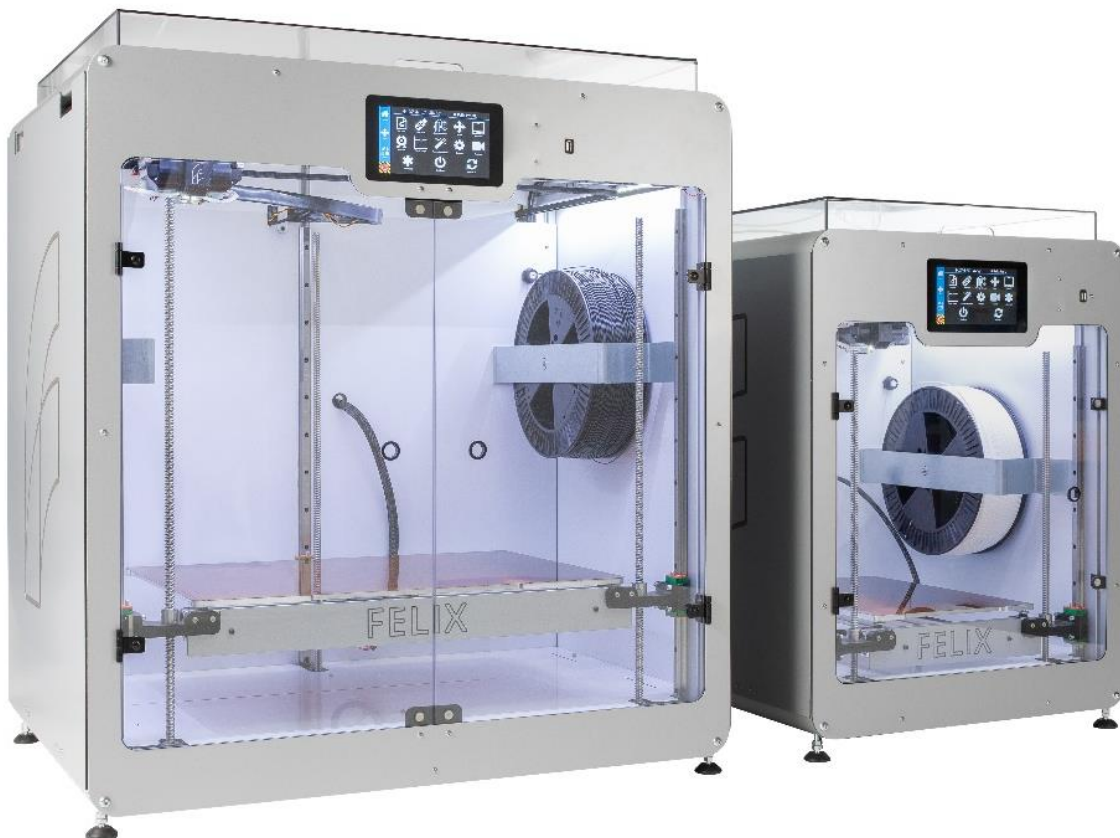


How to perform the software update

# FELIX Pro L and XL series

9 November  
2022

Revision 1



## 1 Introduction

This manual explains how to perform the full software update for the Pro L and XL. With this software update some bugs are fixed and the overall print quality and user experience is greatly improved.

It is important to follow every step.

Keep in mind that the update will take you about 30 to 60 minutes. After that, the printer is still busy with a test print for at least 60 minutes. The total update takes between 90 to 120 minutes.

## 2 Tools

The tools you need to perform the software update:

- Laptop/pc with active LAN/WLAN connection.
- Printer with Active LAN/WLAN connection. (If you aren't able to set it up, go to troubleshoot chapter 9.2 and follow that instruction to perform the server update offline).
- A maximum of 20 gram of filament for the bedleveling testprint.

## 3 Content

The content in this manual:

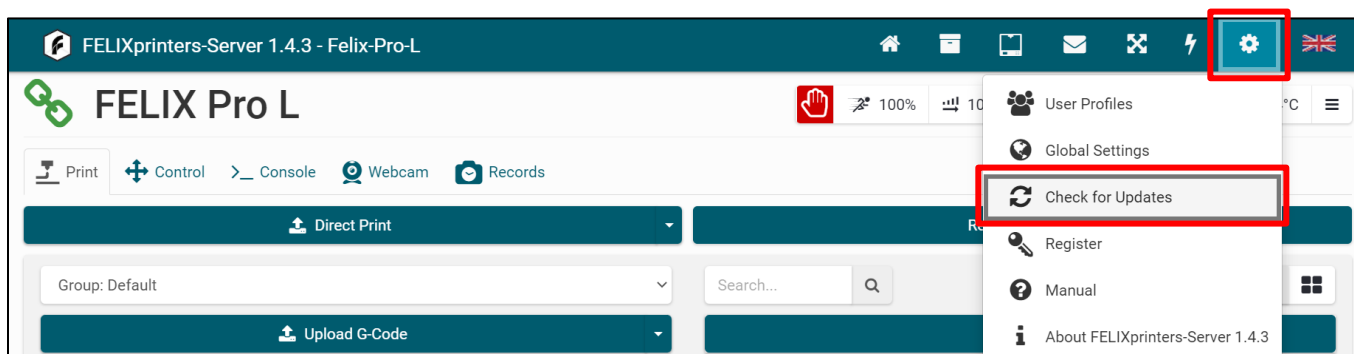
- |                         |           |                 |
|-------------------------|-----------|-----------------|
| • Update server         | Chapter 4 | (5-20 minutes)  |
| • Update RPC/XML        | Chapter 5 | (5 minutes)     |
| • Update firmware       | Chapter 6 | (5-15 minutes)  |
| • Perform calibration   | Chapter 7 | (10-15 minutes) |
| • Bedleveling testprint | Chapter 7 | (60 minutes)    |
| • Update slice profiles | Chapter 8 | (5 minutes)     |

