ThinkSystem Vendor Agnostic Read Intensive 6Gb SATA SSDs

Product Guide

The ThinkSystem Vendor Agnostic Read Intensive SATA SSDs are general-purpose SSDs with an average endurance of 1 drive write per day. Vendor Agnostic SSDs are non-vendor-specific drives which can streamline and simplify the ordering and delivery of SATA SSDs. The drives offered in the Vendor Agnostic SSD program consists of SSDs that are readily available, ensuring the shortest supply lead time.



Figure 1. ThinkSystem Vendor Agnostic Read Intensive SATA SSDs

Did you know?

Lenovo Read Intensive SSDs are suitable for read-intensive and general-purpose data center workloads. Overall, these SSDs provide outstanding IOPS/watt and cost/IOPS for enterprise solutions and are an excellent choice for applications such as web serving, hyperscale cloud, content delivery, caching, databases, and analytics.

Part number information

The following table lists the part numbers and feature codes.

Table 1. Ordering part numbers and feature codes

Part number	Feature	Description
2.5-inch hot-swap drives		
4XB7A90872	BYLQ	ThinkSystem 2.5" VA 240GB Read Intensive SATA 6Gb HS SSD v2
4XB7A90873	BYLR	ThinkSystem 2.5" VA 480GB Read Intensive SATA 6Gb HS SSD v2
4XB7A90874	BYLS	ThinkSystem 2.5" VA 960GB Read Intensive SATA 6Gb HS SSD v2
4XB7A90875	BYLT	ThinkSystem 2.5" VA 1.92TB Read Intensive SATA 6Gb HS SSD v2
4XB7A90876	BYLU	ThinkSystem 2.5" VA 3.84TB Read Intensive SATA 6Gb HS SSD v2
4XB7A90877	BYLV	ThinkSystem 2.5" VA 7.68TB Read Intensive SATA 6Gb HS SSD v2
3.5-inch hot-swap drives		
4XB7A90878	BYLW	ThinkSystem 3.5" VA 240GB Read Intensive SATA 6Gb HS SSD v2
4XB7A90879	BYLJ	ThinkSystem 3.5" VA 480GB Read Intensive SATA 6Gb HS SSD v2
4XB7A90880	BYLY	ThinkSystem 3.5" VA 960GB Read Intensive SATA 6Gb HS SSD v2
4XB7A90881	BYLZ	ThinkSystem 3.5" VA 1.92TB Read Intensive SATA 6Gb HS SSD v2
4XB7A90882	BYM0	ThinkSystem 3.5" VA 3.84TB Read Intensive SATA 6Gb HS SSD v2
4XB7A90883	BYM1	ThinkSystem 3.5" VA 7.68TB Read Intensive SATA 6Gb HS SSD v2
2.5-inch non-hot-swap drives		
4XB7B04138	C8DT	ThinkSystem ST50/ST45 Series 2.5" VA 480GB Read Intensive SATA 6Gb NHS SSD
4XB7B04139	C8DS	ThinkSystem ST50/ST45 Series 2.5" VA 960GB Read Intensive SATA 6Gb NHS SSD
4XB7B04140	C8DR	ThinkSystem ST50/ST45 Series 2.5" VA 1.92TB Read Intensive SATA 6Gb NHS SSD
4XB7B04141	C8DQ	ThinkSystem ST50/ST45 Series 2.5" VA 3.84TB Read Intensive SATA 6Gb NHS SSD
3.5-inch non-hot-swap drives		
4XB7B04142	C8DP	ThinkSystem ST50/ST45 Series 3.5" VA 480GB Read Intensive SATA 6Gb NHS SSD
4XB7B04143	C8DN	ThinkSystem ST50/ST45 Series 3.5" VA 960GB Read Intensive SATA 6Gb NHS SSD
4XB7B04144	C8DM	ThinkSystem ST50/ST45 Series 3.5" VA 1.92TB Read Intensive SATA 6Gb NHS SSD
4XB7B04145	C8DL	ThinkSystem ST50/ST45 Series 3.5" VA 3.84TB Read Intensive SATA 6Gb NHS SSD
M.2 non-hot-swap drives		
4XB7B07587	CAC9	ThinkSystem M.2 VA 240GB Read Intensive SATA 6Gb NHS SSD
4XB7B07588	CABU	ThinkSystem M.2 VA 480GB Read Intensive SATA 6Gb NHS SSD
4XB7B07589	CACA	ThinkSystem M.2 VA 960GB Read Intensive SATA 6Gb NHS SSD
Trayless drives		
4XB7B07590	CAC3	ThinkSystem 2.5" VA 240GB Read Intensive SATA 6Gb Trayless SSD
4XB7B07591	CAC2	ThinkSystem 2.5" VA 480GB Read Intensive SATA 6Gb Trayless SSD

