BITMAIN · ANTMINER

Antminer S21 XP 270 TH/s

Air-cooled Bitcoin miner · SHA-256



COIN · ALGORITHM
Bitcoin · SHA-256

COOLING
Air (fans)

POWER
220–277 V · 20 A

RELEASED
October 2024

Product Manual

Setup, operation, maintenance and OneMiners hosting guide

Version 1.0
First edition, November 2026
Information checked 7 Nov 2026

Contains manufacturer documentation © Bitmain Technologies Inc., reproduced for customer reference.

About this manual

This manual covers the air-cooled **Bitmain Antminer S21 XP** at **270 TH/s** and **3,645 W** (13.5 J/TH). The S21 XP Hyd and S21j XP Hydro have their own manuals.

Each section that reproduces or summarises manufacturer content is marked with a **Source** tag. Values that sources disagree on, or that no source confirms, are marked **Needs verification** and listed in section 1.4. Chapters 8 to 12 cover the OneMiners platform, hosting, warranty and wallet, and are marked **OneMiners**.

Before you start

CHECK	POWER	ROOM	NETWORK
Label says S21 XP	**220–277 V · 20 A**	**−20 to 45 °C**	**RJ45 + DHCP**
Check the version on the label.	About up to 20 A (about 16.6 A at 220 V).	Ventilated, away from people (76 dBA).	Plus a Windows PC for IP Reporter.

How notices are used

DANGER
Risk of electric shock, fire or injury. Do not continue until the condition is met.

CAUTION
Risk of damage to the miner, lost earnings or loss of data. Read before acting.

NOTE
Useful background, limits of a specification, or where to check further.

ONEMINERS
Applies to miners hosted in a OneMiners data center.

Copyright and disclaimer

© OneMiners, 2026. This manual combines documentation published by the manufacturer, Bitmain Technologies Inc., and other cited sources with supplementary material written by OneMiners (platform, hosting, warranty and wallet chapters). Manufacturer content remains the property of its owner and is reproduced or summarised here for the convenience of OneMiners customers. OneMiners claims no ownership of it. All product names and trademarks belong to their respective owners.

Specifications are typical values and may change without notice. Always confirm against the label on your unit and the latest manufacturer documentation. Information about profitability, hosting prices and platform features is for guidance only and is not financial advice. OneMiners' supplementary chapters may not be copied or redistributed without written permission.

Contents

01	**Product Overview** Specifications, versions and open questions	4
02	**Safety and Installation Requirements** Electrical, climate, site and airflow	5
03	**Initial Setup** Inspection, power, IP address and dashboard login	6
04	**Mining Configuration** Pools, worker names and saving settings	8
05	**Monitoring Performance** Dashboard values and what normal looks like	9
06	**Firmware and Maintenance** Firmware, password, reset and cleaning	9
07	**Troubleshooting** Power, network, pools, hashrate and temperature	10
08	**OneMiners Platform Guide** Miner details, pool settings, earnings and hardware status	12
09	**OneMiners Hosting and Warranty** Hosting service, warranty terms, exclusions and support	14
10	**Wallet and Mining Rewards** Mining balance, payout address, withdrawals and exchange	15
11	**Additional OneMiners Features** AI Smart Mining, mobile app and profitability tools	17
12	**Official Resources and Support** Links, contacts, sources and revision history	19

CHAPTER 01

Product Overview

The Antminer S21 XP is the most efficient air-cooled model of Bitmain's S21 generation, at 13.5 J/TH.



Figure 1-1 Antminer S21 XP 270 TH/s. Image: OneMiners product photo.

1.1 Key figures

270 TH/s	3,645 W	13.5 J/TH
Typical hashrate	Power on wall	Efficiency

1.2 Specifications

ITEM	VALUE
PRODUCT	
Model / version	**S21 XP**
Algorithm / coins	**SHA-256 · BTC / BCH / BSV**
Hashrate	**270 TH/s**
Power on wall	**3,645 W**
Efficiency	**13.5 J/TH**
POWER	
Input voltage	**220–277 V AC, single phase**
Input frequency	**50–60 Hz**
Input current	**20 A**
PSU	**Adapted output 4,000 W**

ITEM	VALUE
HARDWARE	
Network	**RJ45 Ethernet 10/100M**
Size (L×W×H)	**449 × 219 × 293 mm**
Weight	**18.7 kg / 21.5 kg**
Noise	**76 dBA**
ENVIRONMENT	
Operating temperature	**−20 to 45 °C**
Storage temperature	**−20 to 70 °C**
Humidity	**10–90% RH, non-condensing**
Altitude	**≤ 2,000 m**

SOURCE Bitmain, S21 XP Specifications (support.bitmain.com).

