



Product Specifications Reference

ThinkCentre Desktops



Version 649

June 25, 2025



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Summary of Changes

This section describes the technical changes made in this edition.

This edition might also include minor corrections and editorial changes which are not identified.

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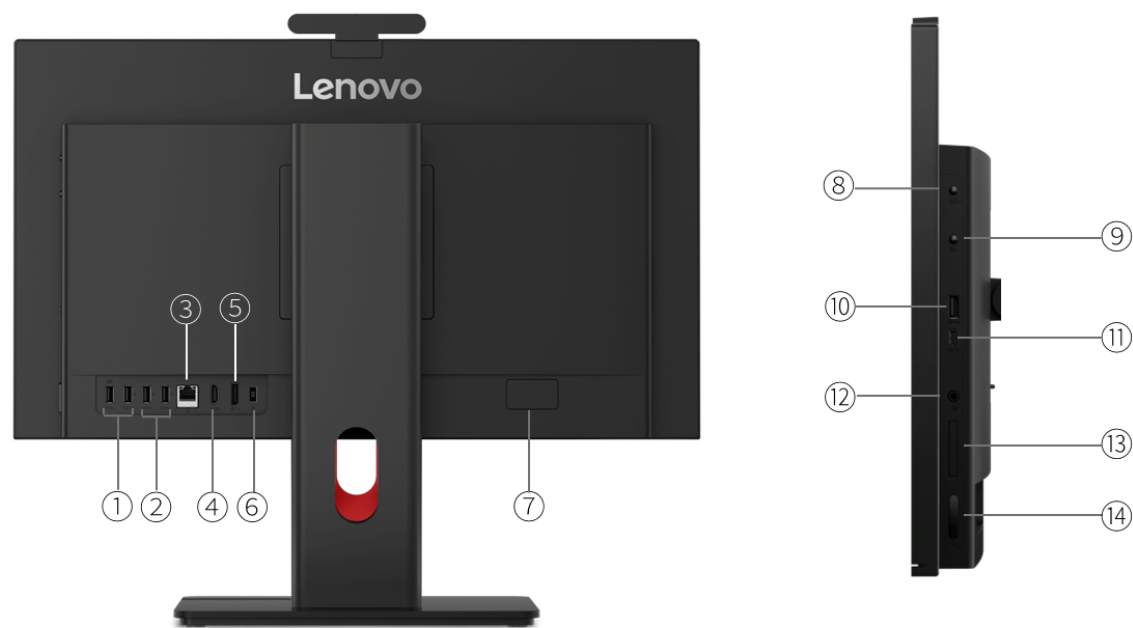
Additions in this update

- ▶ **New product(s)**
ThinkCentre M90q Gen 6
- ▶ **New model(s)**
None
- ▶ **Others**
None

Withdrawals in this update

- ▶ **Withdrawn product(s)**
None
- ▶ **Withdrawn model(s)**
None

OVERVIEW



1. 2x USB-A (USB 5Gbps)	8. PC / monitor mode switch
2. 2x USB-A (USB 10Gbps)	9. Microphone mute button
3. Ethernet (RJ-45)	10. USB-A (USB 10Gbps)
4. HDMI (HDMI in 1.4 / HDMI out 2.1 TMDs combo)	11. USB-C (USB 10Gbps), with 15W charging
5. DisplayPort 1.4	12. Headphone / microphone combo jack (3.5mm)
6. Power connector	13. Card reader *
7. Serial *	14. Power button

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Intel® Core™ Ultra 5 / 7 Processor (Series 2)

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics	NPU
Core Ultra 5 225T	10 (6 P-core + 4 E-core)	10	P-core 2.5GHz / E-core 1.9GHz	P-core 4.9GHz / E-core 4.4GHz	22MB L2 Cache / 20MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
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	26MB L2 Cache / 24MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
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	26MB L2 Cache / 24MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
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	Intel® Graphics	Intel® AI Boost

AI (Artificial Intelligence)

AI PC Category

AI PC^[1]

NPU***

- Integrated Intel® AI Boost, up to 13 TOPS
- (Optional) Discrete NPU card, up to 30 TOPS

Notes:

[1] AI PCs have a NPU capable of 10+ TOPs to run the Copilot assistant by pressing the optional Microsoft® Copilot key or using Win + C.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- No preload operating system

Graphics

Graphics

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® Graphics	Integrated	Shared	4096x2160@60Hz(HDMI®), 5120x2880@60Hz (DP)	1x HDMI® 2.1 TMDS, 1x DP 1.4a	DirectX® 12

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via DisplayPort™ and HDMI®; work as standalone monitor via HDMI® (HDMI® in / out combo)

Chipset

Chipset

Intel® Q870 chipset

Memory

Max Memory^[1]

Up to 64GB DDR5-5600

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type

DDR5-5600

Memory Protection

Non-ECC

Notes:

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

Storage

Max Storage Support^[1]

Up to two drives, 2x M.2 SSD

- M.2 SSD up to 1TB each^[2]

Storage Type***

Disk Type	Interface	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	Opal 2.0
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Performance	Opal 2.0

RAID

RAID 0/1 support for SSDs

Notes:

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

[2] Discrete NPU and 2nd SSD are mutually exclusive.

Removable Storage

Optical**

- DVD-ROM, slim (9.0mm), via USB external ODD box
- DVD burner (DVD±RW), slim (9.0mm), via USB external ODD box
- None

Card Reader

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

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC233NL-VB2-CG codec

Speakers

Stereo speakers, 2W x2, Dolby Atmos®

Microphone

- Dual-microphone array
- No microphone

Camera**

- 5.0-megapixel, IR + RGB hybrid, with ThinkShutter (physical switch on/off), ±20° tilt and 180° swivel view angle adjustable, Windows® Hello support
- 5.0-megapixel, with ThinkShutter (physical switch on/off)
- 5.0-megapixel, with ThinkShutter (physical switch on/off), ±20° tilt and 180° swivel view angle adjustable
- No camera

Power Supply

Power Supply

Power	Type	Efficiency	Key Features
90W	Adapter	89%	Autosensing

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Refresh Rate	Viewing Angle (L/R/U/D)	Key Features
23.8"	FHD (1920x1080)	None	IPS	250nits	Anti-glare (25% Haze)	16:9	1500:1	99% sRGB	120Hz	89° / 89° / 89° / 89°	14ms response Time, 4-side like Borderless, TÜV Rheinland® Low Blue Light (Hardware Solution), TÜV Rheinland® Flicker Free, Eyesafe® Certified 2.0
23.8"	FHD (1920x1080)	Multi-touch	IPS	250nits	Anti-glare (25% Haze)	16:9	1500:1	99% sRGB	120Hz	89° / 89° / 89° / 89°	14ms response Time, 4-side like Borderless, TÜV Rheinland® Low Blue Light (Hardware Solution), TÜV Rheinland® Flicker Free, Eyesafe® Certified 2.0

Touchscreen

- OGM (One Glass Metal mesh) multi-touch, supports 10-point touch
- Non-touch

Notes:

^[1] IPS (in-plane switching) technology may refer to IPS, PLS, ADS, AHVA, AAS.

Input Device

Keyboard**

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

Mouse**

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

Mechanical

Buttons

- Microphone mute button
- Monitor / PC mode switch button
- Power button

Form Factor

AIO (23.8 inches)

Dimensions (WxDxH)^[1]

Models	Dimensions
Models (with UltraFlex IV stand, with No-Tilt camera)	Lowest in flat mode: 539.6 x 333.45 x 222 mm (21.24 x 13.13 x 8.74 inches) Highest in vertical mode: 539.6 x 264.91 x 450.93 mm (21.24 x 10.43 x 17.75 inches)
Models (with UltraFlex V stand, with camera)	Lowest in flat mode: 539.6 x 333.45 x 224.10 mm (21.24 x 13.13 x 8.82 inches) Highest in vertical mode: 539.6 x 264.91 x 455.94 mm (21.24 x 10.43 x 17.95 inches)
Models (with UltraFlex V stand, without camera)	Lowest in flat mode: 539.6 x 333.45 x 214.33 mm (21.24 x 13.13 x 8.44 inches) Highest in vertical mode: 539.6 x 264.91 x 430.43 mm (21.24 x 10.43 x 16.95 inches)
Models (with full function monitor stand, with No-Tilt camera)	539.6 x 222.21 x 388.01-538.01 mm (21.24 x 8.75 x 15.28-21.18 inches)
Models (with full function monitor stand, with camera)	539.6 x 222.21 x 393.01-543.01 mm (21.24 x 8.75 x 15.47-21.38 inches)
Models (with full function monitor stand, without camera)	539.6 x 222.21 x 367.51-517.51 mm (21.24 x 8.75 x 14.47-20.37 inches)
Models (with tilt only stand, with No-Tilt camera)	539.6 x 213.14 x 437 mm (21.24 x 8.39 x 17.2 inches)
Models (with tilt only stand, with camera)	539.6 x 213.14 x 442 mm (21.24 x 8.39 x 17.4 inches)
Models (with tilt only stand, without camera)	539.6 x 213.14 x 416.5 mm (21.24 x 8.39 x 16.4 inches)
Models (without stand, with No-Tilt camera)	539.6 x 49.55 x 335.2 mm (21.24 x 1.95 x 13.2 inches)
Models (without stand, with camera)	539.6 x 49.55 x 340.2 mm (21.24 x 1.95 x 13.39 inches)
Models (without stand, without camera)	539.6 x 49.55 x 314.7 mm (21.24 x 1.95 x 12.39 inches)

Packaging Dimensions (WxDxH)

EPE: 690 x 238 x 545 mm (27.17 x 9.37 x 21.46 inches)
Paper pulp: 713 x 232 x 575 mm (28.07 x 9.13 x 22.64 inches)

Weight^[2]

Models	Weight
Models (with UltraFlex V stand)	7.16 kg (15.79 lbs, maximum configuration)
Models (with full function monitor stand)	8.08 kg (17.81 lbs, maximum configuration)
Models (with tilt only stand)	7.12 kg (15.7 lbs, maximum configuration)
Models (without stand)	5.12 kg (11.29 lbs, maximum configuration)

Packaging Weight

EPE: 1.904Kg (4.20 lbs), packaging only
Paper pulp: 2.698 Kg (5.95 lbs), packaging only

Case Color

Black

Bays

No bays

Expansion Slots

Three M.2 slots (one for WLAN, two for SSD / discrete NPU)

EOU

Toolless cover, stand, motherboard shielding, and memory assembly / removal

Stand**

- UltraFlex V stand, supports -5° to +70° tilt, up to 70°±2° lift (up to 169.86mm lift in flat mode / up to 102.74mm lift in vertical mode)
- Full function monitor stand, supports -5° to +22° tilt, left & right 45° swivel, 90° pivot, up to 150mm lift
- Tilt only stand, supports -5° to +25° tilt
- No stand

Mounting

Supports VESA mount 100mm

Others

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.

CONNECTIVITY

Network

WLAN + Bluetooth®**

- Intel® Wi-Fi® 6 AX203, 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
- Realtek® Wi-Fi® 7 RTL8922AE, 802.11be 2x2 Wi-Fi® + Bluetooth® 5.4
- No WLAN and Bluetooth®

Onboard Ethernet

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

Optional Ethernet

No optional Ethernet

Ports^[1]

Rear Ports

- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1), one supports Smart Power On
- 1x HDMI® (HDMI® in 1.4 / HDMI® out 2.1 TMDS combo port)
- 1x DisplayPort™ 1.4a (HBR2)
- 1x Ethernet (RJ-45)

Optional Rear Ports

1x serial

Right Ports

- 1x headphone / microphone combo jack (3.5mm)
- 1x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x USB-C® (USB 10Gbps / USB 3.2 Gen 2), support data transfer and 5V@3A charging

Optional Right Ports

1x card reader

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.

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
- No chassis intrusion switch

Fingerprint Reader

No fingerprint reader

Other Security

ThinkShutter camera cover (camera models)

BIOS Security

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

Notes:

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

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
- DP to VGA dongle
- HDMI® to DVI dongle
- HDMI® to VGA dongle
- None

OPERATING REQUIREMENTS

Operating Environment

Temperature

- Operating: 5°C (41°F) to 35°C (95°F)
- Storage: -20°C (-4°F) to 60°C (140°F)

Relative Humidity

Operating: 20% to 80%

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 with brand closed-loop material in plastic in chassis
95% PCC ABS with brand closed-loop material in wired keyboard/mouse
paper pulp cushion or 90% PIC EPE cushion
30% OBP in bag
FSC carton 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
- (Optional) TCO edge
- (Optional) TCO Certified 10.0
- ErP Lot 3
- GREENGUARD®
- RoHS compliant

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

- Anti-dust
- IP55-compliant (front face, for touch models)
- IP54-compliant (front face, for non-touch models)
- Healthcare compliance: Part of IEC 60601-1 / IEC 60601-1-2
- Eyesafe® Certified 2.0
- SGS Performance Tested certification: Extreme Comfortable Noise
- TÜV Rheinland® Flicker Free
- TÜV Rheinland® Low Blue Light (Hardware Solution)

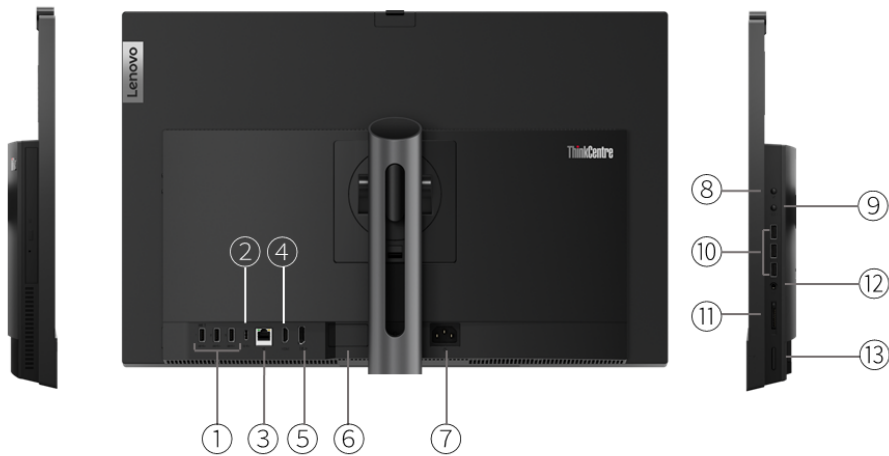
Mil-Spec Test

MIL-STD-810H military test passed (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, 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.
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OVERVIEW



1. 3x USB-A (USB 5Gbps)	8. Microphone mute button
2. USB-C (USB 10Gbps), with 15W charging	9. PC / monitor mode switch
3. Ethernet (RJ-45)	10. 3x USB-A (USB 10Gbps)
4. HDMI (HDMI in 1.4 / HDMI out 2.1 TMDs combo)	11. Card reader *
5. DisplayPort 1.4	12. Headphone / microphone combo jack (3.5mm)
6. Serial *	13. Power button
7. Power connector	

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

13th / 14th Generation Intel® Core™ i3 / i5 / i7 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	12MB	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	20MB	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	24MB	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	30MB	Intel® UHD Graphics 770
Core i3-14100	4 (4 P-core + 0 E-core)	8	P-core 3.5GHz	P-core 4.7GHz	12MB	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	20MB	Intel® UHD Graphics 730
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	24MB	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	33MB	Intel® UHD Graphics 770

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- No preload operating system

Graphics

Graphics**

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD graphics 730	Integrated	Shared	4096x2160@60Hz(HDMI®), 4096x2160@60Hz(DP)	1x HDMI® 2.1 TMDS, 1x DP 1.4	DirectX® 12
Intel® UHD graphics 770	Integrated	Shared	4096x2160@60Hz(HDMI®), 4096x2160@60Hz(DP)	1x HDMI® 2.1 TMDS, 1x DP 1.4	DirectX® 12
NVIDIA® GeForce MX570A	Discrete	4GB GDDR6	4096x2160@60Hz(HDMI®), 4096x2160@60Hz(DP)	1x HDMI® 2.1 TMDS, 1x DP 1.4	DirectX® 12

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via DisplayPort™ and HDMI®; work as standalone monitor via HDMI® (HDMI® in / out combo)

Chipset

Chipset

Intel® Q670 chipset

Memory

Max Memory^[1]

- Models with Core i3/i5: Up to 64GB DDR5-4800
- Models with Core i7: Up to 64GB DDR5-5200

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type**

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

Memory Protection

Non-ECC

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]

- Models with Intel® UHD graphics:
Up to two drives, 2x M.2 SSD
 - M.2 SSD up to 2TB each
- Models with NVIDIA® GeForce MX570A:
Up to one drives, 1x M.2 SSD
 - M.2 SSD up to 2TB each

Storage Type

Disk Type	Interface	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	Opal 2.0

RAID^[2]

- RAID 0/1 support for SSDs
- No support

Notes:

- [1] The max capacity of each disk type is based on the test results with current Lenovo® storage offerings.
- [2] Only available for models with integrated graphics

Removable Storage

Optical**

- DVD-ROM, SATA connector, slim (9.0mm)
- DVD burner (DVD±RW), SATA connector, 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® ALC233NL-VB2-CG codec

Speakers

Stereo speakers, 3W x2, Dolby Atmos®

Microphone

- Dual-microphone array
- No microphone

Camera**

- 5.0-megapixel, IR + RGB hybrid, with ThinkShutter (physical switch on/off), ±20° view angle adjustable, Windows® Hello support
- 5.0-megapixel, IR + RGB hybrid, with ThinkShutter (physical switch on/off) and Human Presence Detection (Radar Sensor), ±20° view angle adjustable, Windows® Hello support
- 5.0-megapixel, with ThinkShutter (physical switch on/off)
- No camera

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
180W	Fixed	90%	100V - 240V, 50-60Hz
230W	Fixed	92%	100V - 240V, 50-60Hz

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Refresh Rate	Viewing Angle (L/R/U/D)	Key Features
23.8"	FHD (1920x1080)	None	IPS	250nits	Anti-glare	16:9	1300:1	99% sRGB	60Hz	89° / 89° / 89° / 89°	14ms response Time, borderless design, TÜV Rheinland® Low Blue Light (Hardware Solution), TÜV Rheinland® Flicker Free, Eyesafe® Certified 2.0
23.8"	FHD (1920x1080)	Multi-touch	IPS	250nits	Anti-glare	16:9	1000:1	72% NTSC	60Hz	89° / 89° / 89° / 89°	14ms response Time, borderless design, TÜV Rheinland® Low Blue Light (Software Solution), TÜV Rheinland® Flicker Free

Touchscreen

- Advanced In-cell Touch (AIT), supports 10-point touch
- Non-touch

Notes:

[1] IPS (in-plane switching) technology may refer to IPS, PLS, ADS, AHVA, AAS.

Input Device

Keyboard**

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

Mouse**

- Wireless EOS Mouse, black
- Lenovo® Calliope Mouse (USB connector), black

- No mouse

Mechanical

Buttons

- Microphone mute button
- Monitor / PC mode switch button
- Power button

Form Factor

AIO (23.8 inches)

Dimensions (WxDxH)^[1]

Models	Dimensions
Models (with UltraFlex V stand, with camera)	Lowest in flat mode: 539.6 x 344.19 x 227.54 mm (21.24 x 13.55 x 8.96 inches) Highest in vertical mode: 539.6 x 252.60 x 472.00 mm (21.24 x 9.94 x 18.58 inches)
Models (with UltraFlex V stand, without camera)	Lowest in flat mode: 539.6 x 341.42 x 219.50 mm (21.24 x 13.44 x 8.64 inches) Highest in vertical mode: 539.6 x 252.60 x 451.51 mm (21.24 x 9.94 x 17.78 inches)
Models (with full function monitor stand, with camera)	539.6 x 217.31 x 393.66-501.85 mm (21.24 x 8.56 x 15.50-19.76 inches)
Models (with full function monitor stand, without camera)	539.6 x 217.31 x 374.15-483.16 mm (21.24 x 8.56 x 14.73-19.02 inches)
Models (with tilt only stand, with camera)	539.6 x 213.38 x 453.39 mm (21.24 x 8.40 x 17.85 inches)
Models (with tilt only stand, without camera)	539.6 x 213.38 x 434.39 mm (21.24 x 8.40 x 17.10 inches)
Models (without stand, with camera)	539.6 x 49.6 x 371 mm (21.24 x 1.95 x 14.61 inches)
Models (without stand, without camera)	539.6 x 49.6 x 352 mm (21.24 x 1.95 x 13.86 inches)

Packaging Dimensions (WxDxH)**

- Models (with UltraFlex V stand): 690 x 545 x 238 mm (27.17 x 21.46 x 9.37 inches)
- Models (with full function monitor stand): 660 x 575 x 228 mm (25.98 x 22.64 x 8.98 inches)
- Models (with tilt only stand): 660 x 550 x 216 mm (25.98 x 21.65 x 8.50 inches)

Weight^[2]

Models	Weight
Models (with UltraFlex V stand)	Around 7.83 kg (17.3 lbs)
Models (with full function monitor stand)	Around 8.13 kg (17.9 lbs)
Models (with tilt only stand)	Around 7.61 kg (16.8 lbs)
Models (without stand)	Around 5.53 kg (12.2 lbs)

Packaging Weight

- Models (with UltraFlex V stand): 2.94 kg (6.5 lbs), packaging only
- Models (with full function monitor stand): 2.96 kg (6.5 lbs), packaging only
- Models (with tilt only stand): 2.73 kg (6.0 lbs), packaging only

Case Color

Black

Bays

- 1x 2.5" disk bay (optional, only available via special bid)
- 1x slim ODD bay

Expansion Slots

- Models with Intel® UHD graphics: Three M.2 slots (one for WLAN, two for SSD)
- Models with NVIDIA® GeForce MX570A: Two M.2 slots (one for WLAN, one for SSD)

EOU

Toolless cover, stand, motherboard shielding, and memory assembly / removal

Stand**

- UltraFlex V stand, supports -5° to +70° tilt, up to 70°±2° lift (up to 179.96mm lift in flat mode / up to 84.37mm lift in vertical mode)
- Full function monitor stand, supports -5° to +20° tilt, left & right 45° swivel, 90° pivot, up to 110mm lift
- Tilt only stand, supports -5° to +20° tilt
- No stand

Mounting

Supports VESA mount 100mm

Others

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.

CONNECTIVITY

Network

WLAN + Bluetooth®**

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card^[1]
- Intel® Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.2, M.2 Card^[2]
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, Intel® vPro® technology support, M.2 Card^[3]
- No WLAN and Bluetooth®

Onboard Ethernet

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

Optional Ethernet

No optional Ethernet

Notes:

[1], [3] Bluetooth® 5.3 requires Windows® 11.

[2] Bluetooth® 5.2 requires Windows® 11.

Ports^[1]

Rear Ports

- 1x USB-C® (USB 10Gbps / USB 3.2 Gen 2), with data transfer and 15W charging
- 3x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 1x HDMI® (HDMI® in 1.4 / HDMI® out 2.1 TMDS combo port)
- 1x DisplayPort™ 1.4
- 1x Ethernet (RJ-45)

Optional Rear Ports

1x serial

Right Ports

- 3x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x headphone / microphone combo jack (3.5mm)

Optional Right Ports

1x card reader

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.

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
- No chassis intrusion switch

Fingerprint Reader

No fingerprint reader

Other Security

- (Optional) Smart Human Presence Detection (Camera with Radar Sensor)
- ThinkShutter camera cover (camera models)

BIOS Security

- Administrator password
- Hard disk password
- Power-on password
- Boot sequence control
- Boot without keyboard and mouse
- 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](#)^[1]

Notes:

[1] 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 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 Dual DP dongle
- DP to HDMI® dongle
- DP to VGA dongle
- HDMI® to DVI dongle
- HDMI® to VGA dongle
- None

OPERATING REQUIREMENTS

Operating Environment

Temperature

- Operating: 5°C (41°F) to 35°C (95°F)
- Storage: -20°C (-4°F) to 60°C (140°F)

Relative Humidity

Operating: 20% to 80%

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

65% PCC ABS bezel

95% PCC ABS wired USB keyboard/mouse top/bottom cover

90% PIC recycled plastic EPE cushion

30% OBP used in bag

FSC certified paper in packaging

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Gold Registered
- ErP Lot 3
- GREENGUARD®
- RoHS compliant
- TCO Certified 9.0
- TCO edge

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

- Eyesafe® Certified 2.0
- (Optional) TÜV Rheinland® Low Blue Light (Hardware Solution)
- (Optional) TÜV Rheinland® Low Blue Light (Software Solution)
- (Optional) TÜV Rheinland® Ultra Low Noise
- TÜV Rheinland® Flicker Free

- UL Anti-dust

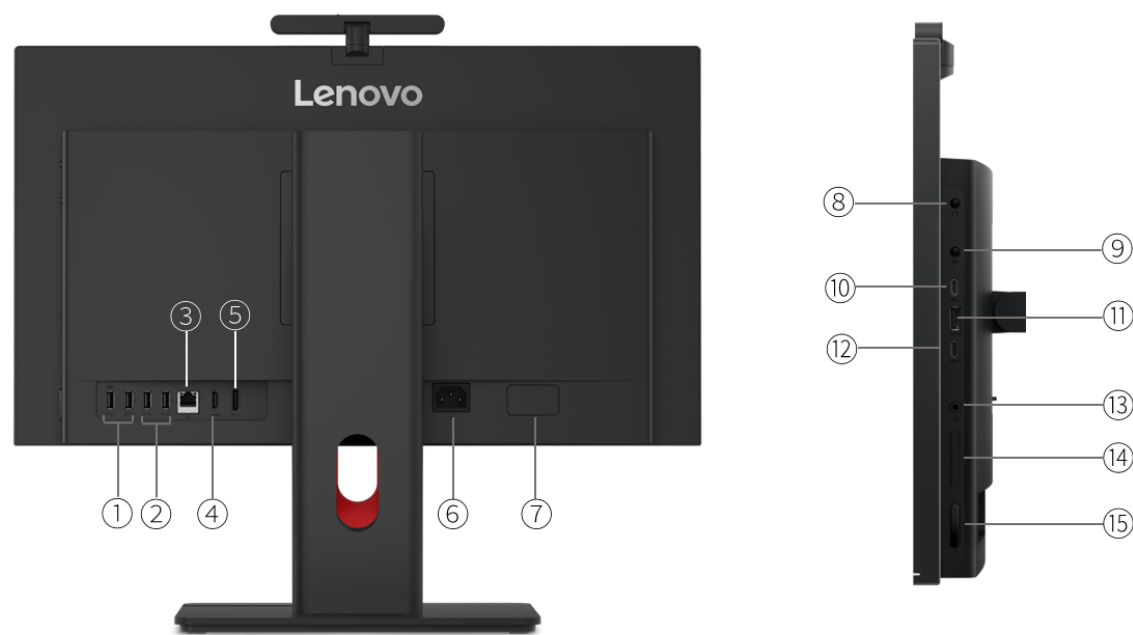
Mil-Spec Test

MIL-STD-810H military test passed (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, 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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OVERVIEW



1. 2x USB-A (USB 5Gbps)	9. Microphone mute button
2. 2x USB-A (USB 10Gbps)	10. USB-C (Thunderbolt 4)
3. Ethernet (RJ-45)	11. USB-A (USB 10Gbps)
4. HDMI (HDMI in 1.4 / HDMI out 2.1 TMDs combo)	12. USB-C (USB 10Gbps), with 15W charging
5. DisplayPort 1.4	13. Headphone / microphone combo jack (3.5mm)
6. Power connector	14. Card reader *
7. Serial *	15. Power button
8. PC / monitor mode switch	

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Intel® Core™ Ultra 5 / 7 / 9 Processor (Series 2)

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics	NPU
Core Ultra 5 225	10 (6 P-core + 4 E-core)	10	P-core 3.3GHz / E-core 2.7GHz	P-core 4.9GHz / E-core 4.4GHz	22MB L2 Cache / 20MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
Core Ultra 5 235	14 (6 P-core + 8 E-core)	14	P-core 3.4GHz / E-core 2.9GHz	P-core 5.0GHz / E-core 4.4GHz	26MB L2 Cache / 24MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
Core Ultra 5 245	14 (6 P-core + 8 E-core)	14	P-core 3.5GHz / E-core 3.0GHz	P-core 5.1GHz / E-core 4.5GHz	26MB L2 Cache / 24MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
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	Intel® Graphics	Intel® AI Boost
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	Intel® Graphics	Intel® AI Boost

AI (Artificial Intelligence)

AI PC Category

AI PC^[1]

NPU***

- Integrated Intel® AI Boost, up to 13 TOPS
- (Optional) Discrete NPU card, up to 30 TOPS

Notes:

[1] AI PCs have a NPU capable of 10+ TOPs to run the Copilot assistant by pressing the optional Microsoft® Copilot key or using Win + C.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- No preload operating system

Graphics

Graphics**

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® Graphics	Integrated	Shared	4096x2160@60Hz(HDMI®), 5120x2880@60Hz (DP), 7680x4320@30Hz (Thunderbolt™ 4)	1x HDMI® 2.1 TMDS, 1x DP 1.4a, 1x Thunderbolt™ 4	DirectX® 12
NVIDIA® GeForce RTX™ 4050	Discrete	6GB GDDR6	4096x2160@60Hz(HDMI®), 5120x2880@60Hz (DP), 7680x4320@30Hz (Thunderbolt™ 4)	1x HDMI® 2.1 TMDS, 1x DP 1.4a, 1x Thunderbolt™ 4	DirectX® 12, OpenGL 4.6

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via DisplayPort™, HDMI® and Thunderbolt™ 4; work as standalone monitor via HDMI® (HDMI® in / out combo)

Chipset

Chipset
Intel® Q870 chipset

Memory

Max Memory^[1]
Up to 64GB DDR5-5600
Memory Slots
Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type
DDR5-5600

Memory Protection
Non-ECC

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

Storage

Max Storage Support^[1]
Up to three drives, 3x M.2 SSD
• M.2 SSD up to 2TB each^[2]

Storage Type***

Disk Type	Interface	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	Opal 2.0
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Performance	Opal 2.0
M.2 2280 SSD	PCIe® NVMe®, PCIe® 5.0 x4 Performance	Opal 2.0

RAID
RAID 0/1 support for SSDs

Notes:
[1] The max capacity of each disk type is based on the test results with current Lenovo® storage offerings.
[2] Discrete NPU and 3rd SSD are mutually exclusive.

Removable Storage

Optical**
• DVD-ROM, slim (9.0mm), via USB external ODD box
• DVD burner (DVD±RW), slim (9.0mm), via USB external ODD box
• None

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

Multi-Media

Audio Chip
High Definition (HD) Audio, Realtek® ALC233NL-VB2-CG codec

Speakers
Stereo speakers, 3W x2, Dolby Atmos®

Microphone
• Dual-microphone array
• No microphone

Camera**

- 5.0-megapixel, IR + RGB hybrid, with ThinkShutter (physical switch on/off), ±20° tilt and 180° swivel view angle adjustable, Windows® Hello support
- 5.0-megapixel, IR + RGB hybrid, with ThinkShutter (physical switch on/off) and Human Presence Detection (Radar Sensor), ±20° tilt and 180° swivel view angle adjustable, Windows® Hello support^[1]
- 5.0-megapixel, with ThinkShutter (physical switch on/off)
- No camera

Notes:

[1] To comply with the regulation rules in each country, the camera with radar sensor is only selectable for the following countries / regions:

Africa French Portuguese / Australia / Austria / Belgium / Bulgaria / Croatia / Cyprus / Czech Slovakia / Denmark / Estonia Latvia Lithuania / Finland / France / Germany / Greece / Hong Kong / Hungary / Iceland / Ireland / Italy / Luxembourg / Netherlands / New Zealand / Nordics / Norway / Poland / Portugal / Romania / Saudi Arabia / Slovenia / South East Europe / Spain / Sweden / Switzerland / Turkiye / UK

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
180W	Fixed	90%	100V - 240V, 50-60Hz, 80 PLUS Gold qualified
230W ^[1]	Fixed	92%	100V - 240V, 50-60Hz, 80 PLUS Platinum qualified

Notes:

[1] 230W PSU is for discrete graphics models only

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Refresh Rate	Viewing Angle (L/R/U/D)	Key Features
23.8"	FHD (1920x1080)	None	IPS	250nits	Anti-glare (25% Haze)	16:9	1500:1	99% sRGB	120Hz	89° / 89° / 89° / 89°	14ms response Time, 4-side like Borderless, TÜV Rheinland® Low Blue Light (Hardware Solution), TÜV Rheinland® Flicker Free, Eyesafe® Certified 2.0
23.8"	FHD (1920x1080)	Multi-touch	IPS	250nits	Anti-glare (25% Haze)	16:9	1500:1	99% sRGB	120Hz	89° / 89° / 89° / 89°	14ms response Time, 4-side like Borderless, TÜV Rheinland® Low Blue Light (Hardware Solution), TÜV Rheinland® Flicker Free, Eyesafe® Certified 2.0

Touchscreen

- OGM (One Glass Metal mesh) multi-touch, supports 10-point touch
- Non-touch

Notes:

[1] IPS (in-plane switching) technology may refer to IPS, PLS, ADS, AHVA, AAS.

Input Device

Keyboard**

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

Mouse**

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

Mechanical

Buttons

- Microphone mute button
- Monitor / PC mode switch button
- Power button

Form Factor

AIO (23.8 inches)

Dimensions (WxDxH)^[1]

Models	Dimensions
Models (with UltraFlex IV stand, with No-Tilt camera)	Lowest in flat mode: 539.6 x 333.45 x 222 mm (21.24 x 13.13 x 8.74 inches) Highest in vertical mode: 539.6 x 264.91 x 450.93 mm (21.24 x 10.43 x 17.75 inches)
Models (with UltraFlex V stand, with camera)	Lowest in flat mode: 539.6 x 333.45 x 224.10 mm (21.24 x 13.13 x 8.82 inches) Highest in vertical mode: 539.6 x 264.91 x 455.94 mm (21.24 x 10.43 x 17.95 inches)
Models (with UltraFlex V stand, without camera)	Lowest in flat mode: 539.6 x 333.45 x 214.33 mm (21.24 x 13.13 x 8.44 inches) Highest in vertical mode: 539.6 x 264.91 x 430.43 mm (21.24 x 10.43 x 16.95 inches)
Models (with full function monitor stand, with No-Tilt camera)	539.6 x 222.21 x 388.01-538.01 mm (21.24 x 8.75 x 15.28-21.18 inches)
Models (with full function monitor stand, with camera)	539.6 x 222.21 x 393.01-543.01 mm (21.24 x 8.75 x 15.47-21.38 inches)
Models (with full function monitor stand, without camera)	539.6 x 222.21 x 367.51-517.51 mm (21.24 x 8.75 x 14.47-20.37 inches)
Models (with tilt only stand, with No-Tilt camera)	539.6 x 213.14 x 437 mm (21.24 x 8.39 x 17.2 inches)
Models (with tilt only stand, with camera)	539.6 x 213.14 x 442 mm (21.24 x 8.39 x 17.4 inches)
Models (with tilt only stand, without camera)	539.6 x 213.14 x 416.5 mm (21.24 x 8.39 x 16.4 inches)
Models (without stand, with No-Tilt camera)	539.6 x 49.55 x 335.2 mm (21.24 x 1.95 x 13.2 inches)
Models (without stand, with camera)	539.6 x 49.55 x 340.2 mm (21.24 x 1.95 x 13.39 inches)
Models (without stand, without camera)	539.6 x 49.55 x 314.7 mm (21.24 x 1.95 x 12.39 inches)

Packaging Dimensions (WxDxH)

EPE: 690 x 238 x 545 mm (27.17 x 9.37 x 21.46 inches)
Paper pulp: 713 x 232 x 575 mm (28.07 x 9.13 x 22.64 inches)

Weight^[2]

Models	Weight
Models (with UltraFlex V stand)	8.04 kg (17.73 lbs, maximum configuration)
Models (with full function monitor stand)	8.96 kg (19.75 lbs, maximum configuration)

Models (with tilt only stand)	8 kg (17.64 lbs, maximum configuration)
Models (without stand)	6 kg (13.23 lbs, maximum configuration)

Packaging Weight

EPE: 1.904Kg (4.20 lbs), packaging only
Paper pulp: 2.698 Kg (5.95 lbs), packaging only

Case Color

Black

Bays

No bays

Expansion Slots

Four M.2 slots (one for WLAN, three for SSD / discrete NPU)

EOU

Toolless cover, stand, motherboard shielding, and memory assembly / removal

Stand**

- UltraFlex V stand, supports -5° to +70° tilt, up to 70°±2° lift (up to 169.86mm lift in flat mode / up to 102.74mm lift in vertical mode)
- Full function monitor stand, supports -5° to +22° tilt, left & right 45° swivel, 90° pivot, up to 150mm lift
- Tilt only stand, supports -5° to +25° tilt
- No stand

Mounting

Supports VESA mount 100mm

Others

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.

CONNECTIVITY

Network

WLAN + Bluetooth**

- Intel® Wi-Fi® 6 AX203, 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
- Realtek® Wi-Fi® 7 RTL8922AE, 802.11be 2x2 Wi-Fi® + Bluetooth® 5.4
- No WLAN and Bluetooth®

Onboard Ethernet

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

Optional Ethernet

No optional Ethernet

Ports^[1]

Rear Ports

- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1), one supports Smart Power On
- 1x HDMI® (HDMI® in 1.4 / HDMI® out 2.1 TMDS combo port)
- 1x DisplayPort™ 1.4a (HBR2)
- 1x Ethernet (RJ-45)

Optional Rear Ports

1x serial

Right Ports

- 1x headphone / microphone combo jack (3.5mm)

- 1x USB-C® (Thunderbolt™ 4 / USB4® 40Gbps), with USB PD 3.0 up to 65W output, DisplayPort™ 2.1, Always On
- 1x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x USB-C® (USB 10Gbps / USB 3.2 Gen 2), support data transfer and 5V@3A charging

Optional Right Ports

1x card reader

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.

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
- No chassis intrusion switch

Fingerprint Reader

No fingerprint reader

Other Security

- (Optional) Smart Human Presence Detection (Camera with Radar Sensor)
- ThinkShutter camera cover (camera models)

BIOS Security

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

Notes:

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

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 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
- DP to VGA dongle
- HDMI® to DVI dongle
- HDMI® to VGA dongle
- None

OPERATING REQUIREMENTS

Operating Environment

Temperature

- Operating: 5°C (41°F) to 35°C (95°F)
- Storage: -20°C (-4°F) to 60°C (140°F)

Relative Humidity

Operating: 20% to 80%

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 with brand closed-loop material in plastic in chassis
95% PCC ABS with brand closed-loop material in wired keyboard/mouse
paper pulp cushion or 90% PIC EPE cushion
30% OBP in bag
FSC carton 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
- ErP Lot 3
- GREENGUARD®
- RoHS compliant
- TCO Certified 10.0
- TCO edge

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

- Anti-dust
- IP55-compliant (front face, for touch models)
- IP54-compliant (front face, for non-touch models)
- Healthcare compliance: Part of IEC 60601-1 / IEC 60601-1-2
- Eyesafe® Certified 2.0
- SGS Performance Tested certification : Super Quiet@Hi-Performance Grade 1
- TÜV Rheinland® Flicker Free
- TÜV Rheinland® Low Blue Light (Hardware Solution)

Mil-Spec Test

MIL-STD-810H military test passed (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, 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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OVERVIEW



1. OSD joystick	8. Microphone mute button
2. 3x USB 3.2 Gen 1	9. Thunderbolt 4
3. USB-C 3.2 Gen 2 (data transfer, 15W charging)	10. 2x USB 3.2 Gen 2
4. Ethernet (RJ-45)	11. Thunderbolt 3 (for display and file sharing) *
5. HDMI in 1.4 / out 2.1 TMDS combo port	12. Headphone / microphone combo jack (3.5mm)
6. DisplayPort 1.4	13. Card reader *
7. Power connector	14. Power button

- Notes:
- Items with * are only available on selected models
 - Please note the optional Thunderbolt 3 is not a Thunderbolt host port. For the details, please refer to the Ports section of specifications.

PERFORMANCE

Processor

Processor Family

13th Generation Intel® Core™ i5 / i7 / i9 Processor

Processor**^[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics
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	20MB	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	24MB	Intel® UHD Graphics 770
Core i5-13600 ^[2]	14 (6 P-core + 8 E-core)	20	P-core 2.7GHz / E-core 2.0GHz	P-core 5.0GHz / E-core 3.7GHz	24MB	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	30MB	Intel® UHD Graphics 770
Core i9-13900	24 (8 P-core + 16 E-core)	32	P-core 2.0GHz / E-core 1.5GHz	Max Turbo up to 5.6GHz / P-core 5.2GHz / E-core 4.2GHz	36MB	Intel® UHD Graphics 770

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.

^[2] Special bid only.

Operating System

Operating System**^[1]

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- No preload operating system

Notes:

^[1] Windows® 10 drivers support Windows® 10 21H1, 21H2 and 22H2, and Windows® 11 drivers support Windows® 11 21H2, 22H2 and MayCI

Graphics

Graphics**

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD graphics 730	Integrated	Shared	4096x2160@60Hz(HDMI®), 4096x2304@60Hz - 36 bpp / 5120x3200@60Hz - 24 bpp (DP), 7680x4320@60Hz - 30 bpp (Thunderbolt™ 4)	1x HDMI® 2.1 TMDS, 1x DP 1.4, 1x Thunderbolt™ 4	DirectX® 12, OpenGL 4.6
Intel® UHD graphics 770	Integrated	Shared	4096x2160@60Hz(HDMI®), 4096x2304@60Hz - 36 bpp / 5120x3200@60Hz - 24 bpp (DP), 7680x4320@60Hz - 30 bpp (Thunderbolt™ 4)	1x HDMI® 2.1 TMDS, 1x DP 1.4, 1x Thunderbolt™ 4	DirectX® 12, OpenGL 4.6
NVIDIA® GeForce RTX™ 4050	Discrete	6GB GDDR6	4096x2160@60Hz(HDMI®), 4096x2304@60Hz - 36 bpp / 5120x3200@60Hz - 24 bpp (DP), 7680x4320@60Hz - 30 bpp (Thunderbolt™ 4)	1x HDMI® 2.1a TMDS, 1x DP 1.4, 1x Thunderbolt™ 4	DirectX® 12, OpenGL 4.6

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via DisplayPort™, HDMI® and Thunderbolt™ 4; work as standalone monitor via HDMI® (HDMI® in / out combo) or optional Thunderbolt™ 3 port

Chipset

Chipset

Intel® Q670 chipset

Memory

Max Memory^{[1][2]}

- Models with Core i5: Up to 64GB DDR5-4800
- Models with Core i7/i9: Up to 64GB DDR5-5200

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type**

- DDR5-4800^[3]
- DDR5-5200^[4]
- DDR5-5600

Memory Protection

Non-ECC

Notes:

- [1] The max memory is based on the test results with current Lenovo® memory offerings.
- [2] Installed memory is actually 5600MHz, but may run at 4800MHz or 5200MHz depending on the memory support capability of processor.
- [3] Installed memory is actually DDR5-5600 but may run as DDR5-4800 depending on the memory support capability of Intel®.
- [4] 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 2.5" HDD + 2x M.2 SSD

- 2.5" HDD up to 1TB
- M.2 SSD up to 1TB each

Storage Type***

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

RAID^[2]

RAID 0/1 support for SSDs

Notes:

- [1] The max capacity of each disk type is based on the test results with current Lenovo® storage offerings.
- [2] RAID is not preset by default, user can config RAID 0/1 according to the demand.

Removable Storage

Optical

- DVD burner (DVD±RW), SATA connector, 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® ALC256-NL codec

Speakers

Stereo speakers, 5W x2, Dolby Atmos®

Microphone

Dual-microphone array

Camera**

- 5.0-megapixel, IR + RGB hybrid, with ThinkShutter (physical switch on/off), ±20° view angle adjustable, Windows® Hello support
- 5.0-megapixel, IR + RGB hybrid, with ThinkShutter (physical switch on/off) and Human Presence Detection (Radar Sensor), ±20° view angle adjustable, Windows® Hello support
- 5.0-megapixel, with ThinkShutter (physical switch on/off), ±20° view angle adjustable

Power Supply

Power Supply

Power	Type	Efficiency	Key Features
230W	Fixed	92%	100V - 240V, 50-60Hz

DESIGN

Display

Display^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Refresh Rate	Viewing Angle (L/R/U/D)	Key Features
27"	QHD (2560x1440)	None	IPS	350nits	Anti-glare	16:9	1000:1	99% sRGB	60Hz	89° / 89° / 89° / 89°	14ms response Time, 16.7 million color support, borderless design, TÜV Rheinland® Low Blue Light (Hardware Solution), TÜV Rheinland® Flicker Free, Eyesafe® Certified 2.0

Touchscreen

Non-touch

Notes:

[1] IPS (in-plane switching) technology may refer to IPS, PLS, ADS, AHVA, AAS.

Input Device

Keyboard**

- Lenovo® Calliope Keyboard (USB connector), black
- Lenovo® Calliope Wireless Keyboard (2.4GHz via USB receiver), black
- Lenovo® Traditional Keyboard (USB connector), black
- Wireless EOS Keyboard, black
- No keyboard

Mouse**

- Wireless EOS Mouse, black
- Lenovo® Calliope Mouse (USB connector), black
- Lenovo® Calliope Wireless Mouse (2.4GHz via USB receiver), black
- No mouse

Mechanical

Buttons

- Microphone mute button
- OSD joystick

- Power button

Form Factor

AIO (27 inches)

Dimensions (WxDxH)^[1]

Models	Dimensions
Models (with UltraFlex V stand, with camera)	Lowest in flat mode: 613.6 x 364.54 x 227.11 mm (24.2 x 14.4 x 8.9 inches) Highest in vertical mode: 613.6 x 252.59 x 461.37 mm (24.2 x 9.9 x 18.2 inches)
Models (with full function monitor stand, with camera)	Lowest in vertical mode: 613.6 x 219.81 x 411.04 mm (24.2 x 8.7 x 16.2 inches) Highest in vertical mode: 613.6 x 219.81 x 521.81 mm (24.2 x 8.7 x 20.5 inches)
Models without stand and camera	613.6 x 54.5 x 383.4 mm (24.2 x 2.1 x 15.1 inches)

Packaging Dimensions (WxDxH)

764 x 235 x 545 mm (30.1 x 9.3 x 21.5 inches)

Weight^[2]

11.2 kg (24.8 lbs, maximum configuration)

Packaging Weight

2.4 kg (5.28 lbs), packaging only

Case Color

Black

Bays

- 1x 2.5" disk bay
- 1x slim ODD bay

Expansion Slots

Three M.2 slots (one for WLAN, two for SSD)

EOU

Toolless cover, stand, motherboard shielding, HDD, and memory assembly / removal

Stand**

- UltraFlex V stand, supports -5° to +70° tilt, up to 70°±2° lift (up to 166.3mm lift in flat mode / up to 63mm lift in vertical mode)
- Full function monitor stand, supports -5° to +20° tilt, left & right 45° swivel, 90° pivot, up to 110mm lift
- No stand

Mounting

Supports VESA mount 100mm

Others

- (Optional) Conference Call Base, 3W x4 Harman speakers, 4 digital microphones array with AI noise suppression, Physical button for Teams, USB-C® connector
- 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.

CONNECTIVITY

Network

WLAN + Bluetooth®**

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card^[1]
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, Intel® vPro® technology support, M.2 Card^[2]

- No WLAN and Bluetooth®

Onboard Ethernet

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

Notes:

[1], [2] Bluetooth® 5.3 requires Windows® 11.

Ports^[1]**Rear Ports**

- 1x USB-C® 3.2 Gen 2 (support data transfer and 15W charging)
- 3x USB 3.2 Gen 1
- 1x HDMI® (HDMI® in 1.4 / HDMI® out 2.1 TMDS combo port)
- 1x DisplayPort™ 1.4
- 1x Ethernet (RJ-45)

Optional Rear Ports

None

Right Ports

- 1x Thunderbolt™ 4 / USB4® 40Gbps (support data transfer, 15W charging and DisplayPort™ 1.4)
- 2x USB 3.2 Gen 2
- 1x headphone / microphone combo jack (3.5mm)

Optional Right Ports

- 1x ThunderBolt 3^[2]
- 1x card reader

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] This Thunderbolt™ 3 port is not a Thunderbolt™ host port. By connecting it to a laptop or desktop Thunderbolt™ port with the included Type-C cable, customers can share M90a Pro Gen 4 as a Thunderbolt™ monitor and share the files saved on the 2nd SSD of M90a Pro Gen 4. A Type-C cable is boundled with the models with Thunderbolt™ 3 port.

SECURITY & PRIVACY

Security**Security Chip**

Discrete TPM 2.0, TCG certified

Physical Locks

Kensington® Security Slot™, 3 x 7 mm

Chassis Intrusion Switch

- Chassis intrusion switch
- No chassis intrusion switch

Fingerprint Reader

No fingerprint reader

Other Security

- (Optional) Smart Human Presence Detection (Camera with Radar Sensor)
- ThinkShutter camera cover

BIOS Security

- Administrator password
- Hard disk password

- Power-on password
- Boot sequence control
- Boot without keyboard and mouse
- 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](#)^[1]

Notes:

[1] 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 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 Dual DP dongle
- DP to HDMI® dongle
- DP to VGA dongle
- HDMI® to DVI dongle
- HDMI® to VGA dongle
- None

OPERATING REQUIREMENTS

Operating Environment

Temperature

- Operating: 5°C (41°F) to 35°C (95°F)
- Storage: -20°C (-4°F) to 60°C (140°F)

Relative Humidity

Operating: 20% to 80%

Altitude

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

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Gold Registered
- ErP Lot 3
- RoHS compliant
- TCO Certified 9.0
- TCO edge
- VOC Report

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

- Eyesafe® Certified 2.0
- (Optional) TÜV Rheinland® Ultra Low Noise
- TÜV Rheinland® Flicker Free
- TÜV Rheinland® Low Blue Light (Hardware Solution)
- UL Anti-dust

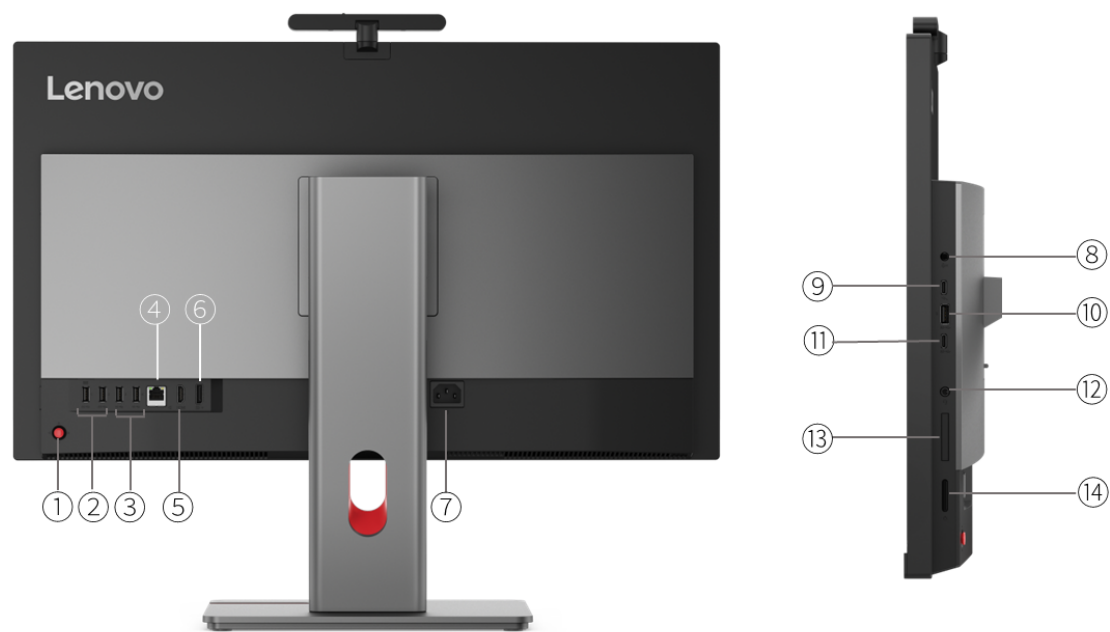
Mil-Spec Test

MIL-STD-810H military test passed (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, 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.
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OVERVIEW



1. OSD joystick	8. Microphone mute button
2. 2x USB-A (USB 5Gbps)	9. USB-C (Thunderbolt 4)
3. 2x USB-A (USB 10Gbps)	10. USB-A (USB 10Gbps)
4. Ethernet (RJ-45)	11. USB-C (USB 10Gbps), with 15W charging
5. HDMI (HDMI in 1.4 / HDMI out 2.1 TMDS combo)	12. Headphone / microphone combo jack (3.5mm)
6. DisplayPort 1.4	13. Card reader *
7. Power connector	14. Power button

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Intel® Core™ Ultra 5 / 7 / 9 Processor (Series 2)

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics	NPU
Core Ultra 5 225	10 (6 P-core + 4 E-core)	10	P-core 3.3GHz / E-core 2.7GHz	P-core 4.9GHz / E-core 4.4GHz	22MB L2 Cache / 20MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
Core Ultra 5 235	14 (6 P-core + 8 E-core)	14	P-core 3.4GHz / E-core 2.9GHz	P-core 5.0GHz / E-core 4.4GHz	26MB L2 Cache / 24MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
Core Ultra 5 245	14 (6 P-core + 8 E-core)	14	P-core 3.5GHz / E-core 3.0GHz	P-core 5.1GHz / E-core 4.5GHz	26MB L2 Cache / 24MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
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	Intel® Graphics	Intel® AI Boost
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	Intel® Graphics	Intel® AI Boost

AI (Artificial Intelligence)

AI PC Category

AI PC^[1]

NPU***

- Integrated Intel® AI Boost, up to 13 TOPS
- (Optional) Discrete NPU card, up to 30 TOPS

Notes:

[1] AI PCs have a NPU capable of 10+ TOPs to run the Copilot assistant by pressing the optional Microsoft® Copilot key or using Win + C.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- No preload operating system

Graphics

Graphics**

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® Graphics	Integrated	Shared	4096x2160@60Hz(HDMI®), 5120x2880@60Hz (DP), 7680x4320@30Hz (Thunderbolt™ 4)	1x HDMI® 2.1 TMDS, 1x DP 1.4a, 1x Thunderbolt™ 4	DirectX® 12
NVIDIA® GeForce RTX™ 4050	Discrete	6GB GDDR6	4096x2160@60Hz(HDMI®), 5120x2880@60Hz (DP), 7680x4320@30Hz (Thunderbolt™ 4)	1x HDMI® 2.1 TMDS, 1x DP 1.4a, 1x Thunderbolt™ 4	DirectX® 12, OpenGL 4.6

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via DisplayPort™, HDMI® and Thunderbolt™ 4; work as standalone monitor via HDMI® (HDMI® in / out combo)

Chipset

Chipset
Intel® Q870 chipset

Memory

Max Memory^[1]
Up to 64GB DDR5-5600
Memory Slots
Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type
DDR5-5600

Memory Protection
Non-ECC

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

Storage

Max Storage Support^[1]
Up to three drives, 3x M.2 SSD
• M.2 SSD up to 2TB each^[2]

Storage Type***

Disk Type	Interface	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	Opal 2.0
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Performance	Opal 2.0
M.2 2280 SSD	PCIe® NVMe®, PCIe® 5.0 x4 Performance	Opal 2.0

RAID
RAID 0/1 support for SSDs

Notes:
[1] The max capacity of each disk type is based on the test results with current Lenovo® storage offerings.
[2] Discrete NPU and 3rd SSD are mutually exclusive.

