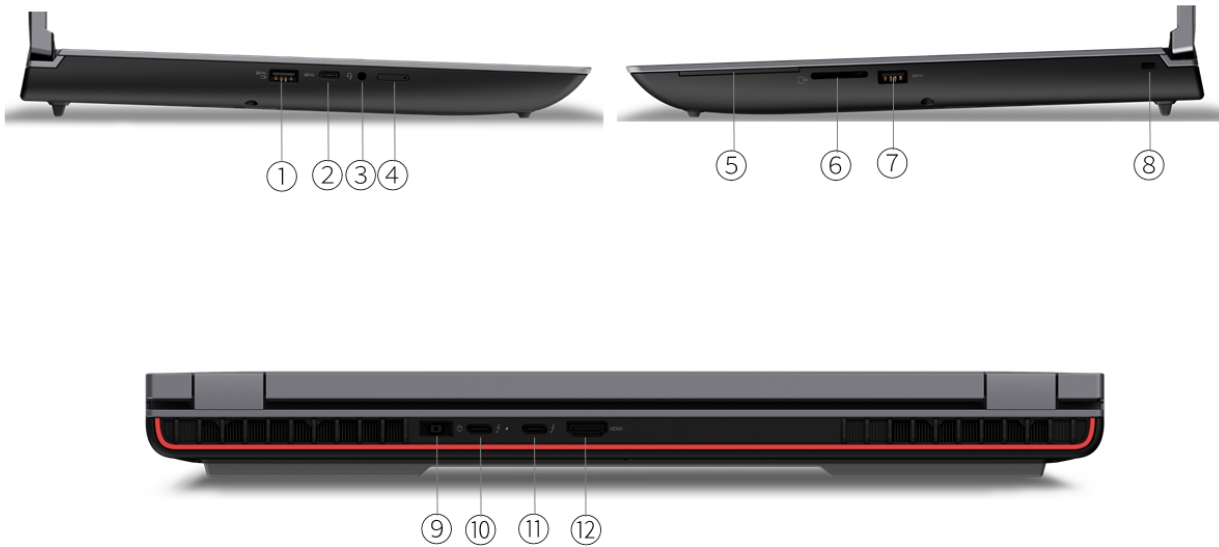


## OVERVIEW



1. USB 3.2 Gen 1 (one Always On)	7. USB 3.2 Gen 1
2. USB-C 3.2 Gen 2	8. Kensington Nano Security Slot
3. Headphone / microphone combo jack (3.5mm)	9. Power connector
4. Nano-SIM card slot *	10. Thunderbolt 4
5. Smart card reader *	11. Thunderbolt 4
6. SD Express 7.0 card reader	12. HDMI

Notes:

- Ports with \* are only available on selected models

## PERFORMANCE

### Processor

#### Processor Family

12th Generation HX series Intel® Core™ i5 / i7 / i9 processor, supports processors up to 16 cores; up to 5.0 GHz; up to 55W TDP

#### Processor\*\*

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-12600HX	12 (4 P-core + 8 E-core)	16	P-core 2.5GHz / E-core 1.8GHz	P-core 4.6GHz / E-core 3.3GHz	18MB	DDR5-4800	Intel UHD Graphics
Core i7-12850HX	16 (8 P-core + 8 E-core)	24	P-core 2.1GHz / E-core 1.5GHz	P-core 4.8GHz / E-core 3.4GHz	25MB	DDR5-4800	Intel UHD Graphics
Core i9-12950HX	16 (8 P-core + 8 E-core)	24	P-core 2.3GHz / E-core 1.7GHz	P-core 5.0GHz / E-core 3.6GHz	30MB	DDR5-4800	Intel UHD Graphics
Core i7-12800HX	16 (8 P-core + 8 E-core)	24	P-core 2.0GHz / E-core 1.5GHz	P-core 4.8GHz / E-core 3.4GHz	25MB	DDR5-4800	Intel UHD Graphics
Core i9-12900HX	16 (8 P-core + 8 E-core)	24	P-core 2.3GHz / E-core 1.7GHz	P-core 5.0GHz / E-core 3.6GHz	30MB	DDR5-4800	Intel UHD Graphics

### Operating System

#### Operating System\*\*

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Fedora Linux
- Ubuntu Linux
- Red Hat Enterprise Linux (certified only)

