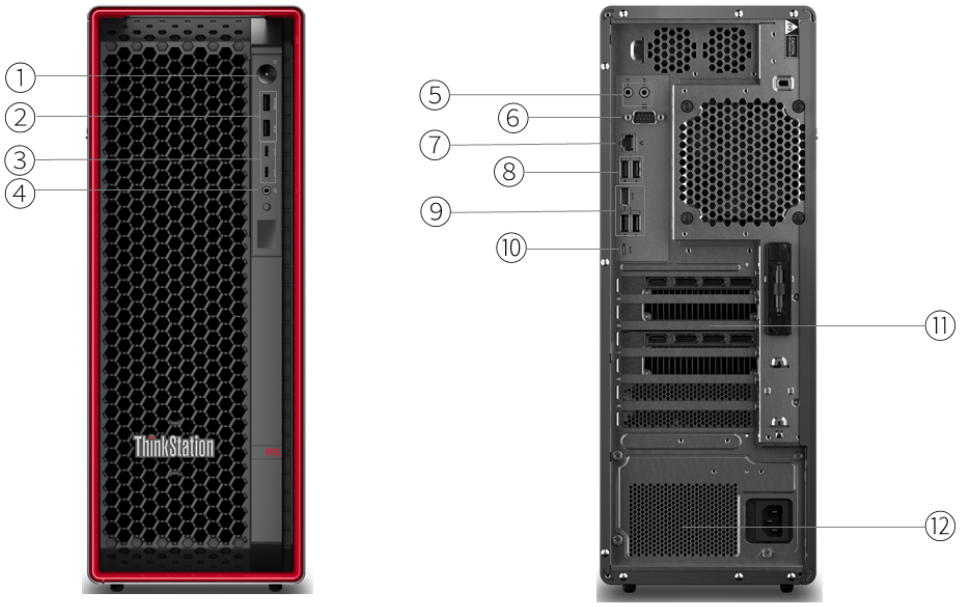
OVERVIEW



1. Power button	7. Ethernet (GbE RJ-45)
2. 2x USB-A (USB 10Gbps) *	8. 2x USB-A (Hi-Speed USB)
3. 2x USB-C (USB 10Gbps), data transfer only *	9. 3x USB-A (USB 10Gbps)
4. Headphone jack (3.5mm)	10. USB-C (USB 20Gbps / USB 3.2 Gen 2x2)
5. 2x Audio ports (line-out and line-in)	11. PCIe slots
6. Serial (9-pin) *	12. Power supply

Notes:

- Items with * are only available on selected models
- Expansion cards are optional. More ports are available through the optional expansion cards

PERFORMANCE

Processor

Processor Family

Up to one 225W Intel® Xeon® W-2400 Series processor, supports up to 24 cores, up to 4.8GHz

Processor**[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support
Xeon w3-2535	10	20	3.5GHz	4.6GHz	26.25MB	DDR5-4800
Xeon w3-2525	8	16	3.5GHz	4.5GHz	22.5MB	DDR5-4800
Xeon w5-2565X	18	36	3.2Hz	4.8GHz	37.5MB	DDR5-4800
Xeon w5-2545	12	24	3.5GHz	4.7GHz	30MB	DDR5-4800
Xeon w5-2555X	14	28	3.3Hz	4.8GHz	33.75MB	DDR5-4800
Xeon w7-2575X	22	44	3.0Hz	4.8GHz	45MB	DDR5-4800
Xeon w7-2595X	26	52	2.8Hz	4.8GHz	48.75MB	DDR5-4800
Xeon w3-2423	6	12	2.1GHz	4.2GHz	15MB	DDR5-4400
Xeon w3-2425	6	12	3.0GHz	4.4GHz	15MB	DDR5-4400
Xeon w3-2435	8	16	3.1GHz	4.5GHz	22.5MB	DDR5-4400
Xeon w5-2445	10	20	3.1GHz	4.6GHz	26.25MB	DDR5-4800
Xeon w5-2455X	12	24	3.2GHz	4.6GHz	30MB	DDR5-4800
Xeon w5-2465X	16	32	3.1GHz	4.7GHz	33.75MB	DDR5-4800
Xeon w7-2475X	20	40	2.6GHz	4.8GHz	37.5MB	DDR5-4800
Xeon w7-2495X	24	48	2.5GHz	4.8GHz	45MB	DDR5-4800

