User Manual
Ledger Nano S

Version control **4**

Check if device is genuine **6**
- Buy from an official Ledger reseller 6
- Check the box contents 6
- Check the Recovery sheet came blank 7
- Check the device is not preconfigured 8
- Check authenticity with Ledger applications 9
- Summary 9
- Learn more 9

Initialize your device **10**
- Before you start 10
- Start initialization 10
- Choose a PIN code 10
- Save your recovery phrase 11
- Next steps 11

Update the Ledger Nano S firmware **12**
- Before you start 12
- Step by step instructions 12

Restore a configuration **18**
- Before you start 19
- Start restoration 19
- Choose a PIN code 19
- Enter recovery phrase 20
- If your recovery phrase is not valid 20
- Next steps 21

Optimize your account security **21**
- Secure your PIN code 21
- Secure your 24-word recovery phrase 21
- Learn more 22

Discover our security layers **22**

Send and receive crypto assets **24**

List of supported applications **26**
- Applications on your Nano S 26
- Ledger Applications on your computer 27
- Third-Party applications on your computer 27

If a transaction has two outputs **29**

Receive mining proceeds **29**
- Receiving a large amount of small transactions is troublesome 29

In case you received a large amount of small payments 30
Prevent problems by batching small transactions 30
Set up and use Electrum 30
Set up your device with EtherDelta 34
Connect with Radar Relay 36
Check the firmware version 37
A new Ledger Nano S 37
A Ledger Nano S in use 38
Update the firmware 38
Change the PIN code 39
Hide accounts with a passphrase 40
Advanced Passphrase options 42
How to best use the passphrase feature 43
Temporary Passphrase 43
Export your accounts 44
Before you begin 44
Use your recovery phrase 45
Compatible Ledger devices 45
Arbitrary list of thirdartp-party software wallets 45
Generate private keys (advanced) 45
Generate your private keys 45
Import your private keys 45
Check hardware integrity 46
Firmware Update - FAQ 51
Unable to install OS Updater 54
Connection issues with Windows or Linux 55
Lost device, PIN code or recovery phrase 56
Browser support 56
Ledger Nano S 57
Step by step instructions 57
Troubleshoot hardware issues 57

Version control

Version	Date	Comments
1.0	19-07-2018	First issue for publication.

Getting Started

Check if device is genuine

Ledger products are built around a combination of hardware and software security, meant to protect your private keys from a wide range of potential attacks. Use this guide to make sure your Ledger device is genuine, and not fraudulent or counterfeit.
A few simple checks will assure you that your device is a genuine Ledger product:

- the origin of your Ledger product;
- the content of the box of the Ledger device;
- the condition of the Recovery sheet;
- the initial state of the Ledger device.

Note: advanced users that want to check the device hardware integrity: please refer to the last section of this article.

Buy from an official Ledger reseller

Purchase your device directly from Ledger or through the authorized distributor / reseller network to make sure you receive an authentic Ledger product. Our official sales channels include:

- our official e-commerce website www.ledgerwallet.com
- our official Amazon stores:
  - USA
  - Canada
  - United Kingdom
  - Germany
  - France
  - Spain
  - Italy
  - Japan

Note: Ledger devices purchased from other vendors are not necessarily dubious. However, we do strongly recommend that you meticulously perform the safety checks below to ensure that your Ledger is genuine.

Check the box contents

The package of a Ledger hardware wallet should include:

- A Ledger device (Ledger Nano S, a Ledger Blue, etc.)
- 3 paper cards, including:
- - a ***Getting started*** card;
- - a ***Did you notice*** card;
- - A blank ***Recovery sheet***, of which there may be 3 copies;
- Additional accessories, such as a keychain and a lanyard;

