

ENTERPRISE UltraSpeed

PCIe Gen5 Feature-rich Enterprise SSD

Sequential read

up to 14 800 MB/s

Sequential write

up to 8 700 MB/s

Random read

up to 3 200 000 IOPS

Random write

up to 930 000 IOPS

Interface

PCIe 5.0 1x4 (Single port), 2x2 (Dual port)

Capacity

up to 30,72 TB

Form factor

U.2, E3.S

DWPD

1, 3



Product features

- NVMe 2.0
- AES-XTS 256-bit Encryption
- TCG Opal 2.0 Support
- ISE
- End-to-End Data Path Protection
- NVMe-MI
- SMBus
- Metadata Protection
- 128 Namespaces
- SECDED
- Power Loss Protection (PLP)
- Sanitize
- Data Integrity and Protection

Solutions - US20S

Form factor U.2

Capacity ⁽¹⁾	1.6 TB	3.2 TB	6.4 TB	12.8 TB	25.6 TB
Interface	PCIe 5.0 1x4, 2x2	PCIe 5.0 1x4, 2x2	PCIe 5.0 1x4, 2x2	PCIe 5.0 1x4, 2x2	PCIe 5.0 1x4, 2x2
NVMe	2.0	2.0	2.0	2.0	2.0
NAND Flash	3D TLC	3D TLC	3D TLC	3D TLC	3D TLC

Performance^(2,3,4,5)

Sequential read to (MB/s)	14 800	14 800	14 800	14 800	14 800
Sequential write to (MB/s)	4 300	8 600	8 700	8 500	7 600
4K random read to (IOPS)	2 400 000	3 300 000	3 200 00	2 800 000	2 300 000
4K random write to (IOPS)	390 000	790 000	880 000	900 000	615 000
Read latency (Typ.,µs)	60	60	60	60	65
Write latency (Typ.,µs)	9	9	9	9	9

Power consumption⁽⁶⁾

Active (W)	16	22	23	24	25
Idle (W)	5	5	5	5	5

Endurance/Reliability

DWPD ⁽⁷⁾	3	3	3	3	3
TBW ⁽⁸⁾	8.8 PB	17.5 PB	35.0 PB	70.0 PB	140.2 PB
UBER ⁽⁹⁾	< 1 sector per 10 ¹⁸ bits read	< 1 sector per 10 ¹⁸ bits read	< 1 sector per 10 ¹⁸ bits read	< 1 sector per 10 ¹⁸ bits read	< 1 sector per 10 ¹⁸ bits read
MTBF (hours) ⁽¹⁰⁾	2 500 000	2 500 000	2 500 000	2 500 000	2 500 000
Limited warranty (years) ⁽¹¹⁾	5	5	5	5	5

Temperature

Operating temp. (°C)	0 – 70	0 – 70	0 – 70	0 – 70	0 – 70
Non-operating temp. (°C)	-40 – 85	-40 – 85	-40 – 85	-40 – 85	-40 – 85

Physical dimension

Length (mm)	100.10	100.10	100.10	100.10	100.10
Width (mm)	69.85	69.85	69.85	69.85	69.85
Height (mm)	15.00	15.00	15.00	15.00	15.00
Weight(g)	188.00	199.00	201.00	168.00	169.00

* A detailed explanation of symbols and markings is provided on the final page.



