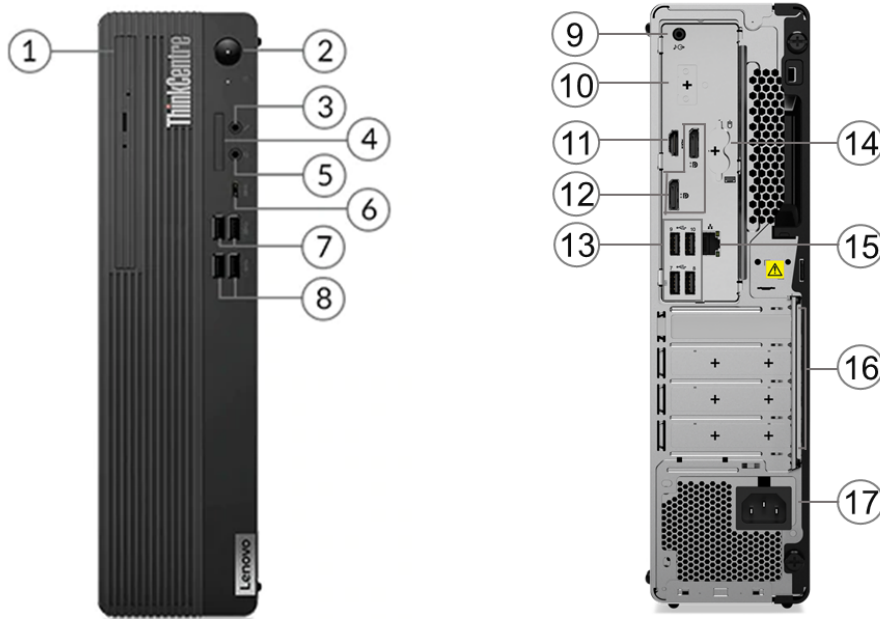


OVERVIEW



| | |
|--|---|
| 1. Optical drive * | 9. Line-out (3.5mm) |
| 2. Power button | 10. Flex IO * |
| 3. Microphone (3.5mm) | 11. HDMI 2.1 TMDS |
| 4. Card reader * | 12. 2x DisplayPort 1.4 |
| 5. Headphone / microphone combo jack (3.5mm) | 13. 4x USB 2.0 |
| 6. USB-C 3.2 Gen 1 | 14. 2x PS/2 ports (keyboard / mouse) * |
| 7. 2x USB 3.2 Gen 1 | 15. Ethernet (RJ-45) |
| 8. 2x USB 3.2 Gen 2 | 16. Optional ports on expansion cards * |

Notes:

- Ports with * are only available on selected models
- More ports are available through the optional expansion cards (not shown on the sample product above)

PERFORMANCE

Processor

Processor Family

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 |
|----------------|--------------------------|---------|-------------------------------|-------------------------------|-------|----------------|------------------------|
| 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 i5-12500 | 6 (6 P-core + 0 E-core) | 12 | P-core 3.0GHz | P-core 4.6GHz | 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 | 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 | P-core 4.8GHz / E-core 3.6GHz | 25MB | DDR4-3200 | - |
| Core i9-12900 | 16 (8 P-core + 8 E-core) | 24 | P-core 2.4GHz / E-core 1.8GHz | P-core 5.0GHz / E-core 3.8GHz | 30MB | DDR4-3200 | Intel UHD Graphics 770 |
| Core i9-12900F | 16 (8 P-core + 8 E-core) | 24 | P-core 2.4GHz / E-core 1.8GHz | P-core 5.0GHz / E-core 3.8GHz | 30MB | DDR4-3200 | - |

Operating System

Operating System

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 IoT Enterprise
- Ubuntu Linux
- No operating system

Graphics

Graphics^[1]

| Graphics | Type | Memory | Connector | Key Features | Remark |
|------------------------|------------|--------|---|--------------|--------|
| Intel UHD graphics 730 | Integrated | Shared | 2x DP 1.4, 1x HDMI® 2.1 TMDS, 1x Flex IO (VGA / DP / HDMI 2.1 TMDS / USB-C) | DirectX® 12 | - |
| Intel UHD graphics 770 | Integrated | Shared | 2x DP 1.4, 1x HDMI 2.1 TMDS, 1x Flex IO (VGA / DP / HDMI 2.1 TMDS / USB-C) | 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)

Monitor Support

Monitor Support

Supports up to 4 independent displays via onboard ports (2x DP, 1x HDMI, and 1x Flex IO), more displays support via discrete graphics

Chipset

Chipset

Intel Q670 Chipset

Memory

ThinkCentre M70s Gen 3

Max Memory^[1]

Up to 128GB DDR4-3200

Memory Slots

Four DDR4 DIMM slots, dual-channel capable

Memory Type

DDR4-3200

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

Up to three drives, 1x 2.5"/3.5" HDD + 1x 2.5" HDD + 1x M.2 SSD

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

Storage Type

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

RAID

No support

Removable Storage

Optical

- DVD-ROM, SATA connector, slim (9.0mm)
- 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® ALC897Q-CG codec