### Graphics

#### Graphics

Graphics	Type	Memory	TGP	Key Features
NVIDIA® RTX A1000 Laptop GPU	Discrete	4GB GDDR6	60W	Dynamic Boost 2.0, DirectX® 12
NVIDIA RTX A2000 8GB Laptop GPU	Discrete	8GB GDDR6	60W	Dynamic Boost 2.0, DirectX 12
NVIDIA RTX A3000 12GB Laptop GPU	Discrete	12GB GDDR6 ECC	115W	Dynamic Boost 2.0, DirectX 12
NVIDIA RTX A4500 Laptop GPU	Discrete	16GB GDDR6 ECC	115W	Dynamic Boost 2.0, DirectX 12
NVIDIA RTX A5500 Laptop GPU	Discrete	16GB GDDR6 ECC	115W	Dynamic Boost 2.0, DirectX 12

### Monitor Support

#### Monitor Support

Supports up to 5 independent displays (native display and 4 external monitors via HDMI®, USB-C® and Thunderbolt™)

- HDMI supports up to 3840x2160@60Hz on integrated or Arc graphics models; 7680x4320@60Hz on NVIDIA graphics models
- USB-C supports up to 5120x3200@60Hz
- Thunderbolt supports up to 5120x3200@60Hz

### Chipset

#### Chipset

Intel WM690 chipset

### Memory

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

Up to 128GB DDR5-4800

## Memory Slots

Four DDR5 SO-DIMM slots, dual-channel capable

### Memory Type\*\*[2]

- DDR5-4800 ECC
- DDR5-4800 non-ECC

### Memory Protection

ECC on models with ECC DIMMs and ECC capable processor

#### 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.
2. Installed memory is actually DDR5-4800 but runs at DDR5-4000 due to processor limitation

## Storage

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

Up to two drives, 2x M.2 SSD

- M.2 2280 SSD up to 8TB, 4TB each
- RAID 0/1 support

### Storage Slot

Two M.2 slots

- Two M.2 2280 PCIe® Gen 4x4 slots, support M.2 2280 SSD

### Storage Type

Disk Type	Interface	RPM	Offering	Security
M.2 2280 SSD	PCIe NVMe®, PCIe 4.0 x4 Performance	-	512GB / 1TB / 2TB / 4TB	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Value	-	256GB / 512GB / 1TB	Opal2

## RAID

RAID 0/1 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

None

### Card Reader

SD Express 7.0 card reader

## Multi-Media

### Audio Chip

High Definition (HD) Audio, Realtek® ALC3306 codec

### Speakers

Stereo speakers, 2W x2, Dolby® Atmos®

### Microphone

- Dual array microphone, far-field, Dolby Voice
- No microphone

### Camera\*\*

- FHD 1080p, with privacy shutter, fixed focus
- IR & FHD 1080p hybrid, with privacy shutter, fixed focus
- No camera

## Battery

### Battery

Integrated Li-Polymer 94Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 230W AC adapter

## Power Adapter

### Power Adapter\*\*[1]

- 170W slim tip (3-pin) AC adapter, 100-240V, 50-60Hz
- 230W slim tip (3-pin) AC adapter, 100-240V, 50-60Hz

#### Notes:

1. AC adapter offerings depend on the country.

## DESIGN

### Display

#### Display\*\*[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
16.0"	WUXGA (1920x1200)	None	IPS	300 nits	Anti-glare	16:10	1200:1	100% sRGB	178°	Low Blue Light, X-Rite® Pantone® Factory Color Calibration, 83.4% screen to body ratio, DC dimming
16.0"	WQXGA (2560x1600)	None	IPS	400 nits	Anti-glare	16:10	1200:1	100% sRGB	170°	Low Blue Light, X-Rite Pantone Factory Color Calibration, 83.4% screen to body ratio, DC dimming
16.0"	WQUXGA (3840x2400)	None	IPS	600 nits	Anti-glare	16:10	1500:1	100% Adobe® RGB	178°	Low Blue Light, Dolby Vision™, DisplayHDR™ 400, X-Rite Pantone Factory Color Calibration, 83.4% screen to body ratio, DC dimming
16.0"	WQUXGA (3840x2400)	Multi-touch	OLED	400 nits	Anti-reflection, Anti-smudge	16:10	100,000:1	100% DCI-P3	175°	Low Blue Light, Dolby Vision, HDR 500 True Black, X-Rite Pantone Factory Color Calibration, 83.4% screen to body ratio, DC dimming

#### Color Calibration

X-Rite Pantone factory color calibration

#### Touchscreen

- OGM multi-touch, supports 10-point touch
- Non-touch

#### Notes:

1. 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

### Pen

- Lenovo Precision Pen 2 with built-in rechargeable battery, 4096 levels of pressure sensitivity, tilt detection, supports WGP, AES 2.0 and MPP 2.0 protocols
- No pen (with a pen garage ready, pen sold separately)
- No support

