

OptiPlex 5090 Micro Form Factor

Setup and Specifications



Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

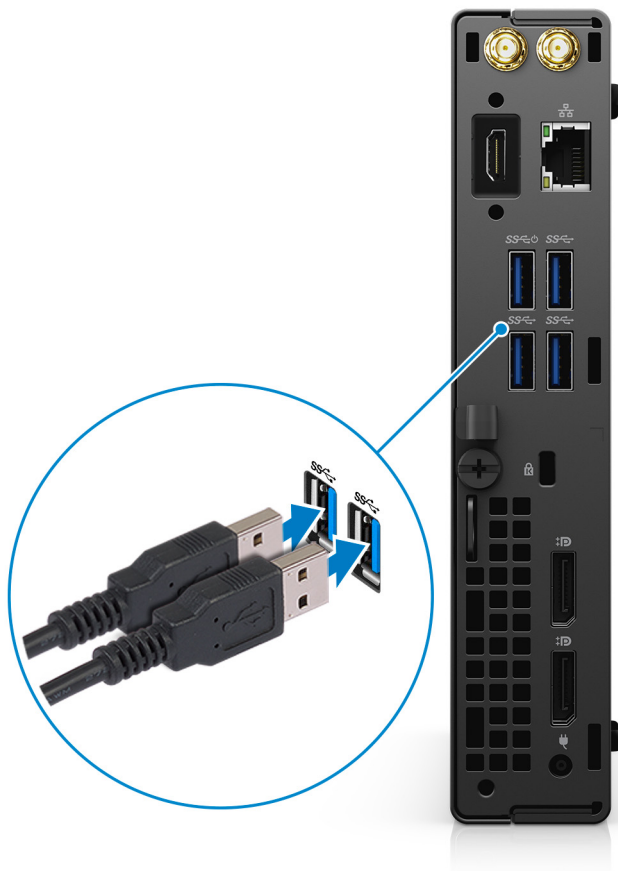
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Set up your OptiPlex 5090 Micro

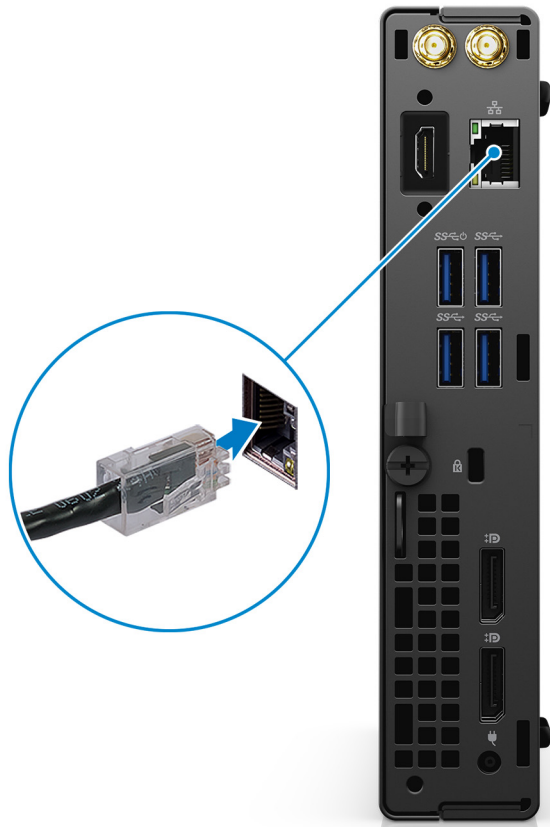
The images in this document may differ from your computer depending on the configuration you ordered.

Steps

1. Connect the keyboard and mouse.



2. Connect to your network using a cable, or connect to a wireless network.



3. Connect the display.
4. Connect the power cable.



5. Press the power button.



6. Finish Windows setup.

Follow the on-screen instructions to complete the setup. When setting up, Dell Technologies recommends:

- Connect to a network for Windows updates.
 - ⓘ **NOTE:** If connecting to a secured wireless network, enter the password for the wireless network access when prompted.
- If connected to the internet, sign-in with or create a Microsoft account. If not connected to the internet, create an offline account.
- On the **Support and Protection** screen, enter your contact details.

