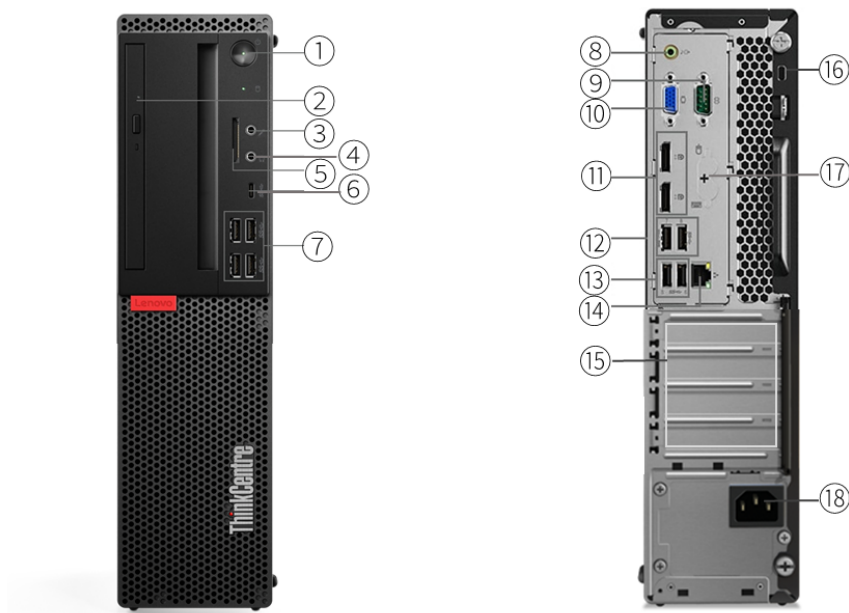


OVERVIEW



1. Optical drive *	10. VGA
2. Power button	11. 2x DisplayPort
3. Microphone (3.5mm)	12. 2x USB 2.0
4. Headphone / microphone combo jack (3.5mm)	13. 2x USB 2.0
5. Card reader *	14. Ethernet (RJ-45)
6. USB-C 3.1 Gen 1	15. Optional ports on expansion cards *
7. 2x USB 3.1 Gen 1 + 2x USB 3.1 Gen 2	16. Kensington Security Slot
8. Audio line-out (3.5mm)	17. 2x PS/2 ports (keyboard / mouse) *
9. Serial	18. Power connector

Notes:

- Ports with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Intel® Celeron®, Intel Pentium®, 8th Generation Intel Core™ i3 / i5 / i7 Processor, or 9th Generation Intel Core i3 / i5 / i7 / i9 Processor

