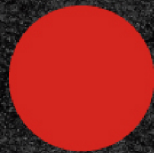# ThinkPad T14s Gen 3 and ThinkPad X13 Gen 3
User Guide

Lenovo
ThinkPad

Read this first

Before using this documentation and the product it supports, ensure that you read and understand the following:

- *Safety and Warranty Guide*
- *Setup Guide*
- *Generic Safety and Compliance Notices*

Contents

Discover your Lenovo notebook

Thank you for choosing a Lenovo® notebook! We are dedicated to delivering the best solution to you.

Before starting your tour, please read the following information:

- Illustrations in this documentation might look different from your product.
- Depending on the model, some optional accessories, features, software programs, and user interface instructions might not be applicable to your computer.
- Documentation content is subject to change without notice. To get the latest documentation, go to https://pcsupport.lenovo.com.

Chapter 1. Meet your computer

ThinkPad T14s Gen 3 and ThinkPad X13 Gen 3 might be shipped with different microprocessors, namely Intel® and Advanced Micro Devices (AMD). Hereby Intel models and AMD models are used to distinguish computer models with different microprocessors.

Front view

Item	Description	Item	Description
🎤*	Microphone*	📷*	Infrared camera* / Camera*
🚫||⬅*	Webcam privacy shutter*	👆*	Touch screen*
⏻◉*	Power button with or without fingerprint reader	🔴	TrackPoint® pointing stick

	NFC (near field communication) mark*		Trackpad
	TrackPoint buttons		Speaker

* for selected models

Webcam privacy shutter

Slide the webcam privacy shutter to cover or uncover the camera lens. It is designed to protect your privacy.

Related topics

- "Detect human presence (for selected models)" on page 30
- "Log in with your face ID (for selected models)" on page 30
- "Log in with your fingerprint (for selected models)" on page 29
- "Set up an NFC connection (for selected models)" on page 26
- "Use the touch screen (for selected models)" on page 15
- "Use the trackpad" on page 14
- "Use the TrackPoint pointing device" on page 12

Side view

Intel models
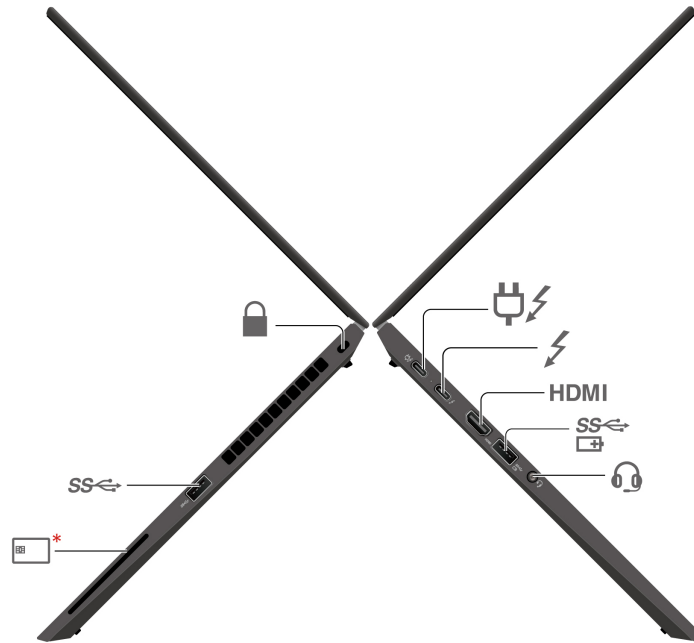
Item	Description	Item	Description
🔌⚡	USB-C® (Thunderbolt™ 4) power connector	⚡	USB-C (Thunderbolt 4) connector
HDMI	HDMI™ connector	SS⟷	Always On USB 3.2 Gen 1 connector
🎧	Audio connector	▦*	Smart-card slot*
SS⟷	USB 3.2 Gen 1 connector	🔒	Security-lock slot

* for selected models

Related topics

- "Charge the computer" on page 25
- "Connect to an external display" on page 17
- "Lock the computer" on page 29
- "USB specifications" on page 7
- "Use a smart card (for selected models)" on page 27

AMD models
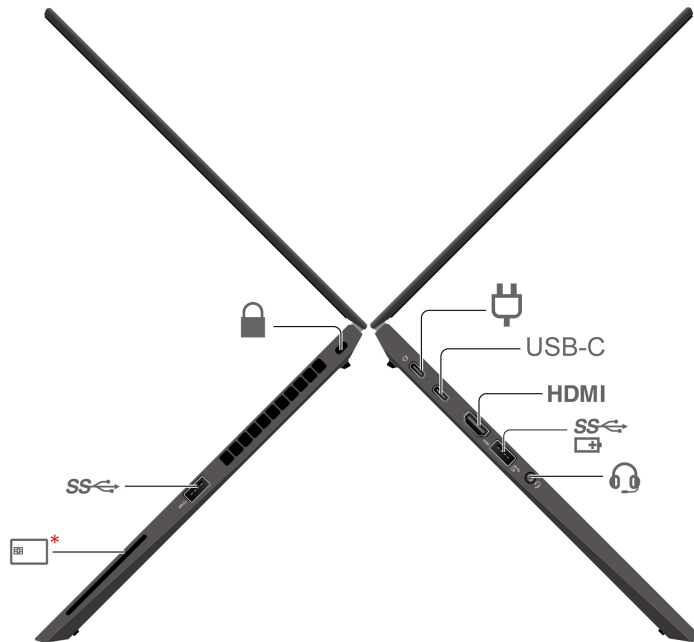
Item	Description	Item	Description
⊔	USB-C (USB 4) power connector	USB-C	USB-C (USB 3.2 Gen 2) connector
HDMI	HDMI connector	SS⊷	Always On USB 3.2 Gen 1 connector
🎧	Audio connector	▦*	Smart-card slot*
SS⊷	USB 3.2 Gen 1 connector	🔒	Security-lock slot

* for selected models

Related topics

- "Charge the computer" on page 25
- "Connect to an external display" on page 17
- "Lock the computer" on page 29
- "USB specifications" on page 7
- "Use a smart card (for selected models)" on page 27

Bottom view

⟲Ⓡ **Emergency-reset hole**

If the computer stops responding and you cannot turn it off by pressing the power button, reset your computer:

1. Disconnect your computer from ac power.
2. Insert a straightened paper clip into the hole to cut off power supply temporarily.
3. Connect your computer to ac power and then turn on your computer.

CAUTION:
When the computer is operating, it should be placed on a hard and flat surface with its bottom area not in contact with user's bare skin. Under normal operating conditions, the temperature of the bottom surface will remain within an acceptable range as defined in *IEC 62368-1***, but such temperatures can still be high enough to cause discomfort or harm to the user if directly touched for over one minute at a time. As such, it is recommended that users avoid prolonged direct contact with the bottom of the computer.**

Rear view

$\boxed{\text{|||}}^*$ **Nano-SIM-card tray***

* for selected models

Related topic

"Connect to a cellular network (for selected models)" on page 10

Features and specifications

For detailed specifications of your computer, go to https://psref.lenovo.com and search by product.

Specification	Description
Memory	Low Power Double Data Rate 5 (LPDDR5), soldered on board, up to 32 GB
Storage device	One slot, 2280 M.2 solid-state drive, up to 2 TB
Audio	• Dolby Audio™ Premium • Dolby Voice®
Display	• Flexible Organic Light-Emitting Diode (OLED) display* • Color display with In-Plane Switching (IPS) technology • Display ratio: 16:10 • Display resolution: 1920 x 1200 / 2560 x 1600 / 3840 x 2400 pixels • Multi-touch technology* • TUV Eye Safe or Eye Comfort certified*
Security features	• Face authentication* • Human presence detection* • Fingerprint reader* (integrated in power button) • Glance Privacy Guard* • Glance Privacy Alert* • ePrivacy panel* • Trusted Platform Module (TPM)*
Wireless features	• Bluetooth • NFC* • GPS (on wireless WAN model)* • Wireless LAN • Wireless WAN (4G or 5G)* **Note:** The 4G or 5G cellular service is provided by authorized mobile service carriers in some countries or regions. You must have a cellular plan from a service carrier to connect to the cellular network. The cellular data plan might vary by location.

* for selected models

USB specifications

Note: Depending on the model, some USB connectors might not be available on your computer.

Connector name	Description
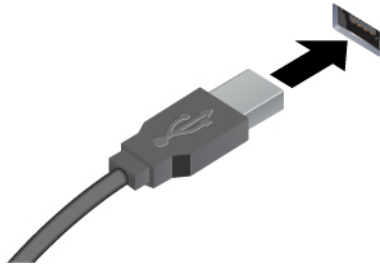
Connect USB-compatible devices, such as a USB keyboard, USB mouse, USB storage device, or USB printer.

- USB 2.0 connector
- USB 3.2 connector Gen 1
- USB 3.2 connector Gen 2
- Always On USB 3.2 connector Gen 1
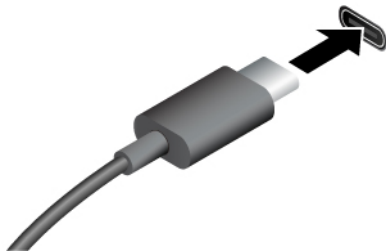
- Charge USB-C compatible devices with the output voltage and current of 5 V and 1.5 A.
- Connect to an external display:
  - USB-C to VGA: up to 1920 x 1200 pixels, 60 Hz
  - USB-C to DP: up to 5120 x 3200 pixels, 60 Hz
- Connect to USB-C accessories to help expand your computer functionality. To purchase USB-C accessories, go to https://www.lenovo.com/accessories.

- USB-C (3.2 Gen 1) connector
- USB-C (3.2 Gen 2) connector
- USB-C (Thunderbolt 3) connector
- USB-C (Thunderbolt 4) connector
- USB-C (USB 4) connector

Statement on USB transfer rate

Depending on many factors such as the processing capability of the host and 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 will be slower than the data rate listed below for each corresponding device.

USB device	Data rate (Gbit/s)
3.2 Gen 1 / 3.1 Gen 1	5
3.2 Gen 2 / 3.1 Gen 2	10
3.2 Gen 2 × 2	20
4 Gen 2 × 2	20
4 Gen 3 × 2	40
Thunderbolt 3	40
Thunderbolt 4	40

Chapter 2. Get started with your computer

Access networks

This section helps you connect to a wireless or wired network.

Connect to Wi-Fi networks

Click the network icon in the Windows® notification area, and then select a network for connection. Provide required information, if needed.

- For models with Windows 10:
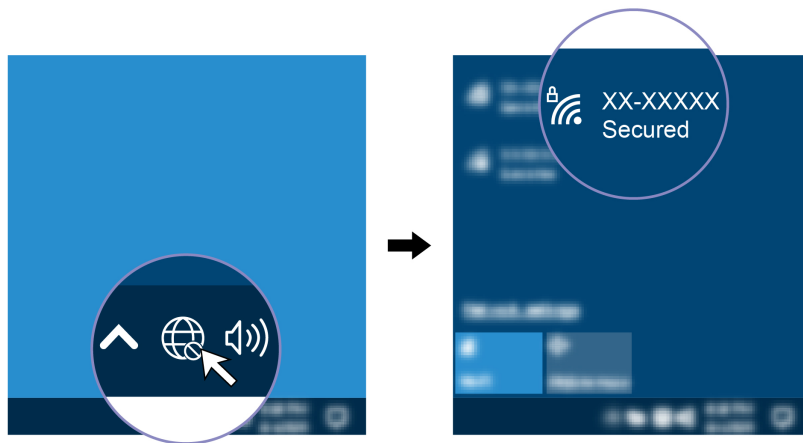
- For models with Windows 11:
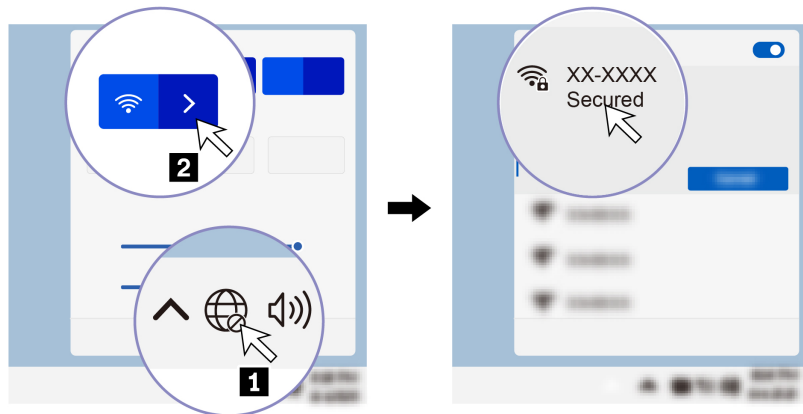
Connect to the wired Ethernet

To connect your computer to a local network, you need a Lenovo USB-C to Ethernet Adapter. Lenovo USB-C to Ethernet Adapter is available as an option and shipped with some computer models. You can purchase one from Lenovo at https://www.lenovo.com/accessories.
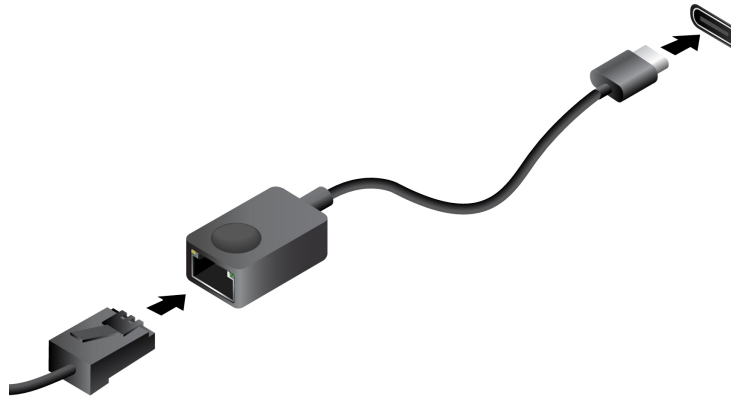
Connect to a cellular network (for selected models)

To connect a 4G or 5G cellular data network, you must have a wireless wide area network (WWAN) card and a nano-SIM card installed. The nano-SIM card might come with your computer by countries or regions. If no nano-SIM card is shipped, you will need to purchase one from authorized service carriers.

