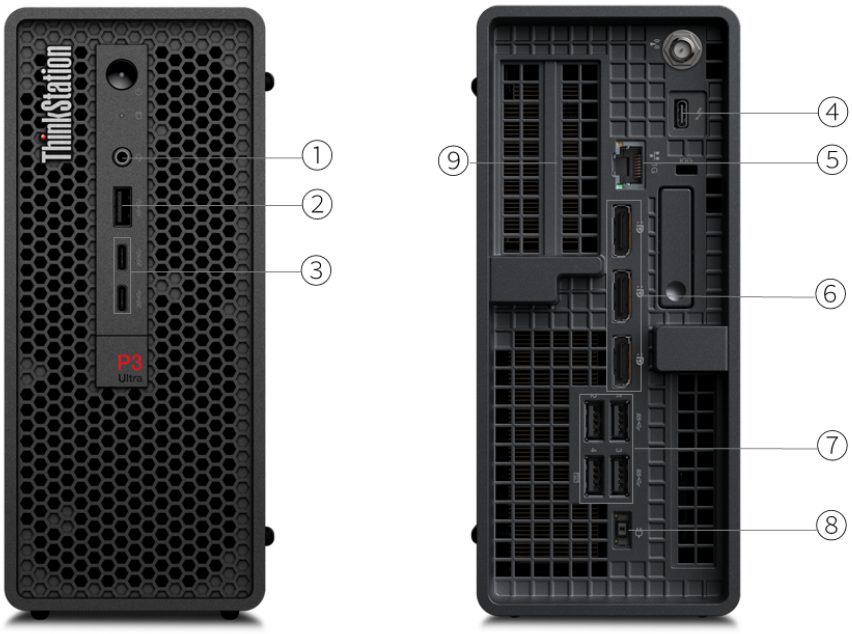
OVERVIEW



1. Headphone jack (3.5mm)	6. 3x DisplayPort
2. USB-A (USB 10Gbps)	7. 4x USB-A (USB 10Gbps)
3. 2x USB-C (USB 20Gbps / USB 3.2 Gen 2x2)	8. Power connector
4. Thunderbolt 4 *	9. Optional parts on expansion cards *
5. Ethernet (GbE RJ-45)	

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Up to one 125W Intel® Core™ Ultra (Series 2) processor; supports up to 24 cores; up to 5.7GHz