Processor

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Celeron G4900	2	2	3.1GHz	-	2MB	DDR4-2400	Intel UHD Graphics 610
Celeron G4920	2	2	3.2GHz	-	2MB	DDR4-2400	Intel UHD Graphics 610
Celeron G4930	2	2	3.2GHz	-	2MB	DDR4-2400	Intel UHD Graphics 610
Celeron G4950	2	2	3.3GHz	-	2MB	DDR4-2400	Intel UHD Graphics 610
Pentium Gold G5400	2	4	3.7GHz	-	4MB	DDR4-2400	Intel UHD Graphics 610
Pentium Gold G5420	2	4	3.8GHz	-	4MB	DDR4-2400	Intel UHD Graphics 610
Pentium Gold G5500	2	4	3.8GHz	-	4MB	DDR4-2400	Intel UHD Graphics 630
Pentium Gold G5600	2	4	3.9GHz	-	4MB	DDR4-2400	Intel UHD Graphics 630
Pentium Gold G5620	2	4	4.0GHz	-	4MB	DDR4-2400	Intel UHD Graphics 630
Core i3-8100	4	4	3.6GHz	-	6MB	DDR4-2400	Intel UHD Graphics 630
Core i3-8300	4	4	3.7GHz	-	8MB	DDR4-2400	Intel UHD Graphics 630
Core i3-9100	4	4	3.6GHz	4.2GHz	6MB	DDR4-2400	Intel UHD Graphics 630
Core i3-9300	4	4	3.7GHz	4.3GHz	8MB	DDR4-2400	Intel UHD Graphics 630
Core i3-9320	4	4	3.7GHz	4.4GHz	8MB	DDR4-2400	Intel UHD Graphics 630
Core i5-8400	6	6	2.8GHz	4.0GHz	9MB	DDR4-2666	Intel UHD Graphics 630
Core i5-8500	6	6	3.0GHz	4.1GHz	9MB	DDR4-2666	Intel UHD Graphics 630
Core i5-8600	6	6	3.1GHz	4.3GHz	9MB	DDR4-2666	Intel UHD Graphics 630
Core i5-9400	6	6	2.9GHz	4.1GHz	9MB	DDR4-2666	Intel UHD Graphics 630
Core i5-9400F	6	6	2.9GHz	4.1GHz	9MB	DDR4-2666	-
Core i5-9500	6	6	3.0GHz	4.4GHz	9MB	DDR4-2666	Intel UHD Graphics 630
Core i5-9500F	6	6	3.0GHz	4.4GHz	9MB	DDR4-2666	-
Core i5-9600	6	6	3.1GHz	4.6GHz	9MB	DDR4-2666	Intel UHD Graphics 630
Core i7-8700	6	12	3.2GHz	4.6GHz	12MB	DDR4-2666	Intel UHD Graphics 630
Core i7-9700	8	8	3.0GHz	4.7GHz	12MB	DDR4-2666	Intel UHD Graphics 630
Core i9-9900	8	16	3.1GHz	5.0GHz	16MB	DDR4-2666	Intel UHD Graphics 630

Operating System

Operating System

- Windows® 10 Home 64
- Windows 10 Pro 64
- Ubuntu Linux
- No operating system

Graphics

Graphics^[1]

Graphics	Type	Memory	Connector	Max Resolution	Key Features
Intel UHD graphics 610	Integrated	Shared	1x VGA, 2x DP	2048x1536@50Hz(VGA), 4096x2304@60Hz(DP)	DirectX® 12
Intel UHD graphics 630	Integrated	Shared	1x VGA, 2x DP	2048x1536@50Hz(VGA), 4096x2304@60Hz(DP)	DirectX 12

AMD Radeon™ 520	Discrete	2GB GDDR5	2x DP 1.2	4096x2160@60Hz(DP)	DirectX 12
NVIDIA® GeForce® GT 730	Discrete	2GB GDDR5	2x DP	3840x2160@60Hz(DP)	DirectX 12, PCIe 2.0 x16, 35 watts

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 3 independent displays via onboard ports (1x VGA +2x DisplayPort™), more displays support via discrete graphics

Chipset

Chipset

Intel B360 chipset

Memory

Memory Type

DDR4-2666

Memory Slots

Four DDR4 DIMM slots, dual-channel capable

Memory Protection

Non-ECC

Max Memory^[1]

Up to 64GB DDR4-2666

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/SSD + 1x 2.5" HDD/SSD + 1x M.2 2242/2280 SSD

- 2.5" HDD up to 1TB each
- 3.5" HDD up to 2TB
- 2.5" SSD up to 256GB each
- M.2 SSD up to 1TB
- Optional Intel Optane™ Memory, M.2

RAID

Not support

Storage Type

Disk Type	Interface	RPM	Security
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal
3.5" SATA HDD	SATA 6Gb/s	7.2K	-
2.5" SATA SSD	SATA 6Gb/s	-	Opal
2.5" SATA HDD	SATA 6Gb/s	7.2K	-
2.5" SATA SSD	SATA 6Gb/s	-	-
M.2 2242 SSD	PCIe NVMe, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	-
Intel Optane Memory M10	PCIe NVMe, PCIe 3.0 x2	-	-

