

Lenovo

ThinkCentre

ThinkCentre TIO24Gen5

User Guide

Machine Types: 12NA-GAR1-WW

Think

Product numbers

A23TIO24

12NA-GAR1-WW

First Edition (April 2023)

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Safety information

General Safety guidelines

For tips to help you use your computer safely, go to:
<http://www.lenovo.com/safety>

Before installing this product, read the Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας (safety information).

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza

Antes de instalar este produto, leia as Informações de Segurança.

Läs säkerhetsinformationen innan du installerar den här produkten.

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.

Pred inštaláciou tohto zariadenia si peôítajte Bezpeônostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí

在安装本产品之前，请仔细阅读 Safety Information (安全信息)。

安裝本產品之前，請先閱讀「安全資訊」。

الرجاء قراءة معلومات السلامة قبل تركيب هذا المنتج.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Antes de instalar este producto lea la información de seguridad.

Antes de instalar este produto, leia as Informações de Segurança.

Перед установкой продукта прочтите инструкции по технике безопасности.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

This equipment is not suitable for use in locations where children are likely to be present, avoid hurting your child when machine falling down.

Chapter 1. Getting started

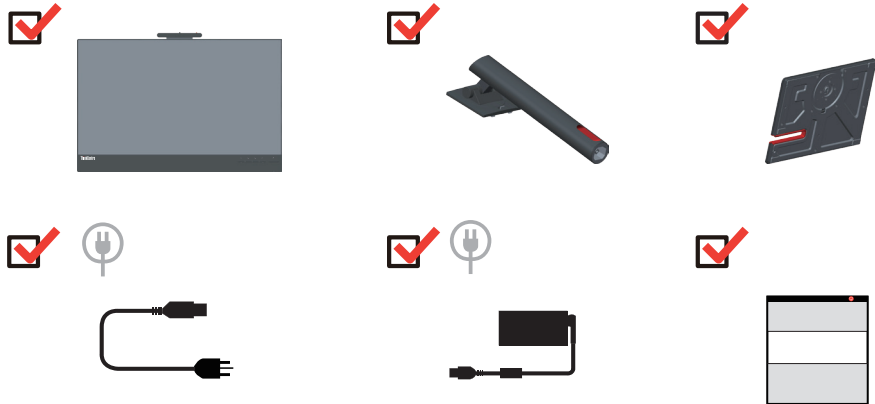
This User's Guide provides detailed operation instructions for the user. For quick instruction overview, please see the Setup Poster for brief information.

TIO24Gen5 supports Lenovo Accessories and Display Manager-**ThinkColour**.

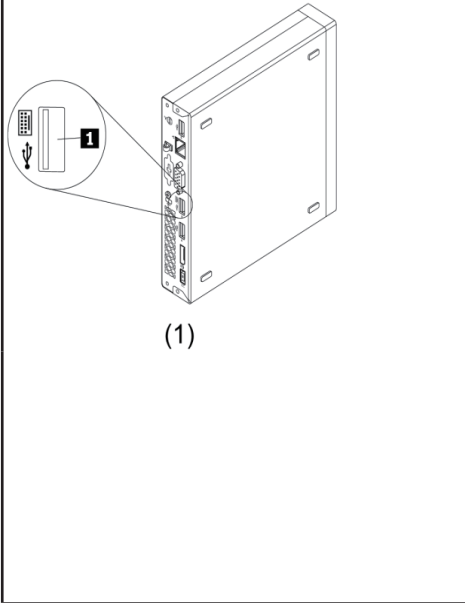
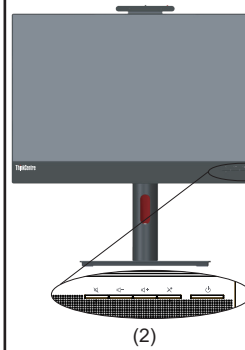

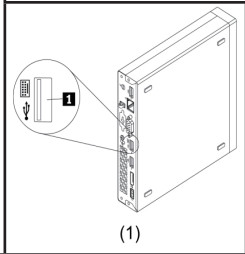
Shipping contents

The product package should include the following items:

- Flat Panel Monitor
- Stand
- Base
- Power Cord
- AC Power Adapter
- Information Flyer



***Your monitor supports the following Tyns that can be installed in your monitor:

 <p>(1)</p>	 <p>(2)</p>	
 <p>(1)</p>	 <p>(2)</p>	
Production support list	Alt + P	TIO power button
ThinkCentre M93p Tiny (Q87)	√	X
ThinkCentre M83 Tiny (Q85)	√	X
ThinkCentre M73 Tiny (H81)	√	X
ThinkCentre M53 Tiny (Baytrail)	√	X
ThinkCentre Chromebox (Broadwell-U)	X	√
ThinkCentre M900 Tiny (Q170)	√	√
ThinkCentre M900x Tiny (Q170 65w)	√	√
ThinkCentre M700 Tiny (B150)	√	√
ThinkCentre M600 Tiny	√	√
ThinkCentre M600 Tiny Fanless	√	√
ThinkCentre M910q Tiny (Q270)	√	√
ThinkCentre M910x Tiny (Q270 65w)	√	√
ThinkCentre M910x Tiny (Q270w/ GPU)	√	√
ThinkCentre M710q Tiny (B250)	√	√
ThinkCentre M715q Tiny (AMD)	√	√
ThinkCentre M625q (AMD)	√	√
ThinkCentre M920x (Q370) 65W	√	√
ThinkCentre M920x-KT(Q370) GPU	√	√
ThinkCentre M920q (Q370)	√	√
ThinkCentre M720q-KT(B360)	√	√
ThinkCentre M720q (B360)	√	√
ThinkCentre M630E	√	√
ThinkCentre M75q-1	√	√
ThinkCentre M90n-1*	√	√
ThinkCentre M75n**	√	√

ThinkCentre M90q (WW)	√	√
ThinkCentre M80q (WW)	√	√
ThinkCentre M930q (PRC)	√	√
ThinkCentre M70q (WW)	√	√
ThinkCentre M730q (PRC)	√	√
ThinkStation P320 Tiny	√	√
ThinkStation P330 Tiny	√	√
ThinkStation P340 Tiny	√	√

Before you install your Tiny into your monitor, ensure that the Tiny is listed above.

1. Install your computer into the TIO24Gen5
2. When using “ALT+P” to power on Tiny, please Connect a Lenovo keyboard the USB port shown as above on the rear of computer.
3. Press ALT+P on the keyboard to power on the computer and TIO24Gen5.

Note 1: ThinkCentre M600, M700, M900, M900x, M910x, M910, M715 Tiny may also be powered on with the TIO24Gen5 power button. (See Figure 2)

Note 2: When connect many cables to ThinkCentre M910x w/Gxf, it is recommended to do cable management or open lift door.

Note 3: Some ThinkCentre M93p, M83, M73, M53 can't be powered on with the TIO24Gen5, please press ALT+P on the keyboard to power on computer.

Note 4: Your monitor supports ThinkCentre M90n-1 or ThinkCentre M75n with Fan production, please refer to follows supported information.

*ThinkCentre M90n-1 supported MTs list:

ThinkCentre M90n-1 MTs
11AD
11AE
11AF
11AG

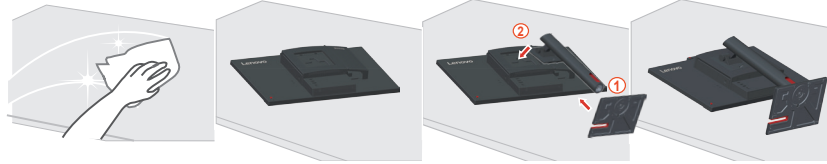
** ThinkCentre M75n supported MTs list:

ThinkCentre M75n MTs
11BS
11BT
11BU
11BV
11G4
11G5
11G6
11G7

Notice for use

To set up your monitor, please see the illustrations below.

Note: Do not touch the monitor within the screen area. The screen area is glass and can be damaged by rough handling or excessive pressure.



1. Place your monitor with the screen face down on a soft flat surface.

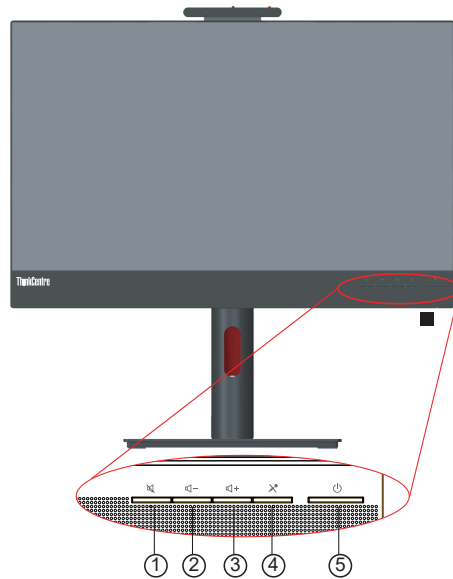
2. Insert the base into stand and locked.

