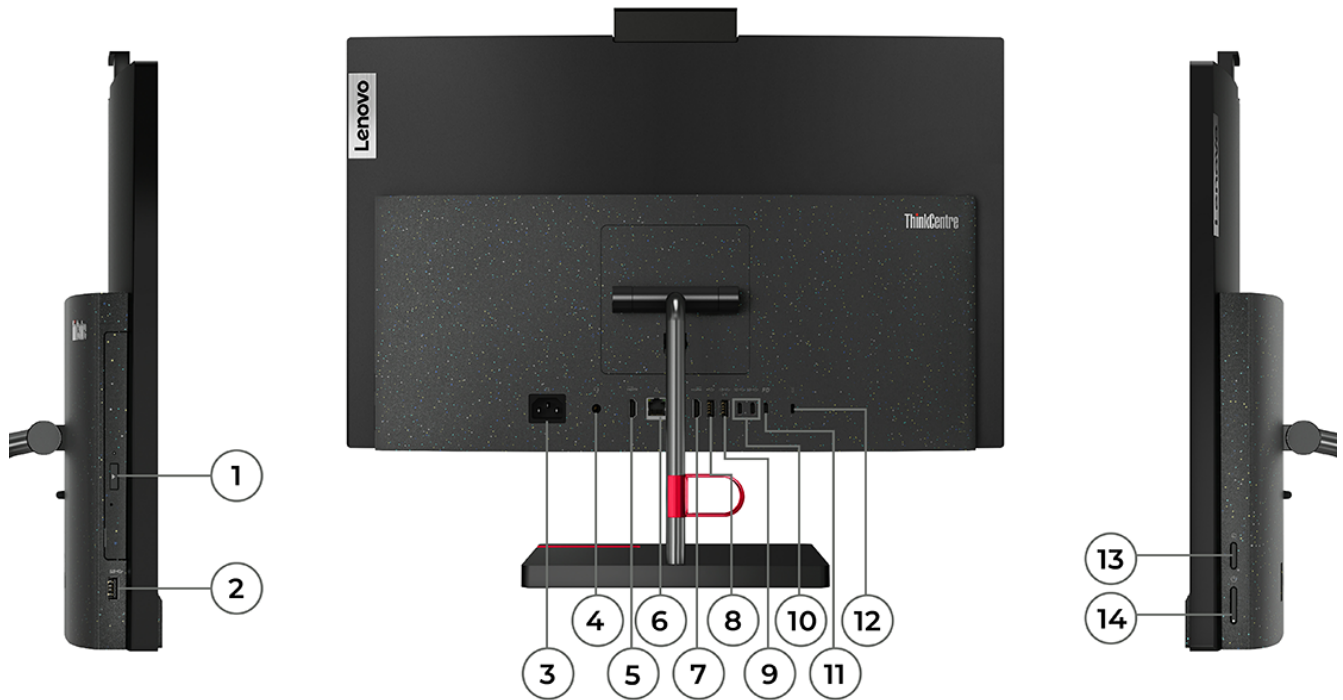


OVERVIEW



1. Optical drive eject button *	8. USB 2.0
2. USB 3.2 Gen 1	9. USB 3.2 Gen 2
3. Power connector	10. 2x USB-C 3.2 Gen 2
4. Headphone / microphone combo jack (3.5mm)	11. USB-C 2.0 (support data transfer, PD 3.0)
5. HDMI-in 1.4	12. Kensington Security Slot
6. Ethernet (RJ-45)	13. HDMI Switch Key
7. HDMI-out 2.1 TMDS	14. Power button

Notes:

- Ports with * are only available on selected models

PERFORMANCE

Processor

Processor Family

12th Generation Intel® Core™ i3 P-Series and i5 / i7 H-Series Processor

Processor**^[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i3-1220P	10 (2 P-core + 8 E-core)	12	P-core 1.5GHz / E-core 1.1GHz	P-core 4.4GHz / E-core 3.3GHz	12MB	DDR5-4800	Intel UHD Graphics
Core i5-12450H	8 (4 P-core + 4 E-core)	12	P-core 2.0GHz / E-core 1.5GHz	P-core 4.4GHz / E-core 3.3GHz	12MB	DDR5-4800	Intel UHD Graphics
Core i5-12500H	12 (4 P-core + 8 E-core)	16	P-core 2.5GHz / E-core 1.8GHz	P-core 4.5GHz / E-core 3.3GHz	18MB	DDR5-4800	Intel Iris® Xe Graphics
Core i7-12700H	14 (6 P-core + 8 E-core)	20	P-core 2.3GHz / E-core 1.7GHz	P-core 4.7GHz / E-core 3.5GHz	24MB	DDR5-4800	Intel Iris Xe Graphics

Notes:

1. Intel Iris Xe Graphics capability requires system to be configured with dual-channel memory. On the system with single-channel memory, Intel Iris Xe Graphics will function as Intel UHD Graphics.

Operating System

Operating System**^[1]

- Windows® 11 Pro
- Windows 11 Home
- Windows 11 Home Single Language
- Ubuntu Linux
- 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][2]}

Graphics	Type	Memory	Connector	Max Resolution	Key Features
Intel Iris Xe Graphics	Integrated	Shared	1x HDMI® 2.1 TMDS	3840x2160@60Hz(HDMI)	DirectX® 12
Intel UHD Graphics	Integrated	Shared	1x HDMI 2.1 TMDS	3840x2160@60Hz(HDMI)	DirectX 12.1
Intel Arc™ A370M Graphics	Discrete	4GB GDDR6	1x HDMI 2.1 TMDS	3840x2160@60Hz(HDMI)	DirectX 12

Notes:

1. The information of integrated graphics are not applicable for the models without integrated graphics (for the details, please refer to processor section)
2. Intel Iris Xe Graphics capability requires system to be configured with dual-channel memory. On the system with single-channel memory, Intel Iris Xe Graphics will function as Intel UHD Graphics.

Monitor Support

Monitor Support

Supports up to 2 independent displays via native display and 1 external monitor; supports external monitor via HDMI

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

ThinkCentre neo 50a 24

Max Memory^[1]

Up to 16GB DDR5-4800

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type

DDR5-4800

Notes:

1. The max memory is based on the test results with current Lenovo® memory offerings. The system may support more memory as the technology develops.

Storage

Storage Support^[1]

- Up to two drives, 1x 2.5" HDD + 1x M.2 SSD
 - 2.5" HDD up to 2TB
 - M.2 SSD up to 1TB
- For installing HDD storage, assembly kits are needed. The kits only come with HDD models.

Storage Type^{**}

Disk Type	Interface	RPM	Security
2.5" SATA HDD	SATA 6Gb/s	5.4K	-
M.2 2280 SSD	PCIe® NVMe®, PCIe 3.0 x4	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4	-	Opal 2.0
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Value	-	Opal 2.0

RAID

No support

Notes:

1. The storage capacity supported is based on the test results with current Lenovo storage offerings. The system may support larger storage as the technology develops.

Removable Storage

Optical

- DVD burner (DVD±RW), SATA connector, slim (9.0mm)
- None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC274-CG codec

Speakers

Stereo speakers, 3W x2

Microphone

Dual-microphone array

Camera^{**}

- 5.0-megapixel, fixed focus
- 5.0-megapixel IR camera, fixed focus
- 5.0-megapixel IR camera, fixed focus, with AI chip
- No camera

Power Supply

Power Supply

Power	Type	Efficiency	Key Features

180W	Fixed	90%	100V - 240V, 50-60Hz
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DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
23.8"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	1000:1	72% NTSC	horizontal: +/- 89°, vertical: +/- 89°	Borderless design, low blue light, flicker free
23.8"	FHD (1920x1080)	Multi-touch	IPS	250 nits	Anti-glare	16:9	1000:1	72% NTSC	horizontal: +/- 89°, vertical: +/- 89°	Borderless design, low blue light, flicker free