Removable Storage

Optical**
• DVD-ROM, slim (9.0mm), via USB external ODD box
• DVD burner (DVD±RW), slim (9.0mm), via USB external ODD box
• None

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

Multi-Media

Audio Chip
High Definition (HD) Audio, Realtek® ALC233NL-VB2-CG codec

Speakers
Stereo speakers, 5W x2, Dolby Atmos®

Microphone
Dual-microphone array

Camera**

- 5.0-megapixel, IR + RGB hybrid, with ThinkShutter (physical switch on/off), ±20° tilt and 180° swivel view angle adjustable, Windows® Hello support
- 5.0-megapixel, IR + RGB hybrid, with ThinkShutter (physical switch on/off) and Human Presence Detection (Radar Sensor), ±20° tilt and 180° swivel view angle adjustable, Windows® Hello support^[1]
- 5.0-megapixel, with ThinkShutter (physical switch on/off), ±20° tilt and 180° swivel view angle adjustable
- No camera

Notes:

[1] To comply with the regulation rules in each country, the camera with radar sensor is only selectable for the following countries / regions:

Africa French Portuguese / Australia / Austria / Belgium / Bulgaria / Croatia / Cyprus / Czech Slovakia / Denmark / Estonia Latvia Lithuania / Finland / France / Germany / Greece / Hong Kong / Hungary / Iceland / Ireland / Italy / Luxembourg / Netherlands / New Zealand / Nordics / Norway / Poland / Portugal / Romania / Saudi Arabia / Slovenia / South East Europe / Spain / Sweden / Switzerland / Turkiye / UK

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
180W	Fixed	90%	100V - 240V, 50-60Hz, 80 PLUS Gold qualified
230W ^[1]	Fixed	92%	100V - 240V, 50-60Hz, 80 PLUS Platinum qualified

Notes:

[1] 230W PSU is for discrete graphics models only

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Refresh Rate	Viewing Angle (L/R/U/D)	Key Features
27"	QHD (2560x1440)	None	IPS	250nits	Anti-glare (17% Haze)	16:9	1500:1	99% sRGB	120Hz	89° / 89° / 89° / 89°	14ms response Time, 4-side like Borderless, TÜV Rheinland® Low Blue Light (Hardware Solution), TÜV Rheinland® Flicker Free, Eyesafe® Certified 2.0, Focus Sound
27"	QHD (2560x1440)	None	IPS	400nits	Anti-glare (25% Haze)	16:9	1500:1	99% sRGB	120Hz	89° / 89° / 89° / 89°	14ms response Time, 4-side like Borderless, TÜV Rheinland® Low Blue Light (Hardware Solution), TÜV Rheinland® Flicker Free, Eyesafe® Certified 2.0

Touchscreen

Non-touch

Notes:

[1] IPS (in-plane switching) technology may refer to IPS, PLS, ADS, AHVA, AAS.

Input Device

Keyboard**

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

Mouse**

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

Mechanical

Buttons

- Microphone mute button
- OSD joystick
- Power button

Form Factor

AIO (27 inches)

Dimensions (WxDxH)^[1]

Models	Dimensions
Models (with UltraFlex IV stand, without camera)	Lowest in flat mode: 613.6 x 363.86 x 227.90 mm (24.16 x 14.33 x 8.97 inches) Highest in vertical mode: 613.6 x 264.99 x 447.02 mm (24.16 x 10.43 x 17.6 inches)
Models (with UltraFlex V stand, with camera)	Lowest in flat mode: 613.6 x 363.86 x 236.06 mm (24.16 x 14.33 x 9.29 inches) Highest in vertical mode: 613.6 x 264.99 x 472.52 mm (24.16 x 10.43 x 18.6 inches)
Models (with full function monitor stand, with camera)	613.6 x 222.21 x 415.18-560.18 mm (24.16 x 8.75 x 16.35-22.05 inches)
Models (with full function monitor stand, without camera)	613.6 x 222.21 x 389.68-534.68 mm (24.16 x 8.75 x 15.34-20.05 inches)
Models (without stand, with camera, with Focus Sound)	613.6 x 388.4 x 56.1 mm (24.16 x 15.29 x 2.21 inches)
Models (without stand, with camera, without Focus Sound)	613.6 x 388.4 x 54.5 mm (24.16 x 15.29 x 2.15 inches)
Models (without stand, without camera, with Focus Sound)	613.6 x 362.9 x 56.1 mm (24.16 x 14.29 x 2.21 inches)
Models (without stand, without camera, without Focus Sound)	613.6 x 362.9 x 54.5 mm (24.16 x 14.29 x 2.15 inches)

Packaging Dimensions (WxDxH)

EPE: 764 x 235 x 545 mm (30.08 x 9.25 x 21.46 inches)
Paper pulp: 766 x 237 x 575 mm (30.16 x 9.33 x 22.64 inches)

Weight^[2]

Models	Weight
Models (with UltraFlex V stand)	11.27 kg (24.85 lbs, maximum configuration)
Models (with full function monitor stand)	12.31 kg (27.14 lbs, maximum configuration)
Models (without stand)	8.25 kg (18.19 lbs, maximum configuration)

Packaging Weight

EPE: 2.070Kg (4.564 lbs), packaging only
Paper pulp: 3.204Kg (7.064 lbs), packaging only

Case Color

Black

Bays

No bays

Expansion Slots

Four M.2 slots (one for WLAN, three for SSD / discrete NPU)

EOU

Toolless cover, stand, motherboard shielding, and memory assembly / removal

Stand**

- UltraFlex V stand, supports -5° to +70° tilt, up to 70°±2° lift (up to 164.97mm lift in flat mode / up to 71.61mm lift in vertical mode)
- Full function monitor stand, supports -5° to +22° tilt, left & right 45° swivel, 90° pivot, up to 145mm lift
- No stand

Mounting

Supports VESA mount 100mm

Others

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.

CONNECTIVITY

Network

WLAN + Bluetooth®**

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card^[1]
- Intel® Wi-Fi® 6 AX203, 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
- Intel® Wi-Fi® 7 BE200, 802.11be 2x2 Wi-Fi® + Bluetooth® 5.4, Intel® vPro® technology support, 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

No optional Ethernet

Notes:

[1] Realtek® Wi-Fi® 6 RTL8852BE is only available for EMEA countries.

Ports^[1]

Rear Ports

- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1), one supports Smart Power On
- 1x HDMI® (HDMI® in 1.4 / HDMI® out 2.1 TMDS combo port)
- 1x DisplayPort™ 1.4a (HBR2)
- 1x Ethernet (RJ-45)

Optional Rear Ports

None

Right Ports

- 1x headphone / microphone combo jack (3.5mm)
- 1x USB-C® (Thunderbolt™ 4 / USB4® 40Gbps), with USB PD 3.0 up to 65W output, DisplayPort™ 2.1, Always On
- 1x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x USB-C® (USB 10Gbps / USB 3.2 Gen 2), support data transfer and 5V@3A charging

Optional Right Ports

1x card reader

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.

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
- No chassis intrusion switch

Fingerprint Reader

No fingerprint reader

Other Security

- (Optional) Smart Human Presence Detection (Camera with Radar Sensor)
- ThinkShutter camera cover (camera models)

BIOS Security

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

Notes:

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

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 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
- DP to VGA dongle
- HDMI® to DVI dongle
- HDMI® to VGA dongle
- None

OPERATING REQUIREMENTS

Operating Environment

Temperature

- Operating: 5°C (41°F) to 35°C (95°F)
- Storage: -20°C (-4°F) to 60°C (140°F)

Relative Humidity

Operating: 20% to 80%

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 with brand closed-loop material in plastic in chassis
95% PCC ABS with brand closed-loop material in wired keyboard/mouse
90% PIC EPE cushion
30% OBP in bag
FSC carton 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
- (Optional) TCO edge
- (Optional) TCO Certified 10.0
- ErP Lot 3
- GREENGUARD®
- RoHS compliant

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

- Anti-dust
- IP55-compliant (front face)^[1]
- Eyesafe® Certified 2.0
- SGS Performance Tested certification : Super Quiet@Hi-Performance Grade 1
- TÜV Rheinland® Flicker Free
- TÜV Rheinland® Low Blue Light (Hardware Solution)

Mil-Spec Test

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

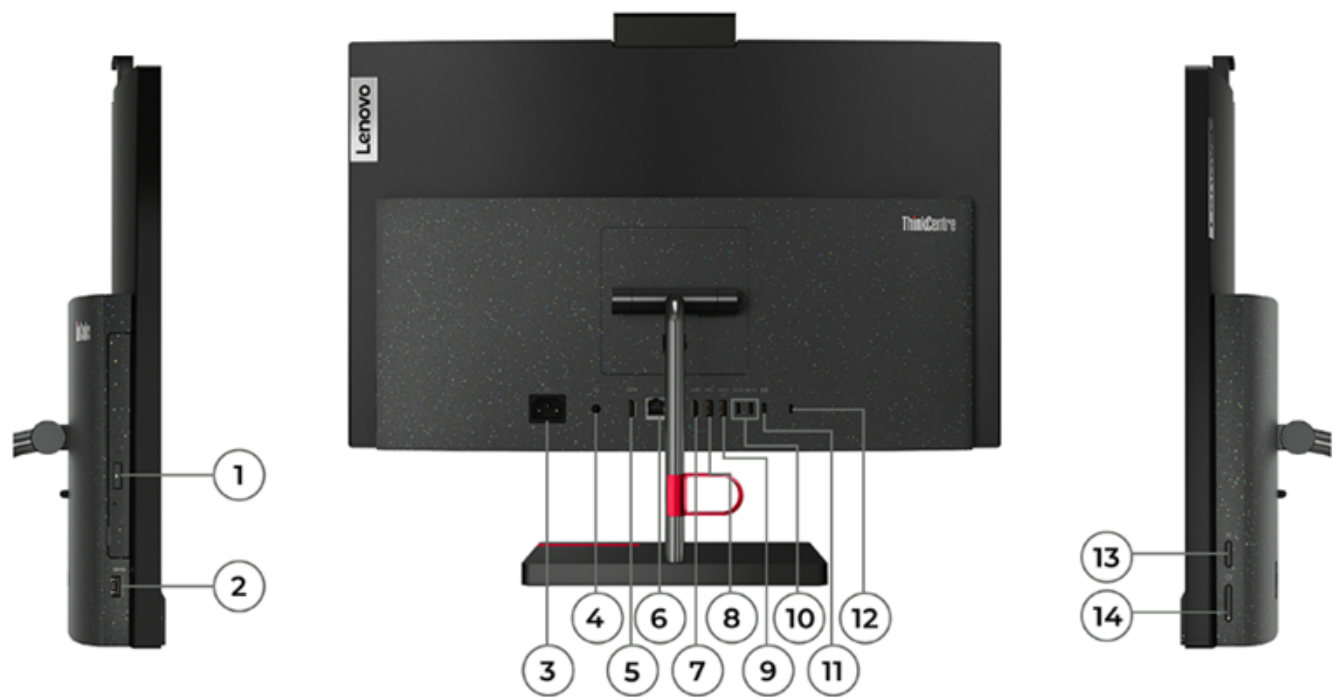
Notes:

[1] Not for the models with Focus Sound

- 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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OVERVIEW



1. Optical drive eject button *	8. USB 2.0
2. USB 3.2 Gen 1	9. USB 3.2 Gen 2
3. Power connector	10. 2x USB-C 3.2 Gen 2
4. Headphone / microphone combo jack (3.5mm)	11. USB-C 2.0 (support data transfer, PD 3.0)
5. HDMI-in 1.4	12. Kensington Security Slot
6. Ethernet (RJ-45)	13. HDMI Switch Key
7. HDMI-out 2.1 TMDS	14. Power button

- Notes:
- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

13th Generation Intel® Core™ i5 / i7 Processor

Processor**^[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics
Core i5-13500H	12 (4 P-core + 8 E-core)	16	P-core 2.6GHz / E-core 1.9GHz	P-core 4.7GHz / E-core 3.5GHz ^[2]	18MB	Intel® Iris® Xe Graphics
Core i7-13700H	14 (6 P-core + 8 E-core)	20	P-core 2.4GHz / E-core 1.8GHz	P-core 5.0GHz / E-core 3.7GHz ^[3]	24MB	Intel® Iris® Xe Graphics

Notes:

^[1] Intel® Iris® Xe Graphics capability requires system to be configured with dual-channel memory. On the system with single-channel memory, Intel® Iris® Xe Graphics will function as Intel® UHD Graphics.

^[2], ^[3] 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.

Operating System

Operating System

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Ubuntu Linux^[1]
- No preload operating system

Notes:

^[1] Some features may not be supported on the system with Linux preload, including but not limited to Intel® RST RAID, Human Presence Detection, etc.

Graphics

Graphics**

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® Iris® Xe Graphics ^[1]	Integrated	Shared	4096x2306@60Hz(HDMI®)	1x HDMI® 2.1 TMDS	DirectX® 12.1
Intel® Arc™ A370M Graphics	Discrete	4GB GDDR6	3840x2160@60Hz(HDMI®)	1x HDMI® 2.1 TMDS	DirectX® 12 Ultimate

Notes:

^[1] Intel® Iris® Xe Graphics capability requires system to be configured with dual-channel memory. On the system with single-channel memory, Intel® Iris® Xe Graphics will function as Intel® UHD Graphics.

Monitor Support

Monitor Support

Supports up to 2 independent displays via native display and 1 external monitor; supports external monitor via HDMI®

Chipset

Chipset

Intel® SoC (System on Chip) platform

Memory

Max Memory^[1]

Up to 16GB DDR5-5200

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type

DDR5-5200

Notes:

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

Storage

Max Storage Support^[1]

- Up to two drives, 1x 2.5" HDD + 1x M.2 SSD
 - 2.5" HDD up to 2TB
 - M.2 SSD up to 1TB
- For installing HDD storage, assembly kits are needed. The kits only come with HDD models.

Storage Type

Disk Type	Interface	Security
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.

Removable Storage

Optical

- DVD burner (DVD±RW), SATA connector, slim (9.0mm)
- None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio

Speakers

Stereo speakers, 3W x2, Audio by HARMAN

Microphone

Dual-microphone array

Camera**

- 5.0-megapixel IR camera, fixed focus
- 5.0-megapixel IR camera, fixed focus, with AI chip
- 5.0-megapixel, fixed focus
- No camera

Power Supply

Power Supply

Power	Type	Efficiency	Key Features
180W	Fixed	90%	100V - 240V, 50-60Hz

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Refresh Rate	Viewing Angle (L/R/U/D)	Key Features
------	------------	-------	------	------------	---------	--------------	----------------	-------------	--------------	-------------------------	--------------

23.8"	FHD (1920x1080)	None	IPS	250nits	Anti-glare	16:9	1000:1	72% NTSC	60Hz	89° / 89° / 89° / 89°	14ms response time, borderless design, low blue light, flicker free
23.8"	FHD (1920x1080)	Multi-touch	IPS	250nits	Anti-glare	16:9	1000:1	72% NTSC	60Hz	89° / 89° / 89° / 89°	14ms response time, borderless design, low blue light, flicker free

Touchscreen

- Advanced In-cell Touch (AIT), supports 10-point touch
- Non-touch

Notes:

[1] IPS (in-plane switching) technology may refer to IPS, PLS, ADS, AHVA, AAS.

Input Device

Keyboard**

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

Mouse**

- Lenovo® Calliope Mouse (USB connector), black
- Lenovo® Calliope Wireless Mouse (2.4GHz via USB receiver), black
- No mouse

Mechanical

Form Factor

AIO (23.8 inches)

Dimensions (WxDxH)^[1]

Models	Dimensions
Models with liftable monitor stand	541 x 220 x 482 mm (21.3 x 8.7 x 19 inches)
Models with monitor stand	541 x 209.9 x 433.7 mm (21.3 x 8.3 x 17.1 inches)

Packaging Dimensions (WxDxH)

- Models with liftable monitor stand: 658 x 264 x 570 mm (25.9 x 10.4 x 22.44 inches)
- Models with monitor stand: 695 x 196 x 554 mm (27.4 x 7.7 x 21.81 inches)

Weight^[2]

Models	Weight
Models with monitor stand	Around 7.42 kg (16.36 lbs)
Models with liftable monitor stand	Around 7.64 kg (16.84 lbs)

Packaging Weight

- Models with liftable monitor stand: 11.88 kg (26.19 lbs)
- Models with monitor stand: 11.04 kg (24.34 lbs)

Case Color

Raven black

Bays

- 1x 2.5" disk bay
- 1x slim ODD bay
- For installing HDD storage, assembly kits are needed. The kits only come with HDD models.

Expansion Slots

Two M.2 slots (one for WLAN, one for SSD)

Stand**

- Monitor stand, supports -5° to +25° tilt, left & right 45° swivel
- Liftable monitor stand, supports -5° to +18° tilt, left & right 45° swivel, up to 100mm lift

Mounting

Supports VESA mount 100mm

Others

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.

CONNECTIVITY

Network

WLAN + Bluetooth®**

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card^[1]
- Intel® Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.2, M.2 Card^[2]

Onboard Ethernet

Gigabit Ethernet, Realtek® RTL8111K-CG, 1x RJ-45

Notes:

[1] Bluetooth® 5.3 requires Windows® 11.

[2] Bluetooth® 5.2 requires Windows® 11.

Ports^[1]

Rear Ports

- 1x USB-C® 2.0 (Supports data transfer, Power Delivery 3.0)
- 2x USB-C® 3.2 Gen 2
- 1x USB 2.0
- 1x USB 3.2 Gen 2 (Supports smart power-on)
- 1x HDMI®-in 1.4
- 1x HDMI®-out 2.1 TMDS
- 1x Ethernet (RJ-45)
- 1x headphone / microphone combo jack (3.5mm)

Left Ports

1x USB 3.2 Gen 1

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.

SECURITY & PRIVACY

Security

Security Chip

Firmware TPM 2.0 integrated in SoC

Physical Locks

Kensington® Security Slot™, 3 x 7 mm

BIOS Security

- Administrator password
- Hard disk password
- Power-on password
- Cover presence switch
- Intel® BIOS guard
- More BIOS security features, please visit [BIOS Simulator](#)^[1]
- Never crash Self-healing

Notes:

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

SERVICE

Warranty^[1]

Base Warranty

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

ACCESSORIES

Bundled Accessories

Bundled Accessories

- USB-C® to USB-A dongle
- None

OPERATING REQUIREMENTS

Operating Environment

Temperature

- Operating: 5°C (41°F) to 35°C (95°F)
- Storage: -20°C (-4°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)

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Silver Registered^[2]

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>.

[2] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

Other Certifications

Other Certifications

- TÜV Rheinland® Flicker Free
- TÜV Rheinland® Low Blue Light
- TÜV Rheinland® Ultra Low Noise

Mil-Spec Test

None

- 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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OVERVIEW



1. USB-C (USB 10Gbps), data transfer only	7. USB-A (Hi-Speed USB)
2. Headphone / microphone combo jack (3.5mm)	8. USB-A (USB 10Gbps)
3. HDMI-in 1.4	9. HDMI-out 2.1 TMDS
4. Power-in	10. Kensington Security Slot *
5. USB-A (Hi-Speed USB)	11. Power button
6. Ethernet (RJ-45)	12. Camera shutter latch

- Notes:
- Items with * are only available on selected models
 - The Kensington security slot is only available on models launched after 2025/2/10.

PERFORMANCE

Processor

Processor Family

Intel® U-series, 13th Generation Intel® Core™ i3 / i5 / i7 Processor or Intel® H Series Core 5 / 7 Processor (Series 2)

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics
U300	5 (1 P-core + 4 E-core)	6	P-core 1.2GHz / E-core 0.9GHz	P-core 4.4GHz / E-core 3.3GHz	8MB	Intel® UHD Graphics
Core i3-1315U	6 (2 P-core + 4 E-core)	8	P-core 1.2GHz / E-core 0.9GHz	P-core 4.5GHz / E-core 3.3GHz	10MB	Intel® UHD Graphics
Core i5-13420H	8 (4 P-core + 4 E-core)	12	P-core 2.1GHz / E-core 1.5GHz	P-core 4.6GHz / E-core 3.4GHz	12MB	Intel® UHD Graphics
Core i7-13620H	10 (6 P-core + 4 E-core)	16	P-core 2.4GHz / E-core 1.8GHz	P-core 4.9GHz / E-core 3.6GHz	24MB	Intel® UHD Graphics
Core 5 210H	8 (4 P-core + 4 E-core)	12	P-core 2.2GHz / E-core 1.6GHz	P-core 4.8GHz / E-core 3.6GHz	12MB	Intel® Graphics
Core 7 240H	10 (6 P-core + 4 E-core)	16	P-core 2.5GHz / E-core 1.8GHz	P-core 5.2GHz / E-core 4.0GHz	24MB	Intel® Graphics

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Ubuntu Linux
- No preload operating system

Graphics

Graphics^[1]

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD Graphics	Integrated	Shared	4096x2160@60Hz(HDMI®)	1x HDMI® 2.1 TMDS	DirectX® 12.1

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 native display and 1 external monitor; supports external monitor via HDMI®

Chipset

Chipset

Intel® SoC (System on Chip) platform

Memory

Max Memory^[1]

Up to 32GB DDR5-5200

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type

DDR5-5200

Notes:

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

Storage

Max Storage Support^[1]

One drive, up to 1TB M.2 2280 SSD

Storage Type**

Disk Type	Interface	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	Opal 2.0

Notes:

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

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC233-CG codec

Speakers

Stereo speakers, 3W x2, Audio by HARMAN

Microphone

Dual-microphone array

Camera**

- 5.0-megapixel
- 5.0-megapixel IR camera

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
90W	Adapter	89%	Autosensing
135W	Adapter	90%	Autosensing

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Refresh Rate	Viewing Angle (L/R/U/D)	Key Features
23.8"	FHD (1920x1080)	None	IPS	250nits	Anti-glare	16:9	1300:1	99% sRGB	100Hz	89° / 89° / 89° / 89°	14ms response time, borderless design, low blue light, flicker free
23.8"	FHD (1920x1080)	Multi-touch	IPS	250nits	Anti-glare	16:9	1300:1	99% sRGB	100Hz	89° / 89° / 89° / 89°	14ms response time, borderless design, low blue light, flicker free

Touchscreen

- (Optional) 10-point multi-touch
- Non-touch

Notes:

[1] IPS (in-plane switching) technology may refer to IPS, PLS, ADS, AHVA, AAS.

Input Device**Keyboard****

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

Mouse**

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

Mechanical**Buttons**

- Camera Shutter Latch
- Power button

Form Factor

AIO (23.8 inches)

Dimensions (WxDxH)^[1]

540 x 192 x 431 mm (21.25 x 7.56 x 16.97 inches)

Packaging Dimensions (WxDxH)

670 x 229 x 553 mm (26.38 x 9.02 x 21.77 inches)

Weight^[2]

Around 6.0 kg (13.23 lbs)

Packaging Weight

Around 9.55 kg (21.05 lbs)

Case Color

Luna grey

Bays

No bays

Expansion Slots

Two M.2 slots (one for WLAN, one for SSD)

Stand

Monitor stand, supports -5° to +15° tilt.

Mounting

None

Others

(Optional) Wireless charger 15W

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®^[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
- No WLAN and Bluetooth®

Onboard Ethernet

Gigabit Ethernet, Realtek® RTL8111H, 1x RJ-45

Notes:

^[1] Wi-Fi® 6 full features might be limited by country-level restrictions.

Bluetooth® 5.3 operation requires Windows® 11. For more information please visit [General Bluetooth® Support Information on Microsoft®](#).

Ports^[1]**Rear Ports**

- 1x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 2x USB-A (Hi-Speed USB / USB 2.0)
- 1x HDMI®-in 1.4
- 1x HDMI®-out 2.1 TMDS
- 1x Ethernet (RJ-45)
- 1x power connector

Left Ports

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

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.

SECURITY & PRIVACY

Security

Security Chip

Firmware TPM 2.0 integrated in SoC

Physical Locks

Optional Kensington® Security Slot™, 3 x 7 mm^[1]

Chassis Intrusion Switch

No chassis intrusion switch

BIOS Security

- Administrator password
- Power-on password
- Boot sequence control
- Boot without keyboard and mouse
- Intel® BIOS guard
- Secure boot
- More BIOS security features, please visit [BIOS Simulator^{\[2\]}](#)
- Never crash Self-healing

Notes:

^[1] The Kensington® security slot is only available on models launched after 2025/2/10.

^[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

None

SERVICE

Warranty^[1]

Base Warranty**

- 1-year courier or carry-in service
- 1-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: -20°C (-4°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)

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- ErP Lot 3/7
- GREENGUARD®
- RoHS / WEEE / REACH

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

- TÜV Rheinland® Flicker Free
- TÜV Rheinland® Low Blue Light
- TÜV Rheinland® Ultra Low Noise

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OVERVIEW



1. USB-C (USB 10Gbps), data transfer only	7. USB-A (Hi-Speed USB)
2. Headphone / microphone combo jack (3.5mm)	8. USB-A (USB 10Gbps)
3. HDMI-in 1.4	9. HDMI-out 2.1 TMDS
4. Power-in	10. Kensington Security Slot *
5. USB-A (Hi-Speed USB)	11. Power button
6. Ethernet (RJ-45)	12. Camera shutter latch

- Notes:
- Items with * are only available on selected models
 - The Kensington security slot is only available on models launched after 2025/2/10.

PERFORMANCE

Processor

Processor Family

Intel® U-series, 13th Generation Intel® Core™ i3 / i5 / i7 Processor or Intel® H Series Core 5 / 7 Processor (Series 2)

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics
U300	5 (1 P-core + 4 E-core)	6	P-core 1.2GHz / E-core 0.9GHz	P-core 4.4GHz / E-core 3.3GHz	8MB	Intel® UHD Graphics
Core i3-1315U	6 (2 P-core + 4 E-core)	8	P-core 1.2GHz / E-core 0.9GHz	P-core 4.5GHz / E-core 3.3GHz	10MB	Intel® UHD Graphics
Core i5-13420H	8 (4 P-core + 4 E-core)	12	P-core 2.1GHz / E-core 1.5GHz	P-core 4.6GHz / E-core 3.4GHz	12MB	Intel® UHD Graphics
Core i7-13620H	10 (6 P-core + 4 E-core)	16	P-core 2.4GHz / E-core 1.8GHz	P-core 4.9GHz / E-core 3.6GHz	24MB	Intel® UHD Graphics
Core 5 210H	8 (4 P-core + 4 E-core)	12	P-core 2.2GHz / E-core 1.6GHz	P-core 4.8GHz / E-core 3.6GHz	12MB	Intel® Graphics
Core 7 240H	10 (6 P-core + 4 E-core)	16	P-core 2.5GHz / E-core 1.8GHz	P-core 5.2GHz / E-core 4.0GHz	24MB	Intel® Graphics

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- No preload operating system

Graphics

Graphics^[1]

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD Graphics	Integrated	Shared	4096x2160@60Hz(HDMI®)	1x HDMI® 2.1 TMDS	DirectX® 12.1

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 native display and 1 external monitor; supports external monitor via HDMI®

Chipset

Chipset

Intel® SoC (System on Chip) platform

Memory

Max Memory^[1]

Up to 32GB DDR5-5200

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type

DDR5-5200

Notes:

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

Storage

Max Storage Support^[1]

One drive, up to 1TB M.2 2280 SSD

Storage Type**

Disk Type	Interface	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	Opal 2.0

Notes:

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

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC233-CG codec

Speakers

Stereo speakers, 3W x2, Audio by HARMAN

Microphone

Dual-microphone array

Camera**

- 5.0-megapixel
- 5.0-megapixel IR camera

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
90W	Adapter	89%	Autosensing
135W	Adapter	90%	Autosensing

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Refresh Rate	Viewing Angle (L/R/U/D)	Key Features
27"	FHD (1920x1080)	None	IPS	300nits	Anti-glare	16:9	1300:1	99% sRGB	100Hz	89° / 89° / 89° / 89°	14ms response time, borderless design, low blue light, flicker free
27"	FHD (1920x1080)	Multi-touch	IPS	300nits	Anti-glare	16:9	1300:1	99% sRGB	100Hz	89° / 89° / 89° / 89°	14ms response time, borderless design, low blue light, flicker free

Touchscreen

- (Optional) 10-point multi-touch
- Non-touch

Notes:

[1] IPS (in-plane switching) technology may refer to IPS, PLS, ADS, AHVA, AAS.

Input Device

Keyboard**

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

Mouse**

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

Mechanical

Buttons

- Camera Shutter Latch
- Power button

Form Factor

AIO (27 inches)

Dimensions (WxDxH)^[1]

611.72 x 192 x 473.16 mm (24.08 x 7.55 x 18.62 inches)

Packaging Dimensions (WxDxH)

766 x 229 x 570 mm (30.16 x 9.02 x 22.44 inches)

Weight^[2]

Around 7.1 kg (15.65 lbs)

Packaging Weight

Around 10.9 kg (24.03 lbs)

Case Color

Luna grey

Bays

No bays

Expansion Slots

Two M.2 slots (one for WLAN, one for SSD)

Stand

Monitor stand, supports -5° to +15° tilt.

Mounting

None

Others

(Optional) Wireless charger 15W

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®**^[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
- No WLAN and Bluetooth®

Onboard Ethernet

Gigabit Ethernet, Realtek® RTL8111H, 1x RJ-45

Notes:

[1] Wi-Fi® 6 full features might be limited by country-level restrictions.

Bluetooth® 5.3 operation requires Windows® 11. For more information please visit [General Bluetooth® Support Information on Microsoft®](#).

Ports^[1]**Rear Ports**

- 1x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 2x USB-A (Hi-Speed USB / USB 2.0)
- 1x HDMI®-in 1.4
- 1x HDMI®-out 2.1 TMDS
- 1x Ethernet (RJ-45)
- 1x power connector

Left Ports

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

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.

SECURITY & PRIVACY

Security

Security Chip

Firmware TPM 2.0 integrated in SoC

Physical Locks

Optional Kensington® Security Slot™, 3 x 7 mm^[1]

Chassis Intrusion Switch

No chassis intrusion switch

BIOS Security

- Administrator password
- Power-on password
- Boot sequence control
- Boot without keyboard and mouse
- Intel® BIOS guard
- Secure boot
- More BIOS security features, please visit [BIOS Simulator](#)^[2]
- Never crash Self-healing

Notes:

[1] The Kensington® security slot is only available on models launched after 2025/2/10.

[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

None

SERVICE

Warranty^[1]

Base Warranty**

- 1-year courier or carry-in service
- 1-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: -20°C (-4°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)

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- ErP Lot 3/7
- GREENGUARD®
- RoHS / WEEE / REACH

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

- TÜV Rheinland® Flicker Free
- TÜV Rheinland® Low Blue Light
- TÜV Rheinland® Ultra Low Noise

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OVERVIEW



1. USB-C (USB 10Gbps), data transfer only	7. USB-A (Hi-Speed USB)
2. Headphone / microphone combo jack (3.5mm)	8. USB-A (USB 10Gbps)
3. HDMI-in 1.4	9. HDMI-out 2.1 TMDS
4. Power-in	10. Kensington Security Slot
5. USB-A (Hi-Speed USB)	11. Power button
6. Ethernet (RJ-45)	12. Camera shutter latch

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 5 / 7 200 Series, or AMD Ryzen™ AI 5 / 7 300 Series Processor

Processor

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics
AMD Ryzen™ 5 220	6	12	3.2GHz	4.9GHz	6MB L2 / 16MB L3	AMD Radeon™ 740M

AI (Artificial Intelligence)

AI PC Category**

- Non-AI PC
- Copilot+ PC (models with AMD Ryzen™ AI 5 / 7 300 Series processor)^[1]
- AI PC (models with AMD Ryzen™ 7 250 processor)^[2]

NPU**

- Integrated AMD Ryzen™ AI, up to 50 TOPS^[3]
- Integrated AMD Ryzen™ AI, up to 16 TOPS^[4]
- None

Notes:

[1] Copilot+ PCs have at least 16GB RAM, 256GB storage, and a NPU that runs 40+ TOPs to run the latest AI tools build-in latest Windows® 11 to accelerate productivity and creativity.

[2] AI PCs have a NPU capable of 10+ TOPs to run the Copilot assistant by pressing the optional Microsoft® Copilot key or using Win + C.

[3] Only for the models with AMD Ryzen™ AI 5 340 or AMD Ryzen™ AI 7 350 processor.

[4] Only for the models with AMD Ryzen™ 7 250 processor.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- No preload operating system

Graphics

Graphics

Graphics	Type	Memory	Max Resolution	Connector	Key Features
AMD Radeon™ 740M	Integrated	Shared	4096x2160@60Hz(HDMI®)	1x HDMI® 2.1 TMDS	DirectX® 12

Monitor Support

Monitor Support

Supports up to 2 independent displays via native display and 1 external monitor; supports external monitor via HDMI®

Chipset

Chipset

AMD SoC (System on Chip) platform

Memory

Max Memory^[1]

Up to 32GB DDR5-5600

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type

DDR5-5600

Notes:

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

Storage

Max Storage Support^[1]

One drive, up to 1TB M.2 2280 SSD

Storage Type**

Disk Type	Interface	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	Opal

Notes:

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

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3341 codec

Speakers

Stereo speakers, 3W x2, Audio by HARMAN

Microphone

Dual-microphone array

Camera**

- 5.0-megapixel
- 5.0-megapixel IR camera

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
90W	Adapter	89%	Autosensing
135W	Adapter	90%	Autosensing

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Refresh Rate	Viewing Angle (L/R/U/D)	Key Features
23.8"	FHD (1920x1080)	None	IPS	250nits	Anti-glare	16:9	1300:1	99% sRGB	100Hz	89° / 89° / 89° / 89°	14ms response time, borderless design, low blue light, flicker free
23.8"	FHD (1920x1080)	Multi-touch	IPS	250nits	Anti-glare	16:9	1300:1	99% sRGB	100Hz	89° / 89° / 89° / 89°	14ms response time, borderless design, low blue light, flicker free

Touchscreen

- (Optional) 10-point multi-touch
- Non-touch

Notes:

[1] IPS (in-plane switching) technology may refer to IPS, PLS, ADS, AHVA, AAS.

Input Device**Keyboard****

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

Mouse**

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

Mechanical**Buttons**

- Camera Shutter Latch
- Power button

Form Factor

AIO (23.8 inches)

Dimensions (WxDxH)^[1]

539.5 x 192.1 x 431.17 mm (21.24 x 7.56 x 16.98 inches)

Packaging Dimensions (WxDxH)

670 x 229 x 553 mm (26.38 x 9.02 x 21.77 inches)

Weight^[2]

Around 6.0 kg (13.23 lbs)

Packaging Weight

Around 9.55 kg (21.05 lbs)

Case Color

Luna grey

Bays

No bays

Expansion Slots

Three M.2 slots (one for WLAN, two for SSD)

Stand

Monitor stand, supports -5° to +15° tilt.

Mounting

None

Others

(Optional) Wireless charger 15W

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®^[1]**

- MediaTek Wi-Fi® 6 MT7920, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.2, M.2 Card
- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.2, M.2 card
- No WLAN and Bluetooth®

Onboard Ethernet

Gigabit Ethernet, Realtek® RTL8111H or Realtek® RTL8111H-VB, 1x RJ-45

Notes:

^[1] Wi-Fi® 6 operation is subject to the regulation rules in each country. Bluetooth® 5.3 / 5.4 require the supported Windows® OS.

Ports^[1]**Rear Ports**

- 1x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 2x USB-A (Hi-Speed USB / USB 2.0)
- 1x HDMI®-in 1.4
- 1x HDMI®-out 2.1 TMDS
- 1x Ethernet (RJ-45)
- 1x power connector

Left Ports

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

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.

SECURITY & PRIVACY

Security

Security Chip

Firmware TPM 2.0 integrated in SoC

Physical Locks

Kensington® Security Slot™

Chassis Intrusion Switch

No chassis intrusion switch

BIOS Security

- Administrator password
- Power-on password
- Boot sequence control
- Boot without keyboard and mouse
- Secure boot

MANAGEABILITY

System Management

System Management

None

SERVICE

Warranty^[1]

Base Warranty**

- 1-year courier or carry-in service
- 1-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: -20°C (-4°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]

65% PCC ABS plastic in chassis
95% PCC ABS with brand closed-loop material in wired keyboard/mouse
90% PIC EPE cushion
30% OBP in bag
FSC carton 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
- ErP Lot 3/7
- GREENGUARD®
- RoHS / WEEE / REACH

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

- TÜV Rheinland® Flicker Free
- TÜV Rheinland® Low Blue Light
- TÜV Rheinland® Ultra Low Noise

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AMD



AMD



AMD



AMD

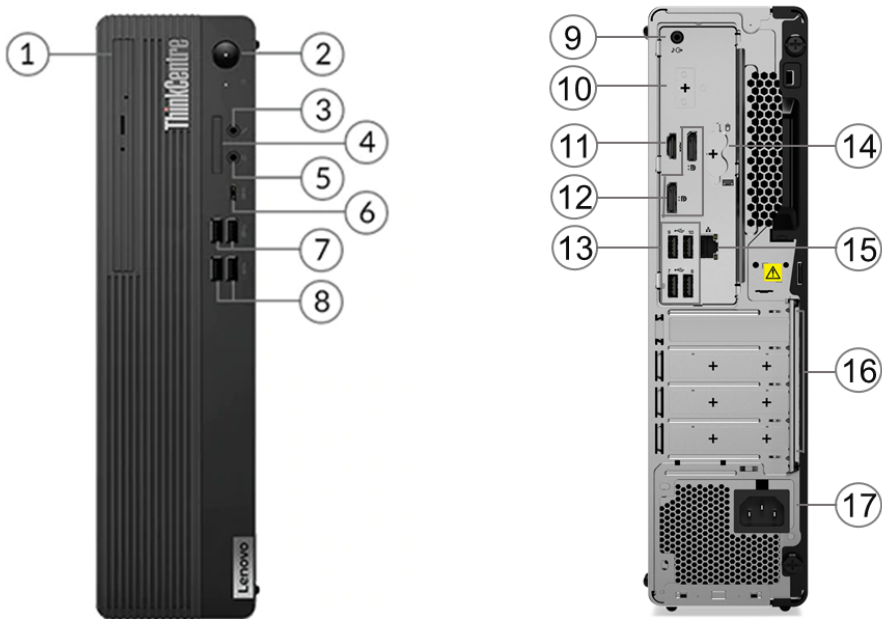


AMD



AMD

OVERVIEW



1. Optical drive *	10. Flex IO *
2. Power button	11. HDMI 2.1 TMDS
3. Microphone jack (3.5mm)	12. 2x DisplayPort 1.4a
4. Card reader *	13. 4x USB 2.0
5. Headphone / microphone combo jack (3.5mm)	14. 2x PS/2 ports (keyboard / mouse) *
6. USB-C 3.2 Gen 1	15. Ethernet (RJ-45)
7. 2x USB 3.2 Gen 1	16. Optional ports on expansion cards *
8. 2x USB 3.2 Gen 2	17. Power connector
9. Line-out (3.5mm)	

- 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 Generation Intel® Core™ i3 / i5 / i7 Processor

Processor**[1]

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	12MB	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	20MB	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	24MB	Intel® UHD Graphics 770
Core i5-13600	14 (6 P-core + 8 E-core)	20	P-core 2.7GHz / E-core 2.0GHz	P-core 5.0GHz / E-core 3.7GHz	24MB	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	30MB	Intel® UHD Graphics 770

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.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- Windows® 10 IoT Enterprise LTSC 2021[1]
- Ubuntu Linux[2]
- No preload operating system

Notes:

[1] Windows® 10 IoT Enterprise LTSC 2021 is special bid only.

[2] Some features may not be supported on the system with Linux preload, including but not limited to Intel® RST RAID, Human Presence Detection, etc.

Graphics

Graphics**

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD graphics 730	Integrated	Shared	4096x2304@60Hz(DP), 4096x2160@60Hz[HDMI® / Flex IO(HDMI®) / Flex IO(DP)], 3840x2160@60Hz[Flex IO(USB-C®)], 2048x1536@50Hz[Flex IO(VGA)]	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS, 1x Flex IO (VGA / DP 1.2 / HDMI® 2.1 TMDS / USB-C®)	DirectX® 12
Intel® UHD graphics 770	Integrated	Shared	4096x2304@60Hz(DP), 4096x2160@60Hz[HDMI® / Flex IO(HDMI®) / Flex IO(DP)], 3840x2160@60Hz[Flex IO(USB-C®)], 2048x1536@50Hz[Flex IO(VGA)]	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS, 1x Flex IO (VGA / DP 1.2 / HDMI® 2.1 TMDS / USB-C®)	DirectX® 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via onboard ports (2x DP, 1x HDMI®, and 1x optional Flex IO)

Chipset

Chipset

Intel® Q670 chipset

Memory

Max Memory^[1]

Up to 128GB DDR4-3200

Memory Slots

Four DDR4 DIMM slots, dual-channel capable

Memory Type

DDR4-3200

Memory Protection

Non-ECC

Notes:

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

Storage

Max Storage Support^{[1][2]}

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

- 2.5" HDD up to 1TB each
- 3.5" HDD up to 2TB
- M.2 SSD up to 2TB

Storage Type^{***}

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

RAID

RAID 0/1 support for HDDs (RAID preset only available via special bid models)

Notes:

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

[2] 2TB SSD is special bid only.

Removable Storage

Optical^{**}

- DVD-ROM, SATA connector, slim (9.0mm)
- DVD burner (DVD±RW), SATA connector, 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® ALC897Q-CG codec

Speakers

Single speaker, 1W x1

Power Supply

Power Supply^{**}

Power	Type	Efficiency	Key Features
-------	------	------------	--------------

180W	Fixed	85%	100-240V, 50-60Hz
260W	Fixed	90%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz
380W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

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

Mouse**

- Lenovo® Calliope Mouse (USB connector), black
- Lenovo® Calliope Wireless Mouse (2.4GHz via USB receiver), black
- No mouse

Mechanical

Form Factor

SFF (8.2L)

Dimensions (WxDxH)^[1]

92.5 x 297.7 x 339.5 mm (3.6 x 11.7 x 13.4 inches)

Packaging Dimensions (WxDxH)

195 x 395 x 530 mm (7.68 x 15.55 x 20.87 inches)

Weight^[2]

Around 5.3 kg (11.7 lbs)

Packaging Weight

Around 7.6 kg (16.76 lbs)

Case Color

Black

Bays

- 1x 2.5" disk bay^[3]
- 1x 3.5" disk bay^[4]
- 1x slim ODD bay

Expansion Slots

- One PCIe® 4.0 x16, low-profile, length ≤ 155mm, height ≤ 70mm
- Two PCIe® 3.0 x1, low-profile, length ≤ 155mm, height ≤ 70mm
- Two M.2 slots (one for WLAN, one for SSD)

EOU

Toolless cover, disk, optical, extension card assembly / removal^[5]

Stand

- Vertical stand
- No stand

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 tray is optional, or comes with 2.5 HDD.

[4] 3.5" bay supports 2.5" / 3.5" HDD, 3.5" to 2.5 converter comes with 2nd 2.5" HDD.

[5] 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®**

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 card^[1]
- Intel® Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 Card^[2]
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1, Intel® vPro® technology support, M.2 Card^[3]
- 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], [2], [3] Bluetooth® 5.2 is hardware ready but may run at a lower version due to OS limitations.

Ports^[1]

Front Ports

- 1x USB-C® 3.2 Gen 1 (15W charging)
- 2x USB 3.2 Gen 1
- 2x USB 3.2 Gen 2
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Optional Front Ports

1x card reader

Rear Ports^[2]

- 4x USB 2.0
- 1x HDMI® 2.1 TMDS
- 2x DisplayPort™ 1.4a (HBR2, DSC)
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports***

- 1x USB-C® 3.2 Gen 1 with DisplayPort™ function and 5V@3A charging (Flex IO)
- 1x HDMI® 2.1 TMDS (Flex IO)
- 1x DP 1.2 (Flex IO)
- 1x VGA (Flex IO)
- 2x USB 3.2 Gen 1 (via 2-port USB expansion card, PCIe® x1)
- 1x parallel
- 1x serial
- 1x 2nd serial
- 4x serial (via 4-port serial expansion card, PCIe® x1)
- 2x PS/2
- None

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

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

- Administrator password
- Hard disk password
- Power-on password
- Boot sequence control
- Boot without keyboard and mouse
- Individual USB port disablement
- Self-healing BIOS (Level 2)
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator](#)^[1]

Notes:

[1] 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

- Intel® vPro® Enterprise^[1]
- 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
- DP to VGA 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)

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Silver Registered^[2]
- (Optional) EPEAT™ Gold Registered^[3]
- ErP Lot 3
- 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>.

[2], [3] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

Other Certifications

Other Certifications

- (Optional) TÜV Rheinland® Low Noise
- (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.

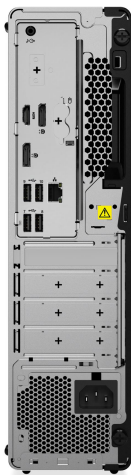
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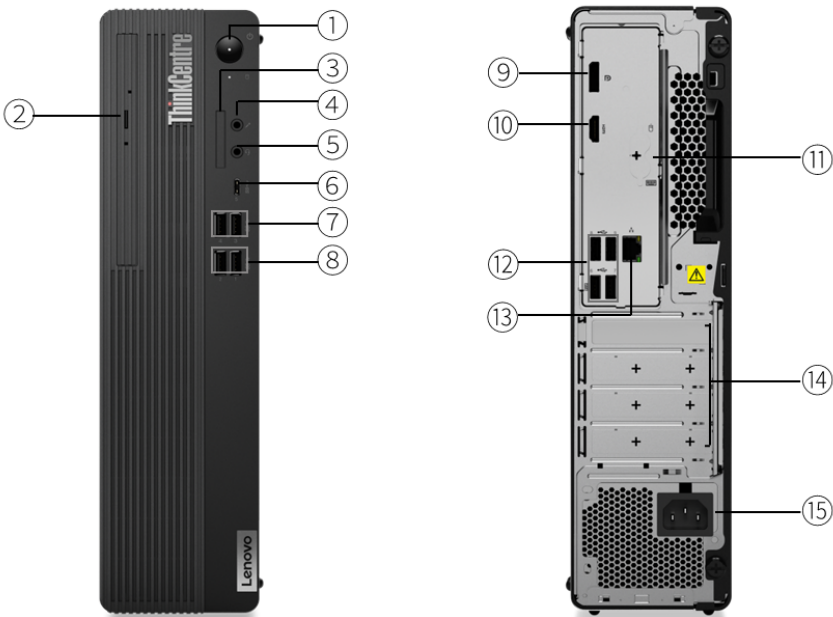


intel



intel

OVERVIEW



1. Power button	9. DisplayPort 1.4a
2. Optical drive *	10. HDMI 2.1 TMDS
3. Microphone jack (3.5mm)	11. 2x PS/2 ports (keyboard / mouse) *
4. Card reader *	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. Optional ports on expansion cards *
7. 2x USB-A (USB 5Gbps)	15. Power connector
8. 2x USB-A (USB 5Gbps)	

- 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

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	12MB	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	20MB	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	24MB	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	30MB	Intel® UHD Graphics 770
Core i3-14100	4 (4 P-core + 0 E-core)	8	P-core 3.5GHz	P-core 4.7GHz	12MB	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	20MB	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	20MB	-
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	24MB	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	24MB	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	33MB	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	33MB	-
Intel® 300	2 (2 P-core + 0 E-core)	4	P-core 3.9GHz	-	6MB	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	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
Intel® Arc™ A310	Discrete	4GB	7680x4320@60Hz(DP)	2x DisplayPort™ 2.0	DirectX® 12,

LP Graphics		GDDR6			OpenGL 4.6
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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 connector, 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, 1W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
180W	Fixed	85%	100-240V, 50-60Hz
260W	Fixed	90%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

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

Mouse**

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

Mechanical

Form Factor

SFF (8.2L)

Dimensions (WxDxH)^[1]

92.5 x 297.7 x 339.5 mm (3.6 x 11.7 x 13.4 inches)

Packaging Dimensions (WxDxH)

195 x 395 x 530 mm (7.68 x 15.55 x 20.87 inches)

Weight^[2]

Around 5.3 kg (11.7 lbs)

Packaging Weight

Around 7.6 kg (16.76 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, low-profile, length ≤ 155mm, height ≤ 70mm
- One PCIe® 3.0 x1, low-profile, length ≤ 155mm, height ≤ 70mm
- Two M.2 slots (one for WLAN, one for SSD)

EOU

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

Stand

- Vertical stand
- No stand

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®**

- 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
- 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

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 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.

