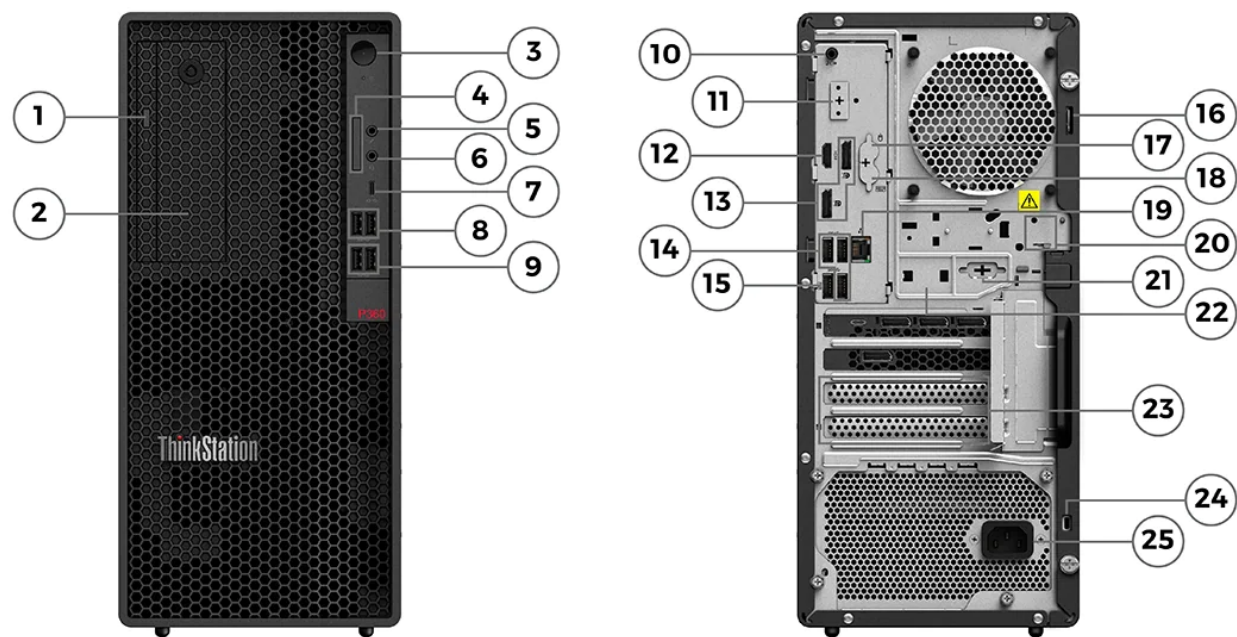


OVERVIEW



| | |
|--|---|
| 1. Optical drive * | 14. 3x USB 3.2 Gen 1 |
| 2. Flex bay * | 15. USB 3.2 Gen 1 (with Smart Power On feature) |
| 3. Power button | 16. Padlock loop * |
| 4. Card reader * | 17. PS/2 port (mouse) * |
| 5. Microphone (3.5mm) | 18. PS/2 port (keyboard) * |
| 6. Headphone / microphone combo jack (3.5mm) | 19. Ethernet (RJ-45) |
| 7. USB-C 3.2 Gen 2 (data transfer only) | 20. E-lock slot * |
| 8. 2x USB 3.2 Gen 1 | 21. Serial (9-pin) * |
| 9. 2x USB 3.2 Gen 2 | 22. Smart cable clip slots * |
| 10. Line-out (3.5mm) | 23. Optional ports on expansion cards * |
| 11. Flex IO * | 24. Kensington Security Slot |
| 12. HDMI | 25. Power connector |
| 13. 2x DisplayPort | |

Notes:

- Ports with * are only available on selected models

PERFORMANCE

Processor

Processor Family

12th Generation Intel® Core™ i3 / i5 / i7 / i9 Processor

Processor**

| Processor Name | Cores | Threads | Base Frequency | Max Frequency | Cache | Memory Support | Processor Graphics |
|----------------|--------------------------|---------|-------------------------------|-------------------------------|-------|----------------|------------------------|
| Core i3-12100 | 4 (4 P-core + 0 E-core) | 8 | P-core 3.3GHz | P-core 4.3GHz | 12MB | DDR5-4800 | Intel UHD Graphics 730 |
| Core i3-12300 | 4 (4 P-core + 0 E-core) | 8 | P-core 3.5GHz | P-core 4.4GHz | 12MB | DDR5-4800 | Intel UHD Graphics 730 |
| Core i5-12600 | 6 (6 P-core + 0 E-core) | 12 | P-core 3.3GHz | P-core 4.8GHz | 18MB | DDR5-4800 | Intel UHD Graphics 770 |
| Core i5-12400 | 6 (6 P-core + 0 E-core) | 12 | P-core 2.5GHz | P-core 4.4GHz | 18MB | DDR5-4800 | Intel UHD Graphics 730 |
| Core i5-12500 | 6 (6 P-core + 0 E-core) | 12 | P-core 3.0GHz | P-core 4.6GHz | 18MB | DDR5-4800 | Intel UHD Graphics 770 |
| Core i5-12600K | 10 (6 P-core + 4 E-core) | 16 | P-core 3.7GHz / E-core 2.8GHz | P-core 4.9GHz / E-core 3.6GHz | 20MB | DDR5-4800 | Intel UHD Graphics 770 |
| Core i7-12700 | 12 (8 P-core + 4 E-core) | 20 | P-core 2.1GHz / E-core 1.6GHz | P-core 4.8GHz / E-core 3.6GHz | 25MB | DDR5-4800 | Intel UHD Graphics 770 |
| Core i7-12700K | 12 (8 P-core + 4 E-core) | 20 | P-core 3.6GHz / E-core 2.7GHz | P-core 4.9GHz / E-core 3.8GHz | 25MB | DDR5-4800 | Intel UHD Graphics 770 |
| Core i9-12900 | 16 (8 P-core + 8 E-core) | 24 | P-core 2.4GHz / E-core 1.8GHz | P-core 5.0GHz / E-core 3.8GHz | 30MB | DDR5-4800 | Intel UHD Graphics 770 |
| Core i9-12900K | 16 (8 P-core + 8 E-core) | 24 | P-core 3.2GHz / E-core 2.4GHz | P-core 5.1GHz / E-core 3.9GHz | 30MB | DDR5-4800 | Intel UHD Graphics 770 |

Processor Sockets

1x FCLGA1700

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 DG Windows 10 Pro 64
- Red Hat Enterprise Linux (certified only)
- No operating system

Graphics

Integrated Graphics**

- Intel UHD Graphics 730
- Intel UHD Graphics 770

Discrete Graphics Support

Supports up to one NVIDIA® RTX A5000 or two NVIDIA T1000

Discrete Graphics Offering***[1]

| Graphics | Memory | Power | Connector | SLI / NVlink |
|--------------|-----------|-------|---------------|--------------|
| NVIDIA T400 | 2GB GDDR6 | 40W | 3x miniDP 1.4 | None |
| NVIDIA T400 | 4GB GDDR6 | 40W | 3x miniDP 1.4 | None |
| NVIDIA T600 | 4GB GDDR6 | 40W | 4x miniDP 1.4 | None |
| NVIDIA T1000 | 4GB GDDR6 | 50W | 4x miniDP 1.4 | None |
| NVIDIA T1000 | 8GB GDDR6 | 50W | 4x miniDP 1.4 | None |

| | | | | |
|------------------|---------------------|------|----------------|------|
| NVIDIA RTX A2000 | 6GB GDDR6 | 70W | 4x miniDP 1.4a | None |
| NVIDIA RTX A2000 | 12GB GDDR6 | 70W | 4x miniDP 1.4a | None |
| NVIDIA RTX A4000 | 16GB GDDR6 with ECC | 140W | 4x DP 1.4a | None |
| NVIDIA RTX A4500 | 20GB GDDR6 with ECC | 200W | 4x DP 1.4 | None |
| NVIDIA RTX A5000 | 24GB GDDR6 with ECC | 230W | 4x DP 1.4a | None |

