

# **OVERVIEW**



1. Power button	6. DisplayPort		
2. USB-C 3.2 Gen 2	7. 2x USB 3.2 Gen 2		
3. 2x USB 3.2 Gen 2	8. USB-C 3.2 Gen 2 (display and power-in)		
4. Headphone / microphone combo jack (3.5mm)	9. Ethernet (RJ-45)		
5. Power connector	10. Kensington Security Slot		



## **PERFORMANCE**

### **Processor**

#### **Processor Family**

8th Generation Intel® Core™ i3 / i5 / i7 Processor

#### Processor\*\*[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core™ i3-8145U	2	4	2.1GHz	3.9GHz	4MB	DDR4-2400	Intel® UHD Graphics
Core™ i5-8265U	4	8	1.6GHz	3.9GHz	6MB	DDR4-2400	Intel® UHD Graphics
Core™ i5-8365U	4	8	1.6GHz	4.1GHz	6MB	DDR4-2400	Intel® UHD Graphics
Core™ i7-8665U	4	8	1.9GHz	4.8GHz	8MB	DDR4-2400	Intel® UHD Graphics

#### Notes:

[1] Intel® Max Turbo frequency will vary depending on application workload and the hardware and software configurations, see http://www.intel.com/technology/turboboost/ for more information.

## **Operating System**

### Operating System\*\*

- Windows® 10 Pro 64
- Windows® 10 Home 64
- Windows® 10 Home 64 Single Language
- Windows® 10 IoT Enterprise LTSC 2019
- Ubuntu Linux<sup>[1]</sup>
- No operating system

## Notes:

[1] Some features may not be supported on the system with Linux preload, including but not limited to Intel® RST RAID, Human Presence Detection, etc.

## **Graphics**

### **Graphics**

Graphics	Туре	Memory	Connector	Max Resolution	Key Features
Intel® UHD Graphics 620	Integrated	Shared	l '	4096x2304@60Hz(DP); 4096x2304@60Hz(USB-C®)	DirectX® 12

## **Monitor Support**

### **Monitor Support**

Supports up to 2 independent displays via onboard ports (DisplayPort™ and USB-C®)

## **Chipset**

## Chipset

Intel® SoC (System on Chip) platform

### **Memory**

## Max Memory[1]

- 4GB soldered memory, not upgradable
- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable

### **Memory Slots**

Memory soldered to systemboard, no slots

## Memory Type[2]

DDR4-2666



#### Notes:

- [1] The max memory is based on the test results with current Lenovo® memory offerings.
- [2] Installed memory is actually 2666MHz, but runs at 2400MHz due to the memory support capability of processor.

## **Storage**

## Storage Support[1]

Up to two drives, 2x M.2 SSD

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

#### Storage Type\*\*\*

Disk Type	Interface	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	-

#### 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.

## **Removable Storage**

### **Optical**

None

#### **Card Reader**

No card reader

### Multi-Media

### **Audio Chip**

High Definition (HD) Audio, Realtek® ALC233VB codec

### **Speakers**

Single speaker, 1W x1

### **Power Supply**

## **Power Supply**

Power	Туре	Efficiency
65W	Adapter	88%
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 (EOL on Jan, 2023)
- No mouse

### Mechanical



#### **Form Factor**

Nano (0.35L)

#### Dimensions (WxDxH)[1]

179 x 88 x 22 mm (7.05 x 3.46 x 0.87 inches)

#### Packaging Dimensions (WxDxH)

490 x 125 x 255 mm (19.29 x 4.92 x 10.04 inches)

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

Around 0.505 kg (1.11 lbs)

### **Packaging Weight**

0.83 kg (1.83 lbs)

#### **Case Color**

Iron grey (top cover), black (mid bezel), red (bottom cover)

#### Bays

No bays

#### **Expansion Slots**

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

#### Stand

No stand

### **IO** Box

No IO box

#### Mounting\*\*

- VESA mount bracket kit with adapter holder, supports VESA mount 75mm and 100mm
- VESA mount bracket kit, supports VESA mount 75mm and 100mm
- 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.

## CONNECTIVITY

## **Network**

### Onboard Ethernet\*\*

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

#### **Optional Ethernet**

No optional Ethernet

#### 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® 5.1, Intel® vPro® technology support, M.2 card
- Intel® Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 card
- No WLAN and Bluetooth®

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

## **Front Ports**

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

#### **Rear Ports**

## ThinkCentre M90n-1 Nano



- 1x USB-C® 3.2 Gen 2 (support display function and power-in [20V and >45W])
- 2x USB 3.2 Gen 2
- 1x DisplayPort™
- 1x Ethernet (RJ-45)

#### 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\*\*\*

- USB-C® to DP dongle
- USB-C® to HDMI® dongle
- USB-C® to VGA dongle
- DP to VGA 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**

Chassis intrusion switch

### **Fingerprint Reader**

- Touch style fingerprint reader on mouse (EOL on Jan, 2023)
- No fingerprint reader

### **BIOS Security**

- Administrator password
- Power-on password
- Hard disk password
- Boot sequence control
- · Boot without keyboard and mouse
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- Individual USB port disablement

### MANAGEABILITY

### **System Management**

### **System Management**

- Intel® vPro®[1]
- Non-vPro®

### Notes:

[1] Intel® vPro® offers a superset of DASH's defined capabilities.

## **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<sup>11</sup>

#### **Green Certifications**

- ENERGY STAR® 8.0
- EPEAT™ Silver Registered<sup>[2]</sup>
- ErP Lot 3
- REACH
- · RoHS compliant
- TCO Certified 8.0
- WEEE

#### Notes:

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

[2] EPEAT<sup>TM</sup> is registered where applicable, please see epeat.net for registration status by country.

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

## ThinkCentre M90n-1 Nano



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