3. Insert the stand base assembly into the monitor until it fits in place.

Note: To install a VESA mount, please see “Wall Mounting (Optional)” on page 2-4.

Locating connectors and controls on your monitor

Front view



1. Audio Mute	2. Volume Down
3. Volume Up	4. Microphone Mute
5. Power button	

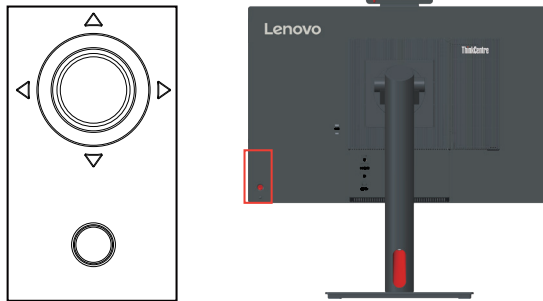
Rear view



1. Security-lock slot	2. AC power adapter connector
3. HDMI connector	4. DisplayPort connector
5. USB 3.0 Type B connector	6. USB downstream port

Monitor controls

The keypad controls on the back cover are accesses to various functions.



For information on how to utilize these keypad controls, please see “Adjusting your monitor image” on page 2-7.

Setting up your monitor

This section provides information on how to set up your monitor.

Assembling your monitor

To assemble your monitor, follow the two parts below one by one:

Part 1: Install the full-function monitor stand.

Part 2: Install the Tiny.

Part 3: Install the rear Wi-Fi antenna (optional).

Part 4: Install the Kensington-style cable lock (optional).

Part 1: Install the full-function monitor stand.

Note: The full-function monitor stand includes one monitor stand and one stand base.

1. Place a soft, clean towel or cloth on the desk or surface. Hold the sides of your monitor and gently lay it down so that the screen is against the surface and the cover is facing up.
2. Insert the three metal studs on the base into the corresponding holes in the stand. Then, tighten the screw as shown to secure the stand.



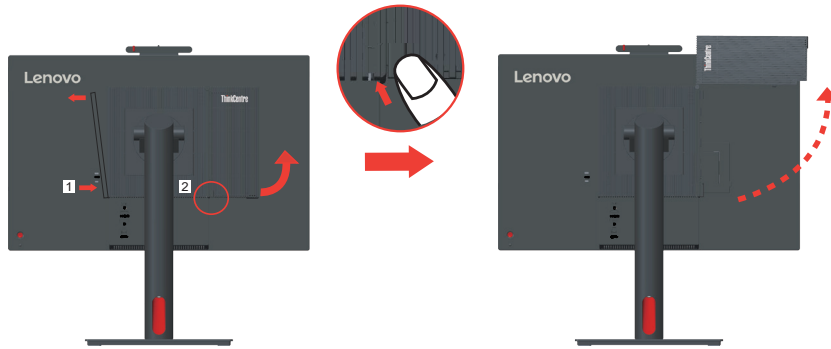
3. Insert the two metal tabs on the stand into the corresponding holes on the rear of the monitor. Then, pivot the stand downward until it clicks into position.



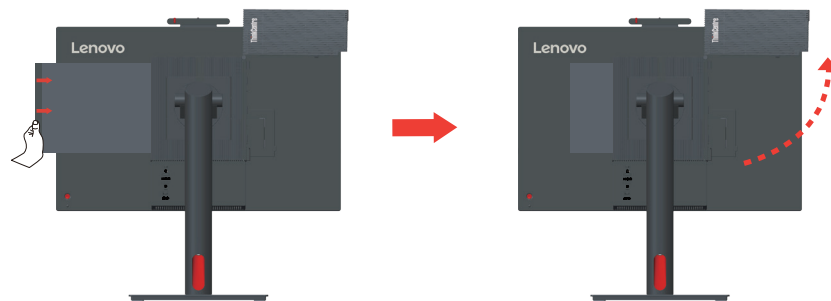
Part 2: Install the Tiny.

1. Press the decorative cover 1 as shown to remove it. Then, press the button 2 to open the cable cover.

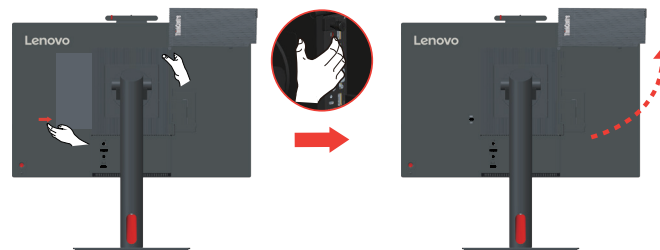
Note: Keep the decorative cover for future use.



2. With the Lenovo logo facing you, insert your Tiny into the computer bay until it rests on the stoppers.



3. Press the computer from the front until it completely snaps into position.



Note: Make sure the Tiny is aligned with the back cover. One hand can push the downside of tiny, the other hand assist adjust the Tiny to smoothly inset.

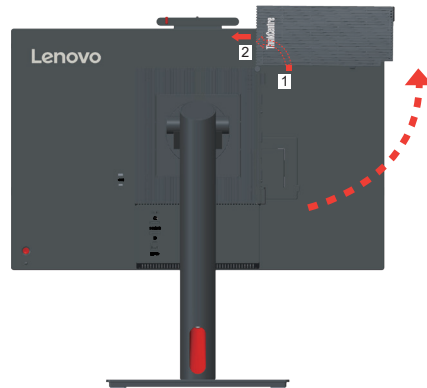


-
4. Tighten the screw to secure the Tiny.



Part 3: Install the rear Wi-Fi antenna (optional).

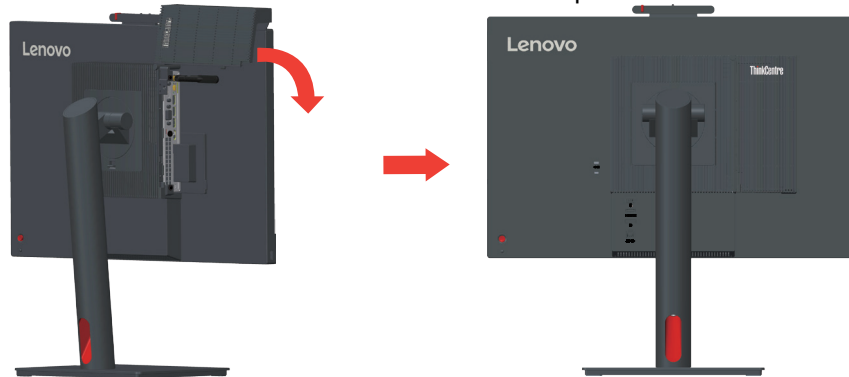
1. Pivot the cable cover as shown to the open position. Then, press the decorative cover 2 from the inner side of the cable cover to remove the decorative cover.



2. Screw the rear Wi-Fi antenna to the antenna connector on the rear of the computer. Then, adjust the angle of the antenna to 90 degrees.



3. Pivot the cable cover as shown to the closed position.



Part 4: Install the Kensington-style cable lock (optional).

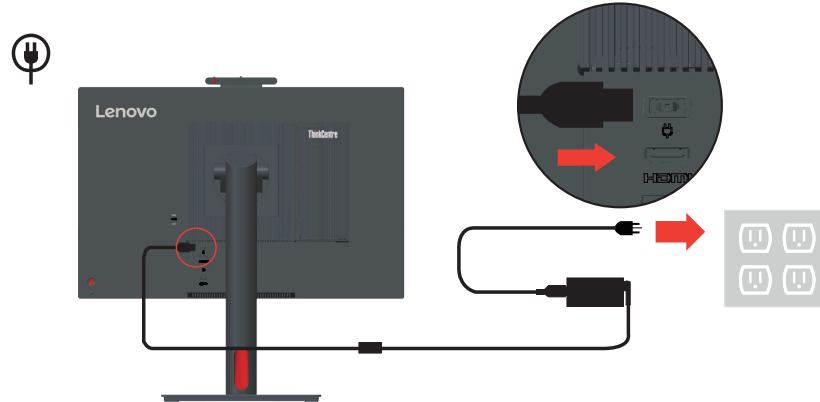
With the key of the Kensington-style cable lock, attach the lock to the security-lock slot on the rear panel of your computer as shown. The lock secures your monitor to a desk, table, or other non-permanent fixture. It also blocks the Tiny so that the Tiny cannot be removed from the monitor.