## 4 Update server

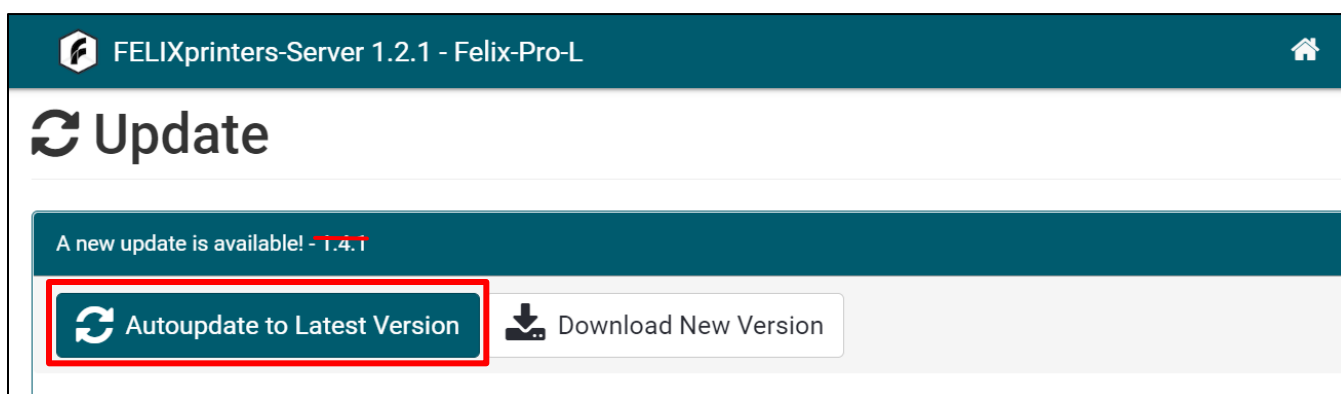
There are two options for updating the server. You can use the web interface (first part), or you can use the Touchscreen (second part). If you have troubles with updating, go to the trouble shoot section (chapter 9) at the bottom of this manual.

### 4.1 Web interface

- Select the “Gear” icon and then “Check for Updates”.

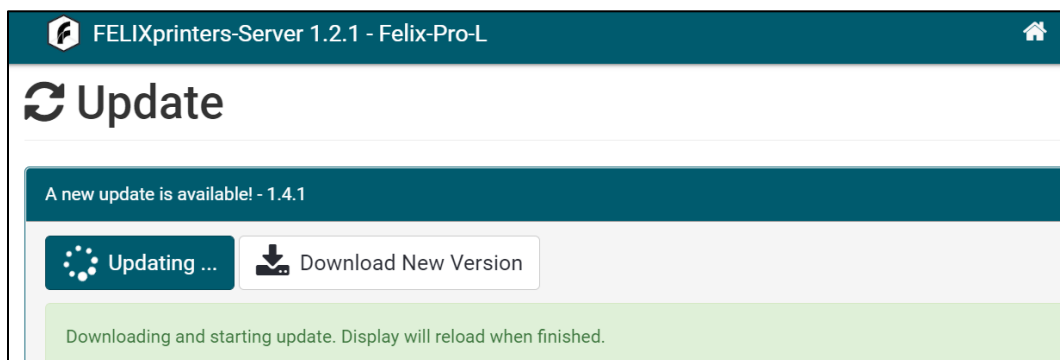


- Select “Autoupdate to Latest version” (1.4.3)



- The printer will automatically update to the newest version.

The printer needs to download 60MB for this update. This should be done in seconds with a fast network speed. This can take longer if you have a slow network speed. If it keeps updating for too long for your network speed, go to the troubleshoot chapter 9.1 at the bottom of this manual.

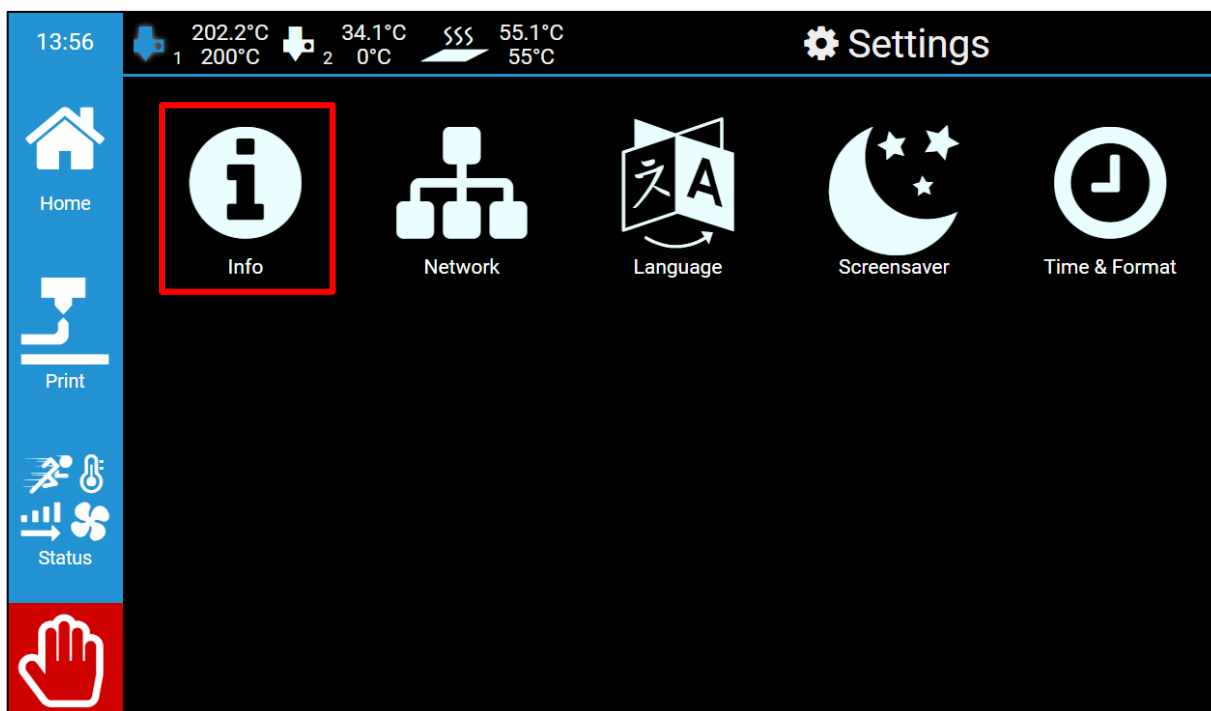


## 4.2 Touchscreen

- Select "Settings" to go to the settings menu.

