

# **OVERVIEW**



| 1. Power button                              | 8. HDMI                                 |
|--|---|
| 2. USB-C 3.2 Gen 1                           | 9. USB 3.2 Gen 1                        |
| 3. USB 3.2 Gen 2                             | 10. 2x USB 3.2 Gen 2                    |
| 4. Headphone / microphone combo jack (3.5mm) | 11. Ethernet (RJ-45)                    |
| 5. Power connector                           | 12. Optional port 1 (VGA is shown) *    |
| 6. DisplayPort                               | 13. Optional port 2 (serial is shown) * |
| 7. USB 3.2 Gen 1                             |   |

## Notes:

• Items with \* are only available on selected models



# **PERFORMANCE**

# **Processor**

## **Processor Family**

Intel $^{\circ}$  Celeron $^{\circ}$ , Intel Pentium $^{\circ}$ , or 10th Generation Intel Core $^{\text{TM}}$  i3 / i5 / i7 / i9 Processor

## Processor\*\*

| Processor Name         | Cores | Threads | Base<br>Frequency | Max<br>Frequency | Cache | Memory<br>Support | Processor Graphics        |
|------------------------|-------|---------|-------------------|------------------|-------|-------------------|---------------------------|
| Celeron G5900          | 2     | 2       | 3.4GHz            | -                | 2MB   | DDR4-2666         | Intel UHD Graphics 610    |
| Celeron G5905T         | 2     | 2       | 3.3GHz            | -                | 4MB   | DDR4-2666         | Intel UHD Graphics 610    |
| Celeron G5920          | 2     | 2       | 3.5GHz            | -                | 2MB   | DDR4-2666         | Intel UHD Graphics 610    |
| Celeron G5925          | 2     | 2       | 3.6GHz            | -                | 4MB   | DDR4-2666         | Intel UHD Graphics 610    |
| Celeron G5905          | 2     | 2       | 3.5GHz            | -                | 4MB   | DDR4-2666         | Intel UHD Graphics 610    |
| Celeron G5900T         | 2     | 2       | 3.2GHz            | -                | 2MB   | DDR4-2666         | Intel UHD Graphics 610    |
| Pentium Gold G6500     | 2     | 4       | 4.1GHz            | -                | 4MB   | DDR4-2666         | Intel UHD Graphics<br>630 |
| Pentium Gold<br>G6500T | 2     | 4       | 3.5GHz            | -                | 4MB   | DDR4-2666         | Intel UHD Graphics<br>630 |
| Pentium Gold<br>G6400T | 2     | 4       | 3.4GHz            | -                | 4MB   | DDR4-2666         | Intel UHD Graphics 610    |
| Pentium Gold G6400     | 2     | 4       | 4.0GHz            | -                | 4MB   | DDR4-2666         | Intel UHD Graphics 610    |
| Pentium Gold G6600     | 2     | 4       | 4.2GHz            | -                | 4MB   | DDR4-2666         | Intel UHD Graphics<br>630 |
| Core i3-10100          | 4     | 8       | 3.6GHz            | 4.3GHz           | 6MB   | DDR4-2666         | Intel UHD Graphics<br>630 |
| Core i3-10100T         | 4     | 8       | 3.0GHz            | 3.8GHz           | 6МВ   | DDR4-2666         | Intel UHD Graphics<br>630 |
| Core i3-10300          | 4     | 8       | 3.7GHz            | 4.4GHz           | 8MB   | DDR4-2666         | Intel UHD Graphics<br>630 |
| Core i3-10300T         | 4     | 8       | 3.0GHz            | 3.9GHz           | 8MB   | DDR4-2666         | Intel UHD Graphics<br>630 |
| Core i3-10320          | 4     | 8       | 3.8GHz            | 4.6GHz           | 8MB   | DDR4-2666         | Intel UHD Graphics<br>630 |
| Core i5-10400          | 6     | 12      | 2.9GHz            | 4.3GHz           | 12MB  | DDR4-2666         | Intel UHD Graphics<br>630 |
| Core i5-10400T         | 6     | 12      | 2.0GHz            | 3.6GHz           | 12MB  | DDR4-2666         | Intel UHD Graphics<br>630 |
| Core i5-10500          | 6     | 12      | 3.1GHz            | 4.5GHz           | 12MB  | DDR4-2666         | Intel UHD Graphics<br>630 |
| Core i5-10500T         | 6     | 12      | 2.3GHz            | 3.8GHz           | 12MB  | DDR4-2666         | Intel UHD Graphics<br>630 |
| Core i5-10600          | 6     | 12      | 3.3GHz            | 4.8GHz           | 12MB  | DDR4-2666         | Intel UHD Graphics<br>630 |
| Core i5-10600T         | 6     | 12      | 2.4GHz            | 4.0GHz           | 12MB  | DDR4-2666         | Intel UHD Graphics<br>630 |
| Core i7-10700          | 8     | 16      | 2.9GHz            | 4.8GHz           | 16MB  | DDR4-2933         | Intel UHD Graphics<br>630 |
| Core i7-10700T         | 8     | 16      | 2.0GHz            | 4.5GHz           | 16MB  | DDR4-2933         | Intel UHD Graphics<br>630 |
| Core i9-10900          | 10    | 20      | 2.8GHz            | 5.2GHz           | 20MB  | DDR4-2933         | Intel UHD Graphics<br>630 |