7. Locate and use Dell apps from the Windows Start menu—Recommended

Table 1. Locate Dell apps






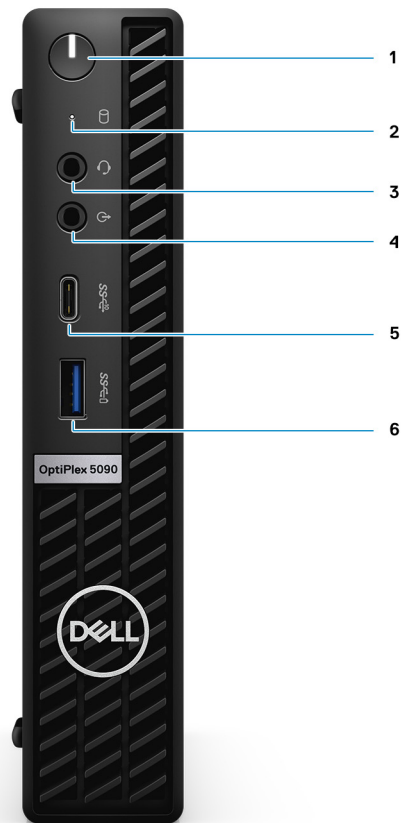
Dell apps	Details
	<p>Dell Product Registration Register your computer with Dell.</p>
	<p>Dell Help & Support Access help and support for your computer.</p>

Table 1. Locate Dell apps (continued)

Dell apps	Details
	<p>SupportAssist</p> <p>SupportAssist is the smart technology that keeps your computer running at its best by optimizing settings, detecting issues, removing viruses and notifies when you must make system updates. SupportAssist proactively checks the health of your system's hardware and software. When an issue is detected, the necessary system state information is sent to Dell to begin troubleshooting. SupportAssist is preinstalled on most of the Dell devices running Windows operating system. For more information, see SupportAssist for Business PCs User's Guide on www.dell.com/serviceabilitytools.</p>
	<p>Dell Update</p> <p>Updates your computer with critical fixes and important device drivers as they become available.</p>
	<p>Dell Digital Delivery</p> <p>Download software applications including software that is purchased but not preinstalled on your computer.</p>

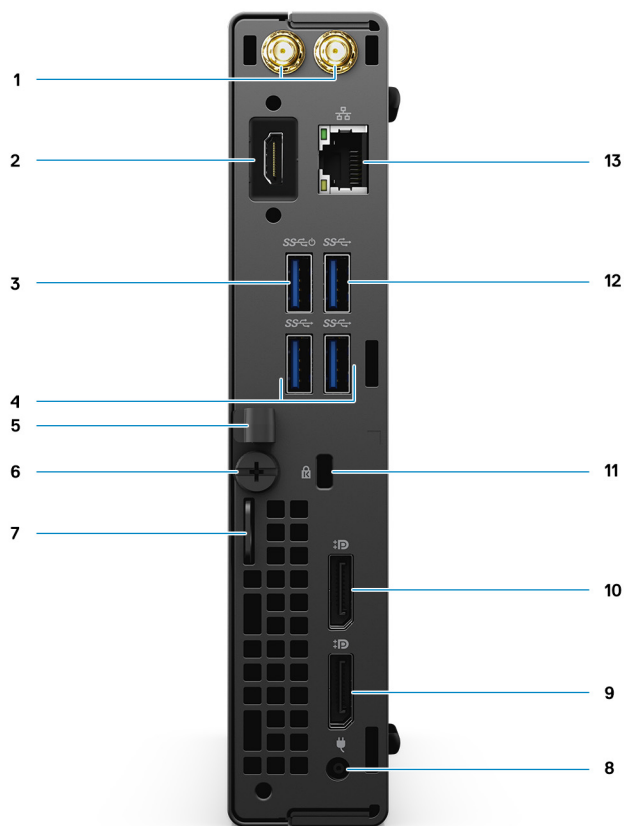
Views of OptiPlex 5090 Micro Form Factor

