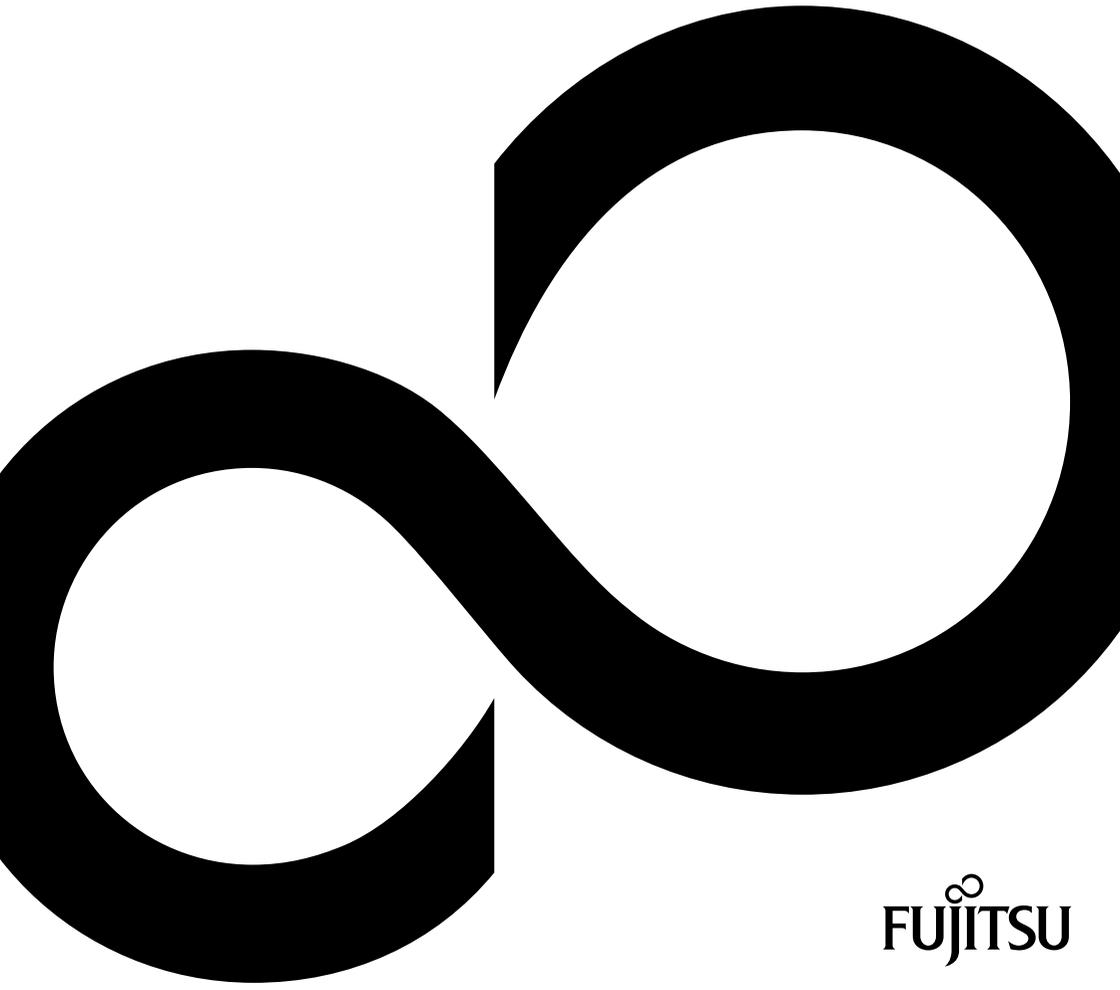# FUJITSU LIFEBOOK U9310X

FUJITSU

Congratulations on your purchase of an innovative product from Fujitsu.

The latest information about our products, tips, updates etc. can be found on the Internet at: "http://www.fujitsu.com/fts/"

You can find driver updates at: "http://support.ts.fujitsu.com/download"

Should you have any technical questions, please contact:

- our Hotline/Service Desk ("http://support.ts.fujitsu.com/contact/servicedesk")
- Your sales partner
- Your sales office

We hope you enjoy working with your new Fujitsu system!

FUJITSU

FUJITSU LIFEBOOK U9310X

Operating Manual

Remarks

Information on the product description meets the design specifications of Fujitsu and is provided for comparison purposes. Several factors may cause the actual results to differ. Technical data is subject to change without prior notification. Fujitsu rejects any responsibility with regard to technical or editorial mistakes or omissions.

Trademarks

Fujitsu, the Fujitsu logo and LIFEBOOK are registered trademarks of Fujitsu Limited or its subsidiaries in the USA and other countries.

Microsoft and Windows are trademarks or registered trademarks of Microsoft Corporation in the USA and/or other countries.

HDMI and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing, LLC.s.

Bluetooth® and the Bluetooth logo are registered trademarks of Bluetooth SIG, Inc.

Adobe Reader is a trademark of Adobe Systems Incorporated.

USB Type-C™ and USB-C™ are trademarks of the USB Implementers Forum in the USA and other countries.

All other trademarks specified here are the property of their respective owners.

Copyright

No part of this publication may be copied, reproduced or translated without the prior written consent of Fujitsu.

No part of this publication may be saved or transferred by any electronic means without the written approval of Fujitsu.

Contents

Contents

Innovative technology

... and ergonomic design make your device a reliable and convenient companion.

The device boots very quickly, is ready for immediate use and offers a particularly long operating time because of its high capacity battery.

With the user-friendly "BIOS Setup Utility" you can control your notebook's hardware and better protect your system against unauthorised access by using the powerful password properties.

> **i** Information on the connections and user components of your notebook can be found in "Ports and controls", Page 9.

Further information

> **i** The Windows drivers for your device can be found on our Internet site. The factory installation of your device does not support any other operating system. Fujitsu Technology Solutions accepts no liability whatsoever if any other operating system is used.
>
> Software oriented components of these instructions refer to Microsoft products, if they come within the scope of the delivery.
>
> If you install other software products, pay attention to the operating instructions of the manufacturer.

Notational conventions

⚠	Pay particular attention to text marked with this symbol. Failure to observe these warnings could pose a risk to health, damage the device or lead to loss of data. The warranty will be invalidated if the device becomes defective through failure to observe these warnings.
i	Indicates important information for the proper use of the device.
►	Indicates an activity that must be performed
↳	Indicates a result
`This font`	indicates data entered using the keyboard in a program dialogue or at the command line, e.g. your password (`Name123`) or a command used to start a program (`start.exe`)
This font	indicates information that is displayed on the screen by a program, e.g.: Installation is complete.
This font	indicates • terms and texts used in a software interface, e.g.: Click on *Save* • names of programs or files, e.g. *Windows* or *setup.exe*.
"This font"	indicates • cross-references to another section, e.g. "Safety information" • cross-references to an external source, e.g. a web address: For more information, go to "http://www.fujitsu.com/fts/" • Names of CDs, DVDs and titles or designations for other materials, e.g.: "CD/DVD Drivers & Utilities" or "Safety/Regulations" manual
Key	indicates a key on the keyboard, e.g: F10
This font	indicates terms and texts that are emphasised or highlighted, e.g.: **Do not switch off the device**

Ports and controls

This chapter presents the individual hardware components of your device. It gives you an overview of the device's indicators and connections. Please familiarise yourself with these components before you start to work with the device.

Notebook open
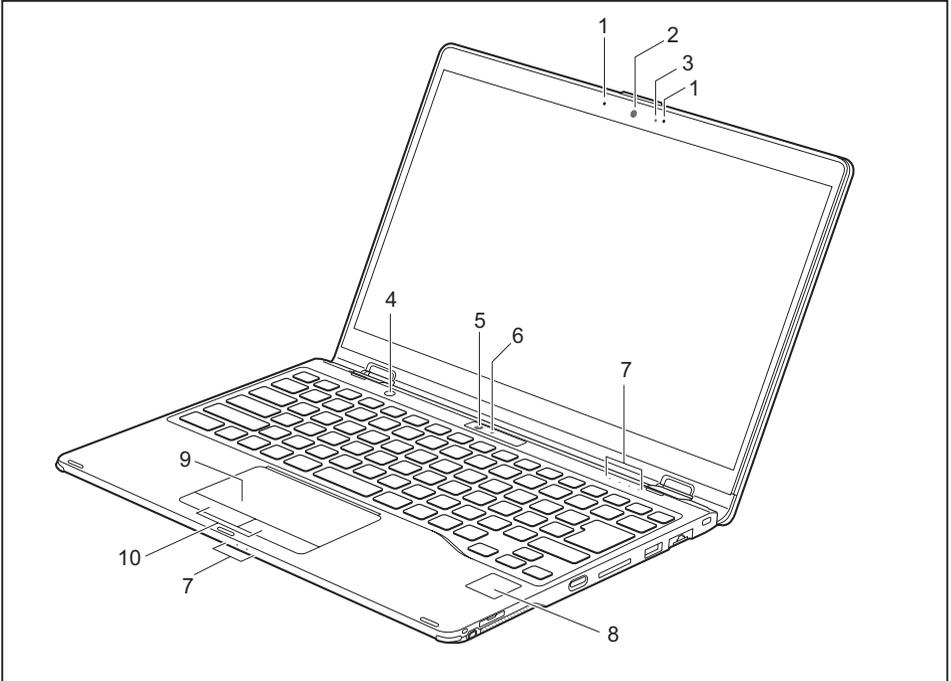
1 = Microphone
2 = Infrared camera
3 = Camera LED
4 = Shortcut Button for Microsoft Windows Ink
5 = Tablet mode camera
6 = Status display of tablet mode camera

7 = Status indicators
8 = Fingerprint sensor or palm sensor (configuration dependent)
9 = Touchpad
10 = Touchpad buttons

Left side
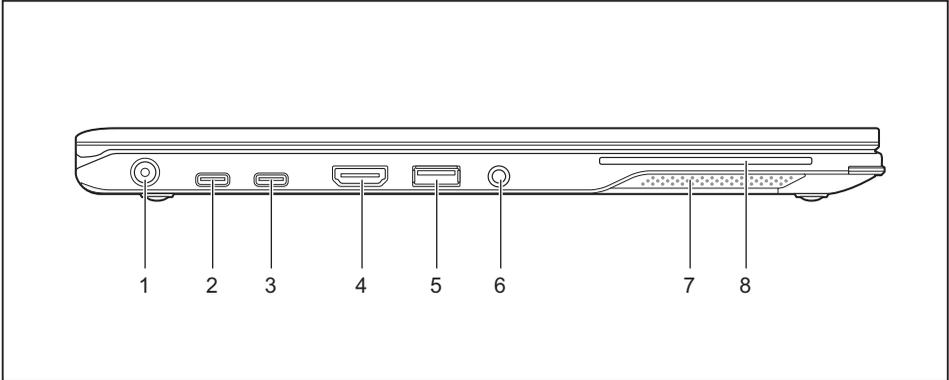
1 = DC input connector (DC IN)
2+3 = USB port Intel® Thunderbolt™ 3 with charging function and display port (USB Type-C Gen2)
4 = HDMI port

5 = USB 3.2 port with charging function (USB Type-A, Anytime USB charge)
6 = Combined headphones/microphone port
7 = Loudspeakers
8 = SmartCard reader

i

The descriptions in this document show the standard product configuration with Intel® Thunderbolt™ 3.

The following alternative USB configuration without Intel® Thunderbolt™ 3 is also available for projects:

• Pos. 2 = USB 3.2 Gen2 port with charging function and DisplayPort (USB Type-C™)

Right side
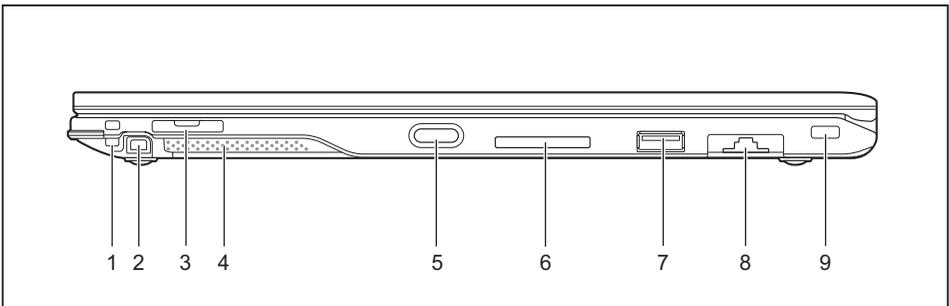
1 = Eyelet for the optional pen tether
2 = Pen slot
3 = SIM card slot (configuration-dependent, protected by cover)
4 = Loudspeaker

5 = ON/OFF button
6 = Memory card slot
7 = USB 3.2 port (USB Type-A)
8 = LAN connector (removable)
9 = Security Lock device

Bottom
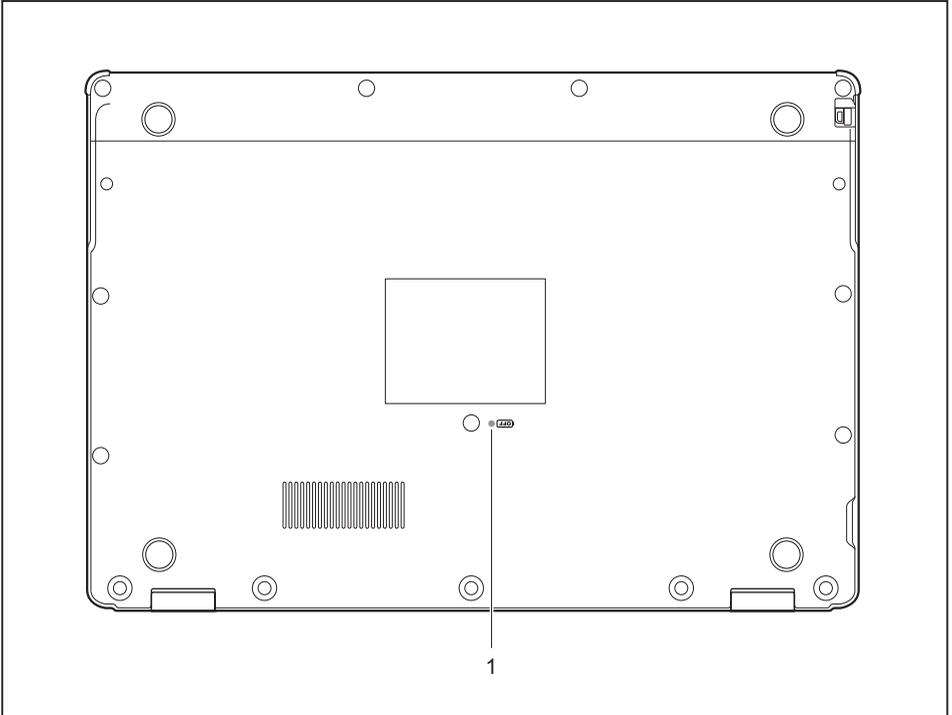
1 = Battery reset button (pushed)

Important notes

⚠ This chapter contains essential safety information which must be followed when working with your notebook. Other notes also provide useful information which will help you with your notebook.

Safety notes

⚠ Please follow the safety notes provided in the "Safety/Regulations" manual as well as the safety notes given below.

Please pay special attention to the sections in the manual marked with the symbol on the left.

When connecting and disconnecting cables, observe the relevant notes in this operating manual.

In order to prevent burn injury or the device from overheating, do not lay the device directly on your lap and make sure that the ventilation openings are not obstructed.

Read the information on the ambient conditions in the "Technical data", Page 88 and "First-time setup of your device", Page 16 before preparing your notebook for use and switching it on for the first time.

When cleaning the device, please observe the relevant notes in the section "Cleaning the notebook", Page 15.

Pay attention to the additional safety notes for devices with wireless components provided in the "Safety/Regulations" manual.

This notebook complies with the relevant safety regulations for data processing equipment. If you have questions about using your notebook in a particular area, please contact your sales outlet or our Hotline/Service Desk.

Additional safety notes for devices with radio components

If a radio component (Wireless LAN, Bluetooth, LTE) is integrated in your notebook, you must be sure to observe the following safety notes when using your notebook:

- Switch off the radio components when you are in an aircraft or driving in a car.
- Switch off the radio components when you are in a hospital, an operating room or near a medical electronics system. The transmitted radio waves can impair the operation of medical devices.
- Switch off the radio components when you let the device get near flammable gases or into hazardous environments (e.g. petrol station, paintshops), as the transmitted radio waves can cause an explosion or a fire.

> **i** For information on how to switch radio components on and off, see chapter "Switching the wireless components on and off", Page 50.

Energy saving

Switch the notebook off when it is not in use. Switch off external, connected devices if you are not using them. If you use the energy saving functions, the notebook uses less energy. You will then be able to work for longer before having to recharge the battery.