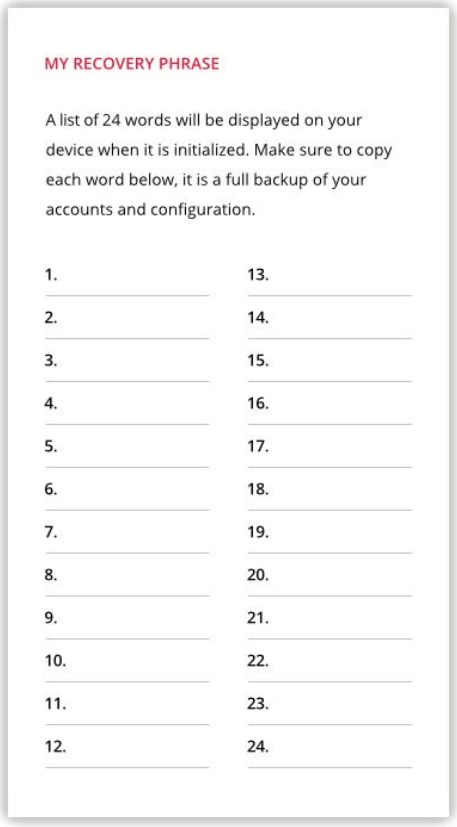
- Additional packaging (unmarked foam / cardboard).

Note: The paper cards and their envelope do not necessarily carry the Ledger logo.

Box contents of the Ledger Nano S

Check the Recovery sheet came blank

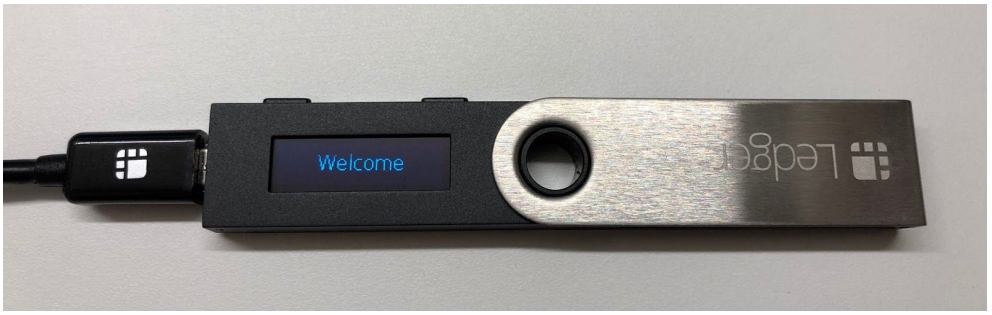
- Make sure your ***Recovery sheet*** came in blank
- Ledger never provides a 24-word recovery phrase in any way, shape or form. Only accept a recovery phrase obtained from the screen of the Ledger device.
- If your ***Recovery sheet*** already has words on it: the device may be preconfigured. It is not safe for you to use the device. Please contact Ledger Support for assistance.



a blank Recovery sheet

Check the device is not preconfigured

- Make sure your Ledger device was not preconfigured with a PIN code that you did not choose yourself. The device should display ***Welcome*** and ***Press both buttons to begin*** when you turn it on for the first time.
- Ledger never provides a PIN code in any way, shape or form. Always choose the PIN code yourself.
- If a PIN code is given to you or if the device requires a PIN code you did not choose: it is not safe for you to use the device. Please contact Ledger Support for assistance.



Ledger Nano S: ***Welcome***

Ledger Nano S: Press both buttons to begin

Check authenticity with Ledger applications

- Connect your Ledger device to any of Ledger's applications to verify its authenticity.
- Genuine Ledger devices hold a secret key that is set during manufacture.
- Only a genuine Ledger device can use its key to provide the cryptographic proof required to connect with Ledger's secure server.

Summary

- Check your ***Recovery sheet*** came in blank;
- Initialize your Ledger device yourself at first use. The ***Welcome*** screen should be displayed when connecting your device for the first time;
- Choose your own PIN code;
- Contact Ledger Support in case of doubt.

Learn more

Anti tamper seals

Ledger deliberately chooses not to use anti tamper seals on its packaging. These seals are easy to counterfeit and can therefore be misleading. Rather, genuine Ledger devices contain a secure chip that prevents physical tampering: this provides stronger security than any sticker possibly could.

Hardware integrity check

Advanced users can check the hardware integrity on the inside of their Ledger device. This article provides a non-exhaustive chronology of the different revisions of the Ledger Nano S build. Please be aware that normal usage does not involve opening your Ledger device. Proceed to do so at your own risk. Ledger can not be held liable for any possible damage resulting from opening the device.

Initialize your device

Initialize your Ledger Nano S device to get started. The Ledger Nano S will generate new private keys to securely manage your crypto assets.
Note:** Restore a configuration **to recover the private keys associated with an existing recovery phrase.

