

Dell Latitude 14 Rugged Extreme – 7414

Getting Started Guide

Regulatory Model: P45G
Regulatory Type: P45G002



Notes, cautions, and warnings



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



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



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

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Finding information and resources

See the safety and regulatory documents that shipped with your computer and the regulatory compliance website at **Dell.com/regulatory_compliance** for more information on:

- Safety best practices
- Regulatory certification
- Ergonomics

See **Dell.com** for additional information on:

- Warranty
- Terms and Conditions (U.S. only)
- End User License Agreement

Additional information on your product is available at **Dell.com/support/manuals**.

System overview

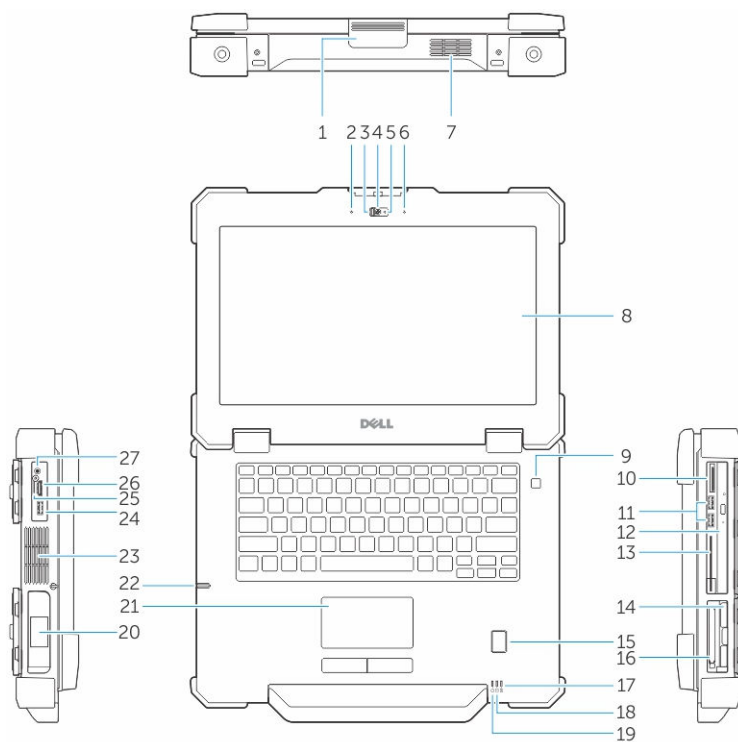


Figure 1. System front view

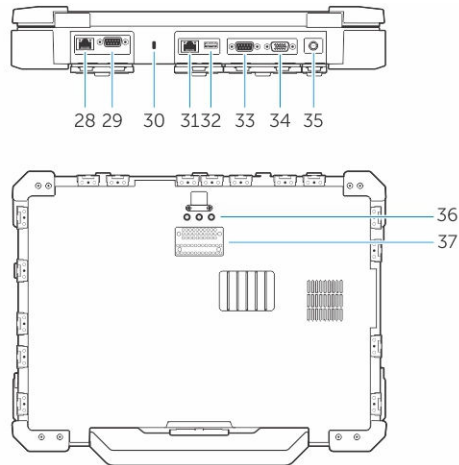


Figure 2. System back view

- | | |
|------------------------------------|---|
| 1. display latch | 2. microphone |
| 3. privacy shutter (optional) | 4. camera (optional) |
| 5. camera status light (optional) | 6. microphone |
| 7. QuadCool sealed thermal chamber | 8. outdoor readable display/touchscreen |
| 9. power button | 10. memory card reader |
| 11. USB 3.0 ports | 12. optical drive |
| 13. Smart card reader | 14. hard drive |
| 15. fingerprint reader | 16. ExpressCard reader |
| 17. battery status light | 18. hard drive status light |
| 19. power status light | 20. battery |
| 21. touchpad | 22. stylus |
| 23. sealed thermal chamber | 24. USB 3.0 port with PowerShare |
| 25. SIM card slot | 26. HDMI port |
| 27. audio port | 28. network port |
| 29. serial port | 30. security cable slot |
| 31. network port | 32. USB 2.0 port |
| 33. serial port | 34. VGA port |
| 35. power connector | 36. radio frequency pass-through connectors |
| 37. docking device connector | |

CAUTION: EXPLOSION HAZARD—External connections (power adapter port, HDMI port, USB ports, RJ45 port, serial ports, audio port, Smart Card reader slot, SD card reader slot, Express Card reader slot, PC card reader slot, SIM card slot) should not to be used in a hazardous location.