> **i** Energy efficiency is increased and the environmental impact is reduced. You save money while protecting the environment.

Energy saving under Windows

► Make use of the power management features (see ""Using the power-management features", Page 44").

Travelling with your notebook

Please observe the points listed below when travelling with your notebook.

Before you travel

► Back up important data stored on your hard disk.

► Switch off the wireless component for data security reasons. With data traffic via a wireless connection, it is also possible for unauthorised third parties to receive data.

i	Information on activating data encryption is provided in the documentation for your wireless component.

► If you wish to use your notebook during a flight, first check with the flight attendants if it is OK to do so.

When travelling in other countries

► If you are travelling abroad, check that the mains adapter can be operated with the local mains voltage. If this is not the case, obtain the appropriate mains adapter for your notebook. Do not use any other voltage converter!

► Check whether the local mains voltage and the power cable are compatible. If this is not the case, buy a power cable that matches the local conditions.

► Contact the relevant authorities of the country you will be travelling in as to whether you may operate the radio component integrated into your notebook computer. Please observe the additional safety instructions for devices with radio components, found in the handbook "Safety/formalities".

Notebook: transporting

⚠	Protect the notebook from severe shocks and extreme temperatures (e.g. direct sunlight in a car).

► Switch the notebook off.

► Unplug the mains adapter and all external devices from the power socket.

► Disconnect the mains adapter cable and the data cables for all external devices.

► Close the LCD screen.

► To protect against damaging jolts and bumps, use a notebook carrying case to transport your notebook.

Cleaning the notebook

Do not clean any interior parts yourself; leave this job to a service technician.

Only use cleaning products designed for computers. Normal household cleaners and polishes can damage the markings on the keyboard and the device, the paintwork or the notebook itself.

Ensure that no liquid enters the notebook.

The LCD screen very sensitive to scratches. Only clean the display surface with a very soft, slightly damp cloth.

► Switch the notebook off.

↳ The surface can be cleaned with a dry cloth. If particularly dirty, use a damp cloth that has been dipped in water mixed with mild domestic detergent and then carefully wrung out.

You can use disinfectant wipes to clean the keyboard and the touchpad.

Ensure that no liquid enters the device.

First-time setup of your device

⚠️ Please read the chapter <u>"Important notes", Page</u> <u>12</u>.

If your device is equipped with a Windows operating system, the necessary hardware drivers and supplied software are already pre-installed.

Before you switch on the device for the first time, connect it to the mains voltage using the mains adapter, see <u>"Mains adapter connecting", Page</u> <u>17</u>. The mains adapter must be connected during the entire installation process.

A system test is performed when your device is first switched on. Various messages can appear. The display may remain dark for a short time or may flicker.

Please follow the instructions on the screen.

NEVER switch off your device during the first-time setup process.

The battery must be charged if you want to operate your device using the battery.

When used on the move, the built-in battery provides the device with the necessary power. You can increase the operating time by using the available energy-saving functions.

For instructions on how to connect external devices (e.g. mouse, printer) to your device, please refer to the operating manual for your device.

Unpacking and checking the device

⚠️ Should you discover any damage that occurred during transportation, notify your local sales outlet immediately!

► Unpack all the individual parts.
► Check your device for any visible damage which may have occurred during transportation.

ℹ️ You may need the packaging in the future, if you need to transport your device.

Selecting a location

Select a suitable location for the device before setting it up. Follow the instructions below when doing so:

- Never place the device or the mains adapter on a heat-sensitive surface. The surface could be damaged as a result.
- Never place the device on a soft surface (e.g. carpeting, upholstered furniture, bed). This can block the air vents and cause overheating and damage.
- The underside of the device heats up during normal operation. Prolonged contact with the skin may become unpleasant or even result in burns.
- Place the device on a stable, flat, non-slippery surface. Please note that the rubber feet of the device may mark certain types of delicate surfaces.
- Keep other objects at least 100 mm / 3.94 inches away from the device and its mains adapter to ensure adequate ventilation.
- Never cover the ventilation slots of the device.
- Do not expose the device to extreme environmental conditions. Protect the device from dust, humidity, and heat.

Mains adapter connecting

Observe the safety notes in the enclosed "Safety/Regulations" manual.

The supplied power cable conforms to the requirements of the country in which you purchased your device. Make sure that the power cable is approved for use in the country in which you intend to use it.
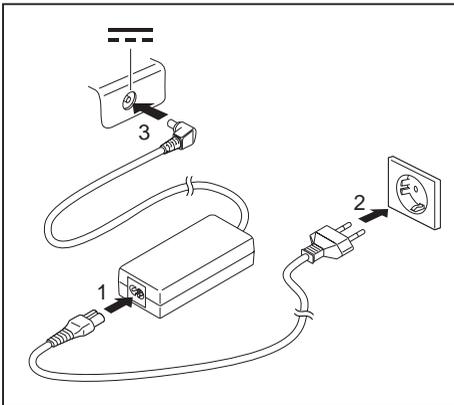
► Connect the power cable (1) to the power adapter provided for the device, see chapter "Technical data", Page 88.
► Plug the mains cable (2) into a mains outlet.
► Connect the mains adapter cable (3) to the DC jack (DC IN) of the device.

Switching on the device for the first time

⚠️ When you switch on the device for the first time, the supplied software is installed and configured. Because this procedure must not be interrupted, you should set aside enough time for it to be fully completed and connect the device to the mains using the mains adapter.

During the installation process, DO NOT restart the device unless you are requested to do so!

To make it easier to use your device for the first time, the operating system is pre-installed on the hard disk.
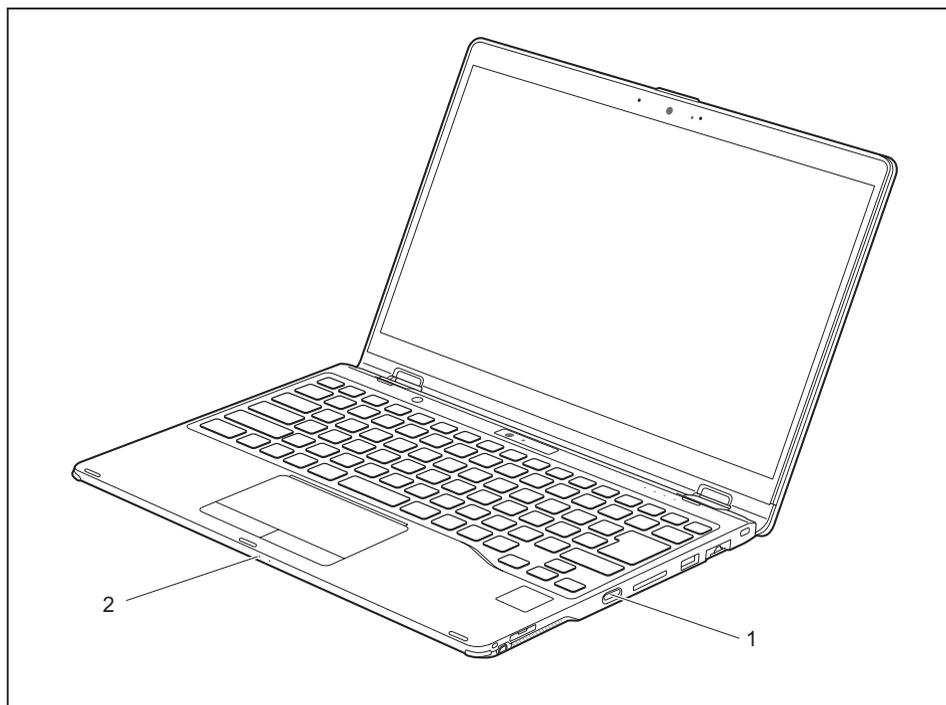
► Press the ON/OFF button (1) for about one second to switch the device on.

↳ The power-on indicator (2) lights up whenever the system is switched on.

► During installation, follow the instructions on screen.

ℹ️ If a Windows operating system is installed on your device, you will find more information on the system and drivers, help programmes, updates, manuals etc. on the device or on the Internet under "http://www.fujitsu.com/fts/support/".

You can find information and help on the Windows operating system functions on the Internet at "http://windows.microsoft.com".

Working with the notebook

This chapter describes the basics for operating your notebook. Please read the chapter entitled "Connecting external devices", Page 67 for instructions on how to connect devices such as a mouse and a printer to the notebook.

Please refer to the notes in "Important notes", Page 12.

Status indicators

The status indicators provide information about the status of the power supply, the hard disk and the keyboard functions.

Indicator	Description
⏻	**Power-on indicator/Standby** • Indicator is illuminated: The notebook is switched on. • The indicator flashes: The notebook is in sleep mode (Save-to-RAM). • The indicator is not lit: The notebook is switched off or the notebook is in Save-to-Disk mode.
➜ ▭	**Battery status indicator/power connector** The state of charge of the battery is shown by the battery indicator. With mains adapter connected: • The indicator lights up orange: the mains adapter is connected and the battery is being charged. • The indicator lights up red: The mains adapter is not connected and the battery power is below 20%. • Indicator flashes orange: the mains adapter is connected but the battery cannot be charged as the battery is too hot or cold for charging. The charging process is continued as soon as the battery reaches a permissible temperature again. • Indicator flashes red: An error has occured. • Indicator not lit: The battery is not being charged (the battery is already more than 90% charged or the mains adapter is not connected and the battery power is above 20%).
🔒 F	**F Lock indicator** The indicator lights up: The key combination Fn + 🔒F has been pressed. The special functions of the Fn (function) keys (see section "Key combinations", Page 39) can be executed by pressing the keys directly, without having to press the Fn key.
🔒 1	**Num Lock indicator** Indicator is illuminated: The Num key has been pressed. The virtual numerical keypad is activated. You can output the characters indicated on the upper right of the keys.
🔒 A	**Caps Lock indicator** Indicator is illuminated: The Caps Lock key has been pressed. All the characters you type will appear in upper case. In the case of overlay keys, the character printed on the upper left of the key will appear when that key is pressed.
🔒 ↓↑	**Scroll Lock indicator** Indicator is illuminated: the key combination Fn + Scr has been pressed. The effect that this key has varies between applications.

Opening the notebook
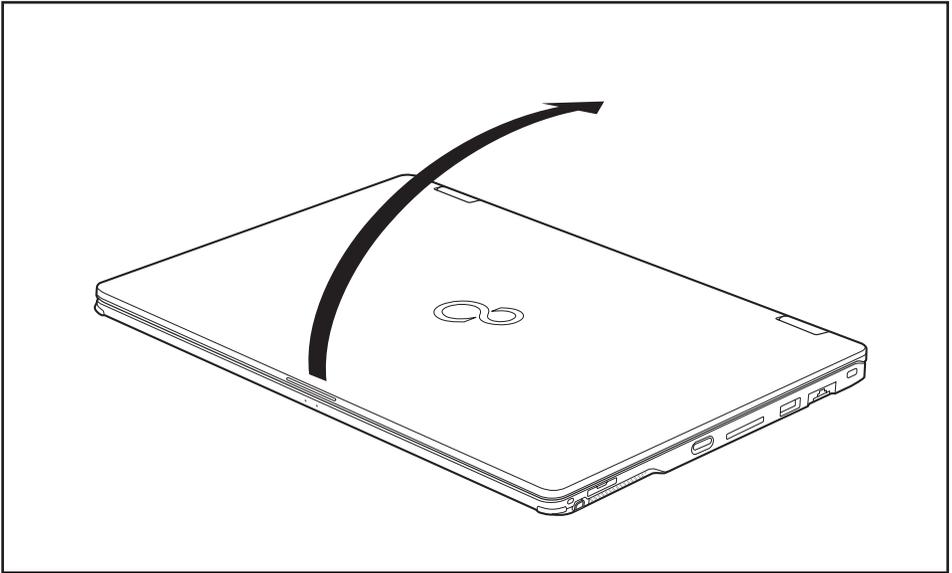
► Open the LCD screen.

Switching on the notebook
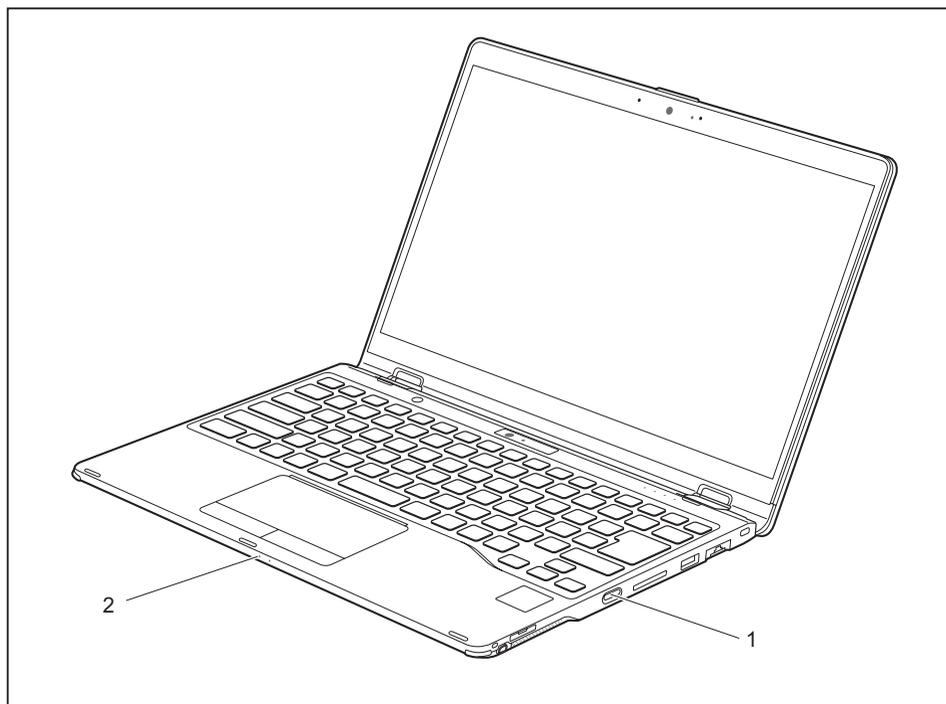
► Press the ON/OFF button (1) for about one second to switch the device on.

↳ The power-on indicator (2) lights up whenever the system is switched on.

Programming the ON/OFF button

You can program the ON/OFF button:

Operating system	Menu
Windows 10	*Control Panel - Hardware and Sound - Power Options*

i	If you have assigned a password, you must enter this when requested to do so, in order to start the operating system. Detailed information can be found in the chapter "Security functions", Page 57.

Different ways to use your notebook

During your daily work, you can use your notebook as a Tablet PC or as a notebook, just as you wish.

From notebook to Tablet PC
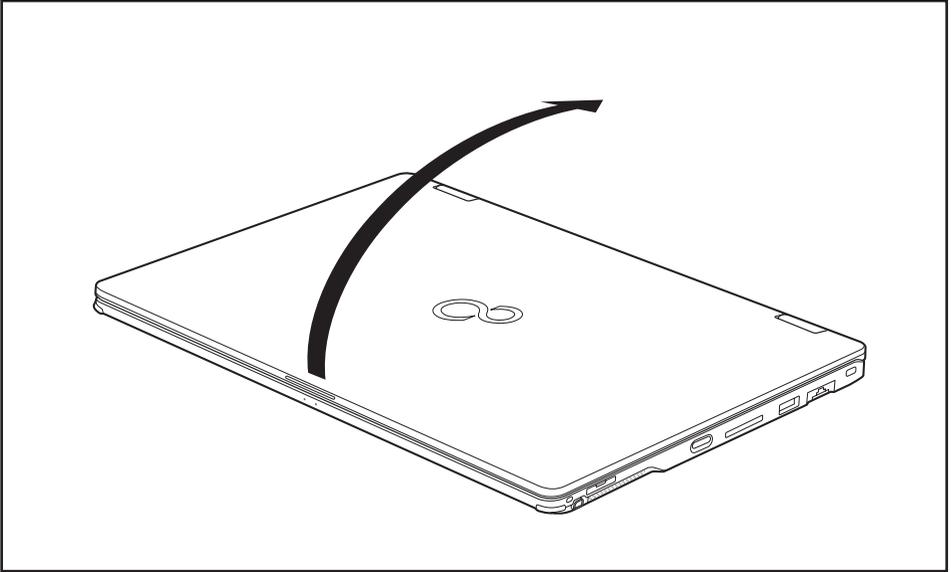
► Raise the LCD display into a vertical position.

i	You can fold the LCD screen down infinitely variably in an angle between 0 and 360 degrees.

