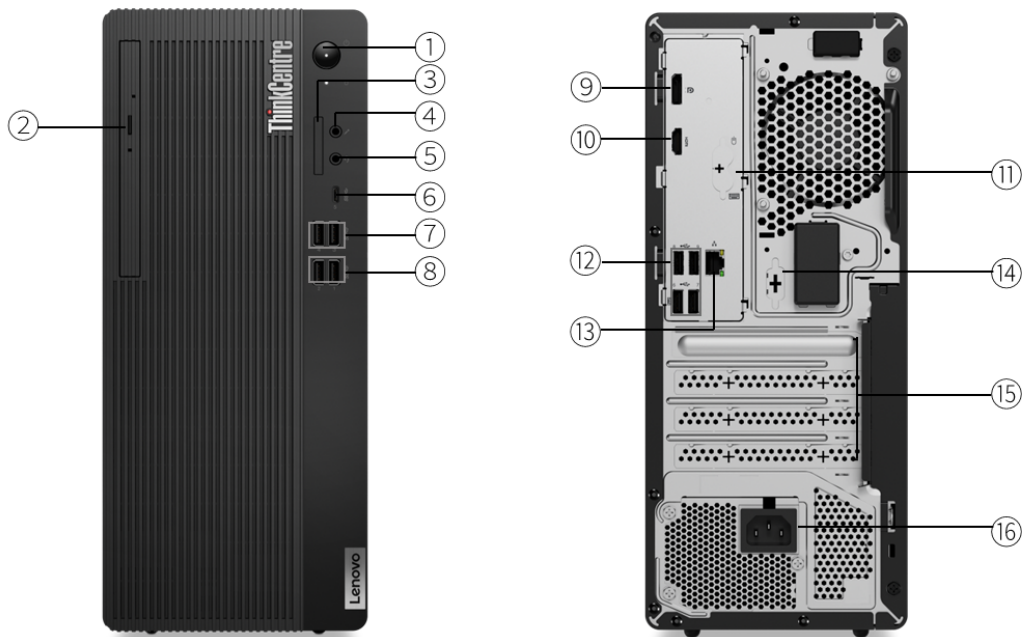


OVERVIEW



| | |
|--|---|
| 1. Power button | 9. DisplayPort 1.4a |
| 2. Optical drive * | 10. HDMI 2.1 TMDS |
| 3. Card reader * | 11. 2x PS/2 ports (keyboard / mouse) * |
| 4. Microphone jack (3.5mm) | 12. 4x USB-A (Hi-Speed USB) |
| 5. Headphone / microphone combo jack (3.5mm) | 13. Ethernet (RJ-45) |
| 6. USB-C (USB 5Gbps), data transfer only | 14. Serial * |
| 7. 2x USB-A (USB 5Gbps) | 15. Optional ports on expansion cards * |
| 8. 2x USB-A (USB 5Gbps) | 16. Power connector |

Notes:

- Items with * are only available on selected models
- More ports are available through the optional expansion cards (not shown on the sample product above)

PERFORMANCE

Processor

Processor Family

13th / 14th Generation Intel® Core™ i3 / i5 / i7 Processor, or Intel® 300 Processor