Front



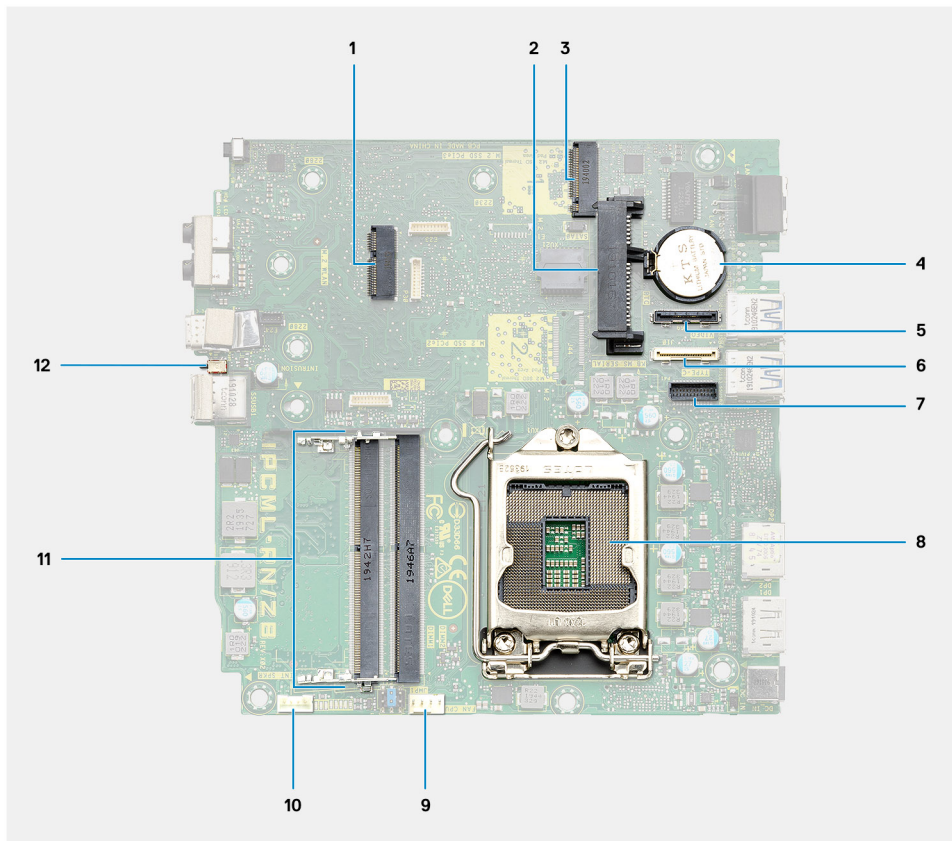
1. Power button with diagnostic LED
2. Hard-disk activity light
3. Universal audio jack port
4. Re-tasking Line-in/Line out audio port
5. USB 3.2 Gen 2x1 Type-C port
6. USB 3.2 Gen 1 Type-A port with PowerShare

Back



1. External antenna connector
2. Serial/Video port with Serial port/PS2 port/VGA port/DisplayPort 1.4 port/HDMI 2.0 Port/USB 3.2 Gen2 Type-C Port with DP Alt-mode (optional)
3. USB 3.2 Gen 1 Type-A port with Smart Power on
4. Two USB 3.2 Gen 1 Type-A ports
5. DC-in cable holder
6. Thumbscrew
7. Padlock loop
8. Power connector port
9. DisplayPort 1.4
10. DisplayPort 1.4
11. Wedge-shaped lock slot
12. USB 3.2 Gen 1 Type-A port
13. RJ45 Ethernet port

System board layout




1. M.2 WLAN connector
2. 2.5-inch hard-drive connector
3. M.2 SSD PCIe connector
4. Coin-cell battery
5. Optional video connector (VGA Port/DisplayPort 1.4 Port/HDMI 2.0b Port)
6. Optional connector (USB 3.2 Gen 2 Type-C Port)
7. Optional Keyboard and mouse serial port connector
8. Processor socket
9. CPU Fan connector
10. Internal speaker connector
11. Memory slots
12. Intrusion switch

Specifications of OptiPlex 5090 Micro Form Factor

Dimensions and weight

The following table lists the height, width, depth, and weight of your OptiPlex 5090 Micro Form Factor.