Notes:

- Depending on model, your computer might have no WWAN card installed.

- The 4G or 5G cellular service is provided by authorized mobile service carriers in some countries or regions. You must have a cellular plan from a service carrier to connect to the cellular network. The cellular data plan might vary by location.

- Network connection speeds might also vary by location, environment, network conditions and other factors.

To establish a cellular connection:

1. Turn off the computer.

2. Insert a straightened paper clip into the hole in the nano-SIM-card tray. The tray ejects. Install a nano-SIM card as shown and insert the tray into the nano-SIM card slot. Note the orientation of the card and ensure that it is seated correctly.
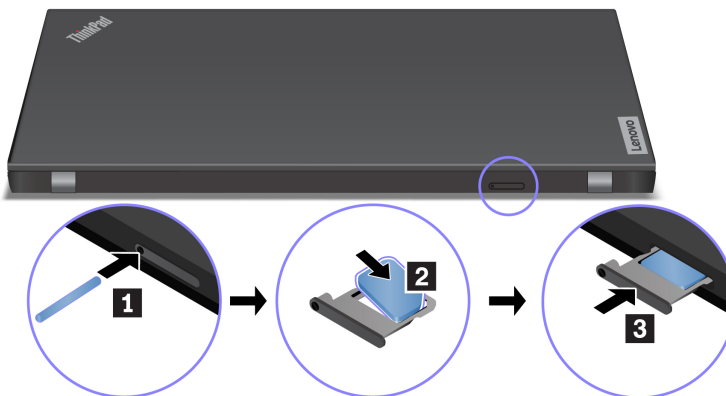
3. Turn on the computer.

4. Click the network icon, and then select the cellular network icon ▁▃▅ from the list. Provide required information, if needed.

Turn on the Airplane mode

When the Airplane mode is enabled, all wireless features are disabled.

1. Type Airplane mode in the Windows search box and then press Enter.
2. Turn on the Airplane mode.

Interact with your computer

Your computer provides you various ways to navigate the screen.

Use the keyboard shortcuts

The special keys on the keyboard help you work more effectively.

https://support.lenovo.com/us/en/videos/vid500145

Fn + Esc FnLock	Invoke the special function printed as an icon on each key or standard function of F1–F12 function keys. FnLock indicator on: standard function FnLock indicator off: special function
F1	Enable / disable speakers
F2	Decrease volume
F3	Increase volume
F4	Enable / disable microphones
F5	Darken display
F6	Brighten display
F7	Manage external displays
F8	Enable / disable airplane mode
F9	Open notification center
F10	Answer incoming calls on Microsoft Teams®
F11	Decline incoming calls on Microsoft Teams
F12	Customize the function of this key on the Vantage app
Fn + End Insert	Function as Insert Key (for ThinkPad X13 Gen 3)

Fn + Tab		Open Magnifier
Fn + PrtSc		Open Snipping Tool
Fn + 🔆		Toggle keyboard backlight (for selected models)
Fn + B		Break operation
Fn + P		Pause operation
Fn + K		Scroll contents
Fn + S		Send system request
Fn + $ 4		Enter sleep mode To wake up the computer, press Fn or the power button.
Fn + <		Go to beginning
Fn + >		Go to end

Use the TrackPoint pointing device

The TrackPoint pointing device enables you to perform all the functions of a traditional mouse, such as pointing, clicking, and scrolling.

Use the TrackPoint pointing device
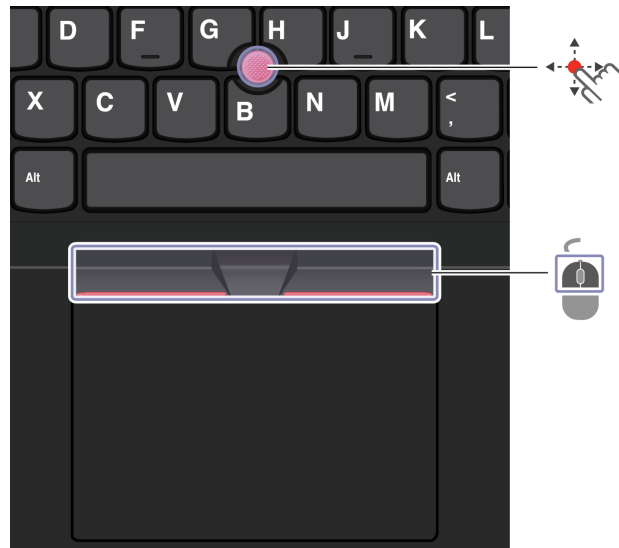
![TrackPoint icon] **TrackPoint pointing stick**

Use your finger to apply pressure to the pointing-stick nonslip cap in any direction parallel to the keyboard. The pointer on the screen moves accordingly. The higher the pressure applied, the faster the pointer moves.

![TrackPoint buttons icon] **TrackPoint buttons**

The left-click button and right-click button correspond to the left and right buttons on a traditional mouse. Press and hold the dotted middle button while using your finger to applying pressure to the pointing stick in the vertical or horizontal direction. Then, you can scroll through the document, Web site, or apps.

Press Ctrl + dotted middle button + TrackPoint pointing stick at the same time to zoom in or zoom out.

Disable the TrackPoint pointing device

The TrackPoint pointing device is active by default. To disable the device:

1. Open the **Start** menu, and then click **Settings ➙ Devices ➙ Mouse**.
2. Follow the on-screen instructions to disable TrackPoint.

Replace the pointing-stick nonslip cap

Note: Ensure that the new cap has grooves **a**.
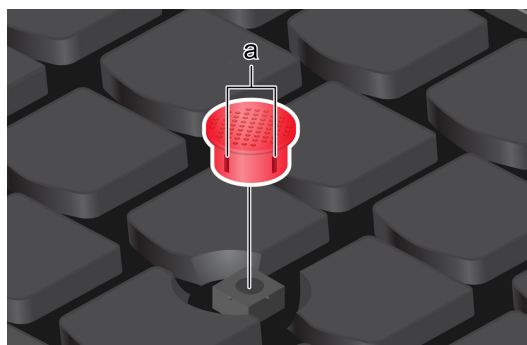
Use the trackpad

You can use the trackpad to perform all the pointing, clicking, and scrolling functions of a traditional mouse.

Use the trackpad
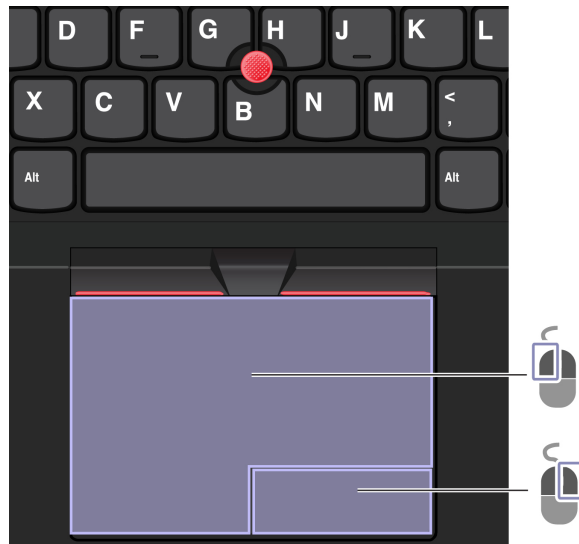
Item	Description	Item	Description
	Left-click zone		Right-click zone

Use the touch gestures
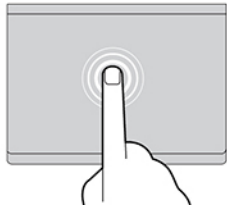
Illustration and description	Illustration and description
Tap once to select or open an item.	Tap twice quickly to display a shortcut menu.
Two-finger zoom in or zoom out.	Scroll through items.
Open the task view to see all open windows.	Show the desktop.
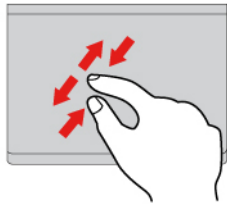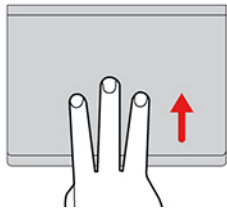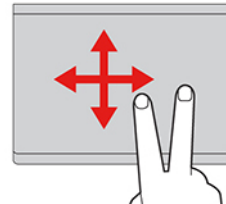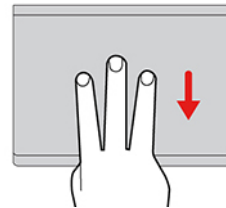
Notes:
- When using two or more fingers, ensure that you position your fingers slightly apart.
- Some gestures are not available if the last action was done from the TrackPoint pointing device.
- Some gestures are only available when you are using certain apps.
- If the trackpad surface is stained with oil, turn off the computer first. Then, gently wipe the trackpad surface with a soft and lint-free cloth moistened with lukewarm water or computer cleaner.

For more gestures, see the help information of the pointing device.

Disable the trackpad

The trackpad is active by default. To disable the device:

1. Open the **Start** menu, and then click **Settings** ➙ **Devices** ➙ **Touchpad**.
2. In the Touchpad section, turn off the **Touchpad** control.

Use the touch screen (for selected models)

If your computer display supports the multi-touch function, you can navigate the screen with simple touch gestures. For more touch gestures, refer to https://support.microsoft.com/windows.

Note: Some gestures might not be available when you are using certain apps.

Tap once to single click

Tap twice quickly to double-click

Tap and hold to right-click
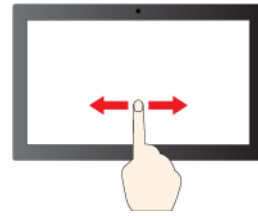
Slide to scroll through items
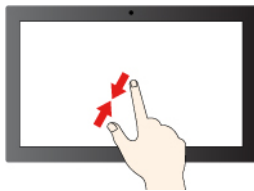
Zoom out
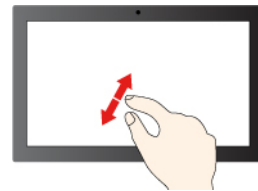
Zoom in
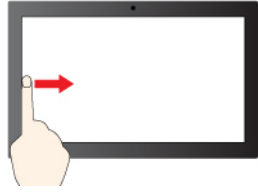
Swipe from the left: view all open windows (Windows 10)

Swipe from the left: open widget panel (Windows 11)
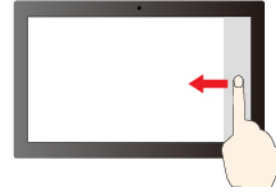
Swipe from the right: open action center (Windows 10)

Swipe from the right: open notification center (Windows 11)
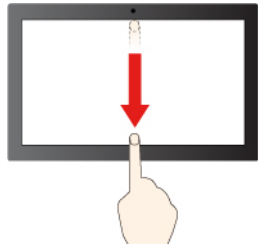
Drag

Swipe downwards shortly: show title bar

Swipe downwards: close the current app
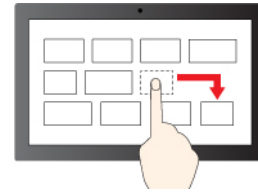
Maintenance tips:

- Turn off the computer before cleaning the touch screen.
- Use a dry, soft, and lint-free cloth or a piece of absorbent cotton to remove fingerprints or dust from the touch screen. Do not apply solvents to the cloth.
- The touch screen is a glass panel covered with a plastic film. Do not apply pressure or place any metallic object on the screen, which might damage the touch panel or cause it to malfunction.
- Do not use fingernails, gloved fingers, or inanimate objects for input on the screen.
- Regularly calibrate the accuracy of the finger input to avoid a discrepancy.

Connect to an external display

Connect your computer to a projector or a monitor to give presentations or expand your workspace.

Connect to a wired display

If your computer cannot detect the external display, right-click a blank area on the desktop and select display settings. Then follow the on-screen instructions to detect the external display.
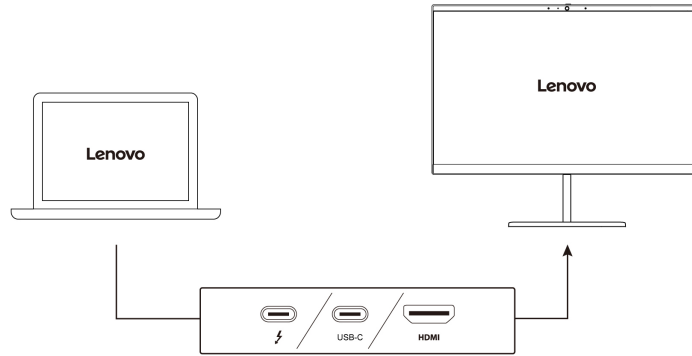
Supported resolution

The following tables list the supported maximum resolution of the external display.