Part number	Feature	Description
4XB7B07592	CAC4	ThinkSystem 2.5" VA 960GB Read Intensive SATA 6Gb Trayless SSD
4XB7B07593	CAC0	ThinkSystem 2.5" VA 1.92TB Read Intensive SATA 6Gb Trayless SSD
4XB7B07594	CAC1	ThinkSystem 2.5" VA 3.84TB Read Intensive SATA 6Gb Trayless SSD
4XB7B07595	CABZ	ThinkSystem 2.5" VA 7.68TB Read Intensive SATA 6Gb Trayless SSD

The part numbers include the following items:

- One 2.5-inch solid-state drive
- Hot-swap drives include either a 2.5-inch or 2.5-inch ThinkSystem hot-swap tray
- Non-hot-swap drives include a drive carrier
- Documentation flyer

Features

The Vendor Agnostic SSDs have the following features:

- Low cost SSD for read-intensive workloads from industry leading SSD vendors
- 6 Gbps SATA interface
- Advanced ECC Engine and End-to-End Data Protection
- TLC V-NAND stacks the vertical NAND layers in three dimensions, solving the cell-to-cell interference that causes data corruption in planar NAND.
- Power Loss Protection (PLP) architecture
- Supports Self-Monitoring, Analysis and Reporting Technology (S.M.A.R.T).

Read-Intensive (Entry) SSDs and Write-Intensive (Performance) SSDs have similar read and write IOPS performance, but the key difference between them is their endurance (or lifetime) (that is, how long they can perform write operations because SSDs have a finite number of program/erase (P/E) cycles). Read-Intensive SSDs have a better cost/IOPS ratio but lower endurance compared to Write-Intensive SSDs. SSD write endurance is typically measured by the number of program/erase (P/E) cycles that the drive incurs over its lifetime, listed as the total bytes of written data (TBW) in the device specification.

The TBW value assigned to a solid-state device is the total bytes of written data (based on the number of P/E cycles) that a drive can be guaranteed to complete (% of remaining P/E cycles = % of remaining TBW). Reaching this limit does not cause the drive to immediately fail. It simply denotes the maximum number of writes that can be guaranteed. A solid-state device will not fail upon reaching the specified TBW. At some point based on manufacturing variance margin, after surpassing the TBW value, the drive will reach the end-of-life point, at which the drive will go into a read-only mode. Because of such behavior by Read-Intensive solid-state drives, careful planning must be done to use them only in read-intensive or mix-use up to 70% read/30% write environments to ensure that the TBW of the drive will not be exceeded before the required life expectancy.

Technical specifications

The following table lists the technical specifications for the 2.5-inch and 3.5-inch drives.

Performance and endurance values: The numbers listed in these tables for performance and endurance are the minimums for Vendor Agnostic SSDs.