Table 2. Dimensions and weight

Description	Values
Height:	
Front height	182.00 mm (7.16 in.)
Rear height	182.00 mm (7.16 in.)
Width	178.50 mm (7.02 in.)
Depth	36.00 mm (1.42 in.)
Weight  NOTE: The weight of your computer depends on the configuration ordered and manufacturing variability.	<ul style="list-style-type: none"> • Minimum: 1.16 kg (2.56 lbs) • Maximum: 1.28 kg (2.83 lbs)

Processor

The following table lists the details of the processors that are supported by your OptiPlex 5090 Micro Form Factor .


 **NOTE:** Processor numbers are not a measure of performance. Processor availability subject to change and may vary by region/country.

Table 3. Processor

Processor type	Processor wattage	Processor core count	Processor thread count	Processor speed	Processor cache	Integrated graphics
10 th Generation Intel Core i3-10105T	35 W	4	8	3.0 GHz to 3.9 GHz	6 MB	Intel UHD Graphics 630
10 th Generation Intel Core i3-10305T	35 W	4	8	3.0 GHz to 4.0 GHz	8 MB	Intel UHD Graphics 630
10 th Generation Intel Core i5-10400T	35 W	6	12	2.0 GHz to 3.6 GHz	12 MB	Intel UHD Graphics 630
10 th Generation Intel Core i5-10500T	35 W	6	12	2.3 GHz to 3.8 GHz	12 MB	Intel UHD Graphics 630

Table 3. Processor (continued)

Processor type	Processor wattage	Processor core count	Processor thread count	Processor speed	Processor cache	Integrated graphics
10 th Generation Intel Core i5-10600T	35 W	6	12	2.4 GHz to 4.0 GHz	12 MB	Intel UHD Graphics 630
10 th Generation Intel Core i7-10700T	35 W	8	16	2.0 GHz to 4.5 GHz	16 MB	Intel UHD Graphics 630
10 th Generation Intel Pentium G6405T	35 W	2	4	3.50 GHz	4 MB	Intel UHD Graphics 630
10 th Generation Intel Pentium G6505T	35 W	2	4	3.60 GHz	12 MB	Intel UHD Graphics 630
11 th Generation Intel Core i5-11400T	35 W	6	12	1.3 GHz to 3.7 GHz	12 MB	Intel UHD Graphics 730
11 th Generation Intel Core i5-11500T	35 W	6	12	1.5 GHz to 3.9 GHz	12 MB	Intel UHD Graphics 750
11 th Generation Intel Core i5-11600T	35 W	6	12	1.7 GHz to 4.1 GHz	12 MB	Intel UHD Graphics 750
11 th Generation Intel Core i7-11700T	35 W	8	16	1.4 GHz to 4.6 GHz	16 MB	Intel UHD Graphics 750

Chipset

The following table lists the details of the chipset supported by your OptiPlex 5090 Micro Form Factor

Table 4. Chipset

Description	Option one	Option two
Processors	10 th Generation Intel Core i3/i5/i7 and Intel Pentium	11 th Generation Intel Core i5/i7
Chipset	Intel Q570	Intel Q570
DRAM bus width	64-bit (for single channel)	64-bit (for single channel)
Flash EPROM	32 MB	32 MB
PCIe bus	Up to Gen 3.0	Up to Gen 3.0

Operating system

Your OptiPlex 5090 Micro Form Factor supports the following operating systems:

- Windows 10 Home, 64-bit
- Windows 10 Pro, 64-bit
- Windows 10 Pro Education, 64-bit

- Windows 10 IoT Enterprise 2019 LTSC (OEM only)
- Windows 10 CMIT Government Edition, 64-bit (China only)
- Ubuntu 20.04 LTS, 64-bit
- Kylin Linux Desktop version 10.1 (China only)

Memory

The following table lists the memory specifications of your OptiPlex 5090 Micro Form Factor.