Table 1. Intel models

Connect the external display to	Supported resolution
USB-C (Thunderbolt 4) connectors	Up to 5120 x 3200 pixels / 60 Hz
HDMI connector	Up to 4096 x 2160 pixels / 60 Hz

Table 2. AMD models

Connect the external display to	Supported resolution
USB-C (3.2 Gen 2) connectors	Up to 5120 x 2880 pixels / 60 Hz
HDMI connector	Up to 3840 x 2160 pixels / 60 Hz

Notes:

- The refresh rate higher than 60 Hz can also be supported. If you set the refresh rate higher than 60 Hz, the maximum resolution might be limited.

- For AMD models, the HDMI connector on your computer supports the HDMI 2.0 standard by default. If you connect an external display to your computer through the HDMI connector with an HDMI 1.4 cable, the external display might not work. In this case, do one of the following:

    - Use a qualified HDMI 2.0 cable.
    - Change the HDMI standard of the HDMI connector from 2.0 to 1.4. To change the HDMI standard, enter the UEFI BIOS menu (see "Enter the UEFI BIOS menu" on page 35), and then configure **HDMI Mode Select** in the **Config** menu.

Connect to a wireless display

To use a wireless display, ensure that both your computer and the external display support the Miracast® feature.

Press Windows logo key + K and then select a wireless display to connect with.

Set the display mode

Press ![F7] or ![Fn]+![F7] and then select a display mode of your preference.

Change display settings

1. Right-click a blank area on the desktop and select display settings.
2. Select the display that you want to configure and change display settings of your preference.

You can change the settings for both the computer display and the external display. For example, you can define which one is the main display and which one is the secondary display. You also can change the resolution and orientation.

Chapter 3.   Explore your computer

Lenovo apps

This section provides introduction to Lenovo apps.

Lenovo Commercial Vantage

The Lenovo Commercial Vantage app (hereafter referred to as Vantage app) is a customized one-stop solution to help you maintain your computer with automated updates and fixes, configure hardware settings, and get personalized support.

To access the Vantage app, type `Lenovo Commercial Vantage` in the Windows search box.

Notes:

- The available features vary depending on the computer model.
- The Vantage app makes periodic updates of the features to keep improving your experience with your computer. The description of features might be different from that on your actual user interface. Ensure that you use the latest version of Vantage app, and apply Windows Update to get the latest updates.

The Vantage app enables you to:

- Know the device status easily and customize device settings.
- Download and install UEFI BIOS, firmware, and driver updates to keep your computer up-to-date.
- Monitor your computer health, and secure your computer against outside threats.
- Scan your computer hardware and diagnose hardware problems.
- Look up warranty status (online).
- Access *User Guide* and helpful articles.
- Temporarily disable the keyboard, screen, trackpad, and TrackPoint pointing device for cleaning.

Smart features (for selected models)

Your computer might be preinstalled with Glance by Mirametrix®. Glance can capture your head movement through camera and makes your computer smarter and more efficient.

Access Glance by Mirametrix

Type `Glance` in the Windows search box and then press Enter.

Note: If Glance is uninstalled, you can request it through https://support.lenovo.com/contactus.

Explore key features

Depending on the model, some features might not be available on your computer.

- **Protect privacy**
  - **Privacy Alert**: When a shoulder surfer is detected, an alert icon appears on your computer screen.

– **Privacy Guard**: When a shoulder surfer is detected, your screen is blurred. Press Alt+F2 to cancel the blur effect.
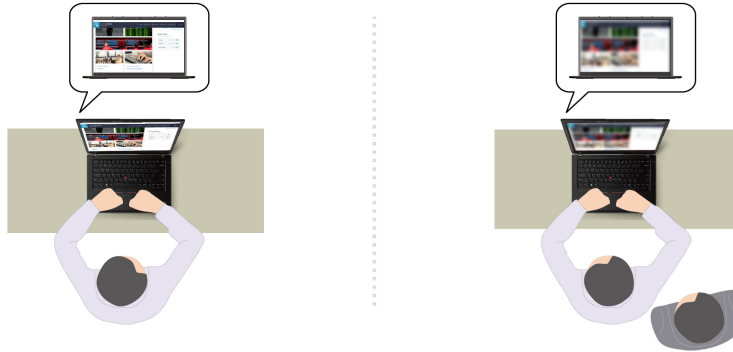
– **Smart Display**: Blur screens you are not looking at. If you are not facing any screen, all screens are blurred. Press Alt+F2 to cancel the blur effect.

Note: If your computer comes with an ePrivacy screen, it can work with Glance to achieve better privacy protection. For details, go to https://support.lenovo.com/us/en/videos/vid500144.

• **Improve productivity**

– **Snap Window**: When you select a window on one screen and turn your face to another, the window automatically snaps to the top center of the screen you are facing.
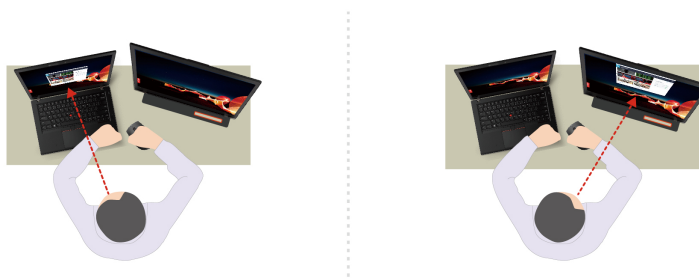
– **Smart Pointer**: Relocate the pointer to the screen you are facing. When the pointer moves from one screen to another, it is temporarily drawn large.

Note: Snap Window and Smart Pointer only work when your computer is connected to external displays. Ensure that external displays are placed at the same height of your computer.

- **Promote digital wellness**

  – **Posture check**: Remind you to adjust your posture once you hunch toward the screen.

  – **20/20/20 Alert**: Remind you to look away from the screen and relax your eyes for 20 seconds every 20 minutes.
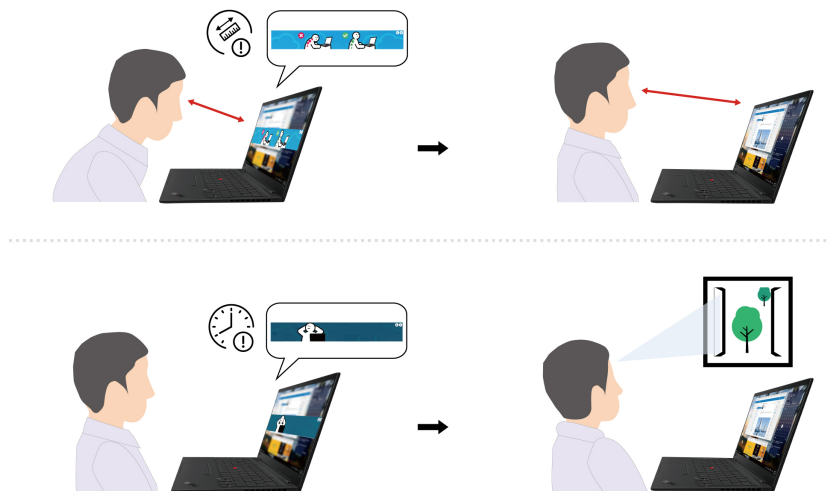
Intelligent cooling

The Intelligent Cooling feature helps you adjust power consumption, fan speed, computer temperature, and performance.

For models with Windows 10

Intelligent Cooling feature is adjusted through Windows Power Slider. This feature works in auto mode by default. Press Fn+T to enable or disable the auto mode.

Note: Auto mode is for Intel models only.

When the auto mode is disabled:

Do the following to select a preferred mode:

1. Click the battery status icon in the Windows notification area.

2. Move the slider to the left or right to select a preferred mode.

* Eco mode: power consumption, fan speed, and performance are lowered to get your computer cooler, quieter, and more eco-friendly, and to get the best battery life.

* Balanced mode: power consumption, fan speed, and performance are dynamically balanced for better experience.

* Performance mode: The performance is prioritized, allowing higher temperature and fan speed.

on ac power
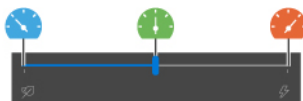
on battery power

When the auto mode is enabled:

* Auto mode: your computer is adjusted automatically to achieve the best mix of power consumption, battery life, computer performance, and fan speed based on the amount of system activity.

For models with Windows 11

Intelligent Cooling feature is adjusted through Windows Settings. This feature works in auto mode by default. Press Fn+T to enable or disable the auto mode.

Note: Auto mode is for Intel models only.

1. Right-click the battery icon in the task bar to access power and sleep settings.

2. Locate the Power section and choose one of the following power modes.

   * **When the auto mode is disabled:**

     – **Best Power efficiency**: power consumption, fan speed, and performance are lowered to get your computer cooler, quieter, and more eco-friendly, and to get the best battery life.

     – **Balanced**: power consumption, fan speed, and performance are dynamically balanced for better experience.

     – **Best Performance**: the performance is prioritized, allowing higher temperature and fan speed.

   * **When the auto mode is enabled**, it is recommended to set the power mode to **Balanced**. Then your computer will be adjusted automatically to achieve the best mix of power consumption, battery life, computer performance, and fan speed based on the amount of system activity.

Manage power

Use the information in this section to achieve the best balance between performance and power efficiency.

Check the battery status

Go to **Settings ➙ System** to check the battery status. For more details about your battery, refer to the Vantage app.

Charge the computer

Use ac power

Power source of the ac power adapter:

- Power: 45 W or 65 W (depending on the model)
- Sine-wave input at 50 Hz to 60 Hz
- Input rating of the ac power adapter: 100 V to 240 V ac, 50 Hz to 60 Hz
- Output rating of the ac power adapter: 20 V dc, 2.25 A or 3.25 A

When the battery power is low, charge your battery by connecting your computer to ac power with the supplied power adapter. The 65 W ac power adapter supports the rapid charge function, the battery is 80% charged in about one hour when the computer is turned off. The actual charging time depends on the battery size, the physical environment, and whether you are using the computer.

Battery charging is also affected by its temperature. The recommended temperature range for charging the battery is between 10°C (50°F) and 35°C (95°F).

Note: Some models may not ship with ac adapter and power cord. Use only the certified adapters and power cords provided by Lenovo that comply with the requirements of relevant national standards to charge the product. It is recommended to use the Lenovo qualified adapters. You can refer to https://www.lenovo.com/us/en/compliance/eu-doc.
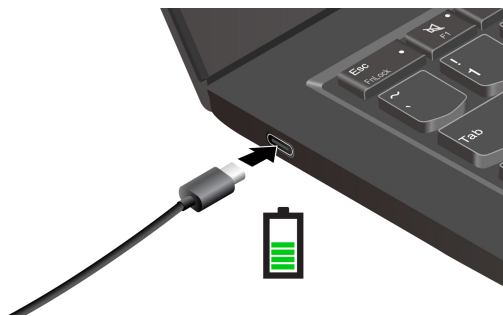
Maximize the life of the battery

To maximize the life of the battery:

- Use the battery until the charge is depleted and recharge the battery completely before using it. Once the battery is fully charged, it must discharge to 94% or lower before it will be allowed to recharge again.
- The battery may optimize its full charge capacity based on your usage. After prolonged periods of limited use, full battery capacity may not be available until you discharge to as low as 20% and recharge completely. For more information, refer to the power section of the Vantage app.

Use P-to-P 2.0 (Peer to Peer 2.0) charging function

Both USB-C connectors on the computer feature the Lenovo-unique P-to-P 2.0 charging function. To use the function, ensure that **Always On USB** and **Charge in Battery Mode** are enabled in UEFI BIOS of your computers, so that the function works even when the computers are off or in hibernation mode.

To enable **Always On USB** and **Charge in Battery Mode**:

1. Press F1 to enter the UEFI BIOS menu.
2. Click **Config ➙ USB**, and then to enable **Always On USB** and **Charge in Battery Mode**.
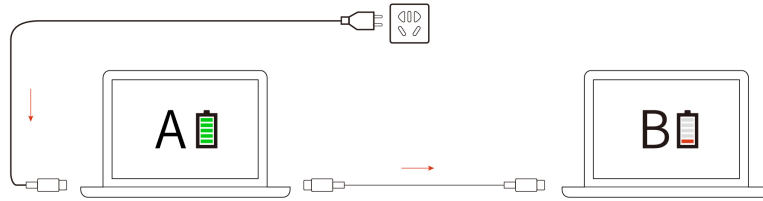
Note: The actual charging speed of your computer depends on many factors, such as the remaining battery power of the computers, the wattage of the ac power adapter, and whether you are using the computers.

Change the power settings

For ENERGY STAR® compliant computers, the following power plan takes effect when your computer has been idle for a specified duration:

- Turn off the display: After 10 minutes
- Put the computer to sleep: After 10 minutes

To reset the power plan:

1. Go to **Control Panel** and view by Large icons or Small icons.
2. Click **Power Options**.
3. Choose or customize a power plan of your preference.

To reset the power button function:

1. Go to **Control Panel** and view by Large icons or Small icons.
2. Click **Power Options**, and then click **Choose what the power buttons do** on the left pane.
3. Change the settings as you prefer.

Transfer data

Quickly share your files using the built-in Bluetooth or NFC technology among devices with the same features.

Set up a Bluetooth connection

You can connect all types of Bluetooth-enabled devices to your computer, such as a keyboard, a mouse, a smartphone, or speakers. To ensure successful connection, place the devices at most 10 meters (33 feet) from the computer.

1. Type `Bluetooth` in the Windows search box and then press Enter.
2. Turn on Bluetooth, if it is off.
3. Select a Bluetooth device, and then follow the on-screen instructions.