Table 2. Technical specifications for 2.5-inch and 3.5-inch drives

Feature	**240 GB drive**	**480 GB drive**	**960 GB drive**	**1.92 TB drive**	**3.84 TB drive**	**7.68 TB drive**
Interface	6 Gbps SATA	6 Gbps SATA	6 Gbps SATA	6 Gbps SATA	6 Gbps SATA	6 Gbps SATA
Capacity	240 GB	480 GB	960 GB	1.92 TB	3.84 TB	7.68 TB
SED encryption	No	No	No	No	No	No
Endurance (drive writes per day for 5 years)	1.5 DWPD	1 DWPD	1 DWPD	1 DWPD	1 DWPD	0.6 DWPD
Endurance (total bytes written)	657 TB	876 TB	1752 TB	3504 TB	7008 TB	8410 TB
Data reliability (UBER)	< 1 in 10^{17} bits read	< 1 in 10^{17} bits read	< 1 in 10^{17} bits read	< 1 in 10^{17} bits read	< 1 in 10^{17} bits read	< 1 in 10^{17} bits read
MTBF	2,000,000 hours	2,000,000 hours	2,000,000 hours	2,000,000 hours	2,000,000 hours	2,000,000 hours
IOPS reads (4 KB blocks)	39,500	71,000	81,000	82,000	83,000	77,000
IOPS writes (4 KB blocks)	10,000	15,000	28,000	28,000	27,000	9,500
Sequential read rate (128 KB blocks)	420 MBps	480 MBps	480 MBps	480 MBps	480 MBps	480 MBps
Sequential write rate (128 KB blocks)	210 MBps	320 MBps	460 MBps	460 MBps	460 MBps	460 MBps
Shock, non-operating	1,500 G (Max) at 0.5 ms	1,500 G (Max) at 0.5 ms	1,500 G (Max) at 0.5 ms	1,500 G (Max) at 0.5 ms	1,500 G (Max) at 0.5 ms	1,500 G (Max) at 0.5 ms
Vibration, non-operating	20 G (20-2000 Hz)	20 G (20-2000 Hz)	20 G (20-2000 Hz)	20 G (20-2000 Hz)	20 G (20-2000 Hz)	20 G (20-2000 Hz)

The following table lists the technical specifications for the M.2 drives.

Tip: The M.2 drives support SED drive encryption.

Table 3. Technical specifications for M.2 drives

Feature	**240 GB drive**	**480 GB drive**	**960 GB drive**
Interface	6 Gbps SATA	6 Gbps SATA	6 Gbps SATA
Capacity	240 GB	480 GB	960 GB
SED encryption	Supported	Supported	Supported
Endurance (drive writes per day for 5 years)	1 DWPD	1 DWPD	1 DWPD
Endurance (total bytes written)	430 TB	870 TB	1750 TB
Data reliability (UBER)	< 1 in 10^{17} bits read	< 1 in 10^{17} bits read	< 1 in 10^{17} bits read
MTBF	2,000,000 hours	2,000,000 hours	2,000,000 hours
IOPS reads (4 KB blocks)	70,000	81,000	81,000
IOPS writes (4 KB blocks)	9,000	14,000	14,000
Sequential read rate (128 KB blocks)	470 MBps	470 MBps	470 MBps
Sequential write rate (128 KB blocks)	250 MBps	470 MBps	470 MBps
Shock, non-operating	1,500 G (Max) at 0.5 ms	1,500 G (Max) at 0.5 ms	1,500 G (Max) at 0.5 ms
Vibration, non-operating	20 G (20-2000 Hz)	20 G (20-2000 Hz)	20 G (20-2000 Hz)

Server support

The following tables list the ThinkSystem servers that are compatible.

Table 4. Server support (Part 1 of 4)

Part Number	Description	AMD V3				2S Intel V3/V4						4S 8S Intel V3			Multi Node V3/V4			1S V3			
		SR635 V3 (7D9H / 7D9G)	SR655 V3 (7D9F / 7D9E)	SR645 V3 (7D9D / 7D9C)	SR665 V3 (7D9B / 7D9A)	ST650 V3 (7D7B / 7D7A)	SR630 V3 (7D72 / 7D73)	SR650 V3 (7D75 / 7D76)	SR630 V4 (7DG8 / 7DG9)	SR650 V4 (7DGC / 7DGD)	SR650a V4 (7DGC / 7DGD)	SR850 V3 (7D97 / 7D96)	SR860 V3 (7D94 / 7D93)	SR950 V3 (7DC5 / 7DC4)	SD535 V3 (7DD8 / 7DD1)	SD530 V3 (7DDA / 7DD3)	SD550 V3 (7DD9 / 7DD2)	ST45 V3 (7DH4 / 7DH5)	ST50 V3 (7DF4 / 7DF3)	ST250 V3 (7DCF / 7DCE)	SR250 V3 (7DCM / 7DCL)
2.5-inch hot-swap drives																					
4XB7A90872	ThinkSystem 2.5" VA 240GB Read Intensive SATA 6Gb HS SSD v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	N	N	Y	Y
4XB7A90873	ThinkSystem 2.5" VA 480GB Read Intensive SATA 6Gb HS SSD v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	N	N	Y	Y
4XB7A90874	ThinkSystem 2.5" VA 960GB Read Intensive SATA 6Gb HS SSD v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	N	N	Y	Y
4XB7A90875	ThinkSystem 2.5" VA 1.92TB Read Intensive SATA 6Gb HS SSD v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	N	N	Y	Y
4XB7A90876	ThinkSystem 2.5" VA 3.84TB Read Intensive SATA 6Gb HS SSD v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	N	N	Y	Y
4XB7A90877	ThinkSystem 2.5" VA 7.68TB Read Intensive SATA 6Gb HS SSD v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	N	N	N	N
3.5-inch hot-swap drives																					
4XB7A90878	ThinkSystem 3.5" VA 240GB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	N	N	N	N	N	N	Y	Y
4XB7A90879	ThinkSystem 3.5" VA 480GB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	N	N	N	N	N	N	Y	Y
4XB7A90880	ThinkSystem 3.5" VA 960GB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	N	N	N	N	N	N	Y	Y
4XB7A90881	ThinkSystem 3.5" VA 1.92TB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	N	N	N	N	N	N	Y	Y

