

UD *info*

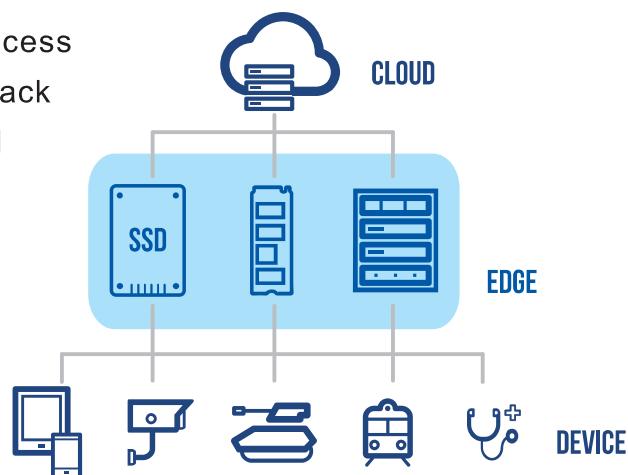
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Embedded Storages with Innovative Technology



THE IDEAL SSD SOLUTIONS FOR EDGE SERVER

Edge SSDs inside edge servers promise to process data at high speed instead of sending all data back to a central data center, improving latency and reducing costs. High capacity is also essential for Edge SSDs. The move from SATA to NVMe has opened the door for even higher speeds and performance, and the NVMe PCIe G4X4 SSD is delivering industrial performance for these challenging environments.



Edge Computing SSD Series

Model Name	M2P-80DH	PFD-25DH
Interface	PCIe Gen 4x4 NVMe 1.4	
Nand Flash	3D TLC 112 Layers	
Form Factor	M.2 2280	U.2
Capacity	Up to 7680 GB ^{*Note1}	Up to 15360 GB ^{*Note2}

Performance (Read/Write, MB/sec, Max.)

SLC Cache On	7000 / 6500	6000 / 6000
SLC Cache Off	7000 / 1500	6000 / 2000

Key Features

Operation Temperature	Std. 0~70 °C & Ind. -40~85 °C	
Data Reliability	LDPC ECC / End to End Data path protection	
Encryption	TCG OPAL	
Power Loss Protection	No	Optional
Product Availability	2023 April	2023 July

Note1 : I-temperature -40~85°C up to 3840GB ; Note2:I-temperature -40~85°C up to 7680GB

FIPS 140-2



- Applied on 2.5" SATA SSD, M.2 SATA, 2280 & PCIe M.2 2280.
- Security Label & Conformal Coating are implemented
- FIPS 140-3 Coming in 2024

Power Loss Protection (PLP)



Extra power to protect ALL data during power loss at write

S.M.A.R.T. (Self Monitoring and Analysis Reporting Technology)



Setting criteria for wearing message

Power Loss Protection Lite (PLP Lite)



Extra power to protect SSD from losing FW, Tables or Partition due to unstable low-power disturbance or spikes.

Data Erase



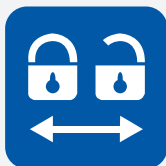
- Erase all data, tables and hidden area
- Hardware push button or Software GPIO control.
- Follow different military standards.

Opal / AES (Security Encryption)



- Protect the confidentiality of stored user data against unauthorized access once it leaves the owner's control.
- Hardware Encryptions are applied on SATA interface & PCIe interface SSD.

Write-Protect or Read only



- Read Only
- Hardware Switch or Software GPIO Control

Conformal coating



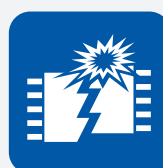
A layer of plastic protection is applied on all PCBA products in order to protect from dirt, dust, moisture, corrosion, electrical conduction and thermal conduction

MIL-STD



Comply with US military specification that guarantees a level of durability for unit.

Physical Destroy (PD)



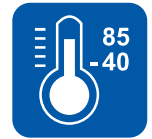
Inputting a high voltage current through the module, damage the flash IC and ensure all data are completely destroyed.



