Receive commands
- SMBus / I²C Management Endpoint (address 3Ah)

Flash Management Technology

Thermal Throttling

Multi-stage thermal management (TMT1/TMT2/Protect/Fatal) with automatic recovery to prevent data loss under thermal stress.

Power Loss Protection

Hardware-based capacitor protection ensures data integrity during sudden power loss events.

E2E Data Protection

End-to-end data path protection with SECDED guards data integrity from host interface to NAND flash.

IOPS Consistency

95% IOPS consistency (99.9% IOPS / Average IOPS × 100) under QD=1 and QD=8 random 4KB workloads.

Typical Applications

- Enterprise database and OLTP workloads
- High-performance computing (HPC) and AI/ML inference
- Cloud and hyperscale data center storage
- Virtualization and latency-sensitive server applications