

BITRONICS

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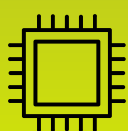
BITRONICS



*Learning by
building*

NERDaxe

ASIC POWER
BITMAIN CHIP



LOW POWER
CONSUMPTION



EASY TO
CONFIGURE



OPEN
SOURCE



THE NERDAXE

NerdAxe is a **fully open-source Bitcoin** ASIC miner equipped with the BM1366 ASIC chip from Antminer's S19XP.

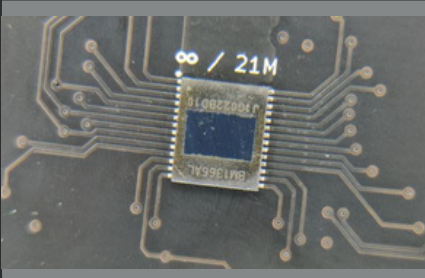
This design ensures efficient and powerful mining capabilities, achieving 500 GH/s at an energy efficiency of 20 J/TH. It operates using a 5V DC power supply connected via a 2.1/5.5mm barrel jack connector.

At the core of NerdAxe is the combination of ESP-miner and AxeOS, an open-source firmware that empowers you with full control over your mining operations. The intuitive web interface simplifies setting adjustments and performance monitoring, making mining more accessible and streamlined.

NerdAxe is an open-source miner based on Bitaxe project, designed to boost the hashing power of your NerdMiner.

BM1366 ASIC CHIP

500 Ghs Bitmain ASIC chip working at low temperature with fan



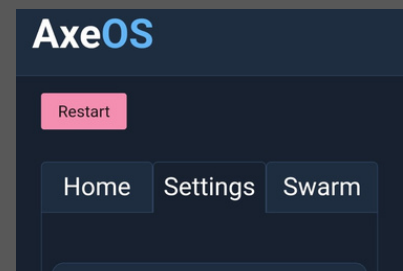
MINER STATS SCREEN

Standard mining data, hashrate, uptime, efficiency, shares...



AXEOS WEBCONFIG

Global minery data current hashrate, miner config, logs...



FULL **SETUP** GUIDE

Check all NerdAxe details downloading the full guide on the following QR code.

For any other question contact Bitronics team.



QUICK SETUP

Required time: 5 minutes

**TOOLS
NEEDED**



1 - Power up your Nerdaxe with its power adapter (5V /4A). **Important:** Don't use any other power adapter.

2 - Wait until the text "**Connect to ssid: Nerdaxe_XXXX**" appears on the screen, and then from a mobile phone search for the **Nerdaxe_XXXX** wifi network and connect to it.