Processor**

| Processor Name | Cores | Threads | Base Frequency | Max Frequency | Cache | Processor Graphics |
|----------------|---------------------------|---------|-------------------------------|--|---|-------------------------|
| Core i3-13100 | 4 (4 P-core + 0 E-core) | 8 | P-core 3.4GHz | P-core 4.5GHz | 5MB L2 Cache / 12MB Intel® Smart Cache | Intel® UHD Graphics 730 |
| Core i5-13400 | 10 (6 P-core + 4 E-core) | 16 | P-core 2.5GHz / E-core 1.8GHz | P-core 4.6GHz / E-core 3.3GHz | 9.5MB L2 Cache / 20MB Intel® Smart Cache | Intel® UHD Graphics 730 |
| Core i5-13500 | 14 (6 P-core + 8 E-core) | 20 | P-core 2.5GHz / E-core 1.8GHz | P-core 4.8GHz / E-core 3.5GHz | 11.5MB L2 Cache / 24MB Intel® Smart Cache | Intel® UHD Graphics 770 |
| Core i7-13700 | 16 (8 P-core + 8 E-core) | 24 | P-core 2.1GHz / E-core 1.5GHz | Max Turbo up to 5.2GHz / P-core 5.1GHz / E-core 4.1GHz | 24MB L2 Cache / 30MB Intel® Smart Cache | Intel® UHD Graphics 770 |
| Core i3-14100 | 4 (4 P-core + 0 E-core) | 8 | P-core 3.5GHz | P-core 4.7GHz | 5MB L2 Cache / 12MB Intel® Smart Cache | Intel® UHD Graphics 730 |
| Core i5-14400 | 10 (6 P-core + 4 E-core) | 16 | P-core 2.5GHz / E-core 1.8GHz | P-core 4.7GHz / E-core 3.5GHz | 9.5MB L2 Cache / 20MB Intel® Smart Cache | Intel® UHD Graphics 730 |
| Core i5-14400F | 10 (6 P-core + 4 E-core) | 16 | P-core 2.5GHz / E-core 1.8GHz | P-core 4.7GHz / E-core 3.5GHz | 9.5MB L2 Cache / 20MB Intel® Smart Cache | - |
| Core i5-14500 | 14 (6 P-core + 8 E-core) | 20 | P-core 2.6GHz / E-core 1.9GHz | P-core 5.0GHz / E-core 3.7GHz | 11.5MB L2 Cache / 24MB Intel® Smart Cache | Intel® UHD Graphics 770 |
| Core i5-14600 | 14 (6 P-core + 8 E-core) | 20 | P-core 2.7GHz / E-core 2.0GHz | P-core 5.2GHz / E-core 3.9GHz | 20MB L2 Cache / 24MB Intel® Smart Cache | Intel® UHD Graphics 770 |
| Core i7-14700 | 20 (8 P-core + 12 E-core) | 28 | P-core 2.1GHz / E-core 1.5GHz | Max Turbo up to 5.4GHz / P-core 5.3GHz / E-core 4.2GHz | 28MB L2 Cache / 33MB Intel® Smart Cache | Intel® UHD Graphics 770 |
| Core i7-14700F | 20 (8 P-core + 12 E-core) | 28 | P-core 2.1GHz / E-core 1.5GHz | Max Turbo up to 5.4GHz / P-core 5.3GHz / E-core 4.2GHz | 28MB L2 Cache / 33MB Intel® Smart Cache | - |
| Intel® 300 | 2 (2 P-core + 0 E-core) | 4 | P-core 3.9GHz | - | 2.5MB L2 Cache / 6MB Intel® Smart Cache | Intel® UHD Graphics 710 |

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 IoT Enterprise LTSC 2024
- Windows® 11 DG Windows® 10 Pro 64
- Ubuntu Linux
- No preload operating system

Graphics

Graphics^{***[1]}

| Graphics | Type | Memory | AI TOPS (Peak) | Max Resolution | Connector | Key Features |
|------------------------------|------------|-----------|----------------|---|---|---|
| Intel® UHD graphics 710 | Integrated | Shared | - | 4096x2304@60Hz(DP), 4096x2160@60Hz(HDMI®) | 1x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS | DirectX® 12 |
| Intel® UHD graphics 730 | Integrated | Shared | - | 4096x2304@60Hz(DP), 4096x2160@60Hz(HDMI®) | 1x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS | DirectX® 12 |
| Intel® UHD graphics 770 | Integrated | Shared | - | 4096x2304@60Hz(DP), 4096x2160@60Hz(HDMI®) | 1x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS | DirectX® 12 |
| NVIDIA® GeForce RTX™ 3050 | Discrete | 6GB GDDR6 | - | 7680x4320@60Hz(HDMI®), 7680x4320@120Hz(DP), 2560x1660@60Hz(DVI) | 1x HDMI® 2.1 TMDS, 1x DisplayPort™ 1.4a, 1x DVI-D | DirectX® 12, OpenGL 4.6 |
| NVIDIA® GeForce RTX™ 5050 | Discrete | 8GB GDDR6 | 421 | 7680x4320@120Hz with DSC(HDMI®); 7680x4320@165Hz with DSC(DP) | 3x DP 2.1b UHBR20, 1x HDMI® 2.1b FRL | DirectX® 12 |
| AMD Radeon™ RX 6600 LE | Discrete | 8GB GDDR6 | - | 7680x4320@60Hz(HDMI®), 7680x4320@ 60Hz(DP) | 3x DP 1.4a, 1x HDMI® 2.1 FRL | DirectX® 12, OpenGL 4.6, OpenCL 2.2 |
| Intel® Arc™ A310 LP Graphics | Discrete | 4GB GDDR6 | - | 5120x2880@60Hz(DP) | 2x DisplayPort™ 1.4a | DirectX® 12, OpenGL 4.6 |