Processor Sockets

1x FCLGA4677

Notes:

[1] Intel® Max Turbo frequency will vary depending on application workload and the hardware and software configurations, see http://www.intel.com/technology/turboboost/ for more information.

AI (Artificial Intelligence)

AI PC Category[1]

AI-Ready Workstations

Notes:

[1] With scalable configurations of higher-performance CPUs and professional NVIDIA® RTX GPUs, in addition to advantage of the same modern AI PC technology, AI-Ready workstation power the demanding AI consumption & development workflows.

Operating System

Operating System**

- Windows® 11 Pro for Workstations
- Windows® 11 DG Windows® 10 Pro 64 for Workstations
- Red Hat Enterprise Linux 9.2 (certified only, for detailed and latest information, please visit Red Hat Certified Hardware)
- No preload operating system

Graphics

Discrete Graphics Support[1]

- Supports up to two NVIDIA® RTX 5000 Ada Generation or two NVIDIA® RTX A6000
- Supports up to two NVIDIA® RTX PRO 6000 Blackwell Max-Q Workstation Edition (300W)

Discrete Graphics Offering

Graphics	Memory	Power	Connector	Form Factor	SLI / NVLink
NVIDIA® RTX PRO 6000 Blackwell Max-Q Workstation Edition	96GB GDDR7 with ECC	300W	4x DP 2.1	Dual slot	-
NVIDIA® RTX PRO 5000 Blackwell	48GB GDDR7 with ECC	300W	4x DP 2.1	Dual slot	-
NVIDIA® RTX PRO 4500 Blackwell	32GB GDDR7 with ECC	200W	4x DP 2.1	Dual slot	-
NVIDIA® RTX PRO 4000 Blackwell	24GB GDDR7 with ECC	140W	4x DP 2.1	Single slot	-
NVIDIA® RTX PRO 2000 Blackwell	16GB GDDR7 with ECC	70W	4x miniDP 2.1	Dual slot	-
NVIDIA® RTX A6000[2]	48GB GDDR6 with ECC	300W	4x DP 1.4a	Dual slot	NVLink
NVIDIA® RTX A5500	24GB GDDR6 with ECC	230W	4x DP 1.4a	Dual slot	NVLink
NVIDIA® RTX A5000	24GB GDDR6 with ECC	230W	4x DP 1.4a	Dual slot	None
NVIDIA® RTX A4500	20GB GDDR6 with ECC	200W	4x DP 1.4	Dual slot	NVLink
NVIDIA® RTX A4000	16GB GDDR6 with ECC	140W	4x DP 1.4a	Single slot	None
NVIDIA® RTX A400	4GB GDDR6	50W	4x miniDP 1.4a	Single slot	None
NVIDIA® RTX A2000 12GB	12GB GDDR6	70W	4x miniDP 1.4a	Dual slot	None
NVIDIA® RTX A1000	8GB GDDR6	50W	4x miniDP 1.4a	Single slot	None
NVIDIA® RTX 5000 Ada Generation	32GB GDDR6 with ECC	250W	4x DP 1.4a	Dual slot	-
NVIDIA® RTX 4500 Ada Generation	24GB GDDR6 with ECC	210W	4x DP 1.4a	Dual slot	-
NVIDIA® RTX 4000 Ada Generation	20GB GDDR6 with ECC	130W	4x DP 1.4a	Single slot	-
NVIDIA® RTX 2000 Ada Generation	16GB GDDR6 with ECC	70W	4x miniDP 1.4a	Dual slot	None
NVIDIA® T1000 8GB	8GB GDDR6	50W	4x miniDP 1.4	Single slot	None
NVIDIA® T400 4GB	4GB GDDR6	40W	3x miniDP 1.4	Single slot	None

Notes:

[1] Blackwell GPUs are already supported, and the exact orderability timeframe is under confirmation and may be slightly later.