[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

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

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

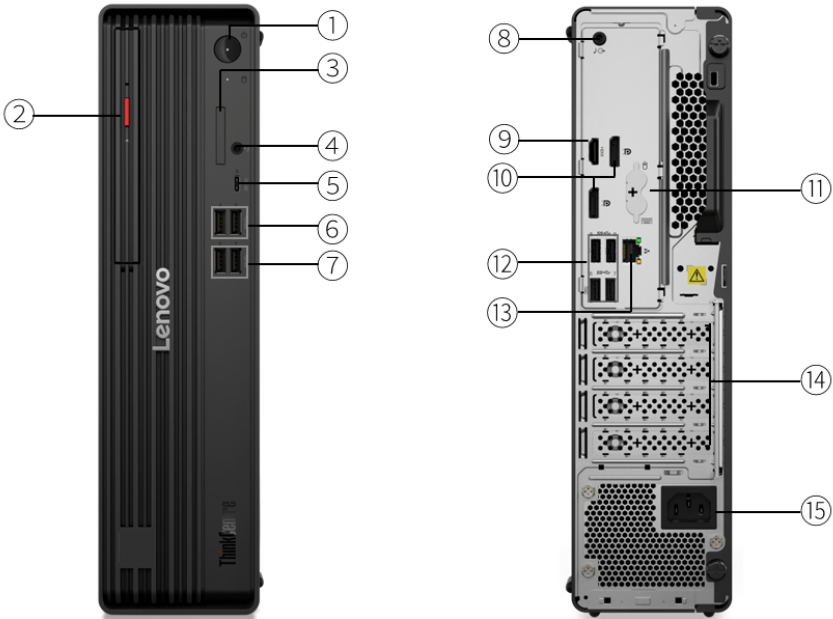
MIL-STD-810H military test passed (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock,

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.
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OVERVIEW



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

- 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

Intel® Core™ Ultra 5 / 7 Processor (Series 2)

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics	NPU
Core Ultra 5 225	10 (6 P-core + 4 E-core)	10	P-core 3.3GHz / E-core 2.7GHz	P-core 4.9GHz / E-core 4.4GHz	22MB L2 Cache / 20MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
Core Ultra 5 235	14 (6 P-core + 8 E-core)	14	P-core 3.4GHz / E-core 2.9GHz	P-core 5.0GHz / E-core 4.4GHz	26MB L2 Cache / 24MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
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	Intel® Graphics	Intel® AI Boost
Core Ultra 7 265F	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	-	Intel® AI Boost

AI (Artificial Intelligence)

AI PC Category

AI PC^[1]

NPU

Integrated Intel® AI Boost, up to 13 TOPS

Notes:

[1] AI PCs have a NPU capable of 10+ TOPs to run the Copilot assistant by pressing the optional Microsoft® Copilot key or using Win + C.

Operating System

Operating System**

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

Graphics

Graphics**^[1]

Graphics	Type	Memory	AI TOPS (Peak)	Max Resolution	Connector	Key Features
Intel® Graphics	Integrated	Shared	-	5120x2880@60Hz(DP), 4096x2160@60Hz(HDMI®)	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS	DirectX® 12
Intel® Arc™ A310 LP Graphics	Discrete	4GB GDDR6	60.2 TOPS	7680x4320@60Hz(DP)	2x DisplayPort™ 2.0	DirectX® 12, OpenGL 4.6
NVIDIA® GeForce RTX™ 3050	Discrete	6GB GDDR6	108 TOPS	7680x4320@60Hz(HDMI®), 7680x4320@120Hz(DP)	1x HDMI® 2.1 FRL, 1x DP 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 3 independent displays via onboard ports (2x DP and 1x HDMI®), more displays support via discrete graphics

Chipset

Chipset

Intel® Q870 chipset

Memory

Max Memory^[1]

Up to 128GB DDR5

Memory Slots

Four DDR5 UDIMM slots, dual-channel capable

Memory Type^{**}

- DDR5-4400^[2]
- DDR5-4800^[3]
- DDR5-5600

Memory Protection

Non-ECC

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 DDR5-4400 depending on the memory support capability of processor.
- [3] Installed memory is actually DDR5-5600 but may run as DDR5-4800 depending on the memory support capability of processor.

Storage

Max Storage Support^[1]

Up to four drives, 1x 3.5" HDD + 1x 2.5" HDD + 2x 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
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Performance	-	Opal 2.0

RAID

RAID 0/1 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.

Removable Storage

Optical^{**}

- DVD-ROM, SATA connector, slim (9.0mm)
- DVD burner (DVD±RW), SATA connector, 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, 1W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
200W	Fixed	90%	100-240V, 50-60Hz
260W	Fixed	90%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

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

Mouse

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

Mechanical

Form Factor

SFF (8.2L)

Dimensions (WxDxH)^[1]

92.5 x 299.7 x 339.5 mm (3.6 x 11.8 x 13.4 inches)

Packaging Dimensions (WxDxH)

195 x 395 x 530 mm (7.7 x 15.6 x 20.9 inches)

Weight^[2]

5.1 kg (11.2 lbs, maximum configuration)

Packaging Weight

6.7 kg (14.8 lbs, maximum configuration)

Case Color

Black

Bays

- 1x 2.5" disk bay (optional, or bay comes with disk)
- 1x 3.5" disk bay
- 1x slim ODD bay

Expansion Slots

- One PCIe® 4.0 x16
- Two PCIe® 3.0 x1
- Three M.2 slots (one for WLAN, two for SSD)

EOU

Toolless cover, memory, disk, optical, extension card assembly / removal^[3]

Stand

- Vertical stand
- No stand

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] 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®**

- Realtek® Wi-Fi® 6E RTL8852CE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, Intel® vPro® technology support, M.2 Card
- Realtek® Wi-Fi® 7 RTL8922AE, 802.11be 2x2 Wi-Fi® + Bluetooth® 5.4
- 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

Ports^[1]

Front Ports

- 1x USB-C® (USB 5Gbps / USB 3.2 Gen 1), with 15W charging
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x headphone / microphone combo jack (3.5mm)

Optional Front Ports

1x card reader

Rear Ports^[2]

- 4x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 1x HDMI® 2.1 TMDS
- 2x DisplayPort™ 1.4a (HBR2, DSC)
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports***

- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1), via 2-port USB expansion card, PCIe® x1
- 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.

[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

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

Notes:

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

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 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]

60% PIC + 30% OBP Cushion and 30% OBP bag FSC carton in packaging
85% PCC ABS in chassis
95% PCC ABS in KB/mouse
65% PCC ABS (EOS 2.4G wireless)

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
 - (Optional) TCO Certified 10.0
 - ErP Lot 3
 - GREENGUARD®
 - RoHS compliant
-

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

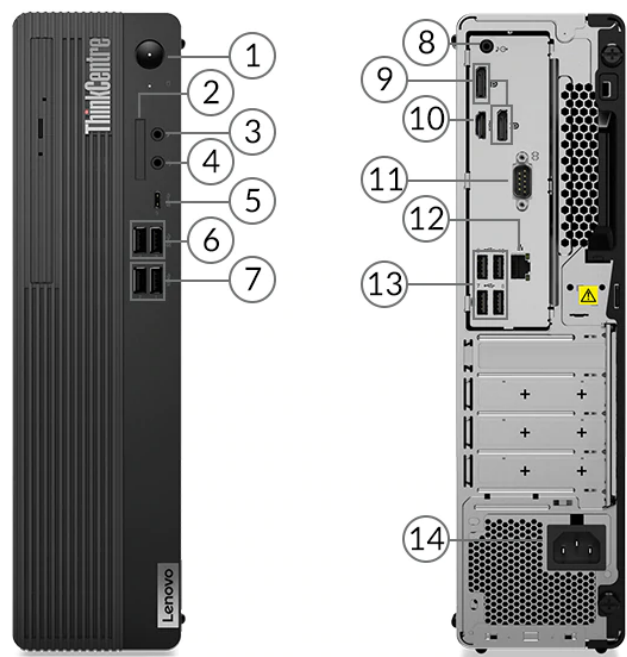
Mil-Spec Test

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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OVERVIEW



1. Power button	8. Line-out (3.5mm)
2. Card reader	9. 2x DisplayPort 1.4
3. Microphone jack (3.5mm)	10. HDMI 1.4b
4. Headphone / microphone combo jack (3.5mm)	11. Serial
5. USB-C 3.2 Gen 1	12. Ethernet (RJ-45)
6. 2x USB 3.2 Gen 1	13. 4x USB 2.0 (Note 1)
7. 2x USB 3.2 Gen 2	14. Power connector

- Notes:
- 4 rear USB ports are USB 3.2 Gen 1 for selected Brazil models only
 - More ports are available through the optional expansion cards (not shown on the sample product above)

PERFORMANCE

Processor

Processor Family

AMD Athlon™ or AMD Ryzen™ 3 / 5 / 7 / 9 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Athlon™ Gold PRO 3150G ^[1]	4	4	3.5GHz	3.9GHz	2MB L2 / 4MB L3	DDR4-2933	AMD Radeon™ Graphics
AMD Athlon™ Silver 3050GE ^[2]	2	4	3.4GHz	3.4GHz	1MB L2 / 4MB L3	DDR4-2666	AMD Radeon™ Graphics
AMD Ryzen™ 3 3200G ^[3]	4	4	3.6GHz	4.0GHz	2MB L2 / 4MB L3	DDR4-2933	AMD Radeon™ Vega 8 Graphics
AMD Ryzen™ 3 4300G ^[4]	4	8	3.8GHz	4.0GHz	2MB L2 / 4MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 3 5300G	4	8	4.0GHz	4.2GHz	2MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 3 PRO 4350G ^[5]	4	8	3.8GHz	4.0GHz	2MB L2 / 4MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 3 PRO 5350G	4	8	4.0GHz	4.2GHz	2MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 3 PRO 5355G	4	8	4.0GHz	4.2GHz	2MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 5 4600G ^[6]	6	12	3.7GHz	4.2GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 5 5600G	6	12	3.9GHz	4.4GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 5 PRO 3350G ^[7]	4	8	3.6GHz	4.0GHz	2MB L2 / 4MB L3	DDR4-2933	AMD Radeon™ Vega 11 Graphics
AMD Ryzen™ 5 PRO 3400G ^[8]	4	8	3.7GHz	4.2GHz	2MB L2 / 4MB L3	DDR4-2933	AMD Radeon™ Vega 11 Graphics
AMD Ryzen™ 5 PRO 3600 ^[9]	6	12	3.6GHz	4.2GHz	3MB L2 / 32MB L3	DDR4-3200	-
AMD Ryzen™ 5 PRO 4650G ^[10]	6	12	3.7GHz	4.2GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 5 PRO 5650G	6	12	3.9GHz	4.4GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 5 PRO 5655G	6	12	3.9GHz	4.4GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 7 4700G ^[11]	8	16	3.6GHz	4.4GHz	4MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 7 5700G	8	16	3.8GHz	4.6GHz	4MB L2 / 16MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 7 PRO 3700 ^[12]	8	16	3.6GHz	4.4GHz	4MB L2 / 32MB L3	DDR4-3200	-
AMD Ryzen™ 7 PRO 4750G ^[13]	8	16	3.6GHz	4.4GHz	4MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 7 PRO 5750G	8	16	3.8GHz	4.6GHz	4MB L2 / 16MB L3	DDR4 3200	AMD Radeon™ Graphics
AMD Ryzen™ 7 PRO 5755G	8	16	3.8GHz	4.6GHz	4MB L2 / 16MB L3	DDR4 3200	AMD Radeon™ Graphics

AMD Ryzen™ 9 PRO 3900 ^[14]	12	24	3.1GHz	4.3GHz	6MB L2 / 64MB L3	DDR4-3200	-
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Notes:

[1], [2], [3], [4], [5], [6], [7], [8], [9], [10], [11], [12], [13], [14] End of life and not available any more.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- Windows® 10 Pro 64
- Windows® 10 Home 64
- Windows® 10 Home 64 Single Language
- Windows® 10 IoT Enterprise
- Ubuntu Linux^[1]
- No preload operating system

Notes:

[1] Some features may not be supported on the system with Linux preload, including but not limited to Intel® RST RAID, Human Presence Detection, etc.

Graphics

Graphics**^{[1][2]}

Graphics	Type	Memory	Max Resolution	Connector	Key Features
AMD Radeon™ Graphics	Integrated	Shared	4096x2160@60Hz(DP), 4096x2160@24Hz(HDMI®)	2x DisplayPort™ 1.4, 1x HDMI® 1.4	DirectX® 12
AMD Radeon™ Vega 11 Graphics	Integrated	Shared	4096x2160@60Hz(DP), 4096x2160@24Hz(HDMI®)	2x DisplayPort™ 1.4, 1x HDMI® 1.4	DirectX® 12
AMD Radeon™ Vega 8 Graphics	Integrated	Shared	4096x2160@60Hz(DP), 4096x2160@24Hz(HDMI®)	2x DisplayPort™ 1.4, 1x HDMI® 1.4	DirectX® 12
AMD Radeon™ 520	Discrete	2GB GDDR5	4096x2160@60Hz(DP)	2x DP 1.2	DirectX® 12
AMD Radeon™ RX 550X	Discrete	4GB GDDR5	4096x2160@60Hz(HDMI®), 3840x2160@60Hz(DP)	1x HDMI® 2.0, 1x DP 1.4	DirectX® 12, OpenGL 4.5
AMD Radeon™ RX 6400	Discrete	4GB GDDR6	7680x4320@60Hz(HDMI®), 7680x4320@60Hz(DP)	1x HDMI® 2.1 FRL, 1x DP 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).

[2] AMD Radeon™ 520 is not available for MT 11R7 / 11R8 / 11R9 / 11RA.

Monitor Support

Monitor Support

Supports up to 3 independent displays via onboard ports (HDMI® and 2x DisplayPort™), more displays support via discrete graphics

Chipset

Chipset

AMD PRO 565 chipset

Memory^[1]

Max Memory^[2]

Up to 128GB DDR4-3200

Memory Slots

Four DDR4 DIMM slots, dual-channel capable

Memory Type**

- DDR4-1866^[3]
- DDR4-2133^[4]
- DDR4-2400^[5]
- DDR4-2666^[6]
- DDR4-3200

Notes:

- [1] Recommend to choose the models with more than 4GB for better performance and experience.
- [2] The max memory is based on the test results with current Lenovo® memory offerings.
- [3] Installed memory is actually DDR4-3200 but may run as DDR4-1866 depending on the memory support capability of processor.
- [4] Installed memory is actually DDR4-3200 but may run as DDR4-2133 depending on the memory support capability of processor.
- [5] Installed memory is actually DDR4-3200 but may run as DDR4-2400 depending on the memory support capability of processor.
- [6] Installed memory is actually DDR4-3200 but may run as DDR4-2666 depending on the memory support capability of processor.

Storage

Max Storage Support^[1]

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

- 2.5" HDD up to 1TB each
- 3.5" HDD up to 2TB
- M.2 SSD up to 2TB

Storage Type***

Disk Type	Interface	RPM	Security
2.5" SATA HDD	SATA 6Gb/s	7.2K	-
3.5" SATA HDD	SATA 6Gb/s	7.2K	-
M.2 2242 SSD	PCIe® NVMe®, PCIe® 3.0 x2	-	-
M.2 2242 SSD	PCIe® NVMe®, PCIe® 3.0 x4	-	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 3.0 x4	-	Opal
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Value ^[2]	-	Opal 2.0
M.2 2280 SSD ^[3]	PCIe® NVMe®, PCIe® x4	-	Opal 2.0

RAID

RAID 0/1 support for HDDs (RAID preset only available via special bid models)

Notes:

- [1] The max capacity of each disk type is based on the test results with current Lenovo® storage offerings.
- [2] M.2 PCIe® Gen 4 SSD in the M.2 PCIe® Gen 3 slot is downgraded to PCIe® Gen 3 performance.
- [3] PCIe® x4 SSD may be PCIe® 3.0 x4 or PCIe® 4.0 x4 as substitution. M.2 PCIe® Gen 4 SSD in the M.2 PCIe® Gen 3 slot is downgraded to PCIe® Gen 3 performance.

Removable Storage

Optical**

- DVD-ROM, SATA 1.5Gb/s, 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

- No speakers
- Single speaker, 1W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
180W	Fixed	85%	-
260W	Fixed	85%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

- Lenovo® Calliope Keyboard (USB connector), black
- Lenovo® Calliope Wireless Keyboard (2.4GHz via USB receiver), black
- Lenovo® Traditional Keyboard (USB connector), black
- No keyboard

Mouse**

- Lenovo® Calliope Mouse (USB connector), black
- Lenovo® Calliope Wireless Mouse (2.4GHz via USB receiver), black
- Lenovo® Fingerprint Mouse (USB connector), Windows® Hello support, black (EOL on Jan, 2023)
- No mouse

Mechanical

Form Factor

SFF (8.2L)

Dimensions (WxDxH)^[1]

92.5 x 297.7 x 339.5 mm (3.6 x 11.7 x 13.4 inches)

Weight^[2]

Around 5.3 kg (11.7 lbs)

Case Color

Black

Bays

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

Expansion Slots

- One PCIe® 3.0 x16, low-profile (length < 155mm, height < 68mm)
- One PCIe® 3.0 x1, low-profile (length < 155mm, height < 68mm)
- Two M.2 slots (one for WLAN, one for SSD)
- Two dummy slots, only brackets for optional port extension

EOU

EOU design for chassis open, M.2 SSD, HDD, ODD, memory, and PCIe® extension card^[3]

Stand

- Vertical stand
- No stand

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] 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^[1]

WLAN + Bluetooth^{**}

- Realtek® RTL8822CE, Wi-Fi® 5, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth® 5.0, M.2 card
- Intel® Wireless-AC 9260, Wi-Fi® 5, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth® 5.0, M.2 card
- MediaTek Wi-Fi® 6 MT7921, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 Card^[2]
- Realtek® Wi-Fi® 6 RTL8852AE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card^[3]
- Intel® Wi-Fi® 6 AX200, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 card^[4]
- No WLAN and Bluetooth®

Onboard Ethernet^{**}

- Gigabit Ethernet, Realtek® RTL8111EPV, 1x RJ-45, supports Wake-on-LAN
- Gigabit Ethernet, Realtek® RTL8111HN, 1x RJ-45, supports Wake-on-LAN

Optional Ethernet^{**[5]}

- Gigabit Ethernet, Bitland BN8E88, 1x RJ-45, PCIe® x1
- Gigabit Ethernet, Bitland RTL8111FP, 1x RJ-45, PCIe® x1
- No optional Ethernet

Notes:

[1] This system does not support Power Over Ethernet (PoE). If the system is used in a PoE environment, then a Network Isolator is required to prevent possible damage to the system, PoE equipment, or both.

[2], [3] Bluetooth® 5.3 requires Windows® 11.

[4] Bluetooth® 5.2 is hardware ready but may run at a lower version due to OS limitations.

[5] RTL8111FP is not available for AP countries.

Ports^[1]

Front Ports

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

Optional Front Ports

- 1x card reader
- None

Rear Ports^[2]

- 4x USB 2.0
- 1x HDMI® 1.4b
- 2x DisplayPort™ 1.4
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)
- 1x serial (9-pin)

Optional Rear Ports^{***}

- 2x USB-C® 3.2 Gen 2 (support data transfer, via 2-port USB-C® expansion card, PCIe® x4)
- 2x USB 3.2 Gen 1 (via 2-port USB expansion card, PCIe® x1)
- 2x USB 2.0 (via 2-port adapter)
- 1x parallel
- 1x serial

- 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

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

- Touch style fingerprint reader on mouse (EOL on Jan, 2023)
- No fingerprint reader

BIOS Security

- Administrator password
- Hard disk password
- Power-on password
- Boot sequence control
- Boot without keyboard and mouse
- Individual USB port disablement
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator](#)^[1]

Notes:

[1] 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]

- DASH 1.2
- Non-DASH

Notes:

[1] DASH 1.2 is an optional feature for the selected MTs, MT 11W1 / 11W2 / 11W3 / 11W4 do not support DASH.

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

CERTIFICATIONS

Green Certifications^[1]

Green Certifications^[2]

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Silver Registered^[3]
- (Optional) EPEAT™ Gold Registered^[4]
- ErP Lot 3
- RoHS compliant
- TCO Certified 8.0

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>.

[2] ENERGY STAR® 8.0 and EPEAT™ are only available for selected MTs.

[3], [4] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

Other Certifications

Other Certifications

- (Optional) TÜV Rheinland® Low Noise
- (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, Fungus, Solar Radiation)

- 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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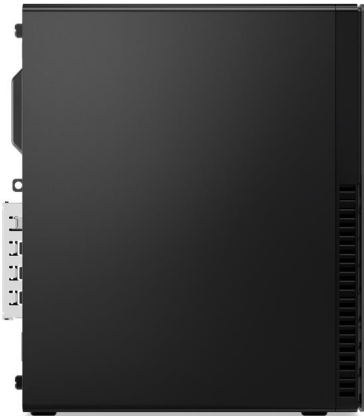
AMD



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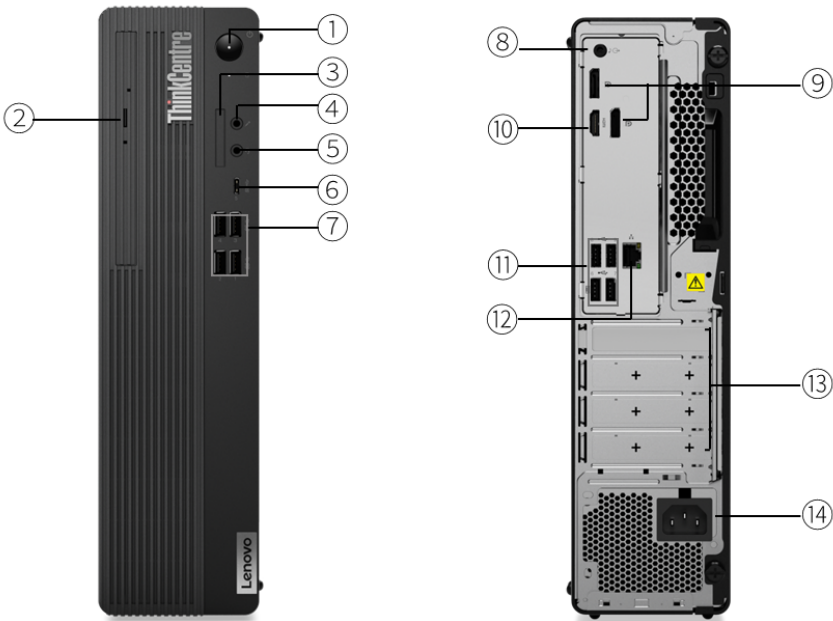


AMD



AMD

OVERVIEW



1. Power button	8. Line-out (3.5mm)
2. Optical drive *	9. 2x DisplayPort 1.4a (HBR2, DSC)
3. Card reader *	10. HDMI 2.1 TMDS
4. Microphone jack (3.5mm)	11. 4x USB-A (Hi-Speed USB)
5. Headphone / microphone combo jack (3.5mm)	12. Ethernet (RJ-45)
6. USB-C (USB 5Gbps), with 15W charging	13. Optional ports on expansion cards *
7. 4x USB-A (USB 5Gbps)	14. 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

AMD Ryzen™ 3 / 5 / 7 8000 or Ryzen™ 3 / 5 / 7 PRO 8000 Series Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics	NPU
AMD Ryzen™ 3 8300G	4	8	3.4GHz	4.9GHz	4MB L2 / 8MB L3	AMD Radeon™ 740M	-
AMD Ryzen™ 3 PRO 8300G	4	8	3.4GHz	4.9GHz	4MB L2 / 8MB L3	AMD Radeon™ 740M	-
AMD Ryzen™ 5 8500G	6	12	3.5GHz	5.0GHz	6MB L2 / 16MB L3	AMD Radeon™ 740M	-
AMD Ryzen™ 5 8600G	6	12	4.3GHz	5.0GHz	6MB L2 / 16MB L3	AMD Radeon™ 760M	AMD Ryzen™ AI
AMD Ryzen™ 5 PRO 8500G	6	12	3.5GHz	5.0GHz	6MB L2 / 16MB L3	AMD Radeon™ 740M	-
AMD Ryzen™ 5 PRO 8600G	6	12	4.3GHz	5.0GHz	6MB L2 / 16MB L3	AMD Radeon™ 760M	AMD Ryzen™ AI
AMD Ryzen™ 7 8700G	8	16	4.2GHz	5.1GHz	8MB L2 / 16MB L3	AMD Radeon™ 780M	AMD Ryzen™ AI
AMD Ryzen™ 7 PRO 8700G	8	16	4.2GHz	5.1GHz	8MB L2 / 16MB L3	AMD Radeon™ 780M	AMD Ryzen™ AI

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***

Graphics	Type	Memory	Max Resolution	Connector	Key Features
AMD Radeon™ 740M	Integrated	Shared	4096x2160@60Hz(HDMI®), 4096x2160@60Hz(DP)	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS	DirectX® 12
AMD Radeon™ 760M	Integrated	Shared	4096x2160@60Hz(HDMI®), 4096x2160@60Hz(DP)	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS	DirectX® 12
AMD Radeon™ 780M	Integrated	Shared	4096x2160@60Hz(HDMI®), 4096x2160@60Hz(DP)	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS	DirectX® 12
AMD Radeon™ RX 6400	Discrete	4GB GDDR6	7680x4320@60Hz(HDMI®), 7680x4320@60Hz(DP)	1x HDMI® 2.1 FRL, 1x DP 1.4a	DirectX® 12, OpenGL 4.6

Monitor Support

Monitor Support

Supports up to 3 independent displays via onboard ports (2x DisplayPort™ and 1x HDMI®), more displays support via discrete graphics

Chipset

Chipset

AMD PRO665 Chipset

Memory

Max Memory^[1]

Up to 64GB DDR5-5200

Memory Slots

Two DDR5 UDIMM slots, dual-channel capable

Memory Type^[2]

DDR5-5200

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 DDR5-5200 due to the memory support capability of processor.

Storage

Max Storage Support^[1]

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

- 3.5" HDD up to 2TB
- M.2 SSD up to 2TB each

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

RAID 0/1 support for M.2 SSDs (RAID preset only available via special bid models)

Notes:

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

Removable Storage

Optical

- DVD burner (DVD±RW), SATA connector, 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

- No speakers
- Single speaker, 1W x1

Power Supply

Power Supply^{**}

Power	Type	Efficiency	Key Features
180W	Fixed	85%	100-240V, 50-60Hz
260W	Fixed	90%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

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

Mouse

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

Mechanical

Form Factor

SFF (8.2L)

Dimensions (WxDxH)^[1]

92.5 x 297.7 x 339.5 mm (3.6 x 11.7 x 13.4 inches)

Packaging Dimensions (WxDxH)

195 x 395 x 530 mm (7.68 x 15.55 x 20.87 inches)

Weight^[2]

Around 4.6 kg (10.1 lbs)

Packaging Weight

Around 7.5 kg (16.5 lbs)

Case Color

Black

Bays

- 1x 3.5" disk bay
- 1x slim ODD bay

Expansion Slots

- One PCIe® 3.0 x16, low-profile, length ≤ 155mm, height ≤ 70mm
- One PCIe® 3.0 x1, low-profile, length ≤ 155mm, height ≤ 70mm
- Three M.2 slots (one for WLAN, two for SSD)

EOU

Toolless cover, memory, disk, optical, extension card assembly / removal^[3]

Stand

- Vertical stand
- No stand

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] 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®**

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card
- AMD Wi-Fi® 6E RZ616, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 Card

- No WLAN and Bluetooth®

Onboard Ethernet

Gigabit Ethernet, Realtek® RTL8111FP, 1x RJ-45, supports DASH and Wake-on-LAN

Optional Ethernet

- 2.5 Gigabit Ethernet, Realtek® RTL8125BGS, 1x RJ-45, PCIe® x1
- No optional Ethernet

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
- 2x DisplayPort™ 1.4a (HBR2, DSC)
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports***

- 1x USB-C® (USB 20Gbps / USB 3.2 Gen 2x2), support data transfer, via PCIe® x4 card
- 2x USB-C® (USB 10Gbps / USB 3.2 Gen 2), support data transfer, via PCIe® x4 card
- 2x USB-A (Hi-Speed USB / USB 2.0), via 2-port adapter
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1), via 2-port USB expansion card, PCIe® x1
- 1x parallel
- 1x serial

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

- (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

Other Security

Pluton security processor

BIOS Security

- Administrator password
- Hard disk password
- Power-on password
- Absolute persistence module
- Boot sequence control
- Boot without keyboard and mouse
- Cover tamper detected^[1]
- Certificate-based BIOS authentication
- Configuration change detection
- Individual USB port disablement
- Secure wipe
- Secure boot
- Self-healing BIOS^[2]
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator](#)^[3]

Notes:

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

[2] Self-healing BIOS is only available via Special Bids

[3] 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

- DASH 1.1 / 1.2
- Non-DASH

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
- DP to VGA dongle
- 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

85% PCC ABS bezel
95% PCC ABS wired USB keyboard/mouse top/bottom cover
95% PCC thermal shell with OBP
90% PIC recycled plastic EPE cushion
30% OBP used in bag
FSC certified paper in packaging

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Silver Registered^[2]
- (Optional) EPEAT™ Gold Registered^[3]
- 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>.

[2], [3] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

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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AMD



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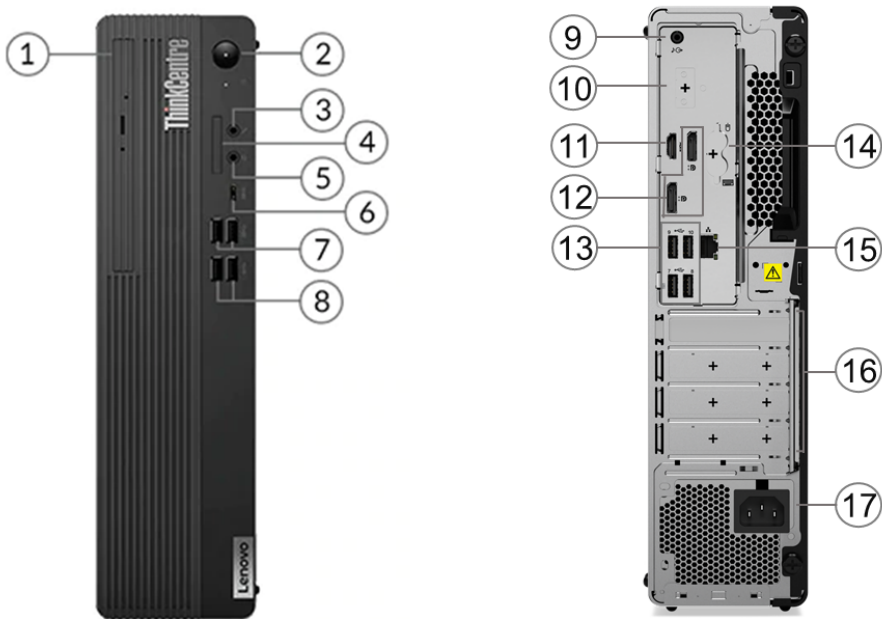


AMD



AMD

OVERVIEW



1. Optical drive *	10. Flex IO *
2. Power button	11. HDMI 2.1 TMDS
3. Microphone jack (3.5mm)	12. 2x DisplayPort 1.4a
4. Card reader *	13. 4x USB 3.2 Gen 1
5. Headphone / microphone combo jack (3.5mm)	14. 2x PS/2 ports (keyboard / mouse) *
6. USB-C 3.2 Gen 2	15. Ethernet (RJ-45)
7. 2x USB 3.2 Gen 1	16. Optional ports on expansion cards *
8. 2x USB 3.2 Gen 2	17. Power connector
9. Line-out (3.5mm)	

- 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 Generation Intel® Core™ i3 / i5 / i7 / i9 Processor

Processor**^[1]

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	12MB	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	20MB	Intel® UHD Graphics 730
Core i5-13400F	10 (6 P-core + 4 E-core)	16	P-core 2.5GHz / E-core 1.8GHz	P-core 4.6GHz / E-core 3.3GHz	20MB	-
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	24MB	Intel® UHD Graphics 770
Core i5-13600	14 (6 P-core + 8 E-core)	20	P-core 2.7GHz / E-core 2.0GHz	P-core 5.0GHz / E-core 3.7GHz	24MB	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	30MB	Intel® UHD Graphics 770
Core i7-13700F	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	30MB	-
Core i9-13900	24 (8 P-core + 16 E-core)	32	P-core 2.0GHz / E-core 1.5GHz	Max Turbo up to 5.6GHz / P-core 5.2GHz / E-core 4.2GHz	36MB	Intel® UHD Graphics 770
Core i9-13900F	24 (8 P-core + 16 E-core)	32	P-core 2.0GHz / E-core 1.5GHz	Max Turbo up to 5.6GHz / P-core 5.2GHz / E-core 4.2GHz	36MB	-

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.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- Windows® 10 IoT Enterprise LTSC 2021
- Ubuntu Linux^[1]
- No preload operating system

Notes:

[1] Some features may not be supported on the system with Linux preload, including but not limited to Intel® RST RAID, Human Presence Detection, etc.

Graphics

Graphics***^[1]

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD graphics 730	Integrated	Shared	4096x2304@60Hz(DP), 4096x2160@60Hz[HDMI® / Flex IO(HDMI®) / Flex IO(DP)], 3840x2160@60Hz[Flex IO(USB-C®)], 2048x1536@50Hz[Flex IO(VGA)]	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS, 1x Flex IO (VGA / DP 1.2 / HDMI® 2.1 TMDS / USB-C®)	DirectX® 12

Intel® UHD graphics 770	Integrated	Shared	4096x2304@60Hz(DP), 4096x2160@60Hz[HDMI® / Flex IO(HDMI®) / Flex IO(DP)], 3840x2160@60Hz[Flex IO(USB-C®)], 2048x1536@50Hz[Flex IO(VGA)]	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS, 1x Flex IO (VGA / DP 1.2 / HDMI® 2.1 TMDS / USB-C®)	DirectX® 12
AMD Radeon™ RX 6400	Discrete	4GB GDDR6	7680x4320@60Hz(HDMI®), 7680x4320@60Hz(DP)	1x HDMI® 2.1 FRL, 1x DP 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^[1]

Supports up to 4 independent displays via onboard ports (2x DP, 1x HDMI®, and 1x optional Flex IO), more displays support via discrete graphics

Notes:

[1] Onboard video ports are only available for the models with integrated graphics.

Chipset

Chipset

Intel® Q670 chipset

Memory

Max Memory^[1]

Up to 128GB DDR5

Memory Slots

Four DDR5 UDIMM slots, dual-channel capable

Memory Type

- DDR5-3600^[2]
- DDR5-4000^[3]
- DDR5-4400^[4]

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 DDR5-3600 depending on the memory support capability of Intel®.

[3] Installed memory is actually DDR5-5600 but may run as DDR5-4000 depending on the memory support capability of Intel®.

[4] Installed memory is actually DDR5-5600 but may run as DDR5-4400 depending on the memory support capability of Intel®.

Storage

Max Storage Support^[1]

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

- 2.5" HDD up to 1TB
- 3.5" HDD up to 2TB
- M.2 SSD up to 2TB each

Storage Type***

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

M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Value	-	Opal 2.0
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RAID

RAID 0/1 support (RAID preset only available via special bid models)

Notes:

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

Removable Storage

Optical**

- DVD-ROM, SATA connector, slim (9.0mm)
- DVD burner (DVD±RW), SATA connector, 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® ALC897Q-CG codec

Speakers

Single speaker, 1W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
260W	Fixed	90%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz
380W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

- Lenovo® Calliope Keyboard (USB connector), black
- Lenovo® Calliope Wireless Keyboard (2.4GHz via USB receiver), black
- Lenovo® Traditional Keyboard (USB connector), black
- No keyboard

Mouse**

- Lenovo® Calliope Mouse (USB connector), black
- Lenovo® Calliope Wireless Mouse (2.4GHz via USB receiver), black
- No mouse

Mechanical

Form Factor

SFF (8.2L)

Dimensions (WxDxH)^[1]

92.5 x 297.7 x 339.5 mm (3.6 x 11.7 x 13.4 inches)

Packaging Dimensions (WxDxH)

195 x 395 x 530 mm (7.68 x 15.55 x 20.87 inches)

Weight^[2]

Around 5.3 kg (11.7 lbs)

Packaging Weight

7.6 kg (16.76 lbs)

Case Color

Black

Bays^[3]

- 1x 2.5" disk bay
- 1x 3.5" disk bay
- 1x slim ODD bay

Expansion Slots

- One PCIe® 4.0 x16 (x4 signal), low-profile, length ≤ 155mm, height ≤ 70mm
- One PCIe® 4.0 x16, low-profile, length ≤ 155mm, height ≤ 70mm
- One PCIe® 3.0 x1, low-profile, length ≤ 155mm, height ≤ 70mm
- Three M.2 slots (one for WLAN, two for SSD)

EOUToolless cover, disk, optical, extension card assembly / removal^[4]**Stand**

- Vertical stand
- No stand

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 tray is optional, or comes with 2.5 HDD. 3.5" bay supports 2.5" / 3.5" HDD, 3.5" to 2.5 converter comes with 2nd 2.5" HDD.

[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®**

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 card^[1]
- Intel® Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 Card^[2]
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1, Intel® vPro® technology support, M.2 Card^[3]
- 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], [2], [3] Bluetooth® 5.2 is hardware ready but may run at a lower version due to OS limitations.

Ports^[1]

Front Ports

- 1x USB-C® 3.2 Gen 2 (support data transfer and 15W charging)
- 2x USB 3.2 Gen 1
- 2x USB 3.2 Gen 2
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Optional Front Ports

1x card reader

Rear Ports^[2]

- 4x USB 3.2 Gen 1
- 1x HDMI® 2.1 TMDS
- 2x DisplayPort™ 1.4a (HBR2, DSC)
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports***

- 1x USB-C® 3.2 Gen 1 with DisplayPort™ function and 5V@3A charging (Flex IO)
- 1x HDMI® 2.1 TMDS (Flex IO)
- 1x DP 1.2 (Flex IO)
- 1x VGA (Flex IO)
- 1x USB-C® 3.2 Gen 2x2 (support data transfer, via USB-C® expansion card, PCIe® x4)
- 2x USB-C® 3.2 Gen 2 (support data transfer, via 2-port USB-C® expansion card, PCIe® x4)
- 2x USB 3.2 Gen 1 (via 2-port USB expansion card, PCIe® x1)
- 2x USB 2.0 (via 2-port adapter)
- 1x parallel
- 1x serial
- 1x 2nd serial

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

- (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

- Administrator password
- Hard disk password
- Power-on password
- Boot sequence control
- Boot without keyboard and mouse
- Individual USB port disablement
- Self-healing BIOS (Level 2)
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator^{\[1\]}](#)

Notes:

[1] 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

- Intel® vPro® Enterprise^[1]
- Non-vPro®

Notes:

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

SERVICE

Warranty^[1]

Base Warranty**

- 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
- DP to VGA dongle
- 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)

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Silver Registered^[2]
- (Optional) EPEAT™ Gold Registered^[3]
- ErP Lot 3
- 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>.

[2], [3] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

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)

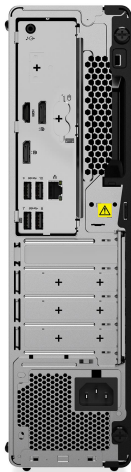
- Feature with ** means that only one option listed under the feature can be configured on selected models. Please refer to the model configuration for specific information.
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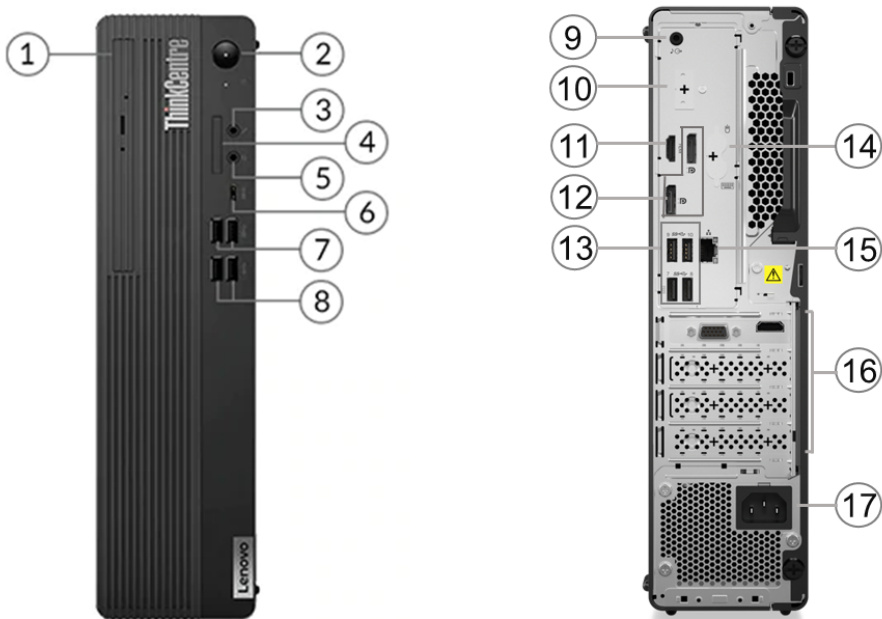


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OVERVIEW



1. Optical drive *	10. Flex IO *
2. Power button	11. HDMI 2.1 TMDS
3. Microphone jack (3.5mm)	12. 2x DisplayPort 1.4a
4. Card reader *	13. 4x USB-A (USB 5Gbps)
5. Headphone / microphone combo jack (3.5mm)	14. 2x PS/2 ports (keyboard / mouse) *
6. USB-C (USB 10Gbps), data transfer only	15. Ethernet (RJ-45)
7. 2x USB-A (USB 5Gbps)	16. Optional ports on expansion cards *
8. 2x USB-A (USB 10Gbps)	17. Power connector
9. Line-out (3.5mm)	

- 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 Generation Intel® Core™ i5 / i7 or 14th Generation Intel® Core™ i5 / i7 / i9 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	12MB	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	24MB	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	30MB	Intel® UHD Graphics 770
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	20MB	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	20MB	-
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	24MB	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	24MB	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	33MB	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	33MB	-
Core i9-14900	24 (8 P-core + 16 E-core)	32	P-core 2.0GHz / E-core 1.5GHz	Max Turbo up to 5.8GHz / P-core 5.4GHz / E-core 4.3GHz	36MB	Intel® UHD Graphics 770
Core i9-14900F	24 (8 P-core + 16 E-core)	32	P-core 2.0GHz / E-core 1.5GHz	Max Turbo up to 5.8GHz / P-core 5.4GHz / E-core 4.3GHz	36MB	-

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	Max Resolution	Connector	Key Features
Intel® UHD graphics 730	Integrated	Shared	4096x2304@60Hz(DP), 4096x2160@60Hz[HDMI® / Flex IO(HDMI®) / Flex IO(DP)], 3840x2160@60Hz[Flex IO(USB-C®)], 2048x1536@50Hz[Flex IO(VGA)]	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS, 1x Flex IO (VGA / DP 1.2 / HDMI® 2.1 TMDS / USB-C®)	DirectX® 12
Intel® UHD graphics 770	Integrated	Shared	4096x2304@60Hz(DP), 4096x2160@60Hz[HDMI® / Flex IO(HDMI®) / Flex IO(DP)], 3840x2160@60Hz[Flex IO(USB-C®)], 2048x1536@50Hz[Flex IO(VGA)]	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS, 1x Flex IO (VGA / DP 1.2 / HDMI® 2.1 TMDS / USB-C®)	DirectX® 12
Intel® Arc™	Discrete	4GB	5120x2880@60Hz(DP)	2x DisplayPort™ 1.4a	DirectX®

A310 LP Graphics		GDDR6			12, OpenGL 4.6
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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 4 independent displays via onboard ports (2x DP, 1x HDMI®, and 1x optional Flex IO), more displays support via discrete graphics

Chipset

Chipset

Intel® Q670 chipset

Memory

Max Memory^[1]

Up to 128GB DDR5

Memory Slots

Four DDR5 UDIMM slots, dual-channel capable

Memory Type^{**}

- DDR5-3600^[2]
- DDR5-4000^[3]
- DDR5-4400^[4]

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 DDR5-3600 depending on the memory support capability of Intel®.

[3] Installed memory is actually DDR5-5600 but may run as DDR5-4000 depending on the memory support capability of Intel®.

[4] Installed memory is actually DDR5-5600 but may run as DDR5-4400 depending on the memory support capability of Intel®.

Storage

Max Storage Support^[1]

Up to four drives, 1x 3.5" HDD + 1x 2.5" HDD + 2x 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

RAID 0/1 support (RAID preset only available via special bid models)

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.

Removable Storage

Optical^{**}

- DVD-ROM, SATA connector, slim (9.0mm)
- DVD burner (DVD±RW), SATA connector, 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® ALC897Q-CG codec

Speakers

Single speaker, 1W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
260W	Fixed	90%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

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

Mouse

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

Mechanical

Form Factor

SFF (8.2L)

Dimensions (WxDxH)^[1]

92.5 x 297.7 x 339.5 mm (3.6 x 11.7 x 13.4 inches)

Packaging Dimensions (WxDxH)

195 x 395 x 530 mm (7.7 x 15.6 x 20.9 inches)

Weight^[2]

Around 5.3 kg (11.7 lbs)

Packaging Weight

7.6 kg (16.76 lbs)

Case Color

Black

Bays

- 1x 2.5" disk bay (optional)^[3]
- 1x 3.5" disk bay
- 1x slim ODD bay

Expansion Slots

- One PCIe® 4.0 x16 (x4 signal), low-profile, length ≤ 155mm, height ≤ 70mm
- One PCIe® 4.0 x16, low-profile, length ≤ 155mm, height ≤ 70mm
- One PCIe® 3.0 x1, low-profile, length ≤ 155mm, height ≤ 70mm
- Three M.2 slots (one for WLAN, two for SSD)

EOU

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

Stand

- Vertical stand
- No stand

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

[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^{**}

- 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
- 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

Ports^[1]

Front Ports

- 1x USB-C® (USB 10Gbps / USB 3.2 Gen 2), with 15W charging
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Optional Front Ports

1x card reader

Rear Ports^[2]

- 4x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 1x HDMI® 2.1 TMDS
- 2x DisplayPort™ 1.4a (HBR2, DSC)
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports^{***}

- 1x USB-C® (USB 5Gbps / USB 3.2 Gen 1), with DisplayPort™ function and 5V@3A charging (Flex IO)
- 1x HDMI® 2.1 TMDS (Flex IO)
- 1x DP 1.2 (Flex IO)
- 1x VGA (Flex IO)
- 2x USB-A (Hi-Speed USB / USB 2.0), via 2-port adapter
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1), via 2-port USB expansion card, PCIe® x1
- 1x parallel
- 1x serial
- 1x 2nd serial

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

- (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

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

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

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Gold Registered^[2]

- 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>.

[2] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

Other Certifications

Other Certifications

(Optional) TÜV Rheinland® Ultra Low Noise

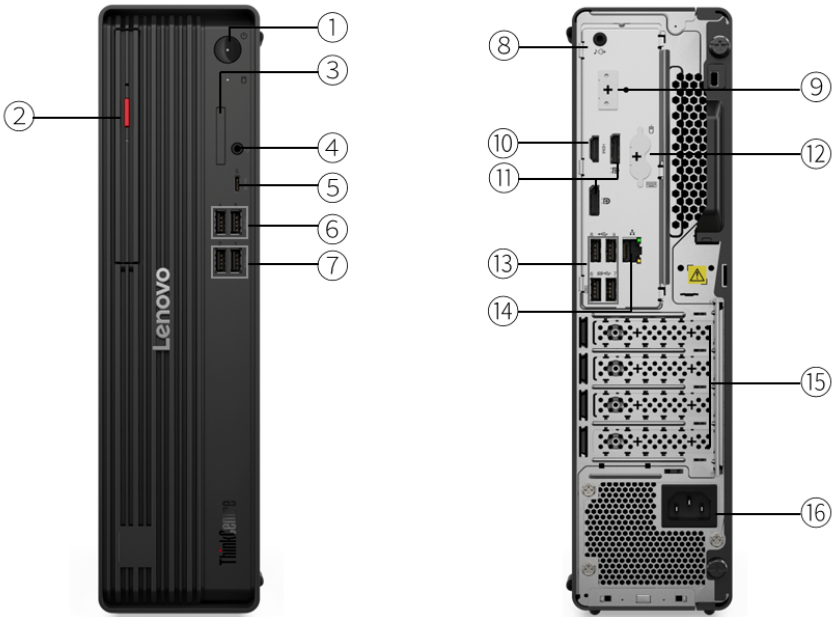
Mil-Spec Test

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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OVERVIEW



1. Power button	9. Flex IO *
2. Optical drive *	10. HDMI 2.1 TMDS
3. Card reader *	11. 2x DisplayPort 1.4a
4. Headphone / microphone combo jack (3.5mm)	12. 2x PS/2 ports (keyboard / mouse) *
5. USB-C (USB 20Gbps), data transfer only	13. 4x USB-A (2x USB 5Gbps + 2x Hi-Speed USB)
6. 2x USB-A (USB 5Gbps)	14. Ethernet (RJ-45)
7. 2x USB-A (USB 10Gbps)	15. Optional ports on expansion cards *
8. Audio-out (3.5mm)	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

Intel® Core™ Ultra 5 / 7 / 9 Processor (Series 2)

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics	NPU
Core Ultra 5 225	10 (6 P-core + 4 E-core)	10	P-core 3.3GHz / E-core 2.7GHz	P-core 4.9GHz / E-core 4.4GHz	22MB L2 Cache / 20MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
Core Ultra 5 235	14 (6 P-core + 8 E-core)	14	P-core 3.4GHz / E-core 2.9GHz	P-core 5.0GHz / E-core 4.4GHz	26MB L2 Cache / 24MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
Core Ultra 5 245	14 (6 P-core + 8 E-core)	14	P-core 3.5GHz / E-core 3.0GHz	P-core 5.1GHz / E-core 4.5GHz	26MB L2 Cache / 24MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
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	Intel® Graphics	Intel® AI Boost
Core Ultra 7 265F	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	-	Intel® AI Boost
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	Intel® Graphics	Intel® AI Boost

AI (Artificial Intelligence)

AI PC Category

AI PC^[1]

NPU***

- Integrated Intel® AI Boost, up to 13 TOPS
- (Optional) Discrete NPU card, up to 30 TOPS

Notes:

[1] AI PCs have a NPU capable of 10+ TOPs to run the Copilot assistant by pressing the optional Microsoft® Copilot key or using Win + C.

Operating System

Operating System**

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

Graphics

Graphics**^[1]

Graphics	Type	Memory	AI TOPS (Peak)	Max Resolution	Connector	Key Features
Intel® Graphics	Integrated	Shared	-	5120x2880@60Hz(DP), 4096x2160@60Hz(HDMI®), 3840x2160@60Hz[Flex IO(HDMI®) / Flex IO(DP)], 3840x2160@60Hz[Flex IO(USB-	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS, 1x Flex IO (VGA / DP 1.2 / HDMI®	DirectX® 12

				C®)], 1920x1080@60Hz[Flex IO(VGA)]	2.1 TMDS / USB-C®)	
Intel® Arc™ A310 LP Graphics	Discrete	4GB GDDR6	60.2 TOPS	7680x4320@60Hz(DP)	2x DisplayPort™ 2.0	DirectX® 12, OpenGL 4.6
NVIDIA® GeForce RTX™ 3050	Discrete	6GB GDDR6	108 TOPS	7680x4320@60Hz(HDMI®), 7680x4320@120Hz(DP)	1x HDMI® 2.1 FRL, 1x DP 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 4 independent displays via onboard ports (2x DP, 1x HDMI®, and 1x optional Flex IO), more displays support via discrete graphics

Chipset

Chipset

Intel® Q870 chipset

Memory

Max Memory^[1]

Up to 128GB DDR5

Memory Slots

Four DDR5 UDIMM slots, dual-channel capable

Memory Type**

- DDR5-4400^[2]
- DDR5-4800^[3]
- DDR5-5600

Memory Protection

Non-ECC

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 DDR5-4400 depending on the memory support capability of processor.

