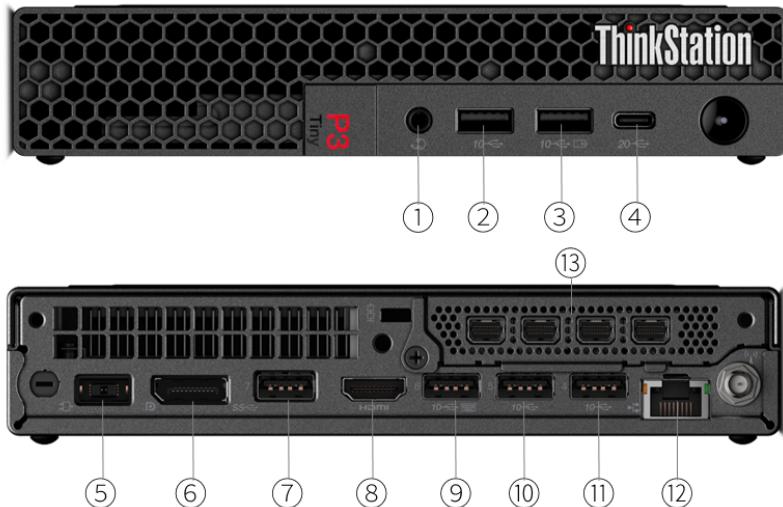


OVERVIEW



1. Headphone / microphone combo jack (3.5mm)	8. HDMI 2.1 TMDS
2. USB-A (USB 10Gbps)	9. USB-A (USB 10Gbps), with Smart Power On
3. USB-A (USB 10Gbps), Always On	10. USB-A (USB 10Gbps)
4. USB-C (USB 20Gbps), data transfer only	11. USB-A (USB 10Gbps)
5. Power connector	12. Ethernet (RJ-45)
6. DisplayPort 1.4	13. 2 Punch out ports or expansion card *
7. USB-A (USB 5Gbps)	

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Up to one 65W Intel® Core™ Ultra (Series 2) processor; supports up to 20 cores; up to 5.6GHz

Processor**^[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
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	20MB Intel® Smart Cache	DDR5-6400	Intel® Graphics
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	20MB Intel® Smart Cache	DDR5-6400	Intel® Graphics
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	24MB Intel® Smart Cache	DDR5-6400	Intel® Graphics
Core Ultra 5 235T	14 (6 P-core + 8 E-core)	14	P-core 2.2GHz / E-core 1.6GHz	P-core 5.0GHz / E-core 4.4GHz	24MB Intel® Smart Cache	DDR5-6400	Intel® Graphics
Core Ultra 5 245	14 (6 P-core + 8 E-core)	14	P-core 3.5GHz / E-core 3.0GHz	Max Turbo up to 5.1GHz / P-core 5.1GHz / E-core 4.5GHz	24MB Intel® Smart Cache	DDR5-6400	Intel® Graphics
Core Ultra 5 245T	14 (6 P-core + 8 E-core)	14	P-core 2.2GHz / E-core 1.7GHz	P-core 5.1GHz / E-core 4.5GHz	24MB Intel® Smart Cache	DDR5-6400	Intel® Graphics
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	30MB Intel® Smart Cache	DDR5-6400	Intel® Graphics
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	30MB Intel® Smart Cache	DDR5-6400	Intel® Graphics
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	36MB Intel® Smart Cache	DDR5-6400	Intel® Graphics
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	36MB Intel® Smart Cache	DDR5-6400	Intel® Graphics

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
- Ubuntu Linux LTS
- Red Hat Enterprise Linux 9.6 (certified only, for detailed and latest information, please visit [Red Hat Certified Hardware](#))
- No preload operating system

Graphics

Integrated Graphics

Intel® Graphics

Discrete Graphics Support^[1]

Supports up to one NVIDIA® RTX A1000 or RTX A400

Discrete Graphics Offering**

Graphics	Memory	Power	Connector	Form Factor	SLI / NVLink
NVIDIA® RTX A400	4GB GDDR6	50W	4x miniDP 1.4a	Single slot	None
NVIDIA® RTX A1000	8GB GDDR6	50W	4x miniDP 1.4a	Single slot	None

Notes:

[1] Discrete graphics support may vary by configurations such as processor selection or power supply wattage.