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Performance numbers may vary based on system.
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Solutions - US20S

Form factor E.3S				
Capacity ⁽¹⁾	1.6 TB	3.2 TB	6.4 TB	12.8 TB
Interface	PCIe 5.0 1x4, 2x2	PCIe 5.0 1x4, 2x2	PCIe 5.0 1x4, 2x2	PCIe 5.0 1x4, 2x2
NVMe	2.0	2.0	2.0	2.0
NAND Flash	3D TLC	3D TLC	3D TLC	3D TLC
Performance ^(2,3,4,5)				
Sequential read to (MB/s)	14 800	14 800	14 800	14 800
Sequential write to (MB/s)	4 300	8 600	8 700	8 500
4K random read to (IOPS)	2 400 000	3 300 000	3 200 000	2 600 000
4K random write to (IOPS)	390 000	790 000	900 000	900 000
Read latency (Typ.,µs)	60	60	60	60
Write latency (Typ.,µs)	9	9	9	9
Power consumption ⁽⁶⁾				
Active (W)	17	22	23	24
Idle (W)	5	5	5	5
Endurance/Reliability				
DWPD ⁽⁷⁾	3	3	3	3
TBW ⁽⁸⁾	8.8 PB	17.5 PB	35.0 PB	70.1 PB
UBER ⁽⁹⁾	< 1 sector per 10 ¹⁸ bits read	< 1 sector per 10 ¹⁸ bits read	< 1 sector per 10 ¹⁸ bits read	< 1 sector per 10 ¹⁸ bits read
MTBF (hours) ⁽¹⁰⁾	2 500 000	2 500 000	2 500 000	2 500 000
Limited warranty (years) ⁽¹¹⁾	5	5	5	5
Temperature				
Operating temp. (°C)	0 – 70	0 – 70	0 – 70	0 – 70
Non-operating temp. (°C)	-40 – 85	-40 – 85	-40 – 85	-40 – 85
Physical dimension				
Length (mm)	112.75	112.75	112.75	112.75
Width (mm)	76.00	76.00	76.00	76.00
Height (mm)	7.50	7.50	7.50	7.50
Weight(g)	106.00	114,00	117.00	119.00

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Solutions - US20M

Form factor U.2

Capacity ⁽¹⁾	1.92 TB	3.84 TB	7.68 TB	15.36 TB	30.72 TB
Interface	PCIe 5.0 1x4, 2x2	PCIe 5.0 1x4, 2x2	PCIe 5.0 1x4, 2x2	PCIe 5.0 1x4, 2x2	PCIe 5.0 1x4, 2x2
NVMe	2.0	2.0	2.0	2.0	2.0
NAND Flash	3D TLC	3D TLC	3D TLC	3D TLC	3D TLC

Performance^(2,3,4,5)

Sequential read to (MB/s)	14 800	14 800	14 800	14 800	14 000
Sequential write to (MB/s)	4 300	8 600	8 700	8 500	7 600
4K random read to (IOPS)	2 400 000	3 300 000	3 200 00	2 800 000	2 300 000
4K random write to (IOPS)	140 000	320 000	390 000	420 000	265 000
Read latency (Typ.,µs)	60	60	60	60	60
Write latency (Typ.,µs)	9	9	9	9	10

Power consumption⁽⁶⁾

Active (W)	16	22	23	24	25
Idle (W)	5	5	5	5	5

Endurance/Reliability

DWPD ⁽⁷⁾	1	1	1	1	1
TBW ⁽⁸⁾	3.5 PB	7.0 PB	14.0 PB	28.0 PB	56.1 PB
UBER ⁽⁹⁾	< 1 sector per 10 ¹⁸ bits read	< 1 sector per 10 ¹⁸ bits read	< 1 sector per 10 ¹⁸ bits read	< 1 sector per 10 ¹⁸ bits read	< 1 sector per 10 ¹⁸ bits read
MTBF (hours) ⁽¹⁰⁾	2 500 000	2 500 000	2 500 000	2 500 000	2 500 000
Limited warranty (years) ⁽¹¹⁾	5	5	5	5	5

Temperature

Operating temp. (°C)	0 – 70	0 – 70	0 – 70	0 – 70	0 – 70
Non-operating temp. (°C)	-40 – 85	-40 – 85	-40 – 85	-40 – 85	-40 – 85