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

Storage

Max Storage Support^[1]

Up to five drives, 1x 3.5" HDD + 1x 2.5" HDD + 3x 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
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Performance	-	Opal 2.0
M.2 2280 SSD	PCIe® NVMe®, PCIe® 5.0 x4 Performance	-	Opal 2.0

RAID

RAID 0/1/5 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.

Removable Storage

Optical**

- DVD-ROM, SATA connector, slim (9.0mm)
- DVD burner (DVD±RW), SATA connector, 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, 1W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
260W	Fixed	90%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

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

Mouse

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

Mechanical

Form Factor

SFF (8.2L)

Dimensions (WxDxH)^[1]

92.5 x 299.7 x 339.5 mm (3.6 x 11.8 x 13.4 inches)

Packaging Dimensions (WxDxH)

195 x 395 x 530 mm (7.7 x 15.6 x 20.9 inches)

Weight^[2]

5.3 kg (11.7 lbs, maximum configuration)

Packaging Weight

7.6 kg (16.8 lbs, maximum configuration)

Case Color

Black

Bays

- 1x 2.5" disk bay (optional, or bay comes with disk)

- 1x 3.5" disk bay
- 1x slim ODD bay

Expansion Slots

- One PCIe® 5.0 x16
- One PCIe® 4.0 x16 (x4 signal)
- Two PCIe® 3.0 x1
- Four M.2 slots (one for WLAN, three for SSD / discrete NPU)

EOU

Toolless cover, memory, disk, optical, extension card assembly / removal^[3]

Stand

- Vertical stand
- No stand

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] 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®**

- Realtek® Wi-Fi® 6E RTL8852CE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, Intel® vPro® technology support, M.2 Card
- Intel® Wi-Fi® 7 BE200, 802.11be 2x2 Wi-Fi® + Bluetooth® 5.4, Intel® vPro® technology support, 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

Ports^[1]

Front Ports

- 1x USB-C® (USB 20Gbps / USB 3.2 Gen 2x2), with 15W charging
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x headphone / microphone combo jack (3.5mm)

Optional Front Ports

1x card reader

Rear Ports^[2]

- 2x USB-A (Hi-Speed USB / USB 2.0)
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 1x HDMI® 2.1 TMDS
- 2x DisplayPort™ 1.4a (HBR2, DSC)
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports***

- 1x USB-C® (USB 5Gbps / USB 3.2 Gen 1), with DisplayPort™ function and 5V@3A charging (Flex IO)

- 1x HDMI® 2.1 TMDS (Flex IO)
- 1x DP 1.2 (Flex IO)
- 1x VGA (Flex IO)
- 2x USB-A (Hi-Speed USB / USB 2.0), via 2-port adapter
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1), via 2-port USB expansion card, PCIe® x1
- 1x parallel
- 1x serial
- 1x 2nd serial
- 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.

[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

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

Notes:

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

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 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 VGA dongle
- Smart Cable (USB-A to USB-C®)

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]

60% PIC + 30% OBP Cushion and 30% OBP bag FSC carton in packaging
85% PCC ABS in chassis
95% PCC ABS in KB/mouse
65% PCC ABS (EOS 2.4G wireless)

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
- (Optional) TCO Certified 10.0
- ErP Lot 3
- GREENGUARD®
- RoHS compliant

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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intel



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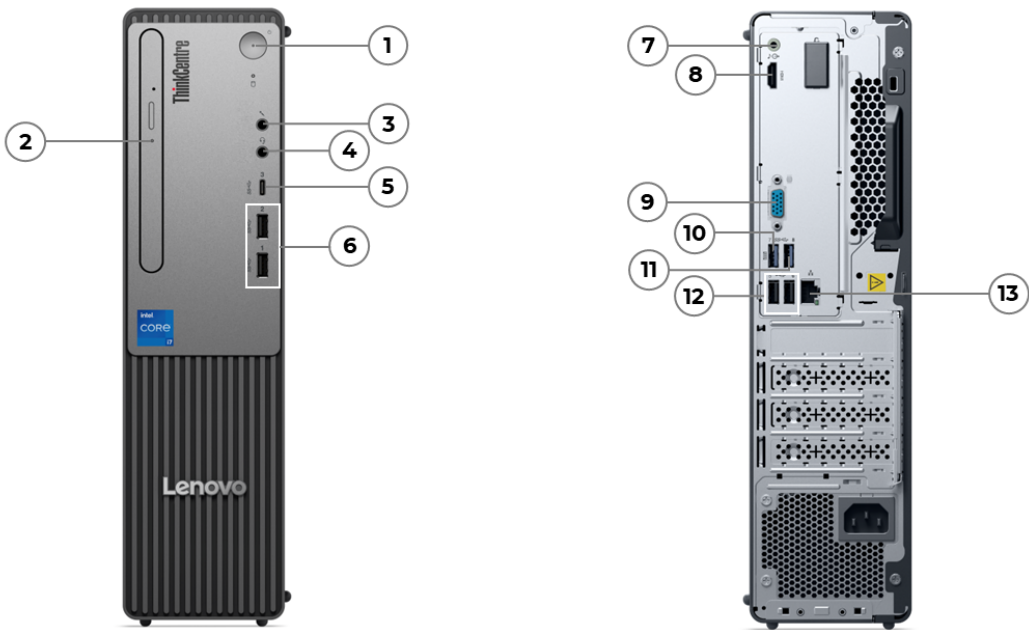


intel



intel

OVERVIEW



1. Power button	8. HDMI 2.1 TMDs
2. Optical drive *	9. VGA
3. Microphone jack (3.5mm)	10. 1x USB-A (USB 5Gbps), with Smart Power On
4. Headphone / microphone combo jack (3.5mm)	11. 1x USB-A (USB 5Gbps)
5. USB-C (USB 5Gbps), with 15W charging	12. 2x USB-A (Hi-Speed USB)
6. 2x USB-A (USB 5Gbps)	13. Ethernet (RJ-45)
7. Audio-out (3.5mm)	

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

13th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-13420H	8 (4 P-core + 4 E-core)	12	P-core 2.1GHz / E-core 1.5GHz	P-core 4.6GHz / E-core 3.4GHz	12MB	DDR5-5200	Intel® UHD Graphics
Core i7-13620H	10 (6 P-core + 4 E-core)	16	P-core 2.4GHz / E-core 1.8GHz	P-core 4.9GHz / E-core 3.6GHz	24MB	DDR5-5200	Intel® UHD Graphics

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Ubuntu Linux
- No preload operating system

Graphics

Graphics***[1]

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD Graphics	Integrated	Shared	3840×2160@60Hz(HDMI®), 1920x1200@60Hz(VGA)	1x HDMI® 2.1 TMDs, 1x VGA	DirectX® 12, OpenGL 4.6, OpenCL 3.0
Intel® Arc™ A310 LP Graphics	Discrete	4GB GDDR6	3840x2160@60Hz(HDMI®), 1600x1200@60Hz(VGA)	1x HDMI® 2.1 TMDs, 1x VGA	DirectX® 12, OpenGL 4.6, OpenCL 3.0

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 VGA + 1x HDMI®), more displays support via discrete graphics

Chipset

Chipset

Intel® SoC (System on Chip) platform

Memory

Max Memory[1]

Up to 64GB DDR5-5200

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type

DDR5-5200

Notes:

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

Storage

Max Storage Support[1]

Up to two drives, 2x M.2 SSD

- M.2 SSD up to 1TB each

Storage Type**

Disk Type	Interface	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe® 3.0 x4	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	Opal

Notes:

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

Removable Storage

Optical**

- DVD-ROM, SATA connector, slim (9.0mm)
- DVD burner (DVD±RW), SATA connector, slim (9.0mm)
- None

Card Reader

No card reader

Multi-Media

Audio Chip

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

Speakers

- No speakers
- Single speaker, 1W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
180W	Fixed	85%	Autosensing
260W	Fixed	90%	Autosensing

DESIGN

Input Device

Keyboard**

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

Mouse

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

Mechanical

Form Factor

SFF (8.2L)

Dimensions (WxDxH)^[1]

Models	Dimensions
Models (Max Dimension)	92.5 x 291.7 x 339.5 mm (3.6 x 11.5 x 13.4 inches)

Packaging Dimensions (WxDxH)

195 x 395 x 530 mm (7.7 x 15.6 x 20.9 inches)

Weight^[2]

Around 4.63 kg (10.2 lbs)

Packaging Weight

Around 6.83 kg (15.1 lbs)

Case Color

Black (chassis), grey (bezel)

Bays

- For installing HDD or ODD, 3.5" HDD screw and grommet kit or slim ODD bracket kit is needed.
- 1x 3.5" disk bay
- 1x slim ODD bay

Expansion Slots

- One PCIe® 4.0 x16, low-profile, length ≤ 155mm, height ≤ 70mm
- One PCIe® 3.0 x1, low-profile, length ≤ 155mm, height ≤ 70mm
- Three M.2 slots (one for WLAN, two for SSD)

Stand

- Vertical stand
- No stand

Others

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.

CONNECTIVITY

Network

WLAN + Bluetooth®**

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.2, M.2 card
- Intel® Wi-Fi® 6 AX203, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.2, M.2 Card
- No WLAN and Bluetooth®

Onboard Ethernet

Gigabit Ethernet, Realtek® RTL8111K, 1x RJ-45

Ports^[1]

Front Ports

- 1x USB-C® (USB 5Gbps / USB 3.2 Gen 1), with 15W charging
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Rear Ports^[2]

- 2x USB-A (Hi-Speed USB / USB 2.0)
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1), one supports Smart Power On
- 1x HDMI® 2.1 TMDS
- 1x VGA
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports***

- 1x parallel
- 1x serial
- 1x 2nd serial
- None

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

Firmware TPM 2.0 integrated in SoC

Physical Locks

- (Optional) Coded Lock
- (Optional) Smart Cable Clip
- Kensington® Security Slot™
- Padlock Loop

Chassis Intrusion Switch

- Chassis intrusion switch
- No chassis intrusion switch

BIOS Security

- Administrator password
- Hard disk password
- Power-on password
- Absolute persistence module
- Boot sequence control
- Boot without keyboard and mouse
- Cover tamper detected
- Configuration change detection
- Individual USB port disablement
- Intel® BIOS guard
- Secure wipe
- Secure boot
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator](#)^[1]
- Never crash Self-healing

Notes:

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

SERVICE

Warranty^[1]

Base Warranty**

- 1-year courier or carry-in service
- 1-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***

- HDMI® to HDMI® cable (1.5m)
- HDMI® to VGA dongle
- Slim ODD bracket kit (optional, or comes with optical drive)
- 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)

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Silver Registered
- (Optional) EPEAT™ Gold Registered

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

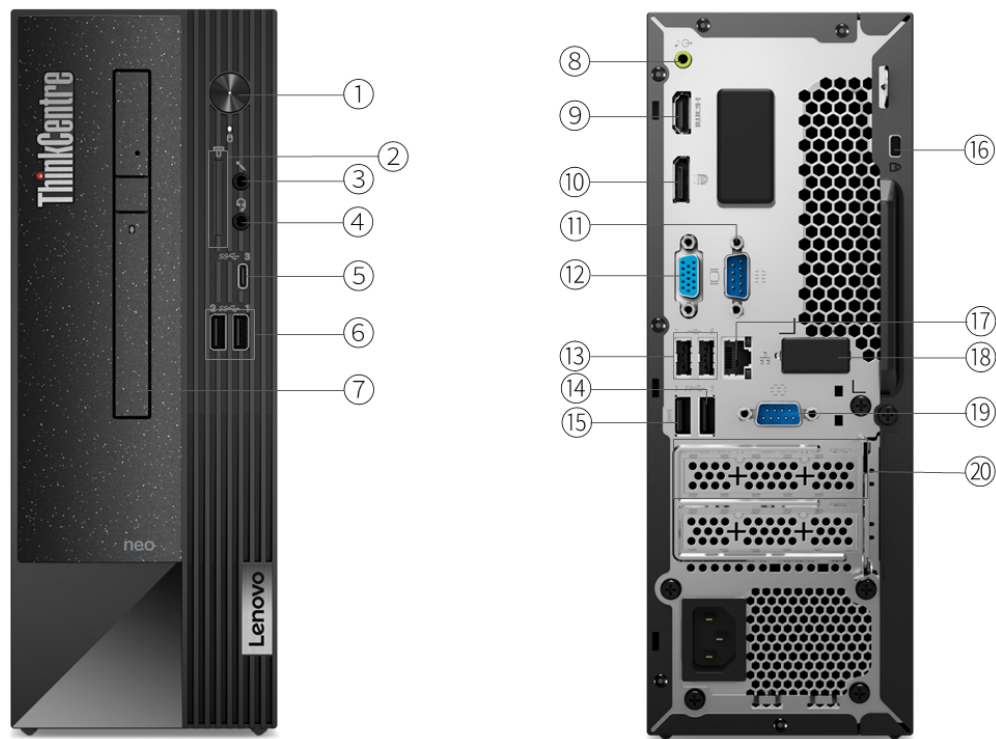
Other Certifications

- (Optional) TÜV Rheinland® Low Noise
- (Optional) TÜV Rheinland® Ultra Low Noise

- 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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OVERVIEW



1. Power button	11. Serial *
2. Card reader *	12. VGA
3. Microphone jack (3.5mm)	13. 2x USB 2.0
4. Headphone / microphone combo jack (3.5mm)	14. 1x USB 3.2 Gen 1
5. USB-C 3.2 Gen 1 (data transfer, 15W charging)	15. 1x USB 3.2 Gen 1 (Smart Power On)
6. 2x USB 3.2 Gen 1	16. Kensington Security Slot
7. Optical drive *	17. Ethernet (RJ-45)
8. Audio line-out (3.5mm)	18. Smart cable clip slots *
9. HDMI 2.1 TMDS	19. Serial *
10. DisplayPort 1.4	20. Optional ports *

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Intel® Celeron®, Intel® Pentium®, or 12th / 13th Generation Intel® Core™ i3 / i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics
Celeron® G6900	2	2	3.4GHz	-	4MB	Intel® UHD Graphics 710
Pentium® Gold G7400	2	4	3.7GHz	-	6MB	Intel® UHD Graphics 710
Core i3-12100	4 (4 P-core + 0 E-core)	8	P-core 3.3GHz	P-core 4.3GHz ^[1]	12MB	Intel® UHD Graphics 730
Core i3-12300	4 (4 P-core + 0 E-core)	8	P-core 3.5GHz	P-core 4.4GHz ^[2]	12MB	Intel® UHD Graphics 730
Core i5-12400	6 (6 P-core + 0 E-core)	12	P-core 2.5GHz	P-core 4.4GHz ^[3]	18MB	Intel® UHD Graphics 730
Core i5-12500	6 (6 P-core + 0 E-core)	12	P-core 3.0GHz	P-core 4.6GHz ^[4]	18MB	Intel® UHD Graphics 770
Core i5-12600	6 (6 P-core + 0 E-core)	12	P-core 3.3GHz	P-core 4.8GHz ^[5]	18MB	Intel® UHD Graphics 770
Core i7-12700	12 (8 P-core + 4 E-core)	20	P-core 2.1GHz / E-core 1.6GHz	Max Turbo up to 4.9GHz / P-core 4.8GHz / E-core 3.6GHz ^[6]	25MB	Intel® UHD Graphics 770
Core i3-13100	4 (4 P-core + 0 E-core)	8	P-core 3.4GHz	P-core 4.5GHz ^[7]	12MB	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 ^[8]	20MB	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 ^[9]	24MB	Intel® UHD Graphics 770
Core i5-13600	14 (6 P-core + 8 E-core)	20	P-core 2.7GHz / E-core 2.0GHz	P-core 5.0GHz / E-core 3.7GHz ^[10]	24MB	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 ^[11]	30MB	Intel® UHD Graphics 770

Notes:

[1], [2], [3], [4], [5], [6], [7], [8], [9], [10], [11] 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.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- Ubuntu Linux^[1]
- No preload operating system

Notes:

[1] Some features may not be supported on the system with Linux preload, including but not limited to Intel® RST RAID, Human Presence Detection, etc.

Graphics

Graphics

**[]

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD graphics 710	Integrated	Shared	3840×2160@60Hz(HDMI®), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP)	1x HDMI® 2.1 TMDS, 1x VGA, 1x DP 1.4 HBR2	DirectX® 12
Intel® UHD graphics 730	Integrated	Shared	3840×2160@60Hz(HDMI®), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP)	1x HDMI® 2.1 TMDS, 1x VGA, 1x DP 1.4 HBR2	DirectX® 12
Intel® UHD graphics 770	Integrated	Shared	3840×2160@60Hz(HDMI®), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP)	1x HDMI® 2.1 TMDS, 1x VGA, 1x DP 1.4 HBR2	DirectX® 12

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 3 independent displays via (HDMI®, DP and VGA)

Chipset

Chipset

Intel® B660 chipset

Memory

Max Memory^[1]

Up to 64GB DDR4-3200

Memory Slots

Two DDR4 UDIMM slots, dual-channel capable

Memory Type

DDR4-3200

Notes:

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

Storage

Max Storage Support^[1]

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

- 3.5" HDD up to 2TB
- M.2 SSD up to 1TB

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
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	-	Opal 2.0

Notes:

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

Removable Storage

Optical^{**}

- DVD-ROM, SATA 1.5Gb/s, slim (9.0mm)
- DVD burner (DVD±RW), SATA connector, slim (9.0mm)

- None

Card Reader

- 7-in-1 card reader (SD, SDHC, SDXC, MMC, MS, MS-Pro, XD)
- No card reader

Multi-Media

Audio Chip

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

Speakers

- No speakers
- Single speaker, 1W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
180W	Fixed	85%	Autosensing
260W	Fixed	90%	Autosensing, 80 PLUS Gold qualified

DESIGN

Input Device

Keyboard**

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

Mouse

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

Mechanical

Form Factor

SFF (7.4L)

Dimensions (WxDxH)^[1]

100 x 308 x 274.8 mm (3.9 x 12.1 x 10.8 inches)

Packaging Dimensions (WxDxH)

195 x 390 x 500 mm (7.7 x 15.4 x 19.7 inches)

Weight^[2]

Around 4.5 kg (9.9 lbs)

Packaging Weight

Around 6.35 kg (14 lbs)

Case Color

Raven black

Bays

- 1x 2.5"/3.5" disk bay
- 1x slim ODD bay

Expansion Slots

- One PCIe® 4.0 x16, low-profile (length < 167.65mm, height < 68.90mm)
- One PCIe® 3.0 x1, low-profile (length < 167.65mm, height < 68.90mm)
- Two M.2 slots (one for WLAN, one for SSD)

Stand

- Vertical stand
- No stand

Others

(Optional) Smart Cable (USB-A to USB-C®)

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®**

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 card
- Intel® Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1 (Bluetooth® 5.2 hardware ready), M.2 Card^[1]
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1 (Bluetooth® 5.3 hardware ready), M.2 Card^[2]
- No WLAN and Bluetooth®

Onboard Ethernet

Gigabit Ethernet, Realtek® RTL8111HN, 1x RJ-45, supports Wake-on-LAN

Notes:

[1] Bluetooth® 5.2 is hardware ready but may run at a lower version due to OS limitations.

[2] Bluetooth® 5.3 is hardware ready but may run at a lower version due to OS limitations.

Ports^[1]

Front Ports

- 1x USB-C® 3.2 Gen 1 (support data transfer and 5V@3A charging)
- 2x USB 3.2 Gen 1
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Optional Front Ports

1x card reader

Rear Ports

- 2x USB 2.0
- 2x USB 3.2 Gen 1 (one supports Smart Power On)
- 1x HDMI® 2.1 TMDS
- 1x DisplayPort™ 1.4
- 1x VGA
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports***

- 2x USB 2.0
- 1x parallel
- 1x serial
- 1x 2nd serial
- None

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.

SECURITY & PRIVACY

Security

Security Chip

Discrete TPM 2.0, TCG certified

Physical Locks

- (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

- Hard disk password
- Power-on password
- Supervisor password
- Cover presence switch
- Individual USB port disablement
- Intel® BIOS guard
- Secure wipe
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator](#)^[1]
- Never crash Self-healing

Notes:

[1] 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

Non-vPro®

SERVICE

Warranty^[1]

Base Warranty**

- 1-year courier or carry-in service
- 1-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 Dual DP dongle
- DP to HDMI® dongle
- DP to VGA dongle

- HDMI® to HDMI® dongle
- HDMI® to VGA dongle
- 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)

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Silver Registered^[2]
- (Optional) EPEAT™ Gold Registered^[3]
- ErP Lot 3
- RoHS compliant
- TCO Certified

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>.

[2], [3] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

Other Certifications

Other Certifications

- (Optional) TÜV Rheinland® Low Noise
- (Optional) TÜV Rheinland® Ultra Low Noise

- 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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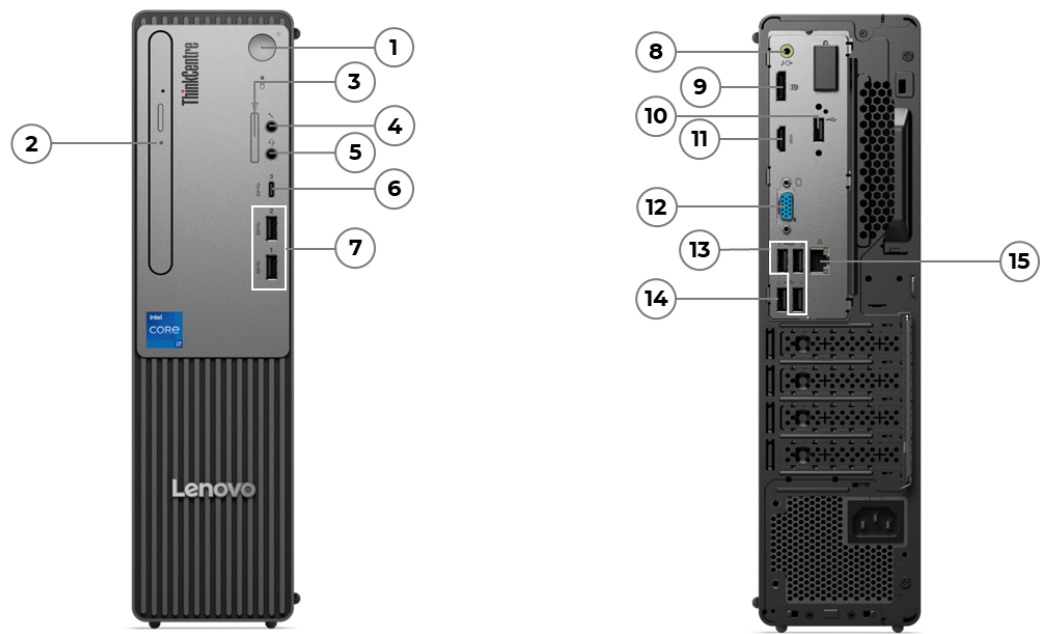


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OVERVIEW



1. Power button	9. DisplayPort 1.4
2. Optical drive *	10. USB-A (Hi-Speed USB) *
3. Card reader *	11. HDMI 2.1 TMDS
4. Microphone jack (3.5mm)	12. VGA
5. Headphone / microphone combo jack (3.5mm)	13. 3x USB-A (Hi-Speed USB)
6. USB-C (USB 5Gbps), with 15W charging	14. USB-A (Hi-Speed USB), with Smart Power On
7. 2x USB-A (USB 5Gbps)	15. Ethernet (RJ-45)
8. Audio-out (3.5mm)	

Notes:

- Items with * are only available on selected models

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	12MB	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	20MB	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	24MB	Intel® UHD Graphics 770
Core i5-13600	14 (6 P-core + 8 E-core)	20	P-core 2.7GHz / E-core 2.0GHz	P-core 5.0GHz / E-core 3.7GHz	24MB	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	30MB	Intel® UHD Graphics 770
Core i3-14100	4 (4 P-core + 0 E-core)	8	P-core 3.5GHz	P-core 4.7GHz	12MB	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	20MB	Intel® UHD Graphics 730
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	24MB	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	24MB	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	33MB	Intel® UHD Graphics 770
Intel® 300	2 (2 P-core + 0 E-core)	4	P-core 3.9GHz	-	6MB	Intel® UHD Graphics 710

Operating System

Operating System**

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

Graphics

Graphics**[1]

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD graphics 710	Integrated	Shared	3840×2160@60Hz(HDMI®), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP)	1x HDMI® 2.1 TMDS, 1x VGA, 1x DP 1.4	DirectX® 12
Intel® UHD graphics 730	Integrated	Shared	3840×2160@60Hz(HDMI®), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP)	1x HDMI® 2.1 TMDS, 1x VGA, 1x DP 1.4	DirectX® 12
Intel® UHD graphics 770	Integrated	Shared	3840×2160@60Hz(HDMI®), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP)	1x HDMI® 2.1 TMDS, 1x VGA, 1x DP 1.4	DirectX® 12
Intel® Arc™ A310 LP	Discrete	4GB GDDR6	3840x2160@60Hz(HDMI®), 1600x1200@60Hz(VGA)	1x HDMI® 2.1 TMDS, 1x VGA	DirectX® 12, OpenGL 4.6

Graphics					
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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 3 independent displays via (HDMI®, DP and VGA), more displays support via discrete graphics

Chipset

Chipset

Intel® B760 chipset

Memory

Max Memory^[1]

Up to 64GB DDR5-5600

Memory Slots

Two DDR5 UDIMM slots, dual-channel capable

Memory Type^[2]

- DDR5-4800
- DDR5-5200
- 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 or DDR5-5200 depending on the memory support capability of processor.

Storage

Max Storage Support^[1]

- Up to two drives, 1x 3.5" HDD + 1x M.2 SSD
 - 3.5" HDD up to 2TB
 - M.2 SSD up to 1TB
- For installing HDD storage, 3.5" HDD screw and grommet kit is needed.

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	-	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	-	Opal 2.0

Notes:

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

Removable Storage

Optical**

- DVD-ROM, SATA connector, slim (9.0mm)
- DVD burner (DVD±RW), SATA connector, slim (9.0mm)
- For installing ODD, slim ODD bracket kit is needed.
- None

Card Reader

- 3-in-1 card reader
- No card reader

Multi-Media

Audio Chip

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

Speakers

- No speakers
- Single speaker, 1W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
180W	Fixed	85%	100-240V, 50-60Hz
260W	Fixed	90%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

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

Mouse

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

Mechanical

Form Factor

SFF (8.2L)

Dimensions (WxDxH)^[1]

Models	Dimensions
Models (Max Dimension)	92.5 x 291.4 x 339.5 mm (3.6 x 11.5 x 13.4 inches)

Packaging Dimensions (WxDxH)

195 x 395 x 530 mm (7.7 x 15.6 x 20.9 inches)

Weight^[2]

Around 4.2 kg (9.3 lbs)

Packaging Weight

Around 6.29 kg (13.9 lbs)

Case Color

Black (chassis), grey (bezel)

Bays

- For installing HDD or ODD, 3.5" HDD screw and grommet kit or slim ODD bracket kit is needed.
- 1x 3.5" disk bay
- 1x slim ODD bay

Expansion Slots

- One PCIe® 3.0 x16, low-profile, length ≤ 155mm, height ≤ 70mm
- One PCIe® 3.0 x1, low-profile, length ≤ 155mm, height ≤ 70mm
- Two M.2 slots (one for WLAN, one for SSD)

EOU

No support

Stand

- Vertical stand
- No stand

Others

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.

CONNECTIVITY

Network

WLAN + Bluetooth®**

- 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, M.2 Card
- No WLAN and Bluetooth®

Onboard Ethernet

Gigabit Ethernet, Realtek® RTL8111K, 1x RJ-45, supports Wake-on-LAN

Ports^[1]

Front Ports

- 1x USB-C® (USB 5Gbps / USB 3.2 Gen 1), with 15W charging
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Rear Ports^[2]

- 4x USB-A (Hi-Speed USB / USB 2.0), one supports Smart Power On
- 1x HDMI® 2.1 TMDS
- 1x DisplayPort™ 1.4
- 1x VGA
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports

- 1x USB-A (Hi-Speed USB / USB 2.0)
- 1x parallel
- 1x serial
- 1x 2nd serial
- None

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

- (Optional) Coded Lock

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

Chassis Intrusion Switch

- Chassis intrusion switch
- No chassis intrusion switch

Fingerprint Reader

No fingerprint reader

BIOS Security

- Administrator password
- Hard disk password
- Power-on password
- Absolute persistence module
- Boot sequence control
- Boot without keyboard and mouse
- Cover tamper detected
- Configuration change detection
- Individual USB port disablement
- Intel® BIOS guard
- Never crash Self-healing
- Secure wipe
- Secure boot
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator](#)^[1]

Notes:

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

SERVICE

Warranty^[1]

Base Warranty**

- 1-year courier or carry-in service
- 1-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***

- 3.5" HDD screw and grommet kit (optional, or comes with 3.5" HDD disk)
- DP to DVI dongle
- DP to Dual DP dongle
- DP to HDMI® dongle
- DP to VGA dongle
- HDMI® to HDMI® dongle
- HDMI® to VGA dongle
- Slim ODD bracket kit (optional, or comes with optical drive)
- 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)

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Silver Registered
- (Optional) EPEAT™ Gold Registered
- RoHS / WEEE / REACH
- 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

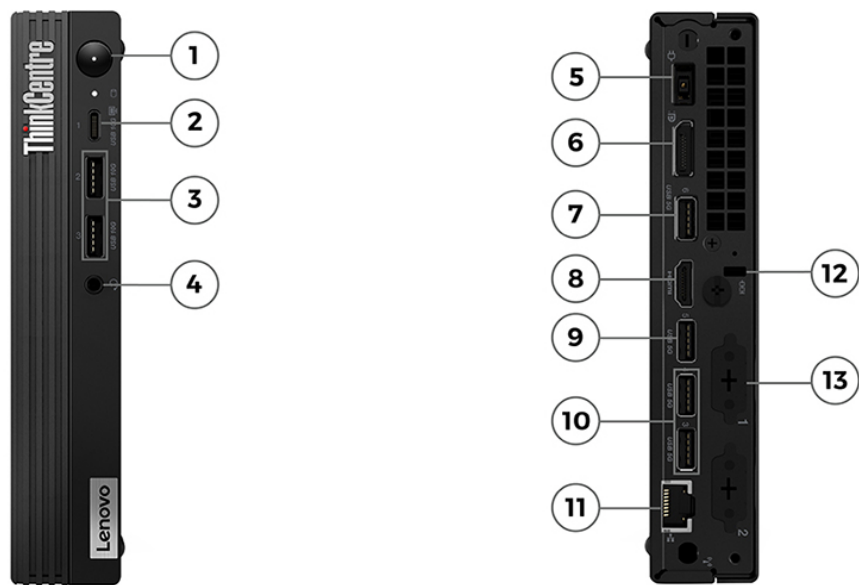
Other Certifications

- (Optional) TÜV Rheinland® Low Noise
- (Optional) TÜV Rheinland® Ultra Low Noise

- 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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OVERVIEW



1. Power button	8. HDMI 2.1 TMDS
2. USB-C 3.2 Gen 2 (with DP 1.4)	9. USB 3.2 Gen 1
3. 2x USB 3.2 Gen 2	10. 2x USB 3.2 Gen 1
4. Headphone / microphone combo jack (3.5mm)	11. Ethernet (RJ-45)
5. Power connector	12. Kensington Security Slot
6. DisplayPort 1.4	13. Flex IO *
7. USB 3.2 Gen 1	

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Intel® Celeron® or 12th Generation Intel® U Series Core i3 / i5 Processor

Processor**^[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Celeron® 7305	5 (1 P-core + 4 E-core)	6	P-core 1.1GHz / E-core 0.9GHz	-	8MB	DDR4-3200	Intel® UHD Graphics
Core i3-1215U	6 (2 P-core + 4 E-core)	8	P-core 1.2GHz / E-core 0.9GHz	P-core 4.4GHz / E-core 3.3GHz ^[2]	10MB	DDR4-3200	Intel® UHD Graphics
Core i5-1235U	10 (2 P-core + 8 E-core)	12	P-core 1.3GHz / E-core 0.9GHz	P-core 4.4GHz / E-core 3.3GHz ^[3]	12MB	DDR4-3200	Intel® Iris® Xe Graphics

Notes:

^[1] Intel® Iris® Xe Graphics capability requires system to be configured with dual-channel memory. On the system with single-channel memory, Intel® Iris® Xe Graphics will function as Intel® UHD Graphics.

^[2], ^[3], ^[4] 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.

Operating System

Operating System

ChromeOS

Graphics

Graphics**

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD Graphics	Integrated	Shared	4096x2304@60Hz(DP), 4096x2304@60Hz(USB-C® with DP function), 4096x2304@60Hz(HDMI®)	1x DP 1.4 HBR2, 1x USB-C® with DP 1.4 funcion, 1x HDMI® 2.1 TMDS, 1x optional punch out port (1x HDMI® 2.1 TMDS or 1x DP 1.4)	DirectX® 12.1
Intel® Iris® Xe Graphics ^[1]	Integrated	Shared	4096x2304@60Hz(DP), 4096x2304@60Hz(USB-C® with DP function), 4096x2304@60Hz(HDMI®)	1x DP 1.4 HBR2, 1x USB-C® with DP 1.4 funcion, 1x HDMI® 2.1 TMDS, 1x optional punch out port (1x HDMI® 2.1 TMDS or 1x DP 1.4)	DirectX® 12

Notes:

^[1] Intel® Iris® Xe Graphics capability requires system to be configured with dual-channel memory. On the system with single-channel memory, Intel® Iris® Xe Graphics will function as Intel® UHD Graphics.

Monitor Support

Monitor Support

Supports up to 4 independent displays via (onbaord USB-C®, onboard DP, onboard HDMI®, and one optional port [2nd DP / 2nd HDMI®])

Chipset

Chipset

Intel® SoC (System on Chip) platform

Memory

Max Memory^[1]

Up to 32GB DDR4-3200

Memory Slots

Two DDR4 SO-DIMM slots, dual-channel capable

Memory Type

DDR4-3200

Notes:

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

Storage

Max Storage Support^[1]

One drive, up to 256GB M.2 2280 SSD or 64GB eMMC 5.1 on systemboard

Storage Type^{***}

Disk Type	Interface
Flash Memory ^[2]	eMMC 5.1
M.2 2242 SSD	PCIe® NVMe®, PCIe® 3.0 x4
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4

RAID

No support

Notes:

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

[2] EMMC is pre-configured, not upgradable.

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC5682I codec

Speakers

No speakers

Microphone

No microphone

Camera

No camera

Power Supply

Power Supply^{**}

Power	Type	Efficiency	Key Features
65W	Adapter	89%	Autosensing
90W	Adapter	89%	Autosensing

DESIGN

Input Device

Keyboard

- Chrome USB Keyboard, black
- No keyboard

Mouse

- USB Calliope Mouse, black
- No mouse

Mechanical**Form Factor**

Tiny (1L)

Dimensions (WxDxH)^[1]

178 x 182 x 34 mm (7 x 7.16 x 1.33 inches)

Packaging Dimensions (WxDxH)

140 x 485 x 270 (5.51 x 19.1x 10.6 inches)

Weight^[2]

Around 1.07 kg (2.35 lbs)

Packaging Weight

Around 2.95 kg (6.5 lbs)

Case Color

Raven black

Bays

No bays

Expansion Slots

- One M.2 slot (for WLAN, models with Celeron® processor)
- Two M.2 slots (one for WLAN, one for SSD)

EOU

(Optional) Toolless cover and stand assembly / removal

Stand

- Vertical stand
- No stand

Mounting

- Supports VESA mount 100mm
- None

Others

(Optional) Power adapter cage

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® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 Card

Onboard Ethernet

Gigabit Ethernet, Realtek® RTL8111K-CG, 1x RJ-45

Ports^[1]**Front Ports**

- 1x USB-C® 3.2 Gen 2 (with DP 1.4)
- 2x USB 3.2 Gen 2
- 1x headphone / microphone combo jack (3.5mm)

Rear Ports

- 4x USB 3.2 Gen 1
- 1x HDMI®-out 2.1 TMDS
- 1x DisplayPort™ 1.4
- 1x Ethernet (GbE RJ-45)

Optional Rear Ports**

- 1x HDMI® 2.1 TMDS (Flex IO)
- 1x DP 1.4 (Flex IO)
- None

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.

SECURITY & PRIVACY

Security

Security Chip

Google Security Chip H1

Physical Locks

Kensington® Security Slot™

BIOS Security

No support

MANAGEABILITY

System Management

System Management

Non-vPro®

SERVICE

Warranty^[1]

Base Warranty

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

- 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: -15.2 m (-50 ft) to 3048 m (10,000 ft)
- Storage: -15.2 m (-50 ft) to 10668 m (35,000 ft)

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Gold Registered^[2]

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>.

[2] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

Other Certifications

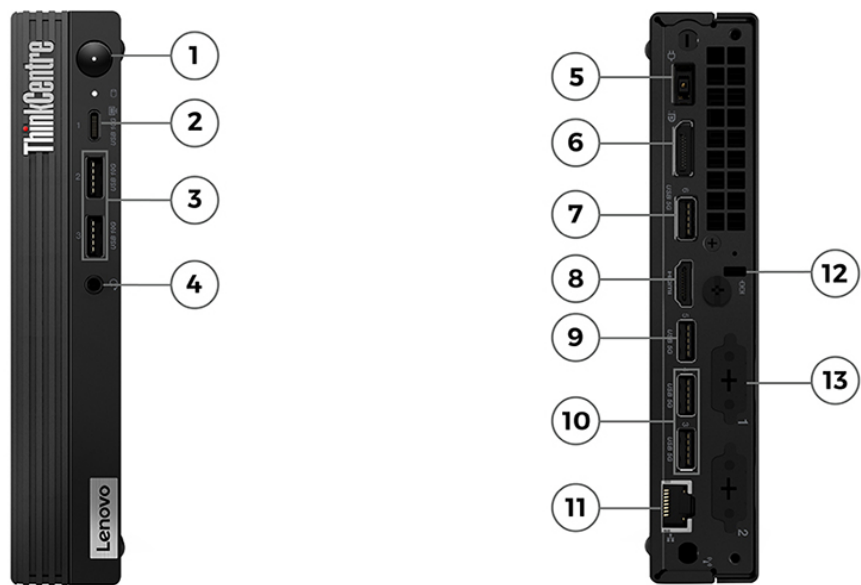
Mil-Spec Test

MIL-STD-810H military test passed (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, 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.
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OVERVIEW



1. Power button	8. HDMI 2.1 TMDS
2. USB-C 3.2 Gen 2 (with DP 1.4)	9. USB 3.2 Gen 1
3. 2x USB 3.2 Gen 2	10. 2x USB 3.2 Gen 1
4. Headphone / microphone combo jack (3.5mm)	11. Ethernet (RJ-45)
5. Power connector	12. Kensington Security Slot
6. DisplayPort 1.4	13. Flex IO *
7. USB 3.2 Gen 1	

- Notes:
- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Intel® Celeron® or 12th Generation Intel® U Series Core i3 / i5 Processor

Processor**^[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Celeron® 7305	5 (1 P-core + 4 E-core)	6	P-core 1.1GHz / E-core 0.9GHz	-	8MB	DDR4-3200	Intel® UHD Graphics
Core i3-1215U	6 (2 P-core + 4 E-core)	8	P-core 1.2GHz / E-core 0.9GHz	P-core 4.4GHz / E-core 3.3GHz ^[2]	10MB	DDR4-3200	Intel® UHD Graphics
Core i5-1235U	10 (2 P-core + 8 E-core)	12	P-core 1.3GHz / E-core 0.9GHz	P-core 4.4GHz / E-core 3.3GHz ^[3]	12MB	DDR4-3200	Intel® Iris® Xe Graphics

Notes:

^[1] Intel® Iris® Xe Graphics capability requires system to be configured with dual-channel memory. On the system with single-channel memory, Intel® Iris® Xe Graphics will function as Intel® UHD Graphics.

^[2], ^[3], ^[4] 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.

Operating System

Operating System

ChromeOS

Graphics

Graphics**

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD Graphics	Integrated	Shared	4096x2304@60Hz(DP), 4096x2304@60Hz(USB-C® with DP function), 4096x2304@60Hz(HDMI®)	1x DP 1.4 HBR2, 1x USB-C® with DP 1.4 funcion, 1x HDMI® 2.1 TMDS, 1x optional punch out port (1x HDMI® 2.1 TMDS or 1x DP 1.4)	DirectX® 12
Intel® Iris® Xe Graphics ^[1]	Integrated	Shared	4096x2304@60Hz(DP), 4096x2304@60Hz(USB-C® with DP function), 4096x2304@60Hz(HDMI®)	1x DP 1.4 HBR2, 1x USB-C® with DP 1.4 funcion, 1x HDMI® 2.1 TMDS, 1x optional punch out port (1x HDMI® 2.1 TMDS or 1x DP 1.4)	DirectX® 12

Notes:

^[1] Intel® Iris® Xe Graphics capability requires system to be configured with dual-channel memory. On the system with single-channel memory, Intel® Iris® Xe Graphics will function as Intel® UHD Graphics.

Monitor Support

Monitor Support

Supports up to 4 independent displays via (onbaord USB-C®, onboard DP, onboard HDMI®, and one optional port [2nd DP / 2nd HDMI®])

Chipset

Chipset

Intel® SoC (System on Chip) platform

Memory

Max Memory^[1]

Up to 32GB DDR4-3200

Memory Slots

Two DDR4 SO-DIMM slots, dual-channel capable

Memory Type

DDR4-3200

Notes:

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

Storage

Max Storage Support^[1]

One drive, up to 256GB M.2 2280 SSD or 64GB eMMC 5.1 on systemboard

Storage Type^{***}

Disk Type	Interface
Flash Memory ^[2]	eMMC 5.1
M.2 2242 SSD	PCIe® NVMe®, PCIe® 3.0 x4
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4

RAID

No support

Notes:

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

[2] EMMC is pre-configured, not upgradable.

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC5682I codec

Speakers

No speakers

Microphone

No microphone

Camera

No camera

Power Supply

Power Supply^{**}

Power	Type	Efficiency	Key Features
65W	Adapter	89%	Autosensing
90W	Adapter	89%	Autosensing

DESIGN

Input Device

Keyboard

- Chrome USB Keyboard, black
- No keyboard

Mouse

- USB Calliope Mouse, black
- No mouse

Mechanical

Form Factor

Tiny (1L)

Dimensions (WxDxH)^[1]

178 x 182 x 34 mm (7 x 7.16 x 1.33 inches)

Packaging Dimensions (WxDxH)

140 x 485 x 270 (5.51 x 19.1x 10.6 inches)

Weight^[2]

Around 1.07 kg (2.35 lbs)

Packaging Weight

Around 2.95 kg (6.5 lbs)

Case Color

Raven black

Bays

No bays

Expansion Slots

- One M.2 slot (for WLAN, models with Celeron® processor)
- Two M.2 slots (one for WLAN, one for SSD)

EOU

(Optional) Toolless cover and stand assembly / removal

Stand

- Vertical stand
- No stand

Mounting

- Supports VESA mount 100mm
- None

Others

(Optional) Power adapter cage

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® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 Card

Onboard Ethernet

Gigabit Ethernet, Realtek® RTL8111K-CG, 1x RJ-45

Ports^[1]

Front Ports

- 1x USB-C® 3.2 Gen 2 (with DP 1.4)
- 2x USB 3.2 Gen 2
- 1x headphone / microphone combo jack (3.5mm)

Rear Ports

- 4x USB 3.2 Gen 1
- 1x HDMI® 2.1 TMDS
- 1x DisplayPort™ 1.4
- 1x Ethernet (GbE RJ-45)

Optional Rear Ports**

- 1x HDMI® 2.1 TMDS (Flex IO)
- 1x DP 1.4 (Flex IO)
- None

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.

SECURITY & PRIVACY

Security

Security Chip

Google Security Chip H1

Physical Locks

Kensington® Security Slot™

BIOS Security

No support

MANAGEABILITY

System Management

System Management

Non-vPro®

SERVICE

Warranty^[1]

Base Warranty

- 1-year courier or carry-in service
- 1-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
- 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: -15.2 m (-50 ft) to 3048 m (10,000 ft)
- Storage: -15.2 m (-50 ft) to 10668 m (35,000 ft)

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Gold Registered^[2]

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>.

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Other Certifications

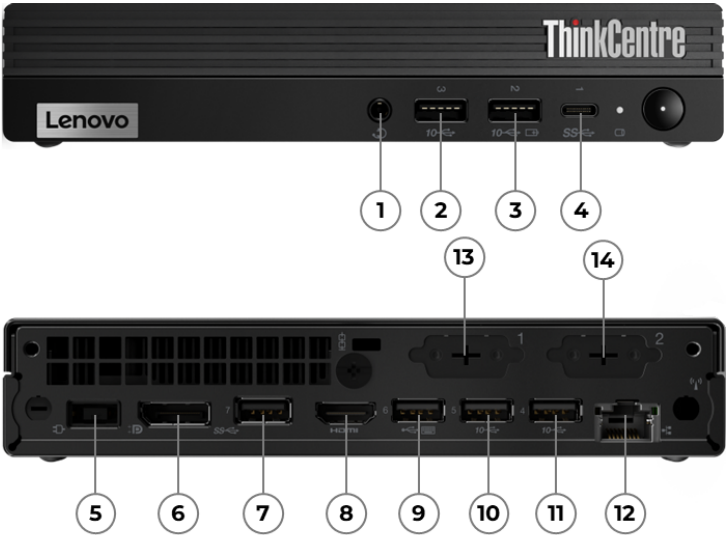
Mil-Spec Test

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

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OVERVIEW



2

1. Headphone / microphone combo jack (3.5mm)	8. HDMI 2.1 TMDS
2. USB-A (USB 10Gbps)	9. USB-A (Hi-Speed USB), with Smart Power On
3. USB-A (USB 10Gbps), Always On and fast charge	10. USB-A (USB 10Gbps)
4. USB-C (USB 5Gbps)	11. USB-A (USB 10Gbps)
5. Power connector	12. Ethernet (RJ-45)
6. DisplayPort 1.4a	13. Punch out port 1 *
7. USB-A (USB 5Gbps)	14. Punch out port 2 *

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

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

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics
Core i3-13100T	4 (4 P-core + 0 E-core)	8	P-core 2.5GHz	P-core 4.2GHz	12MB	Intel® UHD Graphics 730
Core i5-13400T	10 (6 P-core + 4 E-core)	16	P-core 1.3GHz / E-core 1.0GHz	P-core 4.4GHz / E-core 3.0GHz	20MB	Intel® UHD Graphics 730
Core i5-13500T	14 (6 P-core + 8 E-core)	20	P-core 1.6GHz / E-core 1.2GHz	P-core 4.6GHz / E-core 3.2GHz	24MB	Intel® UHD Graphics 770
Core i5-13600T	14 (6 P-core + 8 E-core)	20	P-core 1.8GHz / E-core 1.3GHz	P-core 4.8GHz / E-core 3.4GHz	24MB	Intel® UHD Graphics 770
Core i7-13700T	16 (8 P-core + 8 E-core)	24	P-core 1.4GHz / E-core 1.0GHz	Max Turbo up to 4.9GHz / P-core 4.8GHz / E-core 3.6GHz	30MB	Intel® UHD Graphics 770
Core i3-14100T	4 (4 P-core + 0 E-core)	8	P-core 2.7GHz	P-core 4.4GHz	12MB	Intel® UHD Graphics 730
Core i5-14400T	10 (6 P-core + 4 E-core)	16	P-core 1.5GHz / E-core 1.1GHz	P-core 4.5GHz / E-core 3.2GHz	20MB	Intel® UHD Graphics 730
Core i5-14500T	14 (6 P-core + 8 E-core)	20	P-core 1.7GHz / E-core 1.2GHz	P-core 4.8GHz / E-core 3.4GHz	24MB	Intel® UHD Graphics 770
Core i5-14600T	14 (6 P-core + 8 E-core)	20	P-core 1.8GHz / E-core 1.3GHz	P-core 5.1GHz / E-core 3.6GHz	24MB	Intel® UHD Graphics 770
Core i7-14700T	20 (8 P-core + 12 E-core)	28	P-core 1.3GHz / E-core 0.9GHz	Max Turbo up to 5.2GHz / P-core 5.0GHz / E-core 3.7GHz	33MB	Intel® UHD Graphics 770
Intel® 300T	2 (2 P-core + 0 E-core)	4	P-core 3.4GHz	-	6MB	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
- IGEL Linux (with License)
- IGEL Linux (no License)^[1]
- No preload operating system

Notes:

[1] The device is preload with a free evaluation license. The evaluation license will be valid for a period of 90 days.

Graphics

Graphics**

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD graphics 710	Integrated	Shared	4096x2160@60Hz(HDMI®), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP), 4096x2304@60Hz(USB-C® with DP function)	1x HDMI® 2.1 TMDS, 1x DP 1.4a (HBR2, DSC), 2x optional punch out ports([2x HDMI®/VGA/DP] or [USB-C® with DP function, HDMI®/VGA/DP])	DirectX® 12

Intel® UHD graphics 730	Integrated	Shared	4096x2160@60Hz(HDMI®), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP), 4096x2304@60Hz(USB-C® with DP function)	1x HDMI® 2.1 TMDS, 1x DP 1.4a (HBR2, DSC), 2x optional punch out ports([2x HDMI®/VGA/DP] or [USB-C® with DP function, HDMI®/VGA/DP])	DirectX® 12
Intel® UHD graphics 770	Integrated	Shared	4096x2160@60Hz(HDMI®), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP), 4096x2304@60Hz(USB-C® with DP function)	1x HDMI® 2.1 TMDS, 1x DP 1.4a (HBR2, DSC), 2x optional punch out ports ([2x HDMI®/VGA/DP] or [USB-C® with DP function, HDMI®/VGA/DP])	DirectX® 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via (onboard DP, onboard HDMI®, 2x optional punch out port)

Chipset

Chipset

Intel® Q670 chipset

Memory

Max Memory^[1]

Up to 64GB (2x 32GB DDR5 SO-DIMM)

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type

- DDR5-4800
- DDR5-5200
- DDR5-5600

Notes:

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

Storage

Max Storage Support^[1]

Dual SSD mode: up to two drives, 2x M.2 SSD

- M.2 2280 SSD up to 2TB

Storage Type

Disk Type	Interface	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	Opal
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Performance	Opal

RAID

RAID 0/1 support for SSDs

Notes:

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

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC233VB or Conexant CX11771 codec

Speakers**

- Premium single speaker, 2W x1
- Single speaker, 2W x1

Power Supply

Power Supply**^[1]

Power	Type	Efficiency	Key Features
65W	Adapter	89%	Autosensing
90W	Adapter	89%	Autosensing
135W	Adapter	89%	Autosensing
300W ^[2]	Adapter	90%	Autosensing

Notes:

^[1] 135w power adapter is essential if optional USB-C® port is selected

When work with TIO monitor, an appropriate power adapter is needed. Customer may need to:

- Order a Tiny for TIO MT (12TF or 12TG) models
- Or order an additional 135W power adapter, if original power adapter is 90W

^[2] 300W adapter is for special bid request to support external hardware.

DESIGN

Input Device

Keyboard**

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

Mouse**

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

Mechanical

Form Factor

Tiny (1L)

Dimensions (WxDxH)^[1]

Models	Dimensions
Tiny only	179 x 182.9 x 36.5 mm with rubber feet (7.05 x 7.2 x 1.44 inches with rubber feet)

Packaging Dimensions (WxDxH)

250 x 490 x 128mm (9.84 x 19.29 x 5.04 inches)

Weight^[2]

Models	Weight
Tiny only	Around 1.25 kg (2.76 lbs)

Packaging Weight

Around 3.2 kg (7.05 lbs)

Case Color

Raven black

Bays

No bays

Expansion Slots

Three M.2 slots (one for WLAN, two for SSD)

EOU

- (Optional) Toolless cover and stand assembly / removal
- No support

Stand

- Vertical stand
- No stand

IO Box

No IO box

Mounting

- Supports VESA mount 100mm
- None

Others

- (Optional) Dust filter
- (Optional) Power adapter cage
- 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.