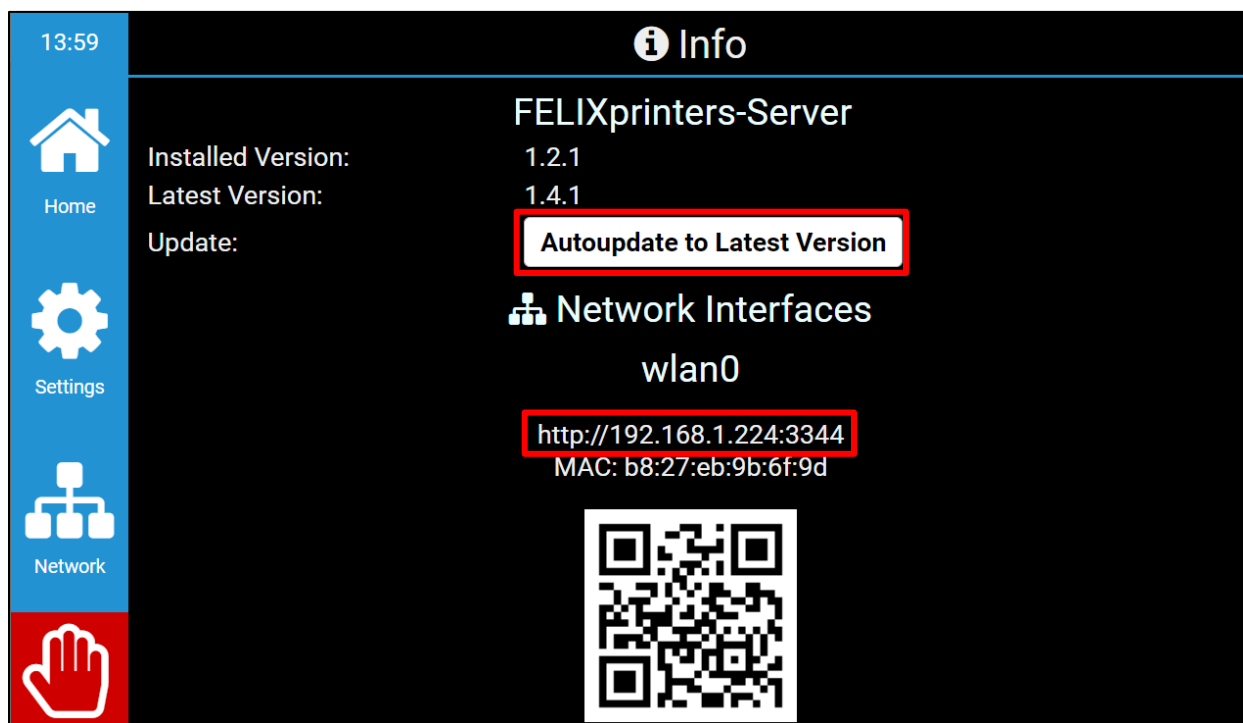


- Select "Info" to show the current version of the server and the IP address.

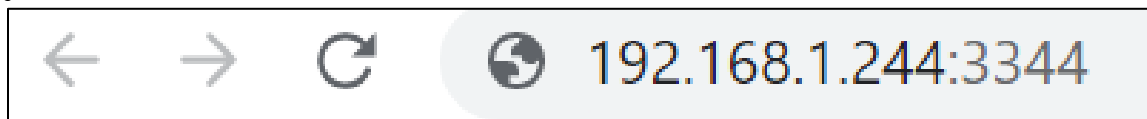


- Select "Auto update to Latest Version".
- The printer will automatically update to the newest version.

The printer needs to download 60MB for this update. This should be done in seconds with a fast network speed. This can take longer if you have a slow network speed. If it keeps updating for too long for your network speed, go to the troubleshoot chapter 9.1 at the bottom of this manual.



- When the update is done, fill in a web browser the IP address shown above. This will show you the web interface of the touchscreen.



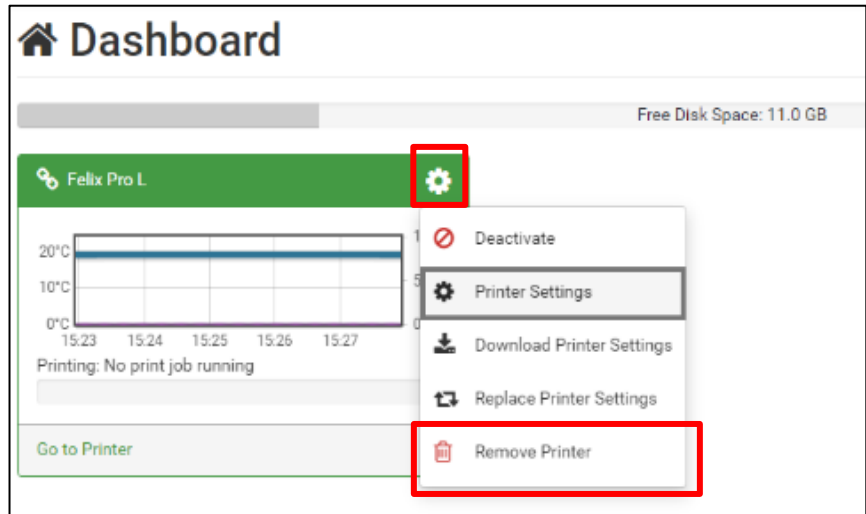
## 5 Update RPC/XML

### 5.1 RPC upload

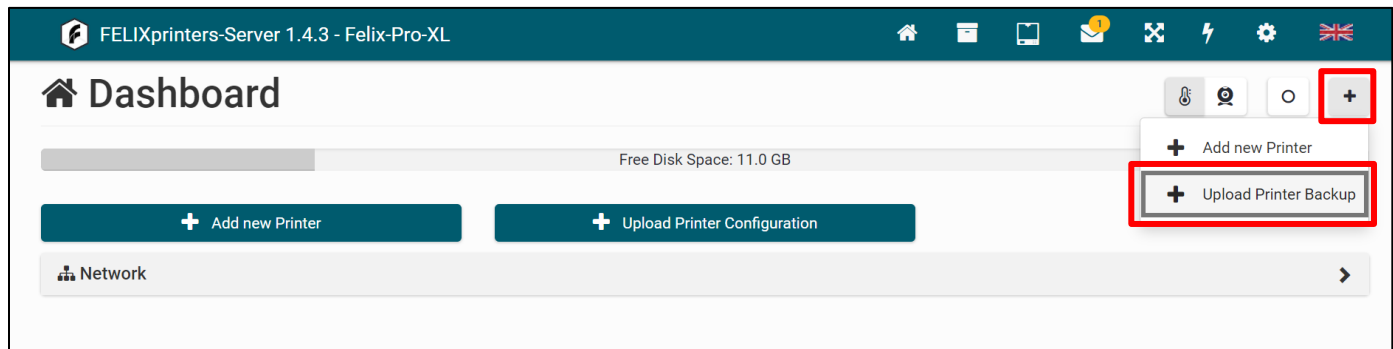
- Select "Remove Printer"

Make sure to make a backup from your G-codes.