Physical dimension

Length (mm)	100.10	100.10	100.10	100.10	100.10
Width (mm)	69.85	69.85	69.85	69.85	69.85
Height (mm)	15.00	15.00	15.00	15.00	15.00
Weight(g)	188.00	199.00	201.00	168.00	169.00

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Solutions - US20M

Form factor E3.S				
Capacity ⁽¹⁾	1.92 TB	3.84 TB	7.68 TB	15.36 TB
Interface	PCIe 5.0 1x4, 2x2	PCIe 5.0 1x4, 2x2	PCIe 5.0 1x4, 2x2	PCIe 5.0 1x4, 2x2
NVMe	2.0	2.0	2.0	2.0
NAND Flash	3D TLC	3D TLC	3D TLC	3D TLC
Performance ^(2,3,4,5)				
Sequential read to (MB/s)	14 800	14 800	14 800	14 800
Sequential write to (MB/s)	4 300	8 600	8 700	8 500
4K random read to (IOPS)	2 400 000	3 300 000	3 200 000	2 600 000
4K random write to (IOPS)	140 000	320 000	460 000	420 000
Read latency (Typ.,µs)	60	60	60	60
Write latency (Typ.,µs)	9	9	9	9
Power consumption ⁽⁶⁾				
Active (W)	16	22	25	25
Idle (W)	5	5	5	5
Endurance/Reliability				
DWPD ⁽⁷⁾	1	1	1	1
TBW ⁽⁸⁾	3.5 PB	7.0 PB	14.0 PB	28.0 PB
UBER ⁽⁹⁾	< 1 sector per 10 ¹⁸ bits read	< 1 sector per 10 ¹⁸ bits read	< 1 sector per 10 ¹⁸ bits read	< 1 sector per 10 ¹⁸ bits read
MTBF (hours) ⁽¹⁰⁾	2 500 000	2 500 000	2 500 000	2 500 000
Limited warranty (years) ⁽¹¹⁾	5	5	5	5
Temperature				
Operating temp. (°C)	0 – 70	0 – 70	0 – 70	0 – 70
Non-operating temp. (°C)	-40 – 85	-40 – 85	-40 – 85	-40 – 85
Physical dimension				
Length (mm)	112.75	112.75	112.75	112.75
Width (mm)	76.00	76.00	76.00	76.00
Height (mm)	7.50	7.50	7.50	7.50
Weight(g)	106.00	114,00	117.00	119.00