CONNECTIVITY

Network

WLAN + Bluetooth®**

- 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
- 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, supports Wake-on-LAN
- No optional Ethernet

WWAN

No support

Ports^[1]

Front Ports

- 1x USB-C® (USB 5Gbps / USB 3.2 Gen 1), with 5V@0.9A charging
- 1x USB-A (USB 10Gbps / USB 3.2 Gen 2), with Always On and 5V@2.1A charging
- 1x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x headphone / microphone combo jack (3.5mm)

Optional Front Ports

None

Rear Ports

- 1x USB-A (Hi-Speed USB / USB 2.0), with smart power-on
- 1x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x HDMI® 2.1 TMDS
- 1x DisplayPort™ 1.4a (HBR2, DSC)
- 1x Ethernet (RJ-45)

Optional Rear Ports

- Punch out port 1 (one of VGA / DisplayPort™ / HDMI® / serial / USB-C® (Hi-Speed USB / USB 2.0) with DisplayPort™ function and 100W PD in)^[2]
- Punch out port 2 (one of VGA / DisplayPort™ / HDMI® / serial / RJ-45)

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] Optional rear USB-C® (USB 5Gbps / USB 3.2 gen 1) for special bid only.

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^[1]

Fingerprint Reader

No fingerprint reader

BIOS Security

- Administrator password
- Hard disk password
- Power-on password
- Absolute persistence module
- Boot sequence control
- Cover tamper detected
- Certificate-based BIOS authentication
- Configuration change detection
- Individual USB port disablement
- Intel® BIOS guard
- Secure wipe
- Secure boot
- Self-healing BIOS
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator](#)^[2]

Notes:

[1] Chassis intrusion switch is hardware ready function and needs to be special bid or manually enabled in BIOS.

[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>.

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 recycled plastic used in product chassis

95% PCC recycled plastic used in USB keyboard/mouse

90% PIC recycled plastic EPE cushion or 90% PCC recycled plastic thermal shell with 30% OBP material

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
- ENERGY STAR® 8.0
- ErP Lot 3/7
- RoHS compliant
- TCO Certified

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>.

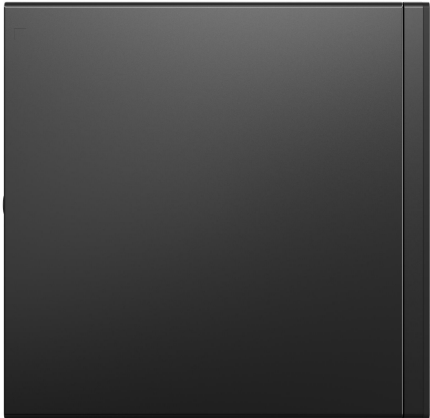
Other Certifications**Other Certifications**

(Optional) TÜV Rheinland® Ultra Low Noise

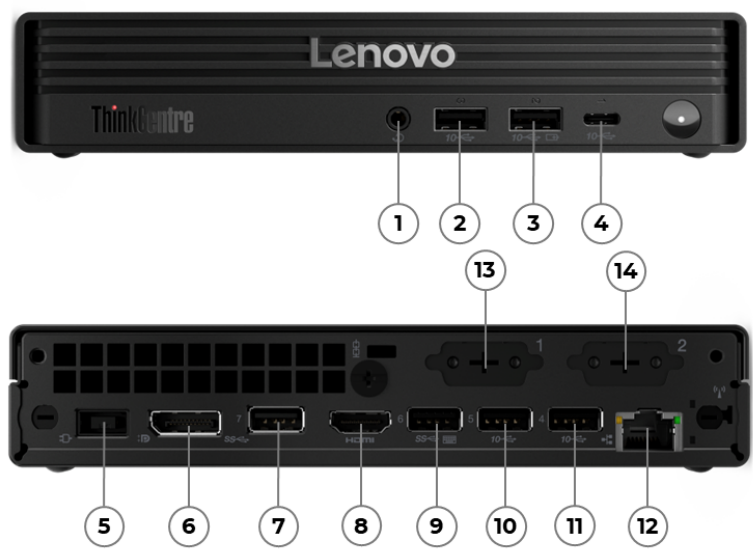
Mil-Spec Test

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.
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OVERVIEW



1. Headphone / microphone combo jack (3.5mm)	8. HDMI 2.1 TMDS
2. USB-A (USB 10Gbps)	9. USB-A (USB 5Gbps), with Smart Power On
3. USB-A (USB 10Gbps), Always On and 5V@2.1A charging	10. USB-A (USB 10Gbps)
4. USB-C (USB 10Gbps), data transfer only	11. USB-A (USB 10Gbps)
5. Power connector	12. Ethernet (GbE RJ-45)
6. DisplayPort 1.4a (HBR2)	13. Punch out port 1 *
7. USB-A (USB 5Gbps)	14. Punch out port 2 *

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Intel® Core™ Ultra 5 / 7 Processor (Series 2)

Processor

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics	NPU
Core Ultra 5 225T	10 (6 P-core + 4 E-core)	10	P-core 2.5GHz / E-core 1.9GHz	P-core 4.9GHz / E-core 4.4GHz	22MB L2 Cache / 20MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
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	26MB L2 Cache / 24MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
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	26MB L2 Cache / 24MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
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	Intel® Graphics	Intel® AI Boost

AI (Artificial Intelligence)

AI PC Category

AI PC^[1]

NPU**

- Integrated Intel® AI Boost, up to 13 TOPS
- (Optional) Discrete NPU card, up to 30 TOPS

Notes:

[1] AI PCs have a NPU capable of 10+ TOPs to run the Copilot assistant by pressing the optional Microsoft® Copilot key or using Win + C.

Operating System

Operating System

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

Graphics

Graphics

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Integrated Intel® Graphics	Integrated	Shared	1920x1080@60Hz(VGA), 4096x2160@60Hz(DP 1.4a HBR2), 4096x2160@60Hz(HDMI® TMDS), 7680x4320@60Hz(HDMI® FRL), 4096x2160@60Hz(USB-C® with DP function)	1x HDMI® 2.1 TMDS, 1x DP 1.4a HBR2, optional port 1 (VGA / HDMI® 2.1 TMDS / HDMI® 2.1 FRL / DP 1.4a HBR2 / USB-C® with DP 1.4a HBR2 function), optional port 2 (VGA / HDMI® 2.1 TMDS / HDMI® 2.1 FRL / DP 1.4a HBR2)	DirectX® 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via (onboard DP, onboard HDMI®, optional punch out port 1 [VGA / HDMI® 2.1 TMDS / HDMI® 2.1 FRL / DP 1.4a HBR2 / USB-C® with DP 1.4a HBR2 function], and optional punch out port 2 [VGA / HDMI® 2.1 TMDS / HDMI® 2.1 FRL / DP 1.4a HBR2])

Chipset

Chipset
Intel® Q870 chipset

Memory

Max Memory^[1]
Up to 64GB (2x 32GB DDR5 SO-DIMM)
Memory Slots
Two DDR5 SO-DIMM slots, dual-channel capable
Memory Type
DDR5-5600

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

Storage

Max Storage Support^[1]
Up to two drives, 2x M.2 2280 SSD
• M.2 2280 SSD up to 2TB

Storage Type^{***}

Disk Type	Interface	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	Opal
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Performance	Opal

RAID
RAID 0/1 support (RAID preset only available via special bid models)

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

Removable Storage

Optical
None
Card Reader
No card reader

Multi-Media

Audio Chip
High Definition (HD) Audio, Realtek® ALC233VB or Conexant CX11771 codec

Speakers^{**}
• Premium single speaker, 2W x1
• Single speaker, 2W x1

Power Supply

Power Supply^{**}

Power	Type	Efficiency	Key Features
65W	Adapter	89%	Autosensing
90W	Adapter	89%	Autosensing
135W	Adapter	90%	Autosensing

No power adapter	-	-	-
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DESIGN

Input Device

Keyboard**

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

Mouse**

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

Mechanical

Form Factor

Tiny (1L)

Dimensions (WxDxH)^[1]

Models	Dimensions
Tiny only	179 x 182.9 x 36.5 mm (7.05 x 7.2 x 1.44 inches)

Packaging Dimensions (WxDxH)

Tiny with Stand: 140 x 488 x 266 mm (19.21 x 5.51 x 10.47 inches)

Weight^[2]

Models	Weight
Tiny only	Around 1.18 kg (2.6 lbs)

Packaging Weight

Around 3.12kg (6.88 lbs)

Case Color

Raven black

Expansion Slots

Three M.2 slots (one for WLAN, two for SSD / discrete NPU)

EOU

(Optional) toolless chassis open (toolless chassis screw required)

Stand

- Vertical stand
- No stand

Mounting

- Supports VESA mount 100mm
- None

Others

- (Optional) Dust filter
- (Optional) Power adapter cage
- 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.

CONNECTIVITY

Network

WLAN + Bluetooth®**

- Intel® Wi-Fi® 6 AX203, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.2, M.2 Card^[1]
- Realtek® Wi-Fi® 6E RTL8852CE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card^[2]
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, Intel® vPro® technology support, M.2 Card^[3]
- Realtek® Wi-Fi® 7 RTL8922AE, 802.11be 2x2 Wi-Fi® + Bluetooth® 5.4^[4]
- No WLAN and Bluetooth®

Onboard Ethernet

Gigabit Ethernet, Intel® Ethernet Connection I219-LM, 1x RJ45, supports Wake-on-LAN

Optional Ethernet

- 2.5 Gigabit Ethernet, Realtek® RTL8125BGS, 1x RJ-45, supports Wake-on-LAN
- No optional Ethernet

Notes:

[1] Wi-Fi® 6 full features might be limited by country-level restrictions.

[2], [3] Wi-Fi® 6E full features might be limited by country-level restrictions.

6GHz Wi-Fi® 6E operation is dependent on the support of the operating system, routers/APs/Gateways that support Wi-Fi® 6E, and the regional regulatory certifications & spectrum allocation.

Bluetooth® 5.3 operation requires Windows® 11. For more information please visit [General Bluetooth® Support Information on Microsoft®](#).

[4] The bandwidth of WiFi 7 adapter is 160 MHz.

Wi-Fi® 7 operation is subject to the regulation rules in each country.

Ports^[1]

Front Ports

- 1x USB-C® (USB 10Gbps / USB 3.2 Gen 2), data transfer only
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2), one supports Always On and 5V@2.1A charging
- 1x headphone / microphone combo jack (3.5mm)

Rear Ports

- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1), one supports Smart Power On
- 1x HDMI® 2.1 TMDS
- 1x DisplayPort™ 1.4a (HBR2)
- 1x Ethernet (GbE RJ-45)

Optional Rear Ports

- Punch out port 1 (one of VGA / DisplayPort™ 1.4a HBR2 / HDMI® 2.1 TMDS/ HDMI® 2.1 FRL / serial / 2.5GbE RJ-45 / USB-C® (USB 10Gbps / USB 3.2 Gen 2) with DisplayPort™ 1.4a HBR2 function and 100W PD in)
- Punch out port 2 (one of VGA / DisplayPort™ 1.4a HBR2 / HDMI® 2.1 TMDS/ HDMI® 2.1 FRL / serial / 2.5GbE RJ-45 / Thunderbolt™ 4 (USB4® 40Gbps))
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2), occupies port 1 and 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.

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^[1]

Fingerprint Reader

No fingerprint reader

BIOS Security

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

Notes:

[1] Chassis intrusion switch is hardware ready function and needs to be special bid or manually enabled in BIOS.

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>.

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

60% PIC recycled plastic with 30% OBP used in cushion

30% OBP used in bag

FSC certified paper in packaging

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

Other Certifications

(Optional) TÜV Rheinland® Ultra Low Noise

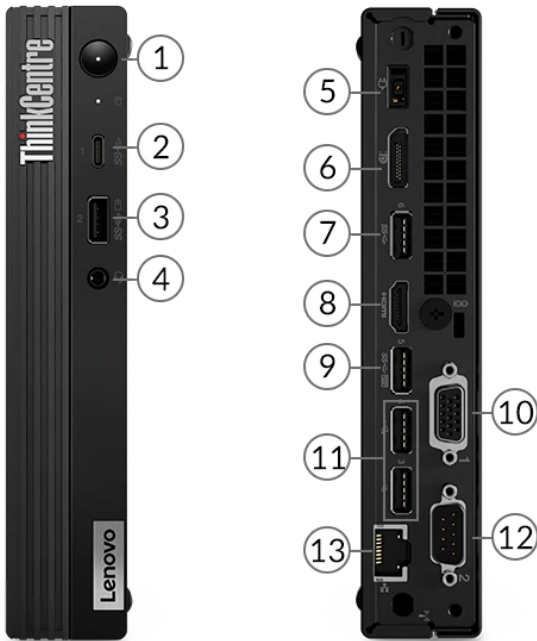
Mil-Spec Test

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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OVERVIEW



1. Power button	8. HDMI 1.4b
2. USB-C 3.2 Gen 1	9. USB 3.2 Gen 1
3. USB 3.2 Gen 2	10. Optional port 1 (VGA is shown)
4. Headphone / microphone combo jack (3.5mm)	11. 2x USB 2.0
5. Power connector	12. Optional port 2 (serial is shown)
6. DisplayPort 1.4	13. Ethernet (RJ-45)
7. USB 3.2 Gen 1	

PERFORMANCE

Processor

Processor Family

AMD Athlon™ or AMD Ryzen™ 3 / 5 / 7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Athlon™ Gold PRO 3150GE	4	4	3.3GHz	3.8GHz	2MB L2 / 4MB L3	DDR4-2933	AMD Radeon™ Graphics
AMD Athlon™ Silver 3050GE	2	4	3.4GHz	3.4GHz	1MB L2 / 4MB L3	DDR4-2666	AMD Radeon™ Graphics
AMD Athlon™ Silver PRO 3125GE	2	4	3.4GHz	3.4GHz	1MB L2 / 4MB L3	DDR4-2666	AMD Radeon™ Graphics
AMD Ryzen™ 3 3200GE	4	4	3.3GHz	3.8GHz	2MB L2 / 4MB L3	DDR4-2933	AMD Radeon™ Vega 8 Graphics
AMD Ryzen™ 3 4300GE	4	8	3.5GHz	4.0GHz	2MB L2 / 4MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 3 5300GE	4	8	3.6GHz	4.2GHz	2MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 3 PRO 4350GE	4	8	3.5GHz	4.0GHz	2MB L2 / 4MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 3 PRO 5350GE	4	8	3.6GHz	4.2GHz	2MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 3 PRO 5355GE	4	8	3.6GHz	4.2GHz	2MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 5 4600GE	6	12	3.3GHz	4.2GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 5 5600GE	6	12	3.4GHz	4.4GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 5 PRO 3350GE	4	8	3.3GHz	3.9GHz	2MB L2 / 4MB L3	DDR4-2933	AMD Radeon™ Vega 11 Graphics
AMD Ryzen™ 5 PRO 4650GE	6	12	3.3GHz	4.2GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 5 PRO 5650GE	6	12	3.4GHz	4.4GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 5 PRO 5655GE	6	12	3.4GHz	4.4GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 7 4700GE	8	16	3.1GHz	4.3GHz	4MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 7 5700GE	8	16	3.2GHz	4.6GHz	4MB L2 / 16MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 7 PRO 4750GE	8	16	3.1GHz	4.3GHz	4MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 7 PRO 5750GE	8	16	3.2GHz	4.6GHz	4MB L2 / 16MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 7 PRO 5755GE	8	16	3.2GHz	4.6GHz	4MB L2 / 16MB L3	DDR4-3200	AMD Radeon™ Graphics

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home

- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- Windows® 10 Pro 64
- Windows® 10 Home 64
- Windows® 10 Home 64 Single Language
- Windows® 10 IoT Enterprise
- Windows® 10 IoT Enterprise LTSC 2021
- Ubuntu Linux
- IGEL Linux^[1]
- No preload operating system

Notes:

[1] The device is preload with a free evaluation license. The evaluation license will be valid for a period of 90 days.

Graphics

Graphics**[1]

Graphics	Type	Memory	Max Resolution	Connector	Key Features
AMD Radeon™ Graphics	Integrated	Shared	3840x2160@30Hz or 2560x1440@60Hz(HDMI®), 1920x1200@60Hz(VGA), 3840x2160(DP)@60Hz	1x HDMI®, 1x DisplayPort™ 1.4, 1x optional port (VGA / 2nd DP / USB-C® / 2nd HDMI® / dual DP)	DirectX® 12
AMD Radeon™ Vega 11 Graphics	Integrated	Shared	3840x2160@30Hz or 2560x1440@60Hz(HDMI®), 1920x1200@60Hz(VGA), 3840x2160(DP)@60Hz	1x HDMI®, 1x DisplayPort™ 1.4, 1x optional port (VGA / 2nd DP / USB-C® / 2nd HDMI® / dual DP)	DirectX® 12
AMD Radeon™ Vega 8 Graphics	Integrated	Shared	3840x2160@30Hz or 2560x1440@60Hz(HDMI®), 1920x1200@60Hz(VGA), 3840x2160(DP)@60Hz	1x HDMI®, 1x DisplayPort™ 1.4, 1x optional port (VGA / 2nd DP / USB-C® / 2nd HDMI® / dual DP)	DirectX® 12

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 3 independent displays via onboard ports (DisplayPort™ + HDMI®) and optional ports (VGA / 2nd DP / 2nd HDMI® / USB-C® / 2x DP)

Chipset

Chipset

AMD PRO 500 chipset

Memory

Max Memory^[1]

Up to 64GB DDR4-3200

Memory Slots

Two DDR4 SO-DIMM slots, dual-channel capable

Memory Type^[2]

DDR4-3200

Notes:

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

[2] Installed memory is actually 3200MT/s but may run at 2666MT/s, 2933MT/s or 3200MT/s depending on the memory support capability of processor.

Storage

Max Storage Support^[1]

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

- 2.5" HDD up to 1TB
- M.2 SSD up to 1TB

Storage Type***

Disk Type	Interface	RPM	Security
2.5" SATA HDD	SATA 6Gb/s	5.4K	-
2.5" SATA HDD	SATA 6Gb/s	7.2K	-
M.2 2242 SSD	PCIe® NVMe®, PCIe® 3.0 x2	-	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 3.0 x4	-	Opal
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	-	Opal 2.0

Notes:

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

Removable Storage

Optical**

- DVD-ROM, slim (9.0mm), via USB external ODD box
- DVD burner (DVD±RW), slim (9.0mm), via USB external ODD box
- None

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC222 codec

Speakers

Single speaker, 1.5W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
65W	Adapter	89%	Autosensing
90W	Adapter	89%	Autosensing

DESIGN

Input Device

Keyboard**

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

Mouse**

- Lenovo® Calliope Mouse (USB connector), black
- Lenovo® Calliope Wireless Mouse (2.4GHz via USB receiver), black
- Lenovo® Fingerprint Mouse (USB connector), Windows® Hello support, black (EOL on Jan, 2023)
- No mouse

Mechanical

Form Factor

Tiny (1L)

Dimensions (WxDxH)^[1]

Models	Dimensions
--------	------------

Tiny only	179 x 183 x 34.5 / 37 mm with rubber feet (7.05 x 7.2 x 1.36 / 1.5 inches with rubber feet)
-----------	---

Packaging Dimensions (WxDxH)^[2]

- Tiny only: 490 x 250 x 130 mm (19.29 x 9.84 x 5.12 inches)
- Tiny & ODD: 490 x 268 x 166 mm (19.29 x 10.55 x 6.54 inches)

Weight^[3]

Models	Weight
Tiny only	1.25 kg (2.76 lbs)

Packaging Weight^[4]

- Tiny only: Around 3.2 kg (7.05 lbs)
- Tiny & ODD: Around 3.9 kg (8.6 lbs)

Case Color

Black

Bays

1x 2.5" disk bay

Expansion Slots

- One M.2 slot (for SSD)
- One M.2 slot (for WLAN)

EOU

(Optional) toolless chassis open (toolless chassis screw required) and toolless M.2 SSD, HDD, memory assembly / removal

Stand

- Vertical stand
- No stand

Mounting

- VESA mount bracket kit, supports VESA mount 75mm and 100mm
- None

Notes:

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

[2] The new packages take effect from September 2023. The old packages are:
Tiny only: 500 x 150 x 280 mm (19.69 x 5.91 x 11.02 inches)
Tiny & ODD: 500 x 175 x 280 mm (19.69 x 6.89 x 11.02 inches)

[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.

[4] The new packages take effect from September 2023. The old package are:
Tiny only: 2.85 kg (6.28 lbs)
Tiny & ODD: 3.58 kg (7.89 lbs)

CONNECTIVITY

Network

WLAN + Bluetooth®**

- Realtek® RTL8822CE, Wi-Fi® 5, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth® 5.0, M.2 card
- Intel® Wireless-AC 9260, Wi-Fi® 5, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 card
- Realtek® Wi-Fi® 6 RTL8852AE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card^[1]
- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card^[2]
- Intel® Wi-Fi® 6 AX200, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 card
- Intel® Wi-Fi® 6E AX210, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1
- No WLAN and Bluetooth®

Onboard Ethernet

- Gigabit Ethernet, Realtek® RTL8111FP, 1x RJ-45, supports DASH and Wake-on-LAN
- Gigabit Ethernet, Realtek® RTL8111HN, 1x RJ-45, supports Wake-on-LAN

Notes:

[1], [2] Bluetooth® 5.3 requires Windows® 11.

Ports^[1]

Front Ports

- 1x USB-C® 3.2 Gen 1 (support data transfer)
- 1x USB 3.2 Gen 2 (Always On and fast charge)
- 1x headphone / microphone combo jack (3.5mm)

Rear Ports^[2]

- 2x USB 2.0
- 2x USB 3.2 Gen 1
- 1x HDMI® 1.4b
- 1x DisplayPort™ 1.4
- 1x Ethernet (RJ-45)

Optional Rear Ports***

- Optional port 1 (one of VGA / 2nd DisplayPort™ / 2nd HDMI® / serial / USB-C® 3.2 Gen 1 with DisplayPort™ function)
- Optional port 2 (serial)
- 2x USB 3.2 Gen 1 (occupies port 1 and 2)
- 4x USB 3.2 Gen 1 (share one USB 3.2 Gen 1 bandwidth, occupy port 1 and 2)
- 2x DisplayPort™ (occupies port 1 and 2)
- 1x parallel

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^[1]

BIOS Security

- Administrator password
- Hard disk password
- Power-on password
- Absolute persistence module
- Boot sequence control
- Boot without keyboard and mouse
- Cover tamper detected
- Certificate-based BIOS authentication
- Configuration change detection
- Individual USB port disablement
- Secure wipe
- Secure boot

Notes:

[1] Chassis intrusion switch is hardware ready function and needs to be special bid or manually enabled in BIOS.

MANAGEABILITY

System Management

System Management

- DASH 1.2
- Non-DASH

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

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Silver Registered^[2]
- (Optional) EPEAT™ Gold Registered^[3]
- ErP Lot 3

- 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>.
[2], [3] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

- 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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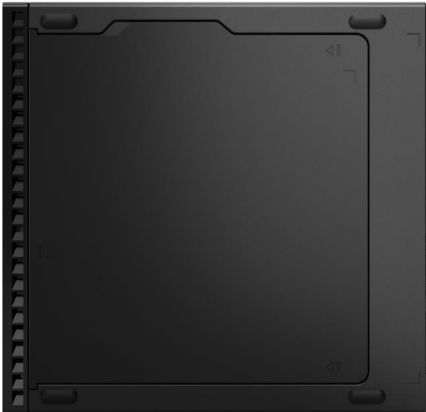
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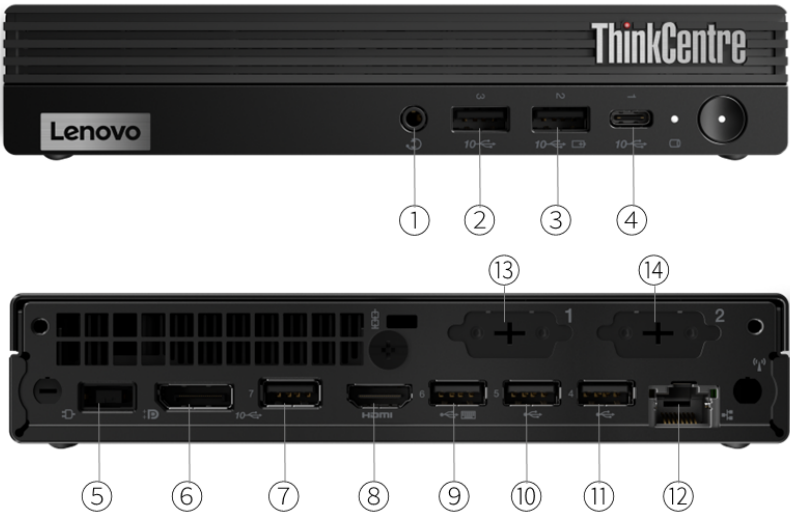


AMD



AMD

OVERVIEW



1. Headphone / microphone combo jack (3.5mm)	8. HDMI
2. USB-A (USB 10Gbps)	9. USB-A (Hi-Speed USB), with Smart Power On
3. USB-A (USB 10Gbps), Always On	10. USB-A (Hi-Speed USB)
4. USB-C (USB 10Gbps), data transfer only	11. USB-A (Hi-Speed USB)
5. Power connector	12. Ethernet (GbE RJ-45)
6. DisplayPort 1.4a	13. Punch out port 1 *
7. USB-A (USB 10Gbps)	14. Punch out port 2 *

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 3 / 5 8000 or Ryzen™ 3 / 5 / 7 PRO 8000 Series Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics	NPU
AMD Ryzen™ 3 8300GE	4	8	3.5GHz	4.9GHz	4MB L2 / 8MB L3	AMD Radeon™ 740M	-
AMD Ryzen™ 3 PRO 8300GE	4	8	3.5GHz	4.9GHz	4MB L2 / 8MB L3	AMD Radeon™ 740M	-
AMD Ryzen™ 5 8500GE	6	12	3.4GHz	5.0GHz	6MB L2 / 16MB L3	AMD Radeon™ 740M	-
AMD Ryzen™ 5 PRO 8500GE	6	12	3.4GHz	5.0GHz	6MB L2 / 16MB L3	AMD Radeon™ 740M	-
AMD Ryzen™ 5 PRO 8600GE	6	12	3.9GHz	5.0GHz	6MB L2 / 16MB L3	AMD Radeon™ 760M	AMD Ryzen™ AI
AMD Ryzen™ 7 PRO 8700GE	8	16	3.6GHz	5.1GHz	8MB L2 / 16MB L3	AMD Radeon™ 780M	AMD Ryzen™ AI

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 IoT Enterprise LTSC 2024
- Windows® 11 DG Windows® 10 Pro 64
- Ubuntu Linux
- IGEL Linux (with License)
- IGEL Linux (no License)^[1]
- No preload operating system

Notes:

[1] The device is preload with a free evaluation license. The evaluation license will be valid for a period of 90 days.

Graphics

Graphics**^[1]

Graphics	Type	Memory	TGP	Connector	Key Features
AMD Radeon™ 740M	Integrated	Shared	Share CPU TDP	3840x2160@60Hz(HDMI®), 3840x2160@60Hz(DP), 1920x1200@60Hz(VGA), 3840x2160@60Hz(USB-C® with DP function)	DirectX® 12
AMD Radeon™ 760M	Integrated	Shared	Share CPU TDP	3840x2160@60Hz(HDMI®), 3840x2160@60Hz(DP), 1920x1200@60Hz(VGA), 3840x2160@60Hz(USB-C® with DP function)	DirectX® 12
AMD Radeon™ 780M	Integrated	Shared	Share CPU TDP	3840x2160@60Hz(HDMI®), 3840x2160@60Hz(DP), 1920x1200@60Hz(VGA), 3840x2160@60Hz(USB-C® with DP function)	DirectX® 12

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 4 independent displays via onboard ports (DisplayPort™ + HDMI®) and optional ports (VGA / 2nd DP / 2nd HDMI® / USB-C® / 2x DP)

Chipset

Chipset

AMD PRO 600 chipset

Memory

Max Memory^[1]

Up to 32GB (2x 16GB DDR5 SO-DIMM); 64GB (2x 32GB) is special bids only

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type^[2]

DDR5-5200

Notes:

- [1] The max memory is based on the test results with current Lenovo® memory offerings.
- [2] Installed memory is actually DDR5-5600 but will run at DDR5-5200 due to the memory support capability of processor.

Storage

Max Storage Support^[1]

Up to two drives, 2x M.2 2280 SSD, up to 1TB each

Storage Type

Disk Type	Interface	Offering	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	256GB / 512GB / 1TB	Opal 2.0
M.2 2280 SSD ^[2]	PCIe® NVMe®, PCIe® 4.0 x4 Performance	512GB / 1TB / 2TB	Opal 2.0

Notes:

- [1] The max capacity of each disk type is based on the test results with current Lenovo® storage offerings.
- [2] 1TB Performance SSD is special bids only.

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC233 codec

Speakers

- No speakers
- Single speaker

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
65W	Adapter	89%	Autosensing
90W	Adapter	89%	Autosensing

No power adapter	-	-	-
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DESIGN

Input Device

Keyboard**

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

Mouse**

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

Mechanical

Form Factor

Tiny (1L)

Dimensions (WxDxH)^[1]

Models	Dimensions
Tiny only	179 x 182.9 x 36.5 mm with rubber feet (7.05 x 7.2 x 1.44 inches)

Packaging Dimensions (WxDxH)

494 x 250 x 128 mm (19.45 x 9.84 x 5.04 inches)

Weight^[2]

Models	Weight
Tiny only	Around 1.25 kg (2.76 lbs)

Case Color

Black

Expansion Slots

Three M.2 slots (one for WLAN, two for SSD)

EOU

(Optional) toolless chassis open (toolless chassis screw required) and toolless M.2 SSD, memory assembly / removal

Stand

- Vertical stand
- No stand

IO Box

No IO box

Mounting

- VESA mount bracket kit, supports VESA mount 75mm and 100mm
- None

Others

- (Optional) Dust filter
- (Optional) Power adapter cage

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[®]**

- MediaTek Wi-Fi[®] 6 MT7921, 802.11ax 2x2 Wi-Fi[®] + Bluetooth[®] 5.3, M.2 Card^[1]
- Realtek[®] Wi-Fi[®] 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi[®] + Bluetooth[®] 5.3, M.2 card^[2]
- AMD Wi-Fi[®] 6E RZ616, 802.11ax 2x2 Wi-Fi[®] + Bluetooth[®] 5.3, M.2 Card^[3]
- No WLAN and Bluetooth[®]

Onboard Ethernet

Gigabit Ethernet, Realtek[®] RTL8111FP, 1x RJ-45, supports DASH and Wake-on-LAN

Optional Ethernet

No optional Ethernet

Notes:

[1], [2], [3] Wi-Fi[®] 6E full features might be limited by country-level restrictions.

6GHz Wi-Fi[®] 6E operation is dependent on the support of the operating system, routers/APs/Gateways that support Wi-Fi[®] 6E, and the regional regulatory certifications & spectrum allocation.

Bluetooth[®] 5.3 operation requires Windows[®] 11. For more information please visit [General Bluetooth[®] Support Information on Microsoft[®]](#).

Ports^[1]

Front Ports

- 1x USB-C[®] (USB 10Gbps / USB 3.2 Gen 2), with 5V@0.9A charging
- 1x USB-A (USB 10Gbps / USB 3.2 Gen 2), with Always On and 5V@2.1A charging
- 1x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x headphone / microphone combo jack (3.5mm)

Optional Front Ports

None

Rear Ports^[2]

- 1x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 3x USB-A (Hi-Speed USB / USB 2.0)
- 1x HDMI[®] 2.1 TMDS
- 1x DisplayPort[™] 1.4 (HBR2, DSC)
- 1x Ethernet (RJ-45)

Optional Rear Ports

- Punch out port 1 (one of VGA / DisplayPort[™] / HDMI[®] / serial / USB-C[®] 3.2 Gen 1 with DisplayPort[™] functions)
- Punch out port 2 (serial)
- 2x USB 3.2 Gen 1 ports (share one USB 3.2 Gen 1 bandwidth, occupy optional port 1 and 2)
- 2x DP (occupies port 1 and 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.

[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^[1]

Fingerprint Reader

No fingerprint reader

BIOS Security

- Administrator password
- Hard disk password
- Power-on password
- Absolute persistence module
- Boot sequence control
- Boot without keyboard and mouse
- Cover tamper detected
- Certificate-based BIOS authentication
- Configuration change detection
- Individual USB port disablement
- Secure wipe
- Secure boot
- Smart USB protection
- More BIOS security features, please visit [BIOS Simulator](#)^[2]

Notes:

[1] Chassis intrusion switch is hardware ready function and needs to be special bid or manually enabled in BIOS.

[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]

- DASH
- Non-DASH

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 Dual DP dongle

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

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Gold Registered^[2]
- ErP Lot 3
- 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>.

[2] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

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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AMD



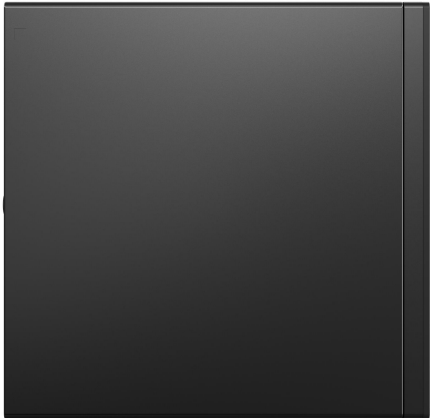
AMD



AMD



AMD

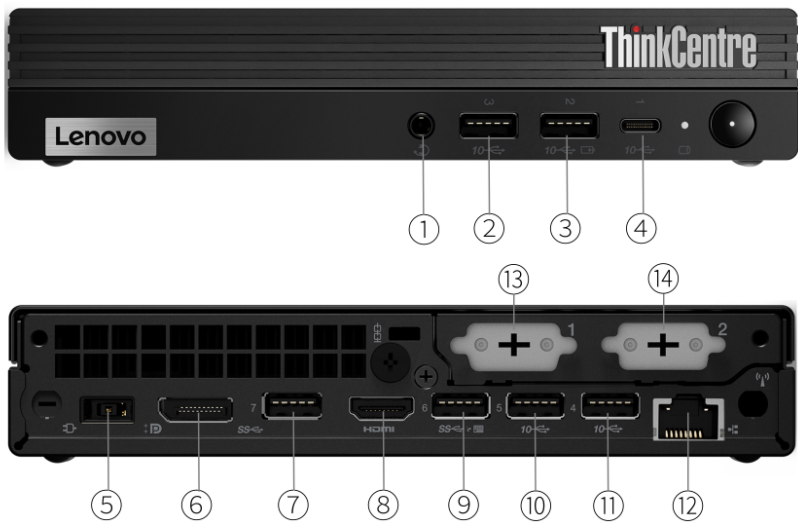


AMD



AMD

OVERVIEW



1. Headphone / microphone combo jack (3.5mm)	8. HDMI
2. USB 3.2 Gen 2	9. USB 3.2 Gen 1 (with Smart Power On)
3. USB 3.2 Gen 2 (Always On and fast charge)	10. USB 3.2 Gen 2
4. USB-C 3.2 Gen 2	11. USB 3.2 Gen 2
5. Power connector	12. Ethernet (RJ-45)
6. DisplayPort 1.4a	13. Punch out port 1 *
7. USB 3.2 Gen 1	14. Punch out port 2 *

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

13th Generation Intel® Core™ i3 / i5 / i7 / i9 Processor, 35W

Processor**^[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i3-13100T	4 (4 P-core + 0 E-core)	8	P-core 2.5GHz	P-core 4.2GHz	12MB	DDR5-4800	Intel® UHD Graphics 730
Core i5-13400T	10 (6 P-core + 4 E-core)	16	P-core 1.3GHz / E-core 1.0GHz	P-core 4.4GHz / E-core 3.0GHz	20MB	DDR5-4800	Intel® UHD Graphics 730
Core i5-13500T	14 (6 P-core + 8 E-core)	20	P-core 1.6GHz / E-core 1.2GHz	P-core 4.6GHz / E-core 3.2GHz	24MB	DDR5-4800	Intel® UHD Graphics 770
Core i5-13600T	14 (6 P-core + 8 E-core)	20	P-core 1.8GHz / E-core 1.3GHz	P-core 4.8GHz / E-core 3.4GHz	24MB	DDR5-4800	Intel® UHD Graphics 770
Core i7-13700T	16 (8 P-core + 8 E-core)	24	P-core 1.4GHz / E-core 1.0GHz	Max Turbo up to 4.9GHz / P-core 4.8GHz / E-core 3.6GHz	30MB	DDR5-5600	Intel® UHD Graphics 770
Core i9-13900T	24 (8 P-core + 16 E-core)	32	P-core 1.1GHz / E-core 0.8GHz	Max Turbo up to 5.3GHz / P-core 5.1GHz / E-core 3.9GHz	36MB	DDR5-5600	Intel® UHD Graphics 770

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.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- Windows® 10 IoT Enterprise LTSC 2021
- Ubuntu Linux^[1]
- No preload operating system

Notes:

^[1] Some features may not be supported on the system with Linux preload, including but not limited to Intel® RST RAID, Human Presence Detection, etc.

Graphics

Graphics**

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD graphics 730	Integrated	Shared	4096x2160@60Hz(HDMI®), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP), 4096x2304@60Hz(USB-C® with DP function)	1x HDMI® 2.1 TMDS, 1x DP 1.4a (HBR2, DSC), 2x optional punch out ports([2x HDMI®/VGA/DP] or [USB-C® with DP function, HDMI®/VGA/DP])	DirectX® 12
Intel® UHD graphics 770	Integrated	Shared	4096x2160@60Hz(HDMI®), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP), 4096x2304@60Hz(USB-C® with DP function)	1x HDMI® 2.1 TMDS, 1x DP 1.4a (HBR2, DSC), 2x optional punch out ports ([2x HDMI®/VGA/DP] or [USB-C® with DP function, HDMI®/VGA/DP])	DirectX® 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via (onboard DP, onboard HDMI®, optional punch out port 1 [VGA / HDMI® / DP / USB-C®], and optional punch out port 2 [VGA / HDMI® / DP])

Chipset

Chipset

Intel® Q670 chipset

Memory

Max Memory^[1]

Up to 64GB (2x 32GB DDR5 SO-DIMM)

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type^{**[2]}

- DDR5-4800
- DDR5-5200
- 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, DDR5-5200, or DDR5-5600 depending on the memory support capability of processor.

Storage

Max Storage Support^[1]

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

- 2.5" HDD up to 1TB
- M.2 SSD up to 2TB each

Storage Type^{***}

Disk Type	Interface	RPM	Offering	Security
2.5" SATA HDD	SATA 6Gb/s	7.2K	1TB	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	-	256GB / 512GB / 1TB	Opal 2.0
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Performance	-	512GB / 1TB / 2TB	Opal 2.0

RAID

None

Notes:

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

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC256VB codec

Speakers^{**}

- Premium single speaker, 2W x1
- Single speaker, 2W x1

Microphone

No microphone

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
65W	Adapter	89%	Autosensing
90W	Adapter	89%	Autosensing
135W	Adapter	90%	Autosensing
No power adapter	-	-	-

DESIGN

Input Device

Keyboard**

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

Mouse**

- Lenovo® Calliope Mouse (USB connector), black
- Lenovo® Calliope Wireless Mouse (2.4GHz via USB receiver), black
- No mouse

Mechanical

Form Factor

Tiny (1L)

Dimensions (WxDxH)^[1]

Models	Dimensions
Tiny & ODD	204.2 x 186.6 x 64 mm with rubber feet (8.04 x 7.35 x 2.52 inches with rubber feet)
Tiny only	179 x 182.9 x 36.5 mm with rubber feet (7.05 x 7.2 x 1.44 inches)

Packaging Dimensions (WxDxH)^[2]

- Tiny only: 490 x 250 x 130 mm (19.29 x 9.84 x 5.12 inches)
- Tiny & ODD: 490 x 268 x 166 mm (19.29 x 10.55 x 6.54 inches)

Weight^[3]

Models	Weight
Tiny only	1.25 kg (2.76 lbs)
With VESA mount & ODD box	1.74 kg (3.84 lbs)

Packaging Weight^[4]

- Tiny only: Around 3.2 kg (7.05 lbs)
- Tiny & ODD: Around 3.9 kg (8.6 lbs)

Case Color

Black

Bays

- 1x 2.5" disk bay (optional, or bay comes with disk)
- No bays

Expansion Slots

- Two M.2 PCIe® Gen 4x4 slots (for SSD)
- One M.2 slot (for WLAN)

EOU

- (Optional) toolless chassis open (toolless chassis screw required) and toolless M.2 SSD, HDD, memory assembly / removal
- No support

Stand

- Vertical stand
- No stand

IO Box

No IO box

Mounting

- VESA mount bracket kit, supports VESA mount 75mm and 100mm
- None

Others

- (Optional) Dust filter
- (Optional) Power adapter cage

Notes:

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

[2] The new packages take effect from September 2023. The old packages are:

Tiny only: 500 x 150 x 280 mm (19.69 x 5.91 x 11.02 inches)

Tiny & ODD: 500 x 175 x 280 mm (19.69 x 6.89 x 11.02 inches)

[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.

[4] The new packages take effect from September 2023. The old package are:

Tiny only: 2.85 kg (6.28 lbs)

Tiny & ODD: 3.58 kg (7.89 lbs)

CONNECTIVITY

Network

WLAN + Bluetooth®**

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card^[1]
- Intel® Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.2, M.2 Card^[2]
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, Intel® vPro® technology support, M.2 Card^[3]
- 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
- No optional Ethernet

Notes:

[1], [3] Bluetooth® 5.3 requires Windows® 11.

[2] Bluetooth® 5.2 requires Windows® 11.

Ports^[1]

Front Ports

- 1x USB-C® 3.2 Gen 2 (support data transfer)
- 1x USB 3.2 Gen 2 (Always On and 5V@2.1A charging)
- 1x USB 3.2 Gen 2
- 1x headphone / microphone combo jack (3.5mm)

Optional Front Ports

None

Rear Ports

- 2x USB 3.2 Gen 1 (one supports Smart Power On)
- 2x USB 3.2 Gen 2
- 1x HDMI® 2.1 TMDS
- 1x DisplayPort™ 1.4a (HBR2, DSC)
- 1x Ethernet (RJ-45)

Optional Rear Ports

- Punch out port 1 (one of VGA / DisplayPort™ / HDMI® / serial / USB-C® 3.2 Gen 1 with DisplayPort™ functions 100W PD in)
- Punch out port 2 (one of VGA / DisplayPort™ / HDMI® / serial / RJ-45)
- 2x USB 3.2 Gen 1 (share one USB 3.2 Gen 1 bandwidth, occupies port 1 and 2)
- 4x USB 3.2 Gen 1 (share one USB 3.2 Gen 1 bandwidth, occupy port 1 and 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.

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^[1]

Fingerprint Reader

No fingerprint reader

BIOS Security

- Administrator password
- Hard disk password
- Power-on password
- Absolute persistence module
- Boot sequence control
- Boot without keyboard and mouse
- Cover tamper detected
- Certificate-based BIOS authentication
- Certificate based BIOS management
- Cover presence switch
- Individual USB port disablement
- Secure wipe
- Secure boot
- Self-healing BIOS
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)

Notes:

[1] Chassis intrusion switch is hardware ready function and needs to be special bid or manually enabled in BIOS.

MANAGEABILITY

System Management

System Management

- Intel® vPro® Enterprise with Intel® AMT 16^[1]
- 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 Dual DP dongle
- DP to HDMI® dongle
- DP to VGA dongle
- HDMI® to HDMI® cable (1.5m)
- HDMI® to VGA dongle
- 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 recycled plastic used in product chassis

95% PCC recycled plastic used in USB keyboard/mouse

90% PIC recycled plastic EPE cushion or 90% PCC recycled plastic thermal shell with 30% OBP material

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^[2]
- (Optional) EPEAT™ Gold Registered^[3]
- ErP Lot 3
- 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>.

[2], [3] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

Other Certifications

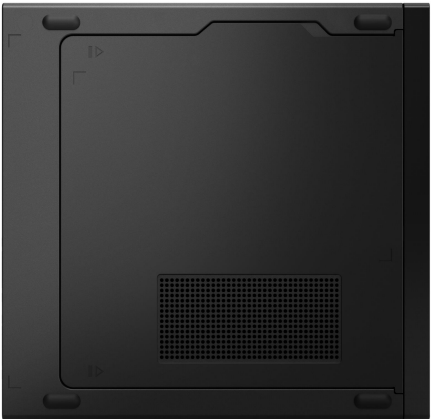
Other Certifications

(Optional) TÜV Rheinland® Ultra Low Noise

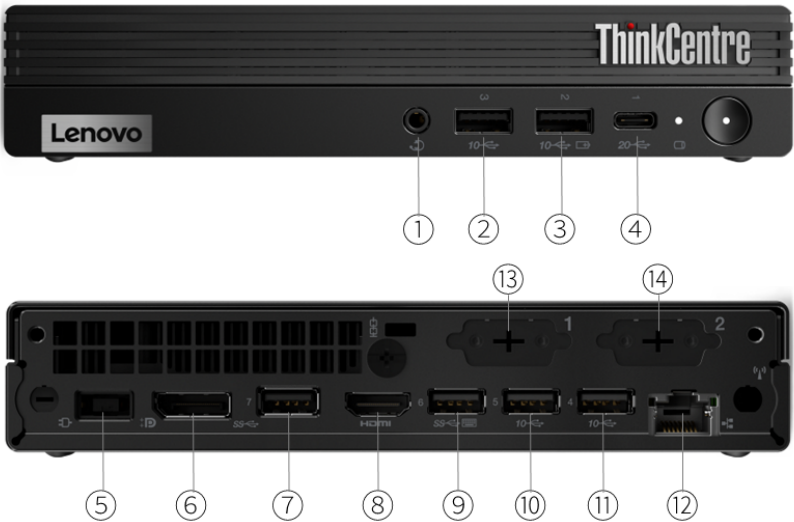
Mil-Spec Test

MIL-STD-810H military test passed

- 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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OVERVIEW



1. Headphone / microphone combo jack (3.5mm)	8. HDMI
2. USB-A (USB 10Gbps)	9. USB-A (USB 5Gbps), 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 (GbE RJ-45)
6. DisplayPort 1.4a	13. Punch out port 1 *
7. USB-A (USB 5Gbps)	14. Punch out port 2 *

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

13th or 14th Generation Intel® Core™ i5 / i7 / i9 Processor, 35W or 65W

Processor**[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
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	24MB	DDR5-4800	Intel® UHD Graphics 770
Core i5-13500T	14 (6 P-core + 8 E-core)	20	P-core 1.6GHz / E-core 1.2GHz	P-core 4.6GHz / E-core 3.2GHz	24MB	DDR5-4800	Intel® UHD Graphics 770
Core i5-13600	14 (6 P-core + 8 E-core)	20	P-core 2.7GHz / E-core 2.0GHz	P-core 5.0GHz / E-core 3.7GHz	24MB	DDR5-4800	Intel® UHD Graphics 770
Core i5-13600T	14 (6 P-core + 8 E-core)	20	P-core 1.8GHz / E-core 1.3GHz	P-core 4.8GHz / E-core 3.4GHz	24MB	DDR5-4800	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	30MB	DDR5-5600	Intel® UHD Graphics 770
Core i7-13700T	16 (8 P-core + 8 E-core)	24	P-core 1.4GHz / E-core 1.0GHz	Max Turbo up to 4.9GHz / P-core 4.8GHz / E-core 3.6GHz	30MB	DDR5-5600	Intel® UHD Graphics 770
Core i9-13900	24 (8 P-core + 16 E-core)	32	P-core 2.0GHz / E-core 1.5GHz	Max Turbo up to 5.6GHz / P-core 5.2GHz / E-core 4.2GHz	36MB	DDR5-5600	Intel® UHD Graphics 770
Core i9-13900T	24 (8 P-core + 16 E-core)	32	P-core 1.1GHz / E-core 0.8GHz	Max Turbo up to 5.3GHz / P-core 5.1GHz / E-core 3.9GHz	36MB	DDR5-5600	Intel® UHD Graphics 770
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	24MB	DDR5-4800	Intel® UHD Graphics 770
Core i5-14500T	14 (6 P-core + 8 E-core)	20	P-core 1.7GHz / E-core 1.2GHz	P-core 4.8GHz / E-core 3.4GHz	24MB	DDR5-4800	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	24MB	DDR5-5600	Intel® UHD Graphics 770
Core i5-14600T	14 (6 P-core + 8 E-core)	20	P-core 1.8GHz / E-core 1.3GHz	P-core 5.1GHz / E-core 3.6GHz	24MB	DDR5-5600	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	33MB	DDR5-5600	Intel® UHD Graphics 770
Core i7-14700T	20 (8 P-core + 12 E-core)	28	P-core 1.3GHz / E-core 0.9GHz	Max Turbo up to 5.2GHz / P-core 5.0GHz / E-core 3.7GHz	33MB	DDR5-5600	Intel® UHD Graphics 770
Core i9-14900	24 (8 P-core + 16 E-core)	32	P-core 2.0GHz / E-core 1.5GHz	Max Turbo up to 5.8GHz / P-core 5.4GHz / E-core 4.3GHz	36MB	DDR5-5600	Intel® UHD Graphics 770
Core i9-14900T	24 (8 P-core + 16 E-core)	32	P-core 1.1GHz / E-core 0.8GHz	Max Turbo up to 5.5GHz / P-core 5.1GHz / E-core 4.0GHz	36MB	DDR5-5600	Intel® UHD Graphics 770

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.

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	Max Resolution	Connector	Key Features
Intel® UHD graphics 770	Integrated	Shared	4096x2160@60Hz(HDMI®), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP), 4096x2304@60Hz(USB-C® with DP function)	1x HDMI® 2.1 TMDS, 1x DP 1.4, 2x punch out ports([2x HDMI®/VGA/DP] or [USB-C® with DP function, HDMI®/VGA/DP])	DirectX® 12

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 4 independent displays via (onboard DP, onboard HDMI®, optional punch out port 1 [VGA / HDMI® / DP / USB-C®], and optional punch out port 2 [VGA / HDMI® / DP])

Chipset

Chipset

Intel® Q670 chipset

Memory

Max Memory^[1]

Up to 64GB (2x 32GB DDR5 SO-DIMM)

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type^{**[2]}

- DDR5-4800
- DDR5-5200
- 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, DDR5-5200, or DDR5-5600 depending on the memory support capability of processor.

Storage

Max Storage Support^[1]

Up to two drives, 2x M.2 2280 SSD

- M.2 2280 SSD up to 2TB

Storage Type^{***}

Disk Type	Interface	Offering	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	256GB / 512GB / 1TB	Opal 2.0
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Performance	512GB / 1TB / 2TB	Opal 2.0

RAID

None

Notes:

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

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC233 codec

Speakers**

- Premium single speaker, 2W x1
- Single speaker, 2W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
65W	Adapter	89%	Autosensing
90W	Adapter	89%	Autosensing
135W	Adapter	90%	Autosensing
230W	Adapter	89%	Autosensing
No power adapter	-	-	-

DESIGN

Input Device

Keyboard**

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

Mouse**

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

Mechanical

Form Factor

Tiny (1L)

Dimensions (WxDxH)^[1]

Models	Dimensions
Tiny only	179 x 182.9 x 36.5 mm with rubber feet (7.05 x 7.2 x 1.44 inches with rubber feet)

Packaging Dimensions (WxDxH)

250 x 490 x 128mm (9.84 x 19.29 x 5.04 inches)

Weight^[2]

Models	Weight
Tiny only	1.25 kg (2.76 lbs)

Packaging Weight

Around 3.4 kg (7.50 lbs)

Case Color

Black

Bays

No bays

Expansion Slots

- One PCIe® 4.0 x8, low-profile
- Two M.2 PCIe® Gen 4x4 slots (for SSD)
- One M.2 slot (for WLAN)

EOU

- (Optional) toolless chassis open (toolless chassis screw required) and toolless M.2 SSD, HDD, memory assembly / removal
- No support

Stand

- Vertical stand
- No stand

IO Box

No IO box

Mounting

- VESA mount bracket kit, supports VESA mount 75mm and 100mm
- None

Others

- (Optional) Dust filter
- (Optional) Power adapter cage

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®**

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card^[1]
- Intel® Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.2, M.2 Card^[2]
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, Intel® vPro® technology support, M.2 Card^[3]
- Intel® Wi-Fi® 7 BE200, 802.11be 2x2 Wi-Fi® + Bluetooth® 5.3 (Bluetooth® 5.4 hardware ready), Intel® vPro® technology support, M.2 Card^[4]
- No WLAN and Bluetooth®

Onboard Ethernet

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

Optional Ethernet**

- Gigabit Ethernet, Intel® Ethernet Server Adapter I350-T4, 4x RJ-45, PCIe® x4^[5]
- 2.5 Gigabit Ethernet, Realtek® RTL8125BGS, 1x RJ-45, supports Wake-on-LAN
- No optional Ethernet

Notes:

[1], [3] Bluetooth® 5.3 requires Windows® 11.