Speakers

Single speaker, 1W x1

Power Supply

Power Supply

| Power | Type | Efficiency | Key Features |
|-------|-------|------------|-------------------|
| 180W | Fixed | 85% | 100V - 240V |
| 260W | Fixed | 90% | 100-240V, 50-60Hz |
| 310W | Fixed | 92% | 100-240V, 50-60Hz |
| 380W | Fixed | 92% | 100-240V, 50-60Hz |

DESIGN

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
- No keyboard

Mouse

- Lenovo Calliope Mouse (USB connector), black
- Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
- Lenovo Mouse (PS/2 connector), black (only available via special bid)
- Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black
- No mouse

Mechanical

Form Factor

SFF (8.2L)

Dimensions (WxDxH)

| Models | Dimensions |
|------------|--|
| All models | 93 x 298 x 340 mm (3.6 x 11.7 x 13.4 inches) |

Weight^[1]

| Models | Weight |
|------------|-------------------|
| All models | 5.3 kg (11.7 lbs) |

Case Color

Black

Bays^[2]

- 1x 2.5" disk bay
- 1x 3.5" disk bay
- 1x slim ODD bay

Expansion Slots

- One PCIe 4.0 x16, low-profile
- Two PCIe 3.0 x1, low-profile
- Two M.2 slots (one for WLAN, one for SSD)

EOU

Toolless cover, disk, optical, extension card assembly / removal

Stand

- Vertical stand
- No stand

Others

- (Optional) Dust filter
- Supports Smart Power On

Notes:

1. Weight may vary by configuration.
2. 2.5" HDD tray is optional, or comes with 2.5 HDD. 3.5" bay supports 2.5" / 3.5" HDD, 3.5" to 2.5 converter comes with 2nd 2.5" HDD.

CONNECTIVITY

Network

Onboard Ethernet

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

Optional Ethernet

- Gigabit Ethernet, Bitland BN8E88, 1x RJ-45, PCIe x1

ThinkCentre M70s Gen 3

- 2.5 Gigabit Ethernet, Realtek RTL8125BGS, 1x RJ-45, PCIe x1
- No optional Ethernet

WLAN + Bluetooth®

- Realtek RTL8822CE, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth 5.0, M.2 card
- Realtek RTL8852BE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.0, M.2 card
- No WLAN and Bluetooth

Ports^[1]

Front Ports

- 2x USB 3.2 Gen 1
- 2x USB 3.2 Gen 2
- 1x USB-C 3.2 Gen 1 (15W charging)
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Optional Front Ports

1x card reader

Rear Ports^[2]

- 4x USB 2.0
- 1x HDMI 2.1 TMDS
- 2x DisplayPort™ 1.4
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports

- 2x USB 3.2 Gen 1 (via 2-port USB expansion card, PCIe x1)
- 1x USB-C 3.2 Gen 1 with DisplayPort function (Flex IO)
- 1x VGA (Flex IO)
- 1x HDMI 2.1 TMDS (Flex IO)
- 1x DP 1.2 (Flex IO)
- 1x serial
- 1x 2nd serial
- 1x parallel
- 2x PS/2

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s
2. For video ports on discrete graphics, please see graphics section

Monitor Cable

Monitor Cable

- DP to dual DP dongle
- DP to DVI-D dongle
- DP to HDMI 1.4 dongle
- DP to VGA cable (1.5M)
- DP to VGA dongle
- HDMI to VGA dongle
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip

Discrete TPM 2.0, TCG certified

Physical Locks

- (Optional) E-lock
- (Optional) Smart Cable Clip
- Kensington® Security Slot
- Padlock Loop

Chassis Intrusion Switch

- Chassis intrusion switch
- No chassis intrusion switch

Fingerprint Reader

- Touch style fingerprint reader on mouse
- No fingerprint reader

BIOS Security

- Administrator password
- Power-on password
- Hard disk password
- Boot sequence control
- Boot without keyboard and mouse
- Self-healing BIOS (Level 2)
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- Individual USB port disablement

MANAGEABILITY

System Management

System Management

- Intel vPro Essential
- No vPro

SERVICE

Warranty

Base Warranty^[1]

- 1-year depot service
- 1-year limited onsite service
- 3-year limited onsite service
- No base warranty

Notes:

1. More information 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

Green Certifications

- (Optional) EPEAT™ Gold
- (Optional) EPEAT Silver
- (Optional) ENERGY STAR® 8.0
- ErP Lot 3
- TCO Certified 9.0
- RoHS compliant

Other Certifications

Other Certifications

- (Optional) TÜV Rheinland® Low Noise
- (Optional) TÜV Rheinland Ultra Low Noise

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)

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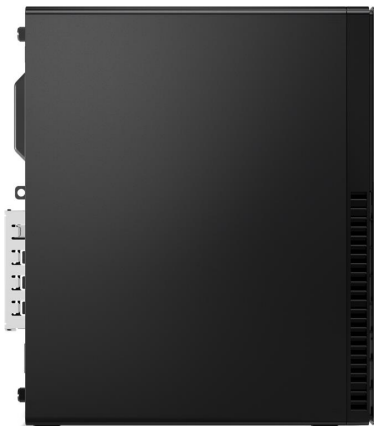
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