Capacity : Up to 15360GB

PCIe Gen 3 x 4 / Gen 4 x 4
2.5" (U.2)

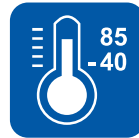
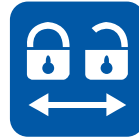
pSLC TLC



Capacity : Up to 7680GB

PCIe Gen 3 x 4 / Gen 4 x 4
M.2 2230/2242/2280

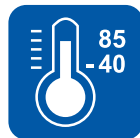
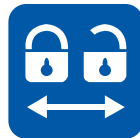
pSLC TLC



Capacity : Up to 2TB

PCIe Gen 3 x 2
CF Express

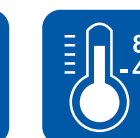
pSLC TLC



Capacity : Up to 512GB

PCIe Gen 3 x 2
uSSD

TLC

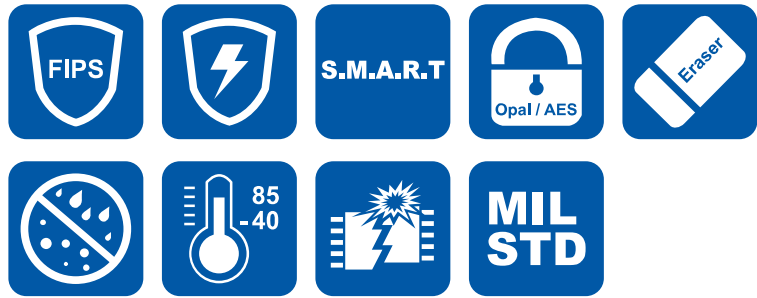




Capacity : Up to 15360GB

1.8" SATA SSD
2.5" SATA SSD

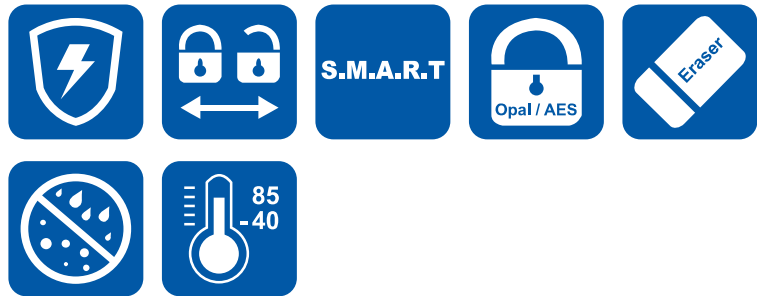
SLC pSLC MLC TLC



Capacity : Up to 1TB

mSATA
mSATA mini

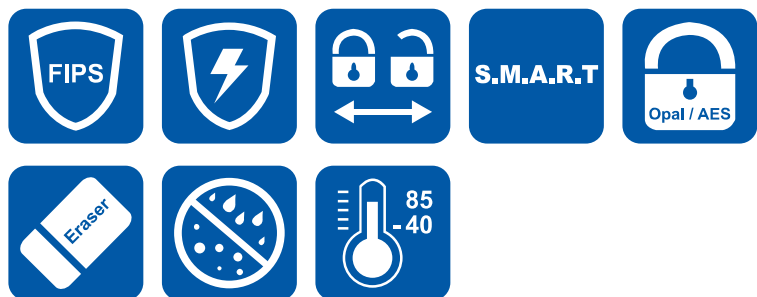
SLC pSLC MLC TLC



Capacity : Up to 2TB

SATA
M.2 2242/2280

SLC pSLC MLC TLC

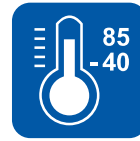




Capacity : Up to 512GB

CFast

SLC pSLC MLC TLC

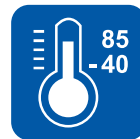


Capacity : Up to 1TB



SATA Half Slim(MO-297)

SLC pSLC MLC TLC

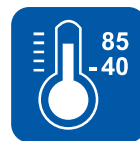


Capacity : Up to 256GB



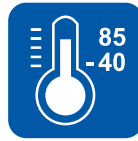
SATA Module

SLC pSLC MLC TLC



SATA uSSD (MO-276)

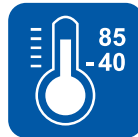
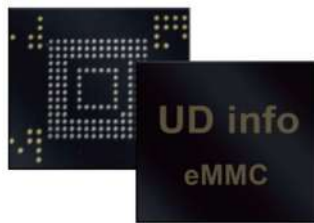
pSLC MLC TLC



Capacity : Up to 512GB

eMMC

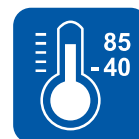
SLC pSLC MLC TLC



Capacity : Up to 128GB

DRAM UDIMM/SODIMM

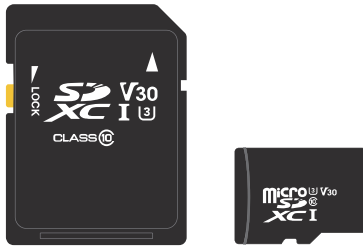
DDR1 DDR2 DDR3 DDR4 DDR5



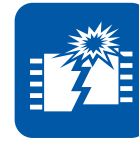
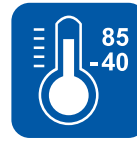
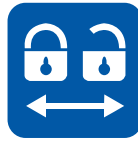
Capacity : Up to 32GB