Touchscreen

- Advanced In-cell Touch (AIT), supports 10-point touch
- Non-touch

Notes:

- California Electronic Waste Recycling Fee
In California, per state law, Lenovo charges an electronic waste recycling fee on this covered device at the time of sale of the product. For more information, go to <https://www.calrecycle.ca.gov/Electronics/Consumer>

Input Device

Keyboard**

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

Mouse**

- Lenovo Calliope Mouse (USB connector), black
- Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
- Euterpe Wireless Mouse, grey
- No mouse

Mechanical

Form Factor

AIO (23.8 inches)

Dimensions (WxDxH)^[1]

Models	Dimensions
Models with liftable monitor stand	541 x 220 x 482 mm (21.3 x 8.7 x 19 inches)
Models with monitor stand	541 x 209.9 x 433.7 mm (21.3 x 8.3 x 17.1 inches)

Packaging Dimensions (WxDxH)

- Models with liftable monitor stand: 658 x 264 x 567 mm (25.9 x 10.4 x 22.3 inches)
- Models with monitor stand: 695 x 196 x 569 mm (27.4 x 7.7 x 22.4 inches)

Weight^[2]

Models	Weight
Models with liftable monitor stand	Around 7.65 kg (16.9 lbs)
Models with monitor stand	Around 7.43 kg (16.4 lbs)

Packaging Weight

- Models with monitor stand: 9.69 kg (21.4 lbs)
- Models with liftable monitor stand: 10.3 kg (22.7 lbs)

Case Color

Raven black

Bays

- 1x 2.5" disk bay
- 1x slim ODD bay
- For installing HDD storage, assembly kits are needed. The kits only come with HDD models.

Expansion Slots

Two M.2 slots (one for WLAN, one for SSD)

Stand**

- Monitor stand, supports -5° to +25° tilt, left & right 45° swivel
- Liftable monitor stand, supports -5° to +18° tilt, left & right 45° swivel, up to 100mm lift

Mounting

Supports VESA mount 100mm

Others

Supports Smart Power On

Notes:

1. The system dimensions 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

One gigabit Ethernet, Realtek RTL8111K, 1x RJ-45, supports Wake-on-LAN

WLAN + Bluetooth®**^[1]

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1, M.2 Card
- Intel Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.0, M.2 card
- Realtek RTL8822CE, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.0, M.2 card
- Realtek Wi-Fi 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.1, M.2 card

Notes:

1. Bluetooth 5.2 is hardware ready but may run at a lower version due to OS limitation

Ports^[1]

Rear Ports^[2]

- 1x HDMI-in 1.4
- 1x HDMI-out 2.1 TMDS
- 2x USB-C® 3.2 Gen 2
- 1x USB-C 2.0 (Supports data transfer, Power Delivery 3.0)
- 1x USB 2.0
- 1x USB 3.2 Gen 2 (Supports smart power-on)
- 1x Ethernet (RJ-45)
- 1x headphone / microphone combo jack (3.5mm)

Left Ports

1x USB 3.2 Gen 1

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;
USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;
Thunderbolt™ 3/4: 40 Gbit/s
2. For video ports on discrete graphics, please see graphics section

Monitor Cable

Monitor Cable

- Smart Cable (USB Type A-C)
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip**

Firmware TPM 2.0 integrated in SoC

Physical Locks

Kensington® Security Slot™, 3 x 7 mm

BIOS Security

- Administrator password
- Power-on password
- Hard disk password
- Cover presence switch
- Intel BIOS guard

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: -20°C (-4°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****Green Certifications**

- (Optional) EPEAT™ Silver
- (Optional) ENERGY STAR® 8.0

Other Certifications**Other Certifications**

- TÜV Rheinland® Flicker Free
- TÜV Rheinland Low Blue Light

- TÜV Rheinland Ultra Low Noise

Mil-Spec Test

None

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