Part Number	Description	AMD V3				2S Intel V3/V4						4S 8S Intel V3			Multi Node V3/V4			1S V3			
		SR635 V3 (7D9H / 7D9G)	SR655 V3 (7D9F / 7D9E)	SR645 V3 (7D9D / 7D9C)	SR665 V3 (7D9B / 7D9A)	ST650 V3 (7D7B / 7D7A)	SR630 V3 (7D72 / 7D73)	SR650 V3 (7D75 / 7D76)	SR630 V4 (7DG8 / 7DG9)	SR650 V4 (7DGC / 7DGD)	SR650a V4 (7DGC / 7DGD)	SR850 V3 (7D97 / 7D96)	SR860 V3 (7D94 / 7D93)	SR950 V3 (7DC5 / 7DC4)	SD535 V3 (7DD8 / 7DD1)	SD530 V3 (7DDA / 7DD3)	SD550 V3 (7DD9 / 7DD2)	ST45 V3 (7DH4 / 7DH5)	ST50 V3 (7DF4 / 7DF3)	ST250 V3 (7DCF / 7DCE)	SR250 V3 (7DCM / 7DCL)
4XB7A90882	ThinkSystem 3.5" VA 3.84TB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	N	N	N	N	N	N	Y	Y
4XB7A90883	ThinkSystem 3.5" VA 7.68TB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N
2.5-inch non-hot-swap drives																					
4XB7B04138	ThinkSystem ST50/ST45 Series 2.5" VA 480GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N
4XB7B04139	ThinkSystem ST50/ST45 Series 2.5" VA 960GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N
4XB7B04140	ThinkSystem ST50/ST45 Series 2.5" VA 1.92TB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N
4XB7B04141	ThinkSystem ST50/ST45 Series 2.5" VA 3.84TB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N
3.5-inch non-hot-swap drives																					
4XB7B04142	ThinkSystem ST50/ST45 Series 3.5" VA 480GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N
4XB7B04143	ThinkSystem ST50/ST45 Series 3.5" VA 960GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N
4XB7B04144	ThinkSystem ST50/ST45 Series 3.5" VA 1.92TB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N
4XB7B04145	ThinkSystem ST50/ST45 Series 3.5" VA 3.84TB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N
M.2 non-hot-swap drives																					
4XB7B07587	ThinkSystem M.2 VA 240GB Read Intensive SATA 6Gb NHS SSD	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	N	Y	Y	Y	N	Y	Y	Y