SD Card Micro SD Card

SLC pSLC MLC TLC



Capacity : Up to 1TB

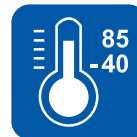


USB 2.0 USB 3.0

SLC pSLC MLC TLC



Capacity : Up to 512GB

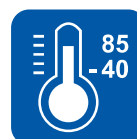


USB DOM

SLC pSLC MLC



Capacity : Up to 64GB

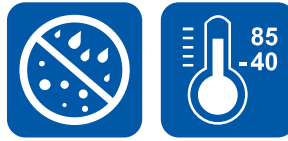


PCMCIA

SLC



Capacity : Up to 32GB



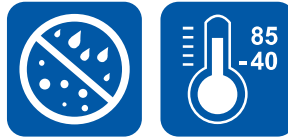
2.5" PATA SSD

SLC

MLC



Capacity : Up to 256GB



CF Card

SLC

MLC



Capacity : Up to 256GB



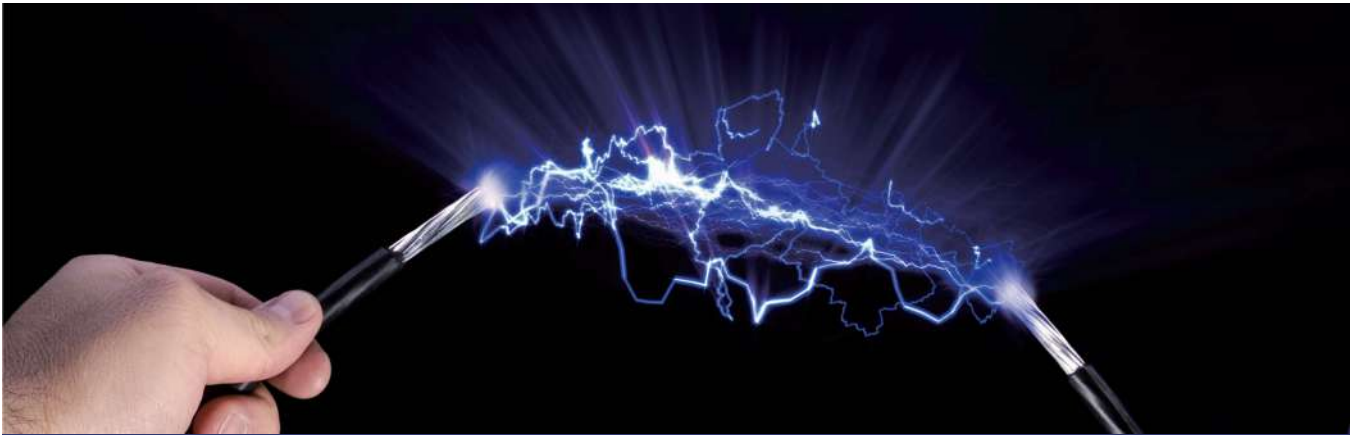
IDE DOM

SLC



Capacity : Up to 8GB

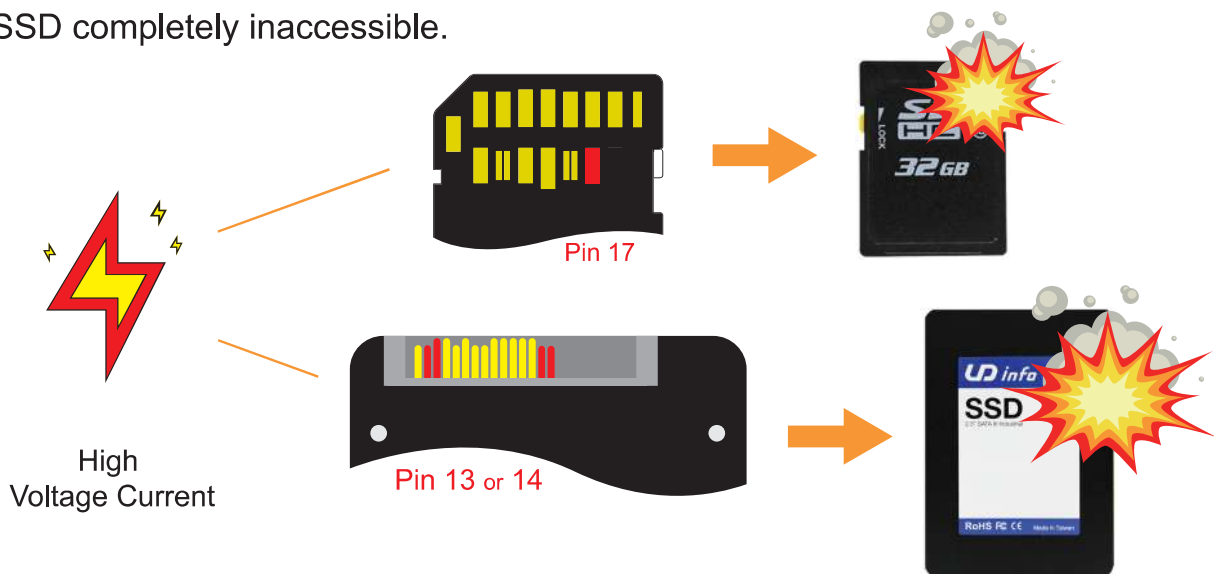




Physical Destroy

The protection of data is a key issue in industrial applications. It is essential that storage devices protect confidential data by data protection mechanism. Physical destruction performs a complete and total data erase of the SSD and SD Card.