1.3 Hardware

Power supply	Built into the chassis.
Controller	ETH port · **IP Report** button · **Reset** button · status lights.
Cooling	Fans with front-to-back airflow.

SOURCE Manufacturer specification; standard layout.

1.4 Values that need verification

These values conflict between sources or aren't confirmed by the manufacturer. Check the label on your unit, and ask OneMiners support before planning power or cooling around them.

ITEM	WHAT THE SOURCES SAY	USED IN THIS MANUAL
Power cord	OneMiners lists C13 (usually rated 10 A); the S21 XP draws about 16.6 A at 220 V	Use a C19 / 20 A cord
Voltage	Bitmain 220–277 V · OneMiners 110–240 V	220–277 V. Don't run on 110 V.
Weight	Bitmain 18.7 kg net · OneMiners 21.5 kg (Bitmain's gross weight)	18.7 kg

02 CHAPTER Safety and Installation Requirements

The S21 XP draws about 3.6 kW and produces loud, hot exhaust air. Plan the circuit and the room before switching it on.

2.1 Safety warnings

DANGER · ELECTRICAL

- Connect to an **earthed** outlet near the equipment and easy to reach.
- Use only 220–277 V AC, single phase. Wrong input voltage may damage the miner.
- The S21 XP draws up to 20 A (about 16.6 A at 220 V). Use a power cord, PDU and circuit rated for at least that current.

CAUTION · EQUIPMENT

- Don't open the case or remove screws; unauthorised disassembly can void the warranty.
- Keep the miner away from water and condensing humidity.

2.2 Electrical requirements

Input	**220–277 V AC, single phase**
Typical load	**3,645 W**
Current	**up to 20 A (about 16.6 A at 220 V)**
Power cord	**Rated for the current above**

Use earthed circuits sized by a licensed electrician to local code. Don't use household extension leads or multi-plugs.

2.3 Climate and site

CONDITION	REQUIREMENT
Operating temperature	−20 to 45 °C
Humidity	10–90% RH, non-condensing
Altitude	≤ 2,000 m
Noise	76 dBA

- Keep intake and exhaust clear and don't let hot exhaust air flow back into the intake.
- At 76 dBA, the S21 XP isn't suitable for living or office spaces.
- Avoid dust, salt air and corrosive gases; clean more often in dusty sites.

SOURCE Bitmain, S21 XP Specifications (support.bitmain.com).

03 CHAPTER Initial Setup

These steps take a new S21 XP from the box to its management interface. If your miner is hosted by OneMiners, our team does this for you; skip to Chapter 8.

3.1 Unboxing and connecting

- Check the carton for damage and confirm the label shows **S21 XP**. Check the fans spin freely and keep the packing.

1. **Network**
   Connect an Ethernet cable to the **ETH** port. DHCP assigns an IP address automatically.
2. **Power**
   Connect the power cord and switch on the supply. The fans spin up during start-up.

3.2 Finding the miner's IP address

1. Download `IPReporter.zip` from shop.bitmain.com/support/download (Tools section) or the OneMiners Manuals & Firmware Library. It runs on Windows only.
2. Extract it, right-click `IPReporter.exe` and choose **Run as administrator**.
3. Choose **Shelf, Step, Position** to mark locations in a farm, or **Default** for a single server. Click **Start**.
4. On the control panel, press and hold **IP Report** until the miner beeps (about 5 seconds). The IP address appears on your computer.

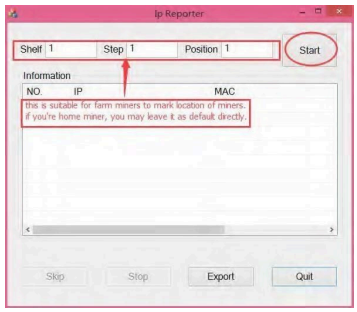


Figure 3-1 IP Reporter. © Bitmain.