Processor[**][1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics	NPU	Intel® vPro® Eligibility	Overall TOPS
Core Ultra 5 225	10 (6 P-core + 4 E-core)	10	P-core 3.3GHz / E-core 2.7GHz	Max Turbo up to 4.9GHz / P-core 4.9GHz / E-core 4.4GHz	22MB L2 Cache / 20MB Intel® Smart Cache	DDR5-6400	Intel® Graphics, up to 4 TOPS	Intel® AI Boost, up to 13 TOPS	-	Up to 23 TOPS
Core Ultra 5 225T	10 (6 P-core + 4 E-core)	10	P-core 2.5GHz / E-core 1.9GHz	Max Turbo up to 4.9GHz / P-core 4.9GHz / E-core 4.4GHz	22MB L2 Cache / 20MB Intel® Smart Cache	DDR5-6400	Intel® Graphics, up to 4 TOPS	Intel® AI Boost, up to 13 TOPS	-	Up to 23 TOPS
Core Ultra 5 235	14 (6 P-core + 8 E-core)	14	P-core 3.4GHz / E-core 2.9GHz	Max Turbo up to 5.0GHz / P-core 5.0GHz / E-core 4.4GHz	26MB L2 Cache / 24MB Intel® Smart Cache	DDR5-6400	Intel® Graphics, up to 6 TOPS	Intel®® AI Boost, up to 13 TOPS	Intel® vPro® Enterprise	Up to 27 TOPS
Core Ultra 5 245K	14 (6 P-core + 8 E-core)	14	P-core 4.2GHz / E-core 3.6GHz	Max Turbo up to 5.2GHz / P-core 5.2GHz / E-core 4.6GHz	26MB L2 Cache / 24MB Intel® Smart Cache	DDR5-6400	Intel® Graphics, up to 8 TOPS	Intel® AI Boost, up to 13 TOPS	Intel® vPro® Enterprise	Up to 30 TOPS
Core Ultra 7 265	20 (8 P-core + 12 E-core)	20	P-core 2.4GHz / E-core 1.8GHz	Max Turbo up to 5.3GHz / P-core 5.2GHz / E-core 4.6GHz	36MB L2 Cache / 30MB Intel® Smart Cache	DDR5-6400	Intel® Graphics, up to 8 TOPS	Intel® AI Boost, up to 13 TOPS	Intel® vPro® Enterprise	Up to 33 TOPS
Core Ultra 7 265K	20 (8 P-core + 12 E-core)	20	P-core 3.9GHz / E-core 3.3GHz	Max Turbo up to 5.5GHz / P-core 5.4GHz / E-core 4.6GHz	36MB L2 Cache / 30MB Intel® Smart Cache	DDR5-6400	Intel® Graphics, up to 8 TOPS	Intel® AI Boost, up to 13 TOPS	Intel® vPro® Enterprise	Up to 33 TOPS
Core Ultra 7 265T	20 (8 P-core + 12 E-core)	20	P-core 1.5GHz / E-core 1.2GHz	Max Turbo up to 5.3GHz / P-core 5.2GHz / E-core 4.6GHz	36MB L2 Cache / 30MB Intel® Smart Cache	DDR5-6400	Intel® Graphics, up to 8 TOPS	Intel® AI Boost, up to 13 TOPS	Intel® vPro® Enterprise	Up to 33 TOPS
Core Ultra 9 285	24 (8 P-core + 16 E-core)	24	P-core 2.5GHz / E-core 1.9GHz	Max Turbo up to 5.6GHz / P-core 5.4GHz / E-core 4.6GHz	40MB L2 Cache / 36MB Intel® Smart Cache	DDR5-6400	Intel® Graphics, up to 8 TOPS	Intel® AI Boost, up to 13 TOPS	Intel® vPro® Enterprise	Up to 36 TOPS
Core Ultra 9 285K	24 (8 P-core + 16 E-	24	P-core 3.7GHz / E-core 3.2GHz	Max Turbo up to 5.7GHz / P-core 5.5GHz /	40MB L2 Cache / 36MB	DDR5-6400	Intel® Graphics, up to 8	Intel® AI Boost, up to 13	Intel® vPro® Enterprise	Up to 36 TOPS

	core)			E-core 4.6GHz	Intel® Smart Cache		TOPS	TOPS		
Core Ultra 9 285T	24 (8 P-core + 16 E-core)	24	P-core 1.4GHz / E-core 1.2GHz	Max Turbo up to 5.4GHz / P-core 5.3GHz / E-core 4.6GHz	40MB L2 Cache / 36MB Intel® Smart Cache	DDR5-6400	Intel® Graphics, up to 8 TOPS	Intel® AI Boost, up to 13 TOPS	Intel® vPro® Enterprise	Up to 35 TOPS

Processor Sockets

1x FCLGA1851

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
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 IoT Enterprise LTSC 2024
- Ubuntu Linux LTS
- Red Hat Enterprise Linux 10 (certified only, for detailed and latest information, please visit Red Hat Certified Hardware)

Graphics

Integrated Graphics

Intel® Graphics

Discrete Graphics Support

Supports up to one NVIDIA® RTX 4000 SFF Ada Generation or two Nvidia RTX A1000

Discrete Graphics Offering[***]