► Fold the monitor down completely until the rear side of the monitor is resting on the bottom of the device.
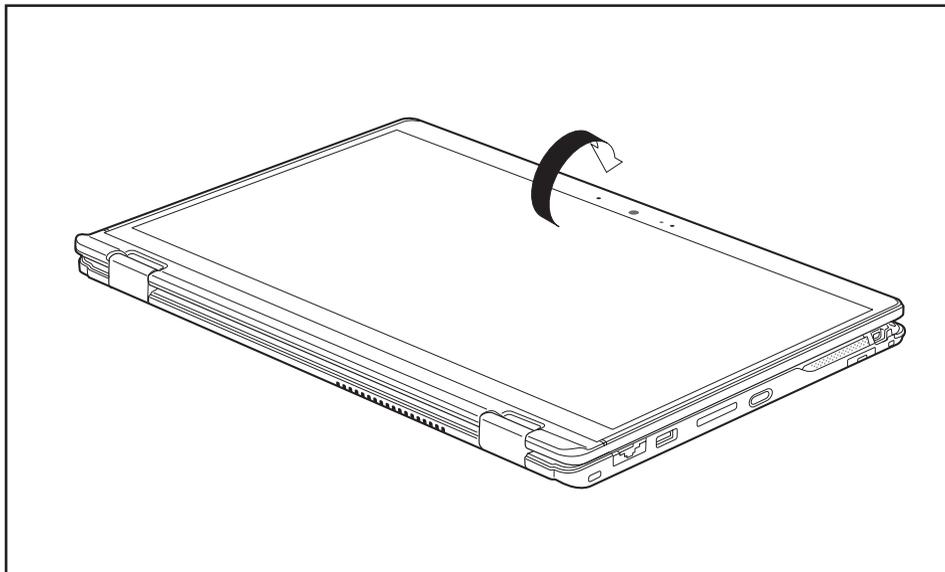
The monitor is now secured in the tablet position. The keyboard, touchpad and touchpad buttons are switched off in this position.

Select display orientation (portrait or landscape orientation)

You can choose to use either portrait or landscape orientation for the display, or whether the display orientation should automatically adapt to the orientation of the Tablet PC.

i	You can change these settings under *Control Panel - Hardware and Sound - Windows Mobility Center / Rotate screen*.

i	In Settings there are profiles saved for operation with different screen orientations. These profiles have preset standard configurations that can be modified as desired.
	These settings do not just affect the screen settings on the Tablet PC, but also those on externally connected monitors.

From Tablet PC to notebook
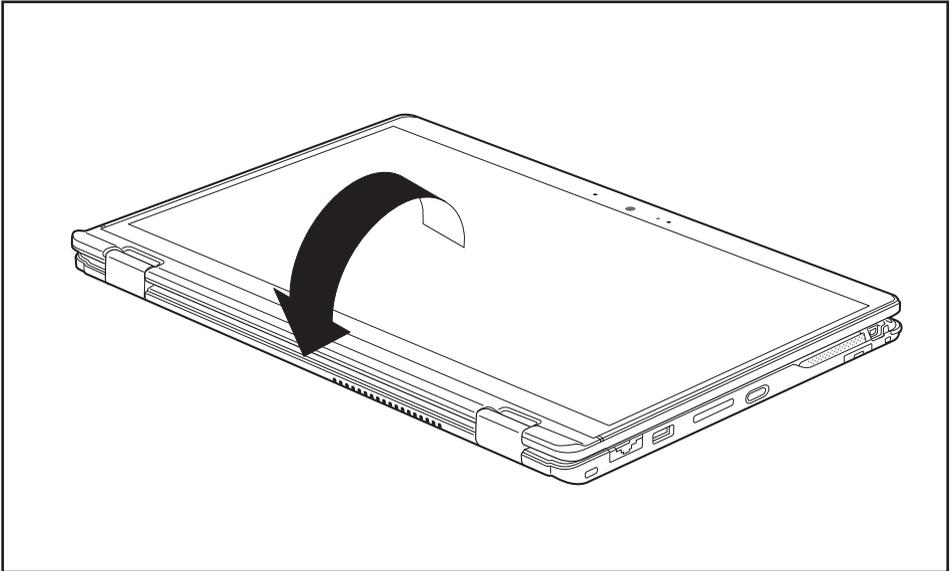
► Raise the LCD screen into a vertical position.
► Fold down the monitor until you reach the desired position.
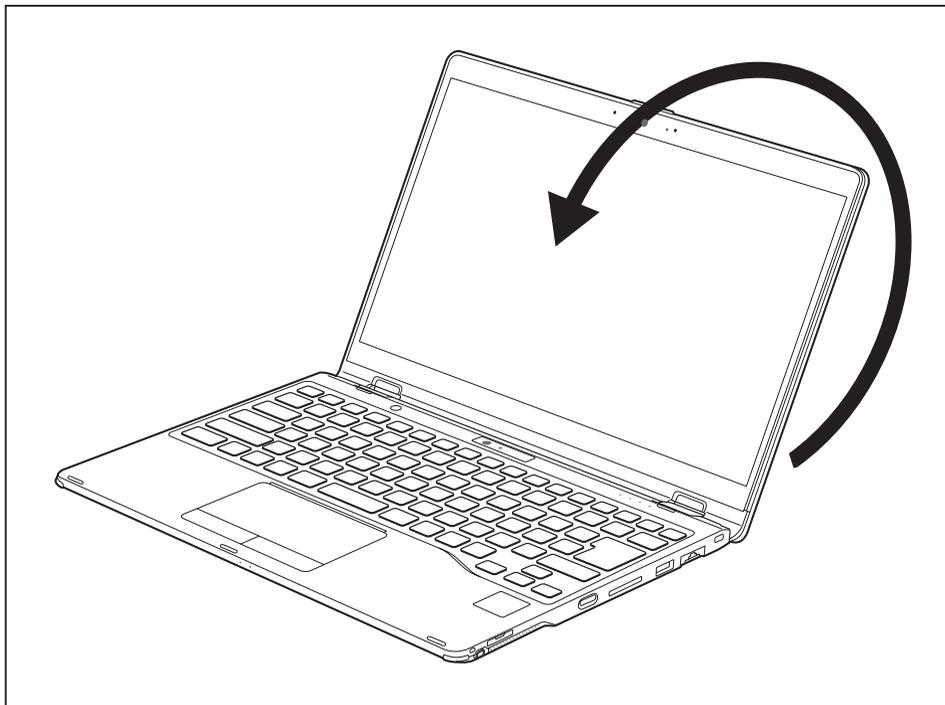
Switching off the notebook

► Close all applications and then shut down the operating system (please see the "Operating System Manual").

Closing the notebook
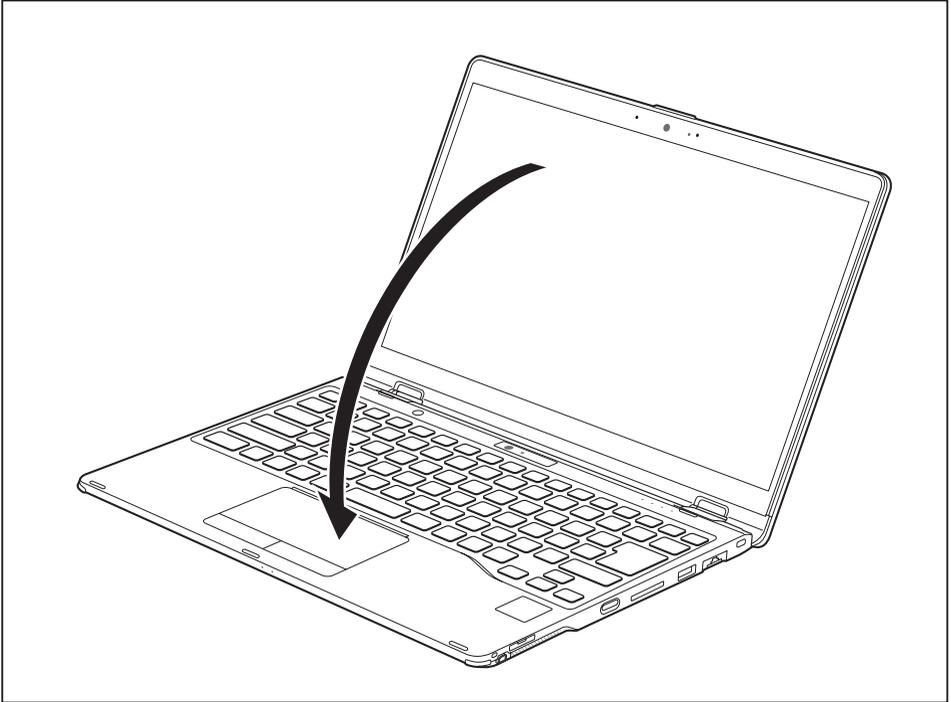
► Fold the LCD screen onto the lower section of the notebook.

Handwriting recognition

For detailed information on handwriting recognition, see the documentation on your operating system.

At present, handwriting recognition under Windows supports the following languages:

English, German, French, Italian, Japanese, Korean, Chinese (traditional and simplified), Dutch, Portuguese, Spanish, Brazilian, Norwegian (Bokmål and Nynorsk), Swedish, Finnish, Danish, Polish, Rumanian, Serbian (Cyrillic and Latin script), Catalan, Russian, Czech and Croatian.

Under Windows you can set the required language under *Control Panel – Time, Language and Region – Language*.

Touchscreen

i Information on screen resolution can be found in the section "Screen resolutions for integrated screen and external screens", Page 90.

High-quality LCD screens (TFT) are installed in Fujitsu notebooks. For technical reasons, these screens are manufactured for a particular resolution. An optimum and sharp image can only be ensured with the resolution intended for the particular screen. A screen resolution which differs from the specification can result in an unclear image.

The resolution of your notebook's screen is set to the optimum at the factory.

With the present standards of production technology, absolutely flawless screen images cannot be guaranteed. There may be a few constantly light or dark pixels (picture elements) on the screen. The maximum permitted number of such faulty pixels is specified in the international standard ISO 9241-307 (Class II).

Example:

A monitor with HD resolution 1366 x 768 has 1366 x 768 = 1049088 pixels. Each pixel consists of three subpixels (red, green and blue), making a total of about 3 million subpixels. According to ISO 9241-307 (class II), a maximum of 2 light and 2 dark pixels and in addition 5 light or 10 dark subpixels or an equivalent mix (1 light subpixel counts as 2 dark subpixels) are allowed to be defective.

Pixel	A pixel consists of 3 subpixels, normally red, green and blue. A pixel is the smallest element that can be generated by complete functionality of the display.
Subpixel	A subpixel is a separately addressable internal structure within a pixel that enhances the pixel function.
Cluster	A cluster contains two or more defective pixels or subpixels in a 5 x 5 pixel block.

Background lighting

LCD screens are operated with background lighting. The luminosity of the background lighting can decrease during the period of use of the notebook. However, you can set the brightness of your screen individually.

Synchronising the display on the LCD screen and an external monitor

For more information, please refer to the chapter "Key combinations", Page 39 under "Display output, switch between".

Use the touch screen

You can execute commands as follows:

• using the stylus pen (supplied with your device).

• using your fingers

Using fingers

You can execute certain commands by using your finger tip on the touchscreen of your device.

> **i** Everything which you can select or activate using your finger tip can also be selected or activated using the pen.

Calibrate screen for touch

> **i** For information on how to calibrate your device to use the touch screen, refer to the chapter "Calibrating the pen", Page 32.
>
> Please note: There are separate calibration programs available for calibrating the stylus pen and for calibrating finger-based operation. Do not use the calibration tool for the stylus pen to calibrate finger-based operation.

Using the stylus pen
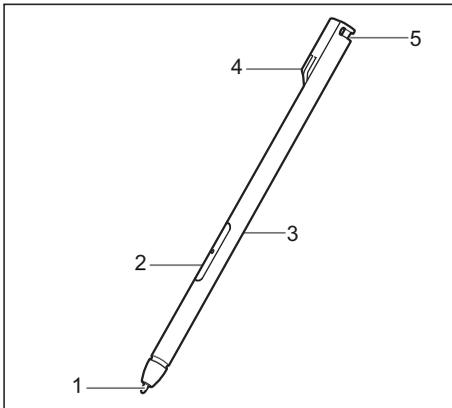
1 = pen tip

2 = pen button (= right mouse button)

3 = pen button (= delete function)

4 = charging contacts

5 = eyelet for optional pen strap

You can use the pen on your Tablet PC as an electronic writing implement to select items, and to navigate through programs on it. Programs that support handwriting recognition also allow you to write characters directly on the screen with the pen. You can also use the pen as a drawing tool.

A pen tether is available as an optional extra and you can use this to tie the eyelet on the pen to the eyelet on the Tablet PC.

⚠ Use only the pen provided with your Tablet PC. Do not use substitutes that were not designed for your Tablet PC. Replace the stylus tip if it is worn. The warranty does not cover a scratched screen.

While writing, you should take care not to scratch the surface of the display (e.g. with a wristwatch or bracelet).

ⓘ The Tablet PC's pen is an electronic instrument that can be damaged if used improperly. Handle the pen with care.

The following list contains guidelines for proper pen handling:

- Do not gesture with the pen.
- Do not use the pen as a pointer.
- Do not use the pen on surfaces other than the screen of the Tablet PC.
- Do not try to turn the thumb grip on the pen. The grip is used to place the pen in its slot or to remove it from the slot.
- Never store the pen with the tip bearing the weight of the pen (e.g. with the tip down in a pen holder). If the pen is stored with the tip pointing down, this may have an adverse effect on the pen mechanism (particularly at high temperatures). In this case the pen tip may react as though it is constantly being pressed down. To avoid damage, the pen should be stored in the slot when not in use.

The pen can be influenced by electromagnetic fields (cursor quivers or jumps). There may be a few areas on the screen where the cursor quivers slightly in spite of pressing the pen down firmly.

The screen responds to entries made with the tip of the finger or the pen when the tip of the finger or the pen is in direct contact with the screen.

You can use the pen to run all functions for which you would otherwise use a mouse.

Handling	Mouse	Pen
Selecting menu items	Click with the left-hand mouse button.	Touch the menu entry with the pen tip.
Starting programs	Double click with the left-hand mouse button.	Briefly touch the program icon twice with the pen tip.
Moving an object/window	Drag with the left-hand mouse button held pressed.	Place the pen tip directly on the object/window. Hold the pen tip pressed against the screen. Move the desired object/window.
Opening a context menu	Click with the right-hand mouse button.	Place the pen directly on the required element and hold the pen pressed against the screen.
Moving the cursor	-	Place the pen tip directly on the screen.

Pen position

⚠️ To prevent the pen from becoming jammed in its slot (1), always make sure that you insert the pen the right way round into its slot on the right side of the device (the charging contacts on the pen point left from the view below).
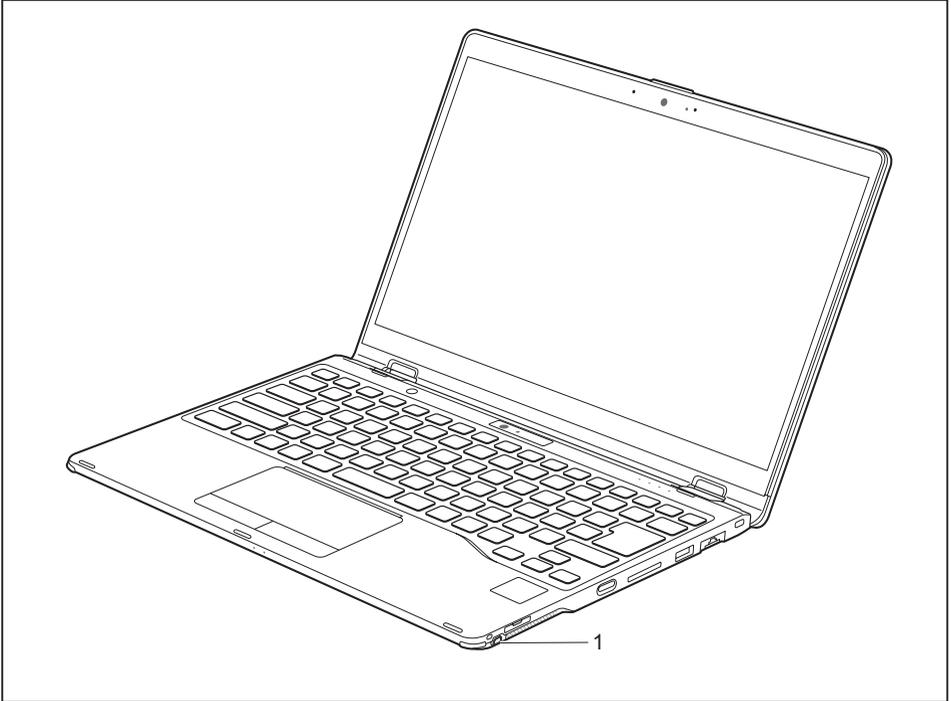
Energy saving functions of the pen

To save energy, the pen automatically switches off after 10 minutes of inactivity and is then in power saving mode.

