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

Brand : Lenovo

Product family: ThinkCentre

Product code: 12JM0019SP



Product name : M90a Pro Gen 4

Lenovo ThinkCentre M90a Pro Gen 4. نوع محصول: All-in-One PC. 68,6 قطر صفحه نمایش: Cm (27"), HD type: Quad HD, 2560 :ځانواده پردازنده Intel® Core™ i7. Internal memory: 16 GB, زولوشن صفحه نمایش: DDR5-SDRAM. 512 :نوع حافظه داخلی GB, Storage media: SSD. نوع حافظه داخلی Intel UHD Graphics 770. در روی بورد DVD±RW. در روی بورد XTW. بیستم DVD±RW. در روی بورد ارائه شده نرگ محصول: سیام Intel IPro. دوربین سرخود. نوع درایو نوری Windows 11 Pro.



Display		Camera	
Display diagonal *	68.6 cm (27")	Privacy type	Privacy shutter
Display resolution *	2560 x 1440 pixels	Network	
Touchscreen * HD type * Native aspect ratio Display brightness Panel type RGB colour space Anti-glare screen Colour gamut Processor	 × Quad HD 16:9 350 cd/m² IPS sRGB ✓ 99% ✓ 99% ✓ Intel Intel⁸ Core[™] i7 13th gen Intel[®] Core[™] i7 i7-13700 16 5.2 GHz 8 8 5.1 GHz 4.1 GHz 2.1 GHz 1.5 GHz 30 MB Smart Cache 	Wi-Fi * Top Wi-Fi standard * Wi-Fi standards WLAN controller manufacturer WLAN controller model Antenna type Ethernet LAN * Ethernet LAN data rates Bluetooth *	✓ Wi-Fi 6E (802.11ax) Wi-Fi 6E (802.11ax) Intel Intel Wi-Fi 6E AX211 2x2 ✓ 100,1000 Mbit/s
Processor manufacturer * Processor family * Processor generation 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 Efficient-core base frequency Processor cache Processor cache type		Bluetooth version Ports & interfaces 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	5.1 1 3 2 1 V 1 1 1 1 V
Processor base power	65 W	Design	
Maximum turbo power	219 W	Colour name Product colour *	Black Black

Memory		Design	
Internal memory * Internal memory type Maximum internal memory * Memory slots	16 GB DDR5-SDRAM 64 GB 2	Cable lock slot	✓
		Cable lock slot type	Kensington
		Performance	
Memory slots type	SO-DIMM	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)	 Image: A start of the start of
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 [®] 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 ✓ 2 10 W	Storage relative humidity (H-H) Operating altitude Non-operating altitude Certificates 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 ✓ 2 10 W	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 2 10 W	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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