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| Core i9-10900T 10 20 1.9GHz 4.6GHz 20 | 20MB DDR4-2933 Intel UHD Graphics 630 |
|---------------------------------------|---------------------------------------|
|---------------------------------------|---------------------------------------|

# **Operating System**

## Operating System\*\*

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

## **Graphics**

## Graphics\*\*[1]

| Graphics                     | Туре       | Memory | Connector   | Max Resolution   | Key<br>Features |
|------------------------------|------------|--------|---|--|-----------------|
| Intel UHD<br>graphics<br>610 | Integrated | Shared | 1x HDMI®, 1x DP, 1x<br>optional video port (2nd<br>HDMI / VGA / 2nd DP /<br>USB-C® / dual DP) | 4096x2160@24Hz(onboard HDMI),<br>4096x2304@60Hz(DP), 3840x2160@60Hz(Dual<br>DP, MST mode), 2048x1536@50Hz(VGA),<br>4096x2304@60Hz(USB-C) | DirectX®        |
| Intel UHD<br>graphics<br>630 | Integrated | Shared | 1x HDMI, 1x DP, 1x<br>optional video port (2nd<br>HDMI / VGA / 2nd DP /<br>USB-C / dual DP)   | 4096x2160@24Hz(onboard HDMI),<br>4096x2304@60Hz(DP), 3840x2160@60Hz(Dual<br>DP, MST mode), 2048x1536@50Hz(VGA),<br>4096x2304@60Hz(USB-C) | DirectX<br>12   |

# Notes:

1. The information of integrated graphics are not applicable for the models with processor which has no integrated graphics inside (for the details, please refer to processor section)

## **Monitor Support**

## **Monitor Support**

Supports up to 3 independent displays via (onboard DP, onboard HDMI, and one optional port [VGA / 2nd DP / 2nd HDMI / USB-C]) or (one onboard port [DP / HDMI] and optional dual DP [MST mode])

# Chipset

## Chipset

Intel Q470 chipset

## **Memory**

## Max Memory[1]

Up to 64GB DDR4-2933

## **Memory Slots**

Two DDR4 SO-DIMM slots, dual-channel capable

## Memory Type\*\*[2]

- DDR4-2666
- DDR4-2933

#### 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 3200MHz, but may run at 2666MHz or 2933MHz, depending on the memory support capability of processor

# **Storage**



#### Storage Support[1]

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

- 2.5" HDD up to 1TB
- M.2 SSD up to 2TB each
- Optional Intel Optane<sup>™</sup> Memory, M.2

## Storage Type\*\*\*

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

#### **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. The system may support larger storage as the technology develops

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## Removable Storage

#### Optical\*\*

- DVD-ROM, slim (9.0mm), via USB external ODD box
- DVD burner (DVD±RW), slim (9.0mm), via USB external ODD box
- None

#### **Card Reader**

No card reader

## Multi-Media

## **Audio Chip**

High Definition (HD) Audio, Realtek® ALC233VB codec

#### **Speakers**

Single speaker, 1.5W x1

## **Power Supply**

## Power Supply\*\*

| Power           | Туре    | Efficiency | Key Features |
|-----------------|---------|------------|--------------|
| 65W             | Adapter | 89%        | Autosensing  |
| 90W             | Adapter | 89%        | Autosensing  |
| 135W            | Adapter | 89%        | Autosensing  |
| 230W            | Adapter | 89%        | Autosensing  |
| No power supply | -       | -          | -            |

# **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 Fingerprint Mouse (USB connector), Windows Hello support, black
- No mouse

#### Mechanical

#### **Form Factor**

Tiny (1L)

