

## OVERVIEW



1. OSD joystick	8. Microphone mute button
2. 3x USB 3.2 Gen 1	9. Thunderbolt 4
3. USB-C 3.2 Gen 2 (data transfer, 15W charging)	10. 2x USB 3.2 Gen 2
4. Ethernet (RJ-45)	11. Thunderbolt 3 (for display and file sharing) *
5. HDMI in 1.4 / out 2.1 TMDS combo port	12. Headphone / microphone combo jack (3.5mm)
6. DisplayPort 1.4	13. Card reader *
7. Power connector	14. Power button

## Notes:

- Items with \* are only available on selected models
- Please note the optional Thunderbolt 3 is not a Thunderbolt host port. For the details, please refer to the Ports section of specifications.

## PERFORMANCE

### Processor

#### Processor Family

13th Generation Intel® Core™ i5 / i7 / i9 Processor

#### Processor\*\*<sup>[1]</sup>

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics
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	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	24MB	Intel® UHD Graphics 770
Core i5-13600 <sup>[2]</sup>	14 (6 P-core + 8 E-core)	20	P-core 2.7GHz / E-core 2.0GHz	P-core 5.0GHz / E-core 3.7GHz	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	30MB	Intel® UHD Graphics 770
Core i9-13900	24 (8 P-core + 16 E-core)	32	P-core 2.0GHz / E-core 1.5GHz	Max Turbo up to 5.6GHz / P-core 5.2GHz / E-core 4.2GHz	36MB	Intel® UHD Graphics 770

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.

[2] Special bid only.

### Operating System

#### Operating System\*\*<sup>[1]</sup>

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- No preload operating system

Notes:

[1] Windows® 10 drivers support Windows® 10 21H1, 21H2 and 22H2, and Windows® 11 drivers support Windows® 11 21H2, 22H2 and May21

### Graphics

#### Graphics\*\*

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD graphics 730	Integrated	Shared	4096x2160@60Hz(HDMI®), 4096x2304@60Hz - 36 bpp / 5120x3200@60Hz - 24 bpp (DP), 7680x4320@60Hz - 30 bpp (Thunderbolt™ 4)	1x HDMI® 2.1 TMDS, 1x DP 1.4, 1x Thunderbolt™ 4	DirectX® 12, OpenGL 4.6
Intel® UHD graphics 770	Integrated	Shared	4096x2160@60Hz(HDMI®), 4096x2304@60Hz - 36 bpp / 5120x3200@60Hz - 24 bpp (DP), 7680x4320@60Hz - 30 bpp (Thunderbolt™ 4)	1x HDMI® 2.1 TMDS, 1x DP 1.4, 1x Thunderbolt™ 4	DirectX® 12, OpenGL 4.6
NVIDIA® GeForce RTX™ 4050	Discrete	6GB GDDR6	4096x2160@60Hz(HDMI®), 4096x2304@60Hz - 36 bpp / 5120x3200@60Hz - 24 bpp (DP), 7680x4320@60Hz - 30 bpp (Thunderbolt™ 4)	1x HDMI® 2.1a TMDS, 1x DP 1.4, 1x Thunderbolt™ 4	DirectX® 12, OpenGL 4.6

### Monitor Support

#### Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via DisplayPort™, HDMI® and Thunderbolt™ 4; work as standalone monitor via HDMI® (HDMI® in / out combo) or optional Thunderbolt™ 3 port

## Chipset

### Chipset

Intel® Q670 chipset

## Memory

### Max Memory<sup>[1][2]</sup>

- Models with Core i5: Up to 64GB DDR5-4800
- Models with Core i7/i9: Up to 64GB DDR5-5200

### Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

### Memory Type\*\*

- DDR5-4800<sup>[3]</sup>
- DDR5-5200<sup>[4]</sup>
- DDR5-5600

### Memory Protection

Non-ECC

#### Notes:

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

[2] Installed memory is actually 5600MHz, but may run at 4800MHz or 5200MHz depending on the memory support capability of processor.

[3] Installed memory is actually DDR5-5600 but may run as DDR5-4800 depending on the memory support capability of Intel®.

[4] Installed memory is actually DDR5-5600 but may run as DDR5-5200 depending on the memory support capability of Intel®.