The pen automatically returns to normal operating mode after the next contact with the pen tip.

Charging the pen battery

The pen contains an integrated battery, which is automatically charged when the pen is fully inserted into its slot. The pen is also charged when the notebook is in power saving mode or is switched off. A charging time of approximately 15 seconds is sufficient to enable to pen to be used for 90 minutes again.
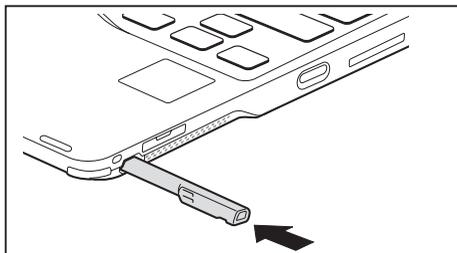
► Insert the pen fully in the slot.
↳ After a charging period of approximately 5 minutes, the pen battery is fully charged.

Setting the pen

Operating system	Menu
Windows 10	You can make various settings for the pen under *System Control - Hardware and Sound - Pen and Touch*.

Calibrating the pen

Via the operating system, you must calibrate your tablet PC before first use with the pen, so that it recognises the pen as accurately as possible.

You should also always repeat the calibration if the co-ordination between the pen and cursor movement deteriorates.

Operating system	Menu
Windows 10	To calibrate, call up the *Hardware and Sound / Tablet PC Settings* function in the Control Panel. You need to calibrate both portrait and landscape formats.

Attach the pen tether (optional)

You can attach the pen with a pen tether (available as an option) to prevent it being dropped or becoming lost.
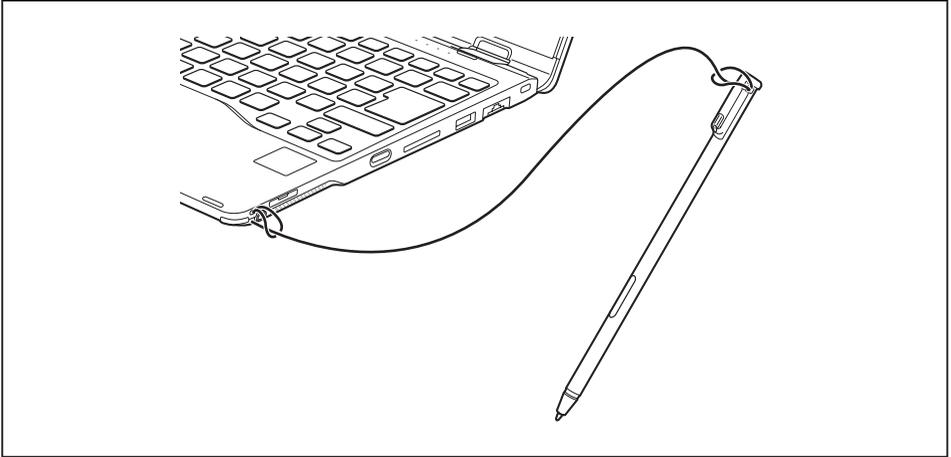
► Secure one end of the pen tether to the pen and the other end of the pen tether to the notebook.

Using the device as a notebook

Touchpad and touchpad buttons

⚠️ Keep the touchpad clean. Protect it from dirt, liquids and grease.

Never use the touchpad if your fingers are dirty.

Do not rest heavy objects (e.g. books) on the touchpad or the touchpad buttons.
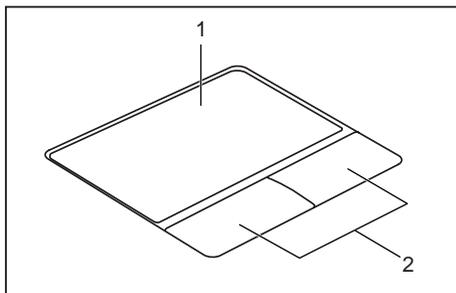
1 = Touchpad
2 = Touchpad buttons

You can move the cursor using the touchpad.

The touchpad buttons allow you to select and execute commands. They correspond to the buttons on a conventional mouse.

ℹ️ You can also deactivate the touchpad via the keyboard, so that you cannot move the cursor unintentionally (see chapter "Key combinations", Page 39).

Moving the pointer

► Move your finger on the touchpad.
↳ The pointer will move.

Selecting an item

► Move the pointer to the item you wish to select.
► Tap the touchpad once or press the left button once.
↳ The item is selected.

Executing commands

► Move the pointer to the field you wish to select.
► Tap the touchpad twice or press the left button twice.
↳ The command is executed.

Dragging items

► Select the desired item.
► Press and hold the left button and, with your finger on the touchpad, drag the item to the desired position.
↳ The item will be moved.

Switching the Touchpad on and off

i   You can switch the touchpad on and off using the keyboard, see "Key combinations", Page 39.

Keyboard

i	The keyboard of your notebook is subject to continuous wear through normal use. The key markings are especially prone to wear. The key markings are liable to wear away over the life of the notebook.

The keyboard has been designed to provide all the functions of an enhanced keyboard. Some enhanced keyboard functions are mapped with key combinations.

The following description of keys refers to Windows. Additional functions supported by the keys are described in the relevant manuals supplied with your application programs.

The figure below shows how to access the different characters on keys with overlaid functions. The example applies when the Caps Lock key has not been activated.

i	The illustrations shown below may differ from your actual device.

Key	Description
	Backspace key The Backspace key deletes the character to the left of the cursor.
	Tab key The Tab key moves the cursor to the next tab stop.
	Enter key (return) The Enter key terminates a command line. The command you have entered is executed when you press this key.
	Caps Lock key The Caps Lock key activates uppercase mode. In Caps Lock mode, all of the characters you type appear in upper case. In the case of overlay keys, the character printed on the upper left of the key will appear when that key is pressed. To cancel the Caps Lock function, simply press the Caps Lock key again.
	Shift key The Shift key causes uppercase characters to appear. In the case of overlay keys, the character printed on the upper left of the key appears when that key is pressed.
Fn	**Fn key** The Fn key enables the special functions indicated on overlay keys (see "Key combinations", Page 39).
	Cursor keys The cursor keys move the cursor in the direction of the arrow, i.e. up, down, left, or right.
	Windows key The Windows key switches between the start screen and the last used application.
	Menu key The Menu key opens the menu for the active application.
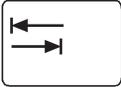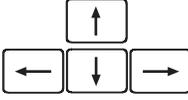
Virtual numeric keypad

To provide the convenience of a numeric keypad, your keyboard is equipped with a virtual numeric keypad. The special keys of the virtual numeric keypad are recognisable by the numbers and symbols printed in the upper right corner of each key. If you have switched on the virtual numeric keypad, you can output the characters shown on the upper right of the keys.

i   The keyboard layout shown below may differ from your actual device.
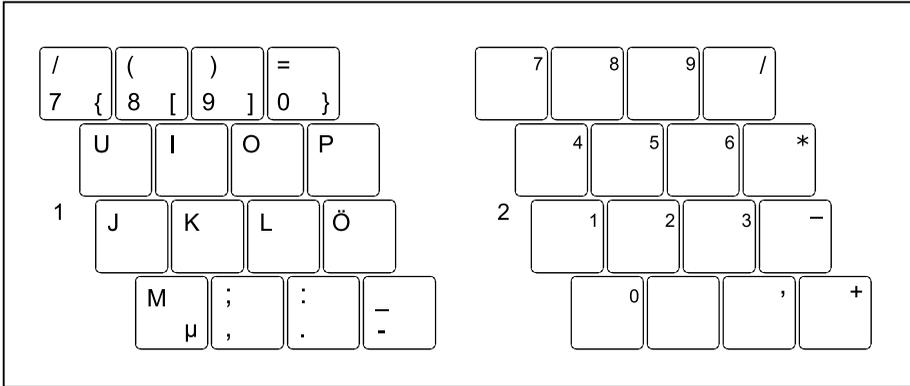
1 = Valid characters when the Num key is not activated

2 = Valid characters when the Num key is activated

Further information about the status indicators can be found in chapter "Status indicators", Page 19.

Country and keyboard settings

► Change the country and keyboard settings as described in the documentation for your operating system.

Key combinations

The following description of key combinations applies to Windows operating systems. Some of the following key combinations may not function in other operating systems or with certain device drivers.

Other key combinations are described in the relevant manuals supplied with your application programs.

Key combinations are entered as follows:

► Press the first key in the combination and keep it pressed.
► While holding the first key down, press the other key or keys in the combination.

> **i** If the key combination `Fn` + **F** is pressed: The special functions of the Fn keys can be executed by pressing the keys directly without also having to press the Fn key.

Combination	Description
Fn + F1	**Switching the microphone on/off** This key combination enables and disables the microphone.
Fn + F2	**Switching the loudspeakers on and off** This key combination switches your notebook's loudspeakers off and on.
Fn + F3	**Decrease volume** This key combination reduces the volume of the internal loudspeakers.
Fn + F4	**Increase volume** This key combination increases the volume of the internal loudspeakers.
Fn + F5	**Switching the wireless components on / off** This key combination switches the wireless components off or on.
Fn + F6	**Switching the touchpad and touchpad buttons on/off** This key combination switches the touchpad and the touchpad buttons on or off.
Fn + F7	**Decrease screen brightness** This key combination decreases the brightness of the screen.
Fn + F8	**Increase screen brightness** This key combination increases the brightness of the screen.

Combination	Description
Fn + F9	**Energy saving functions** Use this key combination to activate the power management functions (see chapter "Using the power-management features", Page 44).
Fn + F10	**Toggle output screen** Use this key combination to select which screen(s) is/are used for display if an external monitor is connected. Screen output is possible: • only on the notebook's LCD screen • on the LCD screen of the notebook and the external monitor at the same time • only on the external monitor This setting is useful if you would like a high resolution and a high refresh rate on an external monitor.
Fn + ⌨	**Activate/deactivate keyboard backlight** On backlit keyboards, this key combination activates or deactivates the backlight.
Alt + ⇄	**Switch between open applications** Use this key combination to switch between several open applications.
Ctrl + Alt + Del	**Windows security/Task-Manager** This key combination opens the Windows security/Task-Manager window.
⇧ + ⇄	**Back tab** This key combination moves the cursor back to the previous tab stop.
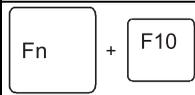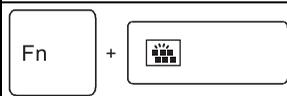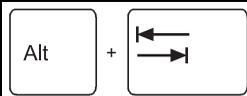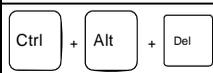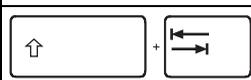
---

i Key combinations using the Windows keys are detailed in the manual for your operating system.

In addition, the following non-labelled key combinations are supported:
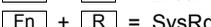
• Fn + S = Pause
• Fn + B = Break
• Fn + R = SysRq

Shortcut Button for Microsoft Windows Ink

i

Your device has a shortcut button (1).

Briefly pressing the shortcut button opens the sticky notes application *Microsoft Windows Ink*. Pressing the shortcut button for long opens the *Fujitsu Utility Function Manager*.

You can also enable the shortcut button when the device is used in the tablet position with the screen folded down.

You can activate or deactivate the shortcut button with the *Fujitsu Utility Function Manager*.
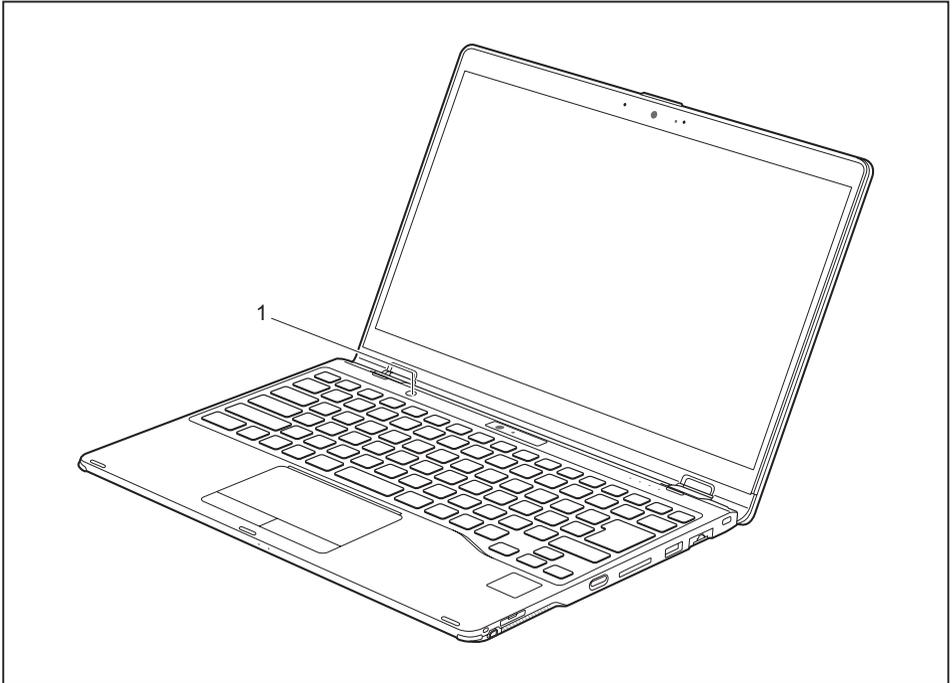
Keyboard with backlight

i

On this version of the keyboard, repeated pressing of the key combination ⌜Fn⌐ + ⌜space bar⌐ allows the background lighting to be switched on and off and also a choice to be made between two levels of brightness.

In battery mode, it is recommended to turn on the backlight only when needed and to use the lower brightness level to maximize battery life.

Camera

i	Your device has an infrared camera (1) and a tablet mode camera (2). The infrared camera enables authentication with Microsoft Windows Hello. The Tablet mode camera allows camera shooting with the screen folded down when the device is in Tablet mode.
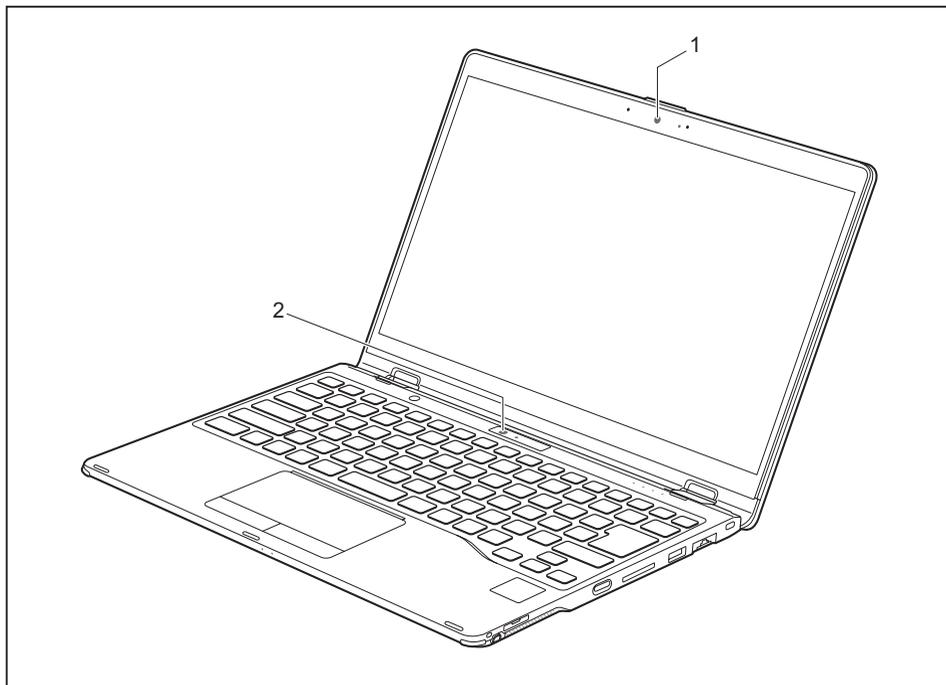
Depending on the software used, you can use the cameras to take pictures, record video clips or take part in web chats.

Each camera has its own status indicator. The respective status indicator lights up when the camera is active.

- The picture quality depends on the lighting conditions and the software being used.
- You can only use the camera with a particular application (e.g. an Internet telephony program or a video conferencing program which supports a camera).
- When using the camera, the notebook support must not shake.
- The camera automatically adjusts itself to the current light level. For this reason the LCD display may flicker while the light level is adjusted.

i	Further information on use of the camera and additional settings can be found in the Help function of the program which uses the camera.

Rechargeable battery

During mobile use, the notebook runs on its built-in battery. You can increase the life of the battery by caring for the battery properly. The average battery life is around 800 charge/discharge cycles.

You can extend the battery life by taking advantage of the available energy saving functions.

