

Up to 8TB with Wide Temperature Models!
The Ideal Industrial-Grade High-Speed SSD

HAGIWARA Solutions

PCIe Gen4 SSD - F Series

Pursuing Reliability - Hagiwara Solutions' Industrial-Grade SSDs

A New Model with High-Speed PCIe Gen4 Support to the F Series, Ideal for Secure Data Storage

F Series PCIe Gen3 vs. PCIe Gen4



- Sequential **Read**_(Max) **7% UP** 2,850MB/s→3,050MB/s
- Sequential **Write**_(Max) **70% UP** 1,700MB/s→2,900MB/s
- Random **Read**_(Max) **81% UP** 99,000IOPS→180,000IOPS
- Random **Write**_(Max) **60% UP** 88,000IOPS→140,000IOPS



- U.2 with High Capacity **8TB(7,680GB)**
*M.2 2280 is up to 3,840GB



- Operating Current **29% DOWN** U.2
34% DOWN M.2 2280

PCIe Gen	Speed (GB/s)		
	x1	x2	x4
Gen 1	0.25	0.5	1
Gen 2	0.5	1	2
Gen 3	1	2	4
Gen 4	2	4	8

Feature



- Interface : **PCIe Gen4 x 4/NVMe 1.4**
- NAND : 3D TLC
- Temperature : **-40°C~85°C**
- Capacity : 960GB~8TB(7,680GB)
- High-speed Random access :
Read 180K IOPS_(Max) Write 140K IOPS_(Max)
- Low Power Consumption : 7.5W(Active/Typ.)
- Error Correction : LDPC
- High Reliability : **User Bit Error rate 1E-17**
- Live Monitor Plus
- Power Loss Protection(PLP) *U.2
- SED(TCG/AES) *Option

Recommend for Data Logging



Automotive



Broadcast



Medical



FA/Image Inspection

Product line-up

Form Factor	Capacity	Part Number	
			Wide Temperature
M.2 2280	960GB	FSN8E-960GW00CN	FSN8E-960GW00DI
	1,920GB	FSN8E-1920W00CN	FSN8E-1920W00DI
	3,840GB	FSN8E-3840W00CN	FSN8E-3840W00DDI
M.2 2280 *with heat sink	960GB	FSN8E-960GW00CN-HTS	FSN8E-960GW00DI-HTS
	1,920GB	FSN8E-1920W00CN-HTS	FSN8E-1920W00DI-HTS
	3,840GB	FSN8E-3840W00CN-HTS	FSN8E-3840W00DI-HTS
U.2	960GB	FSN2E-960GW00CN	FSN2E-960GW00DI
	1,920GB	FSN2E-1920W00CN	FSN2E-1920W00DI
	3,840GB	FSN2E-3840W00CN	FSN2E-3840W00DI
	7,680GB	FXN2E-7680W00CN	FSN2E-7680W00DI

Product Specifications

Form Factor		M.2 2280		U.2	
			Wide Temperature		Wide Temperature
Interface		PCIe Gen4 x4 NVMe 1.4		PCIe Gen4 x4 NVMe 1.4	
NAND		3D TLC		3D TLC	
Capacity		960GB~3,840GB		960GB~7,680GB	
Operating Temperature		0°C~70°C	-40°C~85°C	0°C~70°C	-40°C~85°C
Speed (Max)	Sequential Read	2,800 MB/sec		3,050 MB/sec	
	Sequential Write	2,750 MB/sec		2,900 MB/sec	
	Random Read (4KB)	180,000 IOPS		180,000 IOPS	
	Random Write (4KB)	140,000 IOPS		140,000 IOPS	
Operating Current (Max)	Read/Write (Typical)	2,305 mA / 1,480 mA		620 mA / 1,060 mA	
	L0/L1.0 (Typical)	690 mA / 310 mA		225 mA / 115 mA	
P/E cycle		3,000		3,000	
TBW		4,060 TB (3,840GB)		4,060 TB (3,840GB)	
MTBF		2,000,000 hours		2,000,000 hours	

Line-Up(Under Development)

CFexpress TypeB

- PCIe Gen3 x2
- Wide Temperature (-40~85°C)
- 128GB~1TB

E1.s

- PCIe Gen4 x4
- Wide Temperature (-40~85°C)
- 960GB~8TB (7,680GB)

Add-in Card

- PCIe Gen3 x8
- NVMe SSD Hardware RAID1
- 960GB~7,680GB



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