Before you start

- Make sure your device has the latest firmware installed.
- Verify your computer has:
- - Windows 7+, macOS 10.8+ or Linux;
- - a USB port. Use an adapter for USB-C ports;
- - an internet connection and Google Chrome / Chromium installed.
-

Start initialization

1. Connect the Ledger Nano S to your computer using the supplied USB cable.
2. Read the instructions on the screen. Press both buttons simultaneously to proceed.
3. Press the right button located above the validation icon when ***Configure as new device?*** is displayed.

Choose a PIN code

- Firmware version 1.3 or higher requires a PIN code between 4 and 8 digits long.
-
- Firmware version 1.2 or lower requires a 4-digit PIN code.
-

To set your PIN

1. Press both buttons when ***Choose a PIN*** is displayed on the device.
2. Press the right or left button to choose the first digit of your PIN code.
3. Press both buttons to select the digit.
4. Repeat the process until all digits of your PIN code are selected.
5. Select the check icon (q) and press both buttons to confirm the pincode.

> - Choose your own PIN code. This code unlocks your device.
> - An 8-digit PIN code offers an optimum level of security.
> - Never use a device supplied with a PIN code and/or a recovery phrase.
> - Contact Ledger Support in case of doubt.

Save your recovery phrase

Your 24-word recovery phrase will now be displayed word by word on the Ledger Nano S screen. Be careful, your recovery phrase will be displayed only once.

1. Take the blank ***Recovery sheet*** supplied in the box.
2. Write down the first word (***Word #1***) on the ***Recovery sheet***. Verify that you have copied it correctly in position 1.
3. Press the right button to move to the second word (***Word #2***). Write it in position 2 on the Recovery sheet. Verify that you've copied it correctly.
4. Repeat the process until the twenty-fourth word (***Word #24***). ***Confirm your recovery phrase*** will be shown on the screen after word 24.
5. Select the requested word by navigating with the left or right button. Validate the word by pressing both buttons. Repeat this step for each requested word.
6. ***Your device is now ready*** is shown once you've successfully completed the initialization.

> - Make sure you are the sole holder of the 24-word recovery phrase.
> - Ledger does not keep any backup of your 24 words.
> - Never use a device supplied with a recovery phrase and/or a PIN code.
> - Please contact Ledger Support in case of doubt.

Next steps

You've successfully initialized your device. Proceed to:

- Optimize your account security.
- Use the Ledger Manager to install apps on your device.

Update the Ledger Nano S firmware

The update to firmware version 1.4.2 introduces minor security as well as user experience improvements. Please check our blog post for full details on the changes included in this update.
Check our update FAQ for troubleshooting tips in case you encounter any issue.

Before you start

- Make sure you have downloaded and installed the Ledger Manager.
- Ensure your 24-word recovery phrase is accessible if your device is already initialized.

Step by step instructions

Step 1 - Check the current firmware

1. Check the current firmware version.
2. Select your case
3. - If the firmware version is 1.4.2, your device already has the latest firmware.
4. - If the firmware version is 1.4.1 or lower, continue to Step 2.

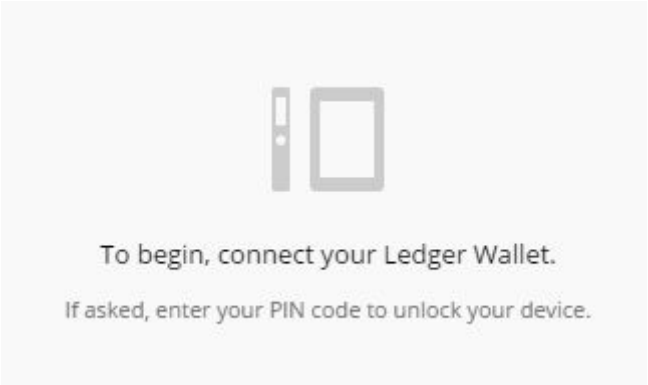
Step 2 - Connect to Ledger Manager

For a Ledger Nano S in use

1. Launch the Ledger Manager on your computer.
2. Connect the Ledger Nano S to the computer using the USB cable.
3. Enter your PIN code to unlock the Ledger Nano S.

