

Datasheet

M.2 (P80) 4IE3 series

- PCIe Gen4 x4, NVMe SSD
- Innodisk 3D TLC NAND
- Standard temperature
- Ultra iSLC technology
- iPowerguard
- iDataguard
- Dynamic Thermal Management
- 256 bit AES hardware based encryption
- Support iCell technology
- Support Write Protection (optional)
- Support TCG OPAL function (optional)



Introduction

Innodisk M.2 (P80) 4IE3 is a NVM Express DRAM-less SSD designed with PCIe interface and industrial 3D TLC NAND Flash. M.2 (P80) 4IE3 supports PCIe Gen4 x4 and it is compliant with NVMe 1.4 providing excellent top and also sustained performance. With sophisticated error detection and correction (ECC) functions, the module can provide full End-to-end Data Path Protection that secures the data transmission between the host system and NAND Flash.

Innodisk M.2 (P80) 4IE3 is designed with AES engine, which is a built in controller. When controller receives the data package from host, AES engine encrypts the data package and saves the encrypted data into NAND flash. Thus, unauthorized personal has no access to decrypt the data in NAND flash.

Diagram(ST)

Innodisk is a service-driven provider of industrial embedded flash and DRAM storage products and technologies, with a focus on the cloud computing, industrial/embedded, and aerospace and defense industries.

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Technical drawing of the PCB layout for the 1000 Series, showing top, side, and detail views with dimensions and tolerances.

Top View Dimensions:

- Overall Width: 22.00
- Overall Height: 80.00
- Top Mounting Hole Diameter: $\varnothing 3.50 \pm 0.08$
- Bottom Mounting Hole Diameter: $\varnothing 5.50 \pm 0.10$
- Bottom Mounting Hole Position: 4.00 (MIN) (KEEP OUT AREA)
- Bottom Mounting Hole Diameter: $\varnothing 6.00$
- Bottom Mounting Hole Position: 1.00 $\pm$ 0.10
- Bottom Mounting Hole Position: 5.20 (MIN) (KEEP OUT AREA)
- Bottom Mounting Hole Position: 6.125

Side View Dimensions:

- Top Mounting Hole Diameter: $\varnothing 3.50 \pm 0.08$
- Bottom Mounting Hole Diameter: $\varnothing 5.50 \pm 0.10$
- Bottom Mounting Hole Position: 4.00 (MIN) (KEEP OUT AREA)
- Bottom Mounting Hole Diameter: $\varnothing 6.00$
- Bottom Mounting Hole Position: 1.00 $\pm$ 0.10
- Bottom Mounting Hole Position: 5.20 (MIN) (KEEP OUT AREA)
- Bottom Mounting Hole Position: 6.125

Detail A Dimensions:

- Top Mounting Hole Diameter: $\varnothing 3.50 \pm 0.08$
- Bottom Mounting Hole Diameter: $\varnothing 5.50 \pm 0.10$
- Bottom Mounting Hole Position: 4.00 (MIN) (KEEP OUT AREA)
- Bottom Mounting Hole Diameter: $\varnothing 6.00$
- Bottom Mounting Hole Position: 1.00 $\pm$ 0.10
- Bottom Mounting Hole Position: 5.20 (MIN) (KEEP OUT AREA)
- Bottom Mounting Hole Position: 6.125

TOLERANCE: ± 0.15 mm

UNIT: mm

DETAIL A

SCALE 5:1

Specifications

Contact us for more information about the M.2 (P80) 4IE3.

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Interface	PCIe Gen4 x4
Flash Type	iSLC (3D TLC)
P/E cycle	100,000
Capacity	40GB~640GB
Max. Channels	4
Sequential R/W (MB/sec, max.)	3,600/3,200
Max. Power Consumption	5.0W
Thermal Sensor	√
External DRAM buffer	NA
H/W Write Protect	√ (Optional)
iCell (PLP)	√
AES	√
TCG OPAL	√ (Optional)
Dimension (WxLxH)	22.0 X 80.0 X 3.5 mm
Environment	Vibration: 20G @7~2000Hz Shock: 1500G @ 0.5ms Storage Temperature: -40°C ~ +85°C MTBF: 3 million hours

Ordering Information

Operation Temp.	40GB	80GB	160GB	320GB	640GB
Standard Grade (0°C ~ +70°C)	DHM28-40GDH1KCBDLP(W)	DHM28-80GDH1KCBQLP(W)	DHM28-A60DH1KCBQLP(W)	DHM28-D2GDH1KCBQLP(W)	DHM28-F4GDH1KCBQLP(W)

W: HW Write Protect
For TCG OPAL function, the PN Code 10th~12th will be DH2.

