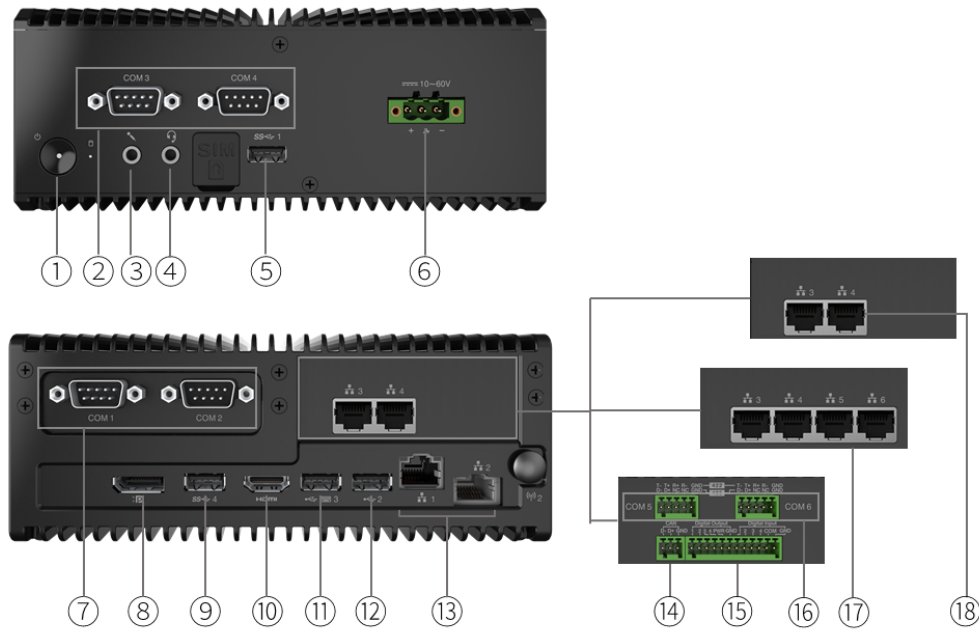


OVERVIEW



1. Power button	10. HDMI
2. 2x Serial (RS232) *	11. USB 2.0
3. Headphone (3.5mm)	12. USB 2.0
4. Headphone / microphone combo jack (3.5mm)	13. 2x Ethernet (RJ-45)
5. USB 3.2 Gen 1	14. CAN BUS on industry card *
6. Power connector	15. DIO (4DIx4DO) on industry card *
7. 2x Serial (RS232)	16. 2x Serial (RS422 / RS485) on industry card *
8. DisplayPort	17. 4x Ethernet (RJ-45) *
9. USB 3.2 Gen 1	18. 2x Ethernet (RJ-45) *

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

8th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i7-8665UE	4	8	1.7GHz	4.4GHz	8MB	DDR4-2400	Intel UHD Graphics 620
Core i5-8365UE	4	8	1.6GHz	4.1GHz	6MB	DDR4-2400	Intel UHD Graphics 620

Operating System

Operating System**

- Windows® 10 IoT Enterprise
- Ubuntu Linux
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Connector	Max Resolution	Key Features
Intel UHD graphics	Integrated	Shared	1x HDMI®, 1x DP	4096x2304@30Hz(HDMI), 4096x2304@60Hz(DP)	DirectX® 12

Monitor Support

Monitor Support

Supports up to 2 independent displays via onboard ports (DisplayPort™ and HDMI)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory

Up to 64GB DDR4-2400

Memory Slots

Two DDR4 SO-DIMM slots, dual-channel capable

Memory Type^[1]

DDR4-2400

Memory Protection

Non-ECC

Notes:

1. Installed memory is actually 2666MHz, but run at 2400MHz due to the memory support capability of processor

Storage

Storage Support^[1]

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

- 2.5" HDD up to 1TB
- 2.5" SSD up to 256GB
- M.2 SSD up to 1TB

Storage Type***

Disk Type	Interface	RPM	Security
2.5" SATA SSD	SATA 6Gb/s	-	-

2.5" SATA HDD	SATA 6Gb/s	5.4K	-
2.5" 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	-	Opal
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4	-	Opal 2.0

Notes:

1. The storage capacity supported is based on the test results with current Lenovo® storage offerings. The system may support larger storage as the technology develops.