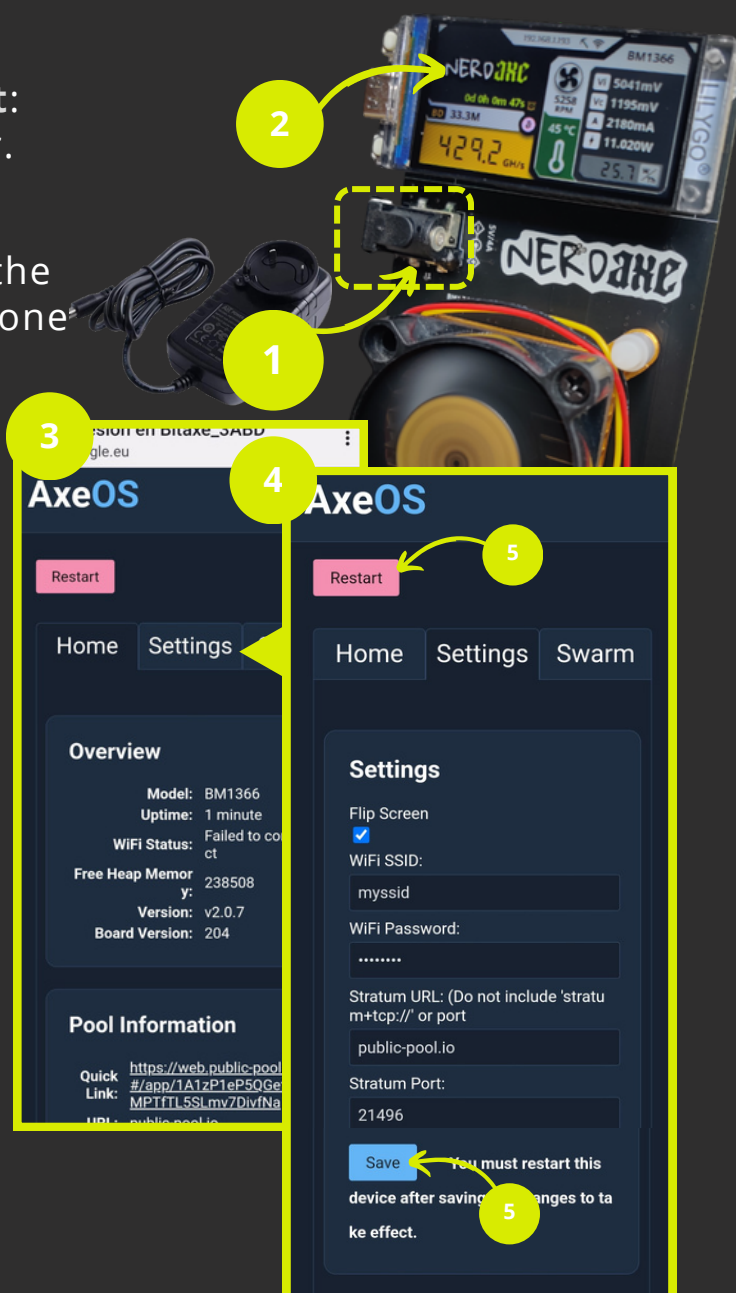
3 - Once connected, the following menu will be shown (3). Click on **Settings** to setup.

4 - Setup miner parameters:

- **WiFi/Password:** network credentials were you want to connect to.
- **Pool url/port:** introduce your pool settings or leave default
- **Stratum user:** BTC address where you will receive prize.

4 - Press **Save** and **Restart**. After this Nerdaxe will start working.

For any problem check full guide or contact Bitronics team.



NERDAXE DIY KIT

Required time: 10 minutes

Below, we present the steps to assemble your NerdAxe DIY kit.

For any other question contact Bitronics team.

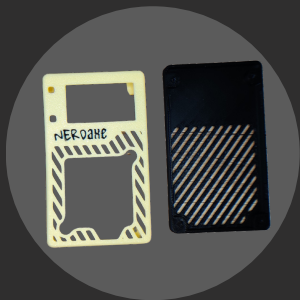


KIT PARTS

TOOLS
NEEDED



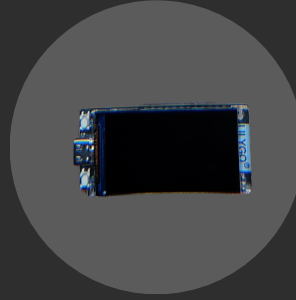
Case Parts



Buttons



Your Board



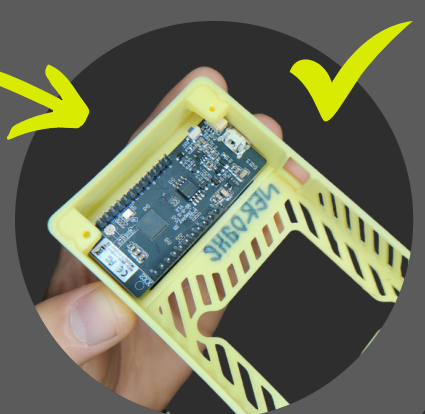
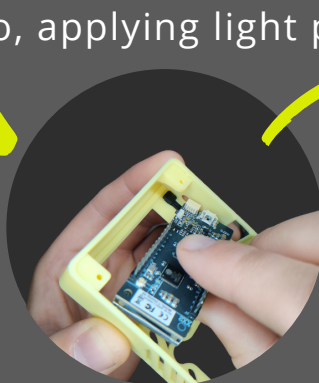
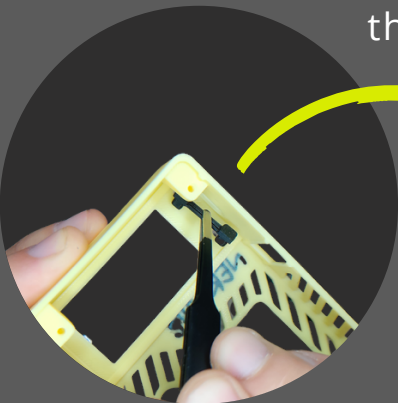
Tools



