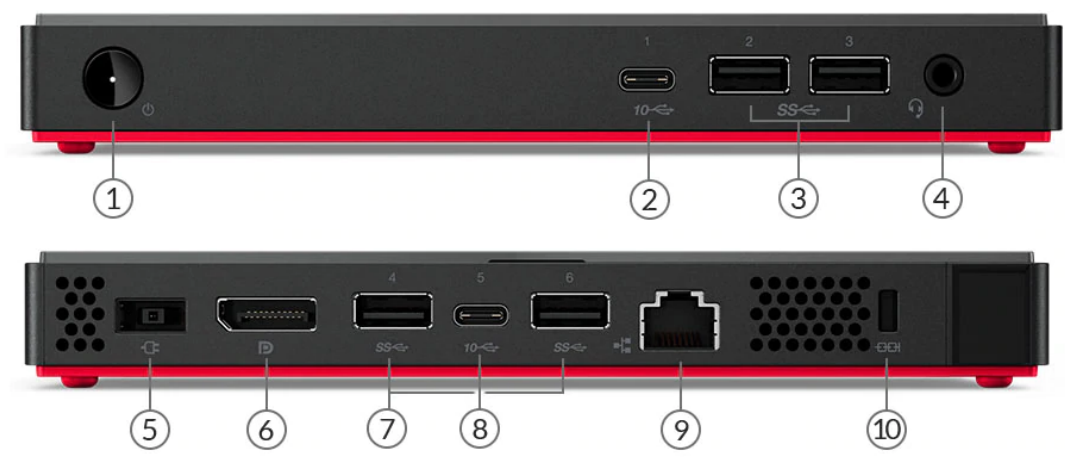


OVERVIEW



|  |   |
|--|---|
| 1. Power button                              | 6. DisplayPort                            |
| 2. USB-C 3.2 Gen 2                           | 7. 2x USB 3.2 Gen 2                       |
| 3. 2x USB 3.2 Gen 2                          | 8. USB-C 3.2 Gen 2 (display and power-in) |
| 4. Headphone / microphone combo jack (3.5mm) | 9. Ethernet (RJ-45)                       |
| 5. Power connector                           | 10. Kensington Security Slot              |

PERFORMANCE

Processor

Processor Family

8th Generation Intel® Core™ i3 / i5 / i7 Processor

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

| Processor Name | Cores | Threads | Base Frequency | Max Frequency | Cache | Memory Support | Processor Graphics  |
|----------------|-------|---------|----------------|---------------|-------|----------------|---------------------|
| Core i3-8145U  | 2     | 4       | 2.1GHz         | 3.9GHz        | 4MB   | DDR4-2400      | Intel® UHD Graphics |
| Core i5-8265U  | 4     | 8       | 1.6GHz         | 3.9GHz        | 6MB   | DDR4-2400      | Intel® UHD Graphics |
| Core i5-8365U  | 4     | 8       | 1.6GHz         | 4.1GHz        | 6MB   | DDR4-2400      | Intel® UHD Graphics |
| Core i7-8665U  | 4     | 8       | 1.9GHz         | 4.8GHz        | 8MB   | DDR4-2400      | Intel® UHD Graphics |

Notes:

<sup>[1]</sup> 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.

Operating System

Operating System\*\*

- Windows® 10 Pro 64
- Windows® 10 Home 64
- Windows® 10 Home 64 Single Language
- Windows® 10 IoT Enterprise LTSC 2019
- Ubuntu Linux<sup>[1]</sup>
- No preload operating system

Notes:

<sup>[1]</sup> Some features may not be supported on the system with Linux preload, including but not limited to Intel® RST RAID, Human Presence Detection, etc.

Graphics

Graphics

| Graphics                | Type       | Memory | Max Resolution                                | Connector       | Key Features |
|-------------------------|------------|--------|---|-----------------|--------------|
| Intel® UHD Graphics 620 | Integrated | Shared | 4096x2304@60Hz(DP);<br>4096x2304@60Hz(USB-C®) | 1x DP, 1 USB-C® | DirectX® 12  |

Monitor Support

Monitor Support

Supports up to 2 independent displays via onboard ports (DisplayPort™ and USB-C®)

Chipset

Chipset

Intel® SoC (System on Chip) platform

Memory

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

- 4GB soldered memory, not upgradable
- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots

Memory Type<sup>[2]</sup>

DDR4-2666

Notes:

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

[2] Installed memory is actually DDR4-2666 but runs at DDR4-2400 due to the memory support capability of processor.