Table 5. Memory specifications

Description	Values
Memory slots	Two DIMM slots
Memory type	DDR4
Memory speed	2666/2933/3200 MHz
Maximum memory configuration	64 GB
Minimum memory configuration	4 GB
Memory size per slot	4 GB, 8 GB, 16 GB, 32 GB
Memory configurations supported	<ul style="list-style-type: none"> • 4 GB, 1 x 4 GB, DDR4, 2666 MHz for 10th Generation Intel Core i5, 2933 MHz for 10th Generation Intel Core i7/i9, 3200 MHz for 11th Generation Intel Core i5/i7 processors • 8 GB, 1 x 8 GB, DDR4, 2666 MHz for 10th Generation Intel Core i5, 2933 MHz for 10th Generation Intel Core i7/i9, 3200 MHz for 11th Generation Intel Core i5/i7 processors • 8 GB, 2 x 4 GB, DDR4, 2666 MHz for 10th Generation Intel Core i5, 2933 MHz for 10th Generation Intel Core i7/i9, 3200 MHz for 11th Generation Intel Core i5/i7 processors • 16 GB, 1 x 16 GB, DDR4, 2666 MHz for 10th Generation Intel Core i5, 2933 MHz for 10th Generation Intel Core i7/i9, 3200 MHz for 11th Generation Intel Core i5/i7 processors • 16 GB, 2 x 8 GB, DDR4, 2666 MHz for 10th Generation Intel Core i5, 2933 MHz for 10th Generation Intel Core i7/i9, 3200 MHz for 11th Generation Intel Core i5/i7 processors • 32 GB, 1 x 32 GB, DDR4, 2666 MHz for 10th Generation Intel Core i5, 2933 MHz for 10th Generation Intel Core i7/i9, 3200 MHz for 11th Generation Intel Core i5/i7 processors • 32 GB, 2 x 16 GB, DDR4, 2666 MHz for 10th Generation Intel Core i5, 2933 MHz for 10th Generation Intel Core i7/i9, 3200 MHz for 11th Generation Intel Core i5/i7 processors • 64 GB, 2 x 32 GB, DDR4, 2666 MHz for 10th Generation Intel Core i5, 2933 MHz for 10th Generation Intel Core i7/i9, 3200 MHz for 11th Generation Intel Core i5/i7 processors

Memory configuration matrix

Table 6. Memory configuration matrix

Configuration	Slot	
	DIMM1	DIMM2
4 GB DDR4	4 GB	
8 GB DDR4	4 GB	4 GB
8 GB DDR4	8 GB	
16 GB DDR4	8 GB	8 GB
16 GB DDR4	16 GB	
32 GB DDR4	16 GB	16 GB
32 GB DDR4	32 GB	
64 GB DDR4	32 GB	32 GB

Memory configuration matrix

Table 7. Memory configuration matrix

Configuration	Slot	
	DIMM1	DIMM2
4 GB DDR4	4 GB	
8 GB DDR4	4 GB	4 GB
8 GB DDR4	8 GB	
16 GB DDR4	8 GB	8 GB
16 GB DDR4	16 GB	
32 GB DDR4	16 GB	16 GB
32 GB DDR4	32 GB	
64 GB DDR4	32 GB	32 GB

Intel Optane Memory H10 with Solid State Storage (optional)

Intel Optane Memory technology utilizes 3D XPoint memory technology and functions as a non-volatile storage cache/accelerator and/or storage device depending on the Intel Optane Memory installed in your computer.

Intel Optane Memory H10 with Solid State Storage functions as both a non-volatile storage cache/accelerator (enabling enhanced read/write speeds for hard-drive storage) and a solid-state storage solution. It neither replaces nor adds to the memory (RAM) installed on your computer.