## Storage

### Storage Support<sup>[1]</sup>

Up to three drives, 1x 2.5" HDD + 2x M.2 SSD

- 2.5" HDD up to 1TB
- M.2 SSD up to 1TB each

### Storage Type\*\*\*

Disk Type	Interface	RPM	Security
2.5" SATA HDD	SATA 6Gb/s	7.2K	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	-	Opal 2.0

### RAID<sup>[2]</sup>

RAID 0/1 support for SSDs

#### Notes:

[1] The max capacity of each disk type is based on the test results with current Lenovo® storage offerings.

[2] RAID is not preset by default, user can config RAID 0/1 according to the demand.

## Removable Storage

### Optical

- DVD burner (DVD±RW), SATA connector, 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® ALC256-NL codec

### Speakers

Stereo speakers, 5W x2, Dolby Atmos®

**Microphone**

Dual-microphone array

**Camera\*\***

- 5.0-megapixel, IR + RGB hybrid, with ThinkShutter (physical switch on/off), ±20° view angle adjustable, Windows® Hello support
- 5.0-megapixel, IR + RGB hybrid, with ThinkShutter (physical switch on/off) and Human Presence Detection (Radar Sensor), ±20° view angle adjustable, Windows® Hello support
- 5.0-megapixel, with ThinkShutter (physical switch on/off), ±20° view angle adjustable

**Power Supply****Power Supply**

Power	Type	Efficiency	Key Features
230W	Fixed	92%	100V - 240V, 50-60Hz

**DESIGN****Display****Display<sup>[1]</sup>**

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Refresh Rate	Viewing Angle (L/R/U/D)	Key Features
27"	QHD (2560x1440)	None	IPS	350nits	Anti-glare	16:9	1000:1	99% sRGB	60Hz	89° / 89° / 89° / 89°	14ms response Time, 16.7 million color support, borderless design, TÜV Rheinland® Low Blue Light (Hardware Solution), TÜV Rheinland® Flicker Free, Eyesafe® Certified 2.0

**Touchscreen**

Non-touch

Notes:

[1] IPS (in-plane switching) technology may refer to IPS, PLS, ADS, AHVA, AAS.

**Input Device****Keyboard\*\***

- Lenovo® Calliope Keyboard (USB connector), black
- Lenovo® Calliope Wireless Keyboard (2.4GHz via USB receiver), black
- Lenovo® Traditional Keyboard (USB connector), black
- Wireless EOS Keyboard, black
- No keyboard

**Mouse\*\***

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

**Mechanical****Buttons**

- Microphone mute button
- OSD joystick

- Power button

### Form Factor

AIO (27 inches)

### Dimensions (WxDxH)<sup>[1]</sup>

Models	Dimensions
Models (with UltraFlex V stand, with camera)	Lowest in flat mode: 613.6 x 364.54 x 227.11 mm (24.2 x 14.4 x 8.9 inches) Highest in vertical mode: 613.6 x 252.59 x 461.37 mm (24.2 x 9.9 x 18.2 inches)
Models (with full function monitor stand, with camera)	Lowest in vertical mode: 613.6 x 219.81 x 411.04 mm (24.2 x 8.7 x 16.2 inches) Highest in vertical mode: 613.6 x 219.81 x 521.81 mm (24.2 x 8.7 x 20.5 inches)
Models without stand and camera	613.6 x 54.5 x 383.4 mm (24.2 x 2.1 x 15.1 inches)

### Packaging Dimensions (WxDxH)

764 x 235 x 545 mm (30.1 x 9.3 x 21.5 inches)

### Weight<sup>[2]</sup>

11.2 kg (24.8 lbs, maximum configuration)

### Packaging Weight

2.4 kg (5.28 lbs), packaging only

### Case Color

Black

### Bays

- 1x 2.5" disk bay
- 1x slim ODD bay

### Expansion Slots

Three M.2 slots (one for WLAN, two for SSD)

### EOU

Toolless cover, stand, motherboard shielding, HDD, and memory assembly / removal

### Stand\*\*

- UltraFlex V stand, supports -5° to +70° tilt, up to 70°±2° lift (up to 166.3mm lift in flat mode / up to 63mm lift in vertical mode)
- Full function monitor stand, supports -5° to +20° tilt, left & right 45° swivel, 90° pivot, up to 110mm lift
- No stand