3.3 Logging in and network settings

1. Enter the IP address in a web browser on the same network. Log in with `root` / `root`, then change the password.
2. Optional static IP: open **IP Setting**, set **Protocol** to **Static**, enter IP, mask, gateway and DNS, then **Save**.

Dashboard menu map

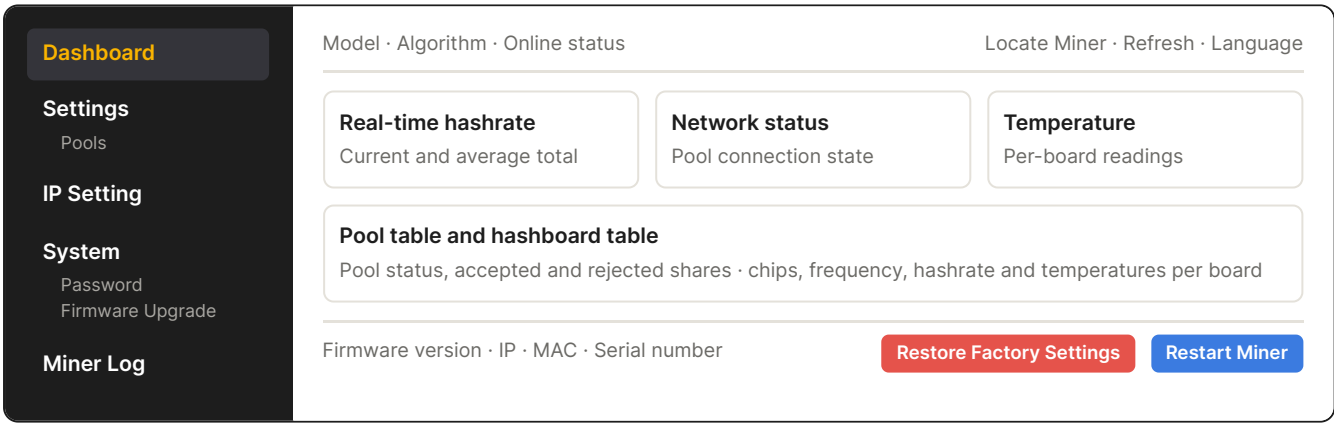


Illustration of the Antminer web interface layout, not a screenshot. Labels can differ between models and firmware releases.

SOURCE Bitmain user guides for current Antminer air-cooled servers: IP Reporter, dashboard, pools, administration.

04 CHAPTER Mining Configuration

The S21 XP mines SHA-256 coins: Bitcoin.

4.1 Setting up pools

1. Open **Settings** › **Pools**.
2. Enter up to three pools in priority order.
3. Click **Save**. The miner connects to Pool 1.

FIELD	WHAT TO ENTER
Pool / mining address	The pool's stratum address, in the format `stratum+tcp://host:port`. Copy it from your pool's "Connect" or "Getting started" page.
Worker / user	Your pool account or wallet address plus a worker name, usually `account.worker`, for example `myaccount.s21xp01`.
Password	Optional. Most pools accept any value, such as `x`.

COIN AND POOL
Pool 1 is used first; Pools 2 and 3 are backups. The miner mines SHA-256 coins; this manual assumes Bitcoin (BTC).

CAUTION
Use only pool addresses from the pool's official website, and always add at least one backup pool. A mistyped address mines for nobody.

ONEMINERS
Hosted miners are configured from the OneMiners platform rather than the miner's own dashboard. To change pools, use **Pool Settings** in your account (see 8.2).

SOURCE Bitmain user guides for current Antminer air-cooled servers: IP Reporter, dashboard, pools, administration.

05 CHAPTER Monitoring Performance

Judge performance by the average hashrate after the miner has run for some time.

5.1 What "normal" looks like

262–278 TH/s	3,463–3,827 W	< 1 %
Average hashrate (±3%)	Wall power (±5%)	Pool rejection rate

Calculated from the rated values with the manufacturer's usual tolerances (hashrate ±3%, power ±5%).