Charging, caring for and maintaining the battery

The notebook's rechargeable battery can only be charged when the ambient temperature is between 5 °C / 41 °F and max. 35 °C / 95 °F.

You can charge the battery by connecting the notebook to the mains adapter (see "Mains adapter connecting", Page 17).

Please note that the rechargeable battery will not be charged if its state of charge is between 90 % and 100 %. If the state of charge of the rechargeable battery is less than 90 % and the mains adapter is connected, the battery will be charged to 100 %.

If the battery is running low you will hear a warning alarm. If you do not connect the mains adapter within five minutes of the warning alarm described above, your notebook will automatically switch off.

monitoring the battery charging level

Windows also has a "Battery status meter" in the taskbar for monitoring the battery capacity. When you place the mouse pointer on the battery symbol, the system displays the battery status.

Using the power-management features

The notebook uses less power when the available power-management features are used. You will then be able to work longer when using the battery before having to recharge it.

i	Power efficiency is increased and environmental pollution reduced. By choosing the best power options, you can make significant savings and at the same time help protect the environment.

When you close the LCD screen, depending on the setting in Windows, the notebook automatically enters a power saving mode.

► Select the power management functions in your Control Panel.

i	If you need further information about an option, you can get help about most settings by pressing the key combination Fn + F1 to show the Microsoft help.

When the notebook is in power-saving mode, the following must be remembered:

i	During power saving mode, open files are held in the main memory or in a swap file on the hard disk.
	Never turn off your notebook while it is in a power saving mode. If the built-in battery is nearly empty, close the open files and do not go into power saving mode.

If you do not intend to use your notebook for a long period of time:

► Exit power saving mode if necessary via the mouse or keyboard or by switching on the notebook.
► Close all opened programs and completely shut down the notebook.

If you operate the notebook in battery mode:

When the system is running in battery mode, the power consumption can be adjusted.

► Click on the battery symbol in the task bar.
► Choose between optimum performance and optimum battery consumption.

Adjusting fan control

You can adjust the fan control in the BIOS Setup Utility. The following settings are available:

- • Normal: The system is cooled to ensure that the maximum system performance is always available.
- • Silent: The fan rotation speed, and therefore the noise created by the fan, is reduced.
- ► Call up the *BIOS Setup Utility*.
- ► In the menu *Advanced - Miscellaneous Configurations* select the *Fan Control* function.
- ► Choose the setting *Normal* or *Silent*.

i Instructions for how to call up and operate the *BIOS-Setup-Utility* can be found in chapter "Settings in BIOS Setup Utility", Page 74.

i With the Fujitsu Utility *Function Manager* you can also switch between these two settings with Windows. In the *Function Manager*, select the *Fan* menu item with the options *Quiet Mode* (corresponds to *Silent*) and *Normal Mode*.

Memory cards

Your notebook is equipped with an integrated memory card reader.

| i | Observe the manufacturer's instructions when handling the memory cards. |

Supported formats

Your notebook supports the following formats:

- Secure Digital (SD™ card)
- SDHC
- SDXC

Inserting the memory card
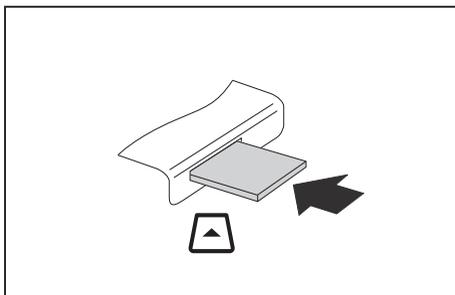
► Carefully push the memory card into the slot until you feel it click into place. The label area must be facing upward. Do not apply any force, otherwise the delicate contact surfaces could be damaged.

↳ Depending on the particular type used, the memory card may protrude slightly from the slot.

Removing the memory card

| ! | In order to protect your data, always follow the correct procedure for removing the card (see the documentation for your operating system). |
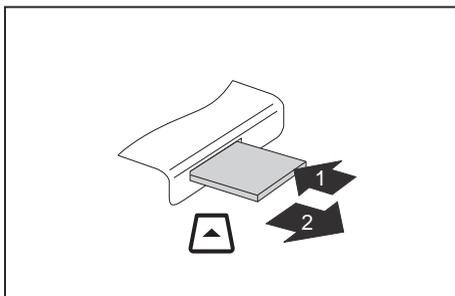
► Press on the memory card (1).

↳ The memory card is released and can now be removed.

► Pull the memory card out of the slot (2).

Loudspeakers and microphones

You will find information about the exact position of speakers and microphones in chapter "Ports and controls", Page 9.

Please refer to chapter "Key combinations", Page 39 for information on setting the volume and also enabling/disabling the loudspeakers via the keyboard.

> **i**
>
> If you attach an external microphone, the built-in microphone is disabled.
>
> When you connect headphones or external speakers, the built-in speakers are disabled.
>
> Information on connecting headphones and a microphone can be found in "Connecting external devices", Page 67.

SIM card (configuration dependent)

i	Your device supports cards in Micro-SIM format (15 mm x 12 mm).
	The device also supports the eSIM function. For information, please contact your network provider.

A SIM card (Subscriber Identity Module) is a chip card which is inserted in a mobile phone or notebook and, together with an integrated UMTS/LTE module, enables access to a mobile network.

⚠ When handling SIM cards, follow the instructions supplied by the provider.

Inserting the SIM card

► Switch the device off ("Switching off the notebook", Page 26).
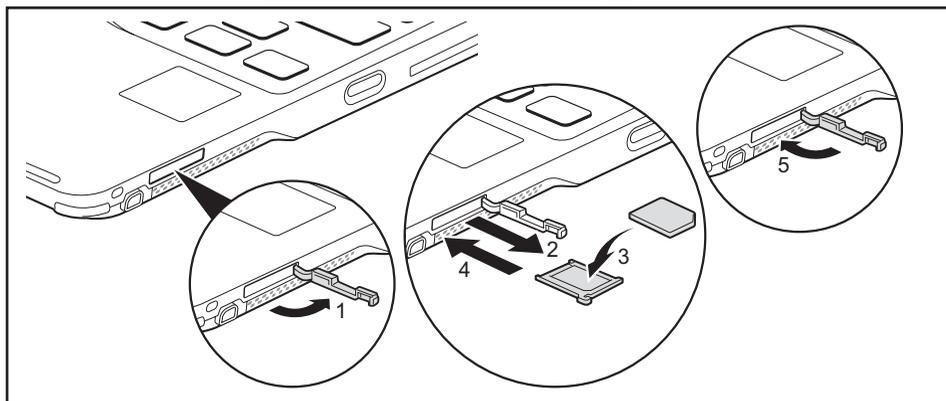
► Open the slot cover (1).
► Pull the SIM card holder out of the slot (2).
► Insert the SIM card (3) in the SIM card holder as shown.
► Push the SIM card holder back into the slot (4).
► Close the slot cover (5).
► Switch the device on again ("Switching on the notebook", Page 22).

Removing a SIM card

► Switch the device off ("Switching off the notebook", Page 26).
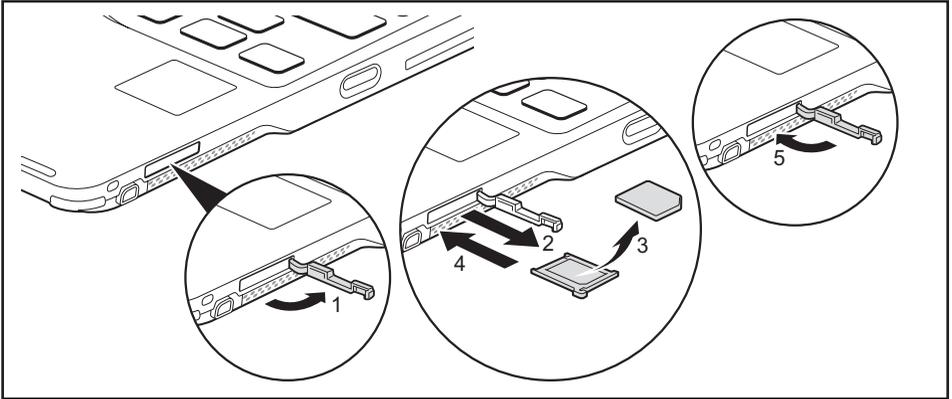
► Open the slot cover (1).
► Pull the SIM card holder out of the slot (2).
► Remove the SIM card from the SIM card holder (3).
► Push the SIM card holder back into the slot (4).
► Close the slot cover (5).
► Switch the device on again ("Switching on the notebook", Page 22).

Wireless LAN / Bluetooth / LTE radio components (configuration dependent)

⚠ The installation of radio components not approved by Fujitsu will invalidate the certifications issued for this device.

ⓘ Depending on the device configuration you ordered, your device will be equipped with Wireless LAN, Bluetooth or LTE.

Switching the wireless components on and off

► To switch the radio components on or off, press the key combination ⎡Fn⎤ + ⎡F5⎤.

ⓘ If you switch off the radio components, the Bluetooth and LTE modules and the wireless LAN transmission unit (antenna) are also switched off.

Pay attention to the additional safety notes for devices with radio components provided in the "Safety/Regulations" manual.

Details on using a Wireless LAN can be found in the online help system included in the Wireless LAN software.

For further information about LTE, please contact your service provider.

Setting up WLAN access

• Requirement: A WLAN must be available and you must have the corresponding access information.

ⓘ Information on configuring the WLAN access can be found in the documentation for your operating system.

Access via LTE (configuration dependent)

If you ordered an integrated LTE module with your system, you can enjoy optimum reception and maximum energy efficiency without awkward cables or antennas. An installed LTE module is ready for immediate use.

If you did not order an LTE module, you can purchase the accessories for LTE reception from your retailer or your Fujitsu Technology Solutions dealer.

For information about connecting with the LTE network, please see the documentation for the hardware that you will be using.

You can connect your device to the internet via LTE. To do this, use one of the following connection types:

• Integrated LTE module (the type depends on your model variant)
• a USB dongle (a USB stick with your mobile phone provider's SIM card)
• a mobile end-device (e.g. mobile phone with Bluetooth or cable connection)

Ethernet and LAN

The internal network module of your notebook supports Ethernet LAN. You can use it to establish a connection to a local network (LAN = Local Area Network).
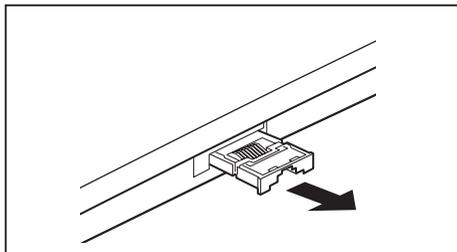
► Pull the LAN adapter out of the LAN port on the notebook in the direction of the arrow.
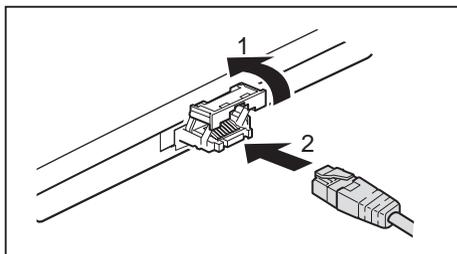
► Push the LAN adapter upwards in the direction of the arrow (1).
► Connect the network cable to the LAN adapter (2).
► Connect the network cable to your network port.

Your network administrator can help you to configure and use the LAN connections.

The network cable is not included in the delivery scope. This type of cable can be obtained from a specialist dealer.

Use a shielded network cable (CAT 5e).

Your USB Type-C Port Replicator (optional)

Your Port Replicator is a device that helps you to quickly connect your notebook to your peripheral devices, such as a monitor, printer, etc.

The features offered by the Port Replicator include standard ports for monitor, audio and other USB devices, such as mouse and keyboard.

You need only connect the notebook to the Port Replicator in order to work with your peripheral devices.

i In addition to the USB type-C port replicator described here, this system also supports a Thunderbolt 3 port replicator, which is also connected to the system via the USB type-C connector.

Ports on the Port Replicator
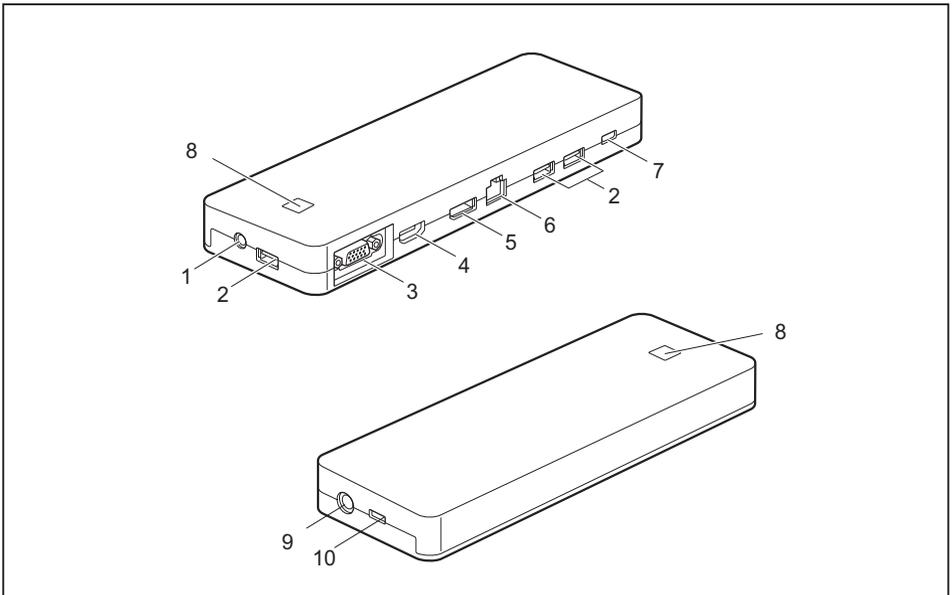
1 = Combined headphones/microphone port
2 = USB port 3.2 Gen1 (USB Type-A)
3 = VGA monitor port
4 = HDMI port
5 = DisplayPort
6 = LAN port
7 = USB 3.2 Gen1 port only for data connection (USB Type-C)

8 = ON/OFF switch with power-on indicator
9 = DC input connector (DC IN)
10 = USB 3.2 Gen1 port for data connection and power supply for the notebook (USB Type-C)

Setting up the port replicator

⚠️ Select a suitable location for the Port Replicator before setting it up.
Follow the instructions below when doing so:

• Never place the port replicator on a soft surface (e.g. carpeting, upholstered furniture, bed). This can block the air vents of the notebook and cause overheating and damage.
• Place the port replicator on a stable, flat and non-slip surface. Please note that the port replicator's rubber feet may mark certain types of surface.
• Never place the port replicator and the mains adapter on a heat-sensitive surface.
• Do not expose the port replicator to extreme environmental conditions.
  Protect the port replicator from dust, humidity and heat.

Connecting the mains adapter to the Port Replicator
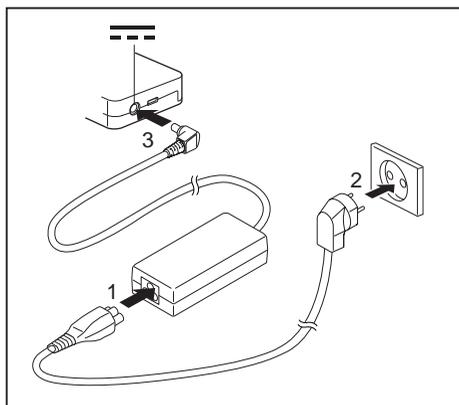
► Connect the power cable (1) to the power adapter provided for the device, see chapter <u>"Technical data", Page</u> <u>88</u>.
► Plug the power cable into the mains socket (2).
► Connect the mains adapter cable to the DC jack (DC IN) of the Port Replicator (3).

ℹ️ When the notebook is connected to a Port Replicator, the operating system creates a hardware profile for the "Docked" mode. In this profile, for example, the setting is saved as to which monitor was last used for output. This profile will be loaded, as soon as the notebook is connected to a Port Replicator of the same type.

