

PERFORMANCE

Processor

Processor Family

Intel® Celeron® or 8th Generation Intel Core™ i3 / i5 Processor

Processor

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Celeron 4205U	2	2	1.8GHz	-	2MB	DDR4-2133	Intel UHD Graphics
Core i3-8145U	2	4	2.1GHz	3.9GHz	4MB	DDR4-2400	Intel UHD Graphics
Core i3-8145UE	2	4	2.2GHz	3.9GHz	4MB	DDR4-2400	Intel UHD Graphics 620
Core i5-8365U	4	8	1.6GHz	4.1GHz	6MB	DDR4-2400	Intel UHD Graphics

Operating System

- Windows® 10 Home 64
- Windows 10 Pro 64
- Windows 10 IoT Enterprise
- FreeDOS
- Ubuntu Linux
- No operating system

Graphics

Graphics	Type	Memory	Connector	Max Resolution	Key Features
Intel UHD graphics 610	Integrated	Shared	1x DP, 1x USB-C	4096x2304@60Hz(DP), 4096x2304@60Hz(USB-C)	DirectX® 12
Intel UHD graphics 630	Integrated	Shared	1x DP, 1x USB-C	4096x2304@60Hz(DP), 4096x2304@60Hz(USB-C)	DirectX 12

Notes:

- Integrated graphics information and onboard video ports information are not applicable for all models without integrated graphics (for the details, please refer to processor section)

Monitor Support

Supports up to 2 independent displays via onboard ports (DisplayPort™ + USB-C), (HDMI® + USB-C) for 8145UE models only

Chipset

Intel SoC (System on Chip) platform

Memory

Memory Type

DDR4-2666

Memory Slots

Memory soldered to systemboard, no slots

Memory Protection

Non-ECC

Max Memory

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

Notes:

- The max memory is based on the test results with current Lenovo® memory offerings. The system may support more memory as the technology develops.

Storage

ThinkCentre M90n-1 Nano IoT

Storage Support

Up to two drives, 2x M.2 2242/2280 SSD

- M.2 SSD up to 1TB each
- Optional Intel Optane™ Memory Integrated with SSD, M.2

RAID

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

Storage Type

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

Removable Storage

Optical

Not Support

Card Reader

Not Support

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC233VB codec

Speakers

Single speaker, 1W x1

Power Supply

Power	Type	Efficiency	Key Features
65W	Adapter	88%	Autosensing, Wide Temperature
65W	Adapter	88%	-
Not configured	-	-	-

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
- Not configured

Mouse

- Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
- Lenovo Calliope Mouse (USB connector), black
- Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black
- Not configured

Mechanical

Form Factor

Nano (0.55L)

Dimensions (WxDxH)

Models	Dimensions
Nano with I/O box	179 x 88 x 61.3 mm (7.05 x 3.46 x 2.41 inches)
Nano only	179 x 88 x 34.5 mm (7.05 x 3.46 x 1.36 inches)

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Weight

Models	Weight
Nano only	0.72 kg (1.58 lbs)
Nano with I/O box	1.2 kg (2.65 lbs)

Case Color

Iron Gray top cover / Black mid bezel / Black bottom cover

Bays

Not Support

Expansion Slots

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

Stand

Not Support

I/O Box

- I/O box, connect to the USB 3.2 Type-C Gen 2 port of Nano, extends 2x serial, 2x ethernet (RJ-45, I/O box is equipped with Realtek RTL8153B, gigabit Ethernet), 1x DI (Digital Input) connector, 1x DO (Digital Output) connector
- Not configured

Mounting

- VESA mount bracket kit with adaper holder, supports VESA 75mm
- VESA mount bracket kit, supports VESA 75mm
- DIN rail mount bracket kit
- Not configured

CONNECTIVITY

Network

Onboard Ethernet

- Two gigabit Ethernet, Intel Ethernet Connection I219-LM and Realtek RTL8111H, 2x RJ45, supports Wake-on-LAN
- One gigabit Ethernet, Realtek RTL8111K, 1x RJ-45, Wake on LAN®
- Two gigabit Ethernet, Realtek RTL8111K and RTL8111H, 2x RJ-45, Wake on LAN

Optional Ethernet

Not Support

WLAN + Bluetooth™

- 802.11ac 1x1 Wi-Fi + Bluetooth 5.0, M.2 card
- Realtek RTL8822CE, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.0, M.2 card
- Intel Wireless-AC 9462, 802.11ac Dual Band 1x1 Wi-Fi + Bluetooth 5.0, M.2 card
- Intel Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.0, Intel vPro technology support, M.2 card
- Intel Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.0, M.2 card
- Not configured

Ports

Front Ports

- 2x USB 3.2 Gen 2
- 1x USB-C 3.2 Gen 2
- 1x headphone / microphone combo jack (3.5mm)
- 2x serial (RS-232)

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;

USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;

Thunderbolt™ 3: 40 Gbit/s;

FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s;

Rear Ports

- 1x USB 2.0 (for Celeron models)
- 1x USB 3.2 Gen 2 (for i3 / i5 models)
- 1x USB-C 3.2 Gen 2 (support display function, power-in [20V and >45W])
- 1x Ethernet (RJ-45) for Celeron models
- 1x Ethernet (RJ-45) for i3 / i5 models
- 1x HDMI (for 8145UE models)
- 1x DisplayPort (for 4205U / 8145U / 8365U models)

Notes:

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

Optional Rear Ports

- 2x serial, 2x ethernet (RJ-45), 1x DI (Digital Input) connector and 1x DO (Digital Output) connector on optional I/O box
- None

Monitor Cable

- USB-C to DP Dongle
- USB-C to HDMI Dongle
- USB-C to VGA Dongle
- DP to VGA dongle
- DP to HDMI 1.4 dongle
- Not configured

SECURITY & PRIVACY

Security

Security Chip

Discrete TPM 2.0, TCG certified

Physical Locks

Kensington® Security Slot

Chassis Intrusion Switch

Chassis intrusion switch

Fingerprint Reader

- Touch style fingerprint reader on mouse
- Not configured

BIOS Security

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

MANAGEABILITY

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty

- 1-year limited onsite service
- 3-year limited onsite service
- No base warranty

CERTIFICATIONS

Green Certifications

- EPEAT™ Silver
- ENERGY STAR® 8.0
- ErP Lot 3
- REACH
- TCO Certified 8.0
- WEEE
- RoHS

Notes:

- Energy Star 8.0 and EPEAT not for the models with I/O box

Other Certifications

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- (Optional) TÜV Low Noise certified
- (Optional) TÜV Ultra Low Noise certified
- None

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)
- None

Notes:

- Not for the models with I/O box