Removable Storage

Optical

- DVD-ROM, SATA 1.5Gb/s, slim (9.0mm)
- DVD burner (DVD±RW), SATA 1.5Gb/s, slim (9.0mm)
- None

Card Reader

- 7-in-1 card reader
- No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC233VB2 codec

Speakers

Single speaker, 1W x1

Power Supply

Power Supply

Power	Type	Efficiency	Key Features
180W	Fixed	85%	-
210W	Fixed	85%	-
260W	Fixed	92%	-

DESIGN

Input Device

Keyboard

- Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black
- Lenovo Keyboard (PS/2 connector), black
- Lenovo Traditional Keyboard (USB connector), black
- No keyboard

Mouse

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

Mechanical

Form Factor

SFF (8.4L)

Dimensions (WxDxH)

92.5 x 290.5 x 343.5 mm (3.6 x 11.4 x 13.5 inches)

Weight

6.0 kg (13.2 lbs)

Case Color

Black

Bays

- 1x slim ODD bay
- 1x 2.5" disk bay (optional bay, or bay comes with disk)
- 1x 3.5" disk bay

Expansion Slots

- One PCIe 3.0 x16, low-profile (length < 147mm, height < 68.9mm)
- Two PCIe 3.0 x1, low-profile (length < 147mm, height < 68.9mm)
- One dummy slot, only bracket for optional port extension
- 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

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

Gigabit Ethernet, Intel Ethernet Connection I219-V, 1x RJ45, supports Wake-on-LAN

Optional Ethernet

- Gigabit Ethernet, Bitland BN8E88, 1x RJ-45, PCIe x1
- Gigabit Ethernet, Intel Ethernet Server Adapter I350-T4, 4x RJ-45, PCIe x4
- No optional Ethernet

WLAN + Bluetooth™

- Realtek RTL8821CE, 802.11ac Dual Band 1x1 Wi-Fi + Bluetooth 4.2, M.2 card
- Realtek RTL8822BE, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 4.2, M.2 card
- Intel Dual Band Wireless-AC 3165, 802.11ac Dual Band 1x1 Wi-Fi + Bluetooth 4.2, M.2 Card
- Intel Dual Band Wireless-AC 8265, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 4.2, M.2 Card
- No WLAN and Bluetooth

Ports^[1]**Front Ports**

- 2x USB 3.1 Gen 1
- 2x USB 3.1 Gen 2
- 1x USB-C 3.1 Gen 1
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Optional Front Ports

- 1x card reader
- None

Rear Ports^[2]

- 4x USB 2.0
- 1x serial (9-pin)
- 1x Ethernet (RJ-45)
- 1x VGA
- 1x line-out (3.5mm)
- 2x DisplayPort

Optional Rear Ports

- 1x USB 2.0 (via 1-port adapter)
- 2x USB 3.2 Gen 1 (via 2-port USB expansion card, PCIe x1)
- 2x USB-C 3.2 Gen 2 (via 2-port USB-C expansion card, PCIe x4)
- 1x serial
- 4x serial (via 4-port serial expansion card, PCIe x1)
- 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 VGA dongle
- DP to dual DP dongle
- DP to DVI-D dongle
- DP to HDMI® 1.4 dongle
- DP to VGA Cable (1.5M)
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip

Discrete TPM 2.0, TCG certified

Physical Locks

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

Chassis Intrusion Switch

- Chassis intrusion switch
- No chassis intrusion switch

Fingerprint Reader

- Touch style fingerprint reader on mouse
- No fingerprint reader

BIOS Security

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

MANAGEABILITY

System Management

System Management

None

SERVICE

Warranty

Base Warranty

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

- EPEAT™ Silver
- ENERGY STAR® 8.0
- ErP Lot 3
- TCO
- RoHS compliant

Other Certifications

Other Certifications

- (Optional) TÜV Low Noise certified
- None