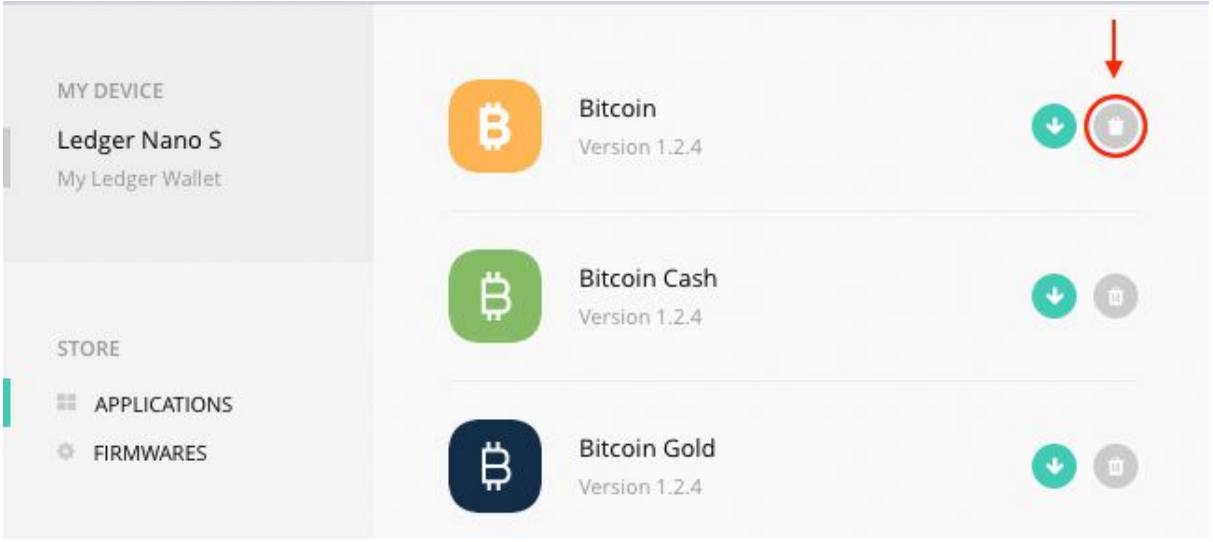
For a new Ledger Nano S

1. Press and hold the right button. The right button is the one far away from the USB connector, closest to the swivel hole.
2. Connect the USB cable from your computer to your Ledger Nano S while holding the right button until ***Recovery*** is displayed.



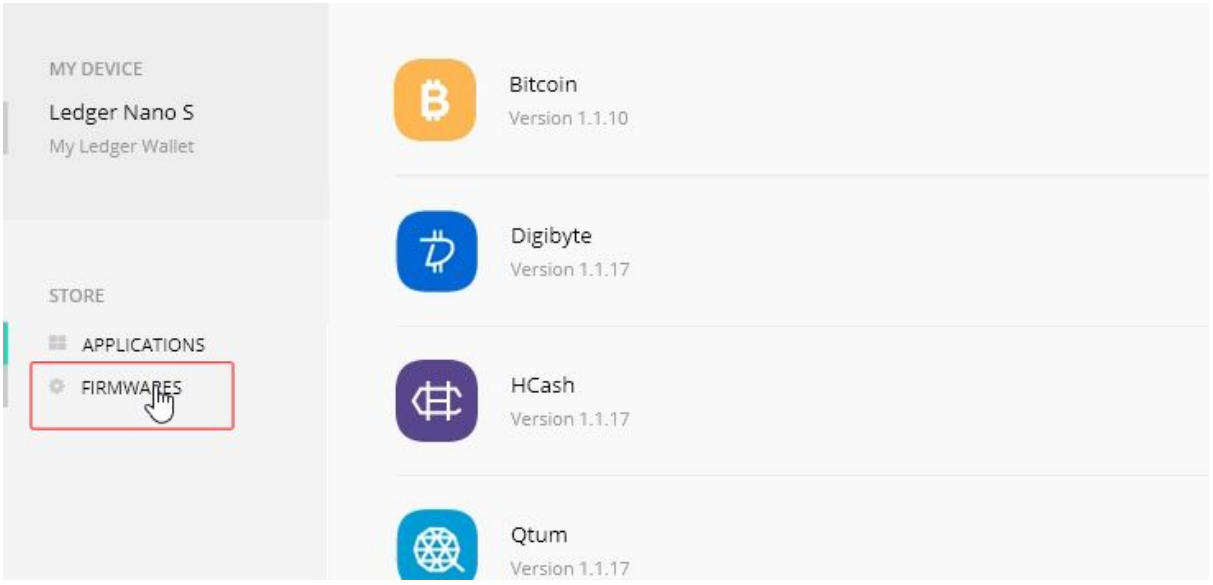
Step 3 - Uninstall applications

1. Click on the ***APPLICATIONS*** tab of the Ledger Manager.
2. Click on the grey trash icon for all applications that are currently on the Ledger Nano S. This makes room for the firmware installer.