[2] Bluetooth® 5.2 requires Windows® 11.

[4] Wi-Fi® 7 and Bluetooth® 5.4 require the supported Windows® OS.

[5] Intel® Ethernet Server Adapter I350-T4 is not available in EMEA.

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), with Always On and 5V@2.1A charging
- 1x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x headphone / microphone combo jack (3.5mm)

Optional Front Ports

None

Rear Ports^[2]

- 1x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 1x USB-A (USB 5Gbps / USB 3.2 Gen 1), with Smart Power On
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x HDMI® 2.1 TMDS
- 1x DisplayPort™ 1.4a (HBR2, DSC)
- 1x Ethernet (GbE RJ-45)

Optional Rear Ports^{*}**

- Punch out port 1 (one of VGA / DisplayPort™ / HDMI® / serial / USB-C® (USB 5Gbps) with DisplayPort™ function and 100W PD in)
- Punch out port 2 (one of VGA / DisplayPort™ / HDMI® / serial / RJ-45)
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1), share USB 5Gbps bandwidth, occupies port 1 and 2
- 4x USB-A (USB 5Gbps / USB 3.2 Gen 1), share USB 5Gbps bandwidth, occupies port 1 and 2
- 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^[1]

Fingerprint Reader

No fingerprint reader

BIOS Security

- Administrator password
- Hard disk password
- Power-on password
- Absolute persistence module
- Boot sequence control
- Boot without keyboard and mouse
- Cover tamper detected
- Configuration change detection
- Certificate based BIOS management
- Individual USB port disablement
- Intel® BIOS guard
- Secure wipe
- Secure boot
- Self-healing BIOS

- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator](#)^[2]

Notes:

[1] Chassis intrusion switch is hardware ready function and needs to be special bid or manually enabled in BIOS.

[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 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 Dual DP dongle
- DP to HDMI® dongle
- DP to VGA dongle
- HDMI® to HDMI® cable (1.5m)
- HDMI® to VGA dongle
- 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 recycled plastic used in product chassis

95% PCC recycled plastic used in USB keyboard/mouse

90% PIC recycled plastic EPE cushion or 90% PCC recycled plastic thermal shell with 30% OBP material

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™ Gold Registered^[2]
- ErP Lot 3
- 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>.

[2] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

Other Certifications

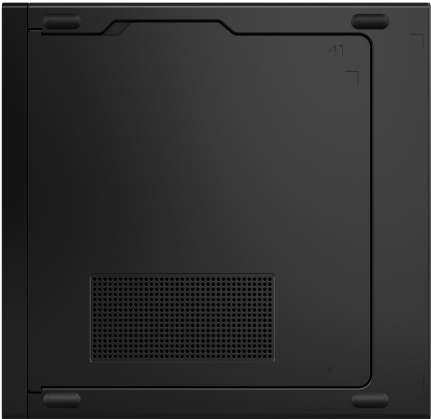
Other Certifications

(Optional) TÜV Rheinland® Ultra Low Noise

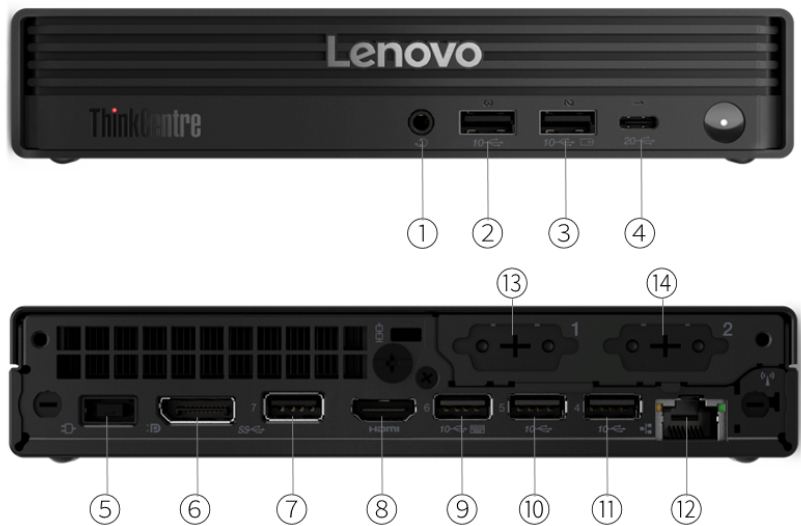
Mil-Spec Test

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.
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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. Punch out port 1 *
7. USB-A (USB 5Gbps)	14. Punch out port 2 *

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Intel® Core™ Ultra 5 / 7 / 9 Processor (Series 2)

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics	NPU
Core Ultra 5 235	14 (6 P-core + 8 E-core)	14	P-core 3.4GHz / E-core 2.9GHz	P-core 5.0GHz / E-core 4.4GHz	26MB L2 Cache / 24MB Intel® Smart Cache	-	Intel® Graphics	Intel® AI Boost
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	26MB L2 Cache / 24MB Intel® Smart Cache	DDR5-6400	Intel® Graphics	Intel® AI Boost
Core Ultra 5 245	14 (6 P-core + 8 E-core)	14	P-core 3.5GHz / E-core 3.0GHz	P-core 5.1GHz / E-core 4.5GHz	26MB L2 Cache / 24MB Intel® Smart Cache	-	Intel® Graphics	Intel® AI Boost
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	26MB L2 Cache / 24MB Intel® Smart Cache	DDR5-6400	Intel® Graphics	Intel® AI Boost
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	-	Intel® Graphics	Intel® AI Boost
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	Intel® AI Boost
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	-	Intel® Graphics	Intel® AI Boost
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	-

AI (Artificial Intelligence)

AI PC Category

AI PC^[1]

NPU

Integrated Intel® AI Boost, up to 13 TOPS

Notes:

[1] AI PCs have a NPU capable of 10+ TOPs to run the Copilot assistant by pressing the optional Microsoft® Copilot key or using Win + C.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 IoT Enterprise LTSC 2024

- Ubuntu Linux
- No preload operating system

Graphics

Graphics***[1]

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Integrated Intel® Graphics	Integrated	Shared	1920x1080@60Hz(VGA), 4096x2160@60Hz(DP 1.4a HBR2), 4096x2160@60Hz(HDMI® TMDS), 7680x4320@60Hz(HDMI® FRL), 4096x2160@60Hz(USB-C® with DP function)	1x HDMI® 2.1 TMDS, 1x DP 1.4a HBR2, optional port 1 (VGA / HDMI® 2.1 TMDS / HDMI® 2.1 FRL / DP 1.4a HBR2 / USB-C® with DP 1.4a HBR2 function), optional port 2 (VGA / HDMI® 2.1 TMDS / HDMI® 2.1 FRL / DP 1.4a HBR2)	DirectX® 12
Intel® Arc™ A310 Graphics	Discrete	4GB GDDR6	7680x4320@60Hz(DP)	2x DisplayPort™ 2.0	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 4 independent displays via (onboard DP, onboard HDMI®, optional punch out port 1 [VGA / HDMI® 2.1 TMDS / HDMI® 2.1 FRL / DP 1.4a HBR2 / USB-C® with DP 1.4a HBR2 function], optional punch out port 2 [VGA / HDMI® 2.1 TMDS / HDMI® 2.1 FRL / DP 1.4a HBR2], and two optional DP by discrete Intel® Arc™ A310 Graphics)

Chipset

Chipset

Intel® Q870 chipset

Memory

Max Memory[1]

Up to 64GB (2x 32GB DDR5 SO-DIMM)

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type

DDR5-5600

Notes:

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

Storage

Max Storage Support[1]

Up to three drives, 3x M.2 2280 SSD

- M.2 2280 SSD up to 2TB each

Storage Type***

Disk Type	Interface	Offering	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	256GB / 512GB / 1TB	Opal 2.0
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Performance	512GB / 1TB / 2TB	Opal 2.0

RAID

RAID 0/1 support

Notes:

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

Removable Storage

Optical
None

Card Reader
No card reader

Multi-Media

Audio Chip
High Definition (HD) Audio, Realtek® ALC233VB or Conexant CX11771 codec

Speakers**

- Premium single speaker, 2W x1
- Single speaker, 2W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
65W	Adapter	89%	Autosensing
90W	Adapter	89%	Autosensing
135W	Adapter	90%	Autosensing
230W	Adapter	89%	Autosensing
No power adapter	-	-	-

DESIGN

Input Device

Keyboard**

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

Mouse**

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

Mechanical

Form Factor

Tiny (1L)

Dimensions (WxDxH)^[1]

Models	Dimensions
Tiny only	179 x 182.9 x 36.5 mm (7.05 x 7.2 x 1.44 inches)

Packaging Dimensions (WxDxH)

Tiny with Stand: 140 x 488 x 266 mm (19.21 x 5.51 x 10.47 inches)

Weight^[2]

Models	Weight
Tiny only	Around 1.34 kg (2.95 lbs)

Packaging Weight

Tiny only: Around 3.905 kg (8.61 lbs)

Case Color

Black

Expansion Slots

- One PCIe® 4.0 x8, low-profile
- One M.2 slot (for WLAN)
- Three M.2 PCIe® Gen 4x4 slots (for SSD)

EOU

(Optional) toolless chassis open (toolless chassis screw required)

Stand

- Vertical stand
- No stand

Mounting

- Supports VESA mount 100mm
- None

Others

- (Optional) Dust filter
- (Optional) Power adapter cage

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® 6 AX203, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.2, M.2 Card
- Realtek® Wi-Fi® 6E RTL8852CE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, Intel® vPro® technology support, M.2 Card
- Intel® Wi-Fi® 7 BE200, 802.11be 2x2 Wi-Fi® + Bluetooth® 5.4, Intel® vPro® technology support, M.2 Card^[1]
- 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, supports Wake-on-LAN
- No optional Ethernet

Notes:

[1] Wi-Fi® 7 requires a separate Wi-Fi® 7 router and / or other networking devices to meet full WiFi 7 requirements.

Wi-Fi® 7 is backwards compatible with prior WiFi standards.

Wi-Fi® 7 is available in countries where Wi-Fi® 7 is supported.

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® (USB 5Gbps) with DisplayPort™ function and 100W PD in / RJ-45)
- Punch out port 2 (one of VGA / DisplayPort™ / HDMI® 4K / HDMI® 8K / RJ-45 / serial / Thunderbolt™ 4)
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2), share 10Gbps bandwidth, occupy port 1 and 2
- 4x USB-A (USB 10Gbps / USB 3.2 Gen 2), share 10Gbps bandwidth, occupy port 1 and 2
- 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

Fingerprint Reader

No fingerprint reader

BIOS Security

- Administrator password
- Hard disk password
- Power-on password
- Absolute persistence module
- Boot sequence control
- Boot without keyboard and mouse
- Cover tamper detected
- Configuration change detection
- Certificate based BIOS management
- Individual USB port disablement
- Intel® BIOS guard
- Secure wipe
- Secure boot
- 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]

- Intel® vPro® Enterprise
- Non-vPro®

Notes:

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

SERVICE

Warranty^[1]

Base Warranty**

- 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>.

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]

60% PIC recycled plastic with 30% OBP used in 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® 9.0
- (Optional) EPEAT™ Gold Registered
- ErP Lot 3
- 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

Other Certifications

(Optional) TÜV Rheinland® Ultra Low Noise

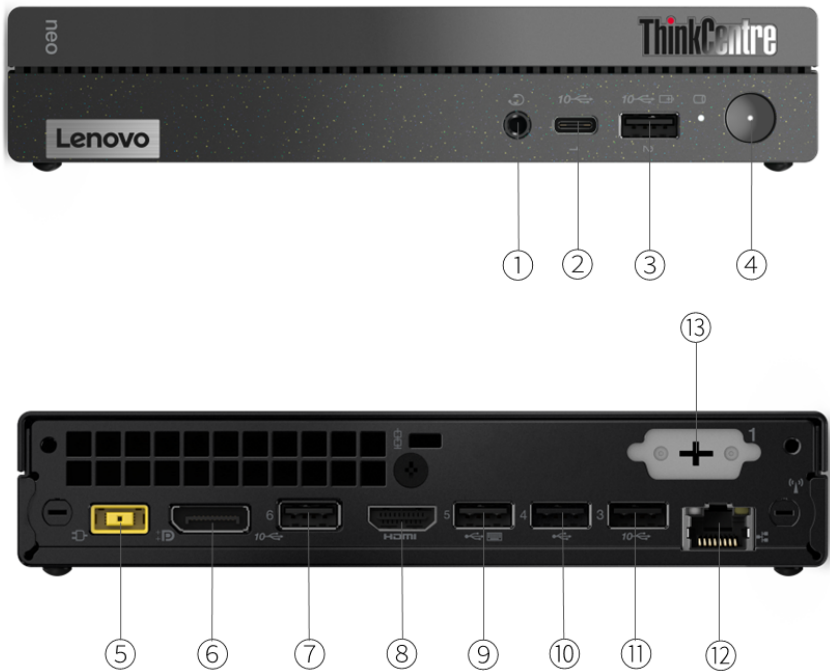
Mil-Spec Test

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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OVERVIEW



1. Headphone / microphone combo jack (3.5mm)	8. HDMI 2.1 TMDS
2. USB-C 3.2 Gen 2 (support data transfer and 5V@0.9A charging)	9. USB 2.0
3. USB 3.2 Gen 2 (Always On and 5V@2.1A charging)	10. USB 2.0
4. Power button	11. USB 3.2 Gen 2
5. Power-in	12. Ethernet (RJ-45)
6. DisplayPort 1.4	13. Punch out port *
7. USB 3.2 Gen 2	

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

12th Generation Intel® Core™ i3, or 13th Generation Intel® Core™ i5 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics
Core i3-1215U	6 (2 P-core + 4 E-core)	8	P-core 1.2GHz / E-core 0.9GHz	P-core 4.4GHz / E-core 3.3GHz ^[1]	10MB	Intel® UHD Graphics
Core i5-13420H	8 (4 P-core + 4 E-core)	12	P-core 2.1GHz / E-core 1.5GHz	P-core 4.6GHz / E-core 3.4GHz ^[2]	12MB	Intel® UHD Graphics

Notes:

[1], [2] 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.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- Ubuntu Linux^[1]
- No preload operating system

Notes:

[1] The pre-installed IGEL OS version is 11.08.240
The device is preload with a free evaluation license. The evaluation license will be valid for a period of 90 days.

Graphics

Graphics

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD Graphics	Integrated	Shared	4096x2160@60Hz(DP), 4096x2160@60Hz(HDMI®), 1920x1200@60Hz(VGA)	1x DP 1.4, 1x HDMI® 2.1 TMDS, 1x optional punch out port (1x VGA or 1x DP 1.4)	DirectX® 12.1

Monitor Support

Monitor Support

Supports up to 3 independent displays via (onboard DP, onboard HDMI®, optional punch out port)

Chipset

Chipset

Intel® SoC (System on Chip) platform

Memory

Max Memory^[1]

Up to 32GB DDR4-3200

Memory Slots

Two DDR4 SO-DIMM slots, dual-channel capable

Memory Type

DDR4-3200

Notes:

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

Storage

Max Storage Support^{[1][2]}

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

- 2.5" HDD up to 1TB
- M.2 SSD up to 1TB

Storage Type^{***}

Disk Type	Interface	RPM	Security
2.5" SATA HDD	SATA 6Gb/s	7.2K	-
M.2 2242 SSD	PCIe® NVMe®, PCIe® 3.0 x4	-	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	-	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	-	Opal 2.0

Notes:

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

[2] 2.5" HDD bracket kit only comes with pre-configured HDD models.

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC256 codec

Speakers

Single speaker, 2W x1

Microphone

No microphone

Power Supply

Power Supply^{**[1]}

Power	Type	Efficiency	Key Features
65W	Adapter	89%	Autosensing
90W	Adapter	89%	Autosensing
135W	Adapter	89%	Autosensing
No power adapter	-	-	-

Notes:

[1] The optional 90w adapter may increase performance scores when i5-13420H CPUs are installed.

When work with TIO monitor, an appropriate power adapter is needed. Customer may need to:

- Order a Tiny for TIO MT (12LQ, 12LR) models
- Or for Intel® Core™ i5 models order an additional 135W power adapter, for Intel® Core™ i3 models order an additional 90W power adapter. If original power adapter is less than 135W (i5 models) or 90W (i3 models).

DESIGN

Input Device

Keyboard

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

Mouse

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

Mechanical**Form Factor**

Tiny (1L)

Dimensions (WxDxH)^[1]

179 x 182.9 x 36.5 mm (7.05 x 7.2 x 1.44 inches)

Packaging Dimensions (WxDxH)^[2]

494 x 250 x 130 mm (19.45 x 9.84 x 5.12 inches)

Weight^[3]

Around 1.11 kg (2.45 lbs)

Packaging Weight^[4]

Around 3.2 kg (7.05 lbs)

Case Color

Black

Bays

1x 2.5" disk bay (optional, or bay comes with disk)

Expansion Slots

Two M.2 slots (one for WLAN, one for SSD)

EOU

(Optional) toolless chassis open (toolless chassis screw required)

Stand

- Vertical stand
- No stand

Mounting

- Supports VESA mount 100mm
- None

Cooling System (Fan & Cooler)

1x system fan

Others

(Optional) Power adapter cage

Notes:

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

[2] The new package takes effect from November 2023. The old package is:
140 x 262 x 500 mm (5.51 x 10.31 x 19.69 inches)

[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.

[4] The new package takes effect from November 2023. The old package is:
Around 5.18 kg (11.42 lbs)

CONNECTIVITY**Network****WLAN + Bluetooth®****

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card^[1]
- Intel® Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.2, M.2 Card^[2]

- No WLAN and Bluetooth®

Onboard Ethernet

Gigabit Ethernet, Realtek® RTL8111K-CG, 1x RJ-45

Notes:

[1] Bluetooth® 5.3 requires Windows® 11.

[2] Bluetooth® 5.2 requires Windows® 11.

Ports^[1]**Front Ports**

- 1x USB-C® 3.2 Gen 2 (support data transfer and 5V@0.9A charging)
- 1x USB 3.2 Gen 2 (Always On and 5V@2.1A charging)
- 1x headphone / microphone combo jack (3.5mm)

Optional Front Ports

None

Rear Ports

- 2x USB 2.0
- 2x USB 3.2 Gen 2
- 1x HDMI® 2.1 TMDS
- 1x DisplayPort™ 1.4
- 1x Ethernet (RJ-45)

Optional Rear Ports

Punch out port (one of VGA / DisplayPort™ 1.4 / serial)

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.

SECURITY & PRIVACY

Security

Security Chip

Firmware TPM 2.0 integrated in SoC

Physical Locks

Kensington® Security Slot™, 3 x 7 mm

Chassis Intrusion Switch

Chassis intrusion switch^[1]

BIOS Security

- Hard disk password
- Supervisor password
- Boot sequence control
- Cover tamper detected
- Configuration change detection
- Individual USB port disablement
- Intel® BIOS guard
- Secure wipe
- Secure boot
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator](#)^[2]
- Never crash Self-healing

Notes:

[1] Chassis intrusion switch is hardware ready function and needs to be special bid or manually enabled in BIOS.

[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

None

SERVICE

Warranty^[1]

Base Warranty**

- 1-year courier or carry-in service
- 1-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 VGA dongle

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)

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Gold Registered^[2]
- ErP Lot 3/7
- 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>.

[2] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

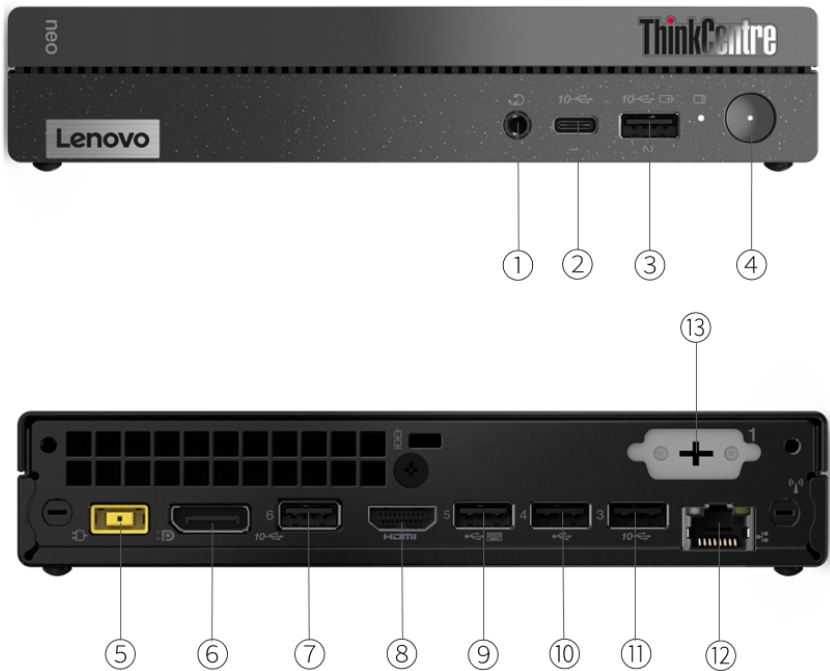
Other Certifications**Other Certifications**

(Optional) TÜV Rheinland® Ultra Low Noise

- 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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OVERVIEW



1. Headphone / microphone combo jack (3.5mm)	8. HDMI 2.1 TMDS
2. USB-C 3.2 Gen 2 (support data transfer and 5V@0.9A charging)	9. USB 2.0
3. USB 3.2 Gen 2 (Always On and 5V@2.1A charging)	10. USB 2.0
4. Power button	11. USB 3.2 Gen 2
5. Power-in	12. Ethernet (RJ-45)
6. DisplayPort 1.4	13. Punch out port *
7. USB 3.2 Gen 2	

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Intel® Celeron® or 12th Generation Intel® Core™ i3 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics
Celeron® 7305	5 (1 P-core + 4 E-core)	6	P-core 1.1GHz / E-core 0.9GHz	-	8MB	Intel® UHD Graphics
Core i3-1215U	6 (2 P-core + 4 E-core)	8	P-core 1.2GHz / E-core 0.9GHz	P-core 4.4GHz / E-core 3.3GHz ^[1]	10MB	Intel® UHD Graphics

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.

Operating System

Operating System**

- Windows® 10 IoT Enterprise LTSC 2021
- IGEL Linux (with License)
- IGEL Linux (no License)^[1]
- LeTOS™ V2 (Lenovo® Terminal Operating System, Linux-based)^[2]
- No preload operating system

Notes:

[1] The device is preload with a free evaluation license. The evaluation license will be valid for a period of 90 days.
[2] LeTOS™ V2 (Lenovo® Terminal Operating System, Linux-based) is EOL

Graphics

Graphics

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD Graphics	Integrated	Shared	4096x2160@60Hz(DP), 4096x2160@60Hz(HDMI®), 1920x1200@60Hz(VGA)	1x DP 1.4, 1x HDMI® 2.1 TMDS, 1x optional punch out port (1x VGA or 1x DP 1.4)	DirectX® 12.1

Monitor Support

Monitor Support

Supports up to 3 independent displays via (onboard DP, onboard HDMI®, optional punch out port)

Chipset

Chipset

Intel® SoC (System on Chip) platform

Memory

Max Memory^[1]

- Models with Intel® Celeron® processor: Up to 16GB DDR4-3200
- Models with Intel® Core™ processor: Up to 32GB DDR4-3200

Memory Slots

- Models with Intel® Core™ processor: Two DDR4 SO-DIMM slots, dual-channel capable
- Models with Intel® Celeron® processor: One DDR4 SO-DIMM slot, dual-channel capable

Memory Type

DDR4-3200

Notes:

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

Storage

Max Storage Support^[1]

One drive, 256GB M.2 2280 SSD

Storage Type

Disk Type	Interface	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	Opal 2.0

Notes:

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

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC256 codec

Speakers

Single speaker, 2W x1

Microphone

No microphone

Power Supply

Power Supply**^[1]

Power	Type	Efficiency	Key Features
65W	Adapter	89%	Autosensing
90W	Adapter	89%	Autosensing
No power adapter	-	-	-

Notes:

[1] When work with TIO monitor, an appropriate power adapter is needed. Customer may need to:

- Order a Tiny for TIO MT (12LK, 12LK, 12M3, 12M4) models
- Or order an additional 90W power adapter. If original power adapter is less than 90W.

DESIGN

Input Device

Keyboard

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

Mouse

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

Mechanical

Form Factor

Tiny (1L)

Dimensions (WxDxH)^[1]

179 x 182.9 x 36.5 mm (7.05 x 7.2 x 1.44 inches)

Packaging Dimensions (WxDxH)^[2]

494 x 250 x 130 mm (19.45 x 9.84 x 5.12 inches)

Weight^[3]

Around 1.11 kg (2.45 lbs)

Packaging Weight^[4]

Around 3.2 kg (7.05 lbs)

Case Color

Black

Bays

No bays

Expansion Slots

Two M.2 slots (one for WLAN, one for SSD)

EOU

(Optional) toolless chassis open (toolless chassis screw required)

Stand

- Vertical stand
- No stand

Mounting

- Supports VESA mount 100mm
- None

Cooling System (Fan & Cooler)

- 1x system fan
- No System Fan

Others

(Optional) Power adapter cage

Notes:

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

[2] The new package takes effect from November 2023. The old package is:
140 x 262 x 500 mm (5.51 x 10.31 x 19.69 inches)

[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.

[4] The new package takes effect from November 2023. The old package is:
Around 5.18 kg (11.42 lbs)

CONNECTIVITY

Network

WLAN + Bluetooth®**

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 card^[1]
- Intel® Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 Card^[2]
- No WLAN and Bluetooth®

Onboard Ethernet

Gigabit Ethernet, Realtek® RTL8111K-CG, 1x RJ-45

Notes:

[1], [2] Bluetooth® 5.2 is hardware ready but may run at a lower version due to OS limitations.

Ports^[1]

Front Ports

- 1x USB-C® 3.2 Gen 2 (support data transfer and 5V@0.9A charging)
- 1x USB 3.2 Gen 2 (Always On and 5V@2.1A charging)
- 1x headphone / microphone combo jack (3.5mm)

Optional Front Ports

None

Rear Ports

- 2x USB 2.0
- 2x USB 3.2 Gen 2
- 1x HDMI® 2.1 TMDS
- 1x DisplayPort™ 1.4
- 1x Ethernet (RJ-45)

Optional Rear Ports^[2]

Punch out port (one of VGA / DisplayPort™ 1.4 / serial)

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] Punch out ports only available on i3 models.

SECURITY & PRIVACY

Security

Security Chip

Firmware TPM 2.0 integrated in SoC

Physical Locks

Kensington® Security Slot™, 3 x 7 mm

Chassis Intrusion Switch

Chassis intrusion switch^[1]

BIOS Security

- Hard disk password
- Supervisor password
- Boot sequence control
- Cover tamper detected
- Configuration change detection
- Individual USB port disablement
- Intel® BIOS guard
- Never crash Self-healing
- Secure wipe
- Secure boot
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator](#)^[2]

Notes:

[1] Chassis intrusion switch is hardware ready function and needs to be special bid or manually enabled in BIOS.

[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

None

SERVICE**Warranty^[1]****Base Warranty****

- 1-year courier or carry-in service
- 1-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: 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)

CERTIFICATIONS**Green Certifications^[1]****Green Certifications**

- (Optional) ENERGY STAR® 8.0
- ErP Lot 3/7
- 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

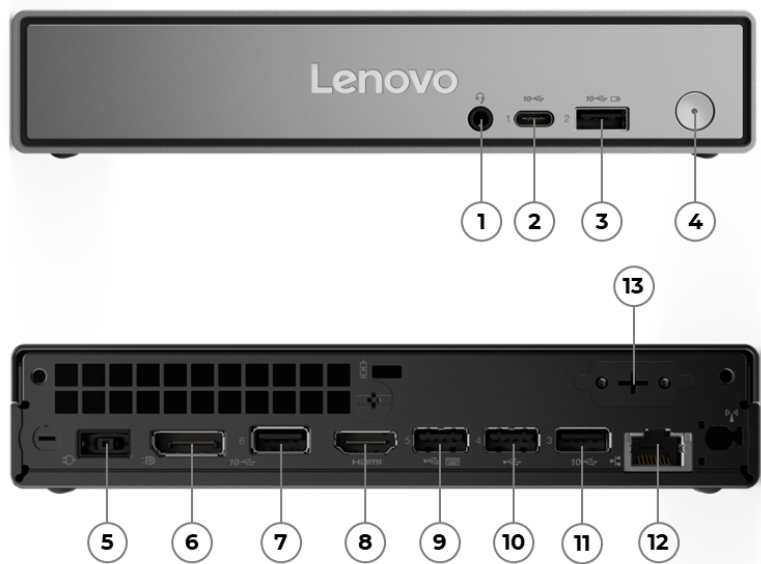
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notice.



OVERVIEW



1. headphone / microphone combo jack (3.5mm)	8. HDMI 2.1 TMDS
2. USB-C (USB 10Gbps), data transfer and 5V@3A charging	9. USB-A (Hi-Speed USB), with Smart Power On
3. USB-A (USB 10Gbps), Always On and 5V@2.1A charging	10. USB-A (Hi-Speed USB)
4. Power button	11. USB-A (USB 10Gbps)
5. Power-in	12. Ethernet (1GbE, RJ-45)
6. DisplayPort 1.4b	13. Punch out port *
7. USB-A (USB 10Gbps)	

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Intel® U-series, 13th Generation Intel® Core™ i3 Processor or Intel® H Series Core 5 / 7 Processor (Series 2)

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics
Core i3-1315U	6 (2 P-core + 4 E-core)	8	P-core 1.2GHz / E-core 0.9GHz	P-core 4.5GHz / E-core 3.3GHz	10MB	Intel® UHD Graphics
Core 5 210H	8 (4 P-core + 4 E-core)	12	P-core 2.2GHz / E-core 1.6GHz	P-core 4.8GHz / E-core 3.6GHz	12MB	Intel® Graphics
Core 7 240H	10 (6 P-core + 4 E-core)	16	P-core 2.5GHz / E-core 1.8GHz	P-core 5.2GHz / E-core 4.0GHz	24MB	Intel® Graphics

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Ubuntu Linux
- No preload operating system

Graphics

Graphics

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD Graphics	Integrated	Shared	4096x2160@60Hz(DP), 4096x2160@60Hz(HDMI®), 1920x1200@60Hz(VGA)	1x DP 1.4b, 1x HDMI® 2.1 TMDS, 1x optional punch out port (1x VGA or 1x DP 1.4b)	DirectX® 12.1

Monitor Support

Monitor Support

Supports up to 3 independent displays via (onboard DP, onboard HDMI®, and one optional port [VGA / 2nd DP])

Chipset

Chipset

Intel® SoC (System on Chip) platform

Memory

Max Memory^[1]

Up to 64GB DDR5-5600

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type

DDR5-5600^[2]

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 DDR5-5200 depending on the memory support capability of Intel® Core™ i3

Storage

Max Storage Support^[1]

Up to two drives, 2x M.2 SSD

- M.2 SSD up to 1TB each

Storage Type

Disk Type	Interface	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	Opal 2.0

RAID

RAID 0/1 support (RAID preset only available via special bid models)

Notes:

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

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC256 codec

Speakers

- No speakers
- Single speaker, 2W x1

Microphone

No microphone

Camera

No camera

Power Supply

Power Supply**[1]

Power	Type	Efficiency	Key Features
65W	Adapter	89%	Autosensing
90W	Adapter	89%	Autosensing
135W	Adapter	90%	Autosensing
135W	Adapter	89%	Autosensing
No power adapter	-	-	-

Notes:

[1] When work with TIO monitor, an appropriate power adapter is needed. Customer may need to:

- Order a Tiny for TIO MT (13C6, 13C7) models
- Or for Intel® Core™ 5/7 models order an additional 135W power adapter, for Intel® Core™ i3 models order an additional 90W power adapter. If original power adapter is less than 135W (Core 5/7 models) or 90W (i3 models).

DESIGN

Input Device

Keyboard**

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

Mouse**

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

Mechanical

Form Factor

Tiny (1L)

Dimensions (WxDxH)^[1]

Models	Dimensions
Tiny only (without rubber feet)	179 x 182.9 x 34.5 mm (7.05 x 7.2 x 1.36 inches)
Tiny only (with rubber feet)	179 x 182.9 x 36.5 mm (7.05 x 7.2 x 1.44 inches)

Packaging Dimensions (WxDxH)

- Tiny only: 240 x 250 x 186 mm (9.45 x 9.84 x 7.32 inches)
- Tiny with EOS keyboard: 532 x 250 x 128 mm (20.94 x 9.84 x 5.04 inches)
- Tiny with Calliope keyboard: 492 x 250 x 128 mm (19.37 x 9.84 x 5.04 inches)

Weight^[2]

Around 1.13 kg (2.49 lbs)

Packaging Weight**

- Tiny only: 2.03 kg (4.48 lbs)
- Tiny with EOS keyboard: 3.28 kg (7.23 lbs)
- Tiny with Calliope keyboard: 3.44 kg (7.58 lbs)

Case Color

Raven black

Bays

No bays

Expansion Slots

Three M.2 slots (one for WLAN, two for SSD)

EOU

- (Optional) toolless chassis open (toolless chassis screw required)
- No support

Stand

- Vertical stand
- No stand

IO Box

No IO box

Mounting

- Supports VESA mount 100mm
- None

Others

(Optional) Power adapter cage

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® 6 AX203, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.2, M.2 Card^[1]
- Realtek® Wi-Fi® 6E RTL8852CE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card^[2]

- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 Card^[3]
- Realtek® Wi-Fi® 7 RTL8922AE, 802.11be 2x2 Wi-Fi® + Bluetooth® 5.4^[4]
- No WLAN and Bluetooth®

Onboard Ethernet

Gigabit Ethernet, Realtek® RTL8111K, 1x RJ-45

Optional Ethernet

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

Notes:

[1] Wi-Fi® 6 full features might be limited by country-level restrictions.

[2], [3] Wi-Fi® 6E full features might be limited by country-level restrictions.

6GHz Wi-Fi® 6E operation is dependent on the support of the operating system, routers/APs/Gateways that support Wi-Fi® 6E, and the regional regulatory certifications & spectrum allocation.

Bluetooth® 5.3 operation requires Windows® 11. For more information please visit [General Bluetooth® Support Information on Microsoft®](#).

[4] The bandwidth of WiFi 7 adapter is 160 MHz.

Wi-Fi® 7 operation is subject to the regulation rules in each country.

Intel® Core™ i3 does not support WiFi 7.

Ports^[1]**Front Ports**

- 1x USB-C® (USB 10Gbps / USB 3.2 Gen 2), with data transfer and 5V@3A charging
- 1x USB-A (USB 10Gbps / USB 3.2 Gen 2), with Always On and 5V@2.1A charging
- 1x headphone / microphone combo jack (3.5mm)

Rear Ports

- 2x USB-A (Hi-Speed USB / USB 2.0), one supports Smart Power On
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x HDMI® 2.1 TMDS
- 1x DisplayPort™ 1.4b
- 1x Ethernet (GbE RJ-45)
- 1x Power connector

Optional Rear Ports

Punch out port (one of VGA / DisplayPort™ 1.4b / serial / 2.5GbE RJ-45)

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.

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^[1]

Fingerprint Reader

No fingerprint reader

BIOS Security

- Hard disk password
- Supervisor password
- Absolute persistence module
- Boot sequence control
- Boot without keyboard and mouse
- Cover tamper detected
- Configuration change detection
- Individual USB port disablement
- Intel® BIOS guard
- Secure wipe
- Secure boot
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- Never crash Self-healing

Notes:

[1] Chassis intrusion switch is hardware ready function and needs to be special bid or manually enabled in BIOS.

MANAGEABILITY

System Management

System Management

Non-vPro®

SERVICE

Warranty^[1]

Base Warranty**

- 1-year courier or carry-in service
- 1-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 VGA dongle
- 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]

90% PIC recycled plastic EPE cushion or 90% PCC recycled plastic thermal shell with 30% OBP material
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® 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

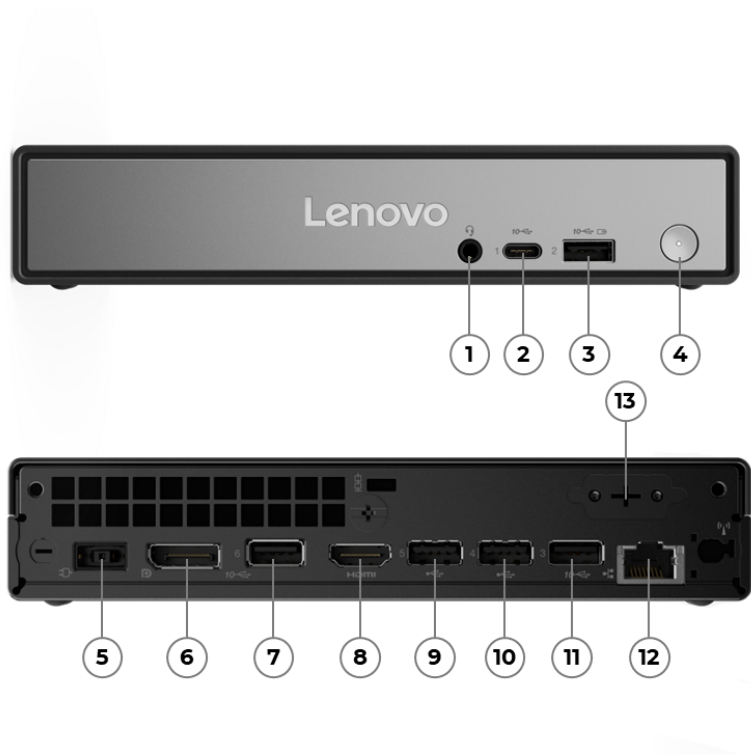
Other Certifications

(Optional) TÜV Rheinland® Ultra Low Noise

- 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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OVERVIEW



1. headphone / microphone combo jack (3.5mm)	8. HDMI 2.1 TMDs
2. USB-C (USB 10Gbps), data transfer and 5V@0.9A charging	9. USB-A (Hi-Speed USB)
3. USB-A (USB 10Gbps), Always On and 5V@2.1A charging	10. USB-A (Hi-Speed USB)
4. Power button	11. USB-A (USB 10Gbps)
5. Power-in	12. Ethernet (1GbE, RJ-45)
6. DisplayPort 1.4a	13. Punch out port *
7. USB-A (USB 10Gbps)	

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Snapdragon® X

Processor

Processor Name	Cores	Max Frequency	Cache	Processor Graphics	NPU
Snapdragon® X X1-26-100	8	3.0GHz	30MB Total	Qualcomm® Adreno™ GPU	Qualcomm® Hexagon™ NPU

AI (Artificial Intelligence)

AI PC Category

Copilot+ PC^[1]

NPU

Integrated Qualcomm® Hexagon™ NPU, up to 45 TOPS

Notes:

[1] Copilot+ PCs have at least 16GB RAM, 256GB storage, and a NPU that runs 40+ TOPs to run the latest AI tools build-in latest Windows® 11 to accelerate productivity and creativity.

Operating System

Operating System**

- Windows® 11 Pro (on ARM)
- Windows® 11 Home (on ARM)
- Windows® 11 Home Single Language (on ARM)

Graphics

Graphics

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Qualcomm® Adreno™ GPU	Integrated	Shared	4096x2160@60Hz(HDMI®), 4096x2160@60Hz(DP), 1920x1080@60Hz(VGA)	HDMI® 2.1 TMDS, DP 1.4a HBR2, 1x optional port (2nd DP 1.4a HBR2 / VGA)	DirectX® 12

Monitor Support

Monitor Support

Supports up to 3 independent displays via (onboard DP, onboard HDMI®, and one optional port [VGA / 2nd DP])

Chipset

Chipset

Qualcomm® SoC (System on Chip) platform

Memory

Max Memory^[1]

- 16GB soldered memory, not upgradable
- 32GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

Memory Type

LPDDR5x-8448

Notes:

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

Storage

Max Storage Support^[1]

Up to two drives, 2x M.2 SSD

- M.2 2280 SSD up to 1TB

Storage Type

Disk Type	Interface	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	Opal 2.0

Notes:

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

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Qualcomm® WCD9385 codec and WSA8845 amplifier

Speakers

Single speaker, 2W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
65W	Adapter	89%	Autosensing
90W	Adapter	89%	Autosensing
No power adapter	-	-	-

DESIGN

Input Device

Keyboard**

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

Mouse**

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

Mechanical

Form Factor

Tiny (1L)

Dimensions (WxDxH)^[1]

Models	Dimensions
Tiny only (without rubber feet)	179 x 182.9 x 34.5 mm (7.05 x 7.2 x 1.36 inches)
Tiny only (with rubber feet)	179 x 182.9 x 36.5 mm (7.05 x 7.2 x 1.44 inches)

Packaging Dimensions (WxDxH)**

- Tiny only: 240 x 250 x 186 mm (9.45 x 9.84 x 7.32 inches)
- Tiny with EOS keyboard: 532 x 250 x 128 mm (20.94 x 9.84 x 5.04 inches)
- Tiny with Calliope keyboard: 492 x 250 x 128 mm (19.37 x 9.84 x 5.04 inches)

Weight^[2]

Around 1.13 kg (2.49 lbs)

Packaging Weight**

- Tiny only: 2.03 kg (4.48 lbs)
- Tiny with EOS keyboard: 3.28 kg (7.23 lbs)
- Tiny with Calliope keyboard: 3.44 kg (7.58 lbs)

Case Color

Eclipse black

Bays

No bays

Expansion Slots

Three M.2 slots (one for WLAN, two for SSD)

EOU

(Optional) toolless chassis open (toolless chassis screw required)

Stand

- Vertical stand
- No stand

IO Box

No IO box

Mounting

- Supports VESA mount 100mm
- None

Others

(Optional) Power adapter cage

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®

- Qualcomm® Wi-Fi® 6E NFA765A, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3^[1]
- No WLAN and Bluetooth®

Onboard Ethernet

Gigabit Ethernet, Realtek® RTL8111K, 1x RJ-45

Notes:

[1] Wi-Fi® 6E full features might be limited by country-level restrictions.

6GHz Wi-Fi® 6E operation is dependent on the support of the operating system, routers/APs/Gateways that support Wi-Fi® 6E, and the regional regulatory certifications & spectrum allocation.

Bluetooth® 5.3 operation requires Windows® 11. For more information please visit [General Bluetooth® Support Information on Microsoft®](#).

Ports^[1]

Front Ports

- 1x USB-C® (USB 10Gbps / USB 3.2 Gen 2), with data transfer and 5V@0.9A charging
- 1x USB-A (USB 10Gbps / USB 3.2 Gen 2), with Always On and 5V@2.1A charging
- 1x headphone / microphone combo jack (3.5mm)

Rear Ports^[2]

- 2x USB-A (Hi-Speed USB / USB 2.0)
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x HDMI® 2.1 TMDS
- 1x DisplayPort™ 1.4a (HBR2)
- 1x Ethernet (GbE RJ-45)
- 1x Power connector

Optional Rear Ports

Punch out port (one of VGA / DisplayPort™ 1.4a HBR2)

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

Physical Locks

Kensington® Security Slot™, 3 x 7 mm

Chassis Intrusion Switch

No chassis intrusion switch

Fingerprint Reader

- Touch style fingerprint reader on mouse
- No fingerprint reader

BIOS Security

- Hard disk password
- Supervisor password
- Absolute persistence module
- Boot sequence control
- Boot without keyboard and mouse
- Configuration change detection
- Secure wipe
- Secure boot

MANAGEABILITY

System Management

System Management

Non-vPro®

SERVICE

Warranty^[1]

Base Warranty**

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

ACCESSORIES

Bundled Accessories

Bundled Accessories

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]

90% PIC recycled plastic EPE cushion or 90% PCC recycled plastic thermal shell with 30% OBP material
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® 9.0
- (Optional) EPEAT™ Gold Registered
- GREENGUARD®
- RoHS compliant
- TCO Certified 10.0
- VOC Report

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

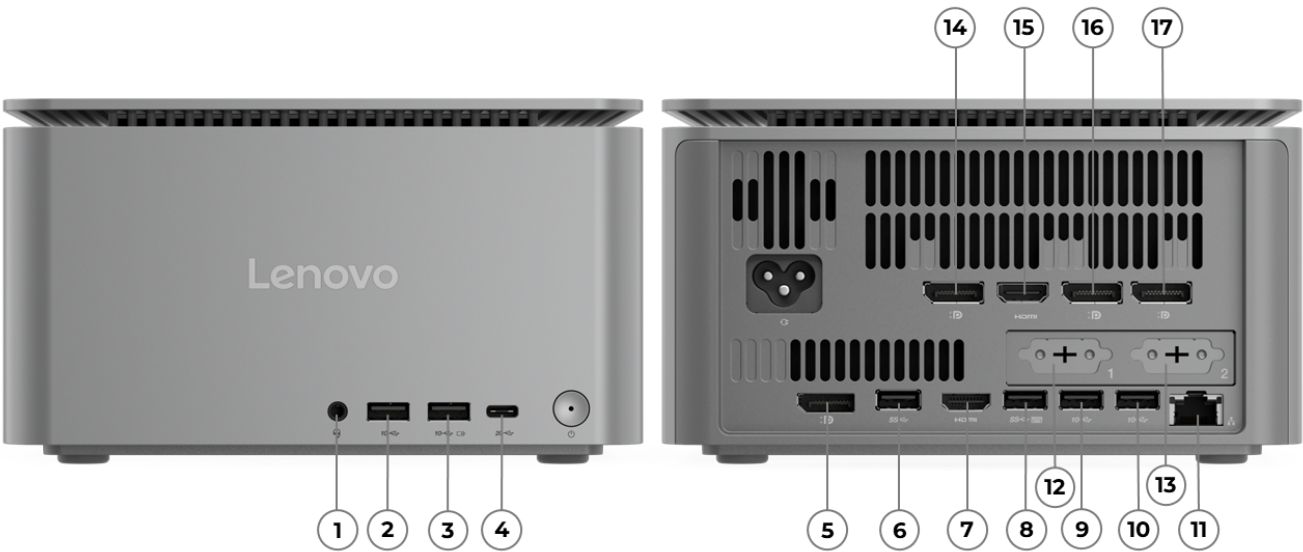
Other Certifications

(Optional) TÜV Rheinland® Ultra Low Noise

- 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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OVERVIEW



1. Headphone / microphone combo jack (3.5mm)	10. USB-A (USB 10Gbps)
2. USB-A (USB 10Gbps)	11. Ethernet (GbE RJ-45)
3. USB-A (USB 10Gbps), Always On	12. Punch out port 1 *
4. USB-C (USB 20Gbps)	13. Punch out port 2 *
5. DisplayPort 1.4a	14. DisplayPort 1.4a
6. USB-A (USB 5Gbps)	15. HDMI 2.1a FRL
7. HDMI 2.1 TMDs	16. DisplayPort 1.4a
8. USB-A (USB 5Gbps)	17. DisplayPort 1.4a
9. USB-A (USB 10Gbps)	

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

14th Generation Intel® Core™ i5 / i7 / i9 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
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	24MB	DDR5-4800	Intel® UHD Graphics 770
Core i5-14500T	14 (6 P-core + 8 E-core)	20	P-core 1.7GHz / E-core 1.2GHz	P-core 4.8GHz / E-core 3.4GHz	24MB	DDR5-4800	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	33MB	DDR5-5600	Intel® UHD Graphics 770
Core i7-14700T	20 (8 P-core + 12 E-core)	28	P-core 1.3GHz / E-core 0.9GHz	Max Turbo up to 5.2GHz / P-core 5.0GHz / E-core 3.7GHz	33MB	DDR5-5600	Intel® UHD Graphics 770
Core i9-14900	24 (8 P-core + 16 E-core)	32	P-core 2.0GHz / E-core 1.5GHz	Max Turbo up to 5.8GHz / P-core 5.4GHz / E-core 4.3GHz	36MB	DDR5-5600	Intel® UHD Graphics 770
Core i9-14900T	24 (8 P-core + 16 E-core)	32	P-core 1.1GHz / E-core 0.8GHz	Max Turbo up to 5.5GHz / P-core 5.1GHz / E-core 4.0GHz	36MB	DDR5-5600	Intel® UHD Graphics 770

AI (Artificial Intelligence)

AI PC Category

AI PC^[1]

NPU

- Discrete NPU card, up to 30 TOPS
- None

Notes:

[1] AI PCs have a NPU capable of 10+ TOPs to run the Copilot assistant by pressing the optional Microsoft® Copilot key or using Win + C.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- No preload operating system

Graphics

Graphics***^[1]

Graphics	Type	Memory	AI TOPS (Peak)	Max Resolution	Connector	Key Features
Intel® UHD graphics 770	Integrated	Shared	-	4096x2160@60Hz(HDMI®), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP)	1x HDMI® 2.1 TMDS, 1x DP 1.4a (HBR2, DSC), 2x optional punch out ports (2x HDMI®/VGA/DP)	DirectX® 12
NVIDIA® GeForce RTX™ 4060	Discrete	8G GDDR6	242	7680x4320@60Hz(HDMI®), 7680x4320@60Hz(DP)	1x HDMI® 2.1a FRL, 3x DP 1.4a (HBR3, DSC)	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 8 independent displays. 4 displays support via onboard ports (1x DP, 1x HDMI® + 2x optional port [VGA / DP / HDMI®]), 4 displays support via discrete graphics ports (3x DP + 1x HDMI®)

Chipset

Chipset

Intel® Q670 chipset

Memory

Max Memory^[1]

Up to 64GB DDR5-5200

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type

- DDR5-4800
- DDR5-5200
- DDR5-5600

Memory Protection

Non-ECC

Notes:

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

Storage

Max Storage Support^[1]

Dual SSD mode: up to two drives, 2x M.2 SSD

- M.2 2280 SSD up to 2TB

Storage Type^{***}

Disk Type	Interface	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	Opal 2.0
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Performance	Opal 2.0

RAID

RAID 0/1 support for SSDs

Notes:

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

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio

Speakers

Single speaker, 2W x1

Power Supply

Power Supply

Power	Type	Key Features
350W	Fixed	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

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

Mouse**

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

Mechanical

Form Factor

Tiny (3.6L)

Dimensions (WxDxH)^[1]

195 x 191 x 108 mm (7.68 x 7.52 x 4.25 inches)

Packaging Dimensions (WxDxH)

538 x 240 x 290 mm (21.18 x 9.45 x 11.42 inches)

Weight^[2]

Around 3.5 kg (7.72 lbs)

Packaging Weight

Around 5.7 kg (12.57 lbs)

Case Color

Luna grey

Expansion Slots

Four M.2 slots (one for WLAN, one for AI Card, two for SSD)

EOU

EOU design for M.2 SSD and memory installation.

