

## Lenovo ThinkCentre M90a Pro Gen 4 Intel® Core<sup>™</sup> i7 i7-13700 68,6 cm (27") 2560 x 1440 px All-in-One PC 16 GB DDR5-SDRAM 512 GB SSD Windows 11 Pro Wi-Fi 6E (802.11ax) Czarny

Marka : Lenovo

Rodzina produktu: ThinkCentre Kod produktu: 12JM0019SP

Nazwa produktu : M90a Pro Gen 4

Lenovo ThinkCentre M90a Pro Gen 4. Typ produktu: All-in-One PC. Długość przekątnej ekranu: 68,6 cm (27"), Typ HD: Quad HD, Rozdzielczość: 2560 x 1440 px, Typ ekranu: IPS. Typ procesora: Intel® Core™ i7. Pamięć wewnętrzna: 16 GB, Typ pamięci wewnętrznej: DDR5-SDRAM. Całkowita pojemność przechowywania: 512 GB, Nośniki: SSD. Model karty graficznej on-board: Intel UHD Graphics 770. Wbudowana kamera/aparat. Napędy optyczne: DVD±RW. Zainstalowany system operacyjny: Windows 11 Pro. Kolor produktu: Czarny





Display		Camera	
Display diagonal *	68.6 cm (27") 2560 x 1440 pixels	Privacy type	Privacy shutter
Display resolution *		Network	
Touchscreen *	×	Wi-Fi *	1
HD type * Native aspect ratio Display brightness Panel type RGB colour space Anti-glare screen Colour gamut	Quad HD 16:9 350 cd/m <sup>2</sup> IPS sRGB ✓ 99%	Top Wi-Fi standard * Wi-Fi standards WLAN controller manufacturer WLAN controller model Antenna type Ethernet LAN * Ethernet LAN data rates	Wi-Fi 6E (802.11ax) Wi-Fi 6E (802.11ax) Intel Intel Wi-Fi 6E AX211 2x2 ✓ 100,1000 Mbit/s
Processor		Bluetooth *	1
Processor manufacturer *	Intel	Bluetooth version	5.1
Processor family * Processor generation	Intel® Core™ i7 13th gen Intel® Core™ i7	Ports & interfaces	
Processor model * Processor cores Processor boost frequency Performance cores Efficient cores Performance-core Max Turbo Frequency Efficient-core Max Turbo Frequency Performance-core base frequency Efficient-core base frequency Processor cache	i7-13700 16 5.2 GHz 8 8 5.1 GHz 4.1 GHz 2.1 GHz 1.5 GHz 30 MB	Ethernet LAN (RJ-45) ports USB 3.2 Gen 1 (3.1 Gen 1) Type-A ports quantity * USB 3.2 Gen 2 (3.1 Gen 2) Type-A ports quantity * USB 3.2 Gen 2 (3.1 Gen 2) Type-C ports quantity * Intel ® Thunderbolt 4 Thunderbolt 4 ports quantity HDMI ports quantity * DisplayPorts quantity Combo headphone/mic port	1 3 2 1 1 1 1 1
Processor cache type	Smart Cache	Design	
Processor base power Maximum turbo power	65 W 219 W	Colour name Product colour *	Black Black