[2] Available in specific countries and regions.

Monitor Support

Monitor Support

Supports multiple displays via discrete graphics, the number of maximum monitors supported depends on the graphic card in use

Chipset

Chipset

Intel® W790 chipset

Memory

Max Memory[1]

Up to 512GB (8x 64GB RDIMM)

Memory Type[2]

DDR5-4800 RDIMM ECC, maximum transfer speeds of up to 4800 MT/s

Memory Slots

8 DDR5 DIMM slots, 4 channels capable

Memory Protection

ECC

Notes:

[1] The max memory is based on the test results with current Lenovo® memory offerings.
[2] System comes with DDR5-4800 memory and some configurations will run at 4400 MT/s due to the memory support capability of processor.

Storage

Max Storage Support[1]

Up to ten drives (3x 3.5" SATA HDD + 7x M.2 SSD)
• 3.5" HDD up to 12TB each
• M.2 SSD up to 4TB or 2TB each (see Storage Type)

Storage Type**

Disk Type	Interface	RPM	Offering	Security
3.5" SATA HDD	SATA 6Gb/s	7.2K	2TB / 4TB / 6TB / 8TB / 10TB / 12TB	-
M.2 2280 SSD for Onboard / Front access M.2	PCIe® NVMe®, PCIe® 4.0 x4 Performance	-	512GB / 1TB / 2TB / 4TB	Opal 2.0
M.2 2280 SSD for quad M.2 to PCIe® adapter[2]	PCIe® NVMe®, PCIe® 4.0 x4 Performance	-	512GB / 1TB / 2TB	Opal 2.0

Storage Controllers

Storage Controller	Type	Interface	RAID	Cache
Onboard Intel® RSTe SATA RAID	Standard	SATA 6.0Gb/s	0/1/5	None
Integrated NVMe® controller	Standard	PCIe® NVMe®	-	None
NVMe® Basic	Optional	PCIe® NVMe®	0/1/10	None
NVMe® Premium	Optional	PCIe® NVMe®	0/1/10/5	None

Notes:

[1] The storage capacity supported is based on the test results with current Lenovo® storage offerings.
[2] M.2 2280 SSD for quad M.2 to PCIe® adapter is PCIe® 4.0 x4, and the 4x M.2 slots on quad M.2 to PCIe® adapter are PCIe® 3.0 x4. See M.2 Slots section for more information.

Removable Storage

Card Reader

- 15-in-1 card reader
- No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC897-Q codec

Speakers

Single speaker, 1.5W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
750W	Fixed	92%	Autosensing, 80 PLUS Platinum qualified
1000W	Fixed	92%	Autosensing, 80 PLUS Platinum qualified

DESIGN

Mechanical[1]

Form Factor

Tower (33L)

Dimensions (WxDxH)[2]

165 x 453.9 x 446 mm (6.5 x 17.9 x 17.6 inches, with feet)

Weight[3]

19 kg (41.9 lbs, maximum configuration)

Bays

Three internal disk bays plus one front access M.2 bay:
• Bay 1 supports one 3.5″ HDD, standard
• Bay 2 supports one 3.5″ HDD, standard
• Bay 3 supports one 3.5″ HDD, optional
• Front access M.2 bay supports one M.2 SSD, optional

M.2 Slots

Up to 7x M.2 SSD:
• 2 via onboard slots, PCIe® 4.0 x4
• 4 via Quad M.2 to PCIe® Gen 4 (4x M.2 PCIe® 4.0 x4) adapter or Quad M.2 to PCIe® Gen 3 (4x M.2 PCIe® 3.0 x4) adapter
• 1 via front access M.2 bay, PCIe® 4.0 x4