HOW TO BUILD

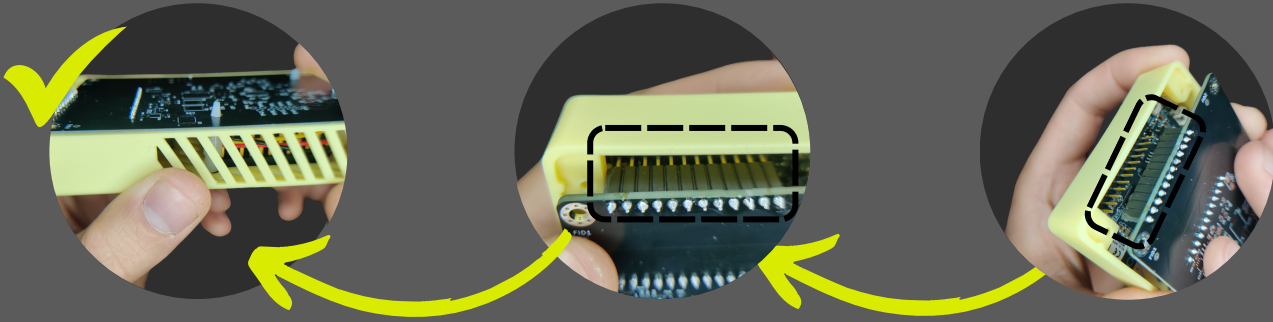
STEP 1

First, make sure to add the buttons to the case as shown in the photo. Then, you should install the LILYGO screen on the front of the case as shown in the photo, applying light pressure.



Once the screen is installed, attach the NerdAxe PCB by inserting the screen's pins into the PCB as shown in the photo. Ensure they are properly aligned and fully seated with gentle pressure.

STEP 2



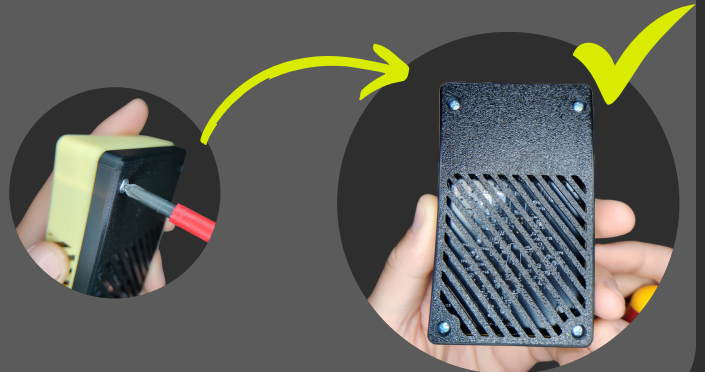
STEP 3

Attach the back of the case

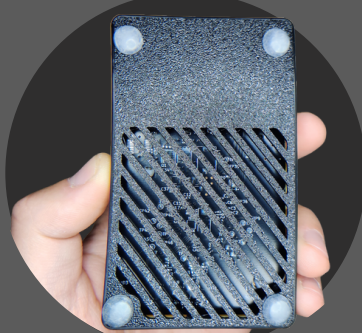


STEP 4

Screw on the back part.