5.2 What to watch

VALUE	MEANING
Average hashrate	The most reliable measure of performance. The real-time figure moves with every share.
Board temperatures	Board temperatures should stay stable. Rising values point to dust, fans or room temperature.
Fan speed	Every fan should report a speed. A stopped fan raises temperatures and stops mining.
Pool status	Active pool, accepted and rejected shares. Rejection below 1% is normal.

06 CHAPTER Firmware and Maintenance

Keep the firmware current and the airflow clean. Most problems on air-cooled miners trace back to dust, fans or room temperature.

6.1 Upgrading firmware

DANGER · KEEP POWER ON
Keep the server powered throughout the upgrade.

USE THE RIGHT FILE
Only install firmware Bitmain publishes for the **Antminer S21 XP**, from shop.bitmain.com/support/download or the OneMiners Manuals & Firmware Library. Never flash firmware for another model.

1. Open `System` › `Firmware Upgrade` and leave **Keep settings** selected.

2 Choose the file, click **Update**, and restart when it finishes.

6.2 Password and factory reset

- Password: System › Password.
- Reset: with the miner running for at least 5 minutes, hold **Reset** on the control panel for 10 seconds. All settings are cleared.

SOURCE Bitmain user guides for current Antminer air-cooled servers: IP Reporter, dashboard, pools, administration.

6.3 Preventive maintenance

WHEN	TASK
Daily / remotely	Check average hashrate, board temperatures, fan speeds and pool status.
Monthly	Check room temperature and humidity against 2.3. Look for dust on fan guards.
Every 1–3 months	Switch off and unplug, then clean fans and heat sinks with dry compressed air.
Regularly	Check power cords and plugs for heat marks. Check for new firmware.

Intervals are OneMiners recommendations. Clean more often in dusty sites.

07 CHAPTER Troubleshooting

Start with the symptom table. Hosted customers: don't attempt repairs yourself; contact OneMiners service.

SYMPTOM	CHECK
Miner doesn't power on	Check the supply is 220–277 V AC, single phase and the power cord is fully seated and rated for the current.
No network / IP not found	Check the cable, switch port and DHCP. Run IP Reporter as administrator and hold **IP Report** until it beeps.
Pool won't connect	Re-check the pool address and port, the worker name, gateway and DNS. Make sure the pool port isn't blocked by a firewall.
Low or unstable hashrate	Compare the average hashrate with 5.1. Check board temperatures, fans and dust. Update the firmware.
Overheating	Check the room is within −20 to 45 °C, fans are running and intake and exhaust are clear. Clean, then restart.

SYMPTOM	CHECK
Smell, unusual sound or smoke	Switch off immediately and contact service.

SOURCE Based on Bitmain documentation cited in Chapters 2–6.

ONEMINERS
For a hosted miner, send the symptom and your miner's service ID to **service@oneminers.com** or WhatsApp **+1 305 867 6143**. Repairs under warranty are handled on site by our repair team.

08 CHAPTER OneMiners Platform Guide

Miners hosted by OneMiners are monitored and managed from your account at app.oneminers.com or the OneMiners mobile app. Screens in this chapter are from OneMiners platform v1.2 and show example values from other miners, not an S21 XP.