Connect the notebook to the port replicator

► Disconnect the mains adapter cable from the DC socket (DC IN) of the notebook.
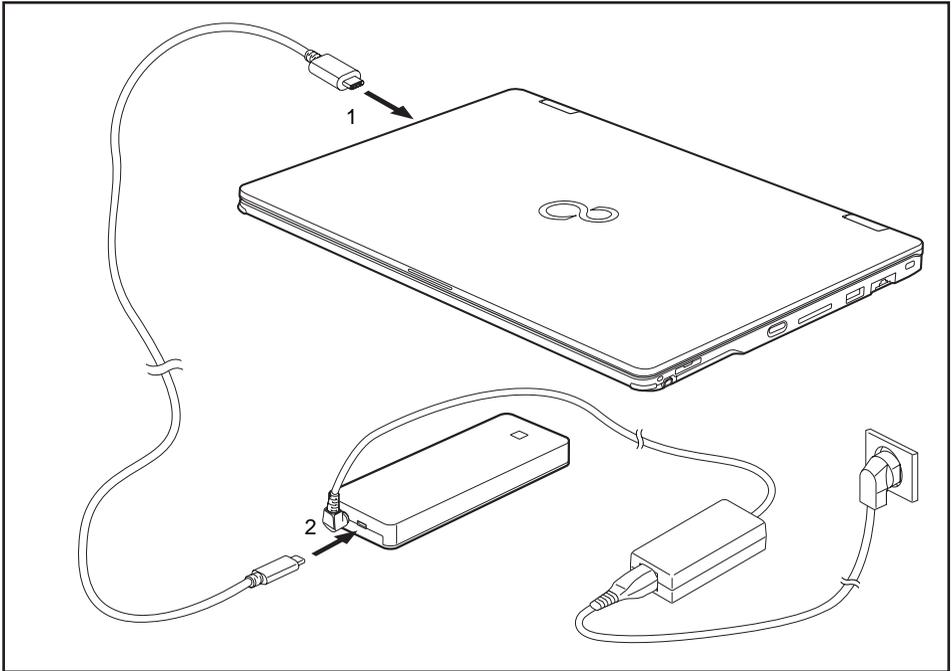
► Connect one end of the USB cable (USB Type-C) to the USB 3.2 Gen2 port with charging function (USB Type-C) on the notebook (1).
► Connect the other end of the USB cable (USB Type-C) to the USB 3.2 Gen1 port for data connection and power supply (USB Type-C) on the Port Replicator (2).

Switching on the notebook via the port replicator
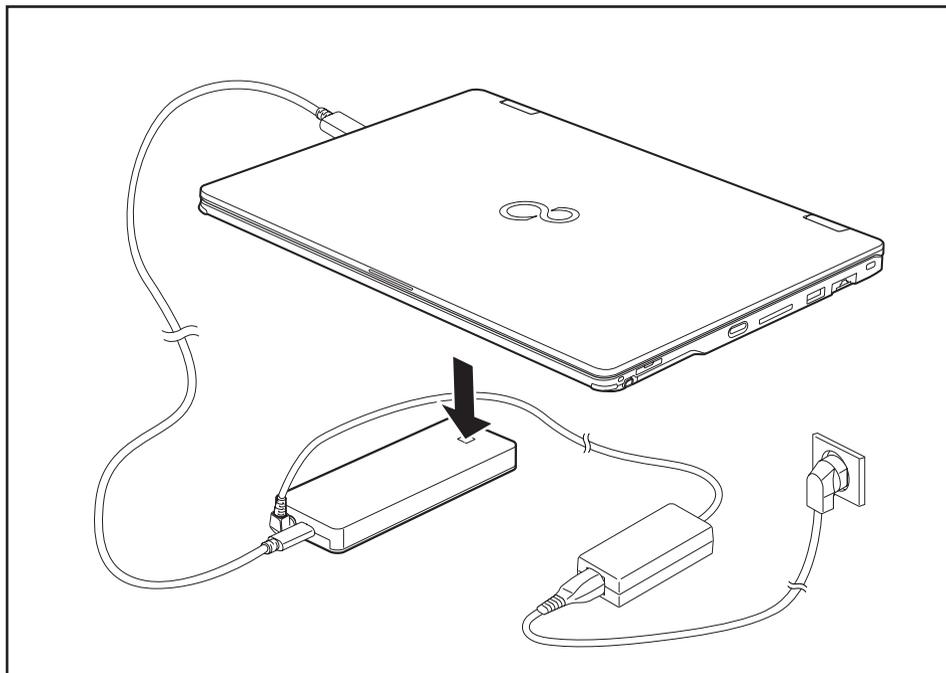
► Press the ON/OFF button on the port replicator to switch the notebook on.

ℹ You can configure the function of the ON/OFF switch under Windows (see "Programming
the ON/OFF button", Page 22). The settings apply both to the ON/OFF switch of
the notebook and to the ON/OFF switch of the Port Replicator.

Switching off the notebook via the Port Replicator

► Close all applications and shut down your operating system (please refer
to the manual for the operating system).

ℹ If the notebook cannot be shut down properly, press the ON/OFF switch on the notebook
for about four seconds. The notebook will switch itself off. Any data not saved may be lost.

Disconnecting the notebook from the Port Replicator

► Disconnect the supplied USB cable (USB Type-C) from the USB 3.2 Gen
2 port (USB Type-C) of the notebook.

Security functions

Your notebook has several security features that you can use to secure your system from unauthorised access.

This chapter explains how to use each function, and what the benefits are.

Please remember that in some cases, for example, forgetting your password, you may be locked out and unable to access your data. Therefore, please note the following information:

- Make regular backups to external data carriers such as external hard drives, CDs, DVDs or Blu-ray Discs.
- Some security functions need you to choose passwords. Make a note of the passwords and keep them in a safe place.

If you forget your passwords you will need to contact the our Service Desk. Deletion or resetting of passwords is not covered by your warranty and a charge will be made for assistance.

If you change the *Password Severity* setting from *Strong* to *Stringent* in the *Security* BIOS Setup Utility menu, the Fujitsu Service Desk can no longer reset the password. In this case, the system can remain permanently unusable.

Therefore, Fujitsu recommends to generally set up a supervisor password with the setting *Password Severity* = *Strong*.

Brief overview of security functions

i   Detailed information about the security equipment of your device can be found in the "Professional Notebook" manual, on the "Drivers & Utilities" CD/DVD or on the Internet at "http://www.fujitsu.com/fts/support/index.html".

Security functions	Type of protection	Preparation
Security Lock	Mechanical	Fit and lock the Kensington Lock Cable (accessory).
Fingerprint sensor (configuration dependent)	Biometric	Install the supplied fingerprint software.
Palm sensor (configuration dependent)	Biometric	Installing the supplied software
BIOS password protection	Password protection for *BIOS Setup*, operating system and hard disk with supervisor and user password. The passwords consist of a maximum of eight alphanumeric characters.	Specify at least one supervisor password in the *BIOS Setup* and activate the password protection for the operating system and hard disk as desired.
Boot from removable media	Prevents unauthorised booting of an operating system from external media (e.g. USB stick, USB CD-ROM drive etc.).	In the BIOS Setup, go to the *Security* menu and edit the option *Boot from Removable Media*.
Owner Information	Overlay service desk or owner information during the boot process.	In the BIOS Setup, go to the *Security* menu and edit the option *Owner Information*.
SmartCard reader (configuration dependent)	PIN and SmartCard protection for operating system	To use the SmartCard reader functions, install the supplied (or other suitable) software.
Trusted Platform Module	Identification and authentication of the notebook	Define a supervisor password in the *BIOS Setup* and enable the TPM (*Security Chip*).

Setting up the fingerprint sensor (configuration dependent)

The fingerprint sensor can record an image of a fingerprint. With additional fingerprint software, this image can be processed and used instead of a password.
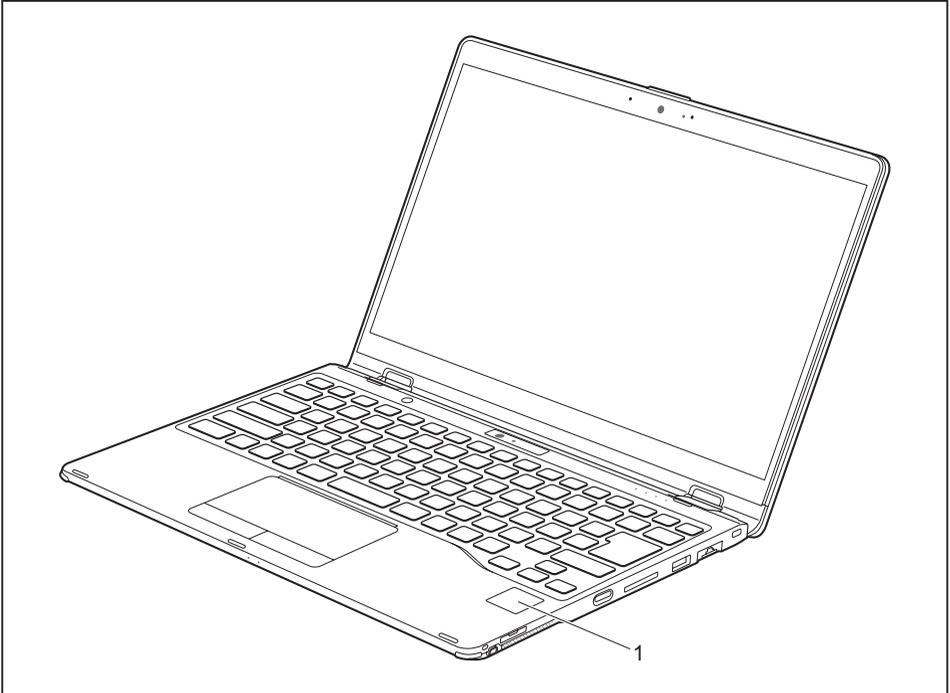
► You must install the fingerprint software in order to be able to use the fingerprint sensor (1).

i	The current *AuthConductor Basic* software for hand vein and fingerprint sensor is available on the Internet at "https://www.fujitsu.com/emeia/solutions/business-technology/security/product/secure/"

Configuring the palm sensor (configuration dependent)

The palm vein sensor can record the image of the pattern of the veins of the hand. This image is evaluated by additional software and can be used instead of a password.
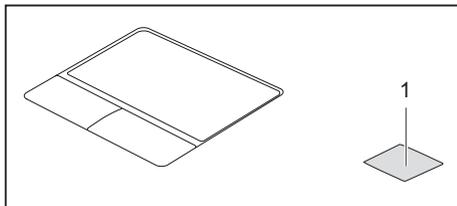
► To be able to use the palm vein sensor (1), you must install the software.

| i | The current *AuthConductor Basic* software for hand vein and fingerprint sensor is available on the Internet at "https://www.fujitsu.com/emeia/solutions/business-technology/security/product/secure/" |

Using the Security Lock

Your device comes with a Security Lock device for the Kensington Lock Cable. You can use the Kensington Lock Cable, a sturdy steel cable, to help protect your notebook from theft. The Kensington Lock Cable is available as an accessory.

| i | Fujitsu recommends the use of a combination lock. |
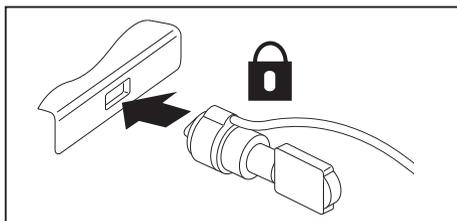
► Fit the Kensington Lock Cable on the device on your notebook.

Configuring password protection in BIOS Setup Utility

Before using the various options for password protection in the *BIOS Setup utility* to increase data security, please observe the following:

Make a note of the passwords and keep them in a safe place. If you forget your supervisor password you will not be able to access your notebook. Deletion of the password is not covered by your warranty and a charge will be made for assistance.

Your password can be up to 32 characters long and can contain letters, numbers and special characters.

When using special characters, you must remember that these are dependent on the country variants of the keyboard used.

If you change the *Password Severity* setting from *Strong* to *Stringent* in the *Security* BIOS Setup Utility menu, the Fujitsu Service Desk can no longer reset the password. In this case, the system can remain permanently unusable.

Therefore, Fujitsu recommends to generally set up a supervisor password with the setting *Password Severity = Strong*.

Protecting BIOS Setup Utility (supervisor and user password)

If you have opened these operating instructions on the screen, we recommend that you print them out. You cannot call the instructions onto the screen while you are setting up the password.

The supervisor password and the user password both prevent unauthorised use of the *BIOS Setup Utility*. With the aid of the supervisor password you can access all of the functions of the *BIOS Setup Utility*, while the user password will only give you access to some of the functions. You can only set up a user password if a supervisor password has already been assigned.

Please refer to section for a description of how to call up and operate the *BIOS-Setup-Utility*.

Assigning the supervisor and user passwords

► Start the *BIOS Setup Utility* and go to the *Security* menu.
► Select the *Set Supervisor Password* field and press the Enter key.
↳ With *Enter new Password*: you are asked to enter a password.
► Enter the password and press the Enter key.
↳ *Confirm new Password* requires you to confirm the password.
► Enter the password again and press the Enter key.
↳ *Changes have been saved* is a confirmation that the new password has been saved.
► To set the user password, select *Set User Password* and proceed exactly as when configuring the supervisor password.
↳ If you do not want to change any other settings, you can exit *BIOS Setup Utility*.
► In the *Exit* menu, select the option *Save Changes & Exit*.
► Select *Yes* and press the Enter key.
↳ The notebook is then rebooted and the new password comes into effect. It will now be necessary to first enter your supervisor or user password in order to open the *BIOS Setup Utility*. Please note that the user password only provides access to a few of the BIOS settings.

Changing the supervisor or user password

You can only change the supervisor password when you have logged into the *BIOS Setup Utility* with the supervisor password.

► Call the *BIOS Setup Utility* and go to the *Security* menu.
► When changing the password, proceed exactly as for password assignment.

Removing passwords

To remove a password (without setting a new password) perform the following steps:

► Start the *BIOS Setup Utility* and go to the *Security* menu.
► Highlight the *Set Supervisor Password* or *Set User Password* field and press the Enter key.
↳ You will be requested to enter the current password by the *Enter Current Password* prompt.
   You will be requested to enter a new password by the *Enter New Password* prompt.
► Press the Enter key twice.
► In the *Exit* menu, select the option *Save Changes & Exit*.
► Select *Yes* and press the Enter key.
↳ The notebook will now reboot with the password removed.
   Removing the supervisor password simultaneously deactivates the user password.

Password protection for booting of the operating system

i	With the supervisor password you have set in the *BIOS Setup Utility* (see section), you can also prevent starting of the operating system.

Activating system protection

► Start the *BIOS Setup Utility* and go to the *Security* menu.

► Select the *Password on Boot* option and press the Enter key.

► Select the desired option (*Disabled*, *First Boot* or *Every Boot*) and press the Enter key

► Select the *Save Changes & Exit* option under *Exit*.

↳ The notebook reboots. You will be prompted to enter your password (the supervisor password).

Deactivating system protection

► Start the *BIOS Setup Utility* and go to the *Security* menu.

► Select the *Password on Boot* option and press the Enter key.

► Select the *Disabled* option and press the Enter key.

↳ If you do not want to change any other settings, you can exit *BIOS Setup Utility*.

► Select the *Save Changes & Exit* option under *Exit*.

↳ The notebook will reboot. The system is no longer password-protected.

Password protection for the hard disk

If a supervisor password has been assigned, a password for the hard disk can also be set in the *Hard Disk Security* menu.

The hard disk is protected by this password. Data on this hard disk can only be read into another system if the correct password has been entered.

SmartCard reader (configuration dependent)

SmartCards are not supplied as standard equipment. You can use all SmartCards that comply with the ISO standard 7816-1, -2 or -3. These SmartCards are available from various manufacturers.

With the appropriate software you can use your SmartCard as an alternative to password protection, but also as a digital signature, for encrypting your e-mails or for home banking.

We recommend that you always use two SmartCards. Always keep one of the SmartCards in a safe place if you are carrying the other SmartCard with you.

In order to be able to take advantage of all the security features of your notebook, you will need a CardOS SmartCard from Fujitsu.

> **i**
>
> The SmartCard can only be used with a PIN, offering maximum protection even if you lose the SmartCard. In order to maximise your security, the CardOS SmartCard is disabled if three incorrect attempts are made to enter the PIN.
>
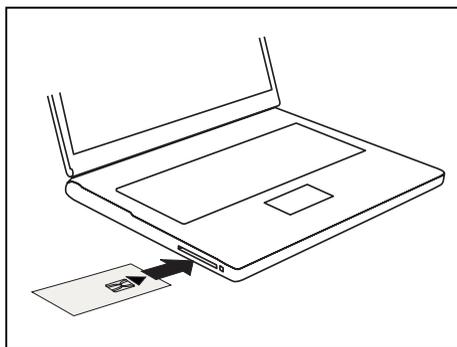> When you use the CardOS SmartCard for the first time, you will either need to enter the preset PIN "12345678" or the PIN given to you by your systems administrator.

Inserting the SmartCard

> ⚠️
>
> Do not use force when inserting and removing the SmartCard.
>
> Make sure that foreign objects do not fall into the SmartCard reader.

► Slide the SmartCard into the SmartCard reader with the chip facing upwards and to the front.

Trusted Platform Module - TPM

To use the TPM, you **must** activate the TPM in the *BIOS Setup* before the software is installed. The condition for this is that you have assigned at least the supervisor password (see "Security functions", Page 57).