STEP 5



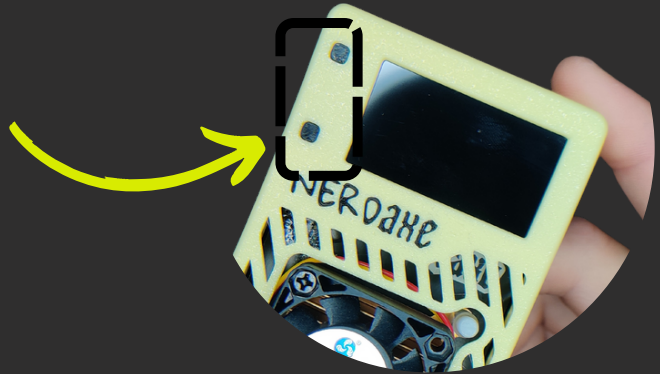
Add the non-slip rubber feet and you're all set! Now you have the NerdAxe ready to hash that algorithm!





6 - Connect your Nerdaxe to its power adapter (5V/4A). Ensure you use the specified adapter to avoid damage.

The buttons next to the screen are used to switch between screens, allowing you to view the upcoming displays.



7 - Once connected, the following menu will be shown (3). Click on **Settings** to setup.

8 - Setup miner parameters:

- **WiFi/Password:** network credentials were you want to connect to.
- **Pool url/port:** introduce your pool settings or leave default
- **BTC address:** BTC address where you will receive prize.

9 - Press **Save** and **Restart**. After this Nerdaxe will start working.

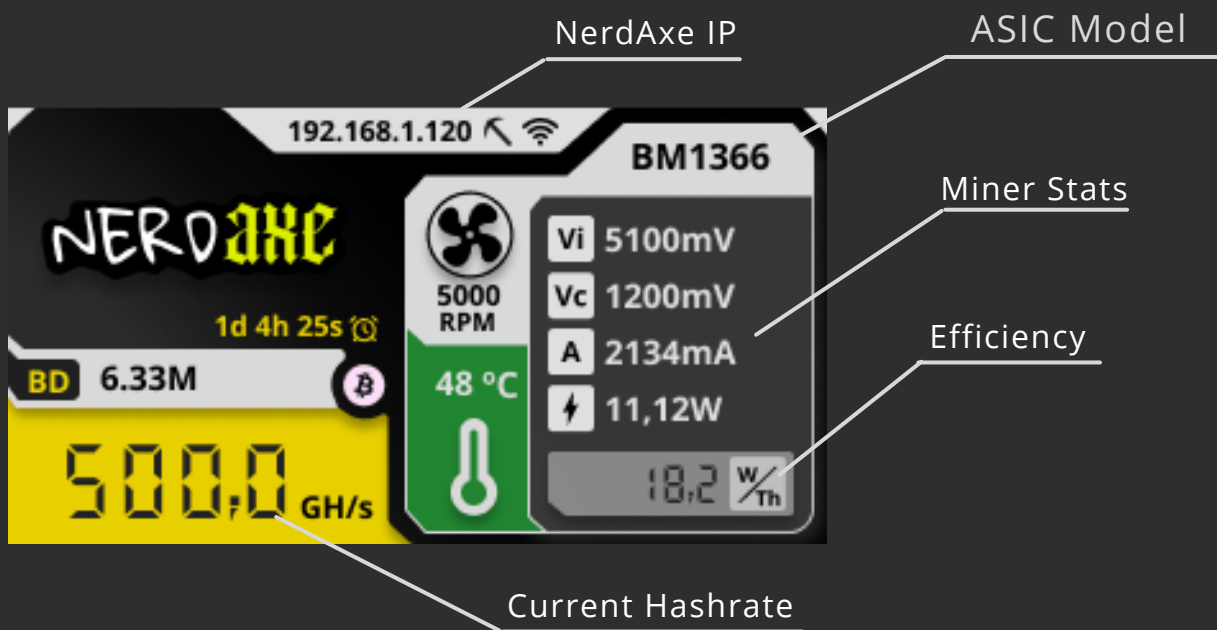


For any problem check full guide or contact Bitronics team.

