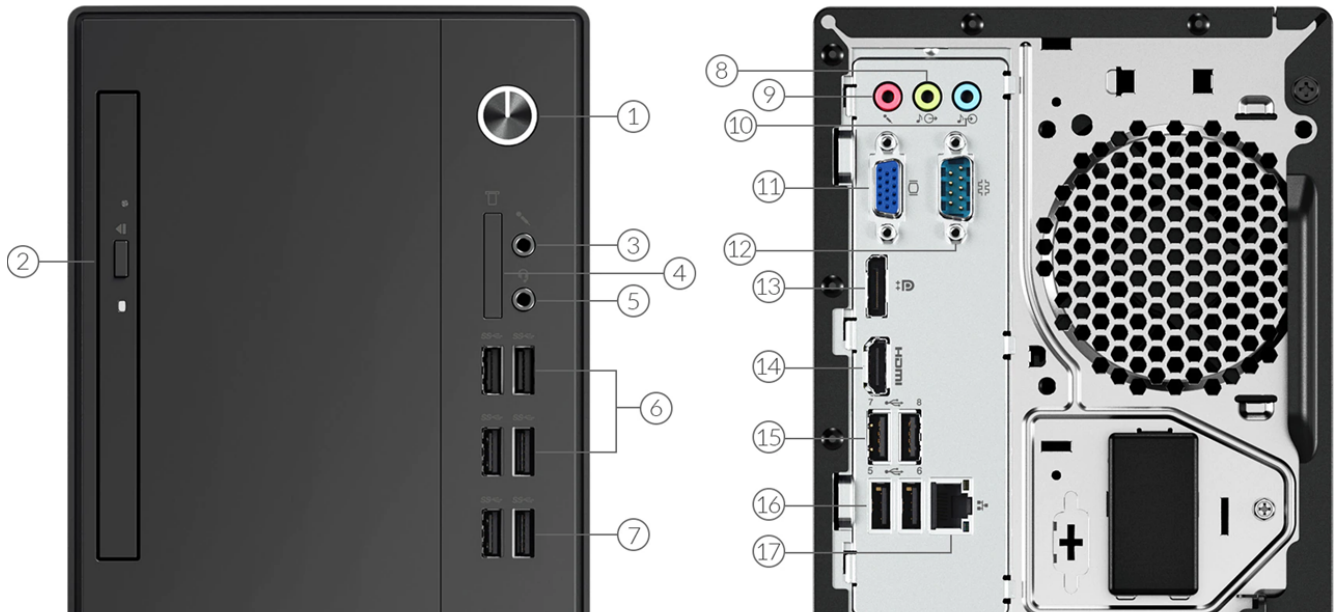


OVERVIEW



1. Power button	10. Line-in (3.5mm)
2. Optical drive *	11. VGA
3. Microphone (3.5mm)	12. Serial
4. Card reader *	13. DisplayPort 1.2
5. Headphone / microphone combo jack (3.5mm)	14. HDMI 1.4
6. 4x USB 3.1 Gen 1	15. 2x USB 2.0
7. 2x USB 2.0	16. 2x USB 2.0
8. Microphone (3.5mm)	17. Ethernet (RJ-45)
9. Line-out (3.5mm)	

Notes:

- Ports with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Intel® Celeron®, Intel Pentium®, or 8th / 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 G4930	2	2	3.2GHz	-	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
Core i3-8100	4	4	3.6GHz	-	6MB	DDR4-2400	Intel UHD Graphics 630
Core i3-9100	4	4	3.6GHz	4.2GHz	6MB	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 i5-9400	6	6	2.9GHz	4.1GHz	9MB	DDR4-2666	Intel UHD Graphics 630
Core i5-9500	6	6	3.0GHz	4.4GHz	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 HDMI® 1.4, 1x VGA, 1x DP 1.2	4096x2160@24Hz(HDMI), 1920x1080@60Hz(VGA), 4096x2304@60Hz(DP)	DirectX® 12
Intel UHD Graphics 630	Integrated	Shared	1x HDMI 1.4, 1x VGA, 1x DP 1.2	4096x2160@24Hz(HDMI), 1920x1080@60Hz(VGA), 4096x2304@60Hz(DP)	DirectX 12
AMD Radeon™ 520	Discrete	1GB GDDR5	1x HDMI 1.4, 1x VGA	3840x2160@30Hz(HDMI), 2048x1536@75Hz(VGA)	DirectX 12
NVIDIA® GeForce® GT 730	Discrete	1GB GDDR5	1x HDMI 1.4, 1x VGA	3840x2160@30Hz(HDMI), 2048x1536@75Hz(VGA)	DirectX 12
NVIDIA GeForce GT 730	Discrete	2GB GDDR5	1x HDMI 1.4, 1x VGA	3840x2160@30Hz(HDMI), 2048x1536@75Hz(VGA)	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 3 independent displays via onboard ports (VGA, HDMI and DisplayPort™), more displays support via discrete graphics