Graphics	Memory	Power	Connector	Form Factor
NVIDIA® RTX PRO 4000 Blackwell SFF Edition	24GB GDDR7 with ECC	70W	4x miniDP 2.1	Dual slot
NVIDIA® RTX PRO 2000 Blackwell	16GB GDDR7 with ECC	70W	4x miniDP 2.1	Dual slot
NVIDIA® RTX 4000 SFF Ada Generation	20GB GDDR6 with ECC	70W	4x miniDP 1.4a	Dual slot
NVIDIA® RTX 2000 Ada Generation	16GB GDDR6 with ECC	70W	4x miniDP 1.4a	Dual slot
NVIDIA® T1000 8GB	8GB GDDR6	50W	4x miniDP 1.4	Single slot
NVIDIA® RTX A1000	8GB GDDR6	50W	4x miniDP 1.4a	Single slot
NVIDIA® RTX A400	4GB GDDR6	50W	4x miniDP 1.4a	Single slot
Intel® Arc™ Pro B50 Graphics 16GB GDDR6	16GB GDDR6 with ECC	70W	4x miniDP 2.1	Dual slot

Monitor Support

Monitor Support

Supports up to 12 independent displays, 4 via onboard ports (3x DP and 1x optional Thunderbolt™ 4) and 8 via two discrete graphics cards (2x NVIDIA® RTX A1000 / A400).
Onboard ports support (with max simultaneous displays):
• DP supports up to 4096x2160@60Hz
• Thunderbolt™ supports up to 5120x2880@60Hz
Discrete graphics cards ports support (with max simultaneous displays):
• miniDP supports up to 7680x4320@60Hz

Chipset

Chipset

Intel® W880 chipset

Memory

Max Memory[1]

Up to 128GB (2x 64GB DDR5 CSODIMM)

Memory Type**

- DDR5-5600 SODIMM, ECC or non-ECC, maximum transfer speeds of up to 5600 MT/s
- DDR5-6400 CSODIMM, ECC or non-ECC, maximum transfer speeds of up to 6400 MT/s

Memory Slots

Two DDR5 SODIMM slots, dual-channel capable

Memory Protection

ECC on models with ECC DIMMs

Notes:

[1] The max memory is based on the test results with current Lenovo® memory offerings.

Storage

Max Storage Support[1][2]

Up to 4x M.2 PCIe® SSD
• M.2 SSD up to 4TB each

Storage Type***

Disk Type	Interface	Offering	Security
M.2 SSD for 1x onboard M.2 PCIe® 5.0 slot	NVMe®, PCIe® 5.0 x4 or 4.0 x4	Gen 5 Performance SSD: 512GB / 1TB / 2TB Gen 4 Performance SSD: 512GB / 1TB / 2TB / 4TB Gen 4 SSD: 256GB / 512GB / 1TB	Opal 2.0
M.2 SSD for 2x onboard M.2 PCIe® 4.0 slots	NVMe®, PCIe® 4.0 x4	Gen 4 Performance SSD: 512GB / 1TB / 2TB / 4TB Gen 4 SSD: 256GB / 512GB / 1TB	Opal 2.0
M.2 SSD for 1x M.2 PCIe® 3.0 slot (by Single M.2 to PCIe® Adapter)[3]	NVMe®, PCIe® 4.0 x4	Gen 4 Performance SSD: 512GB / 1TB / 2TB / 4TB Gen 4 SSD: 256GB / 512GB / 1TB	Opal 2.0

Storage Controllers

Storage Controller	Type	Interface	RAID
Integrated NVMe® controller	Standard	PCIe® NVMe®	0/1/5

Notes:

[1] The storage capacity supported is based on the test results with current Lenovo® storage offerings.
[2] For certain post-manufacturing storage upgrades, additional upgrade kits may be required.
[3] M.2 slot supports PCIe® 3.0, so Gen 4 SSDs will run on PCIe® 3.0.