Expansion Slots

Supports 6 PCIe® slots with 2x PCIe® 5.0 slots and 4x PCIe® 4.0 slots.
• Slot 1: PCIe® 5.0 x16, full height, full length, 75W, double-width, by CPU
• Slot 2: PCIe® 4.0 x4, full height, full length, 25W, by PCH
• Slot 3: PCIe® 5.0 x16, full height, full length, 75W, double-width, by CPU
• Slot 4: PCIe® 4.0 x4, full height, full length, 25W, by PCH
• Slot 5: PCIe® 4.0 x8, full height, full length, 25W, by CPU
• Slot 6: PCIe® 4.0 x4, full height, full length, 25W, by PCH

EOU

Tool-less design for side cover, memory, 3.5″ HDD, PCIe® card assembly / removal

Notes:

[1] The actual data transfer rate of the following PCIe® interface also depends on the capabilities of the connected PCIe® device. The listed values represent theoretical maximums.
PCIe® 3.0 (x1 / x2 / x4 / x8 / x16): 1 GB/s (8 Gbps) / 2 GB/s (16 Gbps) / 4 GB/s (32 Gbps) / 8 GB/s (64 Gbps) / 16 GB/s (128 Gbps);
PCIe® 4.0 (x1 / x2 / x4 / x8 / x16): 2 GB/s (16 Gbps) / 4 GB/s (32 Gbps) / 8 GB/s (64 Gbps) / 16 GB/s (128 Gbps) / 32 GB/s (256 Gbps);
PCIe® 5.0 (x1 / x2 / x4 / x8 / x16): 4 GB/s (32 Gbps) / 8 GB/s (64 Gbps) / 16 GB/s (128 Gbps) / 32 GB/s (256 Gbps) / 64 GB/s (512 Gbps).

[2] The system dimensions may vary depending on configurations.

[3] The system weight is approximate and based on results in Lenovo® lab, which varies depending on the source of component, variance of the distribution of each component, and manufacturing process. It may not be the exact weight for each specific model.

CONNECTIVITY

Network

WLAN + Bluetooth®[1]

- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1 (Bluetooth® 5.3 hardware ready), Intel® vPro® technology support[2]
- No WLAN and Bluetooth®

Onboard Ethernet

Gigabit Ethernet, Intel® Ethernet Connection I219-LM, 1x RJ-45, supports Wake-on-LAN

Optional Ethernet

Two additional Ethernet adapters support, up to four additional 10 GbE ports
- Gigabit Ethernet, Intel® I210-T1, 1x RJ-45, PCIe® x1
- Gigabit Ethernet, Realtek® RTL8168H, 1x RJ-45, PCIe® x1
- Gigabit Ethernet, Intel® I350-T2, 2x RJ-45, PCIe® x4
- Gigabit Ethernet, Intel® I350-T4, 4x RJ-45, PCIe® x4
- Gigabit Ethernet, Broadcom BCM5719, 4x RJ-45, PCIe® x4
- Gigabit Ethernet, Broadcom BCM5720, 2x RJ-45, PCIe® x1
- 10 Gigabit Ethernet, Intel® X550-T2, 2x RJ-45, PCIe® x4
- 10 Gigabit Ethernet, Intel® X710-DA2, 2x SFP+, PCIe® x8

Notes:

[1] Wi-Fi® operation (including Wi-Fi® 6, Wi-Fi® 6E, Wi-Fi® 7, etc.) is subject to the regulatory requirements of each country. Bluetooth® may operate at a lower version than hardware design depending on the factors such as operating system, driver, etc.

[2] Bluetooth® 5.3 is hardware ready but may run at a lower version due to OS limitations.
Wi-Fi® 6E is only enabled on Windows® 11 and operates as Wi-Fi® 6 with Windows® 10.

