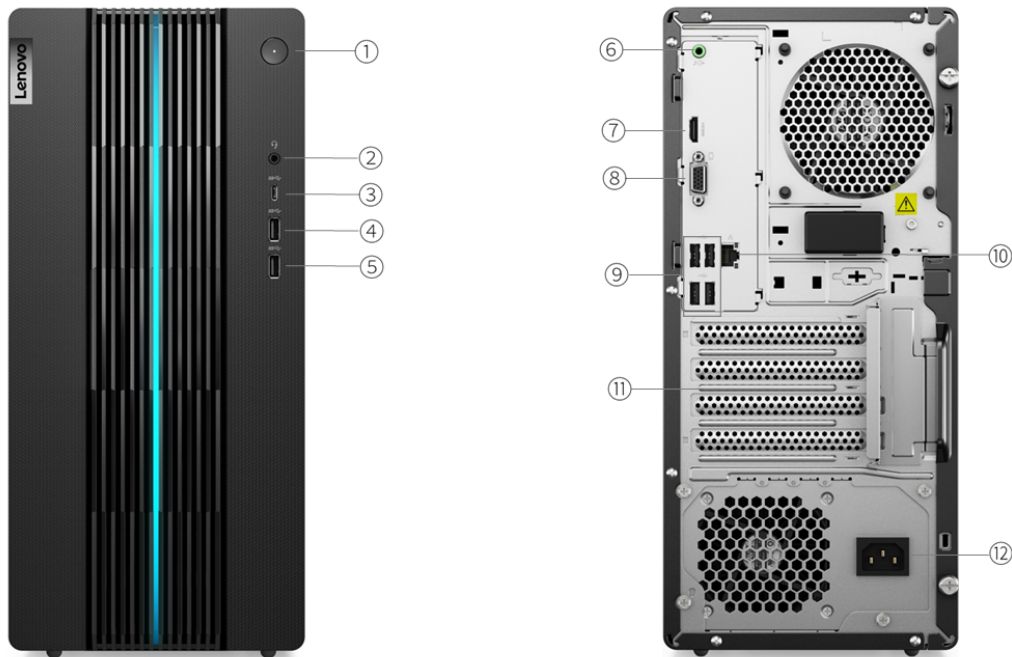


OVERVIEW



1. Power button	7. HDMI 2.0b
2. Headphone / microphone combo jack (3.5mm)	8. VGA
3. USB-C 3.2 Gen 1	9. 4x USB 2.0
4. USB 3.2 Gen 1	10. Ethernet (RJ-45)
5. USB 3.2 Gen 2	11. Optional ports on expansion cards
6. Audio line-out (3.5mm)	12. Power connector

Notes:

- Items with * are only available on selected models
- The onboard video ports VGA and HDMI are disabled on the models with discrete graphics

PERFORMANCE

Processor

Processor Family

12th Generation Intel® Core™ i5 / i7 Processor

Processor**^[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-12400	6 (6 P-core + 0 E-core)	12	P-core 2.5GHz	P-core 4.4GHz	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	18MB	DDR4-3200	-
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	25MB	DDR4-3200	Intel UHD Graphics 770
Core i7-12700F	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	25MB	DDR4-3200	-

Notes:

^[1] 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 Home
- Windows 11 Home Single Language
- Windows 11 Pro
- No operating system

Graphics

Graphics**^[1]