Part Number	Description	AMD V3				2S Intel V3/V4						4S 8S Intel V3			Multi Node V3/V4			1S V3			
		SR635 V3 (7D9H / 7D9G)	SR655 V3 (7D9F / 7D9E)	SR645 V3 (7D9D / 7D9C)	SR665 V3 (7D9B / 7D9A)	ST650 V3 (7D7B / 7D7A)	SR630 V3 (7D72 / 7D73)	SR650 V3 (7D75 / 7D76)	SR630 V4 (7DG8 / 7DG9)	SR650 V4 (7DGC / 7DGD)	SR650a V4 (7DGC / 7DGD)	SR850 V3 (7D97 / 7D96)	SR860 V3 (7D94 / 7D93)	SR950 V3 (7DC5 / 7DC4)	SD535 V3 (7DD8 / 7DD1)	SD530 V3 (7DDA / 7DD3)	SD550 V3 (7DD9 / 7DD2)	ST45 V3 (7DH4 / 7DH5)	ST50 V3 (7DF4 / 7DF3)	ST250 V3 (7DCF / 7DCE)	SR250 V3 (7DCM / 7DCL)
4XB7B07588	ThinkSystem M.2 VA 480GB Read Intensive SATA 6Gb NHS SSD	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	N	Y	Y	Y	N	N	Y	Y
4XB7B07589	ThinkSystem M.2 VA 960GB Read Intensive SATA 6Gb NHS SSD	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Trayless drives																					
4XB7B07590	ThinkSystem 2.5" VA 240GB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B07591	ThinkSystem 2.5" VA 480GB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B07592	ThinkSystem 2.5" VA 960GB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B07593	ThinkSystem 2.5" VA 1.92TB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B07594	ThinkSystem 2.5" VA 3.84TB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B07595	ThinkSystem 2.5" VA 7.68TB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Table 5. Server support (Part 2 of 4)

Part Number	Description	GPU Rich					Edge						Super Computing						
		SR670 V2 (7Z22 / 7Z23)	SR675 V3 (7D9Q / 7D9R)	SR680a V3 (7DHE)	SR685a V3 (7DHC)	SR780a V3 (7DJ5)	SE100 (7DGR)	SE350 (7Z46 / 7D1X)	SE350 V2 (7DA9)	SE360 V2 (7DAM)	SE450 (7D8T)	SE455 V3 (7DBY)	SC750 V4 (7DDJ)	SC777 V4 (7DKA)	SD665 V3 (7D9P)	SD665-N V3 (7DAZ)	SD650 V3 (7D7M)	SD650-I V3 (7D7L)	SD650-N V3 (7D7N)
2.5-inch hot-swap drives																			
4XB7A90872	ThinkSystem 2.5" VA 240GB Read Intensive SATA 6Gb HS SSD v2	Y	Y	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N
4XB7A90873	ThinkSystem 2.5" VA 480GB Read Intensive SATA 6Gb HS SSD v2	Y	Y	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N
4XB7A90874	ThinkSystem 2.5" VA 960GB Read Intensive SATA 6Gb HS SSD v2	Y	Y	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N
4XB7A90875	ThinkSystem 2.5" VA 1.92TB Read Intensive SATA 6Gb HS SSD v2	Y	Y	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N
4XB7A90876	ThinkSystem 2.5" VA 3.84TB Read Intensive SATA 6Gb HS SSD v2	Y	Y	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N
4XB7A90877	ThinkSystem 2.5" VA 7.68TB Read Intensive SATA 6Gb HS SSD v2	Y	Y	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N
3.5-inch hot-swap drives																			
4XB7A90878	ThinkSystem 3.5" VA 240GB Read Intensive SATA 6Gb HS SSD v2	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A90879	ThinkSystem 3.5" VA 480GB Read Intensive SATA 6Gb HS SSD v2	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A90880	ThinkSystem 3.5" VA 960GB Read Intensive SATA 6Gb HS SSD v2	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A90881	ThinkSystem 3.5" VA 1.92TB Read Intensive SATA 6Gb HS SSD v2	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A90882	ThinkSystem 3.5" VA 3.84TB Read Intensive SATA 6Gb HS SSD v2	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A90883	ThinkSystem 3.5" VA 7.68TB Read Intensive SATA 6Gb HS SSD v2	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
2.5-inch non-hot-swap drives																			
4XB7B04138	ThinkSystem ST50/ST45 Series 2.5" VA 480GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B04139	ThinkSystem ST50/ST45 Series 2.5" VA 960GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B04140	ThinkSystem ST50/ST45 Series 2.5" VA 1.92TB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Part Number	Description	GPU Rich					Edge						Super Computing						
		SR670 V2 (7Z22 / 7Z23)	SR675 V3 (7D9Q / 7D9R)	SR680a V3 (7DHE)	SR685a V3 (7DHC)	SR780a V3 (7DJ5)	SE100 (7DGR)	SE350 (7Z46 / 7D1X)	SE350 V2 (7DA9)	SE360 V2 (7DAM)	SE450 (7D8T)	SE455 V3 (7DBY)	SC750 V4 (7DDJ)	SC777 V4 (7DKA)	SD665 V3 (7D9P)	SD665-N V3 (7DAZ)	SD650 V3 (7D7M)	SD650-I V3 (7D7L)	SD650-N V3 (7D7N)
4XB7B04141	ThinkSystem ST50/ST45 Series 2.5" VA 3.84TB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
3.5-inch non-hot-swap drives																			
4XB7B04142	ThinkSystem ST50/ST45 Series 3.5" VA 480GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B04143	ThinkSystem ST50/ST45 Series 3.5" VA 960GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B04144	ThinkSystem ST50/ST45 Series 3.5" VA 1.92TB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B04145	ThinkSystem ST50/ST45 Series 3.5" VA 3.84TB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
M.2 non-hot-swap drives																			
4XB7B07587	ThinkSystem M.2 VA 240GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N
4XB7B07588	ThinkSystem M.2 VA 480GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N
4XB7B07589	ThinkSystem M.2 VA 960GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N
Trayless drives																			
4XB7B07590	ThinkSystem 2.5" VA 240GB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	N	Y	N	N
4XB7B07591	ThinkSystem 2.5" VA 480GB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	N	Y	N	N
4XB7B07592	ThinkSystem 2.5" VA 960GB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	N	Y	N	N
4XB7B07593	ThinkSystem 2.5" VA 1.92TB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	N	Y	N	N
4XB7B07594	ThinkSystem 2.5" VA 3.84TB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	N	Y	N	N
4XB7B07595	ThinkSystem 2.5" VA 7.68TB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	N	Y	N	N