Connecting cables

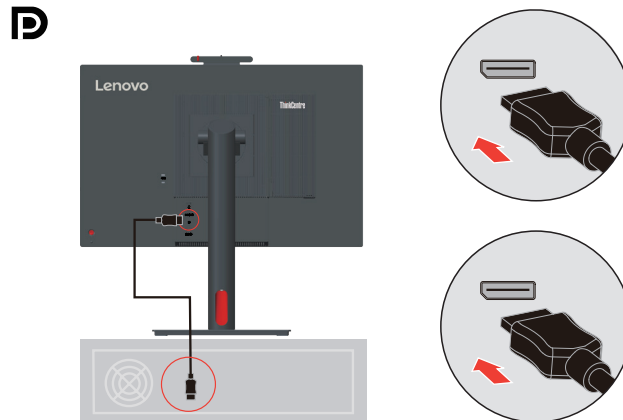
After assembling your monitor, you must connect cables correctly to use the monitor and computer. Your monitor can be used with either the Tiny installed in the monitor or an external desktop/laptop computer. To connect cables, do one of the following:

1. If you use the Tiny installed in the monitor, connect the ac power adapter cable and power cord that comes with the monitor. First connect the ac power adapter cable to the ac power adapter connector on the monitor. Then, connect one end of the power cord to the ac power adapter and the other end to a properly-grounded electrical outlet.



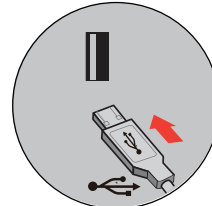
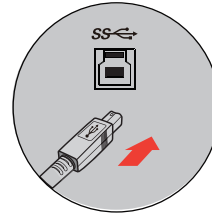
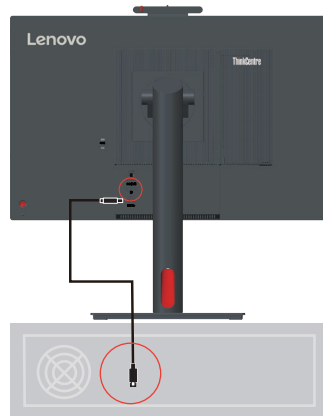
Note: When installing the computer to the TIO monitor for AIO mode, ensure you use the power adapter that comes with the computer when computer power adapter large than 90W, otherwise please use TIO power adapter.

2. Use a DisplayPort cable of this type as shown. Connect one end of the DisplayPort cable to the DisplayPort connector on the monitor and the other end to a DisplayPort connector on the computer. To locate the DisplayPort connector on the monitor, see “*ThinkCentre M90n-1 supported MTs list:” on page 1-3.



3. Use a type A-to-type B USB cable as shown. Connect type B connector of this cable to the USB 3.0 upstream connector on the monitor. Then, connect type A connector of the cable to a USB connector on the computer. To locate the USB 3.0 upstream connector on the monitor, see “*ThinkCentre M90n-1 supported MTs list:” on page 1-3.

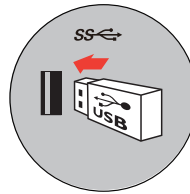
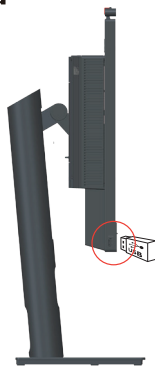
* SS 



4. Connect one end of the USB cable to the USB downstream terminal on the side of the monitor, and connect the other end of the USB cable to an appropriate USB port on your device.

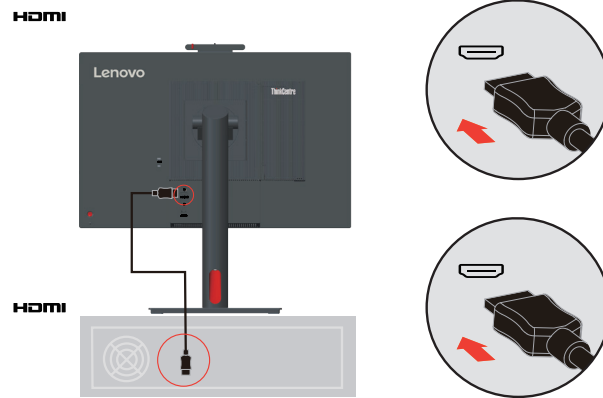
Note: The USB downstream port does not provide power while the monitor switch is off.

* SS 

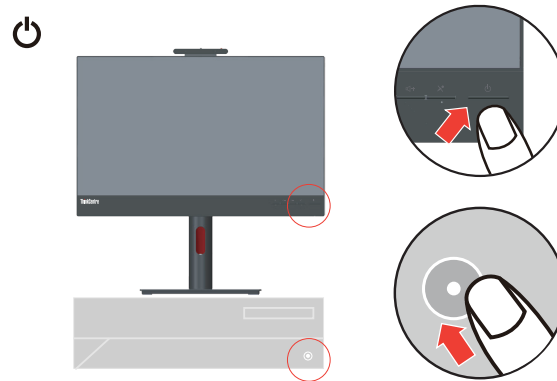


*: Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.

-
5. For computer in HDMI connecting.
Lenovo recommends that customers who require to use the HDMI input on their monitor purchase the "Lenovo HDMI to HDMI cable OB47070"
[www.lenovo.com/support/monitor accessories](http://www.lenovo.com/support/monitor_accessories).



6. Power on the monitor and the computer.



7. When you install the monitor driver, download the driver that corresponds to your monitor model from the Lenovo website
<https://pcsupport.lenovo.com/solutions/TIO24Gen5>.
Refer to the "Manually installing the monitor driver" on page 3-8 section to install the driver.



Turning on your monitor and computer

To turn on your monitor and computer, do one of the following:

- If you only have the Tiny installed in the monitor, press the power button on the monitor to turn on your monitor and computer. To locate the power button, see “*ThinkCentre M90n-1 supported MTs list:” on page 1-3.
- If you only have the external desktop/laptop computer connected to the monitor, press the power button on the monitor to turn on your monitor. Then, press the power button on the computer to turn on your computer. To locate the power button, see “*ThinkCentre M90n-1 supported MTs list:” on page 1-3.
- If you have both the Tiny installed in the monitor and the external desktop/laptop computer connected to the monitor, do one of the following:
 - If you use the Tiny, press the power button on the monitor to turn on your monitor and computer. To locate the power button, see “*ThinkCentre M90n-1 supported MTs list:” on page 1-3.
 - If you use the external desktop/laptop computer, press the mode-switching button on the monitor to select the DP/HDMI mode so that the monitor is turned on. Then, press the power button on the computer to turn on your computer. To locate the mode-switching button, see “*ThinkCentre M90n-1 supported MTs list:” on page 1-3.

Note: When both the Tiny and the external desktop/laptop computer are working, you can press the mode-switching button to switch between the two computers. When you select the AIO mode, you will use the Tiny. When you select the DP/HDMI mode, you will use the external desktop/laptop computer.

When you switch between the AIO mode and the DP/HDMI mode, ensure that no data is being transmitted between your computer and any USB device that is connected to your monitor. If you switch between the two modes while the USB data is being transmitted, the transmission will be interrupted and loss of data may result.

When you switch between the AIO mode and the DP/HDMI mode the following is required to wake your computer from sleep or hibernation:

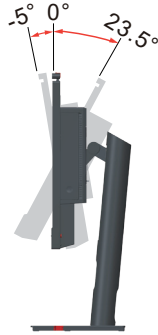
- DP/HDMI mode to AIO mode. If the Tiny installed in your monitor is in sleep or hibernation mode, press the power button of the monitor to wake up the Tiny.
- AIO mode to the DP/HDMI mode. If the external desktop/laptop computer is in sleep or hibernation mode, press the power button of the external desktop/laptop computer to wake up it.

Note: When you switch between AIO mode and DP/HDMI mode, the keyboard and mouse that are connected to your monitor are also switched.

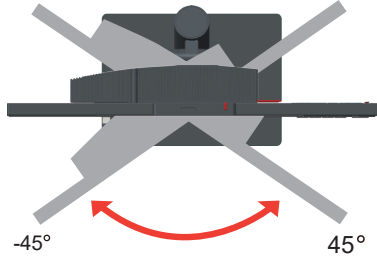
Chapter 2. Adjusting and using your monitor

This section will give you information on adjusting and using your monitor.

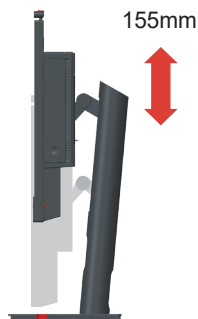
1. The following illustration shows that you can adjust the monitor at an angle of -5° to the front and 23.5° to the rear.