Notes:

1. NVIDIA RTX A4500 will be available on April 2022

Monitor Support

Monitor Support

Onboard graphics supports up to 4 independent displays via onboard two DP, one HDMI® and one optional USB-C®; the number of maximum monitors also depends on the discrete graphic card in use

Chipset

Chipset

Intel W680 chipset

Memory

Max Memory^[1]

Up to 128GB

Memory Type^{**[2]}

- DDR5-4800 ECC
- DDR5-4800 non-ECC

Memory Slots

Four DDR5 UDIMM slots, dual-channel capable

Memory Protection

ECC on models with ECC DIMMs and ECC capable processor

Notes:

1. The max memory is based on the test results with current Lenovo® memory offerings. The system may support more memory as the technology develops.

2. ThinkStation® P360 Tower comes with DDR5-4800 memory and will run at DDR5-4400, DDR5-4000, and DDR5-3600 due to platform limitation:
1x 8GB / 2x 8GB / 1x 16GB / 2x 16GB / 2x 32GB configurations run at DDR5-4400;
4x 8GB / 4x 16GB configurations run at DDR5-4000;
4x 32GB configuration runs at DDR5-3600

Storage

Storage Support^[1]

Up to 2x 3.5" SATA HDD or 4x 2.5" SATA HDD; also supports up to 3x M.2 SSD (2 by onboard, 1 by M.2 to PCIe® adapter)

- 3.5" HDD up to 4TB each
- 2.5" HDD up to 1TB each
- Onboard M.2 SSD up to 4TB each
- M.2 SSD by M.2 to PCIe adapter up to 2TB

Storage Type^{***[2]}

| Disk Type | Interface | RPM | Offering | Security |
|---------------|-------------------------------------|------|-------------------------|----------|
| 2.5" SATA HDD | SATA 6Gb/s | 7.2K | 1TB / 1TB FIPS | - |
| 3.5" SATA HDD | SATA 6Gb/s | 7.2K | 1TB / 2TB / 4TB | - |
| M.2 2280 SSD | PCIe NVMe®, PCIe 4.0 x4 Performance | - | 512GB / 1TB / 2TB / 4TB | Opal2 |

Storage Controllers^[3]

| Storage Controller | Type | Interface | RAID | Cache |
|----------------------------|----------|-----------|------|-------|
| Integrated NVMe controller | Standard | PCIe NVMe | 0/1 | None |

| | | | | |
|----------------------------|----------|--------------|----------|------|
| Integrated SATA controller | Standard | SATA 6.0Gb/s | 0/1/10/5 | None |
|----------------------------|----------|--------------|----------|------|

- Notes:
- 1. The storage capacity supported is based on the test results with current Lenovo storage offerings. The system may support larger storage as the technology develops.
 - 2. When using M.2 to PCIe adapter, M.2 SSD works at PCIe Gen 3. 4TB M.2 SSD is pending availability.
 - 3. NVMe RAID is supported on onboard M.2 slots. SATA RAID 5 and 10 are supported on 2.5" HDD.

