【Products specifications】
(As of 16. Sep.2021)

Products name	NEM-PA series	
Model	NEM-PA2TB	NEM-PA1TB
Storage capacity	2,000 GB	1,000 GB
Form factor	M.2 2280-D2-M double side	M.2 2280-S2-M single side
Interface	PCIe® Gen 4.0×4, NVMe 1.4	
Sequential speed (Read) [*1]	Up to 7,300 MB/s	Up to 7,300 MB/s
Sequential speed (Write) [*1]	Up to 6,900 MB/s	Up to 6,000 MB/s
Random access speed (READ) [*1]	Up to 1,000,000 IOPS	Up to750,000 IOPS
Random access speed (Write) [*1]	Up to 1,000,000 IOPS	Up to 1,000,000 IOPS
NAND Flash memory	3D TLC	
DRAM cache memory	2 GB DDR4 SDRAM	1 GB DDR4 SDRAM
TBW (Total Byte Written) [*2]	1,400 TB	700 TB
MTBF (Mean Time Before Failures) [*3]	1,600,000hours	
Feature	SLC Caching, Advanced Wear Leveling, Bad Block Management, Thermal throttling, TRIM, S.M.A.R.T, Over-Provision, ECC, End to end data path protection	
Max power consumption (Read/Write) [*2]	Read 8.3/ Write 9.6 (W)	Read 6.6/ Write 6.7 (W)
Operating temperature [*4]	0℃～70℃	
Storage temperature	-40℃～85℃	
External dimensions (W x H x L)	23×11.2×80.4 mm (excluding maximum protrusions)	
Heatsink	Built-in (do not disassemble)	
Warranty [*5]	5years Limited warranty	

Notes:

[*1] The maximum performances in the text represent the performance of NEM-PA2TB. Performance and power consumption may differ depending on the measurement conditions. Since the measured value also depends on factors other than the items described above, the indicated performance is not guaranteed. The measured value is based on the following conditions:

<Sequential speed>
CPU: AMD Ryzen 9 3950X 16-Core Processor Motherboard: MSI MEG X570 ACE
OS: Windows 10 Professional 64bit
Measurement software: ATTO Disk Benchmark Ver.3, Total Length = 1 GB

<IOPS>
CPU: AMD Ryzen 7 5800X 8-Core Processor
Motherboard: Gigabyte X570 AORUS MASTER
OS: Windows 10 Professional 64bit
Measurement software: IOMeter, 1GB range, 4K data size, QD=128, 16 worker, 4k aligned

Please do not disassemble the heatsink. When you mount on a Desktop PC, make sure your system's space for installation: the max dimensions of the NEM-PA is 24.5mm (W) x 8.10mm (H) x 80.15mm (L).　It cannot be used for laptop computers.

(*2) TBW is calculated based on JEDEC 218/219 workload

(*3) MTBF is calculated based on simulation software (Relex7.3). High-capacity drives are expected to have low MTBF and the minimum MTBF applies to all capacities

(*4) Specified by the Flash temperature (not the environmental temperature.) Maximum performance is not guaranteed over the entire operating temperature range

(*5) Warranty and product support valid for 5 years from the original date of purchase or before writing the maximum TBW (Total Bytes Written)