Set up an NFC connection (for selected models)

If your computer supports NFC, you will see an NFC mark or label around the trackpad area.

To turn on NFC:

1. Type `Airplane mode` in the Windows search box and then press Enter.

2. Ensure that the Airplane mode is off and turn on the NFC function.

By using NFC, you can simply tap and connect your computer and another NFC-enabled device over a few centimeters or inches. To pair with an NFC card or smartphone:

Note: Ensure that the NFC card is in NFC Data Exchange Format (NDEF), otherwise the card cannot be detected.

Use a smart card (for selected models)

You can insert a smart card to transfer data.

Supported smart card

Supported smart card specifications: 85.60 mm (3.37 inches) x 53.98 mm (2.13 inches)

Attention: Smart cards with slits are not supported. Do not insert such a smart card into the smart-card slot of your computer. Otherwise, the reader might get damaged.
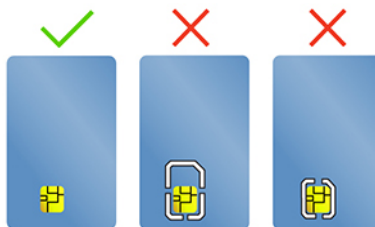
Install or remove a card
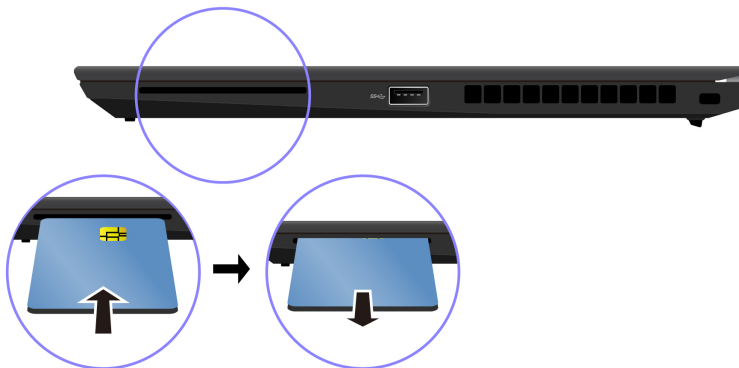
Attention: Before removing the card:

1. Click the triangular icon in the Windows notification area to show hidden icons. Right-click the icon prompting you to safely remove hardware and eject media.
2. Select the corresponding item to eject the card from the Windows operating system.
3. Press the card and remove it from your computer. Store the card safely for future use.

Accessories

This section provides instructions on how to use hardware accessories to expand your computer functionalities.

Purchase accessories

Lenovo has a number of hardware accessories and upgrades to help expand the functionalities of your computer. Options include memory modules, storage devices, network cards, port replicators or docking stations, batteries, power adapters, keyboards, mice, and more.

To shop at Lenovo, go to https://www.lenovo.com/accessories.

Chapter 4.   Secure your computer and information

Lock the computer

Lock your computer to a desk, table, or other fixtures through a compatible security cable lock.

Note: The slot supports cable locks that conform to the Kensington NanoSaver® lock standards using Cleat™ locking technology. You are responsible for evaluating, selecting, and implementing the locking device and security feature. Lenovo is not responsible for the locking device and security feature. You can purchase the cable locks at https://smartfind.lenovo.com.
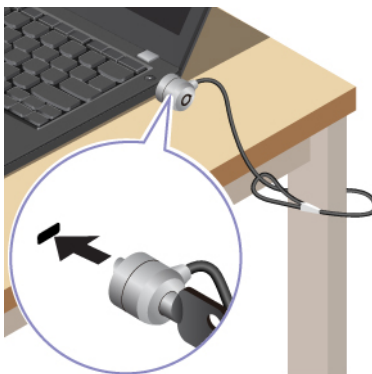
Log in with your fingerprint (for selected models)

The fingerprint reader is integrated with the power button. After enrolling your fingerprint, you can power on and log in to the computer with a simple press on the power button, or unlock the screen with a single touch. It eliminates the need to enter complex passwords, saving your time and boosting your productivity.

1. Type `Sign-in options` in the Windows search box and then press Enter.

2. Select the fingerprint setting and then follow the on-screen instruction to enroll your fingerprint.

   Note: It is recommended that you put your finger at the middle of the fingerprint reader during enrollment and enroll more than one fingerprint in case of any injuries to your fingers. After the enrollment, the fingerprints are associated with the Windows password automatically.

3. Log in with your fingerprint. When the fingerprint reader indicator is solid green, tap your finger on the fingerprint reader for authentication.
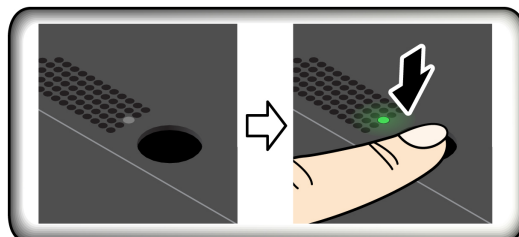
Associate your fingerprints with UEFI BIOS passwords

You can associate your fingerprints with your power-on password and NVMe (Non-Volatile Memory express) password. See "Associate your fingerprints with passwords (for selected models)" on page 34.

Maintenance tips:

- Do not scratch the surface of the reader with anything hard.
- Do not use or touch the reader with a wet, dirty, wrinkled, or injured finger.

Log in with your face ID (for selected models)

For models come with a webcam privacy shutter, slide the webcam privacy shutter to uncover the camera lens before using the Windows Hello face recognition.

Create your face ID and unlock your computer by scanning your face:

1. Type `Sign-in options` in the Windows search box and then press Enter.
2. Select the face ID setting and then follow the on-screen instruction to create your face ID.

Detect human presence (for selected models)

Your computer supports the human presence detection function.

- Wake up the computer when you are approaching it. With a face ID created, your computer can recognize your face and log in to the system automatically. You need to face the camera and be at most 1.4 meters (4.6 feet) from the computer. The function does not work when your computer is in hibernation mode or has been turned off.
- Dim the display and lock the computer when you are leaving. The function does not work if you set the power options to never turn off the display.
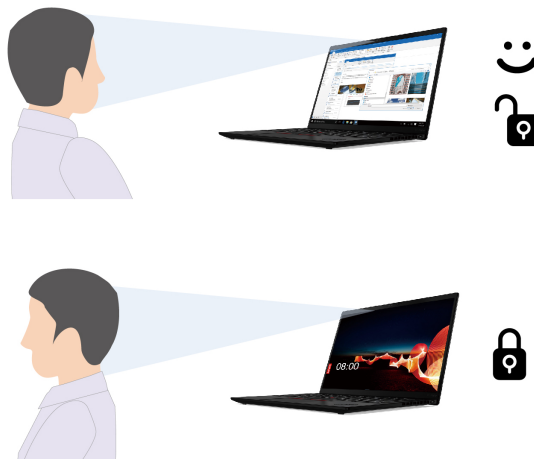
The human presence sensor is enabled by default. To change the settings:

- Open the Vantage app, and then click **Device ➙ Smart Assist** to turn on or turn off the **User Presence Sensing** switch. Customize the **Zero Touch Login** and **Zero Touch Lock** settings according to your preference.
- Restart the computer. When the logo screen is displayed, press F1 to enter the UEFI BIOS menu. Select **Security ➙ Intelligent Security** to customize detailed settings.

Notes:

- If the Airplane mode is enabled, human presence detection is disabled.
- Your computer uses a human presence sensor to detect your presence and the IR camera to recognize your face. Lenovo does not collect any personal data.
- For some countries or regions, the human presence sensor is disabled according to local regulations.

Protect your privacy (for selected models)

Use the ePrivacy screen

Your computer might come with an ePrivacy screen. It can reduce screen visibility from side angles to protect screen content against visual hacking. By default, this function is disabled. You can press F12 or Fn +D to enable it. You will be prompted by the on-screen icon ▨ or ▨ every time the function is enabled or disabled.

Your ePrivacy screen can be automatically enabled in case that you are required to input passwords. By default, this automatic function for passwords is disabled. You can enable it on the Vantage app.

Set the privacy level

The privacy level of this function varies depending on the screen brightness level, the contrast ratio, and the physical environment where you are using this function.

- Press [☼− F5] to increase the privacy level.
- Press [☼+ F6] to decrease the privacy level.

Protect data against power loss (for selected models)

NVMe M.2 solid-state drive features the Lenovo-unique PLP (Power Loss Protection) function to avoid data loss or damage. If your computer is not responding and you might have to shut down your computer by pressing and holding the power button for several seconds. In this case, the PLP function enables your computer data to be saved timely. However, there is no guarantee that all data is saved in any situation. To check the type of your M.2 solid-state drive:

1. Restart the computer. When the logo screen is displayed, press F10 to enter the Lenovo diagnostics window.
2. On the TOOLS tab, select **SYSTEM INFORMATION ➔ STORAGE** using the arrow keys.
3. Locate the **Device Type** section to check the information

UEFI BIOS passwords

You can set passwords in UEFI (Unified Extensible Firmware Interface) BIOS (Basic Input/Output System) to strengthen the security of your computer.

Password types

You can set a power-on password, supervisor password, system management password, or NVMe password in UEFI BIOS to prevent unauthorized access to your computer. However, you are not prompted to enter any UEFI BIOS password when your computer resumes from sleep mode.

Power-on password

If you set a power-on password, a window is displayed on the screen when you turn on the computer. Enter the correct password to use the computer.

Supervisor password

The supervisor password protects the system information stored in UEFI BIOS. When entering the UEFI BIOS menu, enter the correct supervisor password in the window prompted. You also can press Enter to skip the password prompt. However, you cannot change most of the system configuration options in UEFI BIOS.

If you have set both the supervisor password and power-on password, you can use the supervisor password to access your computer when you turn it on. The supervisor password overrides the power-on password.

System management password

The system management password can also protect the system information stored in UEFI BIOS like a supervisor password, but it has lower authority by default. The system management password can be set through the UEFI BIOS menu or through Windows Management Instrumentation (WMI) with the Lenovo client-management interface.

You can enable the system management password to have the same authority as the supervisor password to control security-related features. To customize the authority of the system management password through the UEFI BIOS menu:

1. Restart the computer. When the logo screen is displayed, press F1 to enter the UEFI BIOS menu.
2. Select **Security ➙ Password ➙ System Management Password Access Control**.
3. Follow the on-screen instructions.

If you have set both the supervisor password and the system management password, the supervisor password overrides the system management password. If you have set both the system management password and the power-on password, the system management password overrides the power-on password.

NVMe passwords

The NVMe password prevents unauthorized access to the data on the storage drive. When an NVMe password is set, you are prompted to type a correct password each time you try to access the storage drive.

- **Single Password**

  When a Single NVMe password is set, the user must enter the user NVMe password to access files and applications on the storage drive.

- **Dual Password (User + Admin)**

  The admin NVMe password is set and used by a system administrator. It enables the administrator to access any storage drive in a system or any computer connected in the same network. The administrator can also assign a user NVMe password for each computer in the network. The user of the computer can change the user NVMe password as desired, but only the administrator can remove the user NVMe password.

When prompted to enter an NVMe password, press F1 to switch between the admin NVMe password and user NVMe password.

Notes: The NVMe password is not available in the following situations:

- A Trusted Computing Group (TCG) Opal-compliant storage drive and a TCG Opal management software program are installed in the computer, and the TCG Opal management software program is activated.
- An eDrive storage drive is installed in the computer preinstalled with the Windows operating system.

Set, change, and remove a password

Before you start, print these instructions.

1. Restart the computer. When the logo screen is displayed, press F1 to enter the UEFI BIOS menu.

2. Select **Security** ➙ **Password** by using the arrow keys.

3. Select the password type. Then, follow the on-screen instructions to set, change, or remove a password.

You should record all your passwords and store them in a safe place. If you forget any of your passwords, any potential repair actions required are not covered under warranty.

What to do if you forget your power-on password

If you forget your power-on password, do the following to remove the power-on password:

- If you have set a supervisor password and remember it:

    1. Restart the computer. When the logo screen is displayed, immediately press F1.

    2. Type the supervisor password to enter the UEFI BIOS menu.

    3. Select **Security** ➙ **Password** ➙ **Power-On Password** by using the arrow keys.

    4. Type the current supervisor password in the **Enter Current Password** field. Then, leave the **Enter New Password** field blank, and press Enter twice.

    5. In the Changes have been saved window, press Enter.

    6. Press F10 to save changes and exit the UEFI BIOS menu.

- If you have not set a supervisor password, contact a Lenovo authorized service provider to have the power-on password removed.

What to do if you forget your NVMe password

If you forget your NVMe password (Single password) or both user and admin NVMe passwords (Dual password), Lenovo cannot reset your passwords or recover data from the storage drive. You can contact a Lenovo authorized service provider to have the storage drive replaced. A fee will be charged for parts and service. If the storage drive is a CRU (Customer Replaceable Unit), you can also contact Lenovo to purchase a new storage drive to replace the old one by yourself. To check whether the storage drive is a CRU and the relevant replacement procedure, see Chapter 6 "CRU replacement" on page 41.

What to do if you forget your supervisor password

If you forget your supervisor password, there is no service procedure to remove the password. You have to contact a Lenovo authorized service provider to have the system board replaced. A fee will be charged for parts and service.