Enabling TPM

- Requirement: You have set a supervisor password, see "Security functions", Page 57.
- ► Call up the BIOS Setup and select the *Security* menu.
- ► Mark the *TPM Security Chip Setting* field and press the Enter key.
- ► Select *Enabled* to activate the TPM.
- ↳ Once you have activated the TPM the *Clear Security Chip* option appears.

  Select *Clear Security Chip* to delete the holder in the TPM. By clicking on *Enabled*, all secret keys (e.g. SRK - Storage Root Keys, AIK - Attestation Identity Keys etc.) generated by applications are deleted.

  Please note that you will then no longer be able to access the data you have encrypted with the keys based on that holder.

- ► From the *Exit* menu, choose the option *Exit Saving Changes*.
- ► Press the enter key and select *Yes*.
- ↳ The notebook will restart, and TPM will be enabled after the reboot.

Disabling TPM

- Requirement: You have set a supervisor password, see "Security functions", Page 57.
- ► Call up the BIOS Setup and select the *Security* menu.
- ► Mark the *TPM Security Chip Setting* field and press the Enter key.
- ► Select *Disabled* to deactivate the TPM.
- ► In the *Exit* menu, choose the option *Exit Saving Changes*.
- ► Press the enter key and select *Yes*.
- ↳ Your notebook will now restart and TPM will be disabled.

Enable password entry using the on-screen keyboard (on-screen keyboard for BitLocker password)

If TPM is activated, in the BIOS Setup you can enable an on-screen keyboard for the internal touch screen.

► Call BIOS Setup and select the *Advanced* menu.

► Mark *Boot Configurations* and press the enter key.

► From the *UEFI Boot On-Screen Keyboard* selection, choose the option *Enable* or *Disable*.

► In the *Exit* menu, choose the option *Exit Saving Changes*.

► Press the Enter key and select *Yes*.

↳ The notebook restarts and the password dialogue is displayed.

Tap on the password field to enable the on-screen keyboard.

Connecting external devices

Always refer to the safety information provided in "Important notes", Page 12 before connecting or disconnecting any devices to or from your notebook.

Always read the documentation supplied with the device you wish to connect.

Never connect or disconnect cables during a thunderstorm.

Never pull at a cable when disconnecting it. Always grasp the plug.

With some devices such as USB devices, it is not necessary to switch off the notebook and the device before connecting/disconnecting. For more information about whether or not devices need to be switched off, please refer to the documentation supplied with the external device.

Some of the external devices require special drivers (see the operating system and external device documentation).

HDMI port

The HDMI port on your notebook or on the optional Port Replicator can be used to connect an external amplifier, LCD TV or a plasma TV with an HDMI connection.
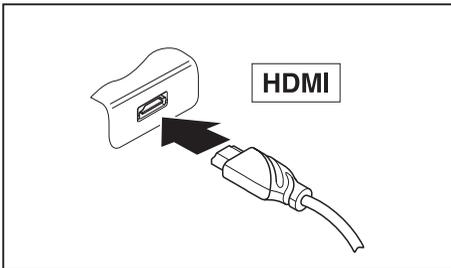
► Connect the data cable to the external device.
► Connect the data cable to the HDMI port on the notebook or on the optional Port Replicator.

Connecting an external monitor to the Port Replicator

An analogue monitor is connected to the analogue VGA monitor port on the optional port replicator, a digital monitor to the Display Port. Including the internal screen, up to 3 screens can be used simultaneously (please refer to "Key combinations", Page 39, section "Switching to soft copy").
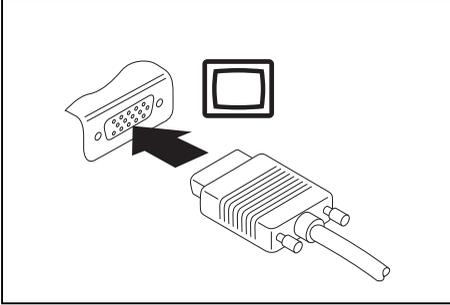
Analogue VGA monitor port (on optional port replicator)
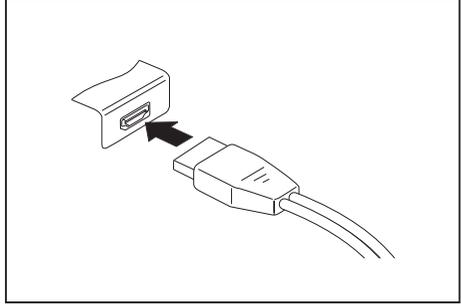
Digital DisplayPort (on optional Port Replicator)

► Switch off the notebook and the external monitor.
► Plug the data cable of the external monitor into the desired monitor port.
► First switch on the external monitor and then the notebook.

i	You can also switch between the external monitor and the LCD monitor of the notebook, see chapter "Key combinations", Page 39.
	You can display the same picture on the external monitor and the notebook LCD monitor simultaneously.

Connecting USB devices

On the USB ports, you can connect external devices that also have a USB port
(e.g. a DVD drive, a printer, a scanner or a modem).

i	USB devices are hot-pluggable. This means you can connect and disconnect devices while your operating system is running.

USB 1.x has a maximum data transfer rate of 12 Mbit/s.

USB 2.0 has a data transfer rate of up to 480 Mbit/s.

USB 3.0 has a data transfer rate of up to 5 Gbit/s.

USB 3.2 (Gen1) has a data transfer rate of up to 5 Gbit/s.

USB 3.2 (Gen2) has a data transfer rate of up to 10 Gbit/s.

Additional information can be found in the documentation for the USB devices.
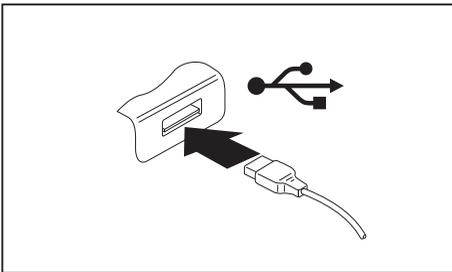
► Connect the data cable to the external device.
► Connect the data cable to a USB port of the notebook.

Device drivers

USB devices will be automatically recognised and installed by your operating system.

USB port Intel® Thunderbolt™ 3 with charging function and display port (USB Type-C)

At this USB port, you can charge a connected USB device or operate devices without additional power supply.

This is also possible with connected notebook computers by going to the *BIOS Setup Utility* under the menu *Advanced > Miscellaneous Configurations* and activating the function *USB Type-C Power Delivery on System-Off*. Instructions for how to call up and operate the *BIOS Setup Utility* can be found in section "Settings in BIOS Setup Utility", Page 74.

With the USB Type-C Port Replicator available as an accessory, the notebook can be supplied with power via this USB port.

i	USB devices are hot-pluggable. This means you can connect and disconnect the cables of USB devices while the system is running.
	Additional information can be found in the documentation for the USB devices.
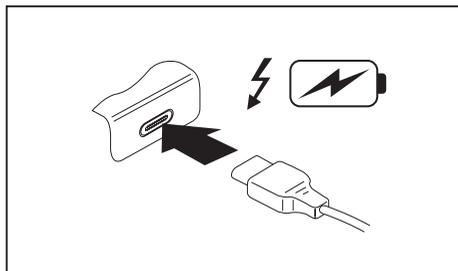
► Connect the data cable to the external device.

► Connect the data cable to the USB port Intel® Thunderbolt™ 3 with charging function and display port (USB Type-C) of the notebook.

USB port with charging function (Anytime USB charge)

You can use this USB port to charge or supply power to a connected USB device (e.g. to charge a PDA or a mobile phone or to connect a USB lamp).

This is also possible when the Notebook laptop is switched off, if in the *BIOS-Setup-Utility* (BIOS: basic input-output system) in the menu *Advanced - Miscellaneous Configurations* the function *Anytime USB Charge* is activated. If the setting *AC* is selected, the device will only be charged when the mains adapter is connected.

Please refer to section "Settings in BIOS Setup Utility", Page 74 for a description of how to call up and operate the *BIOS-Setup-Utility*.

It is recommended that the notebook be operated with the power supply connected whenever the USB port with charging function is in use, as this function will drain the battery more quickly if an external USB device is being charged.

The power supply unit must already be connected when the notebook is switched off, as otherwise the USB charging function will be disabled and the connected USB devices will not be charged.

Some USB devices (e.g. mobile telephones) require a driver in order to utilise the USB charging function. In this case the USB charging function will not work when the notebook is switched off, as no drivers are active when the notebook is switched off.
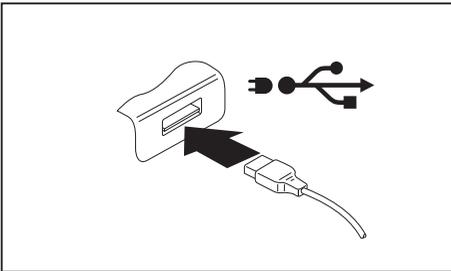
► Connect the data cable to the external device.
► Connect the data cable to a USB port (Anytime USB charge) of the notebook.

How to remove USB devices correctly

Always correctly remove the device according to the rules described below, to ensure that none of your data is lost.

► Left click on the icon to safely remove hardware, located in the taskbar.
► Select the device which you want to shut down and remove.
► Press the Enter key.
↳ Wait for the dialogue box which tells you that it is now safe to remove the device.

Headphones/microphone/Line-In/Line-Out/headset-combi port

Using the headphones/microphone/Line-In/Line-Out/headset-combi port, you can connect a headset, headphones, a microphone or external loudspeakers to your notebook.
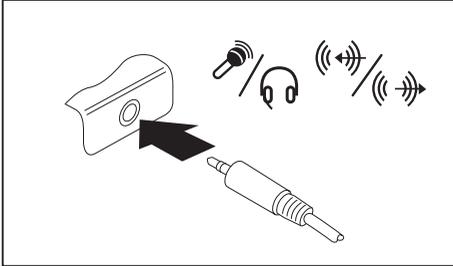
► Connect the audio cable to the external device.

► Connect the audio cable to the headphone port of the notebook.

↳ The internal loudspeakers are disabled.

---

i

If you purchase a cable from a retailer, please note the following information:

The headphones/microphone/Line-In/Line-Out/headset-combi port on your notebook is a "3.5 mm jack".

If you want to connect headphones or a speaker you will need a "3.5 mm jack plug".

Removing and installing components during servicing

Only qualified technicians should repair your notebook. Unauthorised opening or incorrect repair may greatly endanger the user (electric shock, fire risk) and will invalidate your warranty.

Settings in BIOS Setup Utility

The *BIOS Setup Utility* allows you to set the system functions and the hardware configuration for the notebook.

When it is delivered, the notebook is set to factory default settings. You can change these settings in *BIOS Setup Utility*. Any changes you make take effect as soon as you save and exit the *BIOS Setup Utility*.

The *BIOS Setup Utility* program contains the following menus:

Info	Displays information relating to the BIOS, processor and notebook
System	Advanced system settings
Advanced	Configuration of various hardware components, such as mouse, keyboard, processor
Security	Password settings and security functions
Boot	Configuration of the start-up sequence
Exit	Exits the *BIOS Setup Utility*

Starting the BIOS Setup Utility

► Start the device (switch off/on or reboot the Operating System).

↳ Depending on the setting for *Fast Boot* in the *BIOS Setup Utility* the following display, if applicable, appears on the screen on start-up:

    <F2> BIOS Setup <F12> Boot Menu

► Press the function key F2 .

► If a password has been assigned, enter the password and press the Enter key.

> **i** If you have forgotten the password, contact your system administrator or contact our customer service centre.

The *BIOS Setup Utility* starts.

Operating the BIOS Setup Utility

i

Press the F1 key to display help on the operation of the *BIOS Setup Utility*. The description of the individual settings is shown in the right-hand window of the *BIOS Setup Utility*.

With the F9 key you can load the default settings of the *BIOS Setup Utility*.

► Use the cursor keys ← or → to select the menu in which you would like to configure settings.

↳ The menu is displayed on the screen.

► Select the option that you want to change with the cursor keys ↑ or ↓.

► Press the Enter key.

► Press the ESC key to exit the selected menu.

► For future reference, make a note of the changes you have made (e.g. in this manual).

Exiting BIOS Setup Utility

You need to select the desired option in the *Exit* menu and activate it by pressing the Enter key:

Exit Saving Changes - save changes and exit BIOS Setup Utility

► To save the current menu settings and exit the *BIOS Setup Utility*, select *Exit Saving Changes* and *Yes*.
↳ The notebook is rebooted and the new settings come into effect.

Exit Discarding Changes – Discard changes and exit BIOS Setup Utility

► To discard the changes, select *Exit Discarding Changes* and *Yes*.
↳ The settings in place when *BIOS Setup Utility* was called remain effective. *BIOS Setup Utility* is terminated and the notebook is rebooted.

Load Setup Defaults – Copy Standard Entries

► To copy the standard entries for all menus of the *BIOS Setup Utility*, choose *Load Setup Defaults* and *Yes*.

Discard Changes – Discard changes without exiting the BIOS Setup Utility

► To discard the changes you have made, select *Discard Changes* and *Yes*.
↳ The settings in place when *BIOS Setup Utility* was called remain effective. You can now make additional settings in the *BIOS Setup Utility*.
► If you want to exit *BIOS Setup Utility* with these settings, select *Exit Saving Changes* and *Yes*.

Save Changes - save changes without exiting the BIOS Setup Utility

► To save the changes, select *Save Changes* and *Yes*.
↳ The changes are saved. You can now make additional settings in the BIOS Setup Utility.
► If you want to exit BIOS Setup Utility with these settings, choose *Exit Saving Changes* and *Yes*.

Save Changes and Power Off

► To save the changes and switch off your device, select *Save Changes and Power Off* and *Yes*.
↳ The changes are saved. Your device is shut down.

Erase Disk

Erase Disk is a Fujitsu Technology Solutions feature embedded in the system firmware (UEFI: Unified Extensible Firmware Interface), to erase all data from SATA hard disk(s) or SSDs.

This function can be used to delete all data from internal or external hard disks or SSDs connected via the eSATA port, before the hard disks are discarded or the complete computer system is disposed of. The function can also be used if hard disks are to be completely deleted, e.g. before installing a new operating system.

> **i** The application can only be selected and run if an administrator/supervisor password has been assigned (Menu *BIOS Setup - Security*).

To erase data from SATA hard disks or SSDs, proceed as follows:

► Call the *BIOS Setup* with the Administrator/Supervisor password.
► To start the application, select *Erase Disk* (*BIOS Setup - Advanced* or *BIOS Setup - Security*) and set *Start after Reboot*.
► Then select *Save Changes and Exit* in the menu *Save & Exit / Exit* to initiate a reboot and start *Erase Disk*.

> **i** Because of the reboot, the *Erase Disk* will be started. You have the option to interrupt the process during the user selection.

► After the application starts, the Administrator/Supervisor password must be entered for security reasons.
↳ A dialogue field appears in which a particular, several or all the hard disks can be selected for deletion. This depends on the number of hard disks in your system.
► Select the hard disk(s) to be deleted. The selected hard disk(s) will be deleted one-by-one.

> **i** Erase Disk offers four deletion options, from *fast* (with one deletion pass) to *very secure* (with 35 deletion passes). Depending on the algorithm chosen, the process can take between ~10 seconds and ~10 minutes per GB:
>
> • *Zero Pattern* (1 pass)
> • *German BSI/VSITR* (7 passes)
> • *DoD 5220.22-M ECE* (7 passes)
> • *Guttmann* (35 passes)

> **i** SSD drives are securely erased with the *Enhanced Secure Erase* ATA command integrated in the firmware.

► Select the desired deletion algorithm for the selected hard disks.

> **i** The complete deletion process can be recorded as an audit-compliant log and copied to an external USB stick, which must be formatted as FAT32. Please connect only one external USB stick.

► Select whether a status report should be written to the USB stick.

> **i** The user can select the following tasks which should be run by the system after the deletion process:
> - *Reset administrator and user password*
> - *Load BIOS setup defaults*
> - *Shutdown the Computer*
> - *Exit Erase Disk with no additional options upon completion*

► Select the function which you require.

↳ The deletion process starts.

Troubleshooting and tips

Follow the safety notes in the "Safety/Regulations" manual when connecting or disconnecting cables.

If a fault occurs, try to correct it as described. If you fail to correct the problem, proceed as follows:

► Make a note of the steps and the circumstances that led to the fault. Also make a note of any error messages displayed.

► Switch the notebook off.

► Please contact the Hotline/Service Desk.

The telephone numbers can be found at: "http://support.ts.fujitsu.com/contact/servicedesk". Have the following information ready when you call:

• The model name and serial number of the notebook. The serial number is located on a sticker on the underside of the notebook.

• Notes of any messages that appear on the screen and information on acoustic signals.

• Any changes you have made to the hardware or software since receiving the notebook.