Monitor Support

Monitor Support

Onboard graphics supports up to 4 independent displays via (onboard DP, onboard HDMI®, punch out port 1 [VGA / HDMI® / DP / USB-C®], and punch out port 2 [VGA / HDMI® / DP / Thunderbolt™ 4]); the number of maximum monitors also depends on the discrete graphic card in use

Chipset

Chipset

Intel® Q870 chipset

Memory

Max Memory^[1]

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

Memory Type*

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

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Notes:

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

Storage

Max Storage Support^[1]

Up to 3x M.2 SSD, PCIe® 5.0 Performance, PCIe® 4.0 Performance, or PCIe® 4.0

- PCIe® 5.0 Performance SSD up to 2TB each
- PCIe® 4.0 Performance SSD up to 1TB each
- PCIe® 4.0 SSD up to 1TB each

Storage Type

Disk Type	Interface	Offering	Security
M.2 SSD for 3x onboard M.2 PCIe® slots ^[2]	NVMe®, PCIe® 5.0 x4 or 4.0 x4	Gen 5 Performance SSD: 512GB / 1TB / 2TB Gen 4 Performance SSD: 512GB / 1TB	Opal 2.0

Gen 4 SSD: 256GB / 512GB / 1TB

Storage Controllers

Storage Controller	Type	Interface	RAID	Cache
Integrated NVMe® controller	Standard	PCIe® NVMe®	0/1/5	None

Notes:

[1] The storage capacity supported is based on the test results with current Lenovo® storage offerings.
 [2] Gen 5 SSD on M.2 PCIe® 4.0 slot will run on PCIe® 4.0 protocols.

Multi-Media**Audio Chip**

High Definition (HD) Audio, Realtek® ALC233VB codec

Speakers**

- Single speaker, 2W x1
- Single speaker, premium, 2W x1

Power Supply**Power Supply****

Power	Type	Efficiency	Key Features
170W	Adapter	90%	100V - 240V
230W	Adapter	90%	100V - 240V
300W	Adapter	90%	100V - 240V
330W	Adapter	90%	100V - 240V

DESIGN**Mechanical****Form Factor**

Tiny (1L)

Dimensions (WxDxH)^[1]

Models	Dimensions
Tiny only	179 x 182.9 x 37mm with rubber feet (7.0 x 7.2 x 1.5 inches with rubber feet)

Weight^[2]

Models	Weight
Tiny only	1.4 kg (3 lbs, maximum configuration)

Bays

No bays

M.2 Slots

- One M.2 slot (for WLAN)
- Up to 3x M.2 slots for M.2 SSD:
 - 2 onboard M.2 PCIe® 4.0 slots
 - 1 onboard M.2 PCIe® 5.0 slot

Expansion Slots

One PCIe® slot via specific riser card:
 PCIe® 4.0 x16 (negotiable link width x8) and low profile for discrete graphics card,
 PCIe® 4.0 x4 and low profile for serial or ethernet adapters

Notes:

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

- Intel® Wi-Fi® 7 BE200, 802.11be 2x2 Wi-Fi® + Bluetooth® 5.4, Intel® vPro® technology support^[1]
- 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 support via BTB, or one additional ethernet support via PCIe® slot; up to two additional 2.5GbE port

- Gigabit Ethernet, Intel® I350-T2, 2x RJ-45, PCIe® x4
- Gigabit Ethernet, Intel® I350-T4, 4x RJ-45, PCIe® x4
- Gigabit Ethernet, Broadcom BCM5720, 2x RJ-45, PCIe® x1
- Gigabit Ethernet, Broadcom BCM5719, 4x RJ-45, PCIe® x4
- 2.5 Gigabit Ethernet, Realtek® RTL8125BGS, 1x RJ-45, BTB

Notes:

[1] 6GHz Wi-Fi® 7 operation is subject to the regulation rules in each country.

Ports^[1]

Front Ports

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

Rear Ports^[2]

- 1x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 3x USB-A (USB 10Gbps / USB 3.2 Gen 2), one supports Smart Power On
- 1x HDMI® 2.1 TMDS
- 1x DisplayPort™ 1.4
- 1x Ethernet (RJ-45)

Optional Rear Ports

- Punch out port 1 (one of VGA / DisplayPort™ / HDMI® 4K / HDMI® 8K / serial / USB-C® 5Gbps with DisplayPort™ and PD 3.0 functions / RJ-45)
- Punch out port 2 (one of VGA / DisplayPort™ / Thunderbolt™ 4 / HDMI® 4K / HDMI® 8K / serial / RJ-45)
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2), occupies port 1 and 2
- 4x USB-A (USB 10Gbps / USB 3.2 Gen 2), share 10Gbps bandwidth, occupy port 1 and 2
- 2x GbE RJ-45, via additional PCIe® adapter
- 4x GbE RJ-45, via additional PCIe® adapter
- 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.

[2] For video ports on discrete graphics, please see graphics section.

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
- Hard disk password
- Power-on password
- Boot sequence control
- Boot without keyboard and mouse
- Certificate based BIOS management
- Cover presence switch
- Individual USB port disablement
- Self-healing BIOS
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator](#)

MANAGEABILITY

System Management

System Management^[1]

- (Optional) Intel® vPro® Enterprise with Intel® AMT 16
- Non-vPro®

Notes:

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

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: 5°C (41°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
- (Optional) EPEAT™ Gold Registered
- RoHS compliant
- TCO Certified 10.0

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.
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