Removable Storage

Optical Support

Optional one 9.0mm optical drive, DVD-ROM, DVD±RW, and Blu-ray

Card Reader

- SD card reader
- No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC897Q-CG codec

Speakers

Single speaker

Power Supply

Power Supply**

| Power | Type | Efficiency | Key Features |
|-------|-------|------------|---|
| 500W | Fixed | 92% | Autosensing, 80 PLUS Platinum qualified |
| 750W | Fixed | 92% | Autosensing, 80 PLUS Platinum qualified |

DESIGN

Mechanical

Form Factor

Tower (17L)

Dimensions (WxDxH)

170 x 315.4 x 376 mm (6.7 x 12.4 x 14.8 inches)

Weight

9.67 kg (21.32 lbs, maximum configuration)

Bays

- 1x 3.5" disk bay (standard)
- 2x 2.5" disk bay (optional)
- 1x 3.5" disk bay (optional)

M.2 Slots

- Up to 3x M.2 SSD:
 - 2 via onboard M.2 PCIe Gen 4 slots
 - 1 via Single M.2 to PCIe adapter, PCIe Gen 3
- One M.2 slot for WiFi

Expansion Slots

- One PCIe 4.0 x16
- One PCIe 4.0 x16 (x4 lanes)
- Two PCIe 3.0 x1 (open ended)

CONNECTIVITY

Network

Onboard Ethernet

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

Optional Ethernet

- Gigabit Ethernet, Bitland BN8E88, 1x RJ-45, PCIe x1
- Gigabit Ethernet, Intel Ethernet Server Adapter I350-T4, 4x RJ-45, PCIe x4
- Gigabit Ethernet, Intel I210-T1, 1x RJ-45, PCIe x1
- Gigabit Ethernet, Intel I350-T2, 2x RJ-45, PCIe x4

WLAN + Bluetooth®**^[1]

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- Intel Wi-Fi 6E AX211, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- No WLAN and Bluetooth

Notes:

1. Bluetooth 5.2 is hardware ready but may run at a lower version due to OS limitation

Ports^[1]

Front Ports

- 2x USB 3.2 Gen 1
- 2x USB 3.2 Gen 2
- 1x USB-C 3.2 Gen 2
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Rear Ports^[2]

- 4x USB 3.2 Gen 1 (one supports Smart Power On)
- 1x HDMI 2.1 TMDS
- 2x DisplayPort™ 1.4
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports

- 1x HDMI 2.1 TMDS (Flex IO)
- 1x VGA (Flex IO)
- 1x USB-C 3.2 Gen 1 with DisplayPort function (Flex IO)
- 1x DP 1.2 (Flex IO)
- 1x USB-C 3.2 Gen 2x2 (via USB-C expansion card, PCIe x4)
- 2x USB 3.2 Gen 1
- 1x Thunderbolt™ 4
- 1x serial
- 4x serial (via 4-port serial expansion card, PCIe x1)
- 1x parallel
- 2x PS/2

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;
USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 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

Physical Locks

- (Optional) Cable lock
- (Optional) E-lock
- Kensington® Security Slot, 3 x 7 mm
- Padlock Loop

Chassis Intrusion Switch

- Chassis intrusion switch
- No chassis intrusion switch

BIOS Security

- Administrator password
- Power-on password

MANAGEABILITY

System Management

System Management^{[1][2]}**

- Intel vPro Enterprise with Intel AMT 16.0
- Standard Manageability

Notes:

1. Intel vPro offers a superset of DASH's defined capabilities.
2. Intel vPro offers a superset of DASH's defined capabilities.

SERVICE

Warranty

Base Warranty^[1]**

- 1-year limited onsite service
- 2-year limited onsite service
- 3-year limited onsite service with 9x5 NBD (for most models)
- No base warranty

Notes:

1. More information of warranty policy, please access <https://pcsupport.lenovo.com/warranty>

ENVIRONMENTAL

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)

Humidity

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

CERTIFICATIONS

Green Certifications

Green Certifications

- EPEAT™ Gold
- ENERGY STAR® 8.0
- ErP Lot 3
- TCO Certified 9.0

- RoHS compliant

Other Certifications

Mil-Spec Test

MIL-STD-810H military test in progress

ISV Certifications

ISV Certifications

Please visit [ISV certifications for Lenovo Workstations](#)

- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Feature with *** means that one or more offerings listed under the feature could be configured on selected models.
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