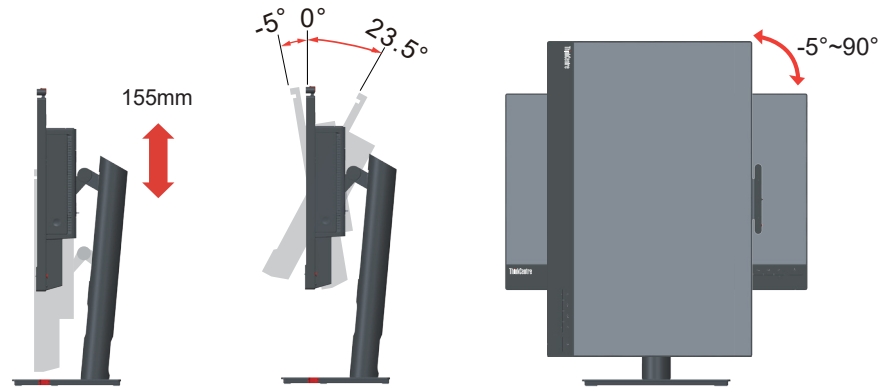
2. The following illustration shows that you can turn the monitor at an angle of 45° to the left and 45° to the right.



3. The following illustration shows that you can adjust the height of the full-function monitor stand within a length of 155 mm.

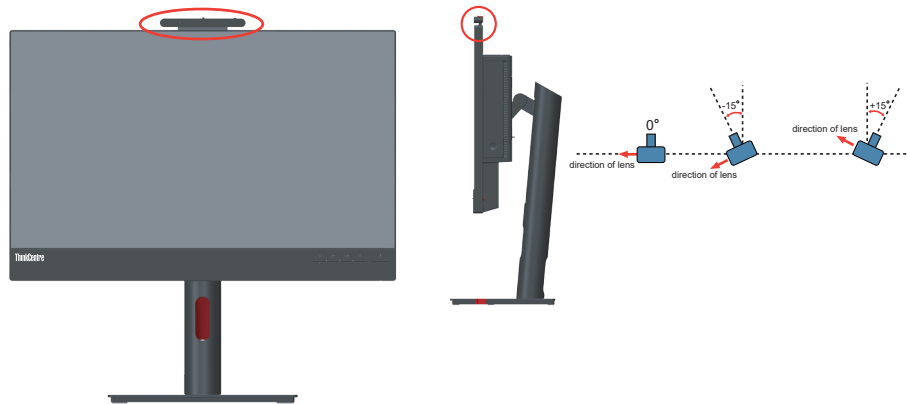


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4. The following illustration shows that you can rotate clockwise the monitor at an angle of -5° to the left and 90° to the right.
Note: Adjust the screen position before rotating the monitor screen. (Make sure that the monitor screen ascent to its highest point.)



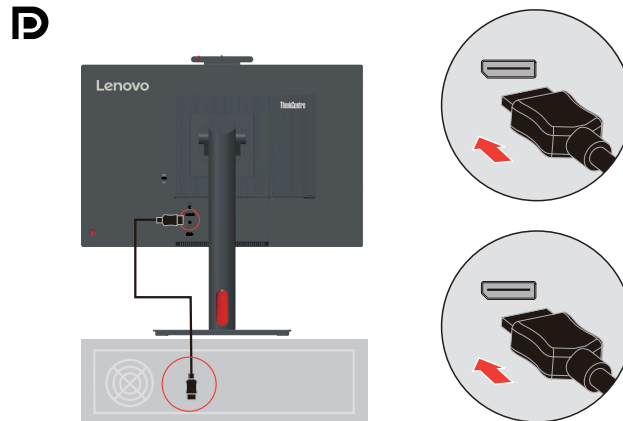
Camera Swivel

Please see the illustration below for an example of camera swivel range.

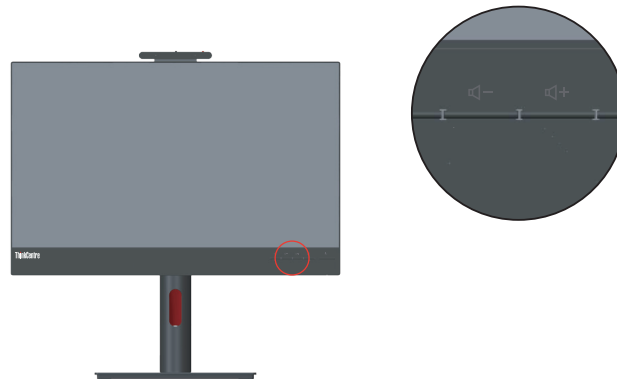


Speakers

Your monitor has integrated 2 speakers which can support audio transmitted over the DP/HDMI video input as well as USB audio. When you select the DP/HDMI mode, the USB3.0 cable is required to connect to the system. When you select the AIO mode, the USB3.0 cable is not needed.



Speaker volume is adjusted using controls on the front of the monitor.



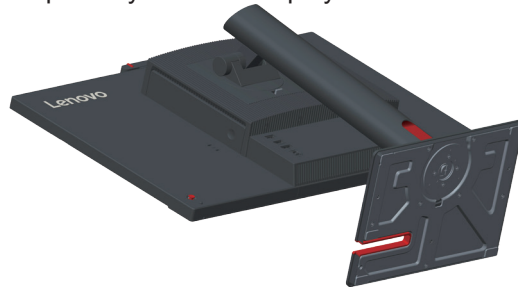
Note: When a Headphone or Speaker connected to Tiny audio port, the monitor speaker would not mute until the audio playback device is switched.

Wall Mounting (Optional)

Refer to the instructions that come with the base mounting kit. To convert your LCD display from a desk-mounted to a wall-mounted display, do the following:

Step 1: Verify that the Power button is turned Off, then disconnect the power cord.

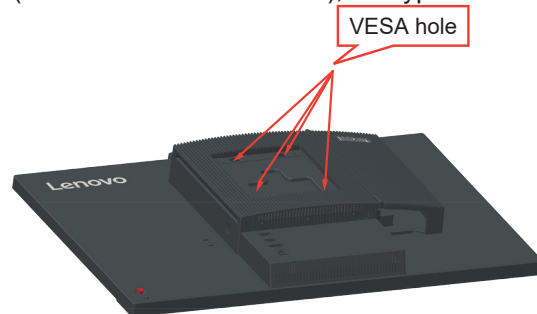
Step 2: Lay the LCD display face down on a towel or blanket.



Step 3: Remove the base and stand from the monitor.



Step 4: Attach the mounting bracket from the VESA compatible wall mounting kit (100mm x100mm distance), the type of VESA mounting screw is M4 x 10 mm.



Step 5: Attach the LCD display to the wall, and follow the instructions in the wall-mounting kit.

For use only with UL Listed Wall Mount Bracket with minimum weight/load: 8kg

Comfort and accessibility

Good ergonomic practice is important to get the most from your personal computer and to avoid discomfort. Arrange your workplace and the equipment you use to suit your individual needs and the kind of work that you perform. In addition, use healthy work habits to maximize your performance and comfort while using your computer. For more detailed information on any of these topics, visit the Healthy Computing Web site at:
<http://www.lenovo.com/healthycomputing/>.

Arranging your work area

Use a work surface of appropriate height and available working area to allow you to work in comfort.

Organize your work area to match the way you use materials and equipment. Keep your work area clean and clear for the materials that you typically use and place the items that you use most frequently, such as the computer mouse or telephone, within the easiest reach.

Equipment layout and setup play a large role in your working posture. The following topics describe how to optimize equipment setup to achieve and maintain good working posture.

Positioning and viewing your monitor

Position and adjust your computer monitor for comfortable viewing by considering the following items:

- **Viewing distance:** Recommended viewing distance between the eye and the monitor screen is 1.5 x the diagonal of the screen. Solutions in meeting this required distance in cramped office situations include pulling desk away from wall or divider to make room for monitor, using flat panel or compact displays placing the monitor in the desk corner, or placing the keyboard in an adjustable drawer to create a deeper working surface.
- **Monitor height:** Position the monitor so your head and neck are in a comfortable and neutral (vertical, or upright) position. If your monitor does not have height adjustments, you might have to place books or other sturdy objects under the base of the monitor to achieve the desired height. A general guideline is to position the monitor such that the top of the screen is at or slightly below your eye-height when you are comfortably seated. However, be sure to optimize your monitor height so the line of site between your eyes and the center the monitor suits your preferences for visual distance and comfortable viewing when your eye muscles are in a relaxed state.
- **Tilt:** Adjust the tilt of your monitor to optimize the appearance of the screen content and to accommodate your preferred head and neck posture.
- **General location:** Position your monitor to avoid glare or reflections on the screen from overhead lighting or nearby windows.

The following are some other tips for comfortable viewing of your monitor:

- Use adequate lighting for the type of work you are performing.
- Use the monitor brightness, contrast, and image adjustment controls, if equipped, to optimize the image on your screen to meet your visual preferences.
- Keep your monitor screen clean so you can focus on the screen's contents.