Storage

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

- Up to two drives, 2x M.2 SSD
- M.2 SSD up to 1TB each
  - Optional Intel® Optane™ Memory Integrated with SSD, M.2

Storage Type<sup>\*\*\*</sup>

| Disk Type  | Interface                 | Security |
|--|---------------------------|----------|
| Intel® Optane™ Memory with Solid State Storage, M.2 2280 | PCIe® NVMe®, PCIe® 3.0 x4 | -        |
| M.2 2242 SSD   | PCIe® NVMe®, PCIe® 3.0 x2 | -        |
| M.2 2280 SSD   | PCIe® NVMe®, PCIe® 3.0 x4 | Opal     |

**RAID**

RAID 0/1 support for M.2 SSDs (RAID preset only available via special bid models)

Notes:

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

Removable Storage

Optical

- None
- Card Reader**
- No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC233VB codec

Speakers

Single speaker, 1W x1

Power Supply

Power Supply

| Power           | Type    | Efficiency |
|-----------------|---------|------------|
| 65W             | Adapter | 88%        |
| No power supply | -       | -          |

DESIGN

Input Device

Keyboard<sup>\*\*</sup>

- 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<sup>\*\*</sup>

- Lenovo® Calliope Mouse (USB connector), black
- Lenovo® Calliope Wireless Mouse (2.4GHz via USB receiver), black
- Lenovo® Fingerprint Mouse (USB connector), Windows® Hello support, black (EOL on Jan, 2023)
- No mouse

Mechanical

**Form Factor**

Nano (0.35L)

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

179 x 88 x 22 mm (7.05 x 3.46 x 0.87 inches)

**Packaging Dimensions (WxDxH)**

490 x 125 x 255 mm (19.29 x 4.92 x 10.04 inches)

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

Around 0.505 kg (1.11 lbs)

**Packaging Weight**

0.83 kg (1.83 lbs)

**Case Color**

Iron grey (top cover), black (mid bezel), red (bottom cover)

**Bays**

No bays

**Expansion Slots**

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

**Stand**

No stand

**IO Box**

No IO box

**Mounting<sup>\*\*</sup>**

- VESA mount bracket kit with adapter holder, supports VESA mount 75mm and 100mm
- VESA mount bracket kit, supports VESA mount 75mm and 100mm
- DIN rail mount bracket kit
- None

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**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

**WLAN + Bluetooth<sup>\*\*</sup>**

- Wi-Fi® 5, 802.11ac 1x1 Wi-Fi® + Bluetooth® 5.0, M.2 card
- Realtek® RTL8822CE, Wi-Fi® 5, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth® 5.0, M.2 card
- Intel® Wireless-AC 9462, Wi-Fi® 5, 802.11ac Dual Band 1x1 Wi-Fi® + Bluetooth® 5.0, M.2 card
- Intel® Wireless-AC 9560, Wi-Fi® 5, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth® 5.1, Intel® vPro® technology support, M.2 card
- Intel® Wireless-AC 9560, Wi-Fi® 5, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 card
- No WLAN and Bluetooth®

**Onboard Ethernet<sup>\*\*</sup>**

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

**Optional Ethernet**

No optional Ethernet

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

**Front Ports**

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

**Rear Ports**

- 1x USB-C® 3.2 Gen 2 (support display function and power-in [20V and >45W])
- 2x USB 3.2 Gen 2
- 1x DisplayPort™
- 1x Ethernet (RJ-45)

**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.

## 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

**Fingerprint Reader**

- Touch style fingerprint reader on mouse (EOL on Jan, 2023)
- No fingerprint reader

**BIOS Security**

- Administrator password
- Hard disk password
- Power-on password
- Boot sequence control
- Boot without keyboard and mouse
- Individual USB port disablement
- 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**

- Intel® vPro®<sup>[1]</sup>
- 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 HDMI® dongle
- DP to VGA dongle
- USB-C® to DP dongle
- USB-C® to HDMI® dongle
- USB-C® to VGA dongle
- None

**OPERATING REQUIREMENTS****Operating Environment****Temperature**

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

**Relative 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<sup>[1]</sup>****Green Certifications**

- ENERGY STAR® 8.0
- EPEAT™ Silver Registered<sup>[2]</sup>
- ErP Lot 3
- REACH
- RoHS compliant
- TCO Certified 8.0
- WEEE

## 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>.

[2] EPEAT™ is registered where applicable, please visit [epeat.net](https://epeat.net) for registration status by country.

**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)

- 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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