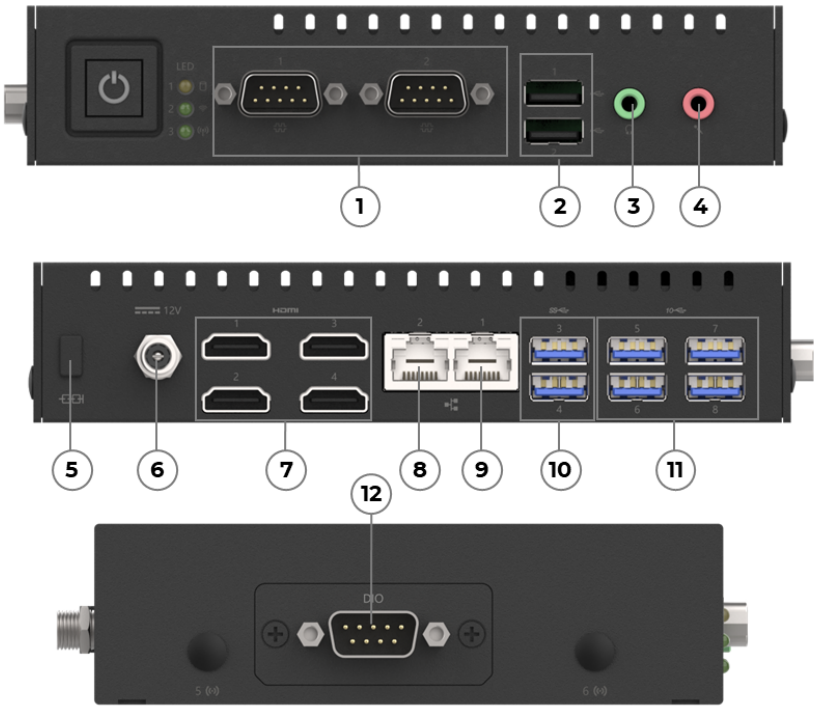


OVERVIEW



1. 2x serial (RS232 / RS422 / RS485, BIOS selectable)	7. 4x HDMI 2.1 TMDS
2. 2x USB-A (Hi-Speed USB / USB 2.0)	8. 1GbE Ethernet (RJ-45)
3. 1x headphone (3.5mm)	9. 2.5GbE Ethernet (RJ-45)
4. 1x Microphone (3.5mm)	10. 2x USB-A (USB 5Gbps / USB 3.2 Gen 1)
5. K-lock	11. 4x USB-A (USB 10Gbps / USB 3.2 Gen 2)
6. 12V DC-in with lockable DC jack	12. Flexible I/O *

- Notes:
- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Intel Core™ 3 / 5 / 7 Processor (Series 1)

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics	Intel® vPro® Eligibility
Core 3 100U	6 (2 P-core + 4 E-core)	8	P-core 1.2GHz / E-core 900MHz	P-core 4.7GHz / E-core 3.3GHz	10MB Intel® Smart Cache	Intel® Graphics	-
Core 5 120U	10 (2 P-core + 8 E-core)	12	P-core 1.4GHz / E-core 900MHz	P-core 5.0GHz / E-core 3.8GHz	12MB Intel® Smart Cache	Intel® Graphics	Intel® vPro® Essentials
Core 7 150U	10 (2 P-core + 8 E-core)	12	P-core 1.8GHz / E-core 1.2GHz	P-core 5.4GHz / E-core 4.0GHz	12MB Intel® Smart Cache	Intel® Graphics	Intel® vPro® Essentials

Operating System

Operating System**

- Windows® 11 IoT Enterprise LTSC 2024
- Ubuntu Core 24 64 Bit (kernel 6.17)
- Ubuntu (Server) 24.04 LTS 64 Bit (kernel 6.17)
- IGEL Linux OS12
- No preload operating system

Graphics

Graphics

Graphics	Type	Max Resolution	Connector	Key Features
Intel® UHD graphics	Integrated	4096x2304@60Hz(HDMI®)	4x HDMI®	DirectX® 12.1

Monitor Support

Monitor Support

Supports up to 4independent displays via onboard ports (HDMI®)

Chipset

Chipset

Intel® SoC (System on Chip) platform

Memory

Max Memory

Up to 48GB DDR5-5200

Memory Slots

One DDR5 SODIMM slot

Memory Type^[1]

DDR5-5600

Notes:

[1] Installed memory is actually DDR5-5600 but may run as DDR5-5200 depending on the memory support capability of Intel®.

Storage

Max Storage Support^{[1][2]}

Up to two drives, 1x M.2 SATA SSD + 1x M.2 SSD

- M.2 2280 SSD up to 2TB
- M.2 2242 SATA SSD up to 1TB

Storage Type***

Disk Type	Interface	Security
M.2 2242 SSD	SATA 6Gb/s	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	Opal 2.0
M.2 2280 SSD	PCIe® NVMe®, PCIe® 5.0 x4 Performance	Opal 2.0

Notes:

[1] The storage capacity supported is based on the test results with current Lenovo® storage offerings.