8.1 Miner details

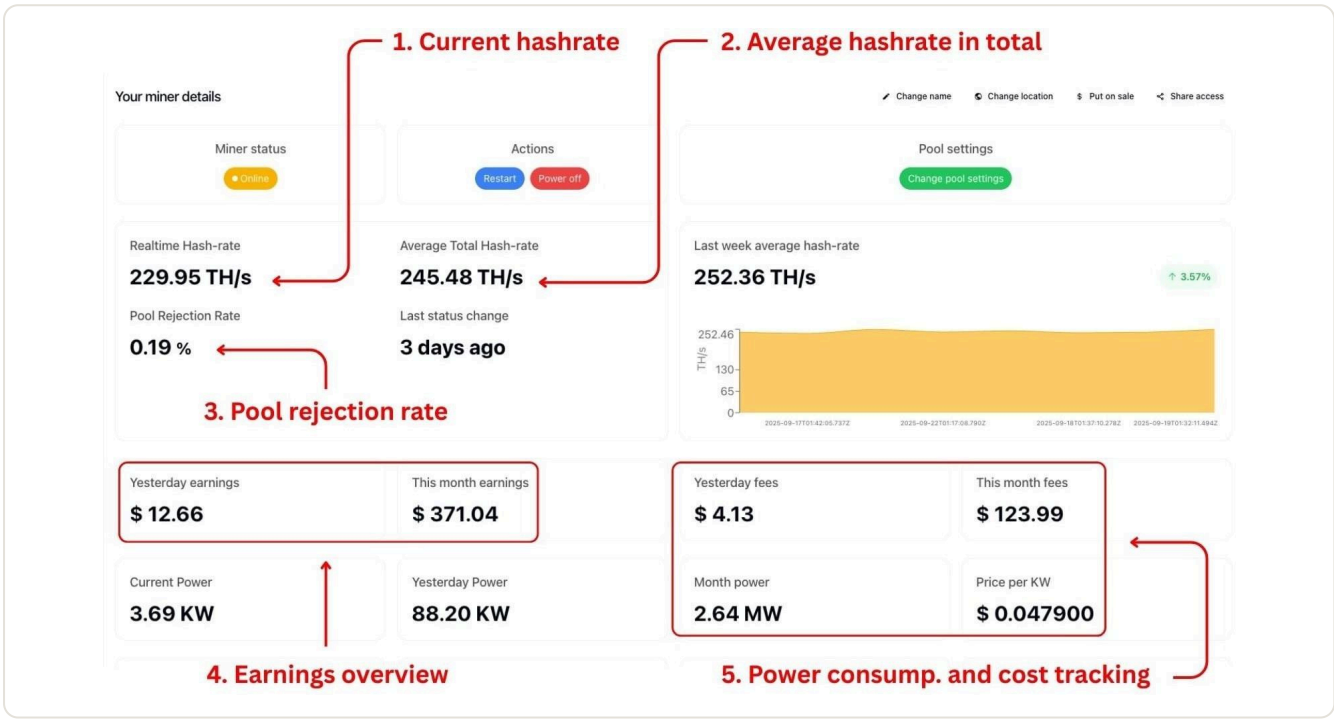


Figure 8-1 Miner details on OneMiners platform v1.2 (example values).

1 · Current hashrate	Real-time hashrate (for the S21 XP, in TH/s). It moves with network stability, hardware and pool communication.
2 · Average hashrate	Average over a longer period (typically 24 h). The most reliable measure of performance; for the S21 XP, expect about 262–278 TH/s.
3 · Pool rejection rate	Share of submitted shares the pool rejected. Below 1% is healthy.
4 · Earnings overview	Estimated earnings for the selected period, based on accepted shares.
5 · Power and cost	Real-time and historical energy use (kW) and its cost at your configured price per kWh.

8.2 Pool settings

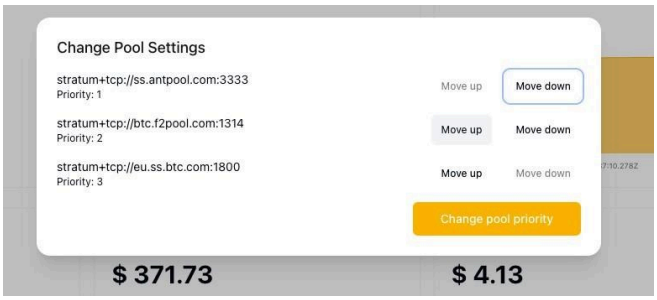


Figure 8-2 Change Pool Settings.

- Up to three pools can be connected.
- Pools are listed in priority order. If the first is unavailable, the miner switches to the second, then the third.
- Use **Move up** / **Move down** to set the order, then **Change pool priority** to apply it.

8.3 Earnings and fees



Figure 8-3 Earnings, fees, power and price per kWh (example values).

- **Earnings:** daily, monthly and cumulative mining rewards in USD or your selected currency.
- **Fees:** pool and platform fees deducted from earnings, shown daily and monthly.
- **Net result:** earnings minus fees, which is your net mining income.

