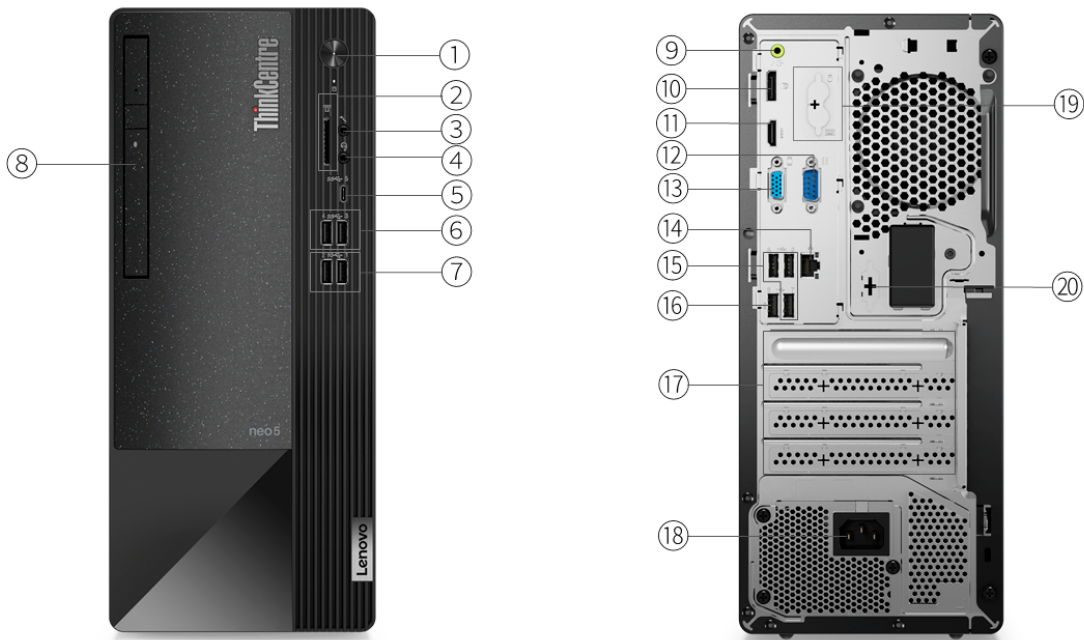


OVERVIEW



1. Power button	11. HDMI 1.4b
2. Card reader *	12. Serial
3. Microphone (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 feature)
7. 2x USB 3.2 Gen 2	17. Optional ports on expansion cards *
8. Optical drive *	18. Power connector
9. Headphone (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 Generation Intel Core™ i3 / i5 / i7 / i9 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Celeron G6900	2	2	3.4GHz	-	4MB	DDR4-3200	Intel UHD Graphics 710
Pentium Gold G7400	2	4	3.7GHz	-	6MB	DDR4-3200	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	DDR4-3200	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	DDR4-3200	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	DDR4-3200	-
Core i5-12500	6 (6 P-core + 0 E-core)	12	P-core 3.0GHz	P-core 4.6GHz ^[4]	18MB	DDR4-3200	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	DDR4-3200	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	DDR4-3200	Intel UHD Graphics 770

Notes:

[1], [2], [3], [4], [5], [6] 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**

- Ubuntu Linux^[1]
- Windows® 11 DG Windows 10 Pro 64
- Windows 11 Home
- Windows 11 Home Single Language
- Windows 11 Pro
- No 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	Connector	Max Resolution	Key Features
Intel UHD graphics 710	Integrated	Shared	1x HDMI® 1.4b, 1x VGA, 1x DP 1.4	3840x2160@24Hz(HDMI), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP)	DirectX® 12
Intel UHD graphics 730	Integrated	Shared	1x HDMI 1.4b, 1x VGA, 1x DP 1.4	3840x2160@24Hz(HDMI), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP)	DirectX 12
Intel UHD	Integrated	Shared	1x HDMI 1.4b, 1x	3840x2160@24Hz(HDMI),	DirectX 12

graphics 770			VGA, 1x DP 1.4	1920x1200@60Hz(VGA), 4096x2304@60Hz(DP)	
Intel Iris® Xe MAX 100 Graphics ^[2]	Discrete	2GB LPDDR4X	1x VGA, 1x HDMI 1.4	3840x2160@30Hz(HDMI), 1920x1080@60Hz(VGA)	DirectX 12, OpenGL 4.6
AMD Radeon™ RX 6400 ^[3]	Discrete	4GB GDDR6	1x HDMI 2.1 FRL, 1x DP 1.4a	7680x4320@60Hz(HDMI), 7680x4320@60Hz(DP)	DirectX 12, OpenGL 4.6
AMD Radeon RX 6500XT ^[4]	Discrete	4GB GDDR6	1x HDMI 2.1, 1x DP 1.4	7680x4320@60Hz(HDMI), 7680x4320@60Hz(DP)	DirectX 12, OpenGL 4.6
NVIDIA® GeForce RTX™ 3050 ^[5]	Discrete	8GB GDDR6	1x HDMI 2.1 FRL, 3x DP 1.4a	7680x4320@60Hz(HDMI), 7680x4320@120Hz(DP)	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], [3], [4], [5] 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 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 2242 SSD	PCIe® NVMe®, PCIe 3.0 x4	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal 2.0
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
180W	Fixed	85%
260W	Fixed	90%
310W	Fixed	92%
380W	Fixed	92%

DESIGN

Input Device

Keyboard**

- Euterpe Wireless Keyboard, grey
- Lenovo Calliope Keyboard (USB connector), black
- Lenovo Traditional Keyboard (USB connector), black
- 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 (chassis), grey (bezel)

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)

EOU

- (Optional) toolless chassis open (toolless chassis screw required) and toolless M.2 SSD, HDD, memory assembly / removal
- No support

Cooling System (Fan & Cooler)***

- (Optional) 1x rear fan
- (Optional) 1x front system fan
- (Optional) 1x Photocatalyst 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

Onboard Ethernet

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

Optional Ethernet

No optional Ethernet

WLAN + Bluetooth®**

- Realtek RTL8822CE, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth 5.0, M.2 card
- Intel Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.0, Intel vPro® technology support, M.2 card
- 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

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 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
- 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 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.

Monitor Cable

Monitor Cable***

- HDMI to DVI dongle
- DP to DVI-D dongle
- No monitor cable

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
- Power-on password
- Hard disk password
- Cover presence switch
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- Individual USB port disablement

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

ENVIRONMENTAL

Operating Environment

Temperature

- Operating: 5°C (41°F) to 35°C (95°F)
- Storage: -40°C (-40°F) to 60°C (140°F)

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]
- (Optional) EPEAT Silver Registered^[3]
- 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.

[2], [3] EPEAT is registered where applicable, please see <https://www.epeat.net> for registration status by country.

Other Certifications

Other Certifications

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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