Chipset

Chipset

Intel B360 chipset

Memory

Max Memory^[1]

Up to 32GB DDR4-2666

Memory Slots

Two DDR4 UDIMM slots, dual-channel capable

Memory Type^[2]

DDR4-2666

Memory Protection

Non-ECC

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 2666MHz, but may run at 2400MHz or 2666MHz depending on the memory support capability of processor

Storage

Storage Support

Up to two drives, 2x 3.5" HDD, 1x 2.5" SSD + 1x 3.5" HDD, 1x 2.5" SSD+1x M.2 SSD or 1x 3.5" HDD + 1x M.2 SSD

- 3.5" HDD up to 2TB each
- 2.5" SSD up to 256GB
- M.2 SSD up to 512GB

Storage Type

Disk Type	Interface	RPM	Security
2.5" SATA SSD	SATA 6Gb/s	-	Opal
2.5" SATA SSD	SATA 6Gb/s	-	-
3.5" SATA HDD	SATA 6Gb/s	7.2K	-
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	-	-

RAID

No support

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 (SD, SDHC, SDXC, MMC, MS, MS-Pro, MMC plus)
- No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC662 codec

Speakers

- Single speaker, 1.5W x1

- No speakers

Microphone

No microphone

Camera

No camera

Power Supply**Power Supply**

Power	Type	Efficiency	Key Features
180W	Fixed	85%	-

DESIGN**Input Device****Keyboard**

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

Mouse

- Lenovo Calliope Mouse (USB connector), black
- Lenovo Fingerprint Mouse (USB connector), black
- No mouse

Mechanical**Buttons**

- Power button
- Optical drive eject button (ODD models only)

Form Factor

Tower (15L)

Dimensions (WxDxH)

145 x 275 x 360 mm (5.7 x 10.9 x 14.2 inches)

Weight

5.7 kg (12.6 lbs)

Case Color

Black

Bays

- 2x 3.5" disk bay
- 1x slim ODD bay

Expansion Slots

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

Stand

No stand

Mounting

None

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

Gigabit Ethernet, Realtek RTL8111HN, 1x RJ45, supports Wake-on-LAN

Optional Ethernet

No optional Ethernet

WLAN + Bluetooth®

- Realtek RTL8821CE, 802.11ac Dual Band 1x1 Wi-Fi® + Bluetooth 4.0, M.2 card
- Intel Dual Band Wireless-AC 3165, 802.11ac Dual Band 1x1 Wi-Fi + Bluetooth 4.0, M.2 Card
- No WLAN and Bluetooth

Ports^[1]**Front Ports**

- 4x USB 3.1 Gen 1
- 2x USB 3.1 Gen 2
- 1x headphone (3.5mm)
- 1x microphone (3.5mm)

Optional Front Ports

1x card reader

Rear Ports^[2]

- 4x USB 2.0
- 1x VGA
- 1x HDMI 1.4
- 1x DisplayPort 1.2
- 1x serial (9-pin)
- 1x Ethernet (RJ-45)
- 1x line-in (3.5mm)
- 1x line-out (3.5mm)
- 1x microphone (3.5mm)

Optional Rear Ports

- 1x serial
- 1x parallel
- None

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**

- Lenovo DisplayPort to DVI Monitor Adapter
- Lenovo HDMI to DVI Monitor Adapter

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

Firmware TPM 2.0 integrated in chipset

Physical Locks

- Kensington® Security Slot
- Padlock Loop

Chassis Intrusion Switch

No chassis intrusion switch

Fingerprint Reader

- Touch style fingerprint reader on mouse

- No fingerprint reader

Other Security

None

BIOS Security

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

ENVIRONMENTAL

Operating Environment

Temperature

- Storage: -40°C (-40°F) to 60°C (140°F)
- Operating: 5°C (41°F) to 35°C (95°F)

Humidity

- Operating: 20% to 80%
- Storage: 10% to 90%

Altitude

- Operating: -15.2 m (-50 ft) to 3048 m (10,000 ft)
- Storage: -15.2 m (-50 ft) to 12192 m (40,000 ft)

ACCESSORIES

Bundled Accessories

Bundled Accessories

None

CERTIFICATIONS

Green Certifications

Green Certifications

- EPEAT™ Silver
- GREENGUARD®
- RoHS compliant