### Mounting

Supports VESA mount 100mm

### Others

- (Optional) Conference Call Base, 3W x4 Harman speakers, 4 digital microphones array with AI noise suppression, Physical button for Teams, USB-C® connector
- 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® 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-LM, 1x RJ-45, supports Wake-on-LAN

#### WLAN + Bluetooth®\*\*

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card<sup>[1]</sup>
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, Intel® vPro® technology support, M.2 Card<sup>[2]</sup>
- No WLAN and Bluetooth®

Notes:

[1], [2] Bluetooth® 5.3 requires Windows® 11.

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

### Rear Ports

- 1x USB-C® 3.2 Gen 2 (support data transfer and 15W charging)
- 3x USB 3.2 Gen 1
- 1x HDMI® (HDMI® in 1.4 / HDMI® out 2.1 TMDS combo port)
- 1x DisplayPort™ 1.4
- 1x Ethernet (RJ-45)

### Optional Rear Ports

None

### Right Ports

- 1x Thunderbolt™ 4 / USB4® 40Gbps (support data transfer, 15W charging and DisplayPort™ 1.4)
- 2x USB 3.2 Gen 2
- 1x headphone / microphone combo jack (3.5mm)

### Optional Right Ports

- 1x ThunderBolt 3<sup>[2]</sup>
- 1x card reader

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] This Thunderbolt™ 3 port is not a Thunderbolt™ host port. By connecting it to a laptop or desktop Thunderbolt™ port with the included Type-C cable, customers can share M90a Pro Gen 4 as a Thunderbolt™ monitor and share the files saved on the 2nd SSD of M90a Pro Gen 4. A Type-C cable is boundled with the models with Thunderbolt™ 3 port.

## SECURITY & PRIVACY

### Security

#### Security Chip

Discrete TPM 2.0, TCG certified

#### Physical Locks

Kensington® Security Slot™, 3 x 7 mm

#### Chassis Intrusion Switch

- Chassis intrusion switch
- No chassis intrusion switch

#### Fingerprint Reader

No fingerprint reader

#### Other Security

- (Optional) Smart Human Presence Detection (Camera with Radar Sensor)
- ThinkShutter camera cover

#### BIOS Security

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

- Boot sequence control
- Boot without keyboard and mouse
- Individual USB port disablement
- Self-healing BIOS
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator<sup>\[1\]</sup>](#)

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.

## MANAGEABILITY

### System Management

#### System Management<sup>[1]</sup>

- Intel® vPro® Enterprise
- Non-vPro®

Notes:

[1] Intel® vPro® offers a superset of DASH's defined capabilities.

## SERVICE

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

#### Base Warranty\*\*

- 1-year limited onsite service
- 3-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://support.lenovo.com/warrantylookup/warrantypolicy>.

## ACCESSORIES

### Bundled Accessories

#### Bundled Accessories\*\*\*

- DP to DVI dongle
- DP to Dual DP dongle
- DP to HDMI® dongle
- DP to VGA dongle
- HDMI® to DVI dongle
- HDMI® to VGA dongle
- None

## OPERATING REQUIREMENTS

### Operating Environment

#### Temperature

- Operating: 5°C (41°F) to 35°C (95°F)
- Storage: -20°C (-4°F) to 60°C (140°F)

#### Relative Humidity

Operating: 20% to 80%

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

#### Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Gold Registered
- ErP Lot 3
- RoHS compliant
- TCO Certified 9.0
- TCO edge
- VOC Report

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>.

### Other Certifications

#### Other Certifications

- Eyesafe® Certified 2.0
- (Optional) TÜV Rheinland® Ultra Low Noise
- TÜV Rheinland® Flicker Free
- TÜV Rheinland® Low Blue Light (Hardware Solution)
- UL Anti-dust

#### Mil-Spec Test

MIL-STD-810H military test passed (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, Solar Radiation, Contamination by Fluids, Salt Fog)

- Feature with \*\* means that only one option listed under the feature can be configured on selected models. Please refer to the model configuration for specific information.
- Feature with \*\*\* means that one or more options listed under the feature can be configured on selected models. Please refer to the model configuration for specific information.
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