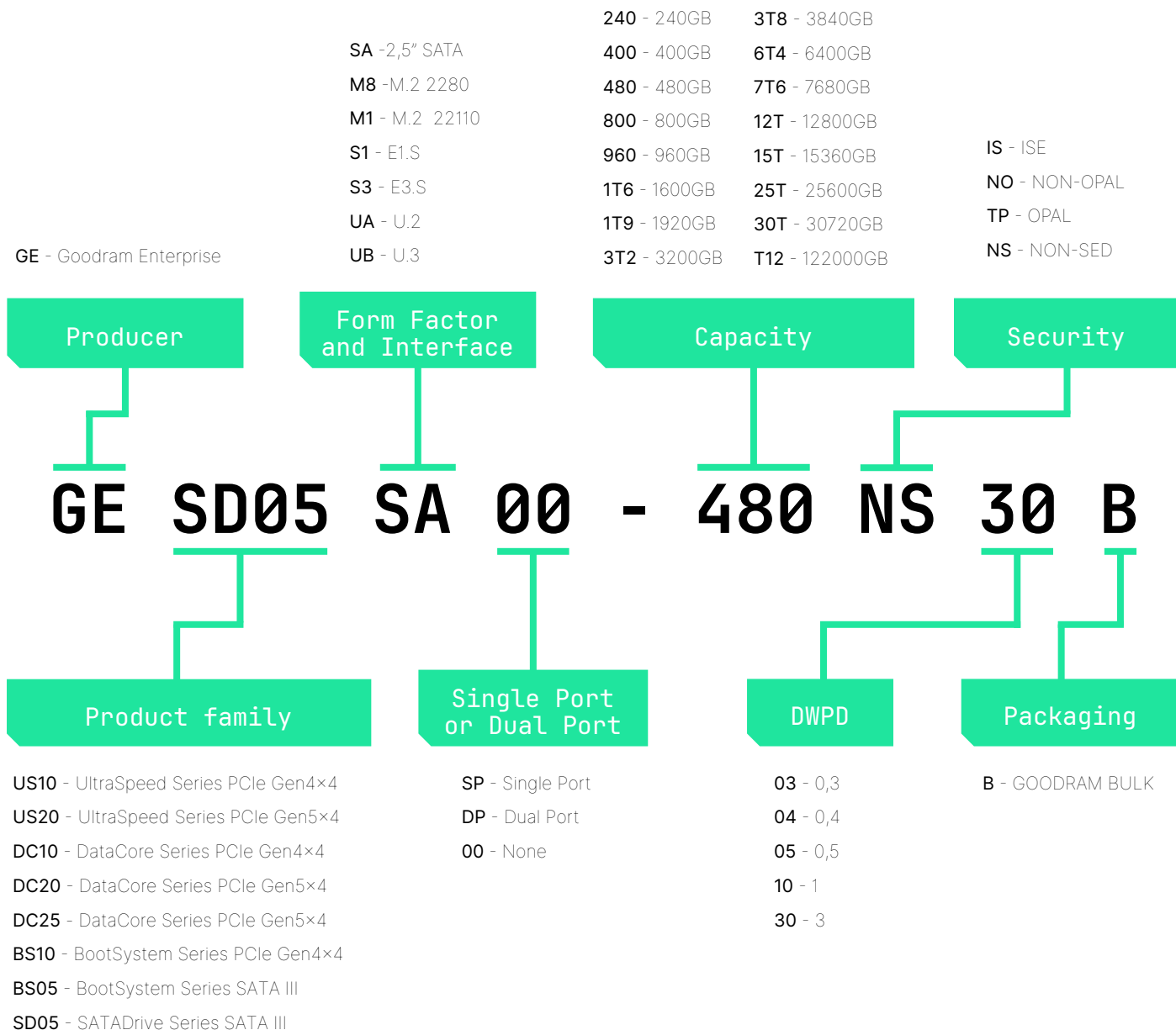
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Decoder P/N



Legend

- (1) 1 TB = 10^{12} bytes.
- (2) Sequential Performance is based on FIO on Linux, 128 K, with QD=32, 1 worker.
- (3) Random Performance is based on FIO on Linux, 4 K data size, QD=64, 8 workers.
- (4) Latency is measured with random workloads based on FIO on Linux, 4 KB data size, QD=1, 1 worker.
- (5) Sequential performance is based on FIO (Flexible I/O Tester - an open source tool used to measure the performance of input/output (I/O) operations for disk drives and storage systems under various test scenarios) on Linux, 128 K, with QD=32, 1 worker.
- (6) Power consumption (Average RMS) is measured during the sequential read/write and random read/write operations performed by iometer with the conditions described in (2)(3).
- (7) The results of DWPD are obtained in compliance with JESD219A Standards.
- (8) 1 PB = 1000 TB, 1 TB = 10^{12} bytes.
- (9) UBER (Uncorrectable Bit Error Rate) – a measure of data storage reliability, indicating the number of uncorrectable bit errors per amount of data read. This value shows how often errors may occur that cannot be corrected using internal ECC (Error Correction Code) mechanisms.
- (10) Please note that a lower MTBF should be expected for higher capacity drives, and we apply the lowest MTBF for all capacities.
- (11) We warrant that each Product manufactured and delivered by Wilk Elektronik SA will comply with the specifications for five (5) years from the date of delivery or until the total number of stored terabytes specified in the S.M.A.R.T. attribute is exceeded, whichever occurs first.