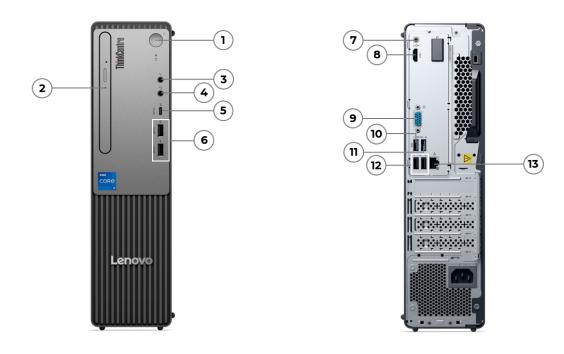# OVERVIEW

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

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]

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
- 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
- (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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