Power Supply**Power Supply**

Power	Type	Efficiency	Key Features
65W	Adapter	89%	Autosensing
No power supply	-	-	-

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

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

Mouse

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

Mechanical**Dimensions (WxDxH)^[1]**

179 x 182.9 x 72 mm (7.05 x 7.20 x 2.83 inches)

Weight^[2]

Around 2.985 kg (6.58 lbs)

Case Color

Black

EOU

No support

Mounting^{}**

- Supports VESA mount 75mm and 100mm
- (Optional) DIN rail mount bracket kit
- (Optional) Flat head screw for VESA mount

Others

(Optional) Dust filter

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****Ethernet**

Gigabit Ethernet, Realtek® RTL8119i, 2x RJ-45, supports Wake-on-LAN

Optional Ethernet**

- Gigabit Ethernet, Intel Ethernet Server Adapter I350-T2, 2x RJ-45, PCIe card
- Gigabit Ethernet, Intel Ethernet Server Adapter I350-T4, 4x RJ-45, PCIe card
- No optional Ethernet

WLAN + Bluetooth®**^[1]

- 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
- Realtek RTL8822CE, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.0, 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
- Intel Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.1, M.2 card
- No WLAN and Bluetooth

Notes:

1. Bluetooth 5.2 is hardware ready but may run at a lower version due to OS limitations.

Ports^[1]

Front Ports

- 1x USB 3.2 Gen 1
- 1x headphone (3.5mm)
- 1x headphone / microphone combo jack (3.5mm)
- 1x power connector

Optional Front Ports

- 2x serial (RS232) on industry card
- None

Rear Ports

- 1x HDMI
- 1x DisplayPort
- 2x USB 2.0
- 1x USB 3.2 Gen 1
- 2x serial (RS232)
- 2x Ethernet (RJ-45)

Optional Rear Ports***

- 1x CAN BUS on industry card
- 1x DIO (4DI / 4DO) on industry card
- 2x serial (RS422 / RS485) on industry card
- 1x parallel (external USB to parallel dongle)
- 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; 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

Monitor Cable

Monitor Cable**

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

SECURITY & PRIVACY

Security

Security Chip

Discrete TPM 2.0, TCG certified

SERVICE

Warranty^[1]

Base Warranty**

- 1-year courier or carry-in service
- 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://pcsupport.lenovo.com/warranty>.

ENVIRONMENTAL

Operating Environment^[1]

Temperature

- Operating: IEC60068-2-1 Test A: Cold, IEC 60068-2-2 Test B: Dry heat, 0-50°C, with airflow 0.7m/s (for wide temperature models)
- Storage: IEC60068-2-1 Test A: Cold, IEC 60068-2-2 Test B: Dry heat, -40°C (-40°F) to 85°C (185°F)

Humidity

- Relative humidity storage: IEC 60068-2-66 Damp heat, steady state 90%@60°C
- Relative humidity operating: IEC 60068-2-66 Damp heat, steady state 95%@40°C non-condensing

Shock Protection

IEC 60068-2-27, shock, operating, 30G / 11ms, half sine

Vibration Protection

IEC 60068-2-64, Vibration, Operating, 3Grms, random, 5 ~ 500Hz, 1hr/axis

HALT

HALT testing methodology, LOL / UOL depends on real test result

Notes:

1. The environmental specifications information is only for wide temperature models (SSD + Non-WLAN or SSD + Intel WLAN)

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- Low Halogen
- RoHS compliant
- REACH
- TED (ECO-declaration)
- WEEE

Notes:

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

Other Certifications

EMC

- EMC CE / FCC / ICES Class A
- RCM
- VCCI

- BSMI

Safety

- CE for Europe
- CM for Morocco
- BSMI for Taiwan region
- BIS for India
- EAC for Belarus, Kazakhstan, Russia
- GS for Germany
- INSM for Moldavia
- KEBS for Kenya
- KUCAS for Kuwait
- KVALITET for Serbia
- NOM for Mexico
- SABS for South Africa
- SASO Saudi Arabia
- SII (general license)
- SONCAP for Nigeria
- STZ for Uzibekistan
- UL for US / Canada

- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Feature with *** means that one or more offerings listed under the feature could be configured on selected models.
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