Using a high voltage input, physical destruction completely burns out the flash IC in a short period of time, causing irreversible damage and rendering the SSD completely inaccessible.








Anti Radiation

- Strong radiation dissipation with full coverage on PCIe M.2 2280 & U.2 with pSLC mode.
- Comply with MIL-STD-810G



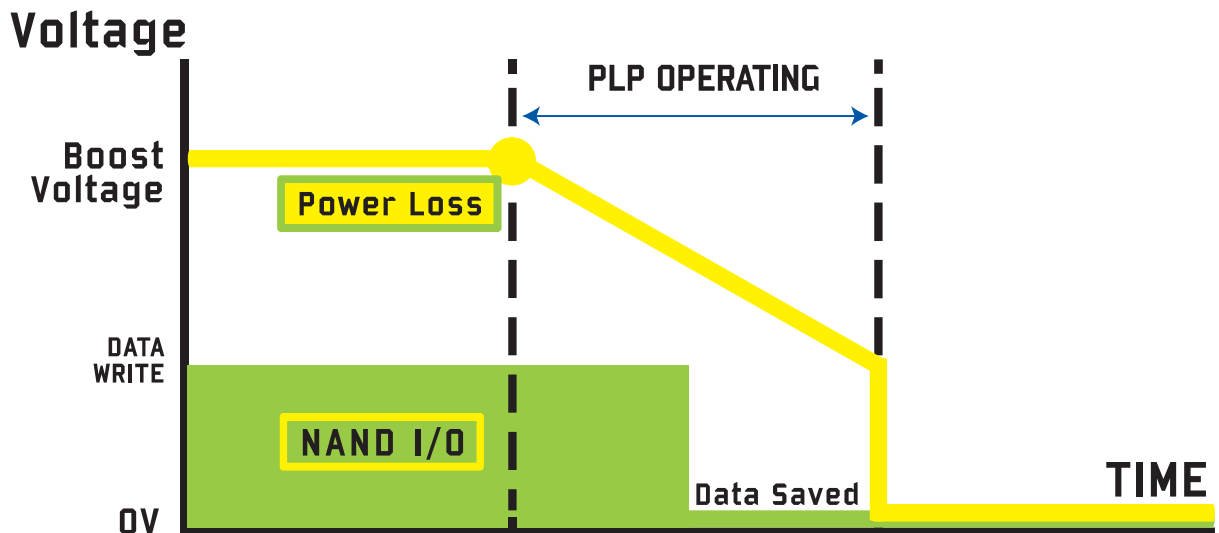
pSLC

Pseudo SLC (pSLC)

	NAND Types	Structures	Reliability (P/E Cycle)
2D	SLC		60K
	MLC		3K
	pSLC (Pseudo SLC)		30K
3D	TLC		3K
	pSLC (Pseudo SLC)		30K+

- pSLC is an Ideal Alternative Solution provides Reliability & Cost Efficiency, perfect for Heavy Write Application with Great Performance.
- Base on MLC or 3D TLC Flash to simulate SLC Performance.

Power Loss Protection (PLP)



- Able to protect system and data
- Applied on PCIe U.2, PCIe M.2 2280, 2.5" SATA SSD, mSATA, M.2 SATA 2280 & CFast
- Available for SLC, MLC, 2D & 3D pSLC & 3D TLC Flash

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