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC623-CG codec

Speakers

Single speaker, 2W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
170W	Adapter	90%	100V - 240V
230W	Adapter	90%	100V - 240V
245W	Adapter	90%	Autosensing
330W	Adapter	90%	100V - 240V

DESIGN

Mechanical[1]

Form Factor

Mini-tower (3.9L)

Dimensions (WxDxH)[2]

87 x 223 x 202 mm (3.43 x 8.78 x 7.95 inches)

Weight[3]

3.6 kg (7.94 lbs, maximum configuration)

M.2 Slots

- One M.2 slot (for WLAN)
- Up to 4x M.2 slots for M.2 SSD:
  - 2 onboard M.2 PCIe® 4.0 slots, supports M.2 PCIe® 4.0 SSD. Only one slot is available when 3.5" HDD is selected
  - 1 onboard M.2 PCIe® 5.0 slot, supports M.2 PCIe® 5.0 or M.2 PCIe® 4.0 SSD
  - 1 via Single M.2 to PCIe® adapter, supports M.2 PCIe® 4.0 and runs at PCIe® 3.0, can't be available when 3.5" HDD is selected

Expansion Slots

Three or two PCIe® slots depending on riser card selection.
• Three slots configuration:
- Slot 1: PCIe® 4.0 x16 (x8 lanes), by riser card
- Slot 2: PCIe® 4.0 x16 (x8 lanes), by riser card
- Slot 3: PCIe® 4.0 x8 (x4 lanes), onboard
• Two slots configuration:
- Slot 1: PCIe® 4.0 x16, by riser card
- Slot 2: PCIe® 4.0 x8 (x4 lanes), onboard

EOU

Tool-less design for side cover and memory

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® 7 BE200, 802.11be 2x2 Wi-Fi® + Bluetooth® 5.4, Intel® vPro® technology support
- No WLAN and Bluetooth®

Onboard Ethernet

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

Optional Ethernet

One additional Ethernet adapter support, up to two additional 25GbE ports
• 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® X710-T2L, 2x RJ-45, PCIe® x8
• 25 Gigabit Ethernet, NVIDIA® Mellanox ConnectX-6, 2x SFP28, 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.

Ports[1]

Front Ports

- 2x USB-C® (USB 20Gbps / USB 3.2 Gen 2x2), data transfer only
- 1x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x headphone / microphone combo jack (3.5mm)

Rear Ports

- 4x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 3x DisplayPort™ 1.4
- 1x Ethernet (GbE RJ-45)

Optional Rear Ports***

- 1x Thunderbolt™ 4
- 1x serial (via cable)
- 4x serial (via 4-port serial expansion card, PCIe® x1)

Notes:

[1] The transfer speed of following 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 theoretical speed.
USB 2.0: 480 Mbit/s;
USB 3.2 Gen 1 (SuperSpeed USB 5Gbps, formerly USB 3.0 / USB 3.1 Gen 1): 5 Gbit/s;
USB 3.2 Gen 2 (SuperSpeed USB 10Gbps, formerly USB 3.1 Gen 2): 10 Gbit/s;
USB4® 20Gbps / USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;
USB4® 40Gbps (USB 40Gbps): 40 Gbit/s;
Thunderbolt™ 3/4: 40 Gbit/s.
Thunderbolt™ 5: 80 Gbit/s (bidirectional), up to 120 Gbit/s in bandwidth boost mode for video-intensive applications.

SECURITY & PRIVACY

Security

Security Chip

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

Physical Locks

Kensington® Security Slot™, 3 x 7 mm

Chassis Intrusion Switch

Chassis intrusion switch

BIOS Security

- Administrator password
- UEFI Secure Boot

- Power-on password
- Self-healing BIOS
- More BIOS security features, please visit BIOS Simulator

MANAGEABILITY

System Management

System Management[1][2]

- (Optional) Aspeed AST2600 graphics / management processor, IPMI 2.0-compliant baseboard management controller (BMC)
- (Optional) 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.

SERVICE

Warranty[1]

Base Warranty**

- 1-year limited onsite service
- 2-year limited onsite service
- 3-year limited onsite service
- No base warranty

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]

• 85% PCC ABS bezel
• 95% PCC ABS wired USB keyboard/mouse top/bottom cover
• 90% PIC recycled plastic EPE cushion
• 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® 9.0
- RoHS compliant
- TCO Certified, generation 10

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.

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

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