[2] M.2 2280 SSD is Key M, M.2 2240 SATA is Key B

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC888S-VD2-GR codec

Power Supply

Power Supply

Power	Type	Efficiency	Key Features
90W	Adapter	88%	90W, for operating temperature 0~40°C 72W, for operating temperature 40~50°C
No power adapter	-	-	-

DESIGN

Mechanical

Dimensions (WxDxH)^[1]

170 x 125 x 36 mm (6.69 x 4.92 x 1.42 inches)

Packaging Dimensions (WxDxH)

321 x 283 x 101 mm (12.64 x 11.14 x 3.98 inches)

Weight^[2]

Around 1.1 kg (2.43 lbs)

Packaging Weight

2.1 kg (4.63 lbs)

Case Color

Black

Expansion Slots

Three M.2 slots (Key E for WLAN, Key M for PCIe® 4.0 x4 NVMe® SSD, Key B for 5G WWAN Card / SATA SSD / Flexible I/O)^[3]

Mounting**

- VESA mount bracket kit^[4]
- DIN rail mount bracket kit
- None

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] Gen 5 SSD on M.2 PCIe® 4.0 slot will run on PCIe® 4.0 protocols.

[4] To support mounting devices, an additional VESA Mount for SE30n Gen2 (PN:5M11N44642) is required (sold separately).

CONNECTIVITY

Network

Ethernet***

- 2.5GbE, Intel® Ethernet Controller I226-V, 1x RJ-45, supports Wake-on-LAN^[1]
- Gigabit Ethernet, Intel® Ethernet Connection I219-LM, 1x RJ-45, supports Wake-on-LAN, vPro®^[2]

WLAN + Bluetooth®**^[3]

- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, Intel® vPro® technology support
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card
- No WLAN and Bluetooth®

WWAN

- Rolling Wireless RW101R-GL, 4G LTE CAT6, M.2 card, with embedded eSIM functionality^[4]
- No support

Notes:

[1] Supports data transfer rates up to 2.5 Gbps.

[2] Supports data transfer rates up to 1 Gbps.

[3] Wi-Fi® operation (including Wi-Fi® 6, Wi-Fi® 6E, Wi-Fi® 7, etc.) is subject to the regulatory requirements of each country.

Bluetooth® may operate at a lower version than hardware design depending on the factors such as operating system, driver, etc.

[4] WWAN support only for WIN11 IOT LTSC

Ports^[1]

Front Ports

- 2x USB-A (Hi-Speed USB / USB 2.0)
- 1x microphone-in (3.5mm)
- 1x headphone (3.5mm)
- 2x serial (RS232 / RS422 / RS485, BIOS selectable)

Rear Ports

- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 4x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 4x HDMI® 2.1 TMDS
- 1x 12V DC-in with lockable DC jack
- 1x 2.5GbE Ethernet (RJ-45)^[2]
- 1x GbE Ethernet (RJ-45)^[3]

Optional Left Ports

Flexible I/O support one of DIO (4DI / 4DO) or CAN (OPEN)

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.

Thunderbolt™ 5: 80 Gbit/s (bidirectional), up to 120 Gbit/s in bandwidth boost mode for video-intensive applications.

[2] Supports data transfer rates up to 2.5 Gbps.

[3] Supports data transfer rates up to 1 Gbps.

SECURITY & PRIVACY

Security

Security Chip

Discrete TPM 2.0, TCG certified

Physical Locks

Kensington Security Slot™, 3 x 7 mm

BIOS Security

- Administrator password
- Hard disk password
- Secure boot

MANAGEABILITY

System Management

System Management

- Intel® vPro®
- Non-vPro®

SERVICE

Warranty^[1]

Base Warranty**

- 1-year courier or carry-in service
- 1-year limited onsite service
- 3-year limited onsite service

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**

- Heatsink cover
- IP50 dust cover kits
- None

OPERATING REQUIREMENTS

Operating Environment

Temperature

- Operating: IEC60068-2-2 Test Ab: Cold, IEC 60068-2-2 Test Bb: Dry heat, 0°C (32°F) to 50°C (122°F) with 0.7m/s air flow
- Storage: IEC60068-2-3 Test Ca: Damp heat, steady state, -30°C (-22°F) to 70°C (158°F)

Relative Humidity

Relative humidity operating: IEC 60068-2-56 Test:Cb 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, 2Grms, random, 5 ~ 500Hz, 1hr/axis

MTBF Prediction

MTBF@50°C

Ingress Protection

IP50 standard^[1]

Notes:

[1] To support IP50, IP50 dust cover kits are needed.

CERTIFICATIONS

Green Certifications

Green Certifications

- GREENGUARD®
- REACH
- RoHS compliant
- TED (The ECO-declaration)
- WEEE

Other Certifications

EMC

- EMC CE / FCC Class A
- FCC for USA
- CE for Europe
- IC for Canada
- RCM for Australia / New Zealand
- VCCI for Japan
- BSMI for Taiwan
- KCC for Korea

Safety

- CB for WW
- NRTL (ETL, cETL) for USA / Canada
- EAC for Kazakhstan/Armenia/Kyrgyzstan
- Ukrsepro for Ukraine
- GS for Germany
- KUCAS for Kuwait
- KVALITET for Serbia
- NOM-019 for Mexico
- SABS for South Africa

RF

- CE for Europe
- SRRC for China
- SUBTEL for Chile
- UKCA for United Kingdom
- WPC for India
- NOM-208 for Mexico
- NTC for Philippines
- SDPPI for Indonesia
- SIRIM for Malaysia
- ANRT for Morocco

Other Certifications

- AWS IoT Greengrass Certified
- IGEL Certified
- Red Hat Enterprise Linux Certified
- Ubuntu Core Certified
- Ubuntu Server Certified

Mil-Spec Test

MIL-STD-810H military test passed (Low Pressure [Altitude] 500.6, High Temperature 501.7, Low Temperature 502.7, Temperature Shock 503.7, Humidity 507.6, Sand and Dust 510.7, Vibration 514.8, Shock 516.8, Fungus 508.8, Solar Radiation 505.7)

- 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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