ATP Industrial Enterprise PCIe® Gen4 NVMe SSD series

High-performance PCIe® Gen4 NVMe SSDs for industrial and enterprise application

BRESSNER
A ONE STOP SYSTEMS COMPANY

Features

- PCIe® Gen4 NVMe SSDs for industrial and enterprise applications
- High write endurance with up to 5 DWPD for intensive workloads
- MCU-based power loss protection with level 4 protection
- Available in U.2, M.2 and E1.S for flexible integration options
- Extended operating temperature range from -40°C to +85°C

TP Industrial Enterprise PCIe® Gen4 NVMe SSD series – High-Performance Storage for Edge and Enterprise Applications

The ATP Industrial Enterprise PCIe® Gen4 NVMe SSD series is engineered to meet these demanding requirements. Designed for extreme temperatures, fanless industrial systems, and challenging deployment scenarios, these SSDs combine the durability of industrial-grade storage with the high-speed performance and low latency needed for enterprise applications.

Available in U.2, M.2, and E1.S form factors, these SSDs provide various endurance levels (1, 2, and 5 DWPD options) to suit application-specific requirements. Their hardware-based Power Loss Protection (PLP) with Level-4 data-in-flight protection ensures data integrity in mission-critical operations. Furthermore, advanced thermal management and ATP's proprietary firmware optimizations guarantee maximum reliability, longevity, and consistent performancein rugged industrial environments.

Whether used as boot drives, data storage, or high-performance computing solutions, the ATP Industrial Enterprise PCIe® Gen4 NVMe SSD series is the ideal choice for applications requiring high endurance, low latency, and exceptional reliability in the era of IT-OT convergence.

Technologies & Add-On Services

S.M.A.R.T.	ⓘ	●
Industrial Temperature	ⓘ	●
Firmware-Based Data-At-Rest Power Loss Protection	ⓘ	●
Hardware-Based In-Flight-Data Power Loss Protection	ⓘ	●
Advanced Wear Leveling	ⓘ	●
AutoRefresh	ⓘ	●
Dynamic Data Refresh	ⓘ	●
Auto-Read Calibration	ⓘ	●
End-to End Data Path Protection	ⓘ	●
SED (AES 256-bit Encryption, TCG Opal 2.0)	ⓘ	▲
Software Secure Erase	ⓘ	●
Anti-Sulfur Resistors	ⓘ	▲
Conformal Coating	ⓘ	▲
Joint Validation and Test	ⓘ	▲

▲: Customization option available on a project basis.

ATP Industrial Enterprise PCIe® Gen4 NVMe SSD series

High-performance PCIe® Gen4 NVMe SSDs for industrial and enterprise application

BRESSNER
A ONE STOP SYSTEMS COMPANY

ATP Industrial Enterprise PCIe® Gen4 NVMe SSD series			
FEATURES			
Product Line	**Enterprise**		
Naming	**N651Sie**		
Interface	PCIe Gen4 x4		
Form Factor	M.2	U.2	E1.S
Dimensions	80 x 22 x 3.85mm	100 x 69.85 x 15mm	118.75 x 33.75 x 9.5mm
Flash Type	TLC		
Capacity	120GB to 1.92TB	480GB to 7.68TB	
Sequential Read up to[1][6][7]	6,450 MB/s	6,000 MB/s	6,100 MB/s
Sequential Write up to[1][6][7]	6,050 MB/s	5,500 MB/s	6,000 MB/s
Random Read up to [2][6][7]	1,100 KIOPS	820 KIOPS	870 KIOPS
Random Write up to[2][6][7]	1,250 KIOPS	1,200 KIOPS	
Sustained Sequential Write up to [3][6][7]	3,000 MB/s	3,200 MB/s	
Sustained Random Write up to[4][6][7]	250 KIOPS (1,000 MB/s)	320 KIOPS (1,280 MB/s)	
Endurance (DWPD)[8]	Available in 1, 2, and 5 DWPD configurations		
QoS 99.9999%[5][6][7]	Read <90µs | Write <10µs	Read <80µs | Write <10µs	Read <80µs | Write <10µs
Data Retention	1 year at 55°C (100% P/E cycles)		
Power Loss Protection	Yes		
End to End Data Path Protection	Yes		
Sustained Read Power (Max)[7]	<9W	<14.5W	<13W
Sustained Write Power (Max)[7]	<11.5W	<17.5W	<15.5W
Supply Voltage	3.3V	12V	
Operating Temperature	-40°C to 85°C (I-Temp)		
Storage Temperature	-40°C to 85°C		
Vibration/Shock Resistance	Vibration: Sine 16.4G,10~2,000Hz Shock: Half sine 1,500G/0.5ms		
MTBF @ 25°C	> 3,000,000 hours		
UBER	<1 sector per 10^17 bits read		
Warranty	5 years		

1] Sequential Burst Performance tested with IOmeter 4MB, QD64
[2] Random Burst Performance tested with IOmeter 4KB, QD64
[3] Average Sustained Sequential Write Performance tested with IOmeter, 4MB, QD64 for 4 hours
[4] Average Sustained Random Write Performance tested with IOmeter, 4KB, QD64 for 4 hours
[5] 4KB Random QD=1
[6] Actual performance may vary depending on user conditions and system environment.
[7] Parameters tested with highest capacity drive.
[8] DWPD for 5 years tested with JESD219A Enterprise workload.