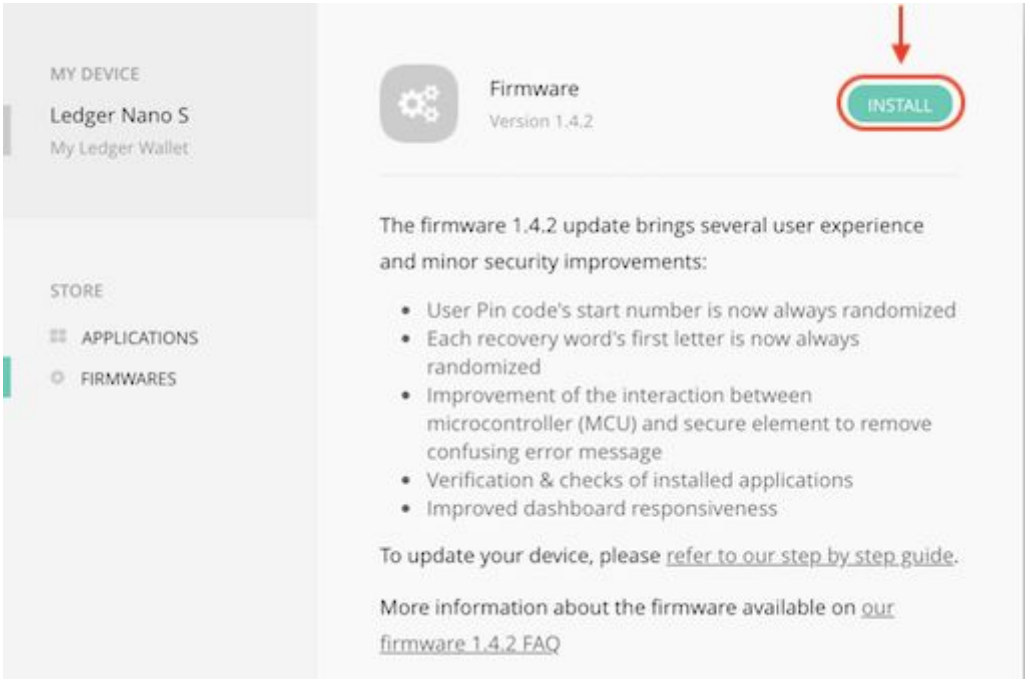


Step 4 - Download and start the update

- Navigate to ***FIRMWARES*** on the sidebar of the Ledger Manager.

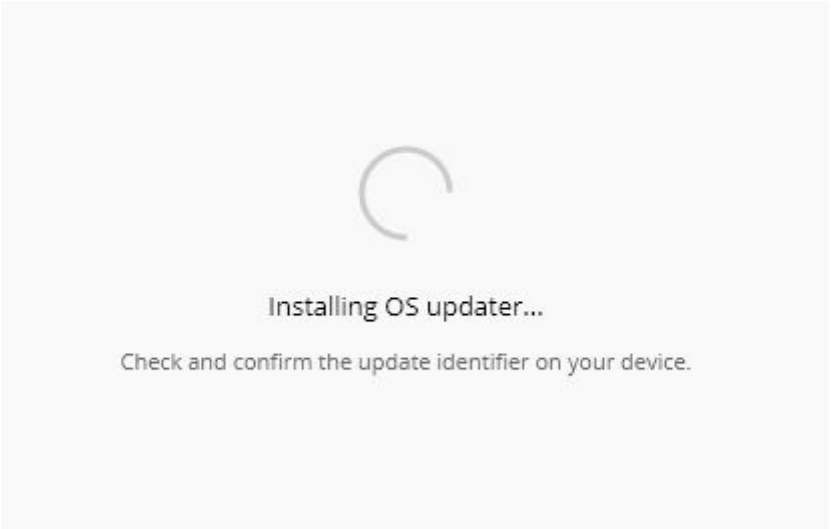


- Click on the green ***INSTALL*** button.



