

Checking the ac power adapter

You are here because the computer fails only when the ac power adapter is used.

- If the power problem occurs only when the docking station or the port replicator is used, replace the docking station or the port replicator.
- If the system status indicator does not blink three times when an ac power source is connected, check the power cord of the ac power adapter for correct continuity and installation.
- If the computer does not charge during operation, go to “Checking the removable battery and the operational charging” on page 29.

Note: Noise from the ac power adapter does not always indicate a defect.

Checking the USB-C type ac power adapter

To check the USB-C type ac power adapter, do the following:

1. Connect the computer to a power outlet and turn on the computer.
2. Start Lenovo Companion program, and then click **Hardware Settings → Power**. The ac power adapter information is displayed.

Ensure that you use the USB-C type ac power adapter that is shipped with the computer to provide enough power to the computer. Otherwise, a message will be displayed, prompting you that the computer will not be charged or will be charged slowly.

Checking the removable battery and the operational charging

Checking the removable battery

This system supports only batteries specially designed for this specific system and manufactured by Lenovo or an authorized builder. The system does not support unauthorized batteries or batteries designed for other systems. If an unauthorized battery or a battery designed for another systems is installed, the system will not charge.

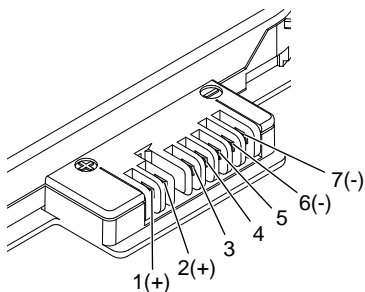
Attention: Lenovo has no responsibility for the performance or safety of unauthorized batteries, and provides no warranties for failures or damage arising out of their use.

Move your pointer to the battery-status icon in the Windows® notification area to check the battery status. The battery-status icon displays the percentage of battery power remaining and how long you can use your computer before you must charge the battery.

Note: If the removable battery becomes hot, it may not be able to charge. Remove it from the computer and leave it at room temperature for a while. After it cools down, reinstall and recharge it.

To check the removable battery, do the following:

1. Turn off the computer.
2. Remove the removable battery and measure the voltage between battery terminals 1 (+) and 7 (-). See the following figure:



Terminal	Voltage (V dc)
1, 2	+ 0 to + 12.6
6, 7	Ground (-)

- If the voltage is less than +11.0 V dc, the removable battery has been discharged.
If the voltage is still less than +11.0 V dc after recharging, replace the removable battery.
- If the voltage is more than +11.0 V dc, measure the resistance between battery terminals 5 and 7. The resistance must be 4 to 30 K Ω . If the resistance is not correct, replace the removable battery. If the resistance is correct, replace the system board.

Checking the operational charging

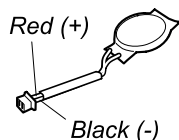
To check whether the battery charges properly during operation, do the following:

- Discharge the battery until the remained battery power is less than 50%.
- Connect the computer to ac power to charge the battery. If the battery status icon in the Windows notification area indicates that the battery is not charging, remove the battery and let it return to room temperature.
- Reinstall the battery. If the battery is still not charging, replace the battery.
- Check the battery status icon again. If the same error still exists, replace the system board.

Checking the coin-cell battery

To check the coin-cell battery, do the following:

- Disable the built-in battery. See “Disabling the built-in battery” on page 64.
- Remove the coin-cell battery. See “1100 Coin-cell battery” on page 77.
- Measure the voltage of the coin-cell battery. See the following illustration.



Wire	Voltage (V dc)
Red	+2.5 to +3.2
Black	Ground

- If the voltage is correct, replace the system board.
- If the voltage is not correct, replace the coin-cell battery.
- If the coin-cell battery discharges quickly after replacement, replace the system board.