Any concentrated and sustained visual activity can be tiring for your eyes. Be sure to periodically look away from your monitor screen and focus on a far object to allow your eye muscles to relax. If you have questions on eye fatigue or visual discomfort, consult a vision care specialist for advice.

Quick tips for healthy work habits

The following information is a summary of some important factors to consider to help you remain comfortable and productive while you use your computer.

- **Good posture starts with equipment setup:** The layout of your work area and the setup of your computer equipment have a large effect on your posture while using your computer. Be sure to optimize the position and orientation of your equipment by following the tips outlined in “Arranging your work area” on page 2-5 so you can maintain a comfortable and productive posture. Also, be sure to use the adjustment capabilities of your computer components and office furniture to best suit your preferences now and as your preferences change over time.
- **Minor changes in posture can help avoid discomfort:** The longer you sit and work in front of your computer, the more important it is to observe your working posture. Avoid assuming any one posture for an extended period of time. Periodically make minor modifications in your posture to help deter any discomforts that might arise. Make use of any adjustments that your office furniture or equipment provide to accommodate changes in posture.
- **Short, periodic breaks help ensure healthy computing:** Because computing is primarily a static activity, it is particularly important to take short breaks from your work. Periodically, stand up in front of your work area, stretch, walk for a drink of water, or otherwise take a short break from using your computer. A short break from work gives your body a welcome change in posture and helps to ensure you remain comfortable and productive while you do work.

Accessibility information

Lenovo is committed to providing greater access to information and technology to people with disabilities. With assistive technologies, users can access information in the way most appropriate to their disability. Some of these technologies are already provided in your operating system; others can be purchased through vendors or accessed at: https://lenovo.ssbartgroup.com/lenovo/request_vpat.php







Adjusting your monitor image

This section describes the user control features used to adjust your monitor image.

Using the direct access controls

The direct access controls can be used when the On Screen Display (OSD) is not displayed.

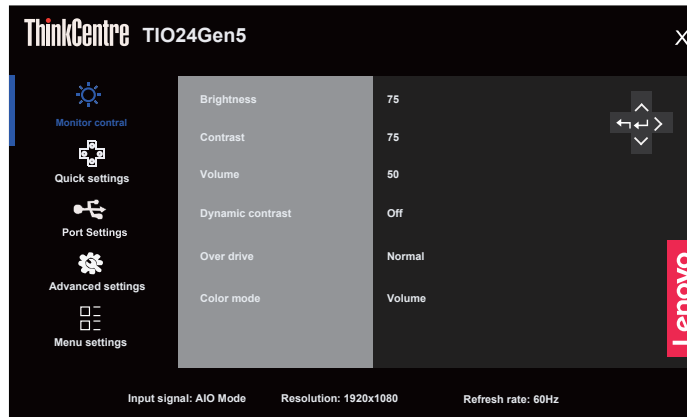
Table 2-1. Direct access controls

	Icon	Control	Description
1		Left	Return to the previous menu page or exit from the previous function.
2		UP	UP browsing key For increasing the value on adjustment bar/tune in
3		Input Source	It is a shortcut for changing input signal while there is no OSD on the screen or on power-saving. Press and hold for 10 seconds to Enable/Disable the "DDC/CI" .
4		Down	Down browsing key. For decreasing the value on adjustment bar/tune in.
5		Menu	To access OSD menu. Press to confirm selection. Press and hold for 10 seconds will lock menu/ un-lock menu.
6		Right	Press to enter next level on main menu/ sub menu status or enter previous level on adjustment bar.


Using the On-Screen Display(OSD) controls

The settings adjustable with the user controls are viewed through the OSD, as shown below.

Note: When switching to AIO mode, the monitor and the Tiny share the same power button on the monitor, However, if the enhanced standby mode is enabled in the BIOS of the Tiny, you can only use the power button of the computer to turn on the computer.



To use the controls:

1. Press  to open the main OSD menu.
2. Use Δ or ∇ to move among the icons. Select an icon and press \leftarrow to access that function. If there is a sub-menu, you can move between options using Δ or ∇ , then press \leftarrow to select that function. Use Δ or ∇ to make adjustments then press \leftarrow to save.
3. Press \rightarrow to move backwards through the sub-menus and exit from the OSD.
4. The ENERGY STAR option resets all user settings to default values so that the monitor can meet the requirements of Energy Star.



Energy Star is an energy saving program for consumer electronics led by the U.S. government. It was launched in 1992 by EPA and DOE to reduce energy consumption and greenhouse gas emissions. Energy Star logo is a symbol of energy conservation and environmental protection. It improves the concept of energy efficiency of consumers and manufacturers, and effectively guides the market.

The regulation of Energy Star improves energy efficiency and reduces air pollution by using more energy-efficient equipment in homes, offices and factories. One way to achieve this goal is to use management to reduce energy consumption when products are not in use. The default settings for monitors conform to Energy Star certification. Any changes by users for more features and functionalities may increase power consumption, which will exceed the limitation of Energy Star's standard. If the user changes the options related to energy efficiency when using, such as brightness, color mode, etc., select All Reset Factory or choose the Energy Star option, the power consumption will be restored to the energy efficiency with Energy Star standard.

For more information, please refer to (www.energystar.gov/products). All products of Energy Star will be posted online and can be accessed directly by governments, public institutions and consumers.

Table 2-2. OSD functions

OSD Icon on Main Menu	Sub menu	Description	Controls and Adjustments	
Monitor Controls	Brightness	Adjusts overall screen brightness.	All input ports	
	Contrast	Adjusts difference between light and dark areas.		
	Volume	Adjust the value.		
	Dynamic Contrast	<ul style="list-style-type: none"> • On • Off 		
	Over Drive	<ul style="list-style-type: none"> • Off • Normal • Extreme 		
	Color Mode	<ul style="list-style-type: none"> • sRGB • Neutral • Warm • Cool • Custom • R: Increases or decreases the saturation of "red" in the image. • G: Increases or decreases the saturation of "green" in the image. • B: Increases or decreases the saturation of "blue" in the image. 		
Quick settings	Right key	<ul style="list-style-type: none"> • Brightness • Contrast • Color mode • Language 	All input ports	
	Up key			
	Down key			
Port Settings	Input Signal	<ul style="list-style-type: none"> • Auto • AIO Mode • DisplayPort • HDMI 		All input ports
	DP Select	<ul style="list-style-type: none"> • DP 1.2 • DP 1.1 		
	Video range	<ul style="list-style-type: none"> • Auto • Full range 0-255 • Limited range 16-235 		
Advanced settings	Smart traffic light	<ul style="list-style-type: none"> • Auto • On • Off 	All input ports	
	Button repeat rate	<ul style="list-style-type: none"> • Default • Slow • Off 		
	Aspect ratio	<ul style="list-style-type: none"> • Full Screen • Orginal AR 		
	LED indicator	<ul style="list-style-type: none"> • On • Off 		
	Power button lock	<ul style="list-style-type: none"> • On • Off 		

OSD Icon on Main Menu	Sub menu	Description	Controls and Adjustments
Menu settings	Information	<ul style="list-style-type: none"> • Model name • Refresh Rate • Firmware • Scalar • USB Hub • Serial number 	All input ports
	Language	Select OSD Languages. Note: The language chosen only affects the language of the OSD. It has no effect on any software running on the computer.	
	OSD timeout	Adjust bar 5S~60S	
	OSD position	Adjust bar 0~100 (H,V)	
	OSD rotation	<ul style="list-style-type: none"> • Normal • 90 	
	Transparency	0% ~100%	
	Factory reset	<ul style="list-style-type: none"> • Reset • No 	
<p>*The use of Extreme Mode (response time) may result in reduced display quality when fast moving video graphics are displayed. Users should check Extreme Mode (response time) to verify if it is compatible with any applications they would like to use it with.</p> <p>Low Blue Light: The display uses the low blue light panel. It complies with TÜV Rheinland Low Blue Light Hardware Solution certification under factory reset/default setting (Low Blue Light=Standard, Brightness:75%, Contrast: 75%, CCT: Warm)</p>			

Selecting a supported display mode

The display mode of the monitor uses is controlled by the computer. Therefore, refer to your computer documentation on how to change display modes.

The image size, position and shape might be changed when the display mode changes. This is normal and the image can be re-adjusted using automatic image setup and the image controls. Unlike CRT monitors, which require a high refresh rate to minimize flicker, LCD or Flat Panel technology is inherently flicker-free.

Note: If your system has previously been used with a CRT monitor and is currently configured to a display mode outside the range of this monitor, you may need to reattach the CRT monitor temporarily until you have re-configured the system; preferably to 1920 x 1080 at 60 Hz, which is a common display mode.

