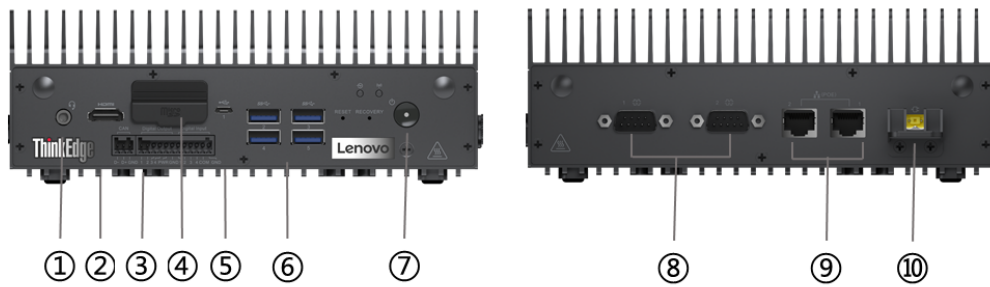# OVERVIEW

1. Headphone / microphone combo jack (3.5mm)	6. 4x USB 3.2 Gen 1
2. HDMI 1.4	7. Power button
3. 1x CAN BUS and 1x DIO (4DIx4DO)	8. 2x Serial (RS232 / RS422 / RS485)
4. MicroSD card slot	9. 2x GbE Ethernet (RJ-45, PoE)
5. Micro USB OTG	10. Slim Tip AC-in or DC-in (AC is shown) *

Notes:
- Ports with * are only available on selected models
- DC-in connector is only for 1.6L wide voltage models
- Front ports and rear 2x Serial are not available for AWS Panorama models (MT 12AE, 12AF, and 12AR)
- Slim Tip AC connector is only for models with AC adapter

PERFORMANCE

SOM

SOM

Nvidia Jetson Xavier NX SOM (System on Module)
• 6-core NVIDIA® Carmel ARM v8.2 64-bit CPU, 6MB L2 + 4MB L3
• 384-core NVIDIA Volta GPU with 48 Tensor Cores
• 8 GB 128-bit LPDDR4x, 59.7GB/s
• 16 GB eMMC 5.1
• 21 TOPS AI Performance

Processor

Processor**

Processor Name	Cores	Max Frequency	Cache
Volta GPU	384 NVIDIA CUDA cores, 48 Tensor cores	1.1GHz	-
Carmel CPU	6 cores (3x dual-core CPU clusters), ARM v8.2 (64-bit)	1.9GHz	6MB L2 + 4MB L3

Operating System

Operating System**[1]

- Linux for Tegra (Ubuntu Desktop 18.04, kernel 4.9, Jetpack v4.4 SDK) with AWS Panorama, OTA
- Linux for Tegra (Ubuntu Desktop 18.04, kernel 4.9, Jetpack v4.5.1 SDK)
- Linux for Tegra (Ubuntu Desktop 18.04, kernel 4.9, Jetpack v4.5.x SDK), Secure Image – coming soon
- Linux for Tegra (Ubuntu Desktop 18.04, kernel 4.9, Jetpack v4.5.x SDK), OTA – coming soon
- Linux for Tegra (Ubuntu Desktop 18.04, kernel 4.9, Jetpack v4.5.x SDK) , Secure Image, OTA – coming soon

Notes:

  1. Linux for Tegra with AWS Panorama is for SE70 AWS version only, others are for SE70 Generic version

Monitor Support

Monitor Support

Supports 1 display via onboard HDMI® 1.4

Chipset

Chipset

Nvidia Jetson Xavier NX SOM (System on Module)

Memory

Max Memory

8GB LPDDR4x memory on SOM, not upgradable

Memory Type

128-bit LPDDR4x 1866 MHz

Storage

Storage Support[1]

Up to two drives, 16GB eMMC 5.1 on SOM + 1x M.2 SSD
• M.2 SSD up to 2TB

Storage Type***

Disk Type	Interface	RPM	Security
Flash Memory	eMMC 5.1	-	-
M.2 2230 SSD	PCIe® NVMe®, PCIe 3.0	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0	-	-

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%	115/230V, 50/60Hz, wide temperature
DC-in connector	Connector only	-	4 pin Phoenix connector, wide voltage 9-48V

DESIGN

Mechanical

Dimensions (WxDxH)

Models	Dimensions
1.6L models	191 x 128 x 65 mm (7.52 x 5.04 x 2.56 inches)

Weight

Models	Weight
1.6L models	1.857 kg (4.09 lbs)

Case Color

Black

Mounting***

- VESA mount support on chassis (75x75mm / 100x100mm), screw kit included
- (Optional) DIN rail mount bracket kit

Others

(Optional) IP51 Dust Cover Kits

CONNECTIVITY

Network

Onboard Ethernet

Dual gigabit Ethernet (Intel® Ethernet Controller I210-IT), 2x RJ-45, supports POE (802.3af, PSE 15.4W), Wake-on-LAN

WLAN + Bluetooth®**[1][2]

- Intel Wireless-AC 9260, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth 5.1, M.2 card
- Intel Wi-Fi 6E AX210, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, 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 limitation
2. Intel Wi-Fi 6E AX210 can only support up to Wi-Fi 6 on ThinkEdge SE70, Wi-Fi 6E is not supported due to OS limitation

Ports[1]

Front Ports[1][2]

- 4x USB 3.2 Gen 1 (4 ports share 5Gbps bandwidth)
- 1x USB On-The-Go (OTG), USB 2.0 Micro-B, for flashing image only
- 1x headphone / microphone combo jack (3.5mm)
- 1x microSD card slot
- 1x CAN BUS
- 1x HDMI 1.4
- 1x 4-channel DIO (4DI / 4DO)

Rear Ports[3]

- 2x Serial (RS232 / RS422 / RS485, SDK selectable)
- 2x GbE Ethernet (RJ-45), supports POE (802.3af, PSE 15.4W)
- 1x Slim Tip power connector, for models with AC adapter only

- 1x DC-in connector (4 pin Phoenix connector), for models with DC-in only

Notes:

1. All front ports are not available for AWS Panorama models (MT 12AE, 12AF, and 12AR)
2. Digital Input:
   -- Channels: 4
   -- Input type: NPN, PNP
   -- Dry contact: - Logic 0: Open - Logic 1: Close to GND
   -- Wet contact (from external power supply): - Logic 0: 0V to 3V - Logic 1: 10V to 50V
   Digital Output:
   -- Channels: 4
   -- Output type: NPN
   -- Voltage: 5V to 30V from external power supply
   -- Current: 500mA / Channel at 25°C, 300mA / Channel at 60°C
3. Slim Tip connector / DC-in connector are mutually exclusive; DC-in connector is only available on 1.6L DC-in models; 2x Serial ports are not available for AWS Panorama models (MT 12AE, 12AF, and 12AR)

SECURITY & PRIVACY

Security

Physical Locks

Kensington® MicroSaver® Slot

SERVICE

Warranty

Base Warranty**[1]

- 1-year carry-in service
- 3-year carry-in service
- No base warranty

Notes:

1. More information of warranty policy, please access https://pcsupport.lenovo.com/warranty

ENVIRONMENTAL

Operating Environment

Temperature

- Operating: IEC60068-2-1 Test A: Cold, IEC 60068-2-2 Test B: Dry heat, -20°C (-4°F) to 60°C (140°F), with airflow 0.7m/s (for 1.6L 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

MTBF Prediction

MTBF @60°C / @40°C

HALT

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

Ingress Protection[1]

IP51

Flowing Mixed Gas Corrosion

IEC 60068-2-60, 25℃/75%RH Gas concentration: H2S/0.01ppm, SO2/0.2ppm, NO2/0.2ppm, Cl2/0.01ppm, 21days

Notes:

1. Need optional IP51 Dust cover kits

SOFTWARE

Preinstalled Software

Preinstalled Software[1]

- Jetpack v4.4 SDK
- Jetpack v4.5.1 SDK

Notes:

1. Jetpack v4.4 SDK is for AWS Panorama version, and Jetpack v4.5.1 SDK is for Generic version

CERTIFICATIONS

Green Certifications

Green Certifications

- CEL
- JEL
- Low Halogen
- RoHS compliant
- REACH
- WEEE

Other Certifications

EMC

- FCC for USA
- IC for Canada
- RCM for Australia / New Zealand
- VCCI for Japan
- BSMI for Taiwan
- CCC for China
- CE for Europe
- KCC for Korea

Safety

- Ukrsepro for Ukraine
- CM for Morocco
- CB for WW
- CCC for China
- CE LVD for Europe
- BIS for India
- EAC for Russia/Belarus/Kazakhstan/Armenia/Kyrgyzstan
- GS for Germany
- KEBS for Kenya
- KUCAS for Kuwait
- KVALITET for Serbia
- NOM-019 for Mexico
- NRTL (UL/cUL or cTUVus or ETL, cETL) for USA / Canada
- PSB for Singapore
- S mark for Argentina
- SABS for South Africa
- SIRC for Saudi Arabia
- SONCAP for Nigeria
- STZ for Uzbekistan
- TPBY for Belarus
- UKCA for United Kingdom

RF

- UKCA for United Kingdom

- WPC for India
- SRRC for China (upcoming)
- SUBTEL for Chile (upcoming)
- TELEC/JATE for Japan
- IC for Canada
- KCC for Korea
- NBTC for Thailand
- NCC for Taiwan
- NOM-208 for Mexico
- NTC for Philippines
- SDPPI for Indonesia
- SIRIM for Malaysia
- ANRT for Morocco
- CE-RED for Europe
- FCC for USA

Other Certifications

- Microsoft® Azure for generic version only
- AWS IoT Greengrass for generic version only
- AWS Panorama for AWS version only

- 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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