#### Dimensions (WxDxH)[1]

| Models                    | Dimensions  |
|---------------------------|---|
| Tiny only                 | 179 x 183 x 34.5 / 37 mm with rubber feet (7.05 x 7.2 x 1.36 / 1.5 inches with rubber feet) |
| With VESA mount & ODD box | 187 x 183.8 x 66.5 mm (7.36 x 7.24 x 2.62 inches)   |

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

| Models                    | Weight             |
|---------------------------|--------------------|
| Tiny only                 | 1.25 kg (2.76 lbs) |
| With VESA mount & ODD box | 1.74 kg (3.84 lbs) |

#### **Case Color**

Black

#### Bays

1x 2.5" disk bay

#### Expansion Slots[3]

- One PCle 3.0 x8, low-profile
- Three M.2 slots (one for WLAN, two for SSD)

## **EOU**

(Optional) toolless chassis open (toolless chassis screw required) and toolless M.2 SSD, HDD, memory assembly / removal

# Stand

- Vertical stand
- No stand

## Mounting

- VESA mount bracket kit, supports VESA mount 75mm and 100mm
- None

#### **Others**

- (Optional) Dust filter
- (Optional) Power adapter cage

#### 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.
- 3 . PCIe 3.0 x8 slot is for Lenovo qualified PCIe cards, Intel I350-T4 ethernet card and 4x serial port expansion card. The PCIe card occupies the space of 2.5" HDD/SSD and optional ports, they are mutually exclusive.

# **CONNECTIVITY**

#### **Network**

#### **Onboard Ethernet**

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

#### **Optional Ethernet**

- Gigabit Ethernet, Intel Ethernet Server Adapter I350-T4, 4x RJ-45, PCIe x4[1]
- No optional Ethernet



#### WLAN + Bluetooth®\*\*[2]

- Realtek RTL8822CE, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth 5.0, M.2 card
- Intel Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.1, M.2 card
- Intel Wi-Fi 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1, Intel vPro® technology support, M.2 Card
- No WLAN and Bluetooth

#### Notes:

- 1. Intel Ethernet Server Adapter I350-T4 is not available in EMEA
- 2 . Bluetooth 5.2 is hardware ready but may run at a lower version due to OS limitations.

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

#### **Front Ports**

- 1x USB 3.2 Gen 2 (Always On and fast charge)
- 1x USB-C 3.2 Gen 1
- 1x headphone / microphone combo jack (3.5mm)

#### **Optional Front Ports**

None

#### Rear Ports[2]

- 1x HDMI
- 1x DisplayPort™
- 2x USB 3.2 Gen 1
- 2x USB 3.2 Gen 2
- 1x Ethernet (RJ-45)

#### Optional Rear Ports\*\*\*

- Optional port 1 (one of VGA / 2nd DisplayPort / 2nd HDMI / serial / USB-C 3.2 Gen 1 with DisplayPort function)
- 2x USB 3.2 Gen 1 ports (share one USB 3.2 Gen 1 bandwidth, occupy optional port 1 and 2)
- 4x USB 3.2 Gen 1 (share one USB 3.2 Gen 1 bandwidth, occupy port 1 and 2)
- 2x DisplayPort ports (occupy Optional port 1 and 2)
- Optional port 2 (serial)

## Notes:

- 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
- 2. For video ports on discrete graphics, please see graphics section

## **Monitor Cable**

## Monitor Cable\*\*\*

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

# **SECURITY & PRIVACY**

## Security

#### **Security Chip**

Discrete TPM 2.0, TCG certified

## **Physical Locks**

Kensington® Security Slot™, 3 x 7 mm

#### **Chassis Intrusion Switch**

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#### 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
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- Individual USB port disablement

## MANAGEABILITY

# **System Management**

## System Management[1][2]

- · Intel vPro with Intel AMT 14
- Non-vPro

#### Notes:

- 1. Intel vPro offers a superset of DASH's defined capabilities.
- 2. Require choosing a vPro-support Wi-Fi adapter to enable vPro function through wireless connection

## **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 <a href="https://smartfind.lenovo.com/">https://smartfind.lenovo.com/</a>. To learn more details of warranty policy, please access <a href="https://pcsupport.lenovo.com/warranty">https://pcsupport.lenovo.com/warranty</a>.

## **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**

# ThinkCentre M90q



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

#### Notes:

1. The items listed under the "Green Certifications" section may not only refer to certification but also registration or self-declaration.

#### 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 offering listed under the feature is configured on selected models.
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