Ports[1]

Front Ports

1x headphone / microphone combo jack (3.5mm)

Optional Front Ports

- 2x USB-C® (USB 10Gbps / USB 3.2 Gen 2), data transfer only
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2), one Always On

Rear Ports

- 1x USB-C® (USB 20Gbps / USB 3.2 Gen 2x2), data transfer only
- 2x USB-A (Hi-Speed USB / USB 2.0)
- 3x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x Ethernet (GbE RJ-45)
- 1x line-in (3.5mm)
- 1x line-out (3.5mm)

Optional Rear Ports

- 1x Thunderbolt™ 4 (via additional PCIe® adapter)
- 1x serial
- 2x PS/2

Notes:

[1] The transfer speed of the ports will vary and, depending on many factors, such as the processing speed of the host device, file attributes, and other factors related to system configuration and your operating environment, will be slower than the theoretical speed.

SECURITY & PRIVACY

Security

Security Chip

Discrete TPM 2.0, TCG certified, FIPS 140-2 certified

Physical Locks

- (Optional) Access panel lock kit with common key
- (Optional) Access panel lock kit with unique key
- Kensington® Security Slot™, 3 x 7 mm

Chassis Intrusion Switch

Chassis intrusion switch

BIOS Security

- Administrator password
- Power-on password

- Self-healing BIOS
- UEFI Secure Boot

MANAGEABILITY

System Management

System Management[1][2]

- (Optional) Aspeed AST2600 graphics / management processor, IPMI 2.0-compliant baseboard management controller (BMC)
- Intel® vPro® Enterprise with Intel® AMT 16

Notes:

[1] Intel® vPro® offers a superset of DASH's defined capabilities.

[2] Intel® vPro® platform require an eligible Intel® processor, a supported operating system, Intel® LAN and/or WLAN silicon, firmware enhancements, and other hardware and software necessary to deliver the manageability use cases, security features, system performance, and stability that define the platform. See Intel® vPro® Platform for details.

Diagnostic

Diagnostic

- ThinkStation® Diagnostics
- Front diagnostic panel with QR code

SERVICE

Warranty[1]

Base Warranty**

- 1-year limited onsite service
- 2-year limited onsite service
- 3-year limited onsite service

Notes:

[1] The warranty upgrades may be bundled with some models, please check the "Included upgrade" column in the specific model's configurations. For more service extensions, please go to https://smartfind.lenovo.com/. To learn more details of warranty policy, please access https://support.lenovo.com/warrantylookup/warrantypolicy.

OPERATING REQUIREMENTS

Operating Environment

Temperature

- Operating: 10°C (50°F) to 35°C (95°F)
- Storage: -40°C (-40°F) to 60°C (140°F)

Altitude

- Operating: 0 m (0 ft) to 3048 m (10,000 ft)
- Storage: 0 m (0 ft) to 12192 m (40,000 ft)

Relative Humidity

- Operating: 20% to 80%
- Storage: 10% to 90%

ENVIRONMENTAL

Sustainability

Material[1]

- 65% PCC ABS bezel
- 95% PCC ABS wired USB keyboard/mouse top/bottom cover
- 90% PIC recycled plastic EPE cushion

• 30% OBP used in bag
• FSC certified paper in packaging

Notes:

[1] PCC: Post Consumer Content, recycled materials from customers.
PIC: Post Industry Content, recycled materials from internal factories.
EPE: Expanded Polyethylene.
OBP: Ocean Bound Plastic, reducing plastic spill into the sea.
FSC: Forest Stewardship Council.

CERTIFICATIONS

Green Certifications[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Gold Registered
- (Optional) TCO Certified 9.0
- RoHS compliant

Notes:

[1] The items listed under the "Green Certifications" section may not only refer to certification but also registration or self-declaration. For ESG & regulatory compliance documents, please visit https://compliance.lenovo.com.

ISV Certifications

ISV Certifications

Please visit ISV certifications for Lenovo® Workstations

- Feature with ** means that only one option listed under the feature can be configured on selected models. Please refer to the model configuration for specific information.
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