What to do if you forget your system management password

If you forget your system management password, do the following to remove the system management password:

- If you have set a supervisor password and remember it:

    1. Restart the computer. When the logo screen is displayed, immediately press F1.

    2. Type the supervisor password to enter the UEFI BIOS menu.

    3. Select **Security** ➙ **Password** ➙ **System Management Password** by using the arrow keys.

    4. Type the current supervisor password in the **Enter Current Password** field. Then, leave the **Enter New Password** field blank, and press Enter twice.

    5. In the Changes have been saved window, press Enter.

    6. Press F10 to save changes and exit the UEFI BIOS menu.

- If you have not set a supervisor password, contact a Lenovo authorized service provider to have the system management password removed.

Associate your fingerprints with passwords (for selected models)

Do the following to associate your fingerprints with the power-on password and NVMe password:

1. Turn off and then turn on the computer.
2. When prompted, scan your finger on the fingerprint reader.
3. Enter your power-on password, NVMe password, or both as required. The association is established.

When you start the computer again, you can use your fingerprints to log in to the computer without entering your Windows password, power-on password, or NVMe password. To change settings, press F1 to enter the UEFI BIOS menu, and then select **Security ➙ Fingerprint**.

Attention: If you always use your fingerprint to log in to the computer, you might forget your passwords. Write down your passwords, and keep them in a safe place.

Chapter 5. Configure advanced settings

UEFI BIOS

UEFI BIOS is the first program that the computer runs. When the computer turns on, UEFI BIOS performs a self test to make sure that various devices in the computer are functioning.

Enter the UEFI BIOS menu

Restart the computer. When the logo screen is displayed, press F1 to enter the UEFI BIOS menu.

Navigate in the UEFI BIOS interface

You can navigate in the UEFI BIOS interface by pressing the following keys:

- F1: General Help
- F9: Setup Defaults
- F10: Save and Exit
- F5 / F6: Change boot priority order
- ↑↓ or PgUp / PgDn: Select / Scroll page
- ← →: Move keyboard focus
- Esc: Back / Close dialog
- Enter: Select / Open submenu

Set the system date and time

1. Restart the computer. When the logo screen is displayed, press F1.
2. Select **Date/Time** and set the system date and time as desired.
3. Press F10 to save changes and exit.

Change the startup sequence

1. Restart the computer. When the logo screen is displayed, press F1.
2. Select **Startup** ➙ **Boot**. Then, press Enter. The default device order list is displayed.

   Note: No bootable device is displayed if the computer cannot start from any devices or the operating system cannot be found.
3. Set the startup sequence as desired.
4. Press F10 to save the changes and exit.

To change the startup sequence temporarily:

1. Restart the computer. When the logo screen is displayed, press F12.
2. Select the device that you want the computer to start from and press Enter.

View UEFI BIOS Event log

1. Restart the computer. When the logo screen is displayed, press F1.
2. Select **Main** ➙ **BIOS Event log**. Then, press Enter. The BIOS Event log interface is displayed.

3. Navigate the interface by pressing the following keys, and then see details by selecting each item.
   - ↑↓: Move keyboard focus
   - PgUp / PgDn: Scroll page
   - Enter: Select
   - F3: Exit

The following BIOS event logs might be listed on your screen depending on the UEFI BIOS activities. Each log consists of date, time, and a description of the event.

- **Power On** event: this log shows Power On Self Test (POST) routine has started with power-on process. It includes power on reason, boot mode and shutdown reason.
- **Subcomponent Code Measurement** event: this log shows subcomponent code measurement has worked. It includes validation result of each component.
- **System Preboot Authentication Event** event: this log shows what credential was provided to gain preboot authentication. It includes installed password, password type, input device and authentication result.
- **BIOS Password Change** event: this log shows changes of the UEFI BIOS passwords. It includes password type, event type and result.
- **Subcomponent Self-healing** event: this log shows information about the subcomponent where the recovery event occurred. It includes event cause, recovered firmware version and result.
- **BIOS Setup Configuration Change** event: this log shows changes of UEFI BIOS Setup configuration. It includes item name and value.
- **Device Change** event: this log shows changes of devices. It includes event cause and event type.
- **System Boot** event: this log shows which boot device was utilized to boot the system. It includes boot option, description and file path list.
- **System Tamper** event: this log shows occurrence of system tamper events. It includes event cause and event type.
- **POST Error** event: this log shows occurrence of errors during POST routine. It includes the error code.
- **Flash Update** event: this log shows occurrence of flash update. It includes event cause, updated firmware version and result.
- **Set On-Premise** event: this logs shows changes of on-premise boot setting. It includes on-premise setting value and change method.
- **Capsule Update** event: this log shows occurrence of UEFI capsule firmware update. It includes event cause, updated firmware version and result.
- **Log Cleared** event: this log shows clearing BIOS event log has executed. It includes event cause and result.
- **Shutdown / Reboot** event: this log shows UEFI BIOS is successfully shut down or the system is rebooted. It includes event cause and event type.

Detect memory retraining (for Intel models)

Memory retraining is a process to initialize the memory module and run diagnostic tests for the memory module in your computer. The memory retraining might occur during POST if any of the following situations is detected:

- Memory module replacement
- Total Memory Encryption setting change in UEFI BIOS
- UEFI BIOS update (Memory Reference Code [MRC] change)

When memory retraining occurs, the screen cannot display the progress information and might be blank. You might see the LED indicators on ESC, F1, and F4 blinking sequentially to indicate the progress. Do not press the power button to interrupt the process. Wait a few minutes until the logo screen is displayed.

Reset System to factory default

This feature allows you to initialize the UEFI BIOS to the factory default state, including all UEFI BIOS settings and internal data. It helps you wipe user data in case that you want to dispose of or reuse your computer.

Note: If you permanently disable **Intel AMT control** and **Absolute Persistence(R) Module** in UEFI BIOS, you can not reset even if you reset the system to factory default.

How to reset system to factory default

1. Restart the computer. When the logo screen is displayed, press F1 to enter the UEFI BIOS menu.
2. Select **Security ➙ Reset System to Factory Default** and press Enter.
3. A series of warning windows might pop up. Your might be required to do the following before resetting the system to factory default.
   a. Deactivate the Absolute Persistence Module.
   b. Remove the NVMe password if your have set one.
4. For computer model with RAID settings, a window pops up to remind you of data damage.
5. If you select **Yes**, a window pops up to confirm your current operation.
6. If you select **Yes**, a windows pops up. Enter your supervisor password, system management password or power-on password.
7. Then, your computer will restart immediately. It take several minutes to complete the initialization.

   Note: This initialization process may require the screen to be blank. This is normal and you should not interrupt the process.

Recover the UEFI BIOS

If the UEFI BIOS is corrupted or maliciously attacked, it can self-recover and restore your computer from the last uncorrupted and secure backup. This function protects your computer data.

During the UEFI BIOS self-recovery, the screen might be blank. You can check the progress based on blinking modes of the LED indicators on Esc, F1, and F4. For details, refer to the following table.

Note: Do not press the power button to interrupt the progress. Wait a few minutes until the logo screen is displayed.

Blinking modes	Self-recovery progress
LED indicator on Esc blinks	0% to 32%
LED indicators on Esc and F1 blink simultaneously	33% to 65%
LED indicators on Esc, F1 and F4 blink simultaneously	66% to 100%

Update UEFI BIOS

When you install a new program, device driver, or hardware component, you might need to update UEFI BIOS.

Download and install the latest UEFI BIOS update package by one of the following methods:

- Open the Vantage app to check the available update packages. If the latest UEFI BIOS update package is available, follow the on-screen instructions to download and install the package.

- Go to https://pcsupport.lenovo.com and select the entry for your computer. Then, follow the on-screen instructions to download and install the latest UEFI BIOS update package.

Note: During the UEFI BIOS update process, Memory Reference Code (MRC) change might cause memory retraining. For details, see "Detect memory retraining (for Intel models)" on page 36.

To know more about UEFI BIOS, visit Knowledge Base of your computer at https://pcsupport.lenovo.com.

FIDO (Fast Identity Online) authentication

Your computer supports FIDO (Fast Identity Online) authentication feature. This feature works as an alternative to password-based authentication to achieve passwordless authentication. This feature only works when a power-on password is set in UEFI BIOS and the FIDO2 USB device is registered in ThinkShield™ Passwordless Power-On Device Manager. With this feature, you can input the power-on password or use the registered FIDO2 USB device to power on your computer.

Register your FIDO2 USB device in ThinkShield Passwordless Power-On Device Manager

1. Turn on the computer.
2. Press F12 during the power-on process.
3. If you set a power-on password, you are prompted to enter the correct password.
4. Select **App Menu → ThinkShield Passwordless Power-On Device Manager** and press Enter.
5. Insert the FIDO2 USB device to register the device by following steps:

   a. Select the available FIDO2 USB device that you want to register in the **Discovered Devices** field.

   b. Click **Yes** in the displayed window to confirm the device you selected.

   c. If you set a power-on password, you are prompted to enter the correct password.

   d. The **User operation request** window is displayed. You are prompted to press the button on the connected FIDO2 USB device, and then follow the on-screen instruction to close the window.

   e. Press Esc to exit and restart your computer.

Notes:
- If you want to unregister your devices, click the available FIDO2 USB device that you want to unregister in the **My Device** field and enter the correct power-on password for verification.
- If you use more than one FIDO2 USB device with a common identifier for registration, only one device is available.

Log in to the System with Passwordless Power-On Authentication

1. Restart the computer.
2. **ThinkShield Passwordless Power-On Authentication** window is displayed.
3. Insert your registered FIDO2 USB device for detection.
4. Then follow the on-screen instruction to press the button on your FIDO2 USB device for verification.
5. After your device is verified, the power-on process continues.

   Note: You should insert the FIDO2 USB device or enter the power-on password within 60 seconds. Otherwise, your computer will shut down automatically.

Install a Windows operating system and drivers

This section provides instructions on installing a Windows operating system and device drivers.

Install a Windows operating system

Microsoft constantly makes updates to the Windows operating system. Before installing a particular Windows version, check the compatibility list for the Windows version. For details, go to https://support.lenovo.com/us/en/solutions/windows-support.

Attention:

- It is recommended that you update your operating system through official channels. Any unofficial update might cause security risks.
- The process of installing a new operating system deletes all the data on your internal storage drive, including the data stored in a hidden folder.

1. If you are using the Windows BitLocker® Drive Encryption feature and your computer has a Trusted Platform Module, ensure that you have disabled the feature.
2. Ensure that the security chip is set to **Active**.
   a. Restart the computer. When the logo screen is displayed, press F1 to enter the UEFI BIOS menu.
   b. Select **Security** ➙ **Security Chip** and press Enter. The **Security Chip** submenu opens.
   c. Ensure that the security chip for TPM 2.0 is set to **Active**.
   d. Press F10 or Fn + F10 to save the settings and exit.
3. Connect the drive that contains the operating system installation program to the computer.
4. Restart the computer. When the logo screen is displayed, press F1 to enter the UEFI BIOS menu.
5. Select **Startup** ➙ **Boot** to display the **Boot Priority Order** submenu.
6. Select the drive that contains the operating system installation program, for example, **USB HDD**. Then, press Esc.

   Attention: After you change the startup sequence, ensure that you select the correct device during a copy, a save, or a format operation. If you select the wrong device, the data on that device might be erased or overwritten.

7. Select **Restart** and ensure that **OS Optimized Defaults** is enabled. Then, press F10 or Fn + F10 to save the settings and exit.
8. Follow the on-screen instructions to install the device drivers and necessary programs.
9. After installing the device drivers, apply Windows Update to get the latest updates, for example the security patches.

Install device drivers

You should download the latest driver for a component when you notice poor performance from that component or when you added a component. This action might eliminate the driver as the potential cause of a problem. Download and install the latest driver by one of the following methods:

- Open the Vantage app to check the available update packages. Select the update packages you want, and then follow the on-screen instructions to download and install the packages.
- Go to https://pcsupport.lenovo.com and select the entry for your computer. Then, follow the on-screen instructions to download and install necessary drivers and software.

Chapter 6. CRU replacement

Customer Replaceable Units (CRUs) are parts that can be replaced by the customer. The computers contain the following types of CRUs:

- **Self-service CRUs**: Refer to parts that can be replaced easily by customer themselves or by trained service technicians at an additional cost.
- **Optional-service CRUs**: Refer to parts that can be replaced by customers with a greater skill level. Trained service technicians can also provide service to replace the parts under the type of warranty designated for the customer's machine.

If you intend on installing a CRU, Lenovo will ship the CRU to you. CRU information and replacement instructions are shipped with your product and are available from Lenovo at any time upon request. You might be required to return the defective part that is replaced by the CRU. When return is required: (1) return instructions, a prepaid shipping label, and a container will be included with the replacement CRU; and (2) you might be charged for the replacement CRU if Lenovo does not receive the defective CRU within thirty (30) days of your receipt of the replacement CRU. For full details, see the Lenovo Limited Warranty documentation at https://www.lenovo.com/warranty/llw_02.

CRU list

The following is a list of CRUs of your computer.

Self-service CRUs

- Power cord
- ac power adapter
- Base cover assembly
- Nano-SIM-card tray*
- M.2 solid-state drive
- M.2 solid-state drive bracket*

Optional-service CRUs

- Wireless WAN card*
- Wireless WAN card bracket*
- Keyboard (for ThinkPad X13 Gen 3)

* for selected models

Note: Replacement of any parts not listed above, including the built-in rechargeable battery, must be done by a Lenovo-authorized repair facility or technician. Go to https://support.lenovo.com/partnerlocator for more information.

Disable Fast Startup and the built-in battery

Before replacing any CRU, ensure that you disable Fast Startup first and then disable the built-in battery.

