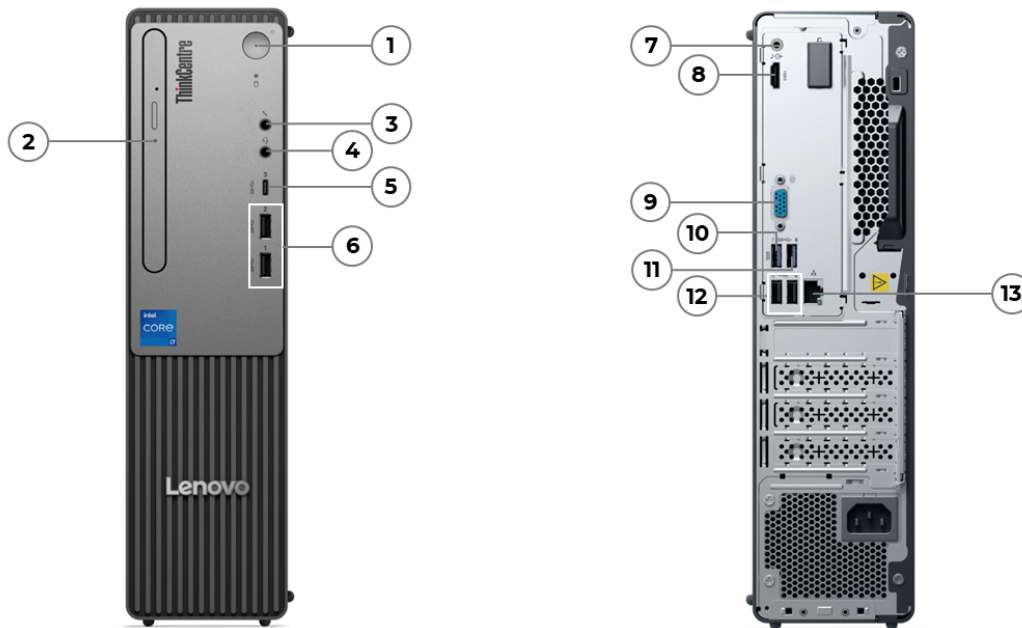


## OVERVIEW



|  |   |
|--|---|
| 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 | Max Frequency                 | Cache                   | Memory Support | Processor Graphics  |
|------------------------------|--------------------------|---------|-------------------------------|-------------------------|----------------|---------------------|
| Core i3-1315U <sup>[1]</sup> | 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\*\*\*<sup>[1]</sup>

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

Up to 64GB DDR5-5200

#### Memory Slots

Two DDR5 SODIMM 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<sup>[1]</sup>

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       |
| 258W                | Fixed | 90%        | 100-240V, 50-60Hz |
| 260W <sup>[1]</sup> | 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)<sup>[1]</sup>

| 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<sup>[2]</sup>

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<sup>[3]</sup>

- One PCIe<sup>®</sup> 4.0 x16, low-profile, length ≤ 155mm, height ≤ 70mm
- One PCIe<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> Core™ i3<sup>™</sup>1315U only have a PCIe<sup>®</sup> 3.0 x1 slot due to CPU limitations.

# CONNECTIVITY

## Network

### WLAN + Bluetooth<sup>®</sup>\*\*<sup>[1]</sup>

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

### Onboard Ethernet

Gigabit Ethernet, Realtek<sup>®</sup> RTL8111K, 1x RJ-45

Notes:

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

## Ports<sup>[1]</sup>

### Front Ports

- 1x USB-C<sup>®</sup> (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<sup>[2]</sup>**

- 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<sup>\*\*\*</sup>**

- 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<sup>\[1\]</sup>](#)

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**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.



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