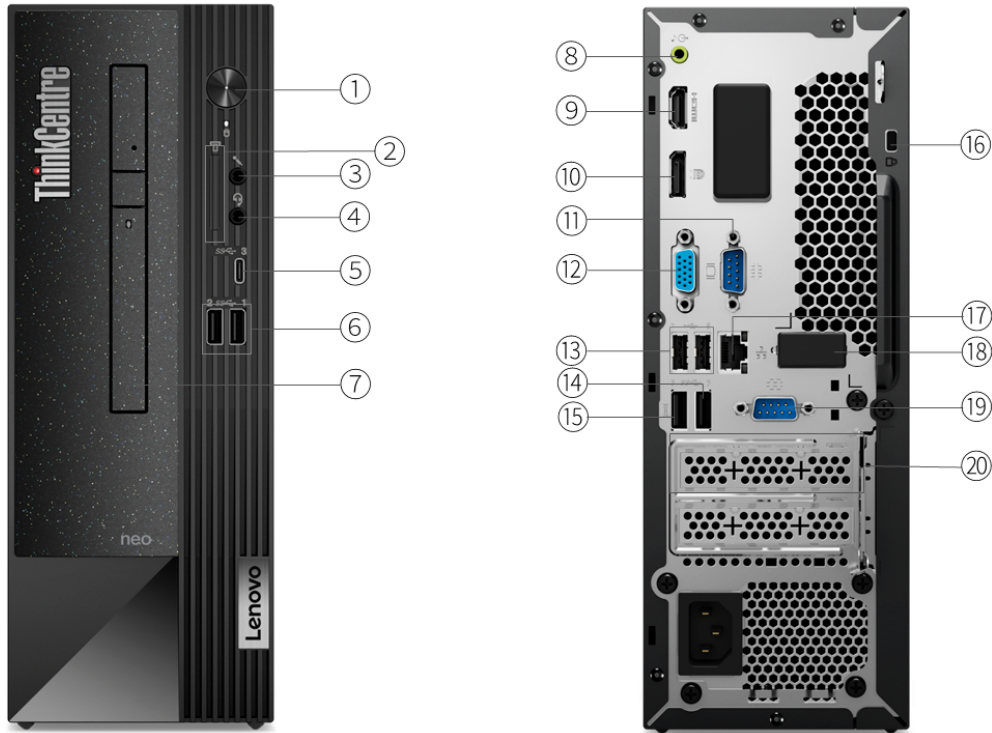


OVERVIEW



| | |
|--|---------------------------------------|
| 1. Power button | 11. Serial * |
| 2. Card reader * | 12. VGA |
| 3. Microphone (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. DP 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

**[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 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

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 |
|-------|-------|------------|-------------------------------------|
| 260W | Fixed | 90% | Autosensing, 80 PLUS Gold qualified |
| 180W | Fixed | 85% | 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 (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

Onboard Ethernet

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

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®

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

- Supervisor password
- Power-on password
- Hard disk password
- Cover presence switch
- Individual USB port disablement
- Intel® BIOS guard
- Secure Wipe
- Self-healing BIOS
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)

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://pcsupport.lenovo.com/warranty>.

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 offering listed under the feature is configured on selected models.
- Feature with *** means that one or more offerings listed under the feature could be configured on selected models.
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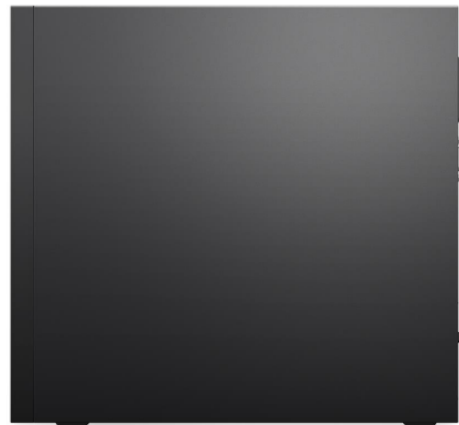
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