To disable Fast Startup:

1. Go to **Control Panel** and view by Large icons or Small icons.

2. Click **Power Options**, and then click **Choose what the power buttons do** on the left pane.

3. Click **Change settings that are currently unavailable** at the top.

4. If prompted by User Account Control (UAC), click **Yes**.

5. Clear the **Turn on fast startup** check box, and then click **Save changes**.

To disable the built-in battery:

1. Restart your computer. When the logo screen is displayed, immediately press F1 to enter the UEFI BIOS menu.

2. Select **Config** ➙ **Power**. The **Power** submenu is displayed.

3. Select **Disable Built-in Battery** and press Enter.

4. Select **Yes** in the Setup Confirmation window. The built-in battery is disabled and the computer turns off automatically. Wait three to five minutes to let the computer cool.

Replace a CRU

Follow the replacement procedure to replace a CRU.

Base cover assembly

Prerequisite

Before you start, read *Generic Safety and Compliance Notices* and print the following instructions.

Note: Do not remove the base cover assembly when your computer is connected to ac power. Otherwise, there might be a risk of short circuits.

For access, do the following:

1. Disable the built-in battery. See "Disable Fast Startup and the built-in battery" on page 41.

2. Turn off the computer and disconnect the computer from ac power and all connected cables.

3. Close the computer display and turn over the computer.

Removal procedure for T14s Gen 3
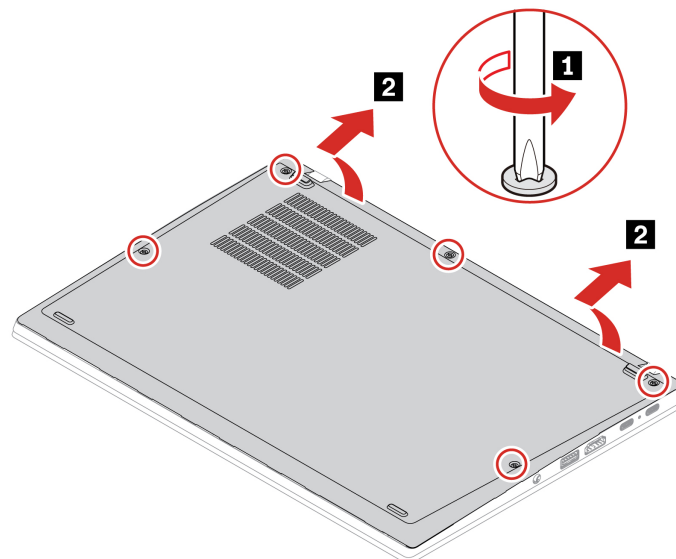
Installation procedure for T14s Gen 3
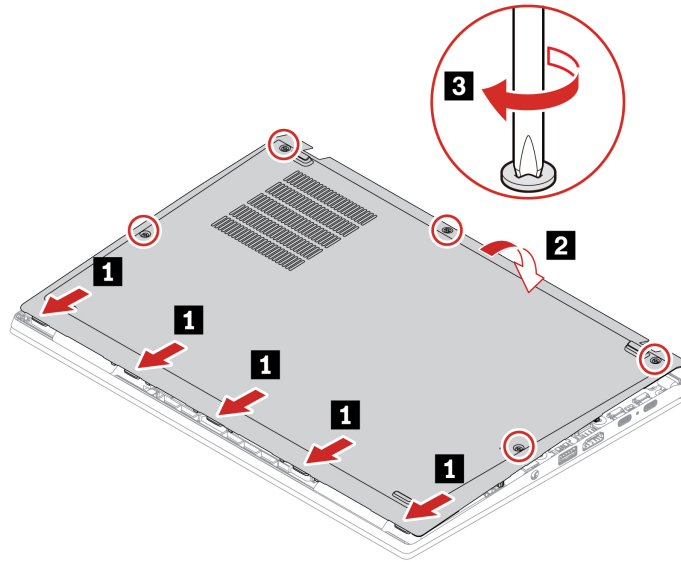
Removal procedure for X13 Gen 3
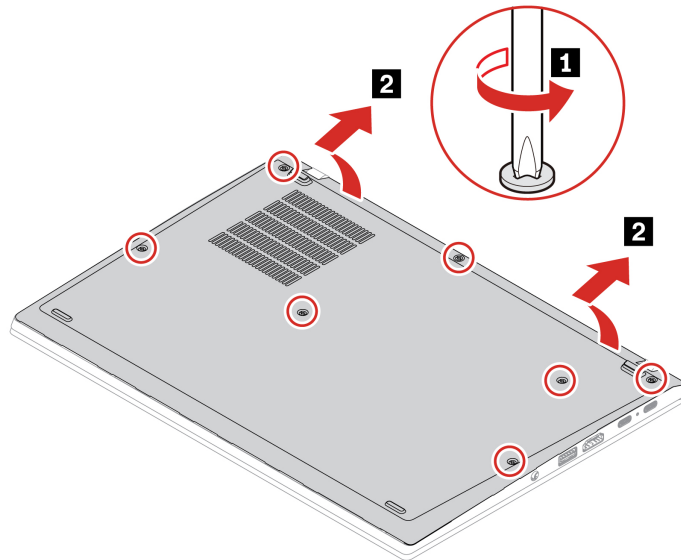
Installation procedure for X13 Gen 3
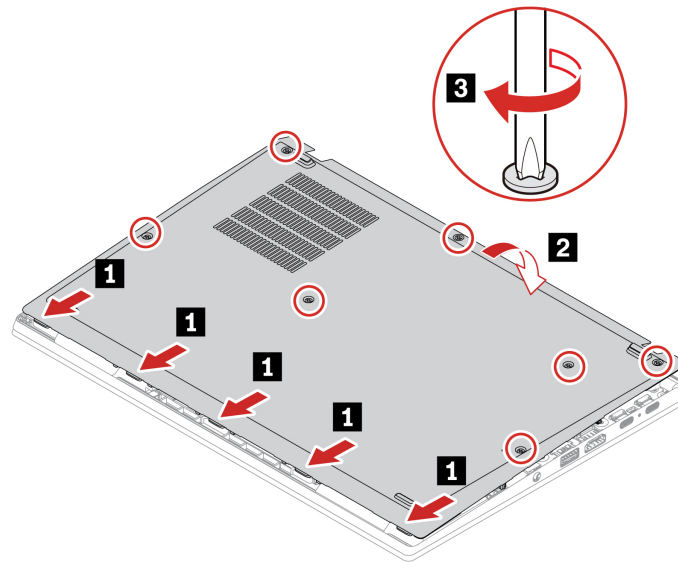
Troubleshooting

If the computer does not start up after you reinstall the base cover assembly, disconnect the ac power adapter and then reconnect it to the computer.

2280 M.2 solid-state drive

Prerequisite

Before you start, read *Generic Safety and Compliance Notices* and print the following instructions.

Attention: If you replace a M.2 solid-state drive, you might need to install a new operating system. For details on how to install a new operating system, see "Install a Windows operating system and drivers" on page 39.

The M.2 solid-state drive is sensitive. Inappropriate handling might cause damage and permanent loss of data.

When handling the M.2 solid-state drive, observe the following guidelines:

- Replace the M.2 solid-state drive only for upgrade or repair. The M.2 solid-state drive is not designed for frequent changes or replacement.
- Before replacing the M.2 solid-state drive, make a backup copy of all the data that you want to keep.
- Do not apply pressure to the M.2 solid-state drive.
- Do not touch the contact edge or circuit board of the M.2 solid-state drive. Otherwise, the M.2 solid-state drive might get damaged.
- Do not make the M.2 solid-state drive subject to physical shocks or vibration. Put the M.2 solid-state drive on a soft material, such as cloth, to absorb physical shocks.

For access, do the following:

1. Disable the built-in battery. See "Disable Fast Startup and the built-in battery" on page 41.
2. Turn off the computer and disconnect the computer from ac power and all connected cables.

3. Close the computer display and turn the computer over.

4. Remove the bottom cover. See "Base cover assembly" on page 42.

Removal procedure for M.2 solid-state drive and its backet (for selected models)

- Type 1
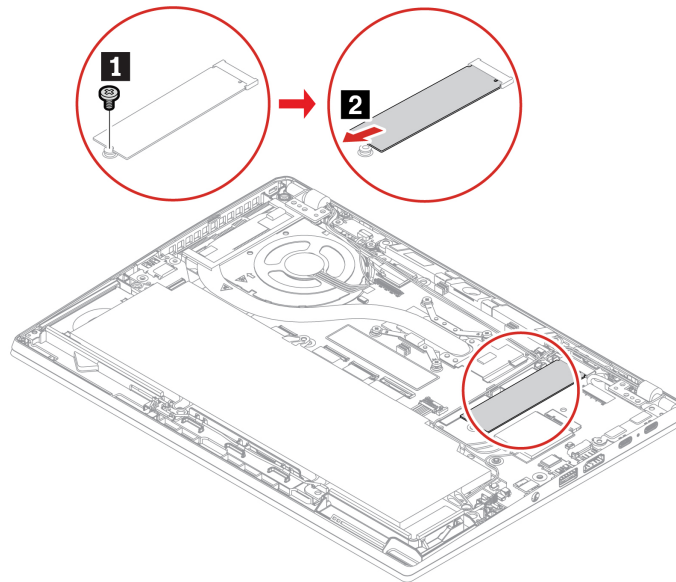
- Type 2
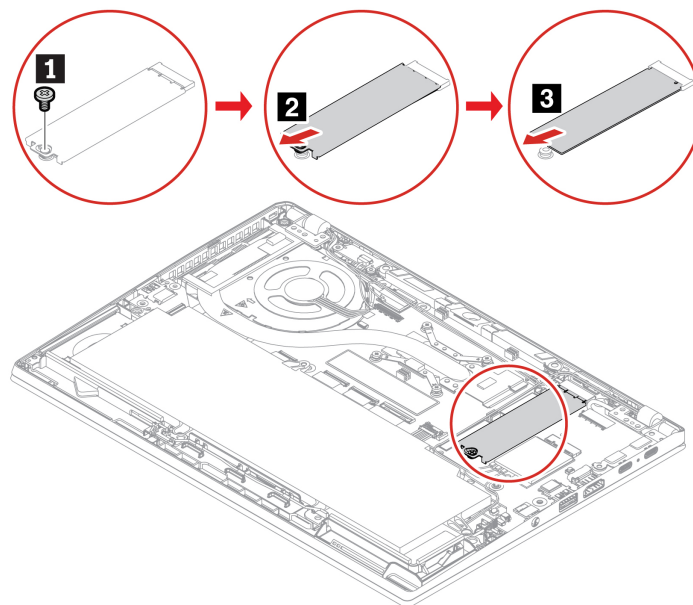
Wireless WAN card (for selected models)

The following information is only for the computer with user-installable modules. Ensure that you use only a Lenovo-authorized wireless module specifically tested for this computer model. Otherwise, the computer will generate an error-code beep sequence when you turn on the computer.

Prerequisite

Before you start, read *Generic Safety and Compliance Notices* and print the following instructions.

Attention: Do not touch the contact edge of the wireless WAN card. Otherwise, the wireless WAN card might get damaged.

For access, do the following:

1. Disable the built-in battery. See "Disable Fast Startup and the built-in battery" on page 41.
2. Turn off the computer and disconnect the computer from ac power and all connected cables.
3. Close the computer display and turn the computer over.
4. Remove the base cover assembly. See "Base cover assembly" on page 42.

Removal procedure

Note: A Mylar film might cover the wireless WAN card. To access the wireless WAN card, peel off the film first.