NERDAXE SCREENS

MAIN SCREEN

The following screen provides all NerdAxe stats, including mining values, chip temperature, and efficiency, among other details.



BD

Vi

Vc

A



Best difficulty: Best share gotten by miner

Input voltage: voltage of power supply

Core voltage: voltage readed at ASIC chip

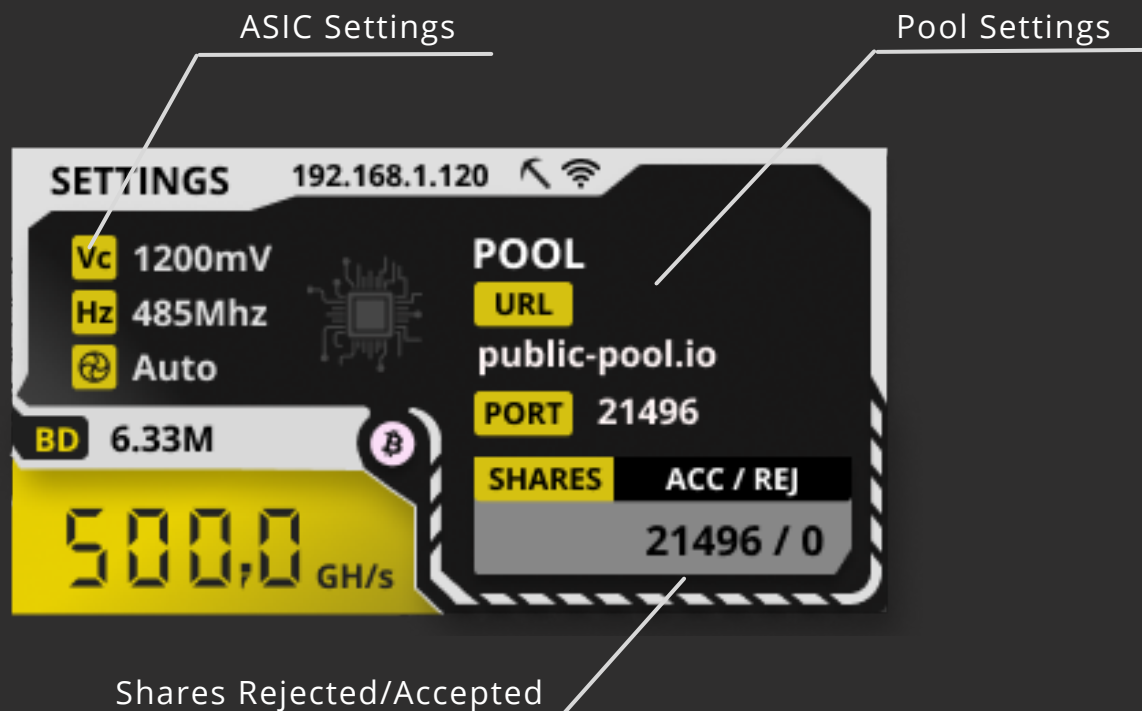
Current: Current consumption

Power: total power consumption