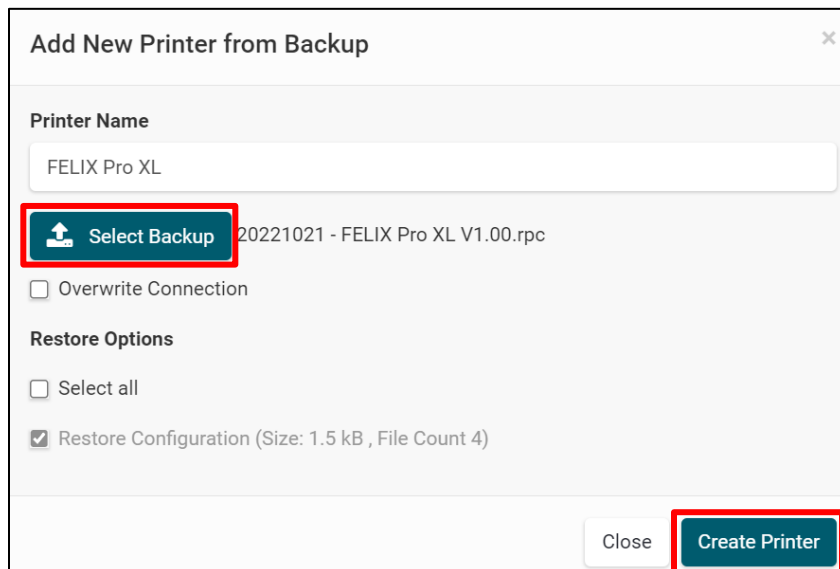
When you remove the printer all the G-codes are also removed.



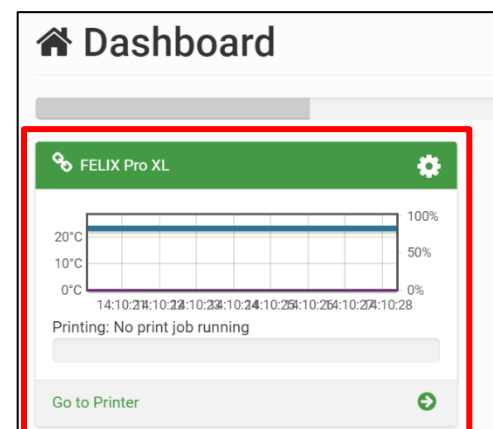
- Select "+" and then "Upload Printer Backup" to create a new printer configuration.



- Select "Select Backup" And choose the correct .rpc for your machine.
- After that select "Create printer"