Memory		Design	
Internal memory * Internal memory type Maximum internal memory * Memory slots Memory slots type	16 GB DDR5-SDRAM 64 GB 2 SO-DIMM	Cable lock slot	✓
		Cable lock slot type	Kensington
		Performance	
		Product type *	All-in-One PC
Memory clock speed	5600 MHz	Motherboard chipset	Intel Q670
Memory layout (slots x size)	1 x 16 GB	Trusted Platform Module (TPM)	<ul> <li>Image: A start of the start of</li></ul>
Memory form factor	DIMM/SO-DIMM	Trusted Platform Module (TPM) version	2.0
Storage Total storage capacity *	512 GB	Software	
		Operating system architecture	64-bit
Storage media *	SSD 512 GB	Operating system installed *	Windows 11 Pro
Total SSDs capacity Number of SSDs installed	1	Power	
SSD capacity	512 GB	AC adapter power	230 W
SSD interface	PCI Express 4.0	AC adapter frequency	50 - 60 Hz
NVMe	1	AC adapter input voltage	100 - 240 V
SSD form factor	M.2	Weight & dimensions	
Optical drive type *	DVD±RW	Width (with stand)	613.6 mm
Card reader integrated	٠	Depth (with stand)	219.8 mm
Graphics		Height (with stand)	411 mm
Discrete graphics card *	×	Weight (with stand)	11.2 kg
Discrete graphics card model *	Not available	Operational conditions	
On-board graphics card *	1	Operating temperature (T-T)	5 - 35 °C
On-board GPU manufacturer	Intel	Storage temperature (T-T)	-20 - 60 °C
On-board graphics card family			
	Intel <sup>®</sup> UHD Graphics	Operating relative humidity (H-H)	20 - 80%
On-board graphics card model *	Intel® UHD Graphics Intel UHD Graphics 770	Storage relative humidity (H-H)	10 - 90%
	·	Storage relative humidity (H-H) Operating altitude	10 - 90% -15.2 - 3048 m
On-board graphics card model *	·	Storage relative humidity (H-H) Operating altitude Non-operating altitude	10 - 90%
On-board graphics card model * Audio	Intel UHD Graphics 770	Storage relative humidity (H-H) Operating altitude Non-operating altitude Certificates	10 - 90% -15.2 - 3048 m -15.2 - 12192 m
On-board graphics card model * Audio Built-in speaker(s) *	Intel UHD Graphics 770	Storage relative humidity (H-H) Operating altitude Non-operating altitude	10 - 90% -15.2 - 3048 m
On-board graphics card model * Audio Built-in speaker(s) * Number of speakers	Intel UHD Graphics 770	Storage relative humidity (H-H) Operating altitude Non-operating altitude Certificates	10 - 90% -15.2 - 3048 m -15.2 - 12192 m
On-board graphics card model * Audio Built-in speaker(s) * Number of speakers RMS rated power	Intel UHD Graphics 770	Storage relative humidity (H-H) Operating altitude Non-operating altitude <b>Certificates</b> Compliance certificates	10 - 90% -15.2 - 3048 m -15.2 - 12192 m
On-board graphics card model * Audio Built-in speaker(s) * Number of speakers RMS rated power Built-in microphone	Intel UHD Graphics 770	Storage relative humidity (H-H) Operating altitude Non-operating altitude Certificates Compliance certificates Sustainability	10 - 90% -15.2 - 3048 m -15.2 - 12192 m RoHS
On-board graphics card model * Audio Built-in speaker(s) * Number of speakers RMS rated power Built-in microphone Camera	Intel UHD Graphics 770	Storage relative humidity (H-H) Operating altitude Non-operating altitude Certificates Compliance certificates Sustainability Sustainability certificates	10 - 90% -15.2 - 3048 m -15.2 - 12192 m RoHS
On-board graphics card model * Audio Built-in speaker(s) * Number of speakers RMS rated power Built-in microphone Camera Built-in camera *	Intel UHD Graphics 770	Storage relative humidity (H-H) Operating altitude Non-operating altitude Certificates Compliance certificates Sustainability Sustainability certificates Packaging content	10 - 90% -15.2 - 3048 m -15.2 - 12192 m ROHS ENERGY STAR, TCO, EPEAT Gold
On-board graphics card model * Audio Built-in speaker(s) * Number of speakers RMS rated power Built-in microphone Camera Built-in camera * Total megapixels	Intel UHD Graphics 770	Storage relative humidity (H-H) Operating altitude Non-operating altitude Certificates Compliance certificates Sustainability Sustainability certificates Packaging content Mouse included	10 - 90% -15.2 - 3048 m -15.2 - 12192 m ROHS ENERGY STAR, TCO, EPEAT Gold
On-board graphics card model * Audio Built-in speaker(s) * Number of speakers RMS rated power Built-in microphone Camera Built-in camera * Total megapixels	Intel UHD Graphics 770	Storage relative humidity (H-H) Operating altitude Non-operating altitude Certificates Compliance certificates Sustainability Sustainability certificates Packaging content Mouse included Mouse connectivity	10 - 90% -15.2 - 3048 m -15.2 - 12192 m ROHS ENERGY STAR, TCO, EPEAT Gold ✓ Wireless





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