Table 6. Server support (Part 3 of 4)

Part Number	Description	1S Intel V2			2S Intel V2			AMD V1					Dense V2				4S V2		8S
		ST50 V2 (7D8K / 7D8J)	ST250 V2 (7D8G / 7D8F)	SR250 V2 (7D7R / 7D7Q)	ST650 V2 (7Z75 / 7Z74)	SR630 V2 (7Z70 / 7Z71)	SR650 V2 (7Z72 / 7Z73)	SR635 (7Y98 / 7Y99)	SR655 (7Y00 / 7Z01)	SR655 Client OS	SR645 (7D2Y / 7D2X)	SR665 (7D2W / 7D2V)	SD630 V2 (7D1K)	SD650 V2 (7D1M)	SD650-N V2 (7D1N)	SN550 V2 (7Z69)	SR850 V2 (7D31 / 7D32)	SR860 V2 (7Z59 / 7Z60)	SR950 (7X11 / 7X12)
2.5-inch hot-swap drives																			
4XB7A90872	ThinkSystem 2.5" VA 240GB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	N
4XB7A90873	ThinkSystem 2.5" VA 480GB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	N
4XB7A90874	ThinkSystem 2.5" VA 960GB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	N
4XB7A90875	ThinkSystem 2.5" VA 1.92TB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	N
4XB7A90876	ThinkSystem 2.5" VA 3.84TB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	N
4XB7A90877	ThinkSystem 2.5" VA 7.68TB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	N
3.5-inch hot-swap drives																			
4XB7A90878	ThinkSystem 3.5" VA 240GB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N
4XB7A90879	ThinkSystem 3.5" VA 480GB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N
4XB7A90880	ThinkSystem 3.5" VA 960GB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N
4XB7A90881	ThinkSystem 3.5" VA 1.92TB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N
4XB7A90882	ThinkSystem 3.5" VA 3.84TB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N
4XB7A90883	ThinkSystem 3.5" VA 7.68TB Read Intensive SATA 6Gb HS SSD v2	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N
2.5-inch non-hot-swap drives																			
4XB7B04138	ThinkSystem ST50/ST45 Series 2.5" VA 480GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B04139	ThinkSystem ST50/ST45 Series 2.5" VA 960GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B04140	ThinkSystem ST50/ST45 Series 2.5" VA 1.92TB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Part Number	Description	1S Intel V2			2S Intel V2			AMD V1					Dense V2				4S V2		8S
		ST50 V2 (7D8K / 7D8J)	ST250 V2 (7D8G / 7D8F)	SR250 V2 (7D7R / 7D7Q)	ST650 V2 (7Z75 / 7Z74)	SR630 V2 (7Z70 / 7Z71)	SR650 V2 (7Z72 / 7Z73)	SR635 (7Y98 / 7Y99)	SR655 (7Y00 / 7Z01)	SR655 Client OS	SR645 (7D2Y / 7D2X)	SR665 (7D2W / 7D2V)	SD630 V2 (7D1K)	SD650 V2 (7D1M)	SD650-N V2 (7D1N)	SN550 V2 (7Z69)	SR850 V2 (7D31 / 7D32)	SR860 V2 (7Z59 / 7Z60)	SR950 (7X11 / 7X12)
4XB7B04141	ThinkSystem ST50/ST45 Series 2.5" VA 3.84TB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
3.5-inch non-hot-swap drives																			
4XB7B04142	ThinkSystem ST50/ST45 Series 3.5" VA 480GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B04143	ThinkSystem ST50/ST45 Series 3.5" VA 960GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B04144	ThinkSystem ST50/ST45 Series 3.5" VA 1.92TB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B04145	ThinkSystem ST50/ST45 Series 3.5" VA 3.84TB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
M.2 non-hot-swap drives																			
4XB7B07587	ThinkSystem M.2 VA 240GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N
4XB7B07588	ThinkSystem M.2 VA 480GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N
4XB7B07589	ThinkSystem M.2 VA 960GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N
Trayless drives																			
4XB7B07590	ThinkSystem 2.5" VA 240GB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B07591	ThinkSystem 2.5" VA 480GB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B07592	ThinkSystem 2.5" VA 960GB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B07593	ThinkSystem 2.5" VA 1.92TB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B07594	ThinkSystem 2.5" VA 3.84TB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B07595	ThinkSystem 2.5" VA 7.68TB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Table 7. Server support (Part 4 of 4)