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® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, Intel® vPro® technology support, M.2 Card
- Intel® Wi-Fi® 7 BE200, 802.11be 2x2 Wi-Fi® + Bluetooth® 5.3 (Bluetooth® 5.4 hardware ready), Intel® vPro® technology support, M.2 Card
- No WLAN and Bluetooth®

Onboard Ethernet**

- 2.5GbE, Realtek® RTL8125BGS Gaming Ethernet, 1x RJ-45
- Gigabit Ethernet, Intel® Ethernet Connection I219-LM, 1x RJ-45, supports Wake-on-LAN

Optional Ethernet

No optional Ethernet

Ports^[1]**Front Ports**

- 1x USB-C® (USB 20Gbps / USB 3.2 Gen 2x2), data transfer only
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2), one supports 5V@2.1A charging
- 1x headphone / microphone combo jack (3.5mm)

Rear Ports^[2]

- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 1x HDMI® 2.1 TMDS
- 1x HDMI® 2.1a FRL
- 4x DisplayPort™ 1.4a
- 1x Ethernet (GbE RJ-45)

Optional Rear Ports

- Punch out port 1 (one of VGA / DisplayPort™ / HDMI® / serial / USB-C® (USB 5Gbps) with DisplayPort™ function)
- Punch out port 2 (one of VGA / DisplayPort™ / HDMI® / serial / 2.5GbE RJ-45)

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

Firmware TPM 2.0 integrated in chipset

Physical Locks

Kensington® Security Slot™

Fingerprint Reader

No fingerprint reader

BIOS Security

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

Notes:

[1] 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

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)

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

50% Recycled & 50% Hydroelectric Aluminum
35% PCC recycled PC/ABS with coconut shell powder
85% PCC recycled plastic used in product chassis
95% PCC recycled plastic used in USB keyboard/mouse
90% PIC recycled plastic EPE cushion
30% OBP used in bag
FSC certified paper in packaging

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Gold Registered
- ErP Lot 3
- GREENGUARD®

- RoHS compliant
- TCO Certified

Notes:

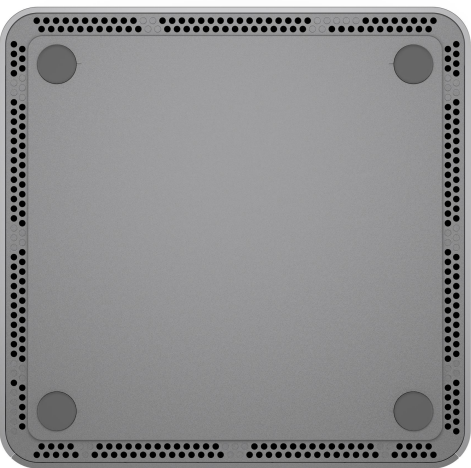
[1] The items listed under the "Green Certifications" section may not only refer to certification but also registration or self-declaration. For ESG & regulatory compliance documents, please visit <https://compliance.lenovo.com>.

Other Certifications

Other Certifications

(Optional) TÜV Rheinland® Low Noise

- 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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OVERVIEW



1. Kensington Security Slot	4. DisplayPort 1.2
2. Power-in	5. USB-B 3.2 Gen 1
3. HDMI 1.4	6. USB 3.2 Gen 1

PERFORMANCE

Panel

Panel

In-Plane Switching (IPS)

Backlight

WLED

Display Size

21.5 inches

Max View Area

- Active Area: 476.1 x 267.8 mm
- Screen Dimension: 484.5 x 284.5 mm

Resolution

1920 x 1080

Aspect Ratio

16:9

Pixel Pitch

0.248 x 0.248 mm

Dot / Pixel Per Inch

102 dpi

Brightness

250 cd/m²

Contrast Ratio

- Contrast Ratio: 1000:1
- Dynamic Contrast Ratio (Typical): 3000000:1

View Angle (H / V)

Horizontal: 178°, Vertical: 178°

Response Time

- Extreme Mode: 4 ms
- Normal Mode: 6 ms

Refresh Rate

60Hz

Color Gamut

99% sRGB

Color Support

16.7 Million

Color Depth

8-bit (6-bit+FRC)

Screen Surface Treatment

Anti-glare

Curvature

Flat Panel

Operating System

Operating System

- Windows® 11 Support
- Windows® 10 Support

Multi-Media

Camera

FHD 1080p

Microphone

Integrated microphone

Speakers

Stereo speakers, 3W x2

Power Supply

Power Consumption

- Typical / Max: 13.4W / 33W
- Sleep / Off mode: <0.5W
- Switch-off Mode: <0.3W
- Energy Star Power On: 10W
- Energy Star TEC: 32.3kWh
- External Power Supply

Voltage Required

AC 100 to 240 V (50-60Hz)

Special Features

Special Features

- Lenovo® ThinkColour (Lenovo® Accessories and Display Manager) Support
Lenovo® ThinkColour supports Windows® 10 & 11, Mac OS, and Windows® On Arm (functions vary across systems).
Lenovo® Accessories and Display Manager is formerly Lenovo® Display Control Center.
- KVM Switch
- Natural Low Blue Light

DESIGN

Display

Touchscreen

- Capacitive-type multi-touch, supports 10-point touch (for MT 12N9 only)
- Non-touch

Mechanical

ThinkCentre® M Series Support

ThinkCentre® Tiny, ThinkStation® Tiny from 4th Generation

Bezel Width

- Side: 2.0mm
- Top / Bottom: 2mm / 46mm

Case Color

Raven black

Dimensions (WxDxH)^[1]

Models	Dimensions
Head Only	489.3 x 72.8 x 339.1 mm (19.26 x 2.87 x 13.3 inches)
Highest Position	489.3 x 207.6 x 512.3 mm (19.26 x 8.17 x 20.17 inches)
Lowest Position	489.3 x 207.6 x 357.3 mm (19.26 x 8.17 x 14.07 inches)

Packaging Dimensions (WxDxH)

568 x 176 x 422 mm (22.36 x 6.93 x 16.61 inches)

Weight^[2]

Models	Weight
Monitor With Stand	5.5 kg (12.1 lbs)
Monitor Head Only	3.2 kg (7.1 lbs)

Packaging Weight

8.1 kg (17.86 lbs)

Mounting

Supports VESA mount 100mm

Stand

Supports -5° to +23.5° tilt, left & right 45 swivel, -5° to +90° pivot, up to 155mm lift

In the Box

- Monitor with stand
- Power adapter (90W)
- Power cable (1.0 m)
- Quick setup guide

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

Ports^[1]

Rear Ports

- 1x USB 3.2 Gen 1
- 1x USB-B 3.2 Gen 1, USB upstream
- 1x HDMI® 1.4
- 1x DisplayPort™ 1.2

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.

SECURITY & PRIVACY

Security

Physical Locks

Kensington® Security Slot™, 3 x 7 mm and 2.5 x 6 mm

SERVICE

Warranty

Base Warranty

3-year limited warranty

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- ENERGY STAR® Certified
- EPEAT™ Gold Registered
- EU Energy Label (D-class)
- RoHS compliant
- TCO Certified 9.0
- TCO edge 2.0

- Volatile Organic Compound Certification

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

- Eyesafe® Certified 2.0
- TÜV Rheinland® Eye Comfort Certification
- TÜV Rheinland® Low Blue Light (Hardware Solution)

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OVERVIEW



1. Kensington Security Slot	4. DisplayPort 1.2
2. Power-in	5. USB-B 3.2 Gen 1
3. HDMI 1.4	6. USB 3.2 Gen 1

PERFORMANCE

Panel

Panel

In-Plane Switching (IPS)

Backlight

WLED

Display Size

23.8 inches

Max View Area

- Active Area: 527.0 x 296.4 mm
- Screen Dimension: 535 x 313 mm

Resolution

1920 x 1080

Aspect Ratio

16:9

Pixel Pitch

0.275 x 0.275 mm

Dot / Pixel Per Inch

93 dpi

Brightness

250 cd/m²

Contrast Ratio

- Contrast Ratio: 1000:1
- Dynamic Contrast Ratio (Typical): 3000000:1

View Angle (H / V)

Horizontal: 178°, Vertical: 178°

Response Time

- Extreme Mode: 4 ms
- Normal Mode: 6 ms

Refresh Rate

60Hz

Color Gamut

99% sRGB

Color Support

16.7 Million

Color Depth

8-bit (6-bit+FRC)

Screen Surface Treatment

Anti-glare

Curvature

Flat Panel

Operating System

Operating System

- Windows® 11 Support
- Windows® 10 Support

Multi-Media

Camera**

- FHD 1080p
- FHD 1080p + IR camera^[1]

Microphone

Integrated microphone

Speakers

Stereo speakers, 3W x2

Notes:

[1] For machine type 12NC

Power Supply

Power Consumption

- Typical / Max: 14W / 34W
- Sleep / Off mode: <0.5W
- Switch-off Mode: <0.3W
- Energy Star Power On: 11.9W
- Energy Star TEC: 37.9kWh
- External Power Supply

Voltage Required

AC 100 to 240 V (50-60Hz)

Special Features

Special Features

- Lenovo® ThinkColour (Lenovo® Accessories and Display Manager) Support
Lenovo® ThinkColour supports Windows® 10 & 11, Mac OS, and Windows® On Arm (functions vary across systems).
Lenovo® Accessories and Display Manager is formerly Lenovo® Display Control Center.
- KVM Switch
- Natural Low Blue Light

DESIGN

Display

Touchscreen

- Capacitive-type multi-touch, supports 10-point touch (for MT 12NB only)
- Non-touch

Mechanical

ThinkCentre® M Series Support

ThinkCentre® Tiny, ThinkStation® Tiny from 4th Generation

Bezel Width

- Side: 2.0mm
- Top / Bottom: 2mm / 46mm

Case Color

Raven black

Dimensions (WxDxH)^[1]

Models	Dimensions
Head Only	539.8 x 72.8 x 367.6 mm (21.25 x 2.87 x 14.47 inches)
Highest Position	539.8 x 207.6 x 539.6 mm (21.25 x 8.17 x 21.24 inches)
Lowest Position	539.8 x 207.6 x 384.6 mm (21.25 x 8.17 x 15.14 inches)

Packaging Dimensions (WxDxH)

620 x 187 x 420 mm (24.41 x 7.36 x 16.54 inches)

Weight^[2]

Models	Weight
Monitor With Stand	6.0 kg (13.2 lbs)
Monitor Head Only	3.7 kg (8.2 lbs)

Packaging Weight

9.5 kg (20.9 lbs)

Mounting

Supports VESA mount 100mm

Stand

Supports -5° to +23.5° tilt, left & right 45 swivel, -5° to +90° pivot, up to 155mm lift

In the Box

- Monitor with stand
- Power adapter (90W)
- Power cable (1.0 m)
- Quick setup guide

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

Ports^[1]

Rear Ports

- 1x USB 3.2 Gen 1
- 1x USB-B 3.2 Gen 1, USB upstream
- 1x HDMI® 1.4
- 1x DisplayPort™ 1.2

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.

SECURITY & PRIVACY

Security

Physical Locks

Kensington® Security Slot™, 3 x 7 mm and 2.5 x 6 mm

SERVICE

Warranty

Base Warranty

3-year limited warranty

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- ENERGY STAR® Certified

- EPEAT™ Gold Registered
- EU Energy Label (D-class)
- RoHS compliant
- TCO Certified 9.0
- TCO edge 2.0
- Volatile Organic Compound Certification

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

- Eyesafe® Certified 2.0
- TÜV Rheinland® Eye Comfort Certification
- TÜV Rheinland® Low Blue Light (Hardware Solution)

- 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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OVERVIEW



1. 2x USB 3.1 Gen 1	4. Power connector
2. Headphone / microphone combo jack (3.5mm)	5. DisplayPort
3. HDMI 1.4	6. USB-B 3.1 Gen 1

- Notes:
- USB 3.1 Gen 1(only available when a Tiny is installed or a PC is connected)

PERFORMANCE

Panel

Panel

In-Plane Switching (IPS)

Backlight

WLED

Display Size

27 inches

Max View Area

WxH: 596.7 x 335.7 mm

Resolution

2560 x 1440

Aspect Ratio

16:9

Pixel Pitch

0.2331 x 0.2331 mm

Dot / Pixel Per Inch

109 dpi

Brightness

350 cd/m²

Contrast Ratio

- Contrast Ratio: 1000:1
- Dynamic Contrast Ratio (Typical): 3000000:1

View Angle (H / V)

Horizontal: 178°, Vertical: 178°

Response Time

- Extreme Mode: 4 ms
- Normal Mode: 6 ms
- Off Mode: 14 ms

Refresh Rate

60Hz

Color Gamut

99% sRGB

Color Support

16.7 Million

Screen Surface Treatment

Anti-glare

Operating System

Operating System

- Windows® 11 Support
- Windows® 10 Support
- Windows® 7 Support

Multi-Media

Camera

IR + RGB camera, with dual microphone, ThinkShutter, and LED indicator. Supports Window Hello and Facial Recognition

Microphone

Dual-microphone array

Speakers

Stereo speakers, 2W x2

Power Supply

Power Consumption

Typical / Max: 37W / 57W

DESIGN

Display

Touchscreen

Non-touch

Mechanical

ThinkCentre® M Series Support

ThinkCentre® Tiny, ThinkCentre® Nano, and ThinkStaion Tiny

Bezel Width

- Top / side: 2.0mm
- Bottom: 23.3mm

Buttons

- Brightness button
- Exit button
- Menu button
- Mode-switching button
- Power button
- Volume button

Cable Management

Support

Case Color

Black

Dimensions (WxDxH)^[1]

Models	Dimensions
Models with full function monitor stand	614 x 329 x 554.25 mm (24.17 x 12.95 x 21.82 inches)
Models without stand	614 x 73.89 x 413.1 mm (24.17 x 2.91 x 16.26 inches)

Packaging Dimensions (WxDxH)

782 x 172 x 469 mm (30.79 x 77.00 x 18.46 inches)

Weight^[2]

Models	Weight
Models without stand	Around 4.90 kg (10.82 lbs)
Models with full function monitor stand	Around 7.95 kg (17.53 lbs)

Packaging Weight

9.75 kg (21.5 lbs)

Mounting

Supports VESA mount 100mm

Stand

Full function monitor stand, supports -5° to +30° tilt, left & right 45° swivel, up to 110mm lift, -5° to +90° pivot

In the Box

- Power cable
- 1x Power adapter
- Detachable stand
- TIO (monitor)

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

Ports^[1]

Rear Ports

- 1x USB-B 3.1 Gen 1, USB upstream
- 1x HDMI® 1.4
- 1x DisplayPort™ 1.2
- 1x power connector

Left Ports^[2]

- 2x USB 3.1 Gen 1 (on TIO)
The availability and version depends on the Tiny installed or the PC connected via USB upstream port (USB-B 3.1 Gen 1)
- 1x headphone / microphone combo jack (on TIO)
- Side ports offered by installed Tiny (on Tiny)

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] The USB ports are enabled by installing a Tiny or connecting USB upstream port; the audio port is enabled by installing a Tiny or connecting USB upstream, DisplayPort™(in), or HDMI®(in) port.

SECURITY & PRIVACY

Security

Physical Locks

Kensington® Security Slot™, 3 x 7 mm

SERVICE

Warranty

Base Warranty

3-year limited warranty

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- ENERGY STAR® 8.0
- EPEAT™ Silver Registered^[2]
- RoHS compliant
- TCO edge 2.0
- ULE Gold
- WEEE

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>.
[2] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

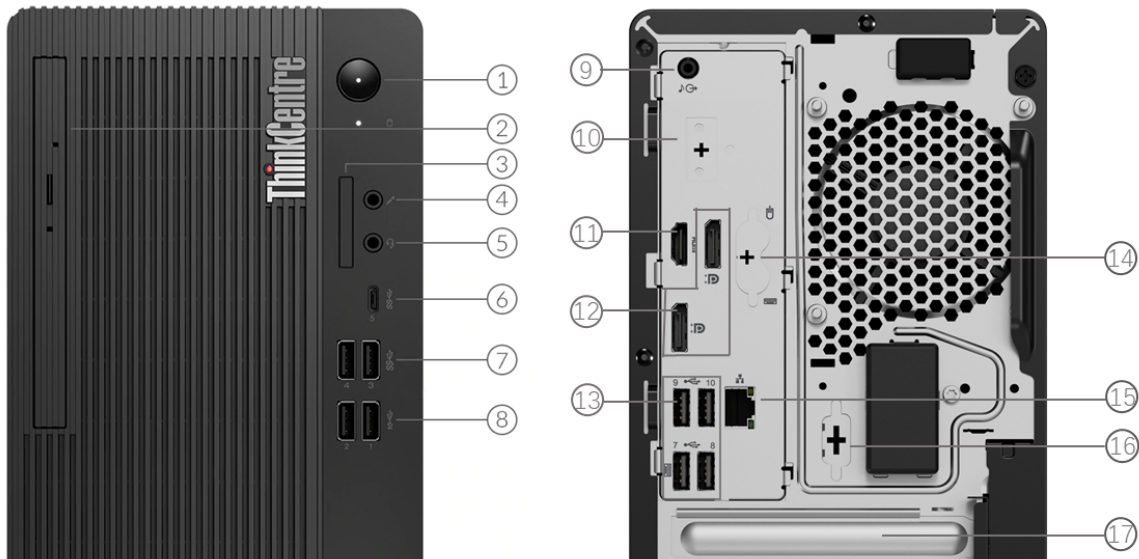
Other Certifications

Other Certifications

- TÜV Rheinland® Eye Comfort Certification
 - TÜV Rheinland® Flicker Free
 - TÜV Rheinland® Low Blue Light
-
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OVERVIEW



1. Power button	10. Flex IO *
2. Optical drive *	11. HDMI 2.1 TMDS
3. Card reader *	12. 2x DisplayPort 1.4a
4. Microphone jack (3.5mm)	13. 4x USB 2.0
5. Headphone / microphone combo jack (3.5mm)	14. 2x PS/2 ports (keyboard / mouse) *
6. USB-C 3.2 Gen 1	15. Ethernet (RJ-45)
7. 2x USB 3.2 Gen 1	16. Serial *
8. 2x USB 3.2 Gen 2	17. Optional ports on expansion cards *
9. Line-out (3.5mm)	

- 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 Generation Intel® Core™ i3 / i5 / i7 Processor

Processor**^[1]

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	12MB	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	20MB	Intel® UHD Graphics 730
Core i5-13400F ^[2]	10 (6 P-core + 4 E-core)	16	P-core 2.5GHz / E-core 1.8GHz	P-core 4.6GHz / E-core 3.3GHz	20MB	-
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	24MB	Intel® UHD Graphics 770
Core i5-13600	14 (6 P-core + 8 E-core)	20	P-core 2.7GHz / E-core 2.0GHz	P-core 5.0GHz / E-core 3.7GHz	24MB	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	30MB	Intel® UHD Graphics 770
Core i7-13700F ^[3]	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	30MB	-

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.

[2], [3] Special bid only.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- Windows® 10 IoT Enterprise LTSC 2021^[1]
- Ubuntu Linux^[2]
- No preload operating system

Notes:

[1] Special bid only.

[2] Some features may not be supported on the system with Linux preload, including but not limited to Intel® RST RAID, Human Presence Detection, etc.

Graphics

Graphics***^[1]

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD graphics 730	Integrated	Shared	4096x2304@60Hz(DP), 4096x2160@60Hz[HDMI® / Flex IO(HDMI®) / Flex IO(DP)], 3840x2160@60Hz[Flex IO(USB-C®)], 2048x1536@50Hz[Flex IO(VGA)]	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS, 1x Flex IO (VGA / DP 1.2 / HDMI® 2.1 TMDS / USB-C®)	DirectX® 12
Intel® UHD graphics 770	Integrated	Shared	4096x2304@60Hz(DP), 4096x2160@60Hz[HDMI® / Flex IO(HDMI®) / Flex IO(DP)], 3840x2160@60Hz[Flex IO(USB-	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS, 1x Flex IO (VGA / DP 1.2 /	DirectX® 12

			C [®]]], 2048x1536@50Hz[Flex IO(VGA)]	HDMI [®] 2.1 TMDS / USB-C [®])	
NVIDIA [®] GeForce RTX™ 3050	Discrete	8GB GDDR6	7680x4320@60Hz(HDMI [®]), 7680x4320@120Hz(DP) ^[2]	1x HDMI [®] 2.1 FRL, 3x DP 1.4a	DirectX [®] 12, OpenGL 4.6
AMD Radeon™ RX 6400	Discrete	4GB GDDR6	7680x4320@60Hz(HDMI [®]), 7680x4320@60Hz(DP)	1x HDMI [®] 2.1 FRL, 1x DP 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).

[2] Requires two DisplayPort™ 1.4a links and DSC compression.

Monitor Support

Monitor Support^[1]

Supports up to 4 independent displays via onboard ports (2x DP, 1x HDMI[®], and 1x optional Flex IO), more displays support via discrete graphics

Notes:

[1] Onboard video ports are only available for the models with integrated graphics.

Chipset

Chipset

Intel[®] Q670 chipset

Memory

Max Memory^[1]

Up to 128GB DDR4-3200

Memory Slots

Four DDR4 DIMM slots, dual-channel capable

Memory Type

DDR4-3200

Notes:

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

Storage

Max Storage Support^{[1][2]}

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

- 2.5" HDD up to 1TB each
- 3.5" HDD up to 2TB
- M.2 SSD up to 2TB

Storage Type^{***}

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

RAID

RAID 0/1 support for HDDs (RAID preset only available via special bid models)

Notes:

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

[2] 2TB SSD is special bid only.

Removable Storage

- Optical**
- DVD-ROM, SATA connector, slim (9.0mm)
 - DVD burner (DVD±RW), SATA connector, 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® ALC897Q-CG codec

Speakers

Single speaker, 2W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
180W	Fixed	85%	100-240V, 50-60Hz
260W	Fixed	90%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz
380W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

- Keyboard**
- Lenovo® Calliope Keyboard (USB connector), black
 - Lenovo® Calliope Wireless Keyboard, black
 - Lenovo® Traditional Keyboard (USB connector), black
 - No keyboard
- Mouse**
- Lenovo® Calliope Mouse (USB connector), black
 - Lenovo® Calliope Wireless Mouse (2.4GHz via USB receiver), 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

- 1x 2.5" disk bay^[3]
- 1x 3.5" disk bay^[4]
- 1x slim ODD bay

Expansion Slots

- One PCIe® 4.0 x16, full-height, length ≤ 209mm, height ≤ 117.5mm
- Two 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, disk, optical, extension card assembly / removal^[5]

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 tray is optional, or comes with 2.5 HDD.

[4] 3.5" bay supports 2.5" / 3.5" HDD, 3.5" to 2.5 converter comes with 2nd 2.5" HDD.

[5] 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®**

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 card^[1]
- Intel® Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 Card^[2]
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1, Intel® vPro® technology support, M.2 Card^[3]
- 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], [2], [3] Bluetooth® 5.2 is hardware ready but may run at a lower version due to OS limitations.

Ports^[1]

Front Ports

- 1x USB-C® 3.2 Gen 1 (15W charging)
- 2x USB 3.2 Gen 1
- 2x USB 3.2 Gen 2
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Optional Front Ports

1x card reader

Rear Ports^[2]

- 4x USB 2.0
- 1x HDMI® 2.1 TMDS
- 2x DisplayPort™ 1.4a (HBR2, DSC)
- 1x Ethernet (RJ-45)

- 1x line-out (3.5mm)

Optional Rear Ports***

- 1x USB-C® 3.2 Gen 1 with DisplayPort™ function and 5V@3A charging (Flex IO)
- 1x HDMI® 2.1 TMDS (Flex IO)
- 1x DP 1.2 (Flex IO)
- 1x VGA (Flex IO)
- 2x USB 3.2 Gen 1 (via 2-port USB expansion card, PCIe® x1)
- 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.

[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) 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

- Administrator password
- Hard disk password
- Power-on password
- Boot sequence control
- Boot without keyboard and mouse
- Individual USB port disablement
- Self-healing BIOS (Level 2)
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator](#)^[1]

Notes:

[1] 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

- Intel® vPro® Enterprise^[1]
- 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
- DP to VGA 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)

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Silver Registered^[2]
- (Optional) EPEAT™ Gold Registered^[3]
- ErP Lot 3
- 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>.

[2], [3] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

Other Certifications

Other Certifications

- (Optional) TÜV Rheinland® Low Noise
- (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)

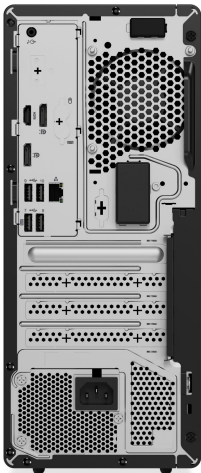
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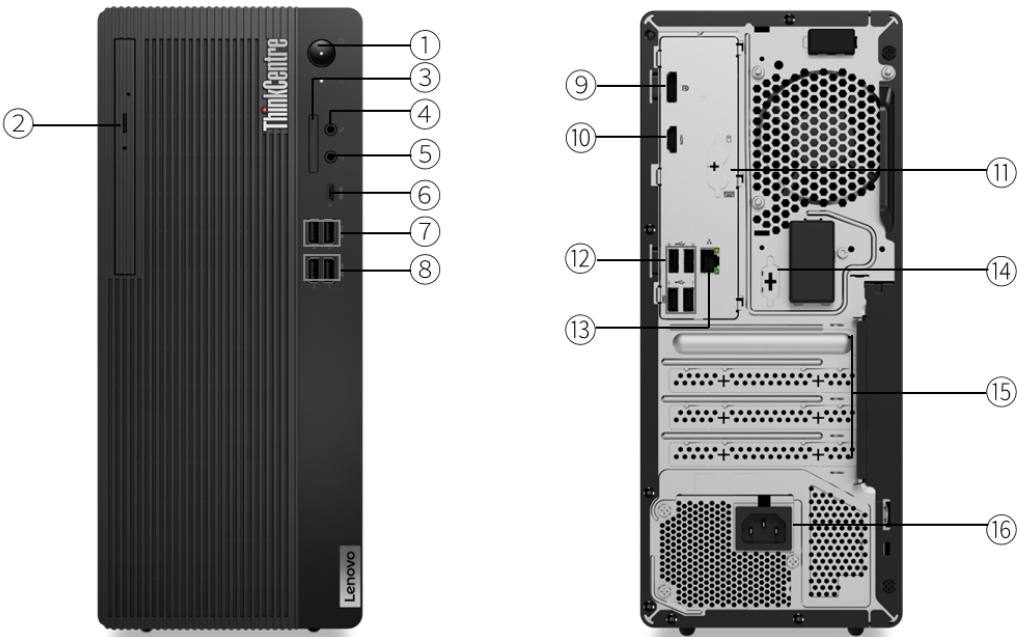


intel



intel

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

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	12MB	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	20MB	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	24MB	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	30MB	Intel® UHD Graphics 770
Core i3-14100	4 (4 P-core + 0 E-core)	8	P-core 3.5GHz	P-core 4.7GHz	12MB	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	20MB	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	20MB	-
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	24MB	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	24MB	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	33MB	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	33MB	-
Intel® 300	2 (2 P-core + 0 E-core)	4	P-core 3.9GHz	-	6MB	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	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	DirectX® 12

				TMDs	
Intel® Arc™ A310 LP Graphics	Discrete	4GB GDDR6	5120x2880@60Hz(DP)	2x DisplayPort™ 1.4a	DirectX® 12, OpenGL 4.6
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
AMD Radeon™ RX 6600 LE	Discrete	8G GDDR6	7680x4320@60Hz(HDMI®), 7680x4320@60Hz(DP)	3x DP 1.4a, 1x HDMI® 2.1 FRL	DirectX® 12, OpenGL 4.6, OpenCL 2.2

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
260W	Fixed	90%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz
380W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

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

Mouse**

- Wireless EOS Mouse, black
- Lenovo® Calliope Mouse (USB connector), 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®**

- 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
- 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

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 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.

[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

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

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

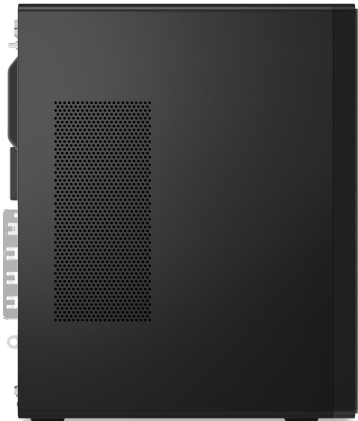
Other Certifications

(Optional) TÜV Rheinland® Ultra Low Noise

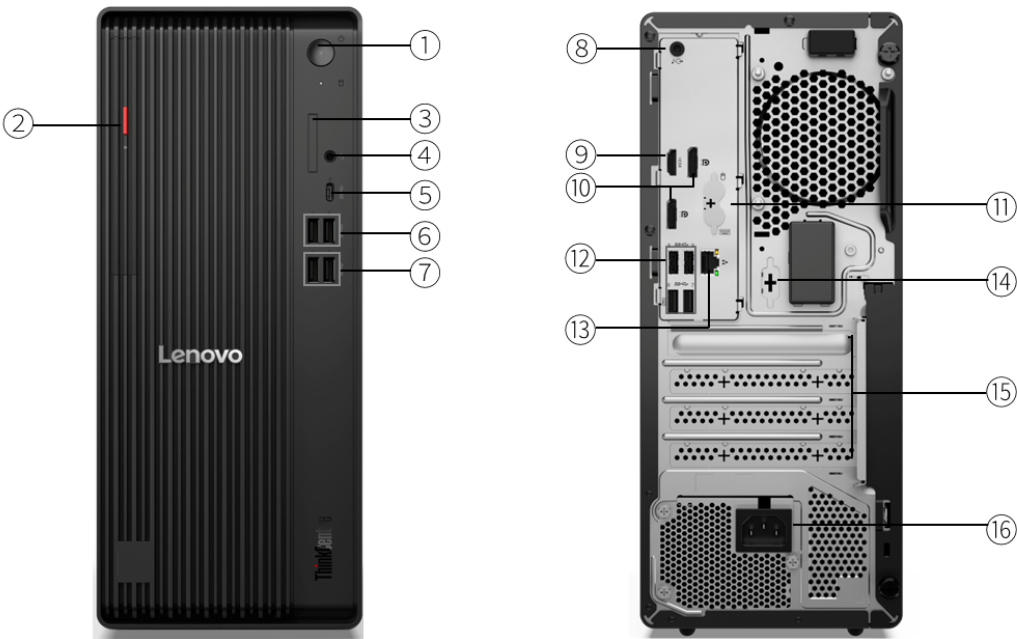
Mil-Spec Test

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.
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OVERVIEW



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

Intel® Core™ Ultra 5 / 7 Processor (Series 2)

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics	NPU
Core Ultra 5 225	10 (6 P-core + 4 E-core)	10	P-core 3.3GHz / E-core 2.7GHz	P-core 4.9GHz / E-core 4.4GHz	22MB L2 Cache / 20MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
Core Ultra 5 235	14 (6 P-core + 8 E-core)	14	P-core 3.4GHz / E-core 2.9GHz	P-core 5.0GHz / E-core 4.4GHz	26MB L2 Cache / 24MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
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	Intel® Graphics	Intel® AI Boost
Core Ultra 7 265F	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	-	Intel® AI Boost

AI (Artificial Intelligence)

AI PC Category

AI PC^[1]

NPU

Integrated Intel® AI Boost, up to 13 TOPS

Notes:

[1] AI PCs have a NPU capable of 10+ TOPs to run the Copilot assistant by pressing the optional Microsoft® Copilot key or using Win + C.

Operating System

Operating System**

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

Graphics

Graphics**^[1]

Graphics	Type	Memory	AI TOPS (Peak)	Max Resolution	Connector	Key Features
Intel® Graphics	Integrated	Shared	-	5120x2880@60Hz(DP), 4096x2160@60Hz(HDMI®)	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS	DirectX® 12
Intel® Arc™ A310 LP Graphics	Discrete	4GB GDDR6	60.2 TOPS	7680x4320@60Hz(DP)	2x DisplayPort™ 2.0	DirectX® 12, OpenGL 4.6
NVIDIA® GeForce RTX™ 3050	Discrete	6GB GDDR6	108 TOPS	7680x4320@60Hz(HDMI®), 7680x4320@120Hz(DP)	1x HDMI® 2.1 FRL, 1x DP 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 3 independent displays via onboard ports (2x DP and 1x HDMI®), more displays support via discrete graphics

Chipset

Chipset

Intel® Q870 chipset

Memory

Max Memory^[1]

Up to 128GB DDR5

Memory Slots

Four DDR5 UDIMM slots, dual-channel capable

Memory Type**

- DDR5-4400^[2]
- DDR5-4800^[3]
- DDR5-5600

Memory Protection

Non-ECC

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 DDR5-4400 depending on the memory support capability of processor.
- [3] Installed memory is actually DDR5-5600 but may run as DDR5-4800 depending on the memory support capability of processor.

Storage

Max Storage Support^[1]

Up to four drives, 1x 3.5" HDD + 1x 2.5" HDD + 2x 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
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Performance	-	Opal 2.0

RAID

RAID 0/1 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.

Removable Storage

Optical**

- DVD-ROM, SATA connector, slim (9.0mm)
- DVD burner (DVD±RW), SATA connector, 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
200W	Fixed	90%	100-240V, 50-60Hz
260W	Fixed	90%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz
400W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard

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

Mouse

- Lenovo® Calliope Mouse (USB connector), 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]

5.7 kg (12.6 lbs, maximum configuration)

Packaging Weight

Around 7.5 kg (16.5 lbs)

Case Color

Black

Bays

- 1x 2.5" disk bay (optional, or bay comes with disk)
- 1x 3.5" disk bay
- 1x slim ODD bay

Expansion Slots

- One PCIe® 4.0 x16
- Two PCIe® 3.0 x1
- Three M.2 slots (one for WLAN, two for SSD)

EOU

Toolless cover, memory, disk, optical, extension card assembly / removal^[3]

Stand

No stand

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] 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®**

- Realtek® Wi-Fi® 6E RTL8852CE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, Intel® vPro® technology support, M.2 Card
- Realtek® Wi-Fi® 7 RTL8922AE, 802.11be 2x2 Wi-Fi® + Bluetooth® 5.4
- 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

Ports^[1]

Front Ports

- 1x USB-C® (USB 5Gbps / USB 3.2 Gen 1), with 15W charging
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x headphone / microphone combo jack (3.5mm)

Optional Front Ports

1x card reader

Rear Ports^[2]

- 4x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 1x HDMI® 2.1 TMDS
- 2x DisplayPort™ 1.4a (HBR2, DSC)
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports***

- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1), via 2-port USB expansion card, PCIe® x1
- 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.

[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

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

Notes:

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

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 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]

97% PIC EPE cushion and 30% OBP bag FSC carton in packaging
85% PCC ABS in chassis
95% PCC ABS in KB/mouse
65% PCC ABS (EOS 2.4G wireless)

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
 - (Optional) TCO Certified 10.0
 - ErP Lot 3
 - GREENGUARD®
 - RoHS compliant
-

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

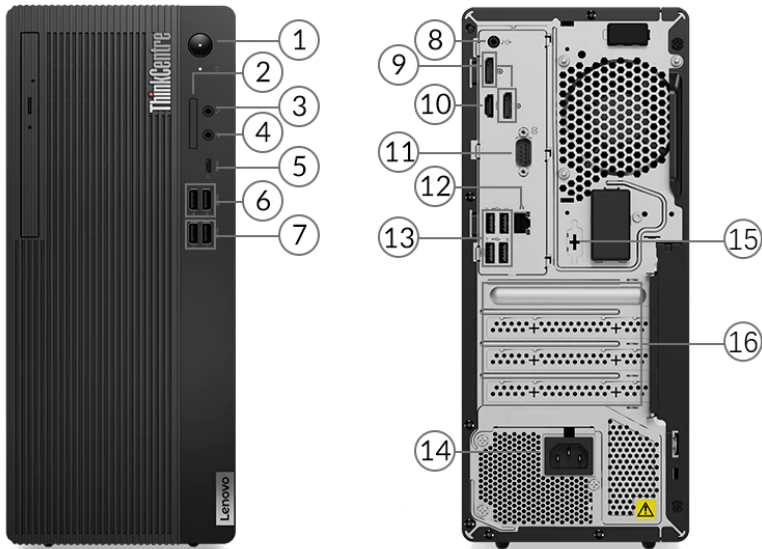
Mil-Spec Test

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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OVERVIEW



1. Power button	9. 2x DisplayPort 1.4
2. Card reader *	10. HDMI 1.4b
3. Microphone jack (3.5mm)	11. Serial
4. Headphone / microphone combo jack (3.5mm)	12. Ethernet (RJ-45)
5. USB-C 3.2 Gen 1	13. 4x USB 2.0
6. 2x USB 3.2 Gen 1	14. Power connector
7. 2x USB 3.2 Gen 2	15. Serial *
8. Line-out (3.5mm)	16. Optional ports on expansion cards *

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

AMD Athlon™ or AMD Ryzen™ 3 / 5 / 7 / 9 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Athlon™ Gold PRO 3150G ^[1]	4	4	3.5GHz	3.9GHz	2MB L2 / 4MB L3	DDR4-2933	AMD Radeon™ Graphics
AMD Athlon™ Silver 3050GE ^[2]	2	4	3.4GHz	3.4GHz	1MB L2 / 4MB L3	DDR4-2666	AMD Radeon™ Graphics
AMD Ryzen™ 3 3200G ^[3]	4	4	3.6GHz	4.0GHz	2MB L2 / 4MB L3	DDR4-2933	AMD Radeon™ Vega 8 Graphics
AMD Ryzen™ 3 4300G ^[4]	4	8	3.8GHz	4.0GHz	2MB L2 / 4MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 3 5300G	4	8	4.0GHz	4.2GHz	2MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 3 PRO 4350G ^[5]	4	8	3.8GHz	4.0GHz	2MB L2 / 4MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 3 PRO 5350G	4	8	4.0GHz	4.2GHz	2MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 3 PRO 5355G	4	8	4.0GHz	4.2GHz	2MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 5 4600G ^[6]	6	12	3.7GHz	4.2GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 5 5600G	6	12	3.9GHz	4.4GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 5 PRO 3350G ^[7]	4	8	3.6GHz	4.0GHz	2MB L2 / 4MB L3	DDR4-2933	AMD Radeon™ Vega 11 Graphics
AMD Ryzen™ 5 PRO 3400G ^[8]	4	8	3.7GHz	4.2GHz	2MB L2 / 4MB L3	DDR4-2933	AMD Radeon™ Vega 11 Graphics
AMD Ryzen™ 5 PRO 3600 ^[9]	6	12	3.6GHz	4.2GHz	3MB L2 / 32MB L3	DDR4-3200	-
AMD Ryzen™ 5 PRO 4650G ^[10]	6	12	3.7GHz	4.2GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 5 PRO 5650G	6	12	3.9GHz	4.4GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 5 PRO 5655G	6	12	3.9GHz	4.4GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 7 4700G ^[11]	8	16	3.6GHz	4.4GHz	4MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 7 5700G	8	16	3.8GHz	4.6GHz	4MB L2 / 16MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 7 PRO 3700 ^[12]	8	16	3.6GHz	4.4GHz	4MB L2 / 32MB L3	DDR4-3200	-
AMD Ryzen™ 7 PRO 4750G ^[13]	8	16	3.6GHz	4.4GHz	4MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen™ 7 PRO 5750G	8	16	3.8GHz	4.6GHz	4MB L2 / 16MB L3	DDR4 3200	AMD Radeon™ Graphics
AMD Ryzen™ 7 PRO 5755G	8	16	3.8GHz	4.6GHz	4MB L2 / 16MB L3	DDR4 3200	AMD Radeon™ Graphics

AMD Ryzen™ 9 PRO 3900 ^[14]	12	24	3.1GHz	4.3GHz	6MB L2 / 64MB L3	DDR4-3200	-
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Notes:

[1], [2], [3], [4], [5], [6], [7], [8], [9], [10], [11], [12], [13], [14] End of life and not available any more.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- Windows® 10 Pro 64
- Windows® 10 Home 64
- Windows® 10 Home 64 Single Language
- Windows® 10 IoT Enterprise
- Ubuntu Linux^[1]
- No preload operating system

Notes:

[1] Some features may not be supported on the system with Linux preload, including but not limited to Intel® RST RAID, Human Presence Detection, etc.

Graphics

Graphics**^{[1][2]}

Graphics	Type	Memory	Max Resolution	Connector	Key Features
AMD Radeon™ Graphics	Integrated	Shared	4096x2160@60Hz(DP), 4096x2160@24Hz(HDMI®)	2x DisplayPort™ 1.4, 1x HDMI® 1.4	DirectX® 12
AMD Radeon™ Vega 11 Graphics	Integrated	Shared	4096x2160@60Hz(DP), 4096x2160@24Hz(HDMI®)	2x DisplayPort™ 1.4, 1x HDMI® 1.4	DirectX® 12
AMD Radeon™ Vega 8 Graphics	Integrated	Shared	4096x2160@60Hz(DP), 4096x2160@24Hz(HDMI®)	2x DisplayPort™ 1.4, 1x HDMI® 1.4	DirectX® 12
AMD Radeon™ 520	Discrete	2GB GDDR5	4096x2160@60Hz(DP)	2x DP 1.2	DirectX® 12
AMD Radeon™ RX 550X	Discrete	4GB GDDR5	4096x2160@60Hz(HDMI®), 2048x1536@85Hz(VGA), 3840x2160@60Hz(DP)	1x HDMI® 2.0, 1x VGA, 1x DP 1.4	DirectX® 12
AMD Radeon™ RX 6400	Discrete	4GB GDDR6	7680x4320@60Hz(HDMI®), 7680x4320@60Hz(DP)	1x HDMI® 2.1 FRL, 1x DP 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).

[2] AMD Radeon™ 520 is not available for MT 11RB / 11RC / 11RD / 11RE.

Monitor Support

Monitor Support

Supports up to 3 independent displays via onboard ports (HDMI® and 2x DisplayPort™), more displays support via discrete graphics

Chipset

Chipset

AMD PRO 565 chipset

Memory^[1]

Max Memory^[2]

Up to 128GB DDR4-3200

Memory Slots

Four DDR4 DIMM slots, dual-channel capable

Memory Type**

- DDR4-1866^[3]
- DDR4-2133^[4]
- DDR4-2400^[5]
- DDR4-2666^[6]
- DDR4-3200

Notes:

- [1] Recommend to choose the models with more than 4GB for better performance and experience.
- [2] The max memory is based on the test results with current Lenovo® memory offerings.
- [3] Installed memory is actually DDR4-3200 but may run as DDR4-1866 depending on the memory support capability of processor.
- [4] Installed memory is actually DDR4-3200 but may run as DDR4-2133 depending on the memory support capability of processor.
- [5] Installed memory is actually DDR4-3200 but may run as DDR4-2400 depending on the memory support capability of processor.
- [6] Installed memory is actually DDR4-3200 but may run as DDR4-2666 depending on the memory support capability of processor.

Storage

Max Storage Support^[1]

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

- 2.5" HDD up to 1TB each
- 3.5" HDD up to 2TB
- M.2 SSD up to 2TB

Storage Type***

Disk Type	Interface	RPM	Security
2.5" SATA HDD	SATA 6Gb/s	7.2K	-
3.5" SATA HDD	SATA 6Gb/s	7.2K	-
M.2 2242 SSD	PCIe® NVMe®, PCIe® 3.0 x2	-	-
M.2 2242 SSD	PCIe® NVMe®, PCIe® 3.0 x4	-	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 3.0 x4	-	Opal
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Value	-	Opal

RAID

RAID 0/1 support for HDDs (RAID preset only available via special bid models)

Notes:

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

Removable Storage

Optical**

- DVD-ROM, SATA 1.5Gb/s, 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

- No speakers
- Single speaker, 2W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
180W	Fixed	85%	-
260W	Fixed	85%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

- Lenovo® Calliope Keyboard (USB connector), black
- Lenovo® Calliope Wireless Keyboard (2.4GHz via USB receiver), black
- Lenovo® Traditional Keyboard (USB connector), black
- No keyboard

Mouse**

- Lenovo® Calliope Mouse (USB connector), black
- Lenovo® Calliope Wireless Mouse (2.4GHz via USB receiver), black
- Lenovo® Fingerprint Mouse (USB connector), Windows® Hello support, black (EOL on Jan, 2023)
- 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)

Weight^[2]

Around 5.9 kg (13 lbs)

Case Color

Black

Bays

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

Expansion Slots

- One PCIe® 3.0 x16, full-height (length < 215mm)
- One PCIe® 3.0 x1, full-height (length < 215mm)
- Two M.2 slots (one for WLAN, one for SSD)
- Two dummy slots, only brackets for optional port extension

EOU

EOU design for chassis open, M.2 SSD, ODD, memory, and PCIe® extension card^[3]

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] 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^[1]

WLAN + Bluetooth^{®**}

- Realtek[®] RTL8822CE, Wi-Fi[®] 5, 802.11ac Dual Band 2x2 Wi-Fi[®] + Bluetooth[®] 5.0, M.2 card
- Intel[®] Wireless-AC 9260, Wi-Fi[®] 5, 802.11ac Dual Band 2x2 Wi-Fi[®] + Bluetooth[®] 5.0, M.2 card
- MediaTek Wi-Fi[®] 6 MT7921, 802.11ax 2x2 Wi-Fi[®] + Bluetooth[®] 5.1, M.2 Card^[2]
- Realtek[®] Wi-Fi[®] 6 RTL8852AE, 802.11ax Dual Band 2x2 Wi-Fi[®] + Bluetooth[®] 5.1, M.2 card^[3]
- Intel[®] Wi-Fi[®] 6 AX200, 802.11ax 2x2 Wi-Fi[®] + Bluetooth[®] 5.1, M.2 card^[4]
- No WLAN and Bluetooth[®]

Onboard Ethernet^{***}

- Gigabit Ethernet, Realtek[®] RTL8111EPV, 1x RJ-45, supports Wake-on-LAN
- Gigabit Ethernet, Realtek[®] RTL8111HN, 1x RJ-45, supports Wake-on-LAN

Optional Ethernet^{***[5]}

- Gigabit Ethernet, Bitland BN8E88, 1x RJ-45, PCIe[®] x1
- Gigabit Ethernet, Bitland RTL8111FP, 1x RJ-45, PCIe[®] x1
- No optional Ethernet

Notes:

[1] This system does not support Power Over Ethernet (PoE). If the system is used in a PoE environment, then a Network Isolator is required to prevent possible damage to the system, PoE equipment, or both.

[2], [3], [4] Bluetooth[®] 5.2 is hardware ready but may run at a lower version due to OS limitations.

[5] RTL8111FP is not available for AP countries.

Ports^[1]

Front Ports

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

Optional Front Ports

- 1x card reader
- None

Rear Ports^[2]

- 4x USB 2.0
- 1x HDMI[®] 1.4b
- 2x DisplayPort[™] 1.4
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)
- 1x serial (9-pin)

Optional Rear Ports^{***}

- 2x USB-C[®] 3.2 Gen 2 (support data transfer, via 2-port USB-C[®] expansion card, PCIe[®] x4)
- 2x USB 3.2 Gen 1 (via 2-port USB expansion card, PCIe[®] x1)
- 2x USB 2.0 (via 2-port adapter)
- 1x parallel
- 1x serial
- None

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

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

- Touch style fingerprint reader on mouse (EOL on Jan, 2023)
- No fingerprint reader

BIOS Security

- Administrator password
- Hard disk password
- Power-on password
- Boot sequence control
- Boot without keyboard and mouse
- Individual USB port disablement
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator](#)^[1]

Notes:

[1] 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]

- DASH 1.2
- Non-DASH

Notes:

[1] DASH 1.2 is an optional feature for the selected MTs, MT 11W5/11W6/11W7/11W8 do not support DASH.

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

CERTIFICATIONS

Green Certifications^[1]

Green Certifications^[2]

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Silver Registered^[3]
- (Optional) EPEAT™ Gold Registered^[4]
- ErP Lot 3
- RoHS compliant
- TCO Certified 8.0

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>.

[2] ENERGY STAR® 8.0 and EPEAT™ are only available for MT 11KB/11KC.

[3], [4] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

Other Certifications

Other Certifications

- (Optional) TÜV Rheinland® Low Noise
- (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, Fungus, Solar Radiation)

- 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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AMD



AMD



AMD



AMD

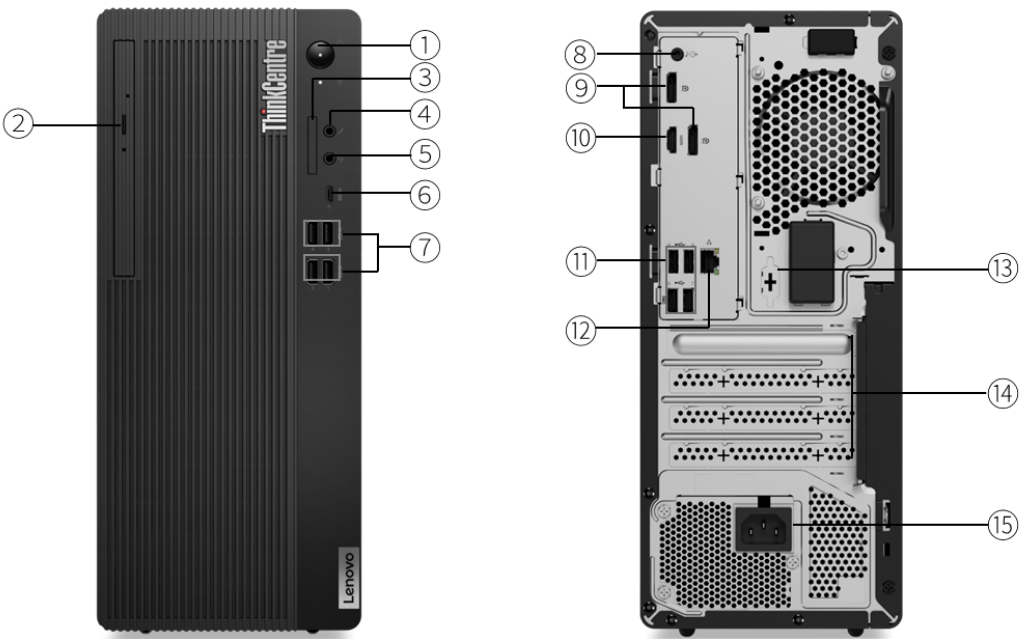


AMD



AMD

OVERVIEW



1. Power button	9. 2x DisplayPort 1.4a (HBR2, DSC)
2. Optical drive *	10. HDMI 2.1 TMDS
3. Card reader *	11. 4x USB-A (Hi-Speed USB)
4. Microphone jack (3.5mm)	12. Ethernet (RJ-45)
5. Headphone / microphone combo jack (3.5mm)	13. Serial
6. USB-C (USB 5Gbps), with 15W charging	14. Optional ports on expansion cards *
7. 4x USB-A (USB 5Gbps)	15. Power connector
8. Line-out (3.5mm)	

- 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

AMD Ryzen™ 3 / 5 / 7 8000 or Ryzen™ 3 / 5 / 7 PRO 8000 Series Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics	NPU
AMD Ryzen™ 3 8300G	4	8	3.4GHz	4.9GHz	4MB L2 / 8MB L3	AMD Radeon™ 740M	-
AMD Ryzen™ 3 PRO 8300G	4	8	3.4GHz	4.9GHz	4MB L2 / 8MB L3	AMD Radeon™ 740M	-
AMD Ryzen™ 5 8500G	6	12	3.5GHz	5.0GHz	6MB L2 / 16MB L3	AMD Radeon™ 740M	-
AMD Ryzen™ 5 8600G	6	12	4.3GHz	5.0GHz	6MB L2 / 16MB L3	AMD Radeon™ 760M	AMD Ryzen™ AI
AMD Ryzen™ 5 PRO 8500G	6	12	3.5GHz	5.0GHz	6MB L2 / 16MB L3	AMD Radeon™ 740M	-
AMD Ryzen™ 5 PRO 8600G	6	12	4.3GHz	5.0GHz	6MB L2 / 16MB L3	AMD Radeon™ 760M	AMD Ryzen™ AI
AMD Ryzen™ 7 8700G	8	16	4.2GHz	5.1GHz	8MB L2 / 16MB L3	AMD Radeon™ 780M	AMD Ryzen™ AI
AMD Ryzen™ 7 PRO 8700G	8	16	4.2GHz	5.1GHz	8MB L2 / 16MB L3	AMD Radeon™ 780M	AMD Ryzen™ AI

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	Max Resolution	Connector	Key Features
AMD Radeon™ 740M	Integrated	Shared	4096x2160@60Hz(HDMI®), 4096x2160@60Hz(DP)	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS	DirectX® 12
AMD Radeon™ 760M	Integrated	Shared	4096x2160@60Hz(HDMI®), 4096x2160@60Hz(DP)	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS	DirectX® 12
AMD Radeon™ 780M	Integrated	Shared	4096x2160@60Hz(HDMI®), 4096x2160@60Hz(DP)	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS	DirectX® 12
AMD Radeon™ RX 550X	Discrete	4GB GDDR5	4096x2160@60Hz(HDMI®), 2048x1536@85Hz(VGA), 3840x2160@60Hz(DP)	1x HDMI® 2.0, 1x VGA, 1x DP 1.4	DirectX® 12
AMD Radeon™ RX 6600 LE	Discrete	8G GDDR6	7680x4320@60Hz(HDMI®), 7680x4320@60Hz(DP)	3x DP 1.4a, 1x HDMI® 2.1 FRL	DirectX® 12, OpenGL 4.6, OpenCL 2.2

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 3 independent displays via onboard ports (2x DisplayPort™ and 1x HDMI®), more displays support via discrete graphics

Chipset

Chipset

AMD PRO665 Chipset

Memory

Max Memory^[1]

Up to 64GB DDR5-5200

Memory Slots

Two DDR5 UDIMM slots, dual-channel capable

Memory Type^[2]

DDR5-5200

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 DDR5-5200 due to the memory support capability of processor.