• Any changes you have made to the *BIOS Setup* settings since receiving the notebook.

• Your system configuration and all peripheral devices connected to your system.

• Your sales contract.

Our notebooks have been designed primarily with mobile applications in mind. This means that considerable effort has been made to optimise components and equipment in terms of weight, space and energy requirements. Depending on the particular configuration you have purchased, it is possible that functionality may be slightly reduced compared to a desktop PC if you are running processor-intensive gaming software, e.g. games with intensive 3D graphics. Updating your hardware with drivers which have not been approved by Fujitsu Technology Solutions may result in performance losses, data losses or malfunction of the equipment. A list of approved drivers and current BIOS versions can be downloaded from: "http://support.ts.fujitsu.com/Download/Index.asp"

Executing a reset

If the device no longer responds to your inputs, select one of the following options:

Forced shut down

► Keep the ON/OFF button pressed for at least about 5-10 seconds.
↳ The device will shut down. You can then restart it.

Carry out a system or battery reset

The battery reset button ("Ports and controls", Page 9) is located on the underside of the device.

> **i** If the device does not respond, you may have to force the shutdown, as described in the previous section.

► Disconnect the mains adapter from the device.
► Use a small pointed tool with caution to press the battery reset button.
↳ The device performs a reset, comparable to removing the battery. You can then restart it.

Help if problems occur

Should you encounter a problem with your computer that you cannot resolve yourself:

► Note the ID number of your device. The ID number is found on the type rating plate on the back or underside of the casing.
► Contact the Service Desk responsible for your country for clarification of the problem: "http://support.ts.fujitsu.com/contact/servicedesk". When you do this, please have ready the ID number and serial number of your system.

The notebook's date or time is incorrect

Cause	Troubleshooting
Time and date are incorrect.	► With the *BIOS-Setup-Utility*, you can set the date and time in the *main* menu.
If the time and date are still set incorrectly after switching on the notebook.	► Please contact your sales outlet or our Hotline/Service Desk.

Battery indicator does not illuminate

Cause	Fault elimination
The battery is not being charged.	► Connect the Tablet PC to a mains outlet using the mains adapter. **Note:** The battery will only be charged again when the battery capacity is less than 90 %.

When certain characters are entered on the keyboard, only numerals are written

Cause	Troubleshooting
The virtual numeric keypad of your device is activated, see "Virtual numeric keypad", Page 38	► Press the Num key.

The notebook's LCD screen remains blank

Cause	Troubleshooting
Monitor is switched off.	► Press a key or touch the touchpad.
External monitor or television set connected.	► Press the key combination to switch the screen output, see "Key combinations", Page 39.

The LCD screen is difficult to read

Cause	Troubleshooting
Reflected glare	► Turn the notebook or alter the tilt of the LCD screen. ► Increase the brightness of the screen.

The external monitor remains blank

Cause	Troubleshooting
Monitor is switched off.	► Switch the external monitor on.
Power saving has been activated (monitor is blank).	► Press any key to continue.
Brightness is set to dark.	► Adjust the brightness of the monitor.
Screen output is set to the notebook's LCD screen	► Press the key combination to switch the screen output, see "Key combinations", Page 39.
The external monitor's power cable or data cable is not connected properly.	► Switch off the external monitor and the notebook. ► Check whether the power cable is plugged properly into the external monitor and into the power socket. ► Check whether the data cable is properly connected to the notebook and the external monitor (if it is plugged in with a connector). ► Switch on the external monitor and the notebook.

The external monitor is blank or the image is unstable

Cause	Troubleshooting
The wrong external monitor has been selected or the wrong screen resolution has been set for the application program.	► Terminate the application program in Windows by pressing Alt + F4 . If the fault persists after closing the program, use the key combination for switching the screen output (see "Key combinations", Page 39) to switch over to the notebook's LCD screen. Change the following setting: ► Set the screen resolution: Set the screen resolution as described in the documentation for your operating system. ► Select monitor: Select monitor 1 or 2 as described in the documentation for your operating system.

The cursor does not correctly follow the pen movements

Cause	Fault elimination
Pen incorrectly calibrated	► Calibrate the pen as shown under *Hardware and Sound / Tablet PC Settings* in the Control Panel, see "Setting the pen", Page 32 and "Calibrating the pen", Page 32.

Pen input not working

Cause	Troubleshooting
The pen is in power-saving mode.	► Press the pen button gently to wake the pen from sleep mode.
The pen battery is completely discharged.	► Insert the pen fully into its slot on the notebook to charge the pen battery.

The notebook cannot be started

Cause	Troubleshooting
The battery is dead.	► Connect the notebook to the mains voltage via the mains adapter and charge the battery.
The power adapter is not connected correctly.	► Check whether the mains adapter is connected correctly to the notebook. ► Switch the notebook on.

The notebook stops working

Cause	Troubleshooting
Notebook is in energy saving mode.	► Leave energy saving mode.
An application programme has caused the malfunction.	► Close the application program or restart the notebook (by restarting the operating system or switching the device off and back on again).
The battery is dead.	► Connect the notebook to the mains voltage via the mains adapter and charge the battery.

The printer does not print

Cause	Troubleshooting
The printer is not switched on.	► Make sure that the printer is switched on and ready for operation (refer to the documentation supplied with the printer).
The printer is not connected correctly.	► Check that the data cable connecting the notebook to the printer is properly connected.
The printer driver is faulty or not correctly installed, or it is the wrong printer driver.	► Check that the data cable connecting the notebook to the printer is properly connected. ► Check whether the correct printer driver is loaded (refer to the printer documentation).

The wireless connection to a network does not work

Cause	Troubleshooting
The wireless component is disabled.	► Switch the wireless component on (see "Switching the wireless components on and off", Page 50).
The wireless component is enabled. Despite this, the wireless connection to a network does not work.	► Check whether the wireless connection is switched on via the software. ► Further information on using the wireless component can be found in the help files.

The battery discharges too quickly

Cause	Troubleshooting
The battery is either too hot or too cold. In this case the battery indicator flashes.	► Move the notebook so that its temperature returns to within the normal range. ► If the operating time of the battery life is extremely short, the battery is probably too old. If necessary, have the battery replaced by an authorised service provider.
You may have an application running that consumes a great deal of power due to frequent accessing of the hard disk or optical drive.	► Use the mains adapter as frequently as possible.
The maximum brightness may have been set for the screen.	► Set the screen slightly darker with the key combination for *Decreasing the screen brightness* in order to reduce the amount of power being drawn.

SmartCard reader is not recognised.

Cause	Troubleshooting
Chip card inserted incorrectly.	► Check if you inserted your SmartCard into the SmartCard reader correctly.
	► Check whether the SmartCard you are using is supported. Your SmartCard must comply with the ISO standard 7816-1, -2, -3 and -4.

SmartCard PIN forgotten

Cause	Troubleshooting
PIN forgotten	► If you are working in a network, contact your system administrator, who can unlock your notebook with a Supervisor PIN.

SmartCard lost

Cause	Troubleshooting
SmartCard lost	► If you are working in a network, contact your system administrator, who can boot up your notebook with a Supervisor SmartCard.

Acoustic warnings

Cause	Troubleshooting
A beep sounds every few seconds.	► Charge the battery.
The battery is almost flat.	

Error messages on the screen

This section describes the error messages generated by the BIOS Setup. Error messages displayed by the operating system or programmes are described in the relevant documentation.

i	If the error message appears repeatedly, despite troubleshooting measures, please contact the place of purchase or our customer service centre.

Error message/cause	Resolution
CMOS battery bad If the error message occurs repeatedly, the buffer battery in the notebook is flat.	► Contact your sales outlet or our customer service centre.
System CMOS checksum bad - default configuration used The system configuration information is incorrect.	► Switch the notebook off. ► Switch the notebook on. ► Press the function key F2 to access the *BIOS Setup*. ► In the *BIOS Setup*, select the *Exit* menu. ► Select the entry *Load Setup Defaults*. ► Select *OK* and press the Enter key.
Extended memory failed at offset: xxxx Failing Bits: zzzz zzzz When testing the extended memory an error has resulted at the address xxxx.	► Check whether the additional memory module has been inserted correctly.
Failure Fixed Disk n The settings of the hard disk drive are incorrect.	► Start the *BIOS Setup* (*Primary Master* submenu) and select the correct settings.
Keyboard controller error	► Switch the notebook off using with the ON/OFF button. ► Wait 3 - 5 seconds and switch on the notebook again.
Keyboard error	If you are using an external keyboard: ► Check the connection and reboot the notebook.
nn Stuck key	► Make sure that no key is pressed.
Operating system not found	► Check in the *BIOS Setup* whether your hard disk has been set correctly. ► Make sure that the operating system is installed on the corresponding drive.
Press <F1> to resume, <F2> to SETUP This error message appears if an error occurs during the self-test before starting the operating system.	► Press the F1 function key to start the operating system. ► Press the function key F2 to access the *BIOS Setup*.

Error message/cause	Resolution
Previous boot incomplete - Default configuration used Due to an error during the previous system boot, default values were used for certain settings. Check the settings in the BIOS Setup.	► Press the F1 function key when prompted to do so.
Real time clock error	► Contact your sales outlet or our customer service centre.
nnnnK Shadow RAM failed at offset: xxxx Failing Bits: zzzz	► Contact your sales outlet or our customer service centre.
System battery is dead - Replace and run SETUP	► Contact your sales outlet or our customer service centre.
System cache error - Cache disabled	► Contact your sales outlet or our customer service centre.
System timer error	► Contact your sales outlet or our customer service centre.

Restoring the contents of the hard disk under Windows

Restoring the system under Windows 10

If necessary, you can reset your system to the original state of the hard disk.

► Select *Settings* from the Start menu.
► Select *Update & security*.
► Select *Recovery*.
► Select according to your requirements from the options given.

Technical data

Notebook

General	
Processor	10th Generation Intel ® Core™ Processor
Main memory	8 GB / 16 GB LPDDR3 onboard
Electrical data	
Protection class	II
Maximum power consumption (with the notebook switched on and the battery charging):	65 W (without Port Replicator) / 90 W (with USB Type-C Port Replicator)
Touchscreen	
Size	13.3" Full HD Antiglare
Resolution	1920 x 1080 / 16M colours
Pixel class	II
Brightness control	11 levels
Camera	• Front camera: FHD IR camera with status display • Tablet mode camera: 5 Mp, autofocus, with status indicator
Graphics card	
Chip	Intel® UHD Graphics
Maximum resolution on external display:	HDMI: 4096 x 2160 pixels
Dimensions	
Width x depth x height	from 309 mm x 214.8 mm x 16.9 mm / 12.17 inch x 8.46 inch x 0.67 inch
Weight depending on configuration	Basic weight 0.998 kg / 2.200 lbs
Input devices	
Keyboard	85 keys with backlit keyboard
Touchpad	2 keys
Pen	2 pen buttons
Slots	
Memory card slot	1 x SD Card
SmartCard slot	1 x
SIM card slot	1 x Micro - SIM (based on configuration)
Ports	
HDMI port	1 x
LAN port	Socket, RJ45

USB (Universal Serial Bus)	4 x USB:
	• 2x USB port Intel® Thunderbolt™ 3 with charging function and display port (USB 3.2 Gen2)
	• 1x USB 3.2 port with charging function (USB Type-A, Anytime USB charge)
	• 1 x USB port 3.2 (USB Type-A)
Security Lock	1 x
Ambient conditions	
Environment class DIN IEC 721	7K1
Mechanism class DIN IEC 721	7M2
Operating temperature	5 °C .... 35 °C / 41 °F .... 95 °F
Transport temperature (2K2)	–10 °C .... 60 °C / 5 °F .... 140 °F
Relative humidity	20 % ... 80 % (no condensation)
Operating height	up to 3048 m

USB Type-C Port Replicator (optional)

Electrical data	
Protection class	II
Ports	
Monitor port (analogue)	15-pin
HDMI port	1 x
DisplayPort	1 x
Maximum resolution of an external monitor	VGA: 1920 x 1200 pixels
	HDMI or Display Port: 4096 x 2160 pixels
LAN port	RJ45
USB (Universal Serial Bus)	3 x USB 3.2 Gen 1, 2 x USB Type-C
Microphone port / Line In / headphones port / Line Out	3.5 mm stereo mini jack

Screen resolutions for integrated screen and external screens

Max. number of screens	Number of external screens	Integrated monitor FHD 1920 x 1080	Notebook connection		
			HDMI 4096x2160 @60Hz	USB Type-C 3840x2160 @60Hz	USB Type-C 3840x2160 @60Hz
2	1	on	on	-	-
		on	-	on	-
		on	-	-	on
2	2	-	on	on	-
		-	-	on	on
		-	on	-	on
3	2	on	on	on	-
		on	on	-	on
		on	-	on	on

Rechargeable battery

i You will find information on the batteries used in your device on the Internet at "http://www.fujitsu.com/fts/support/".

	4-cell battery 50 Wh
Nominal voltage	14.4 V
Rated capacity	3.490 mAh
Type	Lithium ions
Interchangeability	By authorized service provider

	Battery Button Cell CR2032 0.72 Wh
Type	Lithium metal
Interchangeability	By authorized service provider

i The operating time depends on the device configuration, the active applications and the energy-saving settings.

Mains adaptor (notebook computer)

Primary	
Rated voltage	100 V to 240 V (automatic)
Rated frequency	50 Hz to 60 Hz (automatic)
Max. rated current	1.5 A
Secondary	
Nominal power	65 W:
Rated voltage	19 V
Max. rated current	3.42 A

i	An additional mains adapter or power cable can be ordered at any time.

Mains adaptor (port replicator)

Primary	
Rated voltage	100 V to 240 V (automatic)
Rated frequency	50 Hz to 60 Hz (automatic)
Max. rated current	1.5 A
Secondary	
Nominal power	90 W:
Rated voltage	19 V
Max. rated current	4.74 A

i	An additional mains adapter or power cable can be ordered at any time.

Manufacturer's notes

Disposal and recycling

If the battery is not replaceable by the user, have it replaced and disposed of by an authorized service provider.

Information about this subject can be found on your notebook or on our website:

"https://www.fujitsu.com/emeia/about/local/csr/recycling/"

TCO Certified

Please note that TCO-certified systems bear the "TCO certified" logo. Further information is given in the "TCO certified" manual appendix at "http://support.ts.fujitsu.com/Manuals/".

Electrical safety including ergonomic requirements (GS, depending on the device)

Please refer to the associated data sheet to establish whether the model variant of your device has GS certification. You can find further information on the Internet at "http://www.fujitsu.com/fts/products/computing/pc/tablets/datasheets".

	Intended viewing distance	300 mm as a hand-held product.
		A monitor and a keyboard should be connected externally for use in an office.

SAR limit value (Specific Absorption Rate)

Body SAR value < 2W/kg

Other certification markings

Any other certification markings are listed in the "Manual Appendix - Additional Certifications" supplement.

If such markings are available, you can find the supplement on the Internet at "http://support.ts.fujitsu.com/Manuals/" with the Operating Manual for your device.

Index

HDMI port 67

I
Important notes 12
Incorrect date/time 81
Indicator
    Caps Lock 20
    F Lock 20
    Num Lock 20
    Scroll Lock 20
Intel Thunderbolt 70

K
Key combinations 39
Keyboard 36
    Background lighting 41
    cleaning 15

L
Landscape orientation
    screen 24
LCD screen
    cleaning 15
    decrease brightness 39
    difficult to read 81
    notes 28
    reflected glare 81
    remains blank 81
LCD screen is too dark 81
Life, battery 43
Line feed 37
Loudspeakers 47
    switch off 39
    switch on 39

M
Mains adapter
    connecting 17
    setting up 17
Mechanical backup 60
Memory card
    handling 46
    inserting 46
    removing 46
Microphone 47
    switch off 39
    switch on 39
Mobile operation 14
Monitor
    connecting 68
    drifting display 82

    remains blank 82
Monitor port
    see VGA connection socket 68

N
Notebook
    before you travel 14
    cannot be started 83
    cleaning 15
    stops working 83
    switching off 26
    transporting 14
    using 19
Notebook, operation 19
Notebook: switching on 22
Notes 12
    cleaning 15
    disposal / recycling 92
    energy saving 13
    LCD screen 28
    Safety 12
    transport 14
Num Lock
    indicator 20, 38
Numeric keypad 36
    see Virtual numeric keypad 38

O
Operating system
    activating system protection 63
    cancel system protection 63
    protecting with password 63

P
Packaging 16
Palm vein sensor 60
    Configuring 60
Password
    changing 62
    entering 62
    removing 62
Password protection 61
Pen 29
Port Replicator
    Ports 53
Portrait orientation
    screen 24
Ports
    Port Replicator 53
Power
    power consumption 44
    power-management features 44