Notes:

[1] The information of integrated graphics are not applicable for the models with processor which has no integrated graphics inside (for the details, please refer to processor section).

Monitor Support**Monitor Support**

Supports up to 2 independent displays via onboard ports (1x DP and 1x HDMI®), more displays support via discrete graphics

Chipset**Chipset**

Intel® Q670 chipset

Memory**Max Memory**^[1]

Up to 64GB DDR5

Memory Slots

Two DDR5 UDIMM slots, dual-channel capable

Memory Type

- DDR5-4800^[2]
- DDR5-5200^[3]
- DDR5-5600

Notes:

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

[2] Installed memory is actually DDR5-5600 but may run as DDR5-4800 depending on the memory support capability of Intel®.

[3] Installed memory is actually DDR5-5600 but may run as DDR5-5200 depending on the memory support capability of Intel®.

Storage**Max Storage Support**^[1]

Up to three drives, 1x 3.5" HDD + 1x 2.5" HDD + 1x M.2 SSD

- 3.5" HDD up to 2TB
- 2.5" HDD bay is only for customer self upgrade
- M.2 SSD up to 2TB each^[2]

Storage Type***

| Disk Type | Interface | RPM | Security |
|---------------|---------------------------|------|----------|
| 3.5" SATA HDD | SATA 6Gb/s | 7.2K | - |
| M.2 2280 SSD | PCIe® NVMe®, PCIe® 4.0 x4 | - | Opal 2.0 |

RAID

No support

Notes:

[1] The max capacity of each disk type is based on the test results with current Lenovo® storage offerings.

[2] 2.5" HDD bay is optional part, only for customer self upgrade purpose and the hard drive is sold separately. Two onboard SATA ports support up to two drives of 2.5" HDD, 3.5" HDD and ODD.

Removable Storage

Optical**

- DVD-ROM, SATA connector, slim (9.0mm)
- DVD burner (DVD±RW), SATA 1.5Gb/s, slim (9.0mm)
- None

Card Reader

- 3-in-1 card reader (SD, SDHC, SDXC)
- No card reader

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 |
|---------------------|-------|------------|-------------------|
| 180W | Fixed | 85% | 100-240V, 50-60Hz |
| 258W | Fixed | 90% | 100-240V, 50-60Hz |
| 260W ^[1] | Fixed | 90% | 100-240V, 50-60Hz |
| 310W | Fixed | 92% | 100-240V, 50-60Hz |
| 380W | Fixed | 92% | 100-240V, 50-60Hz |

Notes:

[1] Hybrid PSU sources configured for supply assurance; assembled product has maximum wattage of 258W.

DESIGN

Input Device

Keyboard**

- Lenovo® Calliope Keyboard (USB connector), black
- Lenovo® Traditional Keyboard (USB connector), black
- Wireless EOS Keyboard, black
- No keyboard

Mouse**

- Lenovo® Calliope Mouse (USB connector), black
- Wireless EOS Mouse, black
- No mouse

Mechanical

Form Factor

Tower (13.6L)

Dimensions (WxDxH)^[1]

145 x 296 x 346 mm (5.7 x 11.7 x 13.6 inches)

Packaging Dimensions (WxDxH)

245 x 395 x 530 mm (9.65 x 15.55 x 20.87 inches)

Weight^[2]

Around 5.9 kg (13.0 lbs)

Packaging Weight

8.3 kg (18.29 lbs)

Case Color

Black

Bays^[3]

- 1x 2.5" disk bay (optional)
- 1x 3.5" disk bay
- 1x slim ODD bay

Expansion Slots

- One PCIe® 3.0 x16, full-height, length ≤ 222.7mm, height ≤ 111.2mm
- One PCIe® 3.0 x1, full-height, (length ≤ 185mm, height ≤ 100mm) or (length ≤ 118mm, height ≤ 110mm)
- Two M.2 slots (one for WLAN, one for SSD)

EOU

Toolless cover, memory, disk, optical, extension card assembly / removal^[4]

Others

- (Optional) Dust filter
- Supports Smart Power On

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.