The display modes shown below have been optimized at the factory.

Note: According to the VESA standard, there may be a certain error (+/-1Hz) when calculating the refresh rate (field frequency) of different operating systems and graphics cards. In order to improve compatibility, the nominal refresh rate of this product has been rounded off. Please refer to the actual product.

Table 2-3 Factory set display modes

Timing	Refresh rate(Hz)
640x350	70 Hz
640x480	60 Hz
640x480	66 Hz
640x480	72 Hz
640x480	75 Hz
720x400	70 Hz
800x600	60 Hz
800x600	72 Hz
800x600	75 Hz
1024x768	60 Hz
1024x768	70 Hz
1024x768	75 Hz
1280x1024	60 Hz
1280x1024	72 Hz
1280x1024	75 Hz
1366x768	60 Hz
1440x900	60 Hz
1440x900	75 Hz
1680x1050	60 Hz
1920x1080	60 Hz
1600x1200	60 Hz
1600x1200	70 Hz
1920x1080	75 Hz

480P	60 Hz
576P	50 Hz
720P	50 Hz/60 Hz
1080P	50 Hz/60 Hz

Wake on the System and Display

Take the steps outlined below to wake up the system and display when the latter is in standby mode:

AIO mode

1. Tiny PC running and display off: move your mouse to wake up your PC.
2. Tiny PC in standby mode and display off: click the mouse, press the power button on the front of the monitor, or press the power button on the Tiny PC to wake up your PC.
3. Tiny PC in sleep mode and display off: press the power button on the front of the monitor, or press the power button on the Tiny PC to wake up your PC.

DP/HDMI mode

1. PC running and display off: move your mouse to wake up your PC.
2. PC in standby mode and display off: click the mouse, or press the power button on the Tiny PC to wake up your PC.
3. PC in sleep mode and display off: press the power button on the Tiny PC to wake up your PC.

Understanding power management

Power management is invoked when the computer recognizes that you have not using your mouse or keyboard for a user-definable period. There are several states as described in the table below.

For optimal performance, switch off your monitor at the end of each working day, or whenever you expect to leave it unused for long periods during the day.

Table 2-4. Power indicator

State	Power Indicator	Screen	Restoring Operation	Compliance
On	White	Normal		
Standby/ Suspend	Amber	Blank	Press a key or move the mouse. There may be a slight delay reappears. Note: Standby also occurs if there is no image output to the monitor.	ENERGY STAR
Off	Off	Blank	Press power key to switch on There may be a slight delay before the image reappears.	ENERGY STAR

Table 2-5. Modern standby

Takes S0 & screen off as modern standby, Tips for the limitation of AMD modern standby.

Tiny status	On (Screen on) White	On (Screen off) White	S3 White blink	S4/S5 OFF	Modern standby Breathing
TIO LED-Intel	White	Breathing	White blink	OFF	Breathing
TIO LED-AMD	White	Breathing	White blink	OFF	White blink

Remark: Tiny has no S3 status if it supports modern standby.

Power Management Modes

VESA Modes	Horizontal Sync	Vertical Sync	Video	Power Indicator	Power Consumption
Normal operation	Active	Active	Active	White	34 W (maximum)** 14 W (typical)
Active-off mode	Inactive	Inactive	Off	Amber	Less than 0.5 W
Switch off	-	-	-	Off	Less than 0.3 W

Energy Star	Power Consumption
P _{ON}	11.85 W
E _{TEC}	38 kWh

** Maximum power consumption with max luminance.

This document is informational only and reflects laboratory performance. Your product may perform differently, depending on the software, components and peripherals you ordered and shall have no obligation to update such information. Accordingly, the customer should not rely upon this information in making

decisions about electrical tolerances or otherwise. No warranty as to accuracy or completeness is expressed or implied.

Caring for your monitor

Be sure to turn off the power before you perform any maintenance on the monitor.

Do not:

- Apply water or liquid directly to your monitor.
- Use solvents or abrasives.
- Use flammable cleaning materials to clean your monitor or any other electrical equipment.
- Touch the screen area of your monitor with sharp or abrasive items. This type of contact may cause permanent damage to your screen.
- Use any cleaner which contains an anti-static solution or similar additives. This may harm the coating of the screen area.

Do:

- Lightly dampen a soft cloth with water and use this to gently wipe the covers and the screen.
- Remove grease or finger marks with a damp cloth and a little mild detergent.

Chapter 3. Reference information

This section contains monitor specifications, instructions to manually install the monitor driver, troubleshooting information.

Disassembling your monitor

To disassemble your monitor, follow the four parts below one by one:

Part 1: Remove the Kensington-style cable lock (optional).

Part 2: Remove the rear Wi-Fi antenna (optional).

Part 3: Remove the Tiny.

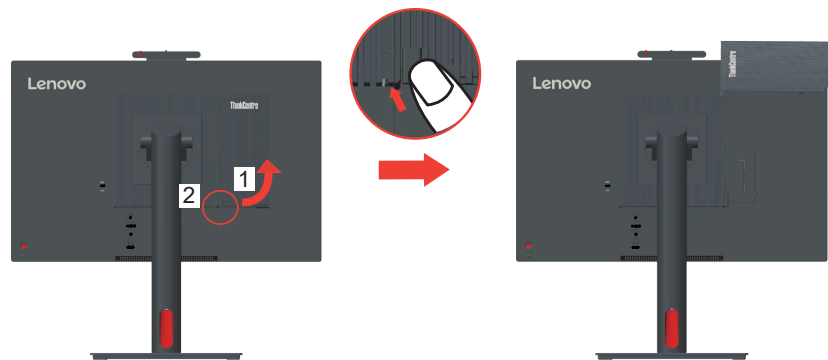
Part 4: Remove the full-function monitor stand.

Part 1: Remove the Kensington-style cable lock (optional).

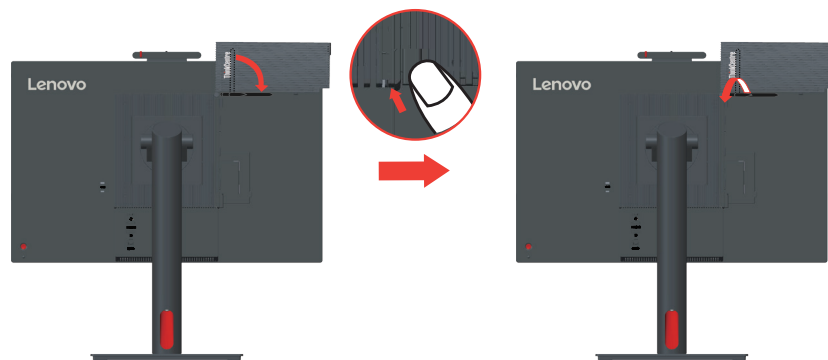
With the key of the Kensington-style cable lock, unlock the lock that is attached to the rear panel of your computer.

Part 2: Remove the rear Wi-Fi antenna (optional).

1. Press the cable cover 1 to open it. Then, pivot the cable cover as shown to the open position.



2. Pivot the rear Wi-Fi antenna downward at an angle of about 90°. Then, hold the thicker end of the rear Wi-Fi antenna and unscrew it from the computer.

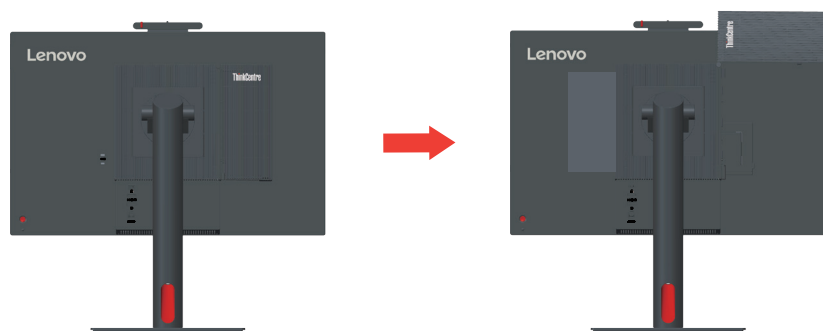


Part 3: Remove the Tiny.

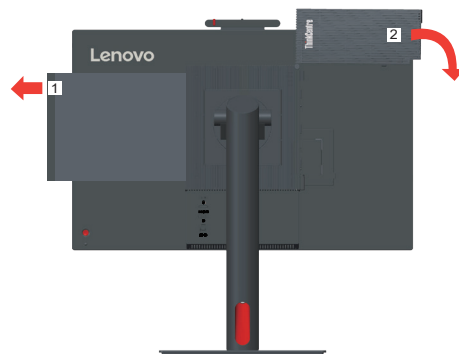
1. Release the screw that secures the computer.



