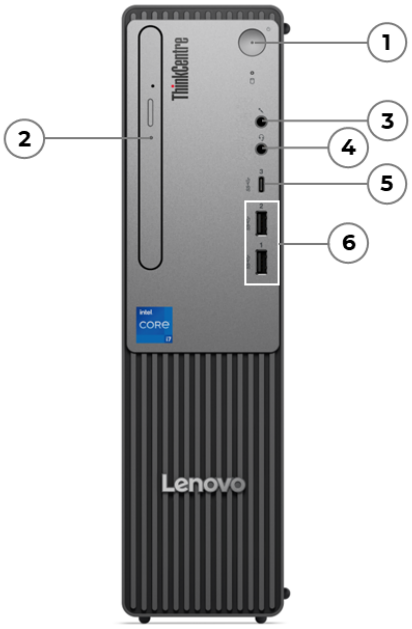
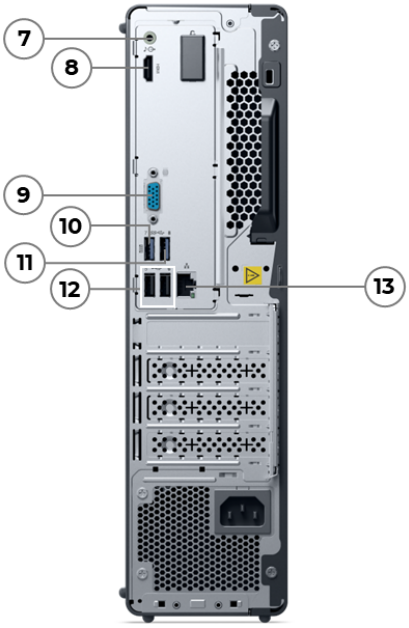
OVERVIEW





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™ i3 / i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core 3 100U	6 (2 P-core + 4 E-core)	8	P-core 1.2GHz / E-core 900MHz	P-core 4.7GHz / E-core 3.3GHz	10MB Intel® Smart Cache	-	Intel® 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® Smart Cache	-	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® Smart Cache	-	Intel® Graphics
Core i3-1315U[1]	6 (2 P-core + 4 E-core)	8	-	P-core 4.5GHz / E-core 3.3GHz	10MB Intel® Smart Cache	DDR5-5200	Intel® UHD Graphics
Core i5-13420H	8 (4 P-core + 4 E-core)	12	-	P-core 4.6GHz / E-core 3.4GHz	12MB Intel® Smart Cache	DDR5-5200	Intel® UHD Graphics
Core i7-13620H	10 (6 P-core + 4 E-core)	16	-	P-core 4.9GHz / E-core 3.6GHz	24MB Intel® Smart Cache	DDR5-5200	Intel® UHD Graphics

Notes:

[1] Models with the Intel® Core™ i3 1315U only have a PCIe® 3.0 x1 slot due to CPU limitations.

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® 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 SODIMM 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 DDR5-5200 or DDR5-5600 but may run as DDR5-5200 depending on the memory support capability of Intel®.

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

- Single speaker, 1W x1
- No speakers

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
180W	Fixed	85%	Autosensing
258W	Fixed	90%	100-240V, 50-60Hz
260W[1]	Fixed	90%	Autosensing

Notes:

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

DESIGN

Input Device

Keyboard**

- Lenovo® Calliope Keyboard (USB connector), black
- Lenovo® Traditional Keyboard (USB connector), black
- 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[3]

- 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.

[3] Models with the Intel® Core™ i3 1315U only have a PCIe® 3.0 x1 slot due to CPU limitations.

CONNECTIVITY

Network

WLAN + Bluetooth®**[1]

- 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

Notes:

[1] Wi-Fi® operation (including Wi-Fi® 6, Wi-Fi® 6E, Wi-Fi® 7, etc.) is subject to the regulatory requirements of each country. Bluetooth® may operate at a lower version than hardware design depending on the factors such as operating system, driver, etc.

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

Notes:

[1] The transfer speed of following ports will vary and, depending on many factors, such as the processing speed of the host device, file attributes and other factors related to system configuration and your operating environment, will be slower than theoretical speed.
USB 2.0: 480 Mbit/s;
USB 3.2 Gen 1 (SuperSpeed USB 5Gbps, formerly USB 3.0 / USB 3.1 Gen 1): 5 Gbit/s;
USB 3.2 Gen 2 (SuperSpeed USB 10Gbps, formerly USB 3.1 Gen 2): 10 Gbit/s;
USB4® 20Gbps / USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;
USB4® 40Gbps (USB 40Gbps): 40 Gbit/s;
Thunderbolt™ 3/4: 40 Gbit/s.
Thunderbolt™ 5: 80 Gbit/s (bidirectional), up to 120 Gbit/s in bandwidth boost mode for video-intensive applications.
[2] For video ports on discrete graphics, please see graphics section

SECURITY & PRIVACY

Security

Security Chip

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

- Absolute persistence module
- Administrator password
- Boot sequence control
- Boot without keyboard and mouse
- Configuration change detection

- Cover tamper detected
- Intel® BIOS guard
- Individual USB port disablement
- Hard disk password
- Power-on password
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- Never crash Self-healing
- Secure boot
- Secure wipe
- 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® 9.0
- (Optional) EPEAT 1.0 Gold Registered

- (Optional) EPEAT 1.0 Silver 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.
- 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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