[3] 2.5" HDD bay is optional part, only for customer self upgrade purpose and the hard drive is sold separately. Two onboard SATA ports support up to two drives of 2.5" HDD, 3.5" HDD and ODD.

[4] To comply with UL 4200A, the toolless features are not available for the following countries:

Argentina, Belize, Bolivia, Canada, Caribbean Group, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, TAA, Uruguay, USA, Venezuela.

CONNECTIVITY

Network

WLAN + Bluetooth®**^[1]

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card
- 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® 5.3, Intel® vPro® technology support, M.2 card^[2]
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card
- No WLAN and Bluetooth®

Onboard Ethernet

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

Optional Ethernet

- 2.5 Gigabit Ethernet, Realtek® RTL8125BGS, 1x RJ-45, PCIe® x1

- No optional Ethernet

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] Intel® vPro® platform requires the hardware and software necessary to deliver the manageability use cases, security features, system performance, and stability that define the platform. For detailed vPro® support information, please refer to the System Management section.

Ports^[1]

Front Ports

- 1x USB-C® (USB 5Gbps / USB 3.2 Gen 1), with 15W charging
- 4x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Optional Front Ports

1x card reader

Rear Ports^[2]

- 4x USB-A (Hi-Speed USB / USB 2.0)
- 1x HDMI® 2.1 TMDS
- 1x DisplayPort™ 1.4a (HBR2, DSC)
- 1x Ethernet (RJ-45)

Optional Rear Ports***

- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1), via 2-port USB expansion card, PCIe® x1
- 1x 2.5GbE RJ-45, via additional PCIe® adapter
- 1x parallel
- 1x serial
- 1x 2nd serial
- 4x serial (via 4-port serial expansion card, PCIe® x1)
- 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;

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.

[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

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

Chassis Intrusion Switch

- Chassis intrusion switch
- No chassis intrusion switch

Fingerprint Reader

No fingerprint reader

BIOS Security

- Absolute persistence module
- Administrator password
- Boot sequence control
- Boot without keyboard and mouse
- Configuration change detection
- Certificate-based BIOS authentication
- Cover tamper detected^[1]
- Intel® BIOS guard
- Individual USB port disablement
- Hard disk password
- Power-on password
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- Self-healing BIOS
- Secure boot
- Secure wipe
- More BIOS security features, please visit [BIOS Simulator](#)^[2]

Notes:

[1] Only available for the models with Chassis Intrusion Switch

[2] The BIOS simulator is just for reference. Default settings and some options may vary depending on the hardware, operating system and BIOS version.

MANAGEABILITY

System Management

System Management^[1]

- Intel® vPro® Enterprise
- Non-vPro®

Notes:

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

SERVICE

Warranty^[1]

Base Warranty**

- 1-year courier or carry-in service
- 1-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>.

ACCESSORIES

Bundled Accessories

Bundled Accessories***

- DP to DVI dongle
- DP to HDMI® dongle
- HDMI® to HDMI® cable (1.5m)
- HDMI® to VGA dongle

- Smart Cable (USB-A to USB-C®)
- None

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)

Relative Humidity

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

Altitude

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

ENVIRONMENTAL

Sustainability

Material^[1]

85% PCC ABS bezel
95% PCC ABS wired USB keyboard/mouse top/bottom cover
30% OBP + 60% PCC thermal shell
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™ Silver Registered
- (Optional) EPEAT™ Gold Registered
- ErP Lot 3
- GREENGUARD®
- RoHS compliant
- TCO Certified 9.0

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

Other Certifications

(Optional) TÜV Rheinland® Ultra Low Noise

Mil-Spec Test

MIL-STD-810H military test passed (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Solar Radiation, Contamination by Fluids, Salt Fog)

- 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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