Fan: revolutions per minute readed

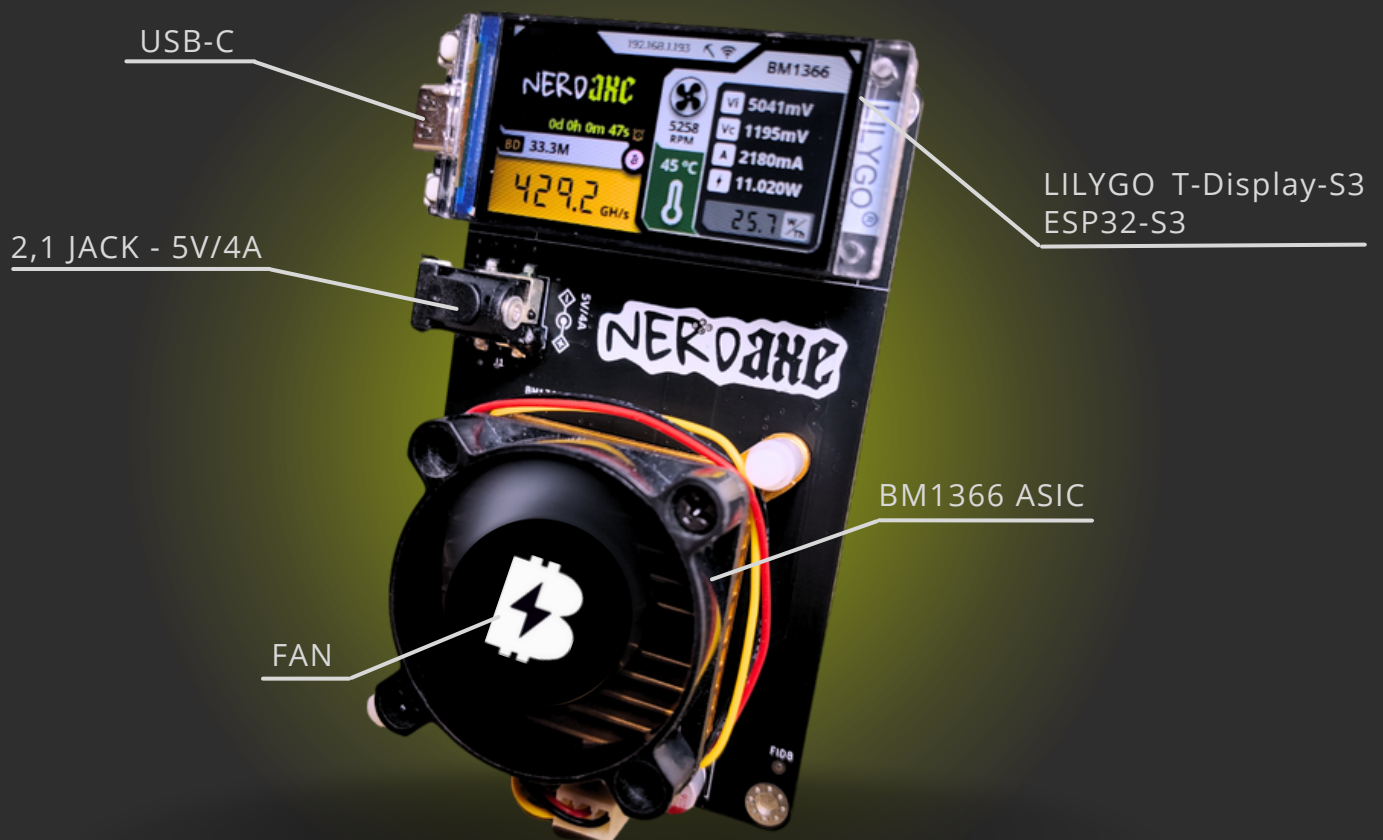
STATS SCREEN

The following screen shows your configured settings, including the pool, IP address, and port for configuring axeOS.



Vc	Core voltage set: Configured ASIC core voltage
Hz	Freq set: ASIC frequency configured
Fan	Fan: configured fan behaviour
URL	URL: Pool configured URL
PORT	Port: Pool configured Port
SHARES	Shares: Accepted/rejected found shares