Part Number	Description	4S V1			1S Intel V1				2S Intel V1								Dense V1			
		SR850 (7X18 / 7X19)	SR850P (7D2F / 2D2G)	SR860 (7X69 / 7X70)	ST50 (7Y48 / 7Y50)	ST250 (7Y45 / 7Y46)	SR150 (7Y54)	SR250 (7Y52 / 7Y51)	ST550 (7X09 / 7X10)	SR530 (7X07 / 7X08)	SR550 (7X03 / 7X04)	SR570 (7Y02 / 7Y03)	SR590 (7X98 / 7X99)	SR630 (7X01 / 7X02)	SR650 (7X05 / 7X06)	SR670 (7Y36 / 7Y37)	SD530 (7X21)	SD650 (7X58)	SN550 (7X16)	SN850 (7X15)
2.5-inch hot-swap drives																				
4XB7A90872	ThinkSystem 2.5" VA 240GB Read Intensive SATA 6Gb HS SSD v2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A90873	ThinkSystem 2.5" VA 480GB Read Intensive SATA 6Gb HS SSD v2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A90874	ThinkSystem 2.5" VA 960GB Read Intensive SATA 6Gb HS SSD v2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A90875	ThinkSystem 2.5" VA 1.92TB Read Intensive SATA 6Gb HS SSD v2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A90876	ThinkSystem 2.5" VA 3.84TB Read Intensive SATA 6Gb HS SSD v2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A90877	ThinkSystem 2.5" VA 7.68TB Read Intensive SATA 6Gb HS SSD v2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
3.5-inch hot-swap drives																				
4XB7A90878	ThinkSystem 3.5" VA 240GB Read Intensive SATA 6Gb HS SSD v2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A90879	ThinkSystem 3.5" VA 480GB Read Intensive SATA 6Gb HS SSD v2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A90880	ThinkSystem 3.5" VA 960GB Read Intensive SATA 6Gb HS SSD v2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A90881	ThinkSystem 3.5" VA 1.92TB Read Intensive SATA 6Gb HS SSD v2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A90882	ThinkSystem 3.5" VA 3.84TB Read Intensive SATA 6Gb HS SSD v2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A90883	ThinkSystem 3.5" VA 7.68TB Read Intensive SATA 6Gb HS SSD v2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
2.5-inch non-hot-swap drives																				
4XB7B04138	ThinkSystem ST50/ST45 Series 2.5" VA 480GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B04139	ThinkSystem ST50/ST45 Series 2.5" VA 960GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B04140	ThinkSystem ST50/ST45 Series 2.5" VA 1.92TB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Part Number	Description	4S V1			1S Intel V1				2S Intel V1								Dense V1			
		SR850 (7X18 / 7X19)	SR850P (7D2F / 2D2G)	SR860 (7X69 / 7X70)	ST50 (7Y48 / 7Y50)	ST250 (7Y45 / 7Y46)	SR150 (7Y54)	SR250 (7Y52 / 7Y51)	ST550 (7X09 / 7X10)	SR530 (7X07 / 7X08)	SR550 (7X03 / 7X04)	SR570 (7Y02 / 7Y03)	SR590 (7X98 / 7X99)	SR630 (7X01 / 7X02)	SR650 (7X05 / 7X06)	SR670 (7Y36 / 7Y37)	SD530 (7X21)	SD650 (7X58)	SN550 (7X16)	SN850 (7X15)
4XB7B04141	ThinkSystem ST50/ST45 Series 2.5" VA 3.84TB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
3.5-inch non-hot-swap drives																				
4XB7B04142	ThinkSystem ST50/ST45 Series 3.5" VA 480GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B04143	ThinkSystem ST50/ST45 Series 3.5" VA 960GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B04144	ThinkSystem ST50/ST45 Series 3.5" VA 1.92TB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B04145	ThinkSystem ST50/ST45 Series 3.5" VA 3.84TB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
M.2 non-hot-swap drives																				
4XB7B07587	ThinkSystem M.2 VA 240GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B07588	ThinkSystem M.2 VA 480GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B07589	ThinkSystem M.2 VA 960GB Read Intensive SATA 6Gb NHS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Trayless drives																				
4XB7B07590	ThinkSystem 2.5" VA 240GB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B07591	ThinkSystem 2.5" VA 480GB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B07592	ThinkSystem 2.5" VA 960GB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B07593	ThinkSystem 2.5" VA 1.92TB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B07594	ThinkSystem 2.5" VA 3.84TB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7B07595	ThinkSystem 2.5" VA 7.68TB Read Intensive SATA 6Gb Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Operating system support