Graphics	Type	Memory	Connector	Max Resolution	Key Features
AMD Radeon™ RX 6400	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	Discrete	4GB GDDR6	1x HDMI 2.1 FRL, 1x DP 1.4	7680x4320@60Hz(HDMI), 7680x4320@60Hz(DP)	DirectX 12, OpenGL 4.6
NVIDIA® GeForce GTX 1650 SUPER	Discrete	4GB GDDR5	1x HDMI 2.0b, 2x DP 1.4	4096x2160@60Hz(HDMI), 5120x3200@60Hz(DP)	DirectX 12
NVIDIA GeForce GTX 1660 SUPER	Discrete	6GB GDDR6	1x DVI, 1x HDMI 2.0b, 1x DP 1.4	4096x2160@60Hz(HDMI), 5120x3200@60Hz(DP), 2560x1660@60Hz(DVI)	DirectX 12
NVIDIA GeForce RTX™ 3060	Discrete	12G GDDR6	3x DP 1.4a, 1x HDMI 2.1	7680x4320@60Hz(HDMI), 5120x2880@60Hz(DP)	DirectX 12
NVIDIA GeForce RTX 3060 Ti	Discrete	8G GDDR6	3x DP 1.4a, 1x HDMI 2.1	7680x4320@60Hz(HDMI), 7680x4320@120Hz(DP)	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 2 independent displays via onboard ports (VGA and HDMI), more displays support via discrete graphics

Chipset

Chipset

Intel B660 chipset

Memory**Max Memory^[1]**

Up to 32GB DDR4-3200

Memory Slots

Two DDR4 UDIMM slots, dual-channel capable

Memory Type

DDR4-3200

Memory Protection

Non-ECC

Notes:

[1] The max memory is based on the test results with current Lenovo® memory offerings.

Storage**Storage Support^[1]**

Up to three drives, 2x 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
3.5" SATA HDD	SATA 6Gb/s	7.2K
M.2 2280 SSD	PCIe® NVMe®, PCIe 3.0 x4	-
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4	-

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**

None

Card Reader

No card reader

Multi-Media**Audio Chip**

High Definition (HD) Audio, Realtek® ALC623-CG codec

Speakers

No speakers

Power Supply**Power Supply^{**}**

Power	Type	Efficiency	Key Features
300W	Fixed	85%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz
380W	Fixed	92%	-
500W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard

- Lenovo Calliope Keyboard (USB connector), black
- No keyboard

Mouse

- Lenovo Calliope Mouse (USB connector), black
- No mouse

Mechanical

Form Factor

Tower (17L)

Dimensions (WxDxH)^[1]

170 x 304 x 376 mm (6.69 x 11.97 x 14.8 inches)

Packaging Dimensions (WxDxH)

240 x 395 x 530 mm (9.45 x 15.55 x 20.87 inches)

Weight^[2]

8.4 kg (18.52 lbs)

Packaging Weight

All models: Around 11.1 kg (24.47 lbs)

Case Color

Raven black

Bays

2x 3.5" disk bay

Expansion Slots

- One PCIe 4.0 x16, full height
- One PCIe 4.0 x1, full height
- Two M.2 slots (one for WLAN, one for SSD)

Cooling System (Fan & Cooler)**

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

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, 1x RJ-45

WLAN + Bluetooth®**

- 802.11ac 2x2 Wi-Fi® + Bluetooth 5.1, M.2 Card
- Wi-Fi 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1, M.2 card
- No WLAN and Bluetooth

Ports^[1]

Front Ports

- 1x USB-C® 3.2 Gen 1 (support data transfer and 5V@3A charging)
- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 2

- 1x headphone / microphone combo jack (3.5mm)

Rear Ports^[2]

- 4x USB 2.0
- 1x HDMI 2.0b
- 1x VGA
- 1x Ethernet (RJ-45)
- 1x headphone (3.5mm)
- 1x power connector

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 chipset

BIOS Security

- Administrator password
- Power-on password
- Hard disk password

SERVICE

Warranty

^[1]**Base Warranty****

- 1-year mail-in service
- 1-year courier or carry-in service
- 1-year limited onsite service
- 2-year courier or carry-in service
- 3-year courier or carry-in 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
- ErP Lot 3
- RoHS compliant

Notes:

[1] The items listed under the "Green Certifications" section may not only refer to certification but also registration or self-declaration.

- Feature with ** means that only one offering listed under the feature is configured on selected models.
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