2. Push the computer from the rear as shown to disconnect it completely from the 3 in 1 cable.

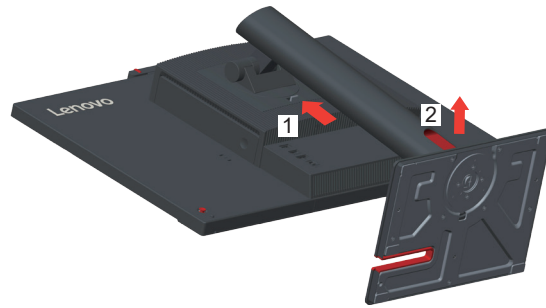


3. Pull the computer out of the computer bay. Then, pivot the cable cover as shown to the closed position.



Part 4: Remove the full-function monitor stand.

1. Place a soft, clean towel or cloth on the desk or surface. Hold the sides of your monitor and gently lay it down so that the screen is against the surface and the cover is facing up.
2. Slide the latch upward as shown. Then, pivot the monitor stand upward to remove it.



3. If you want to hang your monitor on the wall, you can install a VESA mount bracket that can be ordered from Lenovo.

Monitor specifications

Table 3-1. Monitor specifications for type-model TIO24Gen5/12NA-GAR1-WW

Dimensions	Depth	207.57 mm (8.17 in.)
	Height	539.57 mm (21.24 in.)
	Width	539.80 mm (21.25 in.)
Stand	Tilt	Range: -5°~23.5°
	Swivel	Range: -45°+45°
	Pivot	Range: -5°~90°
	Lift	Range: 155 mm
VESA mount	Supported	100 mm x 100 mm (3.94 in. x 3.94 in.)
Image	Viewable image size	605 mm (23.8 in.)
	Maximum height	296.46 mm (11.69 in.)
	Maximum width	527.04 mm (20.74 in.)
	Pixel pitch	0.2745 mm × 0.2745 mm (0.01 in.)
Power input	Supply voltage	20VDC
Power consumption Note: Power consumption figures are for the monitor and the power supply combined	Max supply current	4.5 A
	Max Consumption	34 W (max)
	Typical Consumption	14 W (typ)
	Standby/Suspend	<0.5 W
	Off	<0.3 W
DP	Interface	DP
	Input signal	VESA TMDS (Panel Link™)
	Horizontal addressability	1920 pixels (max)
	Vertical addressability	1080 lines (max)
	Clock frequency	205 MHz (max)
HDMI	Interface	HDMI
	Input signal	VESA TMDS (Panel Link™)
	Horizontal addressability	1920 pixels (max)
	Vertical addressability	1080 lines (max)
	Clock frequency	205 MHz (max)

Communications	VESA DDC/CI	
Supported Display Modes	Horizontal frequency	30 kHz – 83 kHz
	Vertical frequency	30 Hz – 75 Hz
	Native Resolution	1920 x 1080 at 60 Hz
Temperature	Operating	0° to 40°C (32°F to 104° F)
	Storage	-20° to 60°C (-4°F to 140° F)
	Shipping	-20° to 60°C (-4° F to 140° F)
Humidity	Operating	8% to 80% non-condensing
	Storage	5% to 95% non-condensing
	Shipping	5% to 95% non-condensing

Troubleshooting

If you have a problem setting up or using your monitor, you might be able to solve it yourself. Before calling your dealer or Lenovo, try the suggested actions that are appropriate to your problem.

Table 3-2. Troubleshooting

Problem	Possible cause	Suggested action	Reference
The words "Out of Range" are shown on the screen, and the power indicator is flashing white.	The system is set to a display mode which is not supported by the monitor	<ul style="list-style-type: none"> • If you are replacing an old monitor, reconnect it and adjust the display mode to within the specified range for your new monitor. • If using a Windows system, restart the system in safe mode, then select a supported display mode for your computer. • If these options do not work, contact the Customer Support Centre. 	"Selecting a supported display mode" on page 2-13
The image quality is unacceptable	The video signal cable is not connected with the monitor or system completely.	Be sure the signal cable is firmly plugged into the system and monitor.	"Connecting cables" on page 1-11
	The color settings may be incorrect.	Select another color setting from the OSD menu.	"Adjusting your monitor image" on page 2-7
	The automatic image setup function was not performed.	Perform automatic image setup.	"Adjusting your monitor image" on page 2-7
The power indicator is not lit and there is no image.	<ul style="list-style-type: none"> • The monitor's power switch is not switched on. • The power cord is loose or disconnected. • There is no power at the outlet. 	<ul style="list-style-type: none"> • Be sure the power cord is connected properly. • Be sure the outlet has power. • Power on the monitor. • Try using another power cord. • Try using another electrical outlet. 	"Connecting cables" on page 1-11
Screen is blank and power indicator is amber.	The monitor is in Standby / Suspend mode	<ul style="list-style-type: none"> • Press any key on the keyboard or move the mouse to restore operation. • Check the Power options settings on your computer. 	"Understanding power management" on page 2-15
The power indicator is amber, but there is no image	The video signal cable is loose or disconnected from the system or monitor	Be sure the video cable is connected with the system properly	"Connecting cables" on page 1-11
	The monitor brightness and contrast are at the lowest setting.	Adjust the brightness and contrast setting on the OSD menu.	"Adjusting your monitor image" on page 2-7

Problem	Possible cause	Suggested action	Reference
One or more of the pixels appear discolored	This is a characteristic of the LCD technology and is not an LCD defect	If there are more than five pixels missing, contact the Support Center	"Appendix A. Service and Support" on page A-1
<ul style="list-style-type: none"> • Fuzzy lines in text or a blurry image • Horizontal or vertical lines through the image. 	<ul style="list-style-type: none"> • Image setup has not been optimized • Your system Display Properties setting have not been optimized. 	Adjust the resolution settings on your system to match the native resolution for this monitor: 1920 x 1080 at 60 Hz.	"Adjusting your monitor image" on page 2-7
		Perform automatic image setup. If automatic image setup does not help, perform manual image setup.	"Selecting a supported display mode" on page 2-13
		When working in the native resolution, you may find additional improvements by adjusting the Dots Per Inch (DPI) setting on your system.	See the Advanced section of your system's display properties.

Manually installing the monitor driver

Below are steps for manually installing the monitor driver in Microsoft Windows 10, Microsoft Windows 11.

1. Turn off the computer, all attached devices.
2. Ensure that the monitor is connected correctly.
3. Turn on the monitor and then the system unit. Allow your computer to start the Windows operating system.
4. From the Lenovo website <https://pcsupport.lenovo.com/solutions/tio24gen5>, find the corresponding monitor driver and download it to a PC to which this monitor is connected (such as a desktop).
5. Right-click the Windows **Start** button on the desktop, then click **Device Manager**, and double click **Monitor**.
6. Double-click **Generic Monitor**.
7. Click the **Driver** tab.
8. Click **Update Driver**, and then click **Browse Computer to find the driver**.
9. Click **Let me pick from a list of available drivers on my computer**.
10. Click the **Have Disk...** button. By clicking the **Browse** button, browse and point to the following path: **X:\Monitor Drivers\Windows** (where X indicates “the folder in which the downloaded driver is located” (such as a desktop)).
11. Select **tio24gen5.inf** file, Click **Open** button. Click **OK** button.
12. In the new window, select **TIO24Gen5** and click **Next**.
13. After the installation is complete, delete all downloaded files and close all Windows.
14. Restart the system. The system will automatically select the refresh rate and the corresponding color matching profile.

Getting further help

If you still can't solve your problem, please contact the Lenovo Support Center. For more information on contacting the Support Center, please see Appendix A. “Service and Support” on page A-1.

Service information

Customer responsibilities

The warranty does not apply to a product which has been damaged due to accident, misuse, abuse, improper installation, usage not in accordance with product specifications and instructions, natural or personal disaster, or unauthorized alterations, repairs or modifications.

The following are examples of misuse or abuse and not covered by warranty:

- Images burned on to the screen of a CRT monitor. Burned image is preventable by utilizing a moving screen saver or power management.
- Physical damage to covers, bezel, base and cables.
- Scratches or punctures on monitor screens.

Service parts

The following parts are for use by Lenovo service, or Lenovo authorized dealers to support the customer warranty. Parts are for service use only. The table below shows information for model (A23TIO24/TIO24Gen5/12NA-GAR1-WW).