20221021 - FELIX Pro L V1.00.rpc  
20221021 - FELIX Pro XL V1.00.rpc

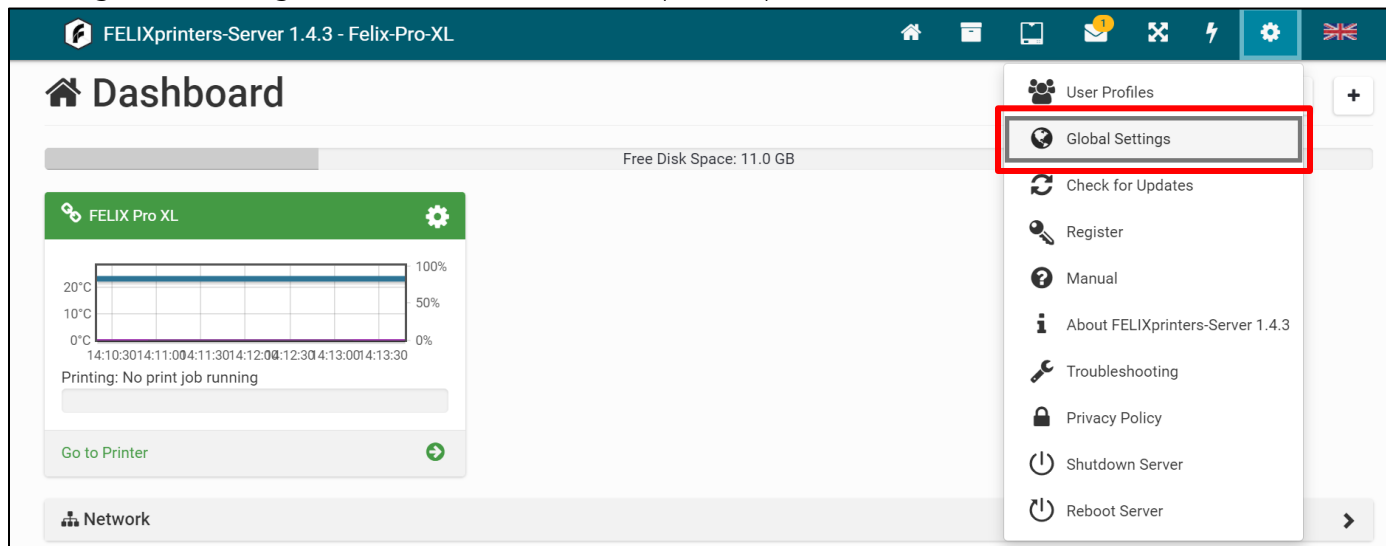


- Wait until the printer is showing a green status. →

## 5.2 GPIO

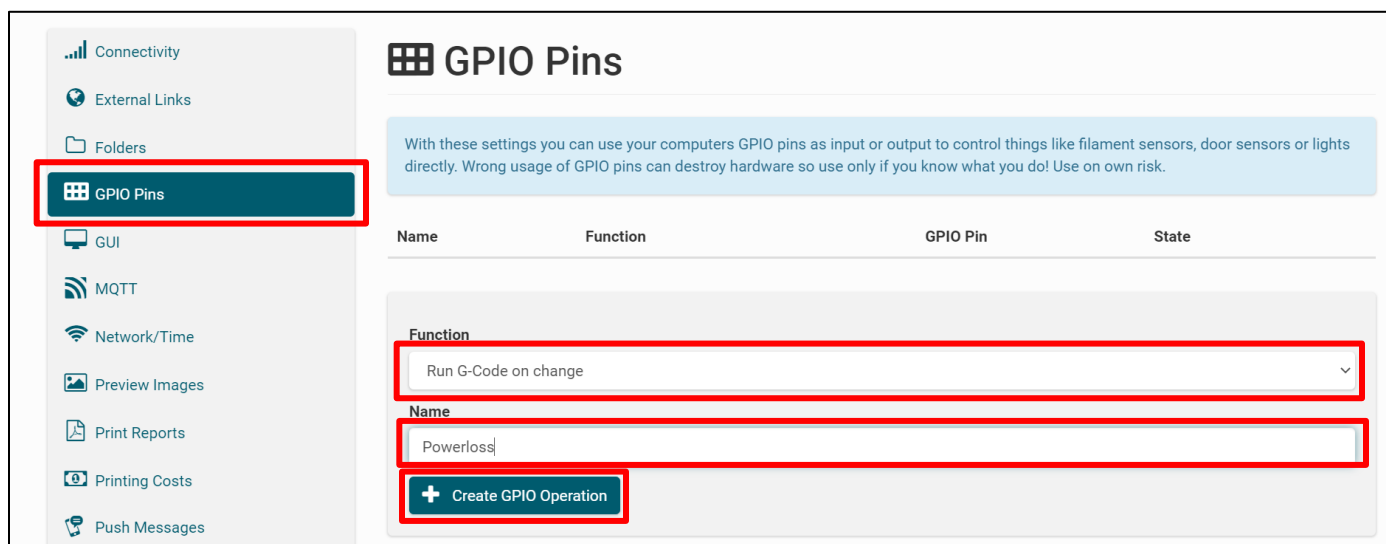
**Info:** This step is very important for a good working power rescue system

- Go to global settings to create the new GPIO pin for power rescue.



- Select "GPIO Pins". Make sure the function is set to "Run G-Code on change" and fill in the name "Powerloss". Select "Create GPIO Operation" when everything is correct.

If there is already a GPIO pin created, delete this GPIO pin. Otherwise this will interfere with the GPIO pin that we will create now.



- Make sure all the infill fields match with the image below. **This is very important!**
- Select “Save GPIO Action” when everything is entered correctly.

### Run G-Code on change (Powerloss)

**Description**

GPIO Power Loss Detected

**GPIO Pin**

4

**Printer Association**

FELIX Pro XL

**Edge**

Rising

**Debounce time**

5000 ms

**G-Code**

```

1 @warning Power loss! Make sure the printer has power again before resuming printing.
2 @pauseFullCooldown Power loss detected!
3 @triggerRescue

```

Insert \$state in the g-code if you need the current input state!

Save GPIO Action Cancel

To make it a little bit easier. Copy the below in the “G-code” tab.

```

@warning Power loss! Make sure the printer has power again before resuming printing.
@pauseFullCooldown Power loss detected!
@triggerRescue

```

- Select the “house” button to go back to the home menu.

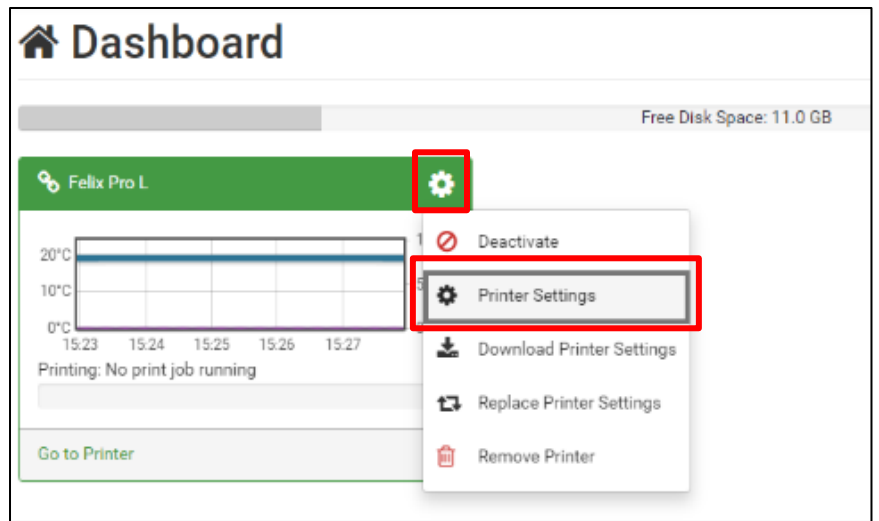




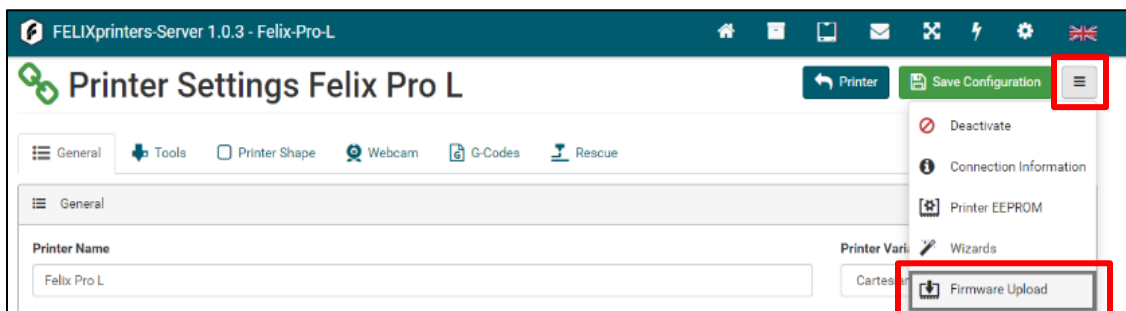
## 6 Upload firmware

### 6.1 Web interface

- Go to “printer settings”.



- Select “firmware upload”.



- Make sure “Printer Board Type” is set to “Arduino DUE Programming Port”.
- Press “upload firmware image”.