**Keyboard**

6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, numeric keypad

**Keyboard Backlight**

LED backlight

**UltraNav™**

3-button TrackPoint® pointing device and Mylar® surface multi-touch touchpad, 67.6 x 115 mm (2.66 x 4.53 inches)

**Mechanical<sup>[1]</sup>****Dimensions (WxDxH)**

364 x 266 x 30.23 mm (14.3 x 10.5 x 1.2 inches)

**Weight**

Starting at 2.95 kg (6.5 lbs)

**Case Color**

Storm grey (top), thunder black (bottom)

**Case Material**

AL5052 (97.25% aluminium, 2.5% magnesium, and 0.25% chromium; Top), PPS + 50% GF (Bottom)

**Notes:**

1. The system dimensions and weight vary depending on configurations.

**CONNECTIVITY****Network****Onboard Ethernet\*\***

- Ethernet support via optional Lenovo USB-C to Ethernet Adapter
- USB-C to GbE RJ-45 Dongle
- USB-C to 2.5GbE RJ-45 Dongle

**WLAN + Bluetooth<sup>[1]</sup>**

Intel Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

**WWAN\*\***

- Wireless WAN upgradable to 4G (with antenna ready)
- Fibocom L860-GL-16, 4G LTE CAT16, MIMO 4x4, M.2 card, with embedded eSIM functionality
- No support

**SIM Card**

- Gemalto eSIM
- No SIM card in box

**NFC**

- Near Field Communication
- No support

**Notes:**

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

**Ports<sup>[1]</sup>****Standard Ports**

- Models with NVIDIA graphics: 1x HDMI, up to 8K/60Hz
- Models with integrated or Intel Arc graphics: 1x HDMI, up to 4K/60Hz
- 2x USB 3.2 Gen 1 (one Always On)
- 1x USB-C 3.2 Gen 2 (support data transfer, Power Delivery 3.0, and DisplayPort™ 1.4)
- 2x Thunderbolt 4 / USB4® 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort 1.4)
- 1x SD Express 7.0 card reader

**Optional Ports**

- 1x GbE RJ-45, via USB-C to RJ-45 dongle
- 1x 2.5GbE RJ-45, via USB-C to RJ-45 dongle

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN support models)

#### 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

## Docking

### Docking

Various docking solutions supported via Thunderbolt or USB-C.

For more compatible docking solutions, please visit [Docking for ThinkPad® P16 Gen 1](#)

## Monitor Cable

### Monitor Cable

- (Optional) Lenovo USB-C to DisplayPort Adapter
- (Optional) Lenovo HDMI to VGA Monitor Adapter
- (Optional) Lenovo USB-C to VGA Adapter

## SECURITY & PRIVACY

## Security

### Security Chip\*\*

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset

### Physical Locks

Kensington® Nano Security Slot, 2.5 x 6 mm

### Smart Card Reader

- Smart card reader
- No smart card reader

### Fingerprint Reader

Touch style fingerprint reader on power button, match-on-chip

### BIOS Security

- Power-on password
- Supervisor password
- NVMe password
- Self-healing BIOS

### Other Security

- (Optional) Camera privacy shutter
- (Optional) IR camera for Windows Hello

## MANAGEABILITY

## System Management

### System Management

- Intel vPro Enterprise
- Non-vPro

## SERVICE

## Warranty

### Base Warranty\*\*<sup>[1]</sup>

- 1-year depot service
- 1-year depot with 2-year system board service (Korea only)
- 1-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service

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**Notes:**

1. More information of warranty policy, please access <https://pcsupport.lenovo.com/warranty>

## ENVIRONMENTAL

### Operating Environment

**Temperature<sup>[1]</sup>**

- Operating: 5°C (41°F) to 35°C (95°F)
- Storage and transportation in original shipping packaging: -20°C (-4°F) to 60°C (140°F)
- Storage without package: 5°C (41°F) to 43°C (109°F)

**Humidity**

- Operating: 8% to 95% at wet-bulb temperature 23°C (73°F)
- Storage and transportation: 5% to 95% at wet-bulb temperature 27°C (81°F)

**Altitude**

Maximum altitude (without pressurization): 3048 m (10,000 ft)

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**Notes:**

1. When you charge the battery, its temperature must be no lower than 10°C (50°F).

## CERTIFICATIONS

### Green Certifications

**Green Certifications**

- EPEAT™ Gold
- ENERGY STAR® 8.0
- TCO Certified 9.0
- RoHS compliant

### Other Certifications

**Mil-Spec Test**

MIL-STD-810H military test passed

**Other Certifications**

TÜV Rheinland® Low Blue Light

### ISV Certifications

**ISV Certifications**

Please visit [ISV certifications for Lenovo Workstations](#)

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