ATTRIBUTES



Vcc: 5V
I_{max}: 3A
P: 12W~15W
USB type: USB-C

Wifi: only 2.4GHz
MCU: ESP32-S3R8 Dual-core
LX7 microprocessor
ASIC: BM1366AG

FEATURES

HIGH PERFORMANCE

Powered by the S19XP BM1366 ASIC chip

PLUG PLAY

Easy to setup, fully assembled, configure and play

ASIC TUNNING

ASIC Tunning via config portal, find your work

CONFIG PORTAL

Web config portal to setup your mining data

FULL **SETUP** GUIDE

TOOLS
NEEDED

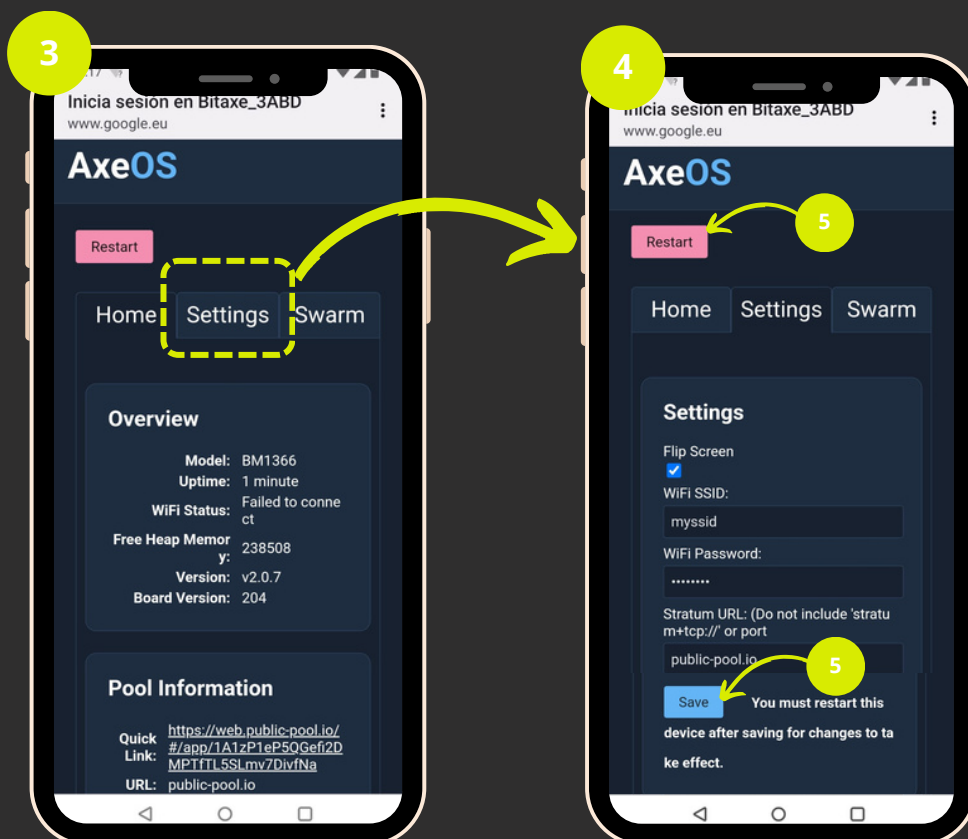


1 - Power up your NerdAxe with its power adapter (5V /4A). **Important:** Don't use any other power adapter.

2 - Wait until the text "**Connect to ssid: Nerdaxe_XXXX_XXXX**" appears on the screen, and then from a mobile phone search for the **Nerdaxe_XXXX** wifi network and connect to it.

3 - Once connected, the following menu will be shown (3). Click on **Settings** to setup.

4 - Set your mining settings and then (5) press **Save** and **Restart**. After this Nerdaxe will start working.



NERDAXE SETTINGS

Setup miner parameters:

- **WiFi/Password:** network credentials were you want to connect to. Get your home Wifi name and password and add it there.
- **Stratum url/port:** introduce your pool settings or leave default ones. Check compatible pools at bitaxe.org. Standard ones:

URL	Port
public-pool.io	21496
pool.vkbit.com	3333

- **Stratum user:** set your BTC address followed by your worker name. `<btcAddress>.<workerName>`
- **Stratum password:** left default value or specify one for pools who require.
- **Frequency:** ASIC work freq.
- **Core voltage:** ASIC core voltage.

ASIC TUNNING METHODOLOGY



Playing with frequency and core voltage let you find the best working point with your ASIC. Increasing or reducing hashrate or power consumption. **Be carefull to not force it too much.** Default values are the recommended ones.