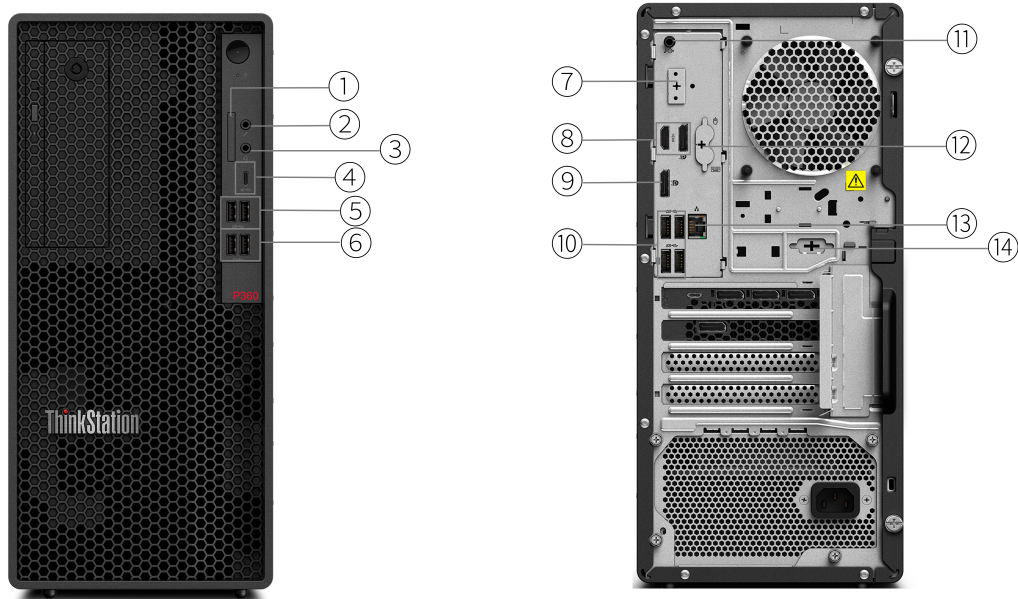


OVERVIEW



1. Card reader *	8. DisplayPort 1.4 + HDMI 2.1 TMDS
2. Microphone (3.5mm)	9. DisplayPort 1.4
3. Headphone / microphone combo jack (3.5mm)	10. 4x USB 3.2 Gen 1
4. USB-C 3.2 Gen 2 (data transfer only)	11. Line-out (3.5mm)
5. 2x USB 3.2 Gen 1	12. 2x PS/2 ports (keyboard / mouse) *
6. 2x USB 3.2 Gen 2	13. Ethernet (RJ-45)
7. Flex IO *	14. Serial (9-pin) *

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 DDR5-4000

Memory Type

- DDR5-4000 ECC
- DDR5-4000 non-ECC

Memory Slots

Four DDR5 UDIMM 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. The system may support more memory as the technology develops.

Storage

Storage Support

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^[1]

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^[2]

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. When using M.2 to PCIe adapter, M.2 SSD works at PCIe Gen 3.
2. 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

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

Starting at 9.7 kg (21.38 lbs)

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

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

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 I210-T1, 1x RJ-45, PCIe x1
- Gigabit Ethernet, Intel I350-T2, 2x RJ-45, PCIe x4

WLAN + Bluetooth®

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card

ThinkStation P360 Tower

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

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 USB-C 3.2 Gen 2x2 (via USB-C expansion card, PCIe x4)
- 2x USB 2.0
- 2x USB 3.2 Gen 1
- 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 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;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/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
- Padlock Loop

Chassis Intrusion Switch

- Chassis intrusion switch
- No chassis intrusion switch

BIOS Security

- Administrator password
- Power-on password

MANAGEABILITY

System Management

System Management^[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

- (Optional) EPEAT™ Gold
- (Optional) EPEAT Silver
- 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](#)

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