Depending on your computer model, do one of the following to remove the wireless WAN card:

- Type 1
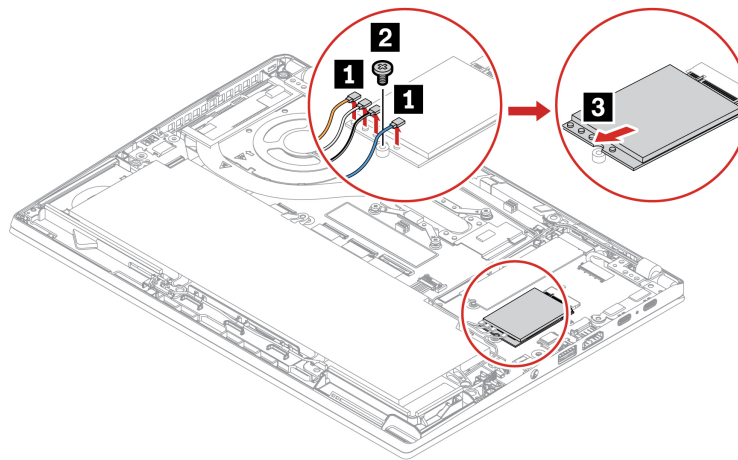
- Type 2
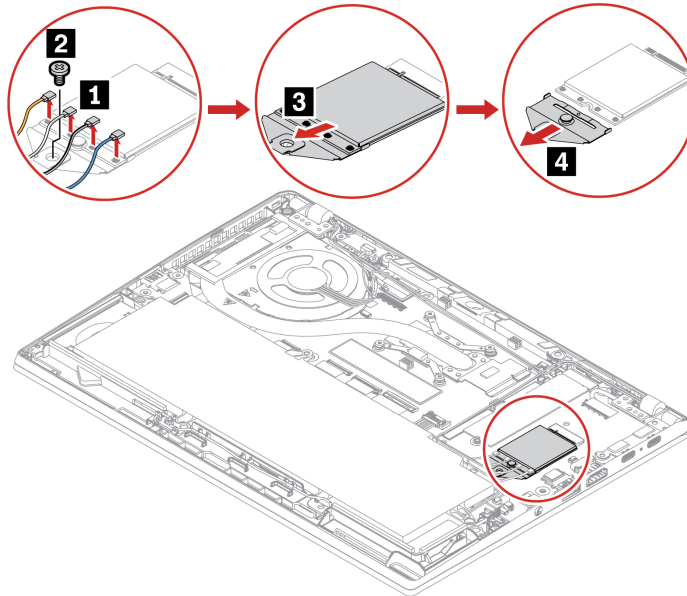
- Type 3
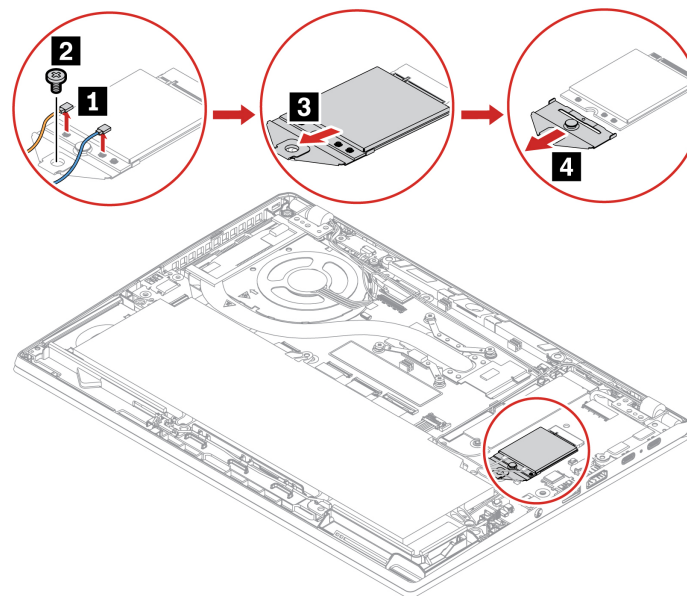
Note: During installation, ensure that you connect the cables with different colors to the corresponding connectors on the card according to the illustrations above: the orange cable to the connector labeled ORANGE, the blue cable to the connector labeled BLUE, the white and grey cable to the connector labeled WHITE GREY, and the black and grey cable to the connector labeled BLACK GREY.

Keyboard (for ThinkPad X13 Gen 3)

Prerequisite

Before you start, read *Generic Safety and Compliance Notices* and print the following instructions.

For access, do the following:

1. Disable the built-in battery. See "Disable Fast Startup and the built-in battery" on page 41.
2. Turn off the computer and disconnect the computer from ac power and all connected cables.
3. Close the computer display and turn the computer over.

Removal procedure

Note: You might be instructed to slide the keyboard frame forward or backward in some of the following steps. In this case, ensure that you do not press or hold the keys while sliding the keyboard frame. Otherwise, the keyboard frame cannot be moved.
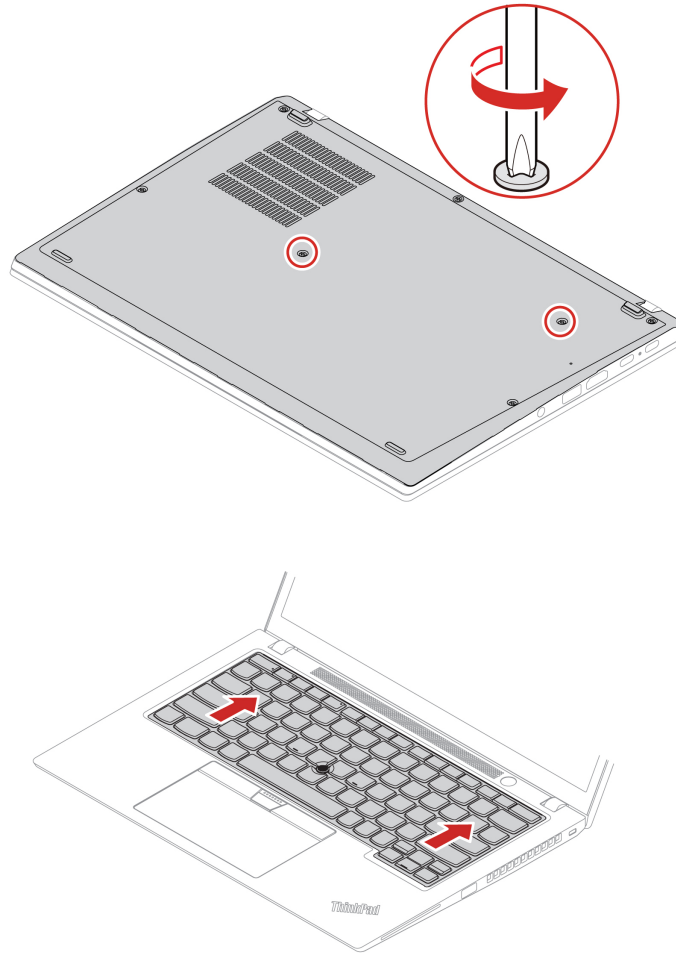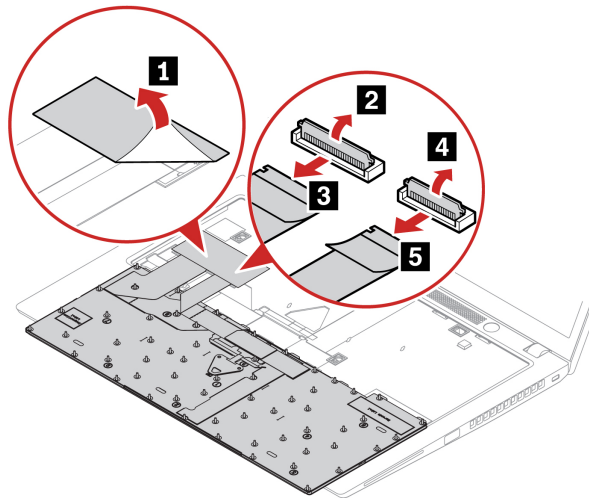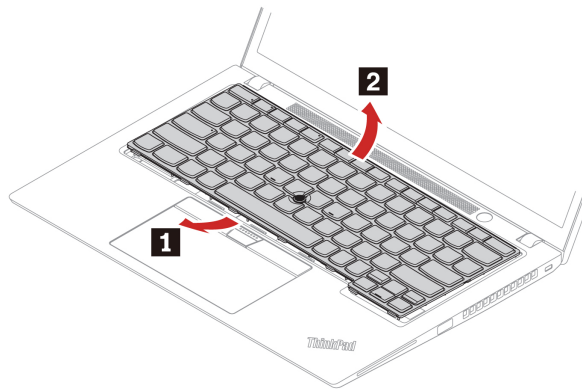
Installation procedure

Note: You might be instructed to slide the keyboard frame forward or backward in some of the following steps. In this case, ensure that you do not press or hold the keys while sliding the keyboard frame. Otherwise, the keyboard frame cannot be moved.
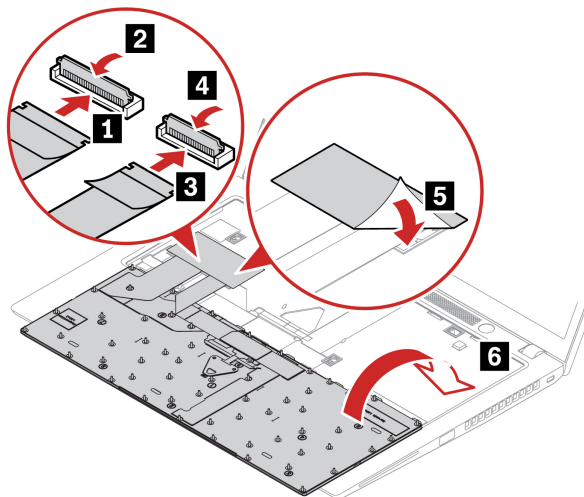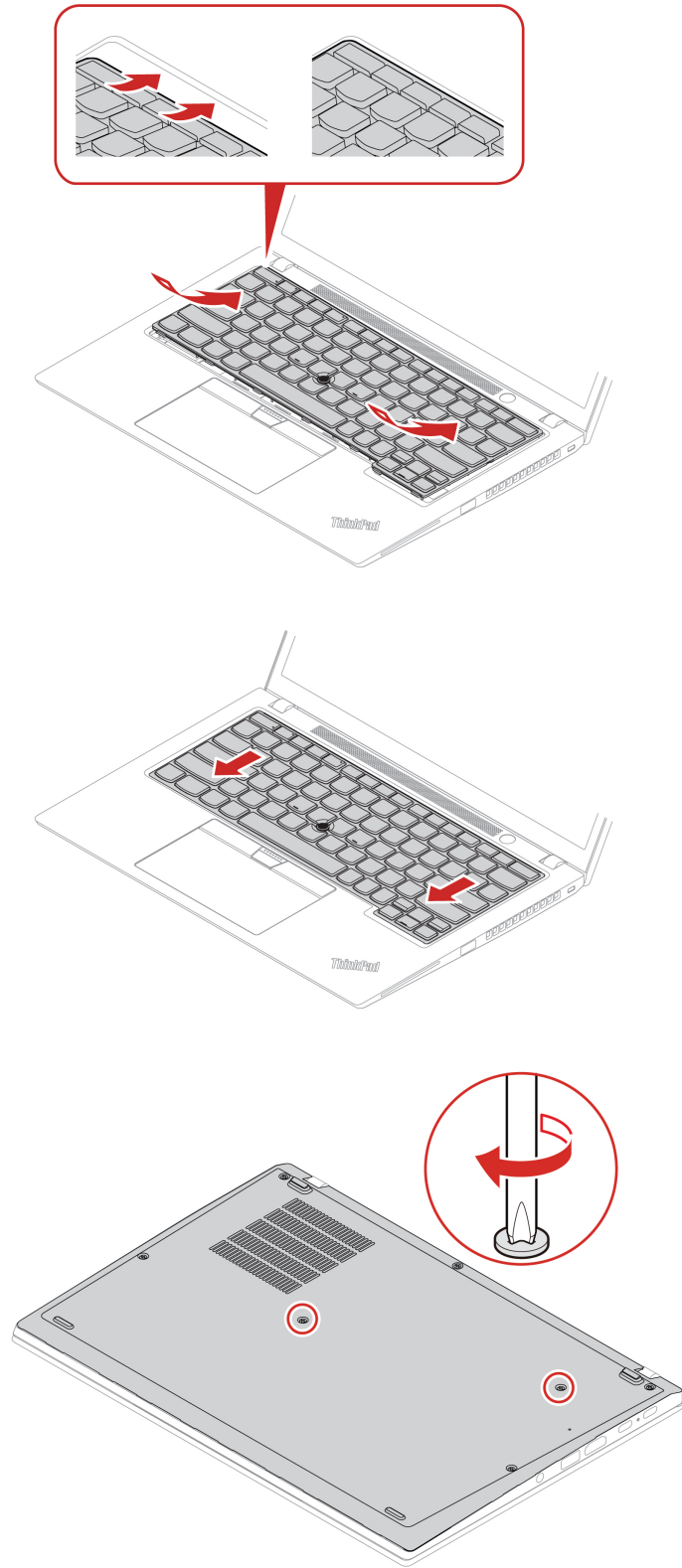
Chapter 7. Help and support

Frequently asked questions

Question	Solution
How do I access **Control Panel**?	Type `Control Panel` in the Windows search box and then press Enter.
How do I turn off my computer?	Open the **Start** menu and click ⏻ **Power**. Then, click **Shut down**.
How do I partition my storage drive?	https://support.lenovo.com/solutions/ht503851

What do I do if my computer stops responding?	1. Press and hold the power button until the computer turns off. Then, restart the computer.
	2. If step 1 does not work:
	   • For models with an emergency reset hole: Insert a straightened paper clip into the emergency reset hole to cut off power supply temporarily. Then, restart the computer with ac power connected.
	   • For models without an emergency reset hole:
	     – For models with the removable battery, remove the removable battery and disconnect all power sources. Then, reconnect to ac power and restart the computer.
	     – For models with the built-in battery, disconnect all power sources. Press and hold the power button for about seven seconds. Then, reconnect to ac power and restart the computer.

What do I do if I spill liquid on the computer?	1. Carefully unplug the ac power adapter and turn off the computer immediately. The more quickly you stop the current from passing through the computer the more likely you will reduce damage from short circuits. **Attention:** Although you might lose some data or work by turning off the computer immediately, leaving the computer on might make your computer unusable. 2. Do not try to drain out the liquid by turning over the computer. If your computer has keyboard drainage holes on the bottom, the liquid will be drained out through the holes. 3. Wait until you are certain that all the liquid is dry before turning on your computer.
How do I enter the UEFI BIOS menu?	Restart the computer. When the logo screen is displayed, press F1 to enter the UEFI BIOS menu.

Question	Solution
Where can I get the latest device drivers and UEFI BIOS?	• From the Vantage app. See "Install a Windows operating system and drivers" on page 39 and "Update UEFI BIOS" on page 37. • Download from Lenovo Support Web site at https://pcsupport.lenovo.com.
What do I do if the LCD goes black when I turn on the computer?	To run LCD Self-Test: 1. Ensure that the computer is connected to the ac power adapter. 2. Press the power button for about seven seconds to turn off the computer. 3. Press Fn, left Ctrl, and the power button at the same time. If the computer displays five solid colors in sequence across the entire screen, it indicates that the LCD functions normally. 4. The test lasts for about 20 seconds and then exits automatically. You also can press the power button to exit the test.