Table 3-3. List of service parts

FRU (Field Replaceable Unit) Part number	Description	M/T	COLOR	GEOGRAPHY
5D11L69311	TIO24Gen5(A23TIO24)-23.8 inch Monitor(HDMI)	12NA	Raven Black	WORLDWIDE
00PC758	90w Power Brick (DT&AIO Common 90W)	12NA	Raven Black	WORLDWIDE
5SE1L69312	TIO24Gen5(A23TIO24)- Monitor - FRU Stand and Base	12NA	Raven Black	WORLDWIDE

Appendix A. Service and Support

The following information describes the technical support that is available for your product, during the warranty period or throughout the life of the product. Refer to your Lenovo Statement of Limited Warranty for a fully explanation of Lenovo warranty terms.

Registering your option

Register to receive product service and support updates, as well as free and discounted computer Accessories and content.

Go to: <http://www.lenovo.com/support>

Online technical support

Online technical support is available during the life of your product through the Lenovo Support Web site at <http://www.lenovo.com/support>

Product replacement assistance or exchange of defective components also is available during the warranty period, assistance for replacement or exchange of defective components is available. In addition, if your option is installed in a Lenovo computer, you might be entitled to service at your location. Your technical support representative can help you determine the best alternative.

Quebec Disclaimer

Quebec Disclaimer: English

IMPORTANT NOTICE FOR QUEBEC CONSUMERS:

In regard to section 79.18 of Quebec's Regulation respecting the application of the Consumer Protection Act, Lenovo in no way guarantees the availability of (a) replacement parts; (b) repair services; and (c) information necessary to maintain or repair the goods. For up-to-date information on the technical support and parts available for your purchase, please consult <https://support.lenovo.com/ca/en>.

Quebec Disclaimer: Canadian French

AVIS IMPORTANT POUR LES CONSOMMATEURS DU QUÉBEC:

En ce qui concerne l'article 79.18 du Règlement d'application de la Loi sur la protection du consommateur du Québec, Lenovo ne garantit en aucune façon la disponibilité des éléments suivants : (a) les pièces de rechange; (b) les services de réparation; et (c) les renseignements nécessaires à l'entretien à la réparation du bien. Pour obtenir des renseignements à jour sur le soutien technique et les pièces disponibles pour votre achat, veuillez consulter <https://support.lenovo.com/ca/fr>.

Telephone technical support

Installation and configuration support through the Customer Support Center will be available until 90 days after the option has been withdrawn from marketing. After that time, the support is cancelled, or made available for a fee, at Lenovo's discretion. Additional support is also available for a nominal fee.

Before contacting a Lenovo technical support representative, please have the following information available: option name and number, proof of purchase, computer manufacturer, model, serial number and manual, the exact wording of any error message, description of the problem, and the hardware and software configuration

information for your system.

Your technical support representative might want to walk you through the problem while you are at your computer during the call.

Telephone numbers are subject to change without notice. The most up-to-date telephone list for Lenovo Support is always available at: <http://consumersupport.lenovo.com>

Country or Region	Telephone Number
Argentina	0800-666-0011 (Spanish, English)
Australia	1-800-041-267 (English)
Austria	0810-100-654 (local phone) (German)
Belgium	Warrant service and support: 02-339-36-11 (Dutch, French)
Bolivia	0800-10-0189 (Spanish)
Brazil	Calls made from within the Sao Paulo region: 11-3889-8986 Calls made from outside the Sao Paulo region: 0800-701-4815 (Portuguese)
Brunei Darussalam	800-1111 (English)
Canada	1-800-565-3344 (English, French)
Chile	800-361-213(Spanish)
China	Technical Support Line:400-100-6000 (Mandarin)
China (Hong Kong S.A.R.)	(852) 3516-8977 (Cantonese, English, Mandarin)
China (Macau S.A.R.)	0800-807 / (852) 3071-3559 (Cantonese, English, Mandarin)
Colombia	1-800-912-3021 (Spanish)
Costa Rica	0-800-011-1029(Spanish)
Croatia	385-1-3033-120(Croatian)
Cyprus	800-92537(Greek)
Czech Republic	800-353-637(Czech)
Denmark	Warranty service and support: 7010-5150 (Danish)
Dominican Republic	1-866-434-2080(Spanish)
Ecuador	1-800-426911 (OPCION 4) (Spanish)
Egypt	Primary: 0800-0000-850 Secondary:0800-0000-744 (Arabic, English)
El Salvador	800-6264 (Spanish)

Country or Region	Telephone Number
Estonia	372-66-0-800 (Estonian, Russian, English)
Finland	Warranty service and support: +358-800-1-4260(Finnish)
France	Warranty service and support (hardware): 0810-631-213(French)
Germany	Warranty service and support: 0800-500-4618 (toll-free)(German)
Greece	Lenovo Business Partner (Greek)
Guatemala	Dial 999-9190, wait for operator, and request to reach 877-404-9661 (Spanish)
Honduras	Dial 800-0123(Spanish)
Hungary	+36-13-825-716 (English, Hungarian)
India	Primary: 1800-419-4666 (Tata) Secondary: 1800-3000-8465 (Reliance) Email: commercialts@lenovo.com (English and Hindi)
Indonesia	1-803-442-425 62 213-002-1090 (Standard Charges Apply) (English, Bahasa Indonesia)
Ireland	Warranty service and support: 01-881-1444 (English)
Israel	Givat Shmuel Service and Center: +972-3-531-3900 (Hebrew, English)
Italy	Warranty service and support: +39-800-820094 (Italian)
Japan	0120-000-817 (Japanese, English)
Kazakhstan	77-273-231-427(Standard charges Apply) (Russian , English)
Korea	080-513-0880 (Collect Call) 02-3483-2829 (Toll Call) (Korean)
Latvia	371-6707-360(Latvian, Russian, English)
Lithuania	370 5278 6602(Italian, Russian, English)
Luxembourg	ThinkServer and ThinkStation: 352-360-385-343 ThinkCentre and ThinkPad: 352-360-385-222 (French)
Malaysia	1-800-88-0013 03-7724-8023 (Standard Charges Apply) (English)
Malta	356-21-445-566(English, Italian, Maltese Arabic)
Mexico	001-866-434-2080(Spanish)
Netherlands	020-513-3939 (Dutch)
New Zealand	0508-770-506 (English)
Nicaragua	001-800-220-2282 (Spanish)
Norway	8152-1550(Norwegian)
Panama	Lenovo Customer Support Center: 001-866-434(Toll-Free) (Spanish)

Country or Region	Telephone Number
Peru	0-800-50-866 (OPCION 2) (Spanish)
Philippines	1-800-8908-6454 (GLOBE subscribers) 1-800-1441-0719 (PLDT subscribers) (Tagalog, English)
Poland	Laptops and tablets branded with logo Think: 48-22-273-9777 ThinkStation and ThinkServer: 48-22-878-6999 (Polish, English)
Portugal	808-225-115 (Standard Charges Apply) (Portuguese)
Romania	4-021-224-4015(Romanian)
Russia	+7-499-705-6204 +7-495-240-8558 (Standard Charges Apply)(Russian)
Singapore	1-800-415-5529 6818-5315 (Standard Charges Apply) (English, Mandarin, Bahasa Malaysia)
Slovakia	ThinkStation and ThinkServer: 421-2-4954-5555
Slovenia	386-1-2005-60 (Slovenian)
Spain	34-917-147-833(Spanish)
Sri Lanka	+9477-7357-123 (Sumathi Information systems) (English)
Sweden	Warranty service and support: 077-117-1040 (Swedish)
Switzerland	Warranty service and support: 0800-55-54-54 (German, French, Italian)
Taiwan Region	0800-000-702 (Mandarin)
Thailand	001-800-4415-734 (+662) 787-3067 (Standard Charges Apply)(Thai, English)
Turkiye	0 212 912 01 34 (Turkish)
United Kingdom	Standard warranty support: 03705-500-900 (local rate) Standard warranty support: 08705-500-900(English)
United States	1-800-426-7378 (English)
Uruguay	000-411-005-6649 (Spanish)
Venezuela	0-800-100-2011 (Spanish)
Vietnam	120-11072 (Toll Free) 84-8-4458-1042 (Standard Charges Apply) (Vietnamese, English)

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Recycling information

Lenovo encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed. Lenovo offers a variety of programs and services to assist equipment owners in recycling their IT products. For information on recycling Lenovo products, go to:

<http://www.lenovo.com/recycling>

環境配慮に関して

本機器またはモニターの回収リサイクルについて

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https://www.lenovo.com/jp/ja/services_warranty/recycle/pcrecycle/

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https://www.lenovo.com/jp/ja/services_warranty/recycle/pcrecycle/. Pursuant to the Law for Promotion of Effective Utilization of Resources, the collecting and recycling of home-used computers and monitors by the manufacturer was begun on October 1, 2003. This service is provided free of charge for home-used computers sold after October 1, 2003. For details, visit the Lenovo Web site at https://www.lenovo.com/jp/ja/services_warranty/recycle/personal/.

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