Table 8. Intel Optane Memory H10 with Solid State Storage specifications

Description	Values
Interface	PCIe 3 x4 NVMe <ul style="list-style-type: none"> • One PCIe 3 x2 for Optane memory • One PCIe 3 x2 for solid-state storage

Table 8. Intel Optane Memory H10 with Solid State Storage specifications (continued)

Description	Values
Connector	M.2
Form factor	2280
Capacity (Intel Optane memory)	Up to 32 GB
Capacity (solid-state storage)	Up to 512 GB

- i** **NOTE:** Intel Optane Memory H10 with Solid State Storage is supported on computers that meet the following requirements:
- 9th Generation or higher Intel Core i3/i5/i7 processors
 - Windows 10 64-bit version or higher
 - Intel Rapid Storage Technology driver version 15.9.1.1018 or higher

External ports

Table 9. External ports

Description	Values
Network port/slots	Rear <ul style="list-style-type: none"> • One RJ45 Ethernet port
USB ports	Front <ul style="list-style-type: none"> • One USB 3.2 Gen 2x1 Type-C port • One USB 3.2 Gen 1 port with power share Rear <ul style="list-style-type: none"> • One USB 3.2 Gen 1 port • One USB 3.2 Gen 1 port with smart power on • Two USB 3.2 Gen 1 ports
Audio port	Front <ul style="list-style-type: none"> • One Universal audio jack • One re-tasking Line out/Line in audio port
Video port/ports	Rear <ul style="list-style-type: none"> • One Serial/Video port with Serial/Serial+PS2 port/VGA port/DisplayPort 1.4 port/HDMI 2.0 Port/USB 3.2 Gen2 Type-C Port with Alt-mode (optional) • Two DisplayPort 1.4 ports
Media-card reader	N/A
Power-adaptor port	Rear <ul style="list-style-type: none"> • DC-in power input: 4.5 mm barrel type
Security-cable slot	Rear <ul style="list-style-type: none"> • One Kensington security-cable slot • One padlock loop lock

Internal slots

The following table lists the internal slots of your OptiPlex 5090 Micro Form Factor.

Table 10. Internal slots

Description	Values
M.2	<ul style="list-style-type: none"> One M.2 2230 slot for WiFi and Bluetooth card One M.2 2230/2280 slot for SSD/Intel Optane <p>NOTE: To learn more about the features of different types of M.2 cards, see the knowledge base article 000144170 at www.dell.com/support.</p>

Communications

Ethernet

Table 11. Ethernet specifications

Description	Values
Model number	Intel i219-LM
Transfer rate	10/100/1000 Mbps

Wireless module

Table 12. Wireless module specifications

Description	Values		
	Model number	Qualcomm QCA61x4a	Qualcomm QCA9377
Transfer rate	Up to 867 Mbps	Up to 433 Mbps	Up to 2.40 Gbps
Frequency bands supported	2.4 GHz/5 GHz	2.40 GHz/5 GHz	2.4 GHz/5 GHz
Wireless standards	802.11ac	802.11ac	Wi-Fi 6 (WiFi 802.11ax)
Encryption	<ul style="list-style-type: none"> 64-bit and 128-bit WEP 128-bit AES-CCMP TKIP 	<ul style="list-style-type: none"> 64-bit and 128-bit WEP 128-bit AES-CCMP TKIP 	<ul style="list-style-type: none"> 64-bit and 128-bit WEP 128-bit AES-CCMP TKIP
Bluetooth	5.0	5.0	5.2

Audio

The following table lists the audio specifications of your OptiPlex 5090 Micro Form Factor.

Table 13. Audio specifications

Description	Values
Audio type	4 Channel High Definition Audio

Table 13. Audio specifications (continued)

Description	Values
Audio controller	Realtek ALC3246
Internal audio interface	Intel HDA (high-definition audio)
External audio interface	<ul style="list-style-type: none"> • One Universal Audio Jack (front) • One Line-out audio port with re-tasking to Line-in(rear)

Storage

This section lists the storage options on your OptiPlex 5090 Micro Form Factor.