Storage

Max Storage Support^[1]

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

- 3.5" HDD up to 2TB
- M.2 SSD up to 2TB each

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

RAID 0/1 support for M.2 SSDs (RAID preset only available via special bid models)^[2]

Notes:

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

[2] Coming soon.

Removable Storage

Optical

- DVD burner (DVD±RW), SATA connector, 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

- No speakers

- Single speaker, 2W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
180W	Fixed	85%	100-240V, 50-60Hz
260W	Fixed	90%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

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

Mouse

- Lenovo® Calliope Mouse (USB connector), 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)

240 x 395 x 530 mm (9.45 x 15.55 x 20.87 inches)

Weight^[2]

Around 5.9 kg (13.0 lbs)

Packaging Weight

8.9 kg (19.7 lbs)

Case Color

Black

Bays

- 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)
- Three M.2 slots (one for WLAN, two for SSD)

EOU

Toolless cover, memory, disk, optical, extension card assembly / removal^[3]

Stand

No stand

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] 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[®]**

- MediaTek Wi-Fi[®] 6 MT7921, 802.11ax 2x2 Wi-Fi[®] + Bluetooth[®] 5.3, M.2 Card
- Realtek[®] Wi-Fi[®] 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi[®] + Bluetooth[®] 5.3, M.2 card
- Realtek[®] Wi-Fi[®] 6E RTL8852CE, 802.11ax Dual Band 2x2 Wi-Fi[®] + Bluetooth[®] 5.3, M.2 card
- AMD Wi-Fi[®] 6E RZ616, 802.11ax 2x2 Wi-Fi[®] + Bluetooth[®] 5.3, M.2 Card
- No WLAN and Bluetooth[®]

Onboard Ethernet

Gigabit Ethernet, Realtek[®] RTL8111FP, 1x RJ-45, supports DASH and Wake-on-LAN

Optional Ethernet

- 2.5 Gigabit Ethernet, Realtek[®] RTL8125BGS, 1x RJ-45, PCIe[®] x1
- No optional Ethernet

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
- 2x DisplayPort[™] 1.4a (HBR2, DSC)
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports^{***}

- 1x USB-C[®] (USB 20Gbps / USB 3.2 Gen 2x2), support data transfer, via PCIe[®] x4 card
- 2x USB-C[®] (USB 10Gbps / USB 3.2 Gen 2), support data transfer, via PCIe[®] x4 card
- 2x USB-A (Hi-Speed USB / USB 2.0), via 2-port adapter
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1), via 2-port USB expansion card, PCIe[®] x1
- 1x parallel
- 1x serial
- None

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

- (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

Other Security

Pluton security processor

BIOS Security

- Administrator password
- Hard disk password
- Power-on password
- Absolute persistence module
- Boot sequence control
- Boot without keyboard and mouse
- Cover tamper detected^[1]
- Certificate-based BIOS authentication
- Configuration change detection
- Individual USB port disablement
- Secure wipe
- Secure boot
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- 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

- DASH 1.1 / 1.2
- Non-DASH

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
- DP to VGA 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)

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® Low Noise
- (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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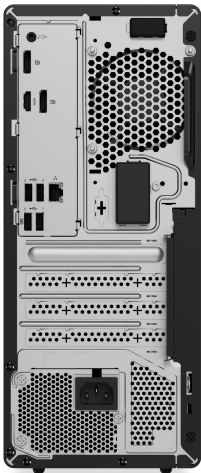
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AMD



AMD



AMD



AMD

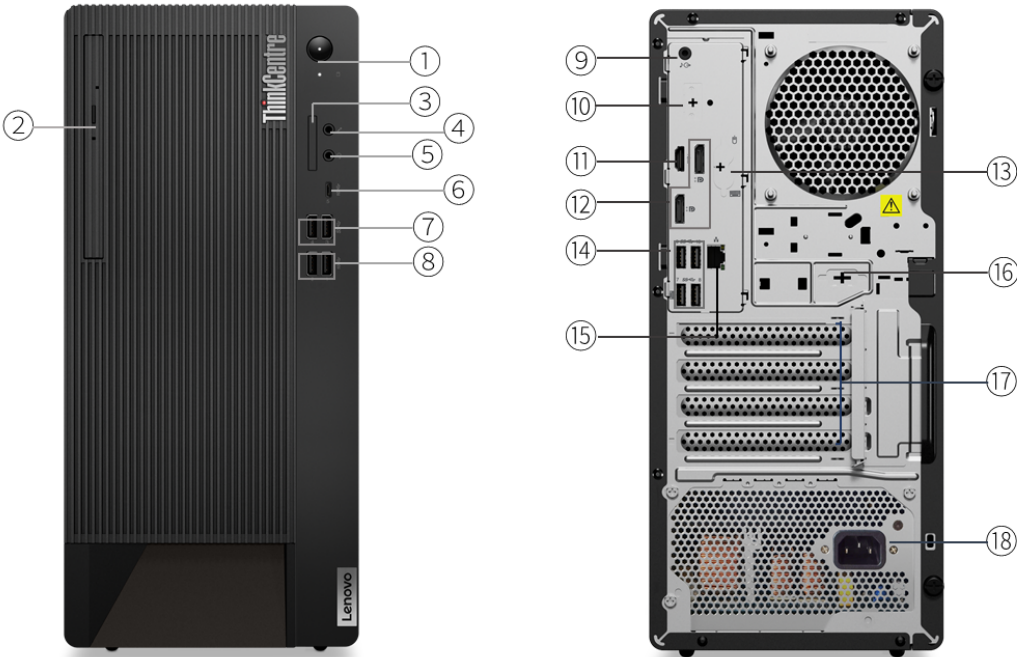


AMD



AMD

OVERVIEW



1. Power button	10. Flex IO *
2. Optical drive *	11. HDMI 2.1 TMDS
3. Card reader *	12. 2x DisplayPort 1.4a
4. Microphone jack (3.5mm)	13. 2x PS/2 ports (keyboard / mouse) *
5. Headphone / microphone combo jack (3.5mm)	14. 4x USB 3.2 Gen 1
6. USB-C 3.2 Gen 2	15. Ethernet (RJ-45)
7. 2x USB 3.2 Gen 1	16. Serial *
8. 2x USB 3.2 Gen 2	17. Optional ports on expansion cards *
9. Line-out (3.5mm)	18. 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 Generation Intel® Core™ i3 / i5 / i7 / i9 Processor

Processor**^[1]

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	12MB	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	20MB	Intel® UHD Graphics 730
Core i5-13400F	10 (6 P-core + 4 E-core)	16	P-core 2.5GHz / E-core 1.8GHz	P-core 4.6GHz / E-core 3.3GHz	20MB	-
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	24MB	Intel® UHD Graphics 770
Core i5-13600	14 (6 P-core + 8 E-core)	20	P-core 2.7GHz / E-core 2.0GHz	P-core 5.0GHz / E-core 3.7GHz	24MB	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	30MB	Intel® UHD Graphics 770
Core i7-13700F	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	30MB	-
Core i9-13900	24 (8 P-core + 16 E-core)	32	P-core 2.0GHz / E-core 1.5GHz	Max Turbo up to 5.6GHz / P-core 5.2GHz / E-core 4.2GHz	36MB	Intel® UHD Graphics 770
Core i9-13900F	24 (8 P-core + 16 E-core)	32	P-core 2.0GHz / E-core 1.5GHz	Max Turbo up to 5.6GHz / P-core 5.2GHz / E-core 4.2GHz	36MB	-

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.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- Windows® 10 IoT Enterprise LTSC 2021
- Ubuntu Linux^[1]
- No preload operating system

Notes:

[1] Some features may not be supported on the system with Linux preload, including but not limited to Intel® RST RAID, Human Presence Detection, etc.

Graphics

Graphics***^[1]

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD graphics 730	Integrated	Shared	4096x2304@60Hz(DP), 4096x2160@60Hz[HDMI® / Flex IO(HDMI®) / Flex IO(DP)], 3840x2160@60Hz[Flex IO(USB-C®)], 2048x1536@50Hz[Flex IO(VGA)]	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS, 1x Flex IO (VGA / DP 1.2 / HDMI® 2.1 TMDS / USB-C®)	DirectX® 12

Intel® UHD graphics 770	Integrated	Shared	4096x2304@60Hz(DP), 4096x2160@60Hz[HDMI® / Flex IO(HDMI®) / Flex IO(DP)], 3840x2160@60Hz[Flex IO(USB-C®)], 2048x1536@50Hz[Flex IO(VGA)]	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS, 1x Flex IO (VGA / DP 1.2 / HDMI® 2.1 TMDS / USB-C®)	DirectX® 12
NVIDIA® GeForce RTX™ 3050	Discrete	8GB GDDR6	7680x4320@60Hz(HDMI®), 7680x4320@120Hz(DP) ^[2]	1x HDMI® 2.1 FRL, 3x DP 1.4a	DirectX® 12, OpenGL 4.6
NVIDIA® GeForce RTX™ 4060	Discrete	8G GDDR6	7680x4320@60Hz(HDMI®), 7680x4320@60Hz(DP)	1x HDMI® 2.1a FRL, 3x DP 1.4a	DirectX® 12, OpenGL 4.6
AMD Radeon™ RX 6400	Discrete	4GB GDDR6	7680x4320@60Hz(HDMI®), 7680x4320@60Hz(DP)	1x HDMI® 2.1 FRL, 1x DP 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).

[2] Requires two DisplayPort™ 1.4a links and DSC compression.

Monitor Support

Monitor Support^[1]

Supports up to 4 independent displays via onboard ports (2x DP, 1x HDMI®, and 1x optional Flex IO), more displays support via discrete graphics

Notes:

[1] Onboard video ports are only available for the models with integrated graphics.

Chipset

Chipset

Intel® Q670 chipset

Memory

Max Memory^[1]

Up to 128GB DDR5

Memory Slots

Four DDR5 UDIMM slots, dual-channel capable

Memory Type

- DDR5-3600^[2]
- DDR5-4000^[3]
- DDR5-4400^[4]

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 DDR5-3600 depending on the memory support capability of Intel®.

[3] Installed memory is actually DDR5-5600 but may run as DDR5-4000 depending on the memory support capability of Intel®.

[4] Installed memory is actually DDR5-5600 but may run as DDR5-4400 depending on the memory support capability of Intel®.

Storage

Max Storage Support^[1]

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

- 2.5" HDD up to 1TB each

- 3.5" HDD up to 2TB
- M.2 SSD up to 2TB each

Storage Type***

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

RAID

RAID 0/1 support (RAID preset only available via special bid models)

Notes:

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

Removable Storage

Optical**

- DVD-ROM, SATA connector, slim (9.0mm)
- DVD burner (DVD±RW), SATA connector, 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® ALC897Q-CG codec

Speakers

Single speaker, 2W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
260W	Fixed	90%	100-240V, 50-60Hz
300W	Fixed	90%	100-240V, 50-60Hz
500W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

- Lenovo® Calliope Keyboard (USB connector), black
- Lenovo® Calliope Wireless Keyboard (2.4GHz via USB receiver), black
- Lenovo® Traditional Keyboard (USB connector), black
- No keyboard

Mouse**

- Lenovo® Calliope Mouse (USB connector), black
- Lenovo® Calliope Wireless Mouse (2.4GHz via USB receiver), black
- No mouse

Mechanical

Form Factor

Tower (17L)

Dimensions (WxDxH)^[1]

170 x 298 x 376 mm (6.7 x 11.7 x 14.8 inches)

Packaging Dimensions (WxDxH)

275 x 395 x 540 mm (10.8 x 15.6 x 21.4 inches)

Weight^[2]

Around 6.5 kg (14.3 lbs)

Packaging Weight

9.8 kg (21.61 lbs)

Case Color

Black

Bays

- 1x 2.5" disk bay (bay comes with disk)
- 1x 3.5" disk bay
- 1x 3.5" disk bay (optional, or bay comes with disk)
- 1x slim ODD bay

Expansion Slots

- One PCIe® 4.0 x16 (x4 signal), full-height, length ≤ 205mm, height ≤ 114.55mm
- One PCIe® 4.0 x16, full-height, length ≤ 268.5mm, height ≤ 114.55mm
- One PCIe® 3.0 x1, full-height, length ≤ 205mm, height ≤ 114.55mm
- Three M.2 slots (one for WLAN, two for SSD)

EOU

Toolless cover, disk, optical, extension card assembly / removal^[3]

Stand

No stand

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] 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®**

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 card^[1]
- Intel® Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 Card^[2]
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1, Intel® vPro® technology support, M.2 Card^[3]
- 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], [2], [3] Bluetooth® 5.2 is hardware ready but may run at a lower version due to OS limitations.

Ports^[1]

Front Ports

- 1x USB-C® 3.2 Gen 2 (support data transfer and 15W charging)
- 2x USB 3.2 Gen 1
- 2x USB 3.2 Gen 2
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Optional Front Ports

1x card reader

Rear Ports^[2]

- 4x USB 3.2 Gen 1
- 1x HDMI® 2.1 TMDS
- 2x DisplayPort™ 1.4a (HBR2, DSC)
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports***

- 1x USB-C® 3.2 Gen 1 with DisplayPort™ function and 5V@3A charging (Flex IO)
- 1x HDMI® 2.1 TMDS (Flex IO)
- 1x DP 1.2 (Flex IO)
- 1x VGA (Flex IO)
- 1x USB-C® 3.2 Gen 2x2 (support data transfer, via USB-C® expansion card, PCIe® x4)
- 2x USB-C® 3.2 Gen 2 (support data transfer, via 2-port USB-C® expansion card, PCIe® x4)
- 2x USB 3.2 Gen 1 (via 2-port USB expansion card, PCIe® x1)
- 2x USB 2.0 (via 2-port adapter)
- 1x parallel
- 1x serial
- 1x 2nd serial

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

- (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

- Administrator password
- Hard disk password
- Power-on password

- Boot sequence control
- Boot without keyboard and mouse
- Individual USB port disablement
- Self-healing BIOS (Level 2)
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator](#)^[1]

Notes:

[1] 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

- Intel® vPro® Enterprise^[1]
- Non-vPro®

Notes:

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

SERVICE

Warranty^[1]

Base Warranty**

- 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
- DP to VGA dongle
- 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)

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Silver Registered^[2]
- (Optional) EPEAT™ Gold Registered^[3]
- ErP Lot 3
- 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>.

[2], [3] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

Other Certifications

Other Certifications

- (Optional) TÜV Rheinland® Low Noise
- (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)

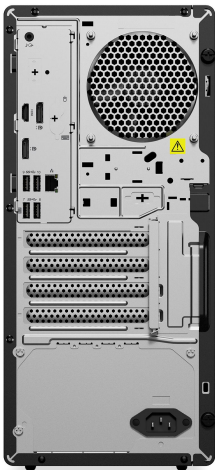
- Feature with ** means that only one option listed under the feature can be configured on selected models. Please refer to the model configuration for specific information.
- Feature with *** means that one or more options listed under the feature can be configured on selected models. Please refer to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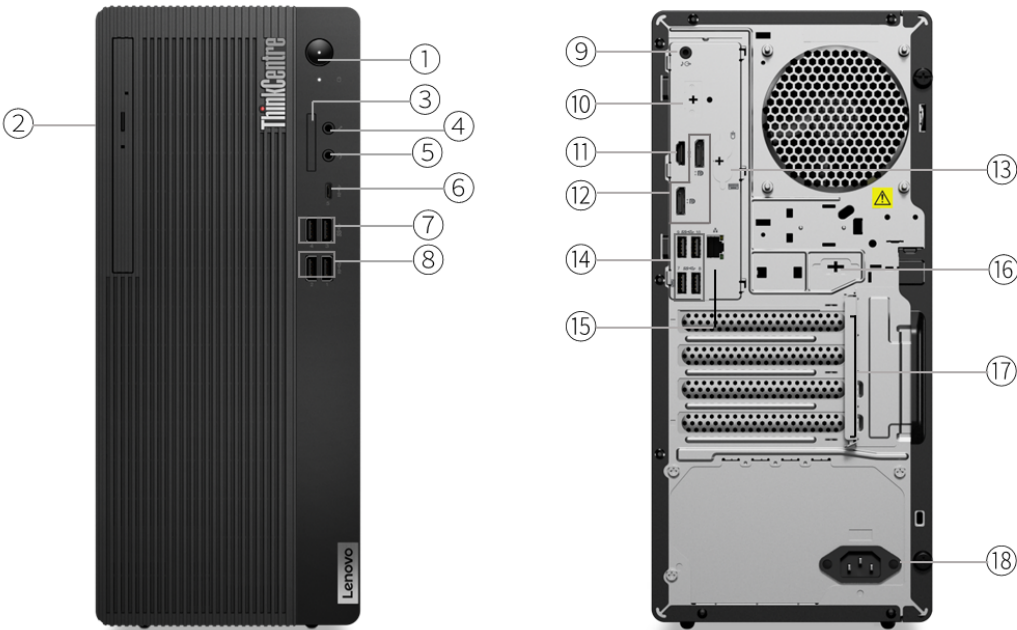


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OVERVIEW



1. Power button	10. Flex IO *
2. Optical drive *	11. HDMI 2.1 TMDS
3. Card reader *	12. 2x DisplayPort 1.4a
4. Microphone jack (3.5mm)	13. 2x PS/2 ports (keyboard / mouse) *
5. Headphone / microphone combo jack (3.5mm)	14. 4x USB-A (USB 5Gbps)
6. USB-C (USB 10Gbps), data transfer only	15. Ethernet (RJ-45)
7. 2x USB-A (USB 5Gbps)	16. Serial *
8. 2x USB-A (USB 10Gbps)	17. Optional ports on expansion cards *
9. Line-out (3.5mm)	18. 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 Generation Intel® Core™ i5 / i7 or 14th Generation Intel® Core™ i5 / i7 / i9 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics
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	24MB	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	30MB	Intel® UHD Graphics 770
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	20MB	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	20MB	-
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	24MB	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	24MB	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	33MB	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	33MB	-
Core i9-14900	24 (8 P-core + 16 E-core)	32	P-core 2.0GHz / E-core 1.5GHz	Max Turbo up to 5.8GHz / P-core 5.4GHz / E-core 4.3GHz	36MB	Intel® UHD Graphics 770
Core i9-14900F	24 (8 P-core + 16 E-core)	32	P-core 2.0GHz / E-core 1.5GHz	Max Turbo up to 5.8GHz / P-core 5.4GHz / E-core 4.3GHz	36MB	-

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	Max Resolution	Connector	Key Features
Intel® UHD graphics 730	Integrated	Shared	4096x2304@60Hz(DP), 4096x2160@60Hz[HDMI® / Flex IO(HDMI®) / Flex IO(DP)], 3840x2160@60Hz[Flex IO(USB-C®)], 2048x1536@50Hz[Flex IO(VGA)]	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS, 1x Flex IO (VGA / DP 1.2 / HDMI® 2.1 TMDS / USB-C®)	DirectX® 12
Intel® UHD graphics 770	Integrated	Shared	4096x2304@60Hz(DP), 4096x2160@60Hz[HDMI® / Flex IO(HDMI®) / Flex IO(DP)], 3840x2160@60Hz[Flex IO(USB-C®)], 2048x1536@50Hz[Flex IO(VGA)]	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS, 1x Flex IO (VGA / DP 1.2 / HDMI® 2.1 TMDS / USB-C®)	DirectX® 12
Intel® Arc™ A310 LP	Discrete	4GB GDDR6	5120x2880@60Hz(DP)	2x DisplayPort™ 1.4a	DirectX® 12, OpenGL 4.6

Graphics					
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™ 4060	Discrete	8G GDDR6	7680x4320@60Hz(HDMI®), 7680x4320@60Hz(DP)	1x HDMI® 2.1a FRL, 3x DP 1.4a	DirectX® 12, OpenGL 4.6
AMD Radeon™ RX 6600 LE	Discrete	8G GDDR6	7680x4320@60Hz(HDMI®), 7680x4320@60Hz(DP)	3x DP 1.4a, 1x HDMI® 2.1 FRL	DirectX® 12, OpenGL 4.6, OpenCL 2.2

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 4 independent displays via onboard ports (2x DP, 1x HDMI®, and 1x optional Flex IO), more displays support via discrete graphics

Chipset

Chipset

Intel® Q670 chipset

Memory

Max Memory^[1]

Up to 128GB DDR5

Memory Slots

Four DDR5 UDIMM slots, dual-channel capable

Memory Type^{**}

- DDR5-3600^[2]
- DDR5-4000^[3]
- DDR5-4400^[4]

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 DDR5-3600 depending on the memory support capability of Intel®.

[3] Installed memory is actually DDR5-5600 but may run as DDR5-4000 depending on the memory support capability of Intel®.

[4] Installed memory is actually DDR5-5600 but may run as DDR5-4400 depending on the memory support capability of Intel®.

Storage

Max Storage Support^[1]

Up to five drives, 2x 3.5" HDD + 1x 2.5" HDD + 2x 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

RAID 0/1 support (RAID preset only available via special bid models)

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 and 2nd 3.5" bay are optional parts, and 2.5" HDD bay is only for customer self upgrade purpose and the hard drive is sold separately.

Removable Storage

Optical**

- DVD-ROM, SATA connector, slim (9.0mm)
- DVD burner (DVD±RW), SATA connector, 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® ALC897Q-CG codec

Speakers

Single speaker, 2W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
260W	Fixed	90%	100-240V, 50-60Hz
300W	Fixed	90%	100-240V, 50-60Hz
500W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

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

Mouse

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

Mechanical

Form Factor

Tower (17L)

Dimensions (WxDxH)^[1]

170 x 298 x 376 mm (6.7 x 11.7 x 14.8 inches)

Packaging Dimensions (WxDxH)

275 x 395 x 540 mm (10.8 x 15.6 x 21.4 inches)

Weight^[2]

Around 6.5 kg (14.3 lbs)

Packaging Weight

9.8 kg (21.61 lbs)

Case Color

Black

Bays

- 1x 2.5" disk bay (optional)^[3]
- 1x 3.5" disk bay
- 1x 3.5" disk bay (optional, or bay comes with disk)^[4]
- 1x slim ODD bay

Expansion Slots

- One PCIe® 4.0 x16 (x4 signal), full-height, length ≤ 205mm, height ≤ 114.55mm
- One PCIe® 4.0 x16, full-height, length ≤ 268.5mm, height ≤ 114.55mm
- One PCIe® 3.0 x1, full-height, length ≤ 205mm, height ≤ 114.55mm
- Three M.2 slots (one for WLAN, two for SSD)

EOU

Toolless cover, memory, disk, optical, extension card assembly / removal^[5]

Stand

No stand

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

[4] 2nd 3.5" bay is optional part

[5] 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®**

- 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
- 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

Ports^[1]

Front Ports

- 1x USB-C® (USB 10Gbps / USB 3.2 Gen 2), with 15W charging
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Optional Front Ports

1x card reader

Rear Ports^[2]

- 4x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 1x HDMI® 2.1 TMDS
- 2x DisplayPort™ 1.4a (HBR2, DSC)

- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports***

- 1x USB-C® (USB 5Gbps / USB 3.2 Gen 1), with DisplayPort™ function and 5V@3A charging (Flex IO)
- 1x HDMI® 2.1 TMDS (Flex IO)
- 1x DP 1.2 (Flex IO)
- 1x VGA (Flex IO)
- 2x USB-A (Hi-Speed USB / USB 2.0), via 2-port adapter
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1), via 2-port USB expansion card, PCIe® x1
- 1x parallel
- 1x serial
- 1x 2nd serial

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

- (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

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

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Gold Registered^[2]
- 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>.

[2] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

Other Certifications

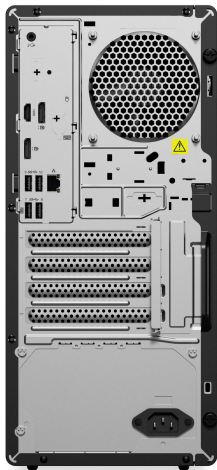
Other Certifications

- (Optional) TÜV Rheinland® Low Noise
- (Optional) TÜV Rheinland® Ultra Low Noise

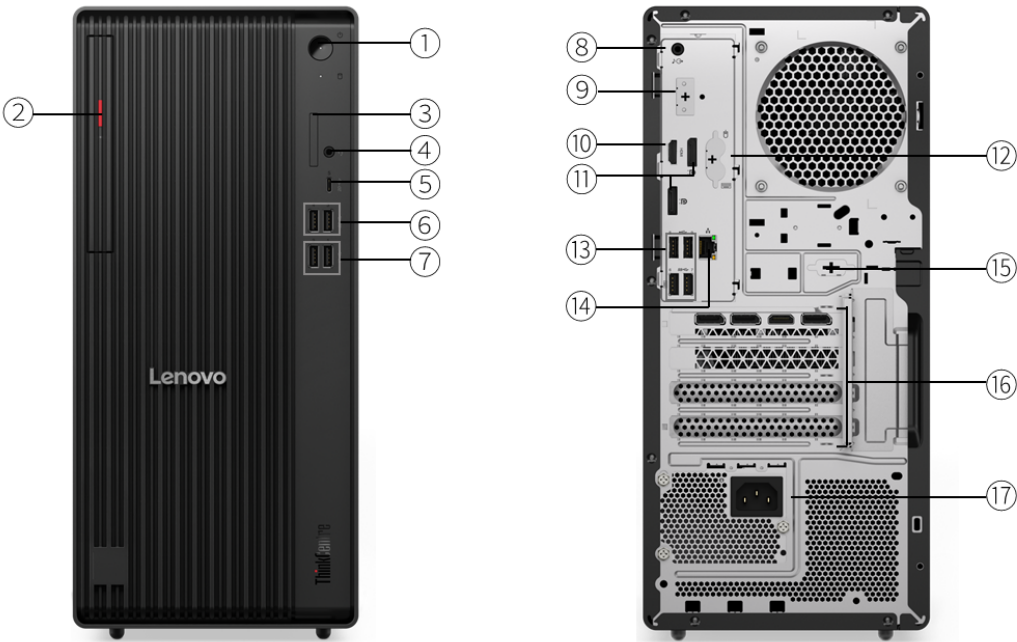
Mil-Spec Test

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.
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OVERVIEW



1. Power button	10. HDMI 2.1 TMDS
2. Optical drive *	11. 2x DisplayPort 1.4a
3. Card reader *	12. 2x PS/2 ports (keyboard / mouse) *
4. Headphone / microphone combo jack (3.5mm)	13. 4x USB-A (2x USB 5Gbps + 2x Hi-Speed USB)
5. USB-C (USB 20Gbps), data transfer only	14. Ethernet (RJ-45)
6. 2x USB-A (USB 5Gbps)	15. Serial *
7. 2x USB-A (USB 10Gbps)	16. Optional ports on expansion cards *
8. Audio-out (3.5mm)	17. Power connector
9. Flex IO *	

- 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

Intel® Core™ Ultra 5 / 7 / 9 Processor (Series 2)

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics	NPU
Core Ultra 5 225	10 (6 P-core + 4 E-core)	10	P-core 3.3GHz / E-core 2.7GHz	P-core 4.9GHz / E-core 4.4GHz	22MB L2 Cache / 20MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
Core Ultra 5 235	14 (6 P-core + 8 E-core)	14	P-core 3.4GHz / E-core 2.9GHz	P-core 5.0GHz / E-core 4.4GHz	26MB L2 Cache / 24MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
Core Ultra 5 245	14 (6 P-core + 8 E-core)	14	P-core 3.5GHz / E-core 3.0GHz	P-core 5.1GHz / E-core 4.5GHz	26MB L2 Cache / 24MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost
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	Intel® Graphics	Intel® AI Boost
Core Ultra 7 265F	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	-	Intel® AI Boost
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	Intel® Graphics	Intel® AI Boost

AI (Artificial Intelligence)

AI PC Category

AI PC^[1]

NPU***

- Integrated Intel® AI Boost, up to 13 TOPS
- (Optional) Discrete NPU card, up to 30 TOPS

Notes:

[1] AI PCs have a NPU capable of 10+ TOPs to run the Copilot assistant by pressing the optional Microsoft® Copilot key or using Win + C.

Operating System

Operating System**

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

Graphics

Graphics^[1]

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® Graphics	Integrated	Shared	5120x2880@60Hz(DP), 4096x2160@60Hz(HDMI®), 3840x2160@60Hz[Flex IO(HDMI®) / Flex IO(DP)], 3840x2160@60Hz[Flex IO(USB-C®)], 1920x1080@60Hz[Flex IO(VGA)]	2x DP 1.4a (HBR2, DSC), 1x HDMI® 2.1 TMDS, 1x Flex IO (VGA / DP 1.2 / HDMI® 2.1 TMDS / USB-C®)	DirectX® 12

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 4 independent displays via onboard ports (2x DP, 1x HDMI®, and 1x optional Flex IO), more displays support via discrete graphics

Chipset

Chipset

Intel® Q870 chipset

Memory

Max Memory^[1]

Up to 128GB DDR5

Memory Slots

Four DDR5 UDIMM slots, dual-channel capable

Memory Type**

- DDR5-4400^[2]
- DDR5-4800^[3]
- DDR5-5600

Memory Protection

Non-ECC

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 DDR5-4400 depending on the memory support capability of processor.
- [3] Installed memory is actually DDR5-5600 but may run as DDR5-4800 depending on the memory support capability of processor.

Storage

Max Storage Support^[1]

Up to six drives, 2x 3.5" HDD + 1x 2.5" HDD + 3x 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
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Performance	-	Opal 2.0
M.2 2280 SSD	PCIe® NVMe®, PCIe® 5.0 x4 Performance	-	Opal 2.0

RAID

RAID 0/1/5 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 and 2nd 3.5" bay are optional parts, and 2.5" HDD bay is only for customer self upgrade purpose and the hard drive is sold separately.

Removable Storage

Optical

- **
- DVD-ROM, SATA connector, slim (9.0mm)
 - DVD burner (DVD±RW), SATA connector, 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
260W	Fixed	90%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz
400W	Fixed	92%	100-240V, 50-60Hz
500W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

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

Mouse

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

Mechanical

Form Factor

Tower (17L)

Dimensions (WxDxH)^[1]

170 x 298 x 376 mm (6.7 x 11.7 x 14.8 inches)

Packaging Dimensions (WxDxH)

275 x 395 x 540 mm (10.8 x 15.6 x 21.4 inches)

Weight^[2]

6.5 kg (14.3 lbs, maximum configuration)

Packaging Weight

9.8 kg (21.6 lbs, maximum configuration)

Case Color

Black

Bays

- 1x 2.5" disk bay (optional)
- 1x 3.5" disk bay
- 1x 3.5" disk bay (optional, or bay comes with disk)
- 1x slim ODD bay

Expansion Slots

- One PCIe® 5.0 x16
- One PCIe® 4.0 x16 (x4 signal)
- Two PCIe® 3.0 x1
- Four M.2 slots (one for WLAN, three for SSD / discrete NPU)

EOU

Toolless cover, memory, disk, optical, extension card assembly / removal^[3]

Stand

No stand

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] 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®**

- Realtek® Wi-Fi® 6E RTL8852CE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, Intel® vPro® technology support, M.2 Card
- Intel® Wi-Fi® 7 BE200, 802.11be 2x2 Wi-Fi® + Bluetooth® 5.4, Intel® vPro® technology support, 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

Ports^[1]

Front Ports

- 1x USB-C® (USB 20Gbps / USB 3.2 Gen 2x2), with 15W charging
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x headphone / microphone combo jack (3.5mm)

Optional Front Ports

1x card reader

Rear Ports^[2]

- 2x USB-A (Hi-Speed USB / USB 2.0)
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 1x HDMI® 2.1 TMDS
- 2x DisplayPort™ 1.4a (HBR2, DSC)
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports***

- 1x USB-C® (USB 5Gbps / USB 3.2 Gen 1), with DisplayPort™ function and 5V@3A charging (Flex IO)
- 1x HDMI® 2.1 TMDS (Flex IO)
- 1x DP 1.2 (Flex IO)
- 1x VGA (Flex IO)
- 2x USB-A (Hi-Speed USB / USB 2.0), via 2-port adapter
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1), via 2-port USB expansion card, PCIe® x1

- 1x parallel
- 1x serial
- 1x 2nd serial
- 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.

[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

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

Notes:

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

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 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 VGA dongle
- Smart Cable (USB-A to USB-C®)

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]

97% PIC EPE cushion and 30% OBP bag FSC carton in packaging
85% PCC ABS in chassis
95% PCC ABS in KB/mouse
65% PCC ABS (EOS 2.4G wireless)

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
- (Optional) TCO Certified 10.0
- ErP Lot 3
- GREENGUARD®
- RoHS compliant

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® Low Noise
- (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)

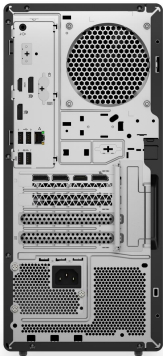
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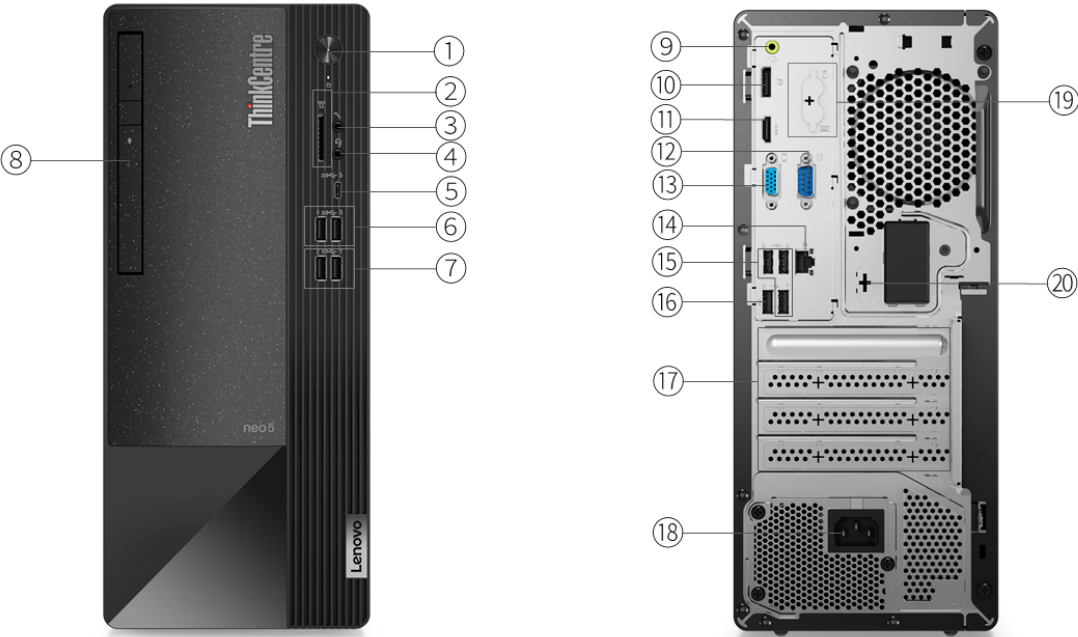


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OVERVIEW



1. Power button	11. HDMI 1.4b
2. Card reader *	12. Serial
3. Microphone jack (3.5mm)	13. VGA
4. Headphone / microphone combo jack (3.5mm)	14. Ethernet (RJ-45)
5. 1x USB-C 3.2 Gen 1	15. 3x USB 2.0
6. 2x USB 3.2 Gen 1	16. 1x USB 2.0 (with Smart Power On)
7. 2x USB 3.2 Gen 2	17. Optional ports on expansion cards *
8. Optical drive *	18. Power connector
9. Audio-out (3.5mm)	19. 2x PS/2 ports (keyboard / mouse) *
10. DisplayPort 1.4	20. Serial *

- Notes:
- Items with * are only available on selected models
 - Onboard video ports are only available for the models with integrated graphics

PERFORMANCE

Processor

Processor Family

Intel® Celeron®, Intel® Pentium®, or 12th / 13th Generation Intel® Core™ i3 / i5 / i7 / i9 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics
Celeron® G6900	2	2	3.4GHz	-	4MB	Intel® UHD Graphics 710
Pentium® Gold G7400	2	4	3.7GHz	-	6MB	Intel® UHD Graphics 710
Core i3-12100	4 (4 P-core + 0 E-core)	8	P-core 3.3GHz	P-core 4.3GHz ^[1]	12MB	Intel® UHD Graphics 730
Core i5-12400	6 (6 P-core + 0 E-core)	12	P-core 2.5GHz	P-core 4.4GHz ^[2]	18MB	Intel® UHD Graphics 730
Core i5-12400F	6 (6 P-core + 0 E-core)	12	P-core 2.5GHz	P-core 4.4GHz ^[3]	18MB	-
Core i5-12500	6 (6 P-core + 0 E-core)	12	P-core 3.0GHz	P-core 4.6GHz ^[4]	18MB	Intel® UHD Graphics 770
Core i7-12700	12 (8 P-core + 4 E-core)	20	P-core 2.1GHz / E-core 1.6GHz	Max Turbo up to 4.9GHz / P-core 4.8GHz / E-core 3.6GHz ^[5]	25MB	Intel® UHD Graphics 770
Core i9-12900	16 (8 P-core + 8 E-core)	24	P-core 2.4GHz / E-core 1.8GHz	Max Turbo up to 5.1GHz / P-core 5.0GHz / E-core 3.8GHz ^[6]	30MB	Intel® UHD Graphics 770
Core i3-13100	4 (4 P-core + 0 E-core)	8	P-core 3.4GHz	P-core 4.5GHz ^[7]	12MB	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 ^[8]	20MB	Intel® UHD Graphics 730
Core i5-13400F	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]	20MB	-
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 ^[10]	24MB	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 ^[11]	30MB	Intel® UHD Graphics 770
Core i9-13900	24 (8 P-core + 16 E-core)	32	P-core 2.0GHz / E-core 1.5GHz	Max Turbo up to 5.6GHz / P-core 5.2GHz / E-core 4.2GHz ^[12]	36MB	Intel® UHD Graphics 770

Notes:

[1], [2], [3], [4], [5], [6], [7], [8], [9], [10], [11], [12] 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.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- Ubuntu Linux^[1]
- No preload operating system

Notes:

[1] Some features may not be supported on the system with Linux preload, including but not limited to Intel® RST RAID, Human Presence Detection, etc.

Graphics

Graphics***^[1]

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD graphics 710	Integrated	Shared	1920x1080@60Hz(HDMI®), 2048x1536@60HZ(VGA), 4096x2304@60Hz(DP)	1x HDMI® 1.4b, 1x VGA, 1x DP 1.4	DirectX® 12
Intel® UHD graphics 730	Integrated	Shared	1920x1080@60Hz(HDMI®), 2048x1536@60HZ(VGA), 4096x2304@60Hz(DP)	1x HDMI® 1.4b, 1x VGA, 1x DP 1.4	DirectX® 12
Intel® UHD graphics 770	Integrated	Shared	1920x1080@60Hz(HDMI®), 2048x1536@60HZ(VGA), 4096x2304@60Hz(DP)	1x HDMI® 1.4b, 1x VGA, 1x DP 1.4	DirectX® 12
AMD Radeon™ RX 6400 ^[2]	Discrete	4GB GDDR6	7680x4320@60Hz(HDMI®), 7680x4320@60Hz(DP)	1x HDMI® 2.1 FRL, 1x DP 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).

^[2] The onboard video ports VGA, HDMI® and DisplayPort™ are disabled on the models with discrete graphics.

Monitor Support

Monitor Support

Supports up to 3 independent displays via (HDMI®, DP and VGA)

Chipset

Chipset

Intel® B760 chipset

Memory

Max Memory^[1]

Up to 64GB DDR4-3200

Memory Slots

Two DDR4 UDIMM slots, dual-channel capable

Memory Type

DDR4-3200

Notes:

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

Storage

Max Storage Support^[1]

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

- 3.5" HDD up to 2TB
- M.2 SSD up to 1TB

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	-	-
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.

Removable Storage

Optical**

- DVD-ROM, SATA 1.5Gb/s, 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® ALC222-CG codec

Speakers

- No speakers
- Single speaker, 2W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
180W	Fixed	85%	100-240V, 50-60Hz
260W	Fixed	90%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz
380W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

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

Mouse**

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

Mechanical

Form Factor

Tower (13.6L)

Dimensions (WxDxH)^[1]

145 x 294 x 340 mm (5.71 x 11.57 x 13.39 inches)

Packaging Dimensions (WxDxH)

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

Weight^[2]

Around 5.5 kg (12.1 lbs)

Packaging Weight

Around 7.5 kg (16.53 lbs)

Case Color

Black

Bays

- 1x 3.5" disk bay
- 1x slim ODD bay

Expansion Slots

- One PCIe® 4.0 x16, full-height, half-length
- Two PCIe® 3.0 x1, full-height, half-length
- (Optional) M.2 Bracket. For installing M.2 devices, M.2 bracket kit is needed. The kit is optional, or comes with pre-configured M.2 SSD or M.2 Wifi models
- Two M.2 slots (one for WLAN, one for SSD)

Cooling System (Fan & Cooler)**

- (Optional) 1x Photocatalyst System fan
- (Optional) 1x front system fan
- (Optional) 1x rear system fan

Others

(Optional) Smart Cable (USB-A to USB-C®)

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®**

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card^[1]
- Intel® Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.2, M.2 Card^[2]
- No WLAN and Bluetooth®

Onboard Ethernet

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

Optional Ethernet

No optional Ethernet

Notes:

[1] Bluetooth® 5.3 requires Windows® 11.

[2] Bluetooth® 5.2 requires Windows® 11.

Ports^[1]

Front Ports

- 1x USB-C® 3.2 Gen 1 (support data transfer and 5V@3A charging)
- 2x USB 3.2 Gen 1
- 2x USB 3.2 Gen 2
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Optional Front Ports

1x card reader

Rear Ports^{[2][3]}

- 4x USB 2.0 (one supports Smart Power On)
- 1x HDMI® 1.4b
- 1x DisplayPort™ 1.4
- 1x VGA
- 1x Ethernet (RJ-45)
- 1x headphone (3.5mm)
- 1x serial (9-pin)

Optional Rear Ports***

- 1x parallel

- 1x 2nd serial
- 2x PS/2
- None

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.

[3] The onboard video ports VGA, HDMI® and DisplayPort™ are disabled on the models with discrete graphics.

SECURITY & PRIVACY

Security

Security Chip

Discrete TPM 2.0, TCG certified

Physical Locks

- (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

- Administrator password
- Hard disk password
- Power-on password
- Certificate-based BIOS authentication
- Cover presence switch
- Individual USB port disablement
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator](#)^[1]
- Never crash Self-healing

Notes:

[1] 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

Non-vPro®

SERVICE

Warranty^[1]

Base Warranty**

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

ACCESSORIES

Bundled Accessories

Bundled Accessories***

- DP to DVI dongle
- HDMI® to DVI dongle

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)

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Silver Registered^[2]
- REACH
- RoHS compliant
- TCO Certified
- WEEE

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>.

[2] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

Other Certifications

Other Certifications

(Optional) TÜV Rheinland® Ultra Low Noise

- 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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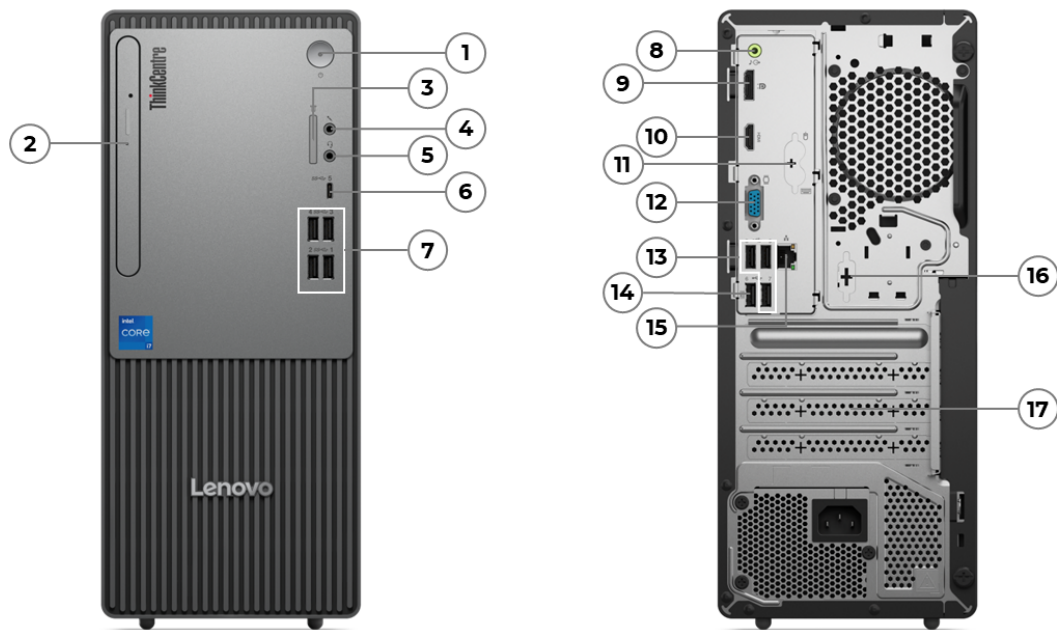


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OVERVIEW



1. Power button	10. HDMI 2.1 TMDS
2. Optical drive *	11. 2x PS/2 ports (keyboard / mouse) *
3. Card reader *	12. VGA
4. Microphone jack (3.5mm)	13. 3x USB-A (Hi-Speed USB)
5. Headphone / microphone combo jack (3.5mm)	14. USB-A (Hi-Speed USB), with Smart Power On
6. USB-C (USB 5Gbps), data transfer only	15. Ethernet (RJ-45)
7. 4x USB-A (USB 5Gbps)	16. Serial *
8. Audio-out (3.5mm)	17. Optional ports on expansion cards *
9. DisplayPort 1.4a (HBR2)	

Notes:

- Items with * are only available on selected models

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	12MB	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	20MB	Intel® UHD Graphics 730
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	30MB	Intel® UHD Graphics 770
Core i3-14100	4 (4 P-core + 0 E-core)	8	P-core 3.5GHz	P-core 4.7GHz	12MB	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	20MB	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	20MB	-
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	24MB	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	33MB	Intel® UHD Graphics 770
Intel® 300	2 (2 P-core + 0 E-core)	4	P-core 3.9GHz	-	6MB	Intel® UHD Graphics 710

Operating System

Operating System**

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

Graphics

Graphics***[1]

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD graphics 710	Integrated	Shared	4096x2160@30Hz(HDMI®), 2048x1536@50Hz(VGA), 4096x2304@60Hz(DP)	1x HDMI® 2.1 TMDS, 1x VGA, 1x DP 1.4a HBR2	DirectX® 12, OpenGL 4.5
Intel® UHD graphics 730	Integrated	Shared	4096x2160@30Hz(HDMI®), 2048x1536@50Hz(VGA), 4096x2304@60Hz(DP)	1x HDMI® 2.1 TMDS, 1x VGA, 1x DP 1.4a HBR2	DirectX® 12, OpenGL 4.5
Intel® UHD graphics 770	Integrated	Shared	4096x2160@30Hz(HDMI®), 2048x1536@50Hz(VGA), 4096x2304@60Hz(DP)	1x HDMI® 2.1 TMDS, 1x VGA, 1x DP 1.4a HBR2	DirectX® 12, OpenGL 4.5
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 3 independent displays via (HDMI®, DP and VGA), more displays support via discrete graphics

Chipset

Chipset

Intel® B760 chipset

Memory

Max Memory^[1]

Up to 64GB DDR5-5600^[2]

Memory Slots

Two DDR5 UDIMM slots, dual-channel capable

Memory Type

- DDR5-4800
- DDR5-5200
- DDR5-5600

Memory Protection

Non-ECC

Notes:

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

[2] 64GB memory is special bid only

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
- M.2 SSD up to 1TB
- 2.5" HDD bay is only for customer self upgrade^[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	-	-
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 1.5Gb/s, 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

- No speakers
- Single speaker, 2W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
180W	Fixed	85%	100-240V, 50-60Hz
260W	Fixed	90%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz
380W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard**

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

Mouse

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

Mechanical

Form Factor

Tower (13.6L)

Dimensions (WxDxH)^[1]

145 x 294 x 340 mm (5.71x 11.57 x 13.39 inches)

Packaging Dimensions (WxDxH)

240 x 395 x 530 mm (9.45 x 15.55 x 20.87 inches)

Weight^[2]

Around 5.6 kg (12.35 lbs)

Packaging Weight

Around 7 kg (15.43 lbs)

Case Color

Luna grey (front bezel), raven black (chassis)

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 ≤ 233.6mm, height ≤ 117.5mm
- 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

(Optional) toolless chassis open (toolless chassis screw required)

Cooling System (Fan & Cooler)

(Optional) 1x rear system fan

Others

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.

CONNECTIVITY

Network

WLAN + Bluetooth®**

- 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
- No WLAN and Bluetooth®

Onboard Ethernet

Gigabit Ethernet, Realtek® RTL8111K, 1x RJ-45, supports Wake-on-LAN

Optional Ethernet

No optional Ethernet

Ports^[1]

Front Ports

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

Rear Ports^[2]

- 4x USB-A (Hi-Speed USB / USB 2.0), one supports Smart Power On
- 1x HDMI® 2.1 TMDS
- 1x DisplayPort™ 1.4a (HBR2)
- 1x VGA
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports

- 1x parallel
- 2x serial
- 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.

[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) Smart Cable Clip
- Kensington® Security Slot™
- Padlock Loop

Chassis Intrusion Switch

- Chassis intrusion switch
- No chassis intrusion switch

BIOS Security

- Administrator password
- Hard disk password
- Power-on password
- Absolute persistence module
- Boot sequence control
- Boot without keyboard and mouse
- Cover tamper detected
- Configuration change detection
- Individual USB port disablement
- Intel® BIOS guard
- Secure wipe
- Secure boot
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator](#)^[1]
- Never crash Self-healing

Notes:

[1] 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]

None

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

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
- 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)

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Silver Registered
- (Optional) EPEAT™ Gold Registered
- RoHS / WEEE / REACH
- 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

- 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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Carry-in or Mail-in Service: Parts and labor repair coverage where the customer is responsible for shipping (including packaging) or delivery to authorized warranty provider or repair center.

Depot or Courier Service: Parts and labor repair coverage where shipping (including packaging) or delivery to the repair center is paid for by Lenovo.

Expedited Depot: Parts and labor coverage with expedited turnaround. Shipping (including packaging) or delivery to the repair center is paid for by Lenovo.

Onsite / In-home Service: Parts and labor repair coverage where labor is provided onsite at your place of business.

If Lenovo determines your product problem is covered by the product warranty and cannot be resolved over the telephone, a technician will be dispatched to arrive onsite, typically the next day.

International Warranty Service (IWS): PC repair coverage for customers who require a critical warranty repair while travelling internationally. Visit www.lenovo.com/internationalwarranty for details. Visit www.lenovo.com/warranty for Lenovo Warranty Services terms and conditions for complete details and restrictions.

Included software: may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

Battery life: Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

Visit <http://psref.lenovo.com/> for the latest version of Product Specifications Reference.

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