WARNING: Do not block, push objects into, or allow dust to accumulate in the air vents. Do not store your Dell computer in a low-airflow environment, such as a closed briefcase, while it is running. Restricting the airflow can damage the computer. The computer turns on the fan when the computer gets hot. Fan noise is normal and does not indicate a problem with the fan or the computer.

Quick setup

-  **WARNING:** Before you begin any of the procedures in this section, read the safety information that shipped with your computer. For additional best practices information, see Dell.com/regulatory_compliance.
-  **WARNING:** The AC adapter works with electrical outlets worldwide. However, power connectors and power strips vary among countries. Using an incompatible cable or improperly connecting the cable to the power strip or electrical outlet may cause fire or equipment damage.
-  **CAUTION:** When you disconnect the AC adapter cable from the computer, grasp the connector, not the cable itself, and pull firmly but gently to avoid damaging the cable. When you wrap the AC adapter cable, ensure that you follow the angle of the connector on the AC adapter to avoid damaging the cable.
-  **NOTE:** Some devices may not be included if you did not order them.

1. Connect the AC adapter to the AC adapter port on the computer and to the electrical outlet.

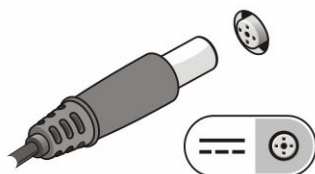


Figure 3. AC adapter

2. Connect the network cable (optional).

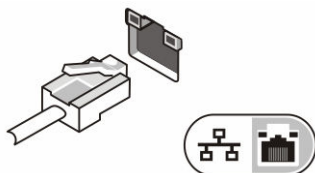


Figure 4. Network connector

3. Connect USB devices, such as a mouse or keyboard (optional).

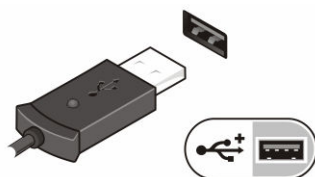


Figure 5. USB connector

4. To turn on the computer, open the computer display and press the power button.

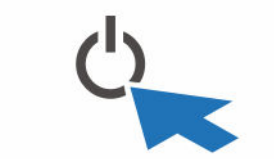


Figure 6. Power button



NOTE: It is recommended that you turn on and shut down your computer at least once before you install any cards or connect the computer to a docking device or other external device, such as a printer.

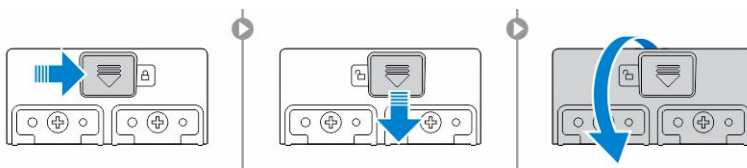
Removing and installing components

This section provides detailed information on how to remove or install the components from your computer.

Opening the press latch doors

The computer includes eight press latch doors:

- Four on the back of the computer
 - Two on the right side of the computer
 - Two on the left side of the computer
1. Slide the latch until the unlock icon is visible.
 2. Press the latch and open the press latch door in the downward direction.



Closing the press latch doors

1. Close the latch door back by pressing it toward the computer.
2. To lock the latch doors, slide the latch until the lock icon is visible.

Removing the battery

⚠ WARNING: Using an incompatible battery may increase the risk of fire or explosion. Replace the battery only with a compatible battery purchased from Dell. The battery is designed to work with your Dell computer. Do not use a battery from other computers with your computer.

⚠ WARNING: Before removing or replacing the battery:

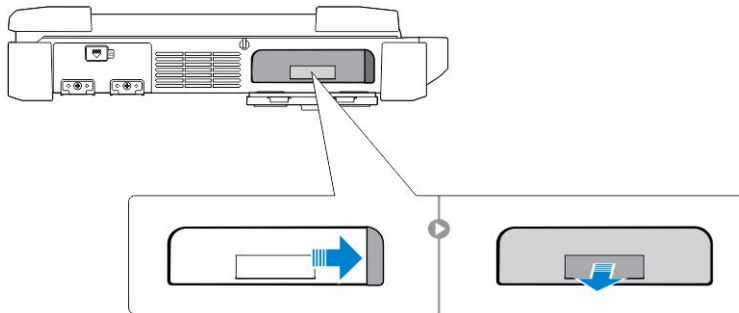
1. Turn off the computer.
2. Disconnect the AC adapter from the electrical outlet and the computer.
3. Disconnect the modem from the wall connector and computer.
4. Remove any other external cables from the computer.