8.4 Hardware status

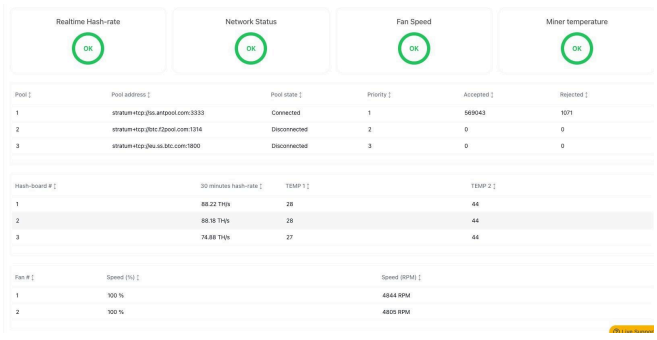


Figure 8-4 Hardware status (example from an air-cooled miner).

- **Network status:** whether the miner is connected to its pools. Address disconnections immediately.
- **Miner temperature** and **hashboard table:** per-board hashrate and temperatures. Useful for spotting an underperforming board early.

> **AIR-COOLED UNITS**
> Fan speed is shown per fan. A slow or stopped fan raises temperatures and stops mining, so act on fan alerts quickly.

ONEMINERS OneMiners platform v1.2. Confirm layout against the current version of your account.

CHAPTER 09

OneMiners Hosting and Warranty

OneMiners hosts customer-owned miners in its data centers, providing power, cooling, racking and monitoring. Terms below reflect OneMiners' published pages as checked on 7 November 2026.

9.1 Hosting

- Hosting is offered across 17 data centers worldwide, **from 3.6¢ per kWh** at the time of writing.
- Locations include Nigeria, Ethiopia, Dubai, the USA (Texas, Houston, Georgia, South Carolina, Kansas and a no-service-fee option), Finland, Norway, Canada, Brazil, Czechia, China and Paraguay.
- Hosted orders are deployed turnkey; OneMiners racks, connects and monitors the miner.
- Air-cooled miners like the S21 XP are accepted at most sites. Ask sales which locations currently host the S21 XP.

Current prices and locations: oneminers.com/pages/hosting-centers.

9.2 Warranty

HOSTED WITH ONEMINERS

7-year full warranty for miners hosted in the USA, Dubai, Norway, Finland, Ethiopia, Nigeria and China.

- Free on-site repairs
- No-cost replacement of power supplies and cables
- No labour or diagnostic fees

SHIPPED TO YOU

Standard 12-month warranty, unless the manufacturer specifies otherwise.

- Free repair of manufacturing defects
- Replacement of defective units when necessary
- Valid only when the miner is operated according to official instructions

All customers during warranty

Remote diagnostics, real-time monitoring, 24/7 technical support, and firmware upgrades and maintenance.

Exclusions

The warranty may be voided by damage from misuse, unauthorised modifications or non-compliant operation. For the S21 XP, this includes damage from running outside −20 to 45 °C or 220–277 V AC, single phase, undersized power cords, blocked airflow, firmware for other models, or opening the unit.

Out of warranty

Repairs typically cost **US$80–220**, depending on the fault and parts required.

Making a claim

Contact OneMiners support with your miner's hosting details and service ID through oneminers.com/pages/contact or **service@oneminers.com**.

ONEMINERS OneMiners Warranty Policy, oneminers.com/pages/warranty-policy . The policy page prevails if it differs from this summary.

10 CHAPTER Wallet and Mining Rewards

Rewards from a hosted miner are credited to your OneMiners wallet, where you can withdraw them or exchange between currencies.

10.1 Automatic mining balance

- The miner starts generating rewards as soon as it is installed and activated.
- If no energy payment has been preloaded, mining continues and energy costs and fees are deducted automatically from the rewards.
- If funds are preloaded in advance, earnings are credited without automatic deductions.
- You can change your payout wallet address in the wallet settings.

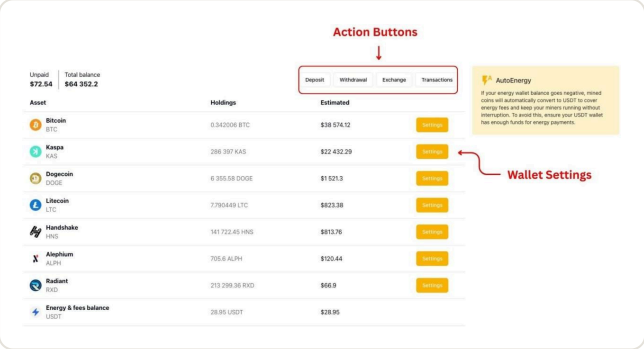


Figure 10-1 Wallet section.