Your computer supports one of the following configurations:

Table 14. Storage Matrix

Storage	1st 2.5-inch hard drive	Single M.2 socket	1st Bootable Device
2.5-inch hard drive	Y	N	2.5-inch hard drive
M.2 solid-state drive	N	Y	M.2 solid-state drive
Dual M.2 solid-state drive	N	Y	1st M.2 solid-state drive
M.2 solid-state drive	2.5-inch hard drive/solid-state drive	Y	M.2 solid-state drive
M.2 Intel Optane	2.5-inch hard drive	Y	2.5-inch hard drive

Table 15. Storage specifications

Storage type	Interface type	Capacity
2.5-inch, 5400 RPM, hard-disk drive	SATA 3.0	Up to 2 TB
2.5-inch, 7200 RPM, hard-disk drive	SATA 3.0	Up to 1 TB
2.5-inch, 7200 RPM, FIPS Self Encrypting Opal 2.0, hard-disk drive	SATA 3.0	Up to 500 GB
M.2 2230 solid-state drive	PCIe Gen 3x4 NVMe, Class 35	Up to 512 GB
M.2 2280 solid-state drive	PCIe Gen 3x4 NVMe, Class 40	Up to 1 TB
M.2 2280 solid-state drive	PCIe Gen 4x4 NVMe, Class 40	Up to 2 TB
M.2 2280 Opal Self-Encrypting solid-state drive	PCIe Gen 3x4 NVMe, Class 40	Up to 1 TB

Hard drive preloaded bracket matrix

Table 16. HDD preloaded bracket cable

3.5-inch Caddy/Bracket	Yes
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Table 16. HDD preloaded bracket cable (continued)

2.5-inch Caddy/Bracket	No
------------------------	----

Power adapter

Table 17. Power adapter specifications

Description	Values	
	Type	90 W (35 W CPU)
Diameter (connector)	4.5 mm x 2.9 mm	4.5 mm x 2.9 mm
Input voltage	100 VAC—240 VAC	100 VAC—240 VAC
Input frequency	50 Hz—60 Hz	50 Hz—60 Hz
Input current (maximum)	1.50 A	2.50 A
Output current (continuous)	4.62 A	6.70 A
Rated output voltage	19.50 VDC	19.50 VDC
Temperature range:		
Operating	0 °C to 40 °C (32 °F to 104 °F)	0 °C to 40 °C (32 °F to 104 °F)
Storage	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)

GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your OptiPlex 5090 Micro Form Factor.

Table 18. GPU—Integrated

Controller	External display support	Memory size	Processor
Intel UHD Graphics 630	Two DisplayPort 1.4 ports	Shared system memory	10 th Generation Intel Core i3/i5/i7 and Intel Pentium
Intel UHD Graphics 730/750	Two DisplayPort 1.4 ports	Shared system memory	11 th Generation Intel Core i5/i7

Multiple display support matrix

Table 19. Multiple display support matrix

Graphics Card	Radeon RX 640
Memory	4 GB GDDR5
Video Ports on Graphics Card	<ul style="list-style-type: none"> ● 2 x Mini DisplayPorts ● 1 x DisplayPort
Max Displays (direct connect)	3
Max Displays (DP multi-stream)	1
Number of displays	3
Supported Resolution	3 x FHD (1920 x 1080)

Table 19. Multiple display support matrix (continued)

Graphics Card	Radeon RX 640
Total Power	40 W

Hardware Security

Table 20. Hardware Security

One Kensington security-cable slot
One Padlock loop
Chassis intrusion switch
SafelD including Trusted Platform Module (TPM) 2.0
Smart card keyboard (FIPS)
Microsoft 10 Device Guard and Credential Guard (Enterprise SKU)
Microsoft Windows Bitlocker
Local hard drive data wipe through BIOS (Secure Erase)
Self-encrypting storage drives (Opal, FIPS)
Trusted Platform Module (TPM) 2.0
China TPM
Intel Secure Boot
Intel Authenticate
SafeBIOS: includes Dell Off-host BIOS Verification, BIOS Resilience, BIOS Recovery, and additional BIOS Controls
Physical Security Options: Chassis lock slot support, Chassis Intrusion Switch, Lockable Cable Covers, Supply chain tamper alerts