⚠ WARNING: To prevent ignition in a hazardous atmosphere, batteries must only be removed, changed or charged in an area known to be nonhazardous.

1. Open the press latch door, see [Opening the press latch door](#).

 **NOTE:** The battery is below the press latch door.

2. To unlock the battery, slide the battery release latch to the right.
3. Holding the pull tab, pull the battery out of the computer.

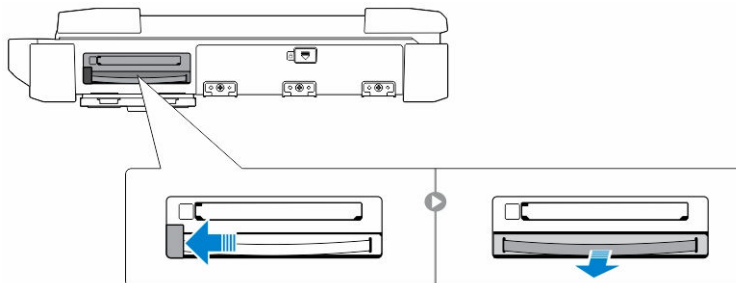


Installing the battery

1. Insert the battery into the battery slot until it clicks into place.
2. Close the battery door and press it until it clicks into place.
3. Engage the lock by sliding the latch until the lock icon is visible.

Removing the hard drive

1. Slide the hard drive release latch to the left to unlock.
2. Pull the hard drive outwards using the pull-loop and remove it from the computer.



Installing the hard drive

1. Insert the hard drive into the hard drive slot until it clicks into place.

 **NOTE:** Keep the hard drive pull tab clear of the doors before closing the hard drive latch door.

2. Close the hard drive latch door.
3. Slide the latch until the lock icon is visible.

Working on your computer

This section provides information about the backlit keyboard, stealth mode, function keys and converting your computer to notebook and tablet modes (if applicable).

Using the backlit keyboard

The Latitude rugged series comes equipped with a backlit keyboard that can be customized. The following colors are enabled:

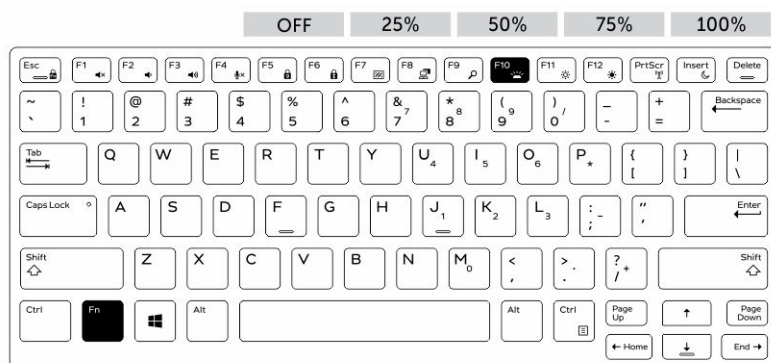
1. White
2. Red
3. Green
4. Blue

Alternatively, the system can be configured with two additional custom colors in the System Setup (BIOS).

Turning the keyboard backlight on/off or adjusting brightness

To turn the backlight on/off or adjust the backlight brightness settings:

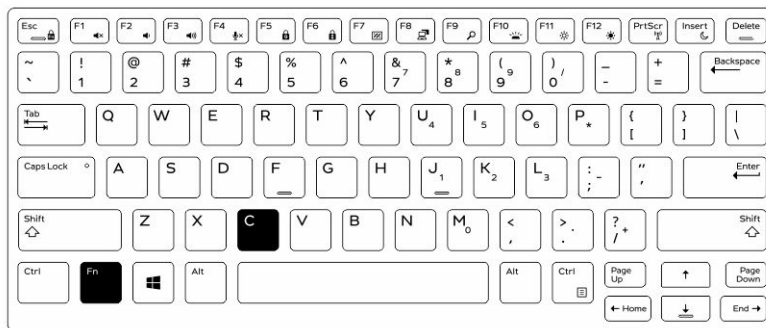
1. To initialize the keyboard backlight switch, press Fn+F10 (the Fn key is not needed if function key Fn lock is enabled).
2. The first use of the preceding key combination turns on the backlight to its lowest setting.
3. Repeated pressing of the key combinations cycles the brightness settings through 25 percent, 50 percent, 75 percent and 100 percent.
4. Cycle through the key combination to either adjust the brightness or turn off the keyboard backlight.



Changing the keyboard backlight color

To change the keyboard backlight color:

1. To cycle through the available backlight colors press Fn+C keys .
2. White, Red, Green and Blue are active by default; up to two custom colors can be added to the cycle in the System Setup (BIOS).



Customizing the backlit keyboard in System Setup (BIOS)

1. Turn off the computer.
2. Turn on the computer and when the Dell logo appears, press the F2 key repeatedly to bring up the System Setup menu.
3. Under **System Configuration** menu, select **RGB Keyboard Backlight**.
You can enable/disable the standard colors (White, Red, Green and Blue).
4. To set a custom RGB value, use the input boxes on the right side of the screen.
5. Click **Apply changes** and click **Exit** to close System Setup.

Function Fn key lock features



NOTE: The keyboard has Function key Fn lock capability. When activated, the secondary functions on the top row of keys become default and will not require use of the Fn key.

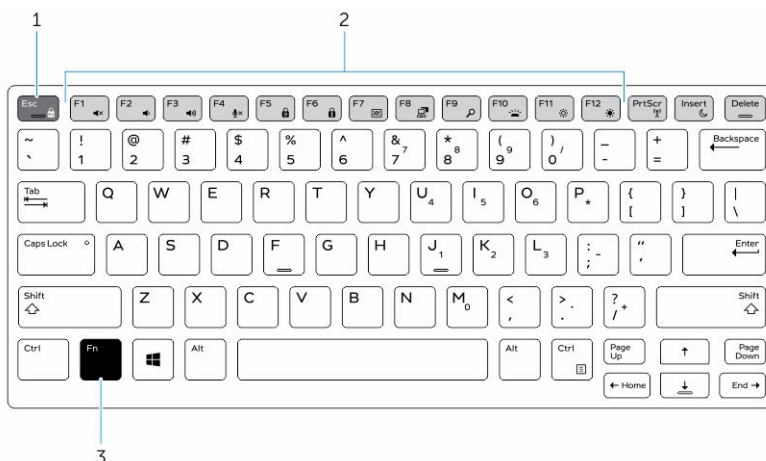


Figure 7. Fn key callouts

1. Fn lock key
2. Affected Fn keys
3. Fn key

-  **NOTE:** Fn lock affects only the above keys (F1 to F12). Secondary functions will not require the Fn key to be pressed while enabled.

Enabling the Function (Fn) lock

1. Press the Fn+Esc keys.

 **NOTE:** Other secondary function keys on the top row are not affected and requires the use of the Fn key.

2. Press the Fn+Esc keys again to deactivate the function lock feature.
The function keys return to the default actions.

Stealth mode

Latitude rugged products come equipped with a stealth mode feature. Stealth mode allows you to turn off the display, all the LED lights, internal speakers, the fan and all wireless radios with a single key combination.

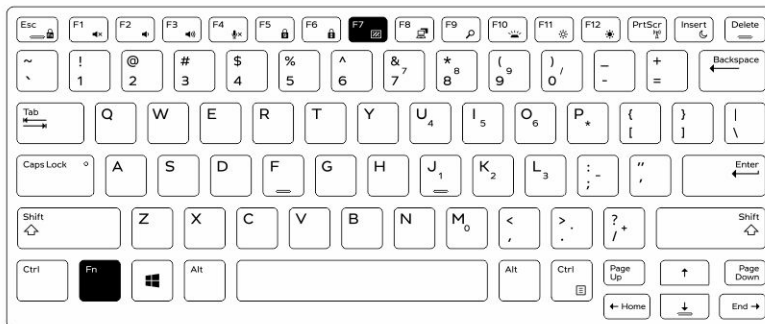
-  **NOTE:** This mode is aimed at using the computer in covert operations. When the stealth mode is enabled, the computer remains functional but does not emit any light or sound.

Turning stealth mode on/off

1. Press the Fn+F7 key combination (Fn key not needed if Fn lock is enabled) to turn on stealth mode.

 **NOTE:** Stealth mode is a secondary function of the F7 key. The key can be used to perform other functions on the computer when not used with the Fn key to enable stealth mode.

2. All the lights and sounds are turned off.
3. Press the Fn+F7 key combination again to turn off the stealth mode.



Disabling stealth mode in the system setup (BIOS)

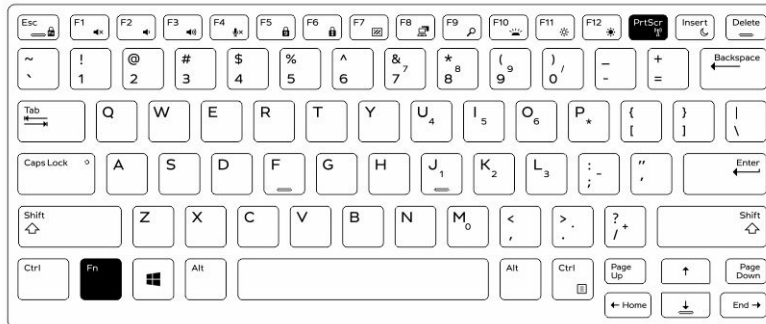
1. Power off the computer.
2. Power on the computer and at the Dell logo, tap the F2 key repeatedly to bring up the **System Setup** menu.
3. Expand and open the **System Configuration** menu.
4. Select **Stealth Mode Control**.

 **NOTE:** Stealth mode is enabled by default.

5. To disable stealth mode uncheck the **Enable Stealth Mode** option.
6. Click **Apply changes** and click **Exit**.

Enabling and disabling the wireless (WiFi) feature

1. To enable wireless Networking, press Fn + PrtScr.
2. Press Fn + PrtScr again to disable wireless Networking.

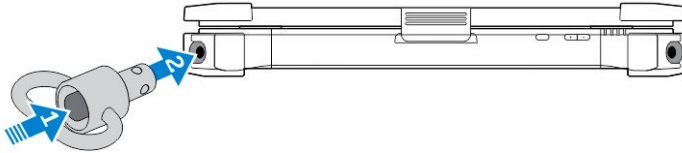


Quick Disconnect (QD) connector

Latitude fully rugged products come equipped with receptacles for QD (Quick Disconnect) connectors at the corners. These receptacles allow the connection of optional accessories such as shoulder straps.

Installing the QD connector

1. Align the QD connector to the receptacle on the corner of the computer.
2. Press and hold the button on top of the QD connector.
3. Insert the QD connector into the receptacle, while holding the button pressed [1, 2].



4. Release the button after the connector is seated in the receptacle to secure it.

Removing the QD connector

1. Press and hold the button on top of the QD connector.
2. Pull the connector out of the receptacle while holding the button pressed.

Technical specifications



NOTE: Offerings may vary by region. For more information regarding the configuration of your computer in:

- Windows 10, click or tap **Start**  → **Settings** → **System** → **About**.
- Windows 8.1 and Windows 8, from the charms sidebar, click or tap **Settings** → **Change PC settings**. In the **PC Settings** window, select **PC and devices** → **PC Info**.
- Windows 7, click **Start** , right-click **My Computer**, and then select **Properties**.

System information specifications

Feature	Specification
DRAM bus width	64 bit
Flash EPROM	SPI 128 Mbits
PCIe 3.0 bus	8.0 GHz

Processor specifications

Feature	Specification
Types	Intel Core i3/i5/i7 series
L3 cache	up to 4 MB
External bus frequency	2133 MHz

Memory specifications

Feature	Specification
Memory connector	Two SODIMM slots
Memory capacity	4 GB, 8 GB, and 16 GB
Memory type	DDR4 SDRAM
Speed	2133 MHz

Feature	Specification
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Minimum memory	4 GB
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Maximum memory	32 GB
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Battery specifications

Feature	Specification
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Type	6-cell or 9-cell smart lithium ion
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Depth	80 mm (3.14 inches)
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Height	21 mm (0.82 inches)
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Width	166.9 mm (6.57 inches)
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Weight	6-cell: 365.5 g (0.80 lb) 9-cell: 520 g (1.14 lb)
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Voltage	14.8 V DC
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Life span	300 discharge per charge cycles
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Temperature range

Operating	- Charging: 0°C to 60°C (32°F to 140°F) - Discharging: 0°C to 70°C (32°F to 158°F)
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Nonoperating	–51°C to 71°C (–60°F to 160°F)
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NOTE: The battery pack is capable of safely withstanding the above storage temperatures with 100% charge.



NOTE: The battery pack is also capable of withstanding storage temperatures from –20°C to +60°C with no degradation in its performance.

Coin cell battery	3 V CR2032 lithium coin cell
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Audio specifications

Feature	Specification
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Type	four channel high definition audio
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Controller	HDA Codec - ALC3235
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Stereo conversion	24 bit (analog-to-digital and digital-to-analog)
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Feature	Specification
Interface (internal)	HD audio
Interface (external)	microphone in/stereo headphones/external speakers connector
Speakers	one mono speaker
Internal speaker amplifier	2 W (RMS)
Volume controls	Volume up/Volume down buttons

 **CAUTION:** Adjustment of volume control, as well as the equalizer in the operating system and/or equalizer software, to other settings than the center position may increase the earphones and/or headphones output and cause hearing damage or loss.

Video specifications

Feature	Specification
Type	integrated on system board
Controller (UMA) — Intel core i3/i5/i7	Intel HD Graphics 520
Discrete	AMD Radeon R7 M360 discrete graphics card

Communication specifications

Feature	Specification
Network adapter	10/100/1000 Mb/s Ethernet (RJ-45)
Wireless	- WLAN with Bluetooth 4.1 enabled - WWAN

Port and connector specifications

Feature	Specification
Audio	one microphone/stereo headphone/speakers connector
Video	- one 19-pin HDMI port - one 15-pin VGA port
Network adapter	two RJ45 connectors
Serial port	two DB9 pin serial ports
Docking port	one

Feature	Specification
USB ports	• one 4-pin USB 2.0-compliant port • one 9-pin USB 3.0-compliant port with PowerShare • two 9-pin USB 3.0-compliant ports
SIM card slot	one micro-SIM slot with security feature

Display specifications

Feature	Specification
Type	WLED display
Size	14.0 inches
Height	190.00 mm (7.48 inches)
Width	323.5 mm (12.59 inches)
Diagonal	375.2 mm (14.77 inches)
Active area (X/Y)	309.4 mm x 173.95 mm
Maximum resolution	1366 x 768 pixels
Refresh rate	60 Hz
Operating angle	0° (closed) to 180°
Maximum viewing angles (horizontal)	+/- 70° minimum for HD
Maximum viewing angles (vertical)	+/- 70° minimum for HD
Pixel pitch	0.1875 mm

Touchpad specifications

Feature	Specification
Active Area:	
X-axis	99.50 mm
Y-axis	53.00 mm

Keyboard specifications

Feature	Specification
Number of keys	83 keys: US English, Thai, French-Canadian, Korean, Russian, Hebrew, English-International 84 keys: UK English, French Canadian Quebec, German, French, Spanish (Latin America), Nordic, Arabic, Canada Bilingual 85 keys: Brazilian Portuguese 87 keys: Japanese
Layout	QWERTY/AZERTY/Kanji

Adapter specifications

Feature	Specification
Type	65 W and 90 W
Input voltage	100–240 V AC
Input current (maximum)	65 W — 1.7 A 90 W — 1.5 A
Input frequency	50–60 Hz
Output current	65 W — 3.34 A 90 W — 4.62 A
Rated output voltage	19.5 V DC
Temperature range (operating)	0°C to 40°C (32°F to 104°F)
Temperature range (nonoperating)	–40°C to 70°C (–40°F to 158°F)

Physical dimension specifications

Feature	Specification
Height	52 mm (2.05 inches)
Width	247 mm (9.72 inches)
Length	356 mm (14.02 inches)

Feature	Specification
Weight (minimum config)	7.8 lbs (3.54 kg)

Environmental specifications

Feature	Specifications
Temperature — operating	–29°C to 63°C (–20°F to 145°F)
Temperature — storage	–51°C to 71°C (–60°F to 160°F)
Relative humidity (maximum) — operating	10% to 90% (noncondensing)
Relative humidity (maximum) — storage	0% to 95% (noncondensing)
Altitude (maximum) — operating	–15.24 m to 4572 m (–50 ft to 15,000 ft)
Altitude (maximum) — nonoperating	–15.24 m to 9144 m (–50 ft to 30,000 ft)
Airborne contaminant level	G1 as defined by ISA-71.04–1985

Contacting Dell

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

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Go to **Dell.com/support**.
2. Select your support category.
3. Verify your country or region in the **Choose a Country/Region** drop-down list at the bottom of the page.
4. Select the appropriate service or support link based on your need.