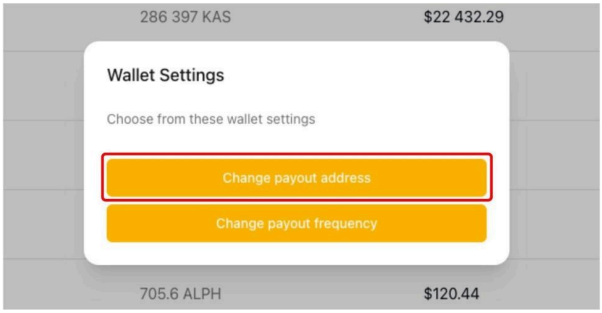


Figure 10-2 Changing the payout address.

10.2 Withdrawals

1. Go to **Wallet** › **Withdrawal**.
2. Add a crypto wallet address or a bank account.
3. Select the currency, enter the amount and confirm.

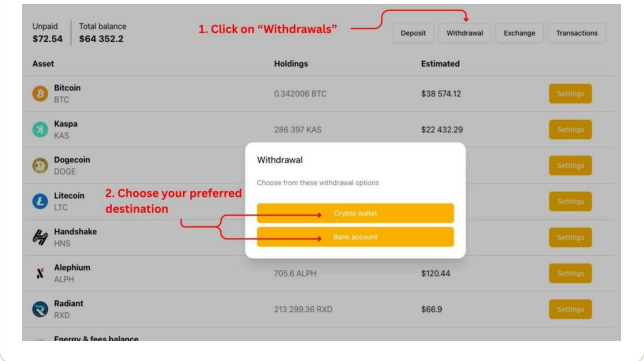


Figure 10-3 Choosing a withdrawal destination.

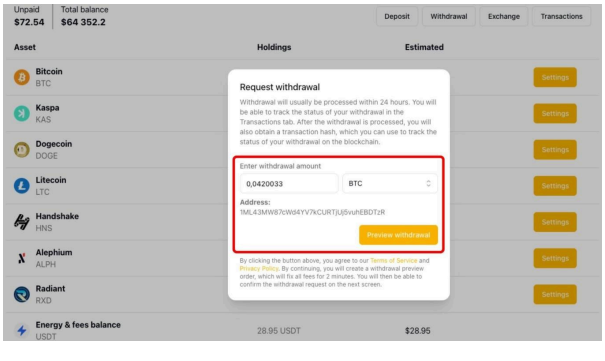
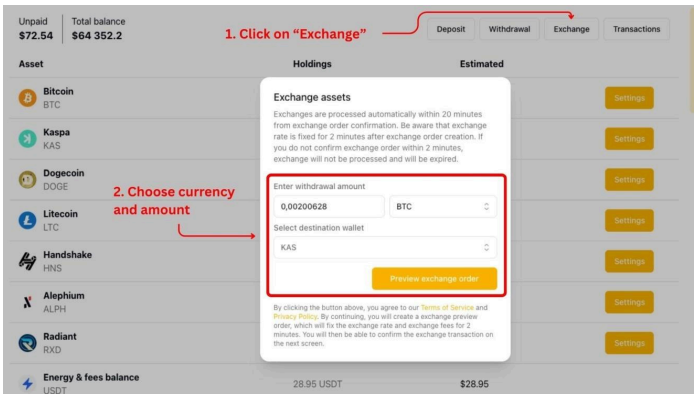


Figure 10-4 Choosing currency and amount.

10.3 Exchange



1. Go to **Wallet** › **Exchange**.
2. Select the currencies to exchange. You can also convert directly into **Energy & Fees** funds to keep the miner running.
3. Enter the amount and confirm.

Figure 10-5 Exchanging currencies.

> **BEFORE YOU WITHDRAW**
> Double-check addresses and networks. Crypto transfers to a wrong address usually can't be reversed. Keep enough Energy & Fees balance to avoid deductions from your rewards.

ONEMINERS OneMiners platform v1.2.

CHAPTER 11

Additional OneMiners Features

Optional tools in your OneMiners account. Availability and settings can change; check your dashboard for what is active on your account.

11.1 AI Smart Mining

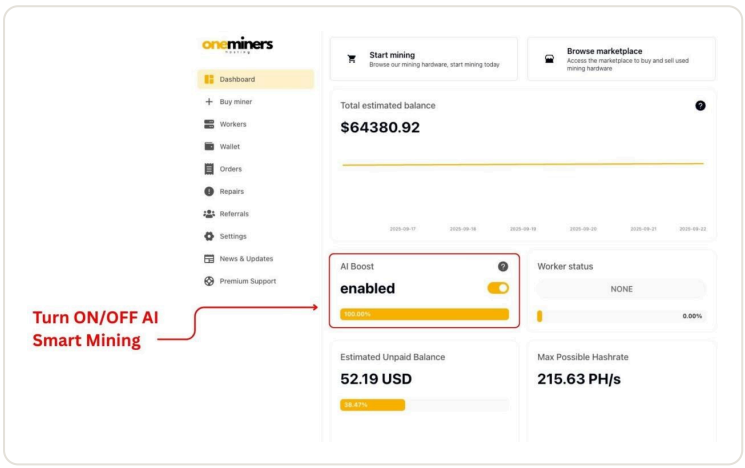


Figure 11-1 AI Boost toggle on the dashboard (platform v1.2).

AI Smart Mining analyses market conditions and pool performance and can switch your miner to the pools it calculates are most profitable.

- Turn it on or off with the **AI Boost** toggle on your dashboard.
- Your hardware keeps mining to your own account and wallet.

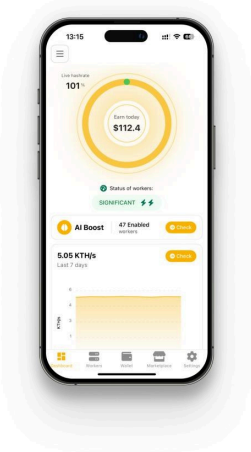
Results depend on hardware and market conditions and aren't guaranteed. More information: oneminers.com/pages/ai-smart-mining.

11.2 OneMiners mobile app

Monitor and manage your miners from your phone: start and stop miners, view hashrate, power use and hardware status, and manage balances and withdrawals. The app is built on the CircleHash white-label hosting platform and is free.

App Store

Google Play



11.3 Profitability tools

Mining income from the S21 XP depends on the BTC price, network difficulty, transaction fees and your electricity cost, all of which change daily. For current estimates, use the live tools rather than figures printed in a manual:

- Miner profitability table: oneminers.com/pages/miner-profitability
- Bitcoin miners collection: oneminers.com/collections/bitcoin-miners

For the S21 XP, use 270 TH/s and 3,645 W with your own price per kWh. Estimates aren't financial advice.

12 CHAPTER Official Resources and Support

12.1 Resources

BITMAIN
Firmware and IP Reporter
shop.bitmain.com/support/download

BITMAIN
Support centre
support.bitmain.com

ONEMINERS
Manuals & Firmware Library
oneminers.com/pages/manuals-and-firmware

ONEMINERS
Product page
oneminers.com/products/antminer-s21xp-270-th-s

ONEMINERS
Warranty policy
oneminers.com/pages/warranty-policy

ONEMINERS
Hosting locations
oneminers.com/pages/hosting-centers

12.2 Contact OneMiners

SUPPORT, 24/7

+1 305 867 6143

WhatsApp

+1 607 9009 004 · Sales, USA

service@oneminers.com · Service and repairs
sales@oneminers.com · Sales
payinquire@oneminers.com · Payments

Telegram: t.me/oneminers_hosting

ADDRESS

CIRCLEHASH LLC
701 Tillery Street
Austin, Texas 78702, USA

Contact page

Manuals library

12.3 Sources used for this version

1. Bitmain, S21 XP Specifications (support.bitmain.com): all values in 1.2.
2. OneMiners product page (antminer-s21xp-270-th-s), checked 8 Nov 2026: listing specifications.
3. OneMiners: product page, Warranty Policy, hosting pages, AI Smart Mining page, Media Kit, site contact details. All checked 7 November 2026.

12.4 Revision history

VERSION	DATE	CHANGES
V1.0	Nov 2026	First edition on the OneMiners media-kit template: manufacturer specifications with conflicts listed in 1.4, safety, installation, setup, pools, monitoring, firmware, maintenance and troubleshooting. Current warranty, hosting and contact details.