Environmental

Table 21. Environmental specifications

Feature	OptiPlex 5090 Micro
Recyclable packaging	Yes
BFR/PVC—free chassis	No
MultiPack packaging	Yes (US only) (optional)
Energy-Efficient Power Supply	Standard
ENV0424 compliant	Yes

NOTE: Wood-based fiber packaging contains a minimum of 35% recycled content by total weight of wood-based fiber. Packaging that contains without wood-based fiber can be claimed as Not Applicable.

Energy Star, EPEAT and Trusted Platform Module (TPM)

Table 22. Energy Star, EPEAT and TPM

Features	Specifications
Energy Star 8.0	Compliant configurations available
EPEAT	Gold and Silver compliant configurations available
Trusted Platform Module (TPM) 2.0 ^{1,2}	Integrated on system board
Firmware-TPM (Discrete TPM disabled)	Optional

NOTE:

¹TPM 2.0 is FIPS 140-2 certified.

²TPM is not available in all countries.

Operating and storage environment

This table lists the operating and storage specifications of your OptiPlex 5090 Micro Form Factor.

Airborne contaminant level: G1 as defined by ISA-S71.04-1985

Table 23. Computer environment

Description	Operating	Storage
Temperature range	10 °C–35°C (50 °F–95°F)	-40°C-65°C (-40°F-149°F)
Relative humidity (maximum)	20% to 80% (non-condensing, Max dew point temperature = 26°C)	5% to 95% (non-condensing, Max dew point temperature = 33°C)
Vibration (maximum)*	0.26 GRMS random at 5 Hz to 350 Hz	1.37 GRMS random at 5 Hz to 350 Hz
Shock (maximum)	Bottom half-sine pulse with a change in velocity of 50.8 cm/sec (20 in./sec)	105G half-sine pulse with a change in velocity of 133 cm/sec (52.5 in./sec)
Altitude range	3048 m (10,000 ft)	10,668 m (35,000 ft)

CAUTION: Operating and storage temperature ranges may differ among components, so operating or storing the device outside these ranges may impact the performance of specific components.

* Measured using a random vibration spectrum that simulates user environment.



† Measured using a 2 ms half-sine pulse when the hard drive is in use.

Getting help and contacting Dell

Self-help resources


You can get information and help on Dell products and services using these self-help resources:


Table 24. Self-help resources

Self-help resources	Resource location
Information about Dell products and services	www.dell.com
My Dell app	
Tips	
Contact Support	In Windows search, type <code>Contact Support</code> , and press Enter.
Online help for operating system	www.dell.com/support/windows www.dell.com/support/linux
Access top solutions, diagnostics, drivers and downloads, and learn more about your computer through videos, manuals and documents.	Your Dell computer is uniquely identified by a Service Tag or Express Service Code. To view relevant support resources for your Dell computer, enter the Service Tag or Express Service Code at www.dell.com/support . For more information on how to find the Service Tag for your computer, see Locate the Service Tag on your computer .
Dell knowledge base articles for a variety of computer concerns	<ol style="list-style-type: none"> 1. Go to www.dell.com/support. 2. On the menu bar at the top of the Support page, select Support > Knowledge Base. 3. In the Search field on the Knowledge Base page, type the keyword, topic, or model number, and then click or tap the search icon to view the related articles.

Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see www.dell.com/contactdell.

 **NOTE:** Availability varies by country/region and product, and some services may not be available in your country/region.

 **NOTE:** If you do not have an active Internet connection, you can find contact information about your purchase invoice, packing slip, bill, or Dell product catalog.