SAS and SATA SSDs operate transparently to users, storage systems, applications, databases, and operating systems.

Operating system support is based on the controller used to connect to the drives. Consult the controller product guide for more information:

- RAID controllers: https://lenovopress.com/servers/options/raid
- SAS HBAs: https://lenovopress.com/servers/options/hba

Warranty

The ThinkSystem Vendor Agnostic Read Intensive SATA SSDs carry a one-year, customer-replaceable unit (CRU) limited warranty. When the SSDs are installed in a supported server, these drives assume the system's base warranty and any warranty upgrades.

Solid State Memory cells have an intrinsic, finite number of program/erase cycles that each cell can incur. As a result, each solid state device has a maximum amount of program/erase cycles to which it can be subjected. The warranty for Lenovo solid state drives (SSDs) is limited to drives that have not reached the maximum guaranteed number of program/erase cycles, as documented in the Official Published Specifications for the SSD product. A drive that reaches this limit may fail to operate according to its Specifications.

Physical specifications

The Vendor Agnostic SSDs have the following dimensions (without the hot-swap tray):

- Height: 7 mm (0.3 in.)
- Width: 70 mm (2.8 in.)
- Depth: 100 mm (4.0 in.)

Operating environment

The Vendor Agnostic SSDs are supported in the following environment:

- Temperature:
  - Operating: 0 to 70 °C (32 to 158 °F)
  - Non-operating: -40 °C to 85 °C (-40 to 185 °F)
- Relative humidity: 5 to 95% (noncondensing)
- Maximum altitude: 3,050 m (10,000 ft)

Agency approvals

The Vendor Agnostic SSDs conform to the following regulations:

- UL
- TUV
- FCC
- CE Mark
- C-Tick Mark
- BSMI (Taiwan)
- KCC (Korea EMI)

Related publications and links

For more information, see the following documents:

- Lenovo ThinkSystem SSD Portfolio comparison:
  https://lenovopress.com/lp1261-lenovo-thinksystem-ssd-portfolio
- Lenovo RAID Introduction
  https://lenovopress.com/lp0578-lenovo-raid-introduction

Related product families

Product families related to this document are the following:

- Drives

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This document, LP2191, was created or updated on May 20, 2025.

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