Error messages

If you see a message that is not included in the following table, record the error message first, then shut down the computer and call Lenovo for help. See "Lenovo Customer Support Center" on page 57.

Message	Solution
0190: Critical low-battery error	The computer turned off because the battery power is low. Connect the ac power adapter to the computer and charge the batteries.
0191: System Security - Invalid remote change requested	The system configuration change has failed. Confirm the operation and try again.
0199: System Security - Security password retry count exceeded.	This message is displayed when you enter a wrong supervisor password more than three times. Confirm the supervisor password and try again.
0271: Check Date and Time settings.	The date or the time is not set in the computer. Enter the UEFI BIOS menu and set the date and time.
210x/211x: Detection/Read error on HDDx/SSDx	The storage drive is not working. Reinstall the storage drive. If the problem still exists, replace the storage drive.
Error: The non-volatile system UEFI variable storage is nearly full.	**Note:** This error indicates that the operating system or programs cannot create, modify, or delete data in the non-volatile system UEFI variable storage due to insufficient storage space after POST. The non-volatile system UEFI variable storage is used by the UEFI BIOS and by the operating system or programs. This error occurs when the operating system or programs store large amounts of data in the variable storage. All data needed for POST, such as UEFI BIOS setup settings, chipset, or platform configuration data, are stored in a separate UEFI variable storage. Press F1 after the error message is displayed to enter the UEFI BIOS menu. A dialog asks for confirmation to clean up the storage. If you select "Yes", all data that were created by the operating system or programs will be deleted except global variables defined by the Unified Extensible Firmware Interface Specification. If you select "No", all data will be kept, but the operating system or programs will not be able to create, modify, or delete data in the storage. If this error happens at a service center, Lenovo authorized service personnel will clean up the non-volatile system UEFI variable storage using the preceding solution.

Beep errors

Lenovo SmartBeep technology enables you to decode beep errors with your smartphone when a black screen occurs with beeps from your computer. To decode the beep error with Lenovo SmartBeep technology:

1. Go to https://support.lenovo.com/smartbeep or scan the following QR Code.

2. Download the proper diagnostic app and install it on your smartphone.
3. Run the diagnostic app and place the smartphone near the computer.
4. Press Fn on your computer to emit the beep again. The diagnostic app decodes the beep error and shows possible solutions on the smartphone.

Note: Do not attempt to service a product yourself unless instructed to do so by the Customer Support Center or product documentation. Only use a Lenovo-authorized service provider to repair your product.

Self-help resources

Use the following self-help resources to learn more about the computer and troubleshoot problems.

Resources	How to access?
Troubleshooting and FAQ	• https://www.lenovo.com/tips • https://forums.lenovo.com
Accessibility information	https://www.lenovo.com/accessibility

Reset or restore Windows	• Use Lenovo recovery options.
	  1. Go to https://support.lenovo.com/HowToCreateLenovoRecovery.
	  2. Follow the on-screen instructions.
	• Use Windows recovery options.
	  1. Go to https://pcsupport.lenovo.com.
	  2. Detect your computer or manually select your computer model.
	  3. Navigate to the troubleshooting menu to diagnose the operating system for recovery instructions.

Use the Vantage app to: • Configure device settings. • Download and install UEFI BIOS, drivers, and firmware updates. • Secure your computer from outside threats. • Diagnose hardware problems. • Check the computer warranty status. • Access *User Guide* and helpful articles. **Note:** The available features vary depending on the computer model.	Type `Vantage` in the Windows search box and then press Enter.
Product documentation: • *Safety and Warranty Guide* • *Generic Safety and Compliance Notices* • *Setup Guide* • This *User Guide* • *Regulatory Notice*	Go to https://pcsupport.lenovo.com. Then, follow the on-screen instructions to filter out the documentation you want.

Resources	How to access?
Lenovo Support Web site with the latest support information of the following: • Drivers and software • Diagnostic solutions • Product and service warranty • Product and parts details • Knowledge base and frequently asked questions	https://pcsupport.lenovo.com
Windows help information	• Open the Start menu and click **Get Help** or **Tips**. • Use Windows Search or the Cortana® personal assistant. • Microsoft support Web site: https://support.microsoft.com

Windows label

Your computer might have a Windows Genuine Microsoft label affixed to its cover depending on the following factors:

• Your geographic location
• Edition of Windows that is preinstalled

Go to https://www.microsoft.com/en-us/howtotell/Hardware.aspx for illustrations of the various types of Genuine Microsoft labels.

• In the People's Republic of China, the Genuine Microsoft label is required on all computer models preinstalled with any edition of the Windows operating system.
• In other countries and regions, the Genuine Microsoft label is required only on computer models licensed for Windows Pro editions.

The absence of a Genuine Microsoft label does not indicate that the preinstalled Windows version is not genuine. For details on how to tell whether your preinstalled Windows product is genuine, refer to the information provided by Microsoft at https://www.microsoft.com/en-us/howtotell/default.aspx.

There are no external, visual indicators of the Product ID or Windows version for which the computer is licensed. Instead, the Product ID is recorded in the computer firmware. Whenever a Windows product is installed, the installation program checks the computer firmware for a valid, matching Product ID to complete the activation.

In some cases, an earlier Windows version might be preinstalled under the terms of the Windows Pro edition license downgrade rights.

Call Lenovo

If you have tried to correct the problem yourself and still need help, you can call Lenovo Customer Support Center.

Before you contact Lenovo

Prepare the following before you contact Lenovo:

1. Record the problem symptoms and details:

- What is the problem? Is it continuous or intermittent?
- Any error message or error code?
- What operating system are you using? Which version?
- Which software applications were running at the time of the problem?
- Can the problem be reproduced? If so, how?

2. Record the system information:

- Product name
- Machine type and serial number

    The following illustration shows where to find the machine type and serial number of your computer.
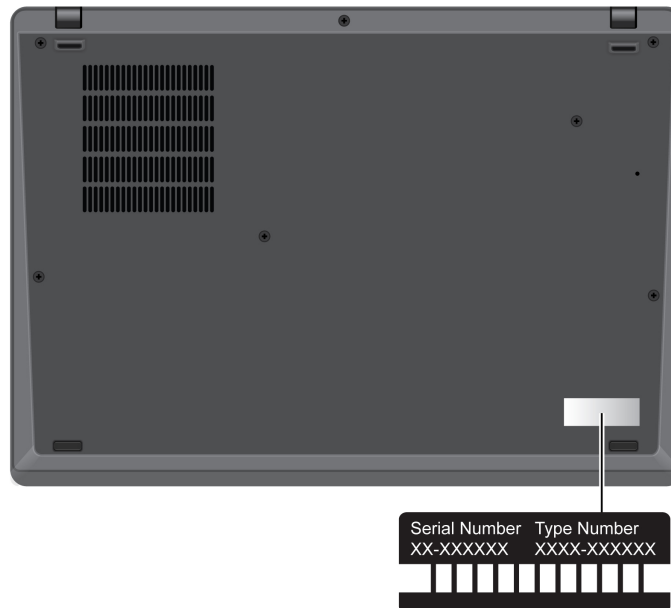
Lenovo Customer Support Center

During the warranty period, you can call Lenovo Customer Support Center for help.

Telephone numbers

For a list of the Lenovo Support phone numbers for your country or region, go to https://pcsupport.lenovo.com/supportphonelist for the latest phone numbers.

Note: Phone numbers are subject to change without notice. If the number for your country or region is not provided, contact your Lenovo reseller or Lenovo marketing representative.

Services available during the warranty period

- Problem determination - Trained personnel are available to assist you with determining if you have a hardware problem and deciding what action is necessary to fix the problem.
- Lenovo hardware repair - If the problem is determined to be caused by Lenovo hardware under warranty, trained service personnel are available to provide the applicable level of service.
- Engineering change management - Occasionally, there might be changes that are required after a product has been sold. Lenovo or your reseller, if authorized by Lenovo, will make selected Engineering Changes (ECs) that apply to your hardware available.

Services not covered

- Replacement or use of parts not manufactured for or by Lenovo or nonwarranted parts
- Identification of software problem sources
- Configuration of UEFI BIOS as part of an installation or upgrade
- Changes, modifications, or upgrades to device drivers
- Installation and maintenance of network operating systems (NOS)
- Installation and maintenance of programs

For the terms and conditions of the Lenovo Limited Warranty that apply to your Lenovo hardware product, go to:

- https://www.lenovo.com/warranty/llw_02
- https://pcsupport.lenovo.com/warrantylookup

Purchase additional services

During and after the warranty period, you can purchase additional services from Lenovo at https://pcsupport.lenovo.com/warrantyupgrade.

Service availability and service name might vary by country or region.

Appendix A. Compliance information

For compliance information, refer to *Regulatory Notice* at https://pcsupport.lenovo.com and *Generic Safety and Compliance Notices* at https://pcsupport.lenovo.com/docs/generic_notices.

Certification-related information

Table 3. Intel models

Product name	Compliance ID	Machine type(s)
ThinkPad T14s Gen 3 ThinkPad T14s Gen 3 LTE1[1] ThinkPad T14s Gen 3 LTE2[1] ThinkPad T14s Gen 3 5G[1] ThinkPad T14s Gen 3 HPD[1] ThinkPad T14s Gen 3 LTE1 HPD[1] ThinkPad T14s Gen 3 LTE2 HPD[1] ThinkPad T14s Gen 3 5G HPD[1]	TP00130C	21BR and 21BS
ThinkPad X13 Gen 3 ThinkPad X13 Gen 3 LTE1[1] ThinkPad X13 Gen 3 LTE2[1] ThinkPad X13 Gen 3 5G[1] ThinkPad X13 Gen 3 HPD[1] ThinkPad X13 Gen 3 LTE1 HPD[1] ThinkPad X13 Gen 3 LTE2 HPD[1] ThinkPad X13 Gen 3 5G HPD[1]	TP00131C / TP00131C0[2] / TP00131C1[2]	21BN and 21BQ

Table 4. AMD models

| Product name	Compliance ID	Machine type(s)
ThinkPad T14s Gen 3 ThinkPad T14s Gen 3 LTE1[1]	TP00130D	21CQ and 21CR
ThinkPad X13 Gen 3 ThinkPad X13 Gen 3 LTE1[1]	TP00131D / TP00131D0[2] / TP00131D1[2]	21CM and 21CN

[1] for mainland China only / [2] for India only

Further compliance information related to your product is available at https://www.lenovo.com/compliance.

Locate the UltraConnect wireless antennas

Your computer has an UltraConnect™ wireless antenna system. You can enable wireless communication wherever you are.

The following illustration shows the antenna locations on your computer:
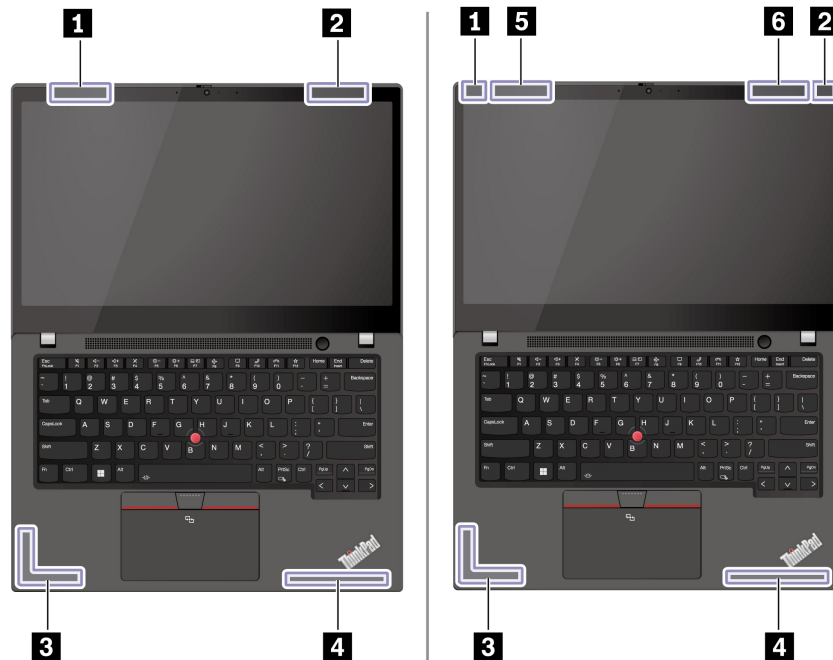
1 Wireless LAN antenna (auxiliary)
2 Wireless LAN antenna (main)
3 Wireless WAN antenna (main, for selected models)
4 Wireless WAN antenna (auxiliary, for selected models)
5 Wireless WAN antenna (MIMO 2, for selected models)
6 Wireless WAN antenna (MIMO 1, for selected models)

Operating environment

Maximum altitude (without pressurization)

3048 m (10 000 ft)

Temperature

- Operating: 5°C to 35°C (41°F to 95°F)

- Storage and transportation in original shipping packaging: -20°C to 60°C (-4°F to 140°F)

- Storage without packaging: 5°C to 43°C (41°F to 109°F)

Note: When you charge the battery, its temperature must be no lower than 10°C (50°F).

Relative humidity

- Operating: 8% to 95% at wet-bulb temperature 23°C (73°F)

- Storage and transportation: 5% to 95% at wet-bulb temperature 27°C (81°F)

Appendix B. Notices and trademarks

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Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

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https://pcsupport.lenovo.com

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