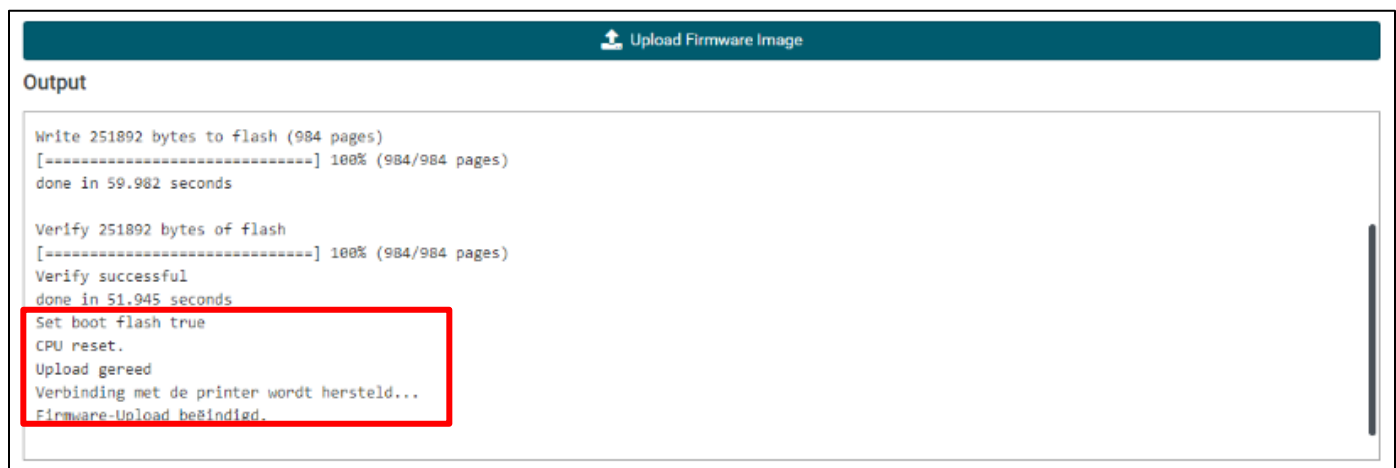
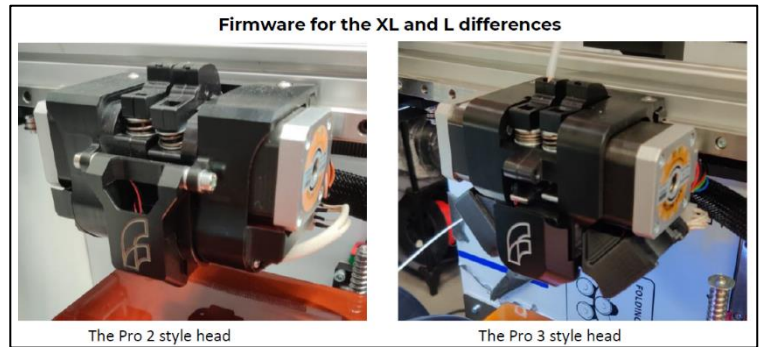


- Choose the correct firmware binary file. This depends on the printer you have.

- 20221031 - Pro XL V1.00 - Pro 2 Style.bin
- 20221021 - Pro L V1.00 - Pro 2 Style.bin
- 20221021 - Pro L V1.00 - Pro 3 Style.bin
- 20221021 - Pro XL V1.00 - Pro 3 Style.bin

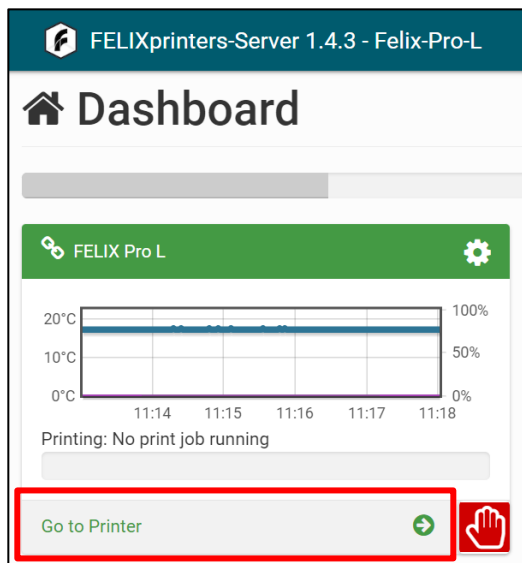
- Wait until you see in the display the firmware upload is finished.

Do not turn off the machine until the update is complete! This can damage the mainboard!

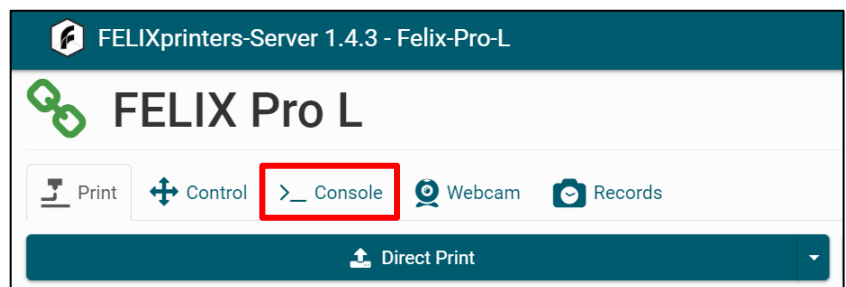


## 6.2 Factory reset

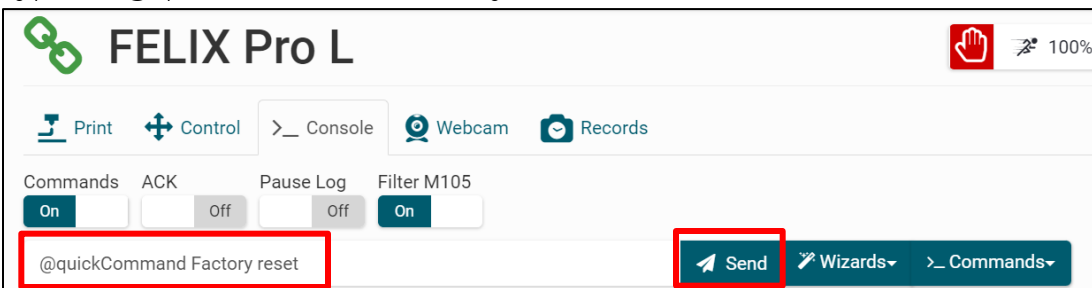
- Select "Go to Printer".



- Select "Console".



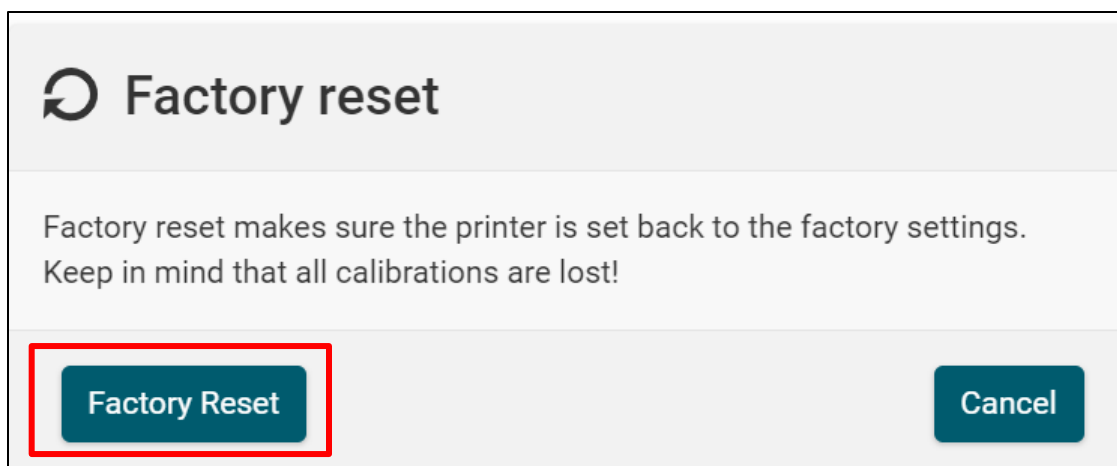
- Type in “@quickCommand Factory reset” and Select “Send”.



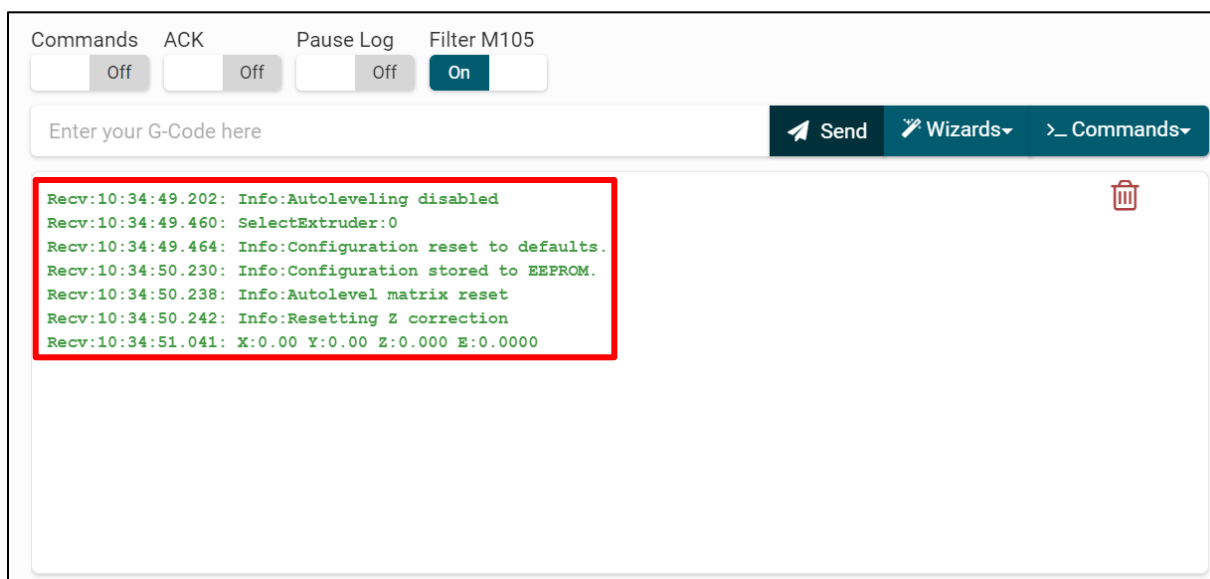
To make it a little bit easier. Copy the below in the infill box tab.



- Select “Factory Reset” to make sure all intern values are set to the factory settings.



- If everything has worked correctly you should get this information back from the console.

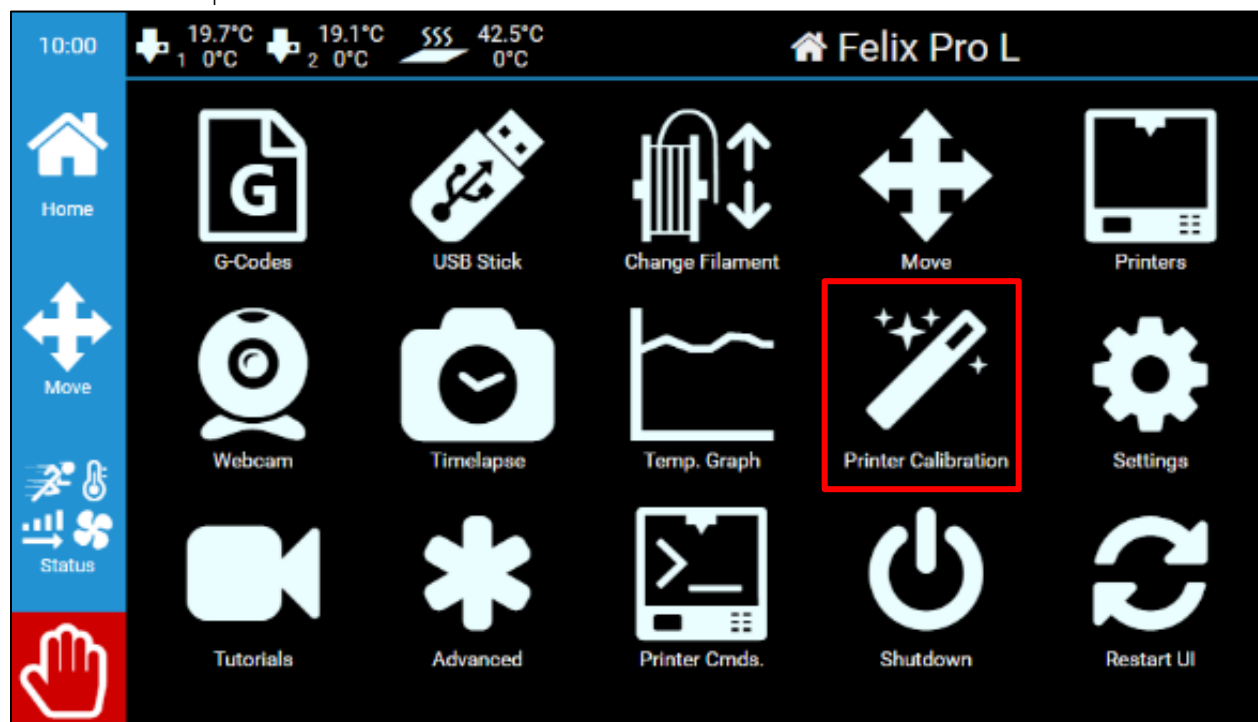


## 7 Levelling

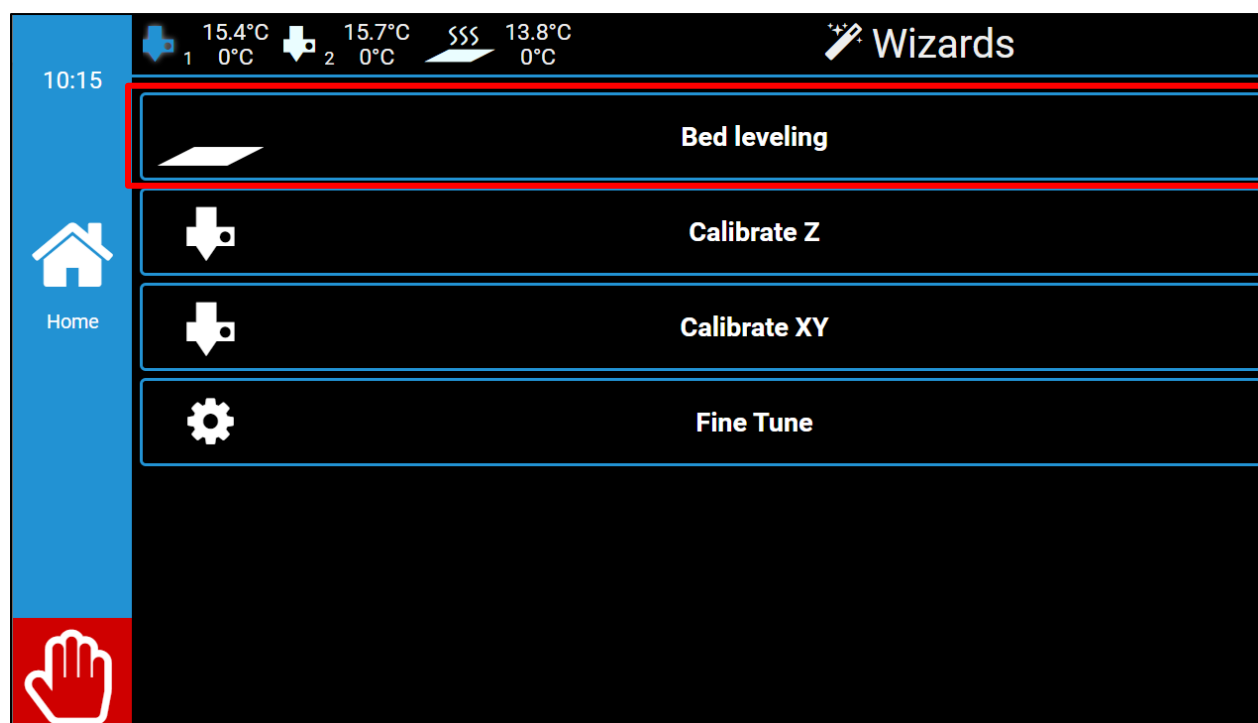
⚠ **Info:** Do all calibrations before starting a Dual head print! (Z and XY)

### 7.1 Build plate leveling

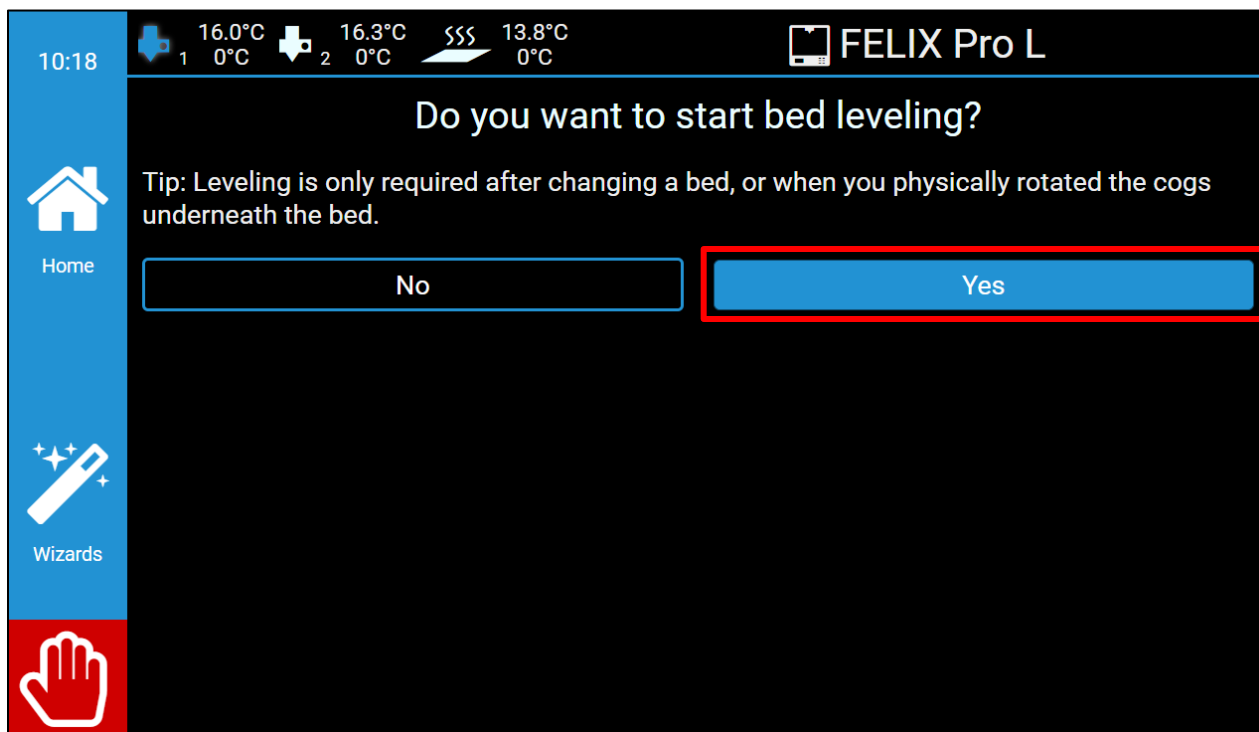
- Select "printer calibration".