- Confirm ***Allow Ledger manager?*** on the Ledger Nano S by pressing the right button. The right button is the one far away from the USB connector, closest to the swivel hole.

- The Ledger Manager will now display the installation screen while the updater is installed on the device.



Note: try updating at a later moment in case the update fails at this stage.

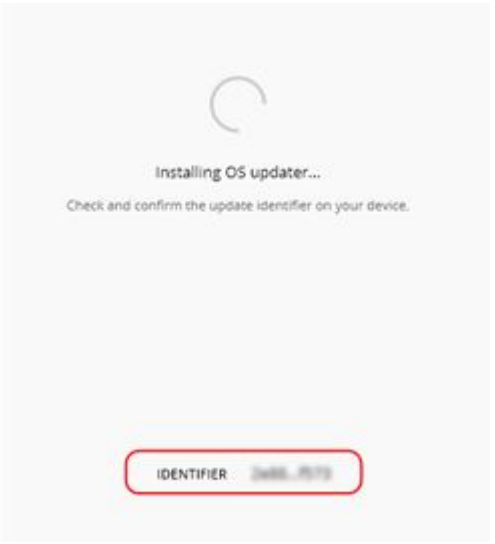
Step 5 - Proceed with firmware update

The Ledger Nano S will now show three screens after each other in a slider. Before pressing the right button to confirm, make sure that:

1. You see the ***Update firmware*** screen.
2. The firmware ***Version*** is 1.4.2.
3. You have checked that the identifiers shown on both the Ledger Nano S and the Ledger Manager are the same.

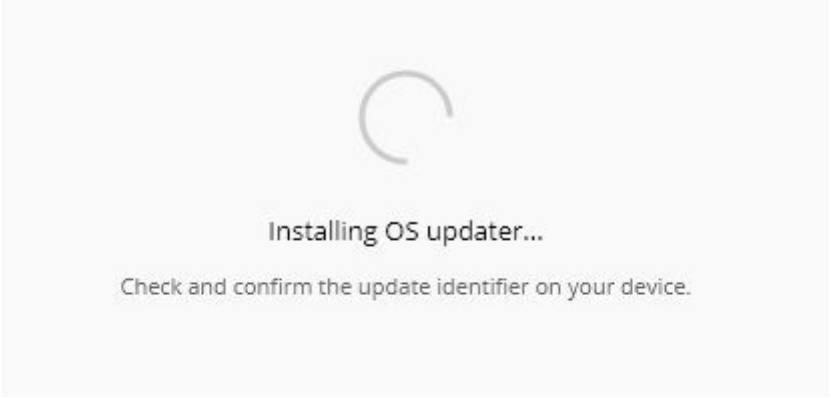
The first screen of the slider: Update firmware.

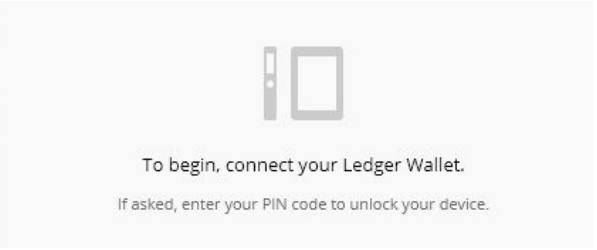
The second screen of the slider: Version 1.4.2.



The third screen of the slider displays the identifier. Verify that it matches the identifier shown on the Ledger Manager.

- After verification of the three screens, proceed with the update by pressing the right button.
- Enter your PIN code to continue.
- The OS updater will now be installed.



- The device will reboot after installing the firmware.
- At this stage, two cases are possible, depending on the firmware version that was identified in Step 1:

- If the firmware version identified in Step 1 was 1.4.1, the update is now complete. In this case the Ledger Nano S will boot as normal. Please skip Step 6 and directly go to Step 7.
- If the firmware version identified in Step 1 was 1.3.1 or lower, the Ledger Nano S will display ***MCU firmware is outdated*** (left side of the image below) and ***To begin, connect your Ledger Wallet*** on the Ledger Manager (right side of the image below). In this case, go to Step 6.