

PERFORMANCE

Processor^[1]

Intel® Core™ i3-13100, 4C (4P + 0E) / 8T, P-core 3.4 / 4.5GHz, 12MB

Graphics

Integrated Intel UHD Graphics 730

Chipset

Intel B660 Chipset

Memory

1x 8GB UDIMM DDR4-3200

Memory Slots

Two DDR4 UDIMM slots, dual-channel capable

Max Memory^[2]

Up to 64GB DDR4-3200

Storage

256GB SSD M.2 2280 PCIe® 4.0x4 NVMe® Opal 2.0

Storage Support^[3]

Up to two drives, 1x 3.5" HDD + 1x M.2 SSD

- 3.5" HDD up to 2TB
- M.2 SSD up to 1TB

Card Reader

None

Optical

None

Audio Chip

High Definition (HD) Audio, Realtek® ALC623-CG codec

Speakers

1Wx1

Power Supply

180W 85%

DESIGN

Keyboard

USB Traditional Keyboard, Black, Portuguese (BR)

Mouse

USB Calliope Mouse, Black

Expansion Slots

- One PCIe 4.0 x16, low-profile (length < 167.65mm, height < 68.90mm)
- One PCIe 3.0 x1, low-profile (length < 167.65mm, height < 68.90mm)
- Two M.2 slots (one for WLAN, one for SSD)

Case Color

Black

Stand

None

Form Factor

SFF (7.4L)

Dimensions (WxDxH)^[4]

100 x 308 x 274.8 mm (3.9 x 12.1 x 10.8 inches)

Weight^[5]

Around 4.5 kg (9.9 lbs)

CONNECTIVITY

Ethernet

Integrated 100/1000M

WLAN + Bluetooth^[6]

Intel Wi-Fi® 6 AX201, 11ax 2x2 + BT5.1

Front Ports

- 1x USB-C® 3.2 Gen 1 (support data transfer and 5V@3A charging)
- 2x USB 3.2 Gen 1
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Rear Ports

- 2x USB 2.0
- 2x USB 3.2 Gen 1 (one supports Smart Power On)
- 1x HDMI® 2.1 TMDS
- 1x DisplayPort™ 1.4
- 1x VGA
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports (configured)

None

Monitor Cable

None

SECURITY & PRIVACY

Security Chip

Discrete TPM 2.0, TCG certified

Fingerprint Reader

No fingerprint reader

Physical Locks

- Kensington® Security Slot™, 3 x 7 mm
- Padlock Loop

Smart Cable Clip

None

Chassis Intrusion Switch

Chassis Intrusion Switch

MANAGEABILITY

System Management

Non-vPro®

SERVICE

Base Warranty

None

Included Upgrade

1Y Premier Support upgrade from 0 base warranty

CERTIFICATIONS

Green Certifications

- ErP Lot 3
- RoHS compliant
- TCO Certified

SOFTWARE

Operating System

Windows® 11 Pro, Portuguese (Brazil)

Bundled Software

None

ACCESSORIES

Bundled Accessories

None

MODEL

TopSeller : Yes **Announce Date** : 2023-02-27

EAN / UPC / JAN : 196804100852 **End of Support** : 2029-09-27

Note:

^[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.

^[2] The max memory is based on the test results with current Lenovo memory offerings.

^[3] The max capacity of each disk type is based on the test results with current Lenovo storage offerings.

^[4] The system dimensions may vary depending on configurations.

^[5] 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.

^[6] Bluetooth 5.2 is hardware ready but may run at a lower version due to OS limitations.

• Lenovo reserves the right to change specifications without notice.

To see more note information, please link to

<https://psref.lenovo.com/Detail/2143?M=12JG000ABO>

Premier Support - A direct 24x7x365 line to our most elite technicians.



Advanced technical support, 24x7x365, in more than 100 markets



Technical Account Managers for proactive relationship and escalation management



Comprehensive hardware & OEM software support



Priority on service delivery and repair parts



Single point of contact for simplified end-to-end case management



Lenovo Service Connect Portal for customized reporting and product support

Accidental Damage Protection - Protection of your PC from the unexpected.

Experience shows that a significant portion of devices may be damaged (and not covered under warranty) in the first three years. Lenovo's Accidental Damage Protection service covers accidents beyond the system warranty such as drops, spills, bumps and even electrical surges. Make sure your new device has maximum protection, avoid unplanned costs and get peace of mind.

Base Warranty - Included with the systems you purchase, default 1- or 3-year coverage window.

Warranty Extensions & Upgrades - Service and protection that's right for your circumstances.

- Pick Up & Return Courier
- Onsite Support
- Technician Installed Customer
- Replaceable Unit Service
- International Warranty Upgrade

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Recommended Accessories



Kensington MicroSaver 2.0 Cable Lock from Lenovo

4XEON80914

Protect your device. Lenovo offers the latest standard in device security – the MicroSaver 2.0 Cable Lock From Lenovo. Engineered to be the smallest, strongest lock for laptops and other devices, the MicroSaver 2.0 re...

Recommended Services

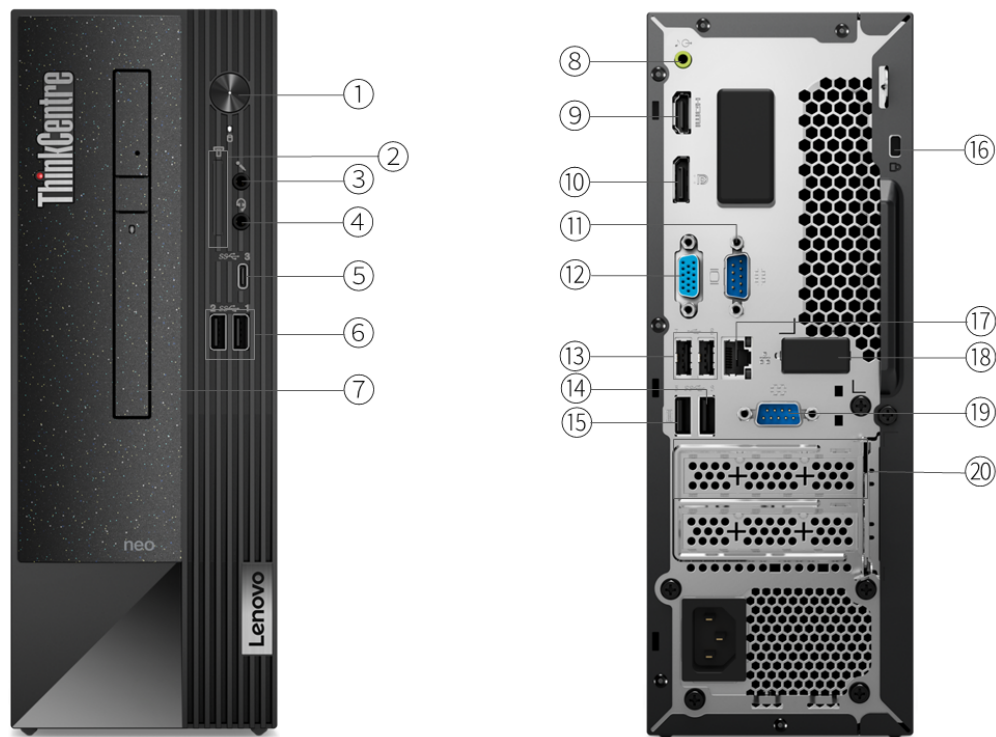
BEST	5Y Premier Support Plus upgrade from 1Y Premier Support (5WS1L39013)
BETTER	3Y Premier Support Plus upgrade from 1Y Premier Support (5WS1L39353)

For a full list of accessories and services, please visit:
<https://smartfind.Lenovo.com>



PSREF
Product Specifications
Reference

OVERVIEW



1. Power button	11. Serial *
2. Card reader *	12. VGA
3. Microphone (3.5mm)	13. 2x USB 2.0
4. Headphone / microphone combo jack (3.5mm)	14. 1x USB 3.2 Gen 1
5. USB-C 3.2 Gen 1 (data transfer, 15W charging)	15. 1x USB 3.2 Gen 1 (smart power on)
6. 2x USB 3.2 Gen 1	16. Kensington Security Slot
7. Optical drive *	17. Ethernet (RJ-45)
8. Audio line-out (3.5mm)	18. Smart cable clip slots *
9. HDMI 2.1 TMDS	19. Serial *
10. DP 1.4	20. Optional ports *

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Intel® Celeron®, Intel Pentium®, or 12th / 13th Generation Intel Core™ i3 / i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Celeron G6900	2	2	3.4GHz	-	4MB	DDR4-3200	Intel UHD Graphics 710
Pentium Gold G7400	2	4	3.7GHz	-	6MB	DDR4-3200	Intel UHD Graphics 710
Core i3-12100	4 (4 P-core + 0 E-core)	8	P-core 3.3GHz	P-core 4.3GHz ^[1]	12MB	DDR4-3200	Intel UHD Graphics 730
Core i3-12300	4 (4 P-core + 0 E-core)	8	P-core 3.5GHz	P-core 4.4GHz ^[2]	12MB	DDR4-3200	Intel UHD Graphics 730
Core i5-12400	6 (6 P-core + 0 E-core)	12	P-core 2.5GHz	P-core 4.4GHz ^[3]	18MB	DDR4-3200	Intel UHD Graphics 730
Core i5-12500	6 (6 P-core + 0 E-core)	12	P-core 3.0GHz	P-core 4.6GHz ^[4]	18MB	DDR4-3200	Intel UHD Graphics 770
Core i5-12600	6 (6 P-core + 0 E-core)	12	P-core 3.3GHz	P-core 4.8GHz ^[5]	18MB	DDR4-3200	Intel UHD Graphics 770
Core i7-12700	12 (8 P-core + 4 E-core)	20	P-core 2.1GHz / E-core 1.6GHz	Max Turbo up to 4.9GHz / P-core 4.8GHz / E-core 3.6GHz ^[6]	25MB	DDR4-3200	Intel UHD Graphics 770
Core i3-13100	4 (4 P-core + 0 E-core)	8	P-core 3.4GHz	P-core 4.5GHz ^[7]	12MB	DDR4-3200	Intel UHD Graphics 730
Core i5-13400	10 (6 P-core + 4 E-core)	16	P-core 2.5GHz / E-core 1.8GHz	P-core 4.6GHz / E-core 3.3GHz ^[8]	20MB	DDR4-3200	Intel UHD Graphics 730
Core i5-13500	14 (6 P-core + 8 E-core)	20	P-core 2.5GHz / E-core 1.8GHz	P-core 4.8GHz / E-core 3.5GHz ^[9]	24MB	DDR4-3200	Intel UHD Graphics 770
Core i5-13600	14 (6 P-core + 8 E-core)	20	P-core 2.7GHz / E-core 2.0GHz	P-core 5.0GHz / E-core 3.7GHz ^[10]	24MB	DDR4-3200	Intel UHD Graphics 770
Core i7-13700	16 (8 P-core + 8 E-core)	24	P-core 2.1GHz / E-core 1.5GHz	Max Turbo up to 5.2GHz / P-core 5.1GHz / E-core 4.1GHz ^[11]	30MB	DDR4-3200	Intel UHD Graphics 770

Notes:

[1], [2], [3], [4], [5], [6], [7], [8], [9], [10], [11] 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**

- Ubuntu Linux^[1]
- Windows® 11 DG Windows 10 Pro 64
- Windows 11 Home
- Windows 11 Home Single Language
- Windows 11 Pro
- 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**[1]

Graphics	Type	Memory	Connector	Max Resolution	Key Features
Intel UHD graphics 710	Integrated	Shared	1x HDMI® 2.1 TMDS, 1x VGA, 1x DP 1.4 HBR2	3840×2160@60Hz(HDMI), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP)	DirectX® 12
Intel UHD graphics 730	Integrated	Shared	1x HDMI 2.1 TMDS, 1x VGA, 1x DP 1.4 HBR2	3840×2160@60Hz(HDMI), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP)	DirectX 12
Intel UHD graphics 770	Integrated	Shared	1x HDMI 2.1 TMDS, 1x VGA, 1x DP 1.4 HBR2	3840×2160@60Hz(HDMI), 1920x1200@60Hz(VGA), 4096x2304@60Hz(DP)	DirectX 12

Notes:

[1] The information of integrated graphics are not applicable for the models with processor which has no integrated graphics inside (for the details, please refer to processor section).

Monitor Support

Monitor Support

Supports up to 3 independent displays via (HDMI, DP and VGA)

Chipset

Chipset

Intel B660 chipset

Memory

Max Memory[1]

Up to 64GB DDR4-3200

Memory Slots

Two DDR4 UDIMM slots, dual-channel capable

Memory Type

DDR4-3200

Notes:

[1] The max memory is based on the test results with current Lenovo® memory offerings.

Storage

Storage Support[1]

- Up to two drives, 1x 3.5" HDD + 1x M.2 SSD
- 3.5" HDD up to 2TB
 - M.2 SSD up to 1TB

Storage Type***

Disk Type	Interface	RPM	Security
3.5" SATA HDD	SATA 6Gb/s	7.2K	-
M.2 2280 SSD	PCIe® NVMe®, PCIe 4.0 x4	-	Opal
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4	-	Opal 2.0

Notes:

[1] The max capacity of each disk type is based on the test results with current Lenovo storage offerings.

Removable Storage

Optical**

- DVD-ROM, SATA 1.5Gb/s, slim (9.0mm)
- DVD burner (DVD±RW), SATA connector, slim (9.0mm)
- None

Card Reader

- 7-in-1 card reader (SD, SDHC, SDXC, MMC, MS, MS-Pro, XD)
- No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC623-CG codec

Speakers

- No speakers
- Single speaker, 1W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
180W	Fixed	85%	Autosensing
260W	Fixed	90%	Autosensing

DESIGN

Input Device

Keyboard**

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

Mouse

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

Mechanical

Form Factor

SFF (7.4L)

Dimensions (WxDxH)^[1]

100 x 308 x 274.8 mm (3.9 x 12.1 x 10.8 inches)

Packaging Dimensions (WxDxH)

195 x 390 x 500 mm (7.7 x 15.4 x 19.7 inches)

Weight^[2]

Around 4.5 kg (9.9 lbs)

Packaging Weight

Around 6.35 kg (14 lbs)

Case Color

Raven black

Bays

- 1x 2.5"/3.5" disk bay
- 1x slim ODD bay

Expansion Slots

- One PCIe 4.0 x16, low-profile (length < 167.65mm, height < 68.90mm)
- One PCIe 3.0 x1, low-profile (length < 167.65mm, height < 68.90mm)
- Two M.2 slots (one for WLAN, one for SSD)

Stand

- Vertical stand

- No stand

Others

(Optional) Smart Cable (USB-A to USB-C®)

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, Realtek RTL8111HN, 1x RJ-45, supports Wake-on-LAN

WLAN + Bluetooth®**

- Realtek Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.1, M.2 card
- Intel Wi-Fi 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1, M.2 Card
- Intel Wi-Fi 6E AX211, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1, M.2 Card
- No WLAN and Bluetooth

Ports^[1]

Front Ports

- 1x USB-C 3.2 Gen 1 (support data transfer and 5V@3A charging)
- 2x USB 3.2 Gen 1
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Optional Front Ports

1x card reader

Rear Ports

- 2x USB 2.0
- 2x USB 3.2 Gen 1 (one supports Smart Power On)
- 1x HDMI 2.1 TMDS
- 1x DisplayPort™ 1.4
- 1x VGA
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

Optional Rear Ports***

- 2x USB 2.0
- 1x parallel
- 1x serial
- 1x 2nd serial
- 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***

- HDMI to HDMI cable (1.5m)

- HDMI to VGA dongle
- DP to VGA dongle
- DP to DVI dongle
- DP to dual DP dongle
- DP to HDMI dongle
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip

Discrete TPM 2.0, TCG certified

Physical Locks

- (Optional) Smart Cable Clip
- Kensington® Security Slot™, 3 x 7 mm
- Padlock Loop

Chassis Intrusion Switch

- Chassis intrusion switch
- No chassis intrusion switch

Fingerprint Reader

No fingerprint reader

BIOS Security

- Secure Wipe
- Power-on password
- Supervisor password
- Hard disk password
- Certificate based BIOS authentication
- Certificate based BIOS management
- Cover presence switch
- Self-healing BIOS
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- Intel BIOS guard

MANAGEABILITY

System Management

System Management

Non-vPro®

SERVICE

Warranty^[1]

Base Warranty**

- 1-year courier or carry-in service
- 1-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

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^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Gold Registered^[2]
- (Optional) EPEAT Silver Registered^[3]
- ErP Lot 3
- RoHS compliant
- TCO Certified

Notes:

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

[2], [3] EPEAT is registered where applicable, please see <https://www.epeat.net> for registration status by country.

Other Certifications

Other Certifications

- (Optional) TÜV Rheinland® Low Noise
- (Optional) TÜV Rheinland Ultra Low Noise

- 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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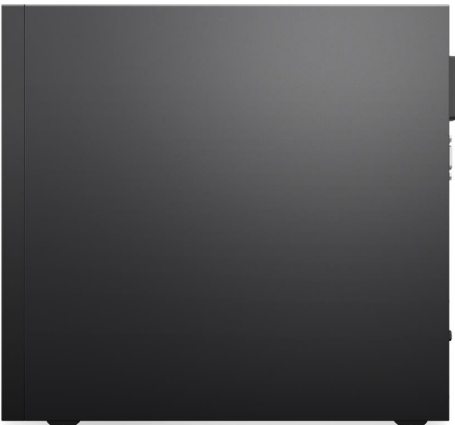
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MONITOR VIPH

VH240G2 IPS



SOBRE A VIPH

A empresa VIPH INFORMÁTICA atende tanto o setor empresarial quanto o público governamental, oferecendo soluções abrangentes em termos de equipamentos, programas e serviços que são flexíveis de acordo com as demandas específicas.

ESPECIFICAÇÕES TÉCNICAS

Tamanho da tela	24", Widescreen, aspecto 16:9
Resolução máxima	1920x1080 – 75Hz
Tecnologia do painel	Do tipo IPS, iluminado por LED, antireflexo
Pixel Pitch	0,350 *RGB (H) mm x 0,350 (V) mm
Brilho	250cd/m2
Contraste Estático/Dinâmico	1.000:1 / 50.000.000:1
Ângulo de visão	178° (H), 178° (V)
Tempo de resposta	4ms
Suporte a cores	Maior que 16,7 milhões
Conexões	VGA, HDMI 2.0 e DisplayPort
VESA	100mm x 100mm
Alimentação	Fonte externa, bivolt automática, 100-240V, 50-60Hz
Consumo de energia	Ligado: até 16W / Standby: menor que 0.5W
Controles manuais	- Liga-Desliga - Brilho - Contraste - Posicionamento Vertical e Horizontal - Botão autoajuste.
Acessórios	Fonte de alimentação, cabo de energia NBR 14136 e cabo HDMI (cabo VGA e DP opcional)
Ergonomia	Base com ajuste de inclinação / ângulo de visão; Opcional: Base com ajuste de altura e rotação (pivot)
Garantia	12 meses Opcionais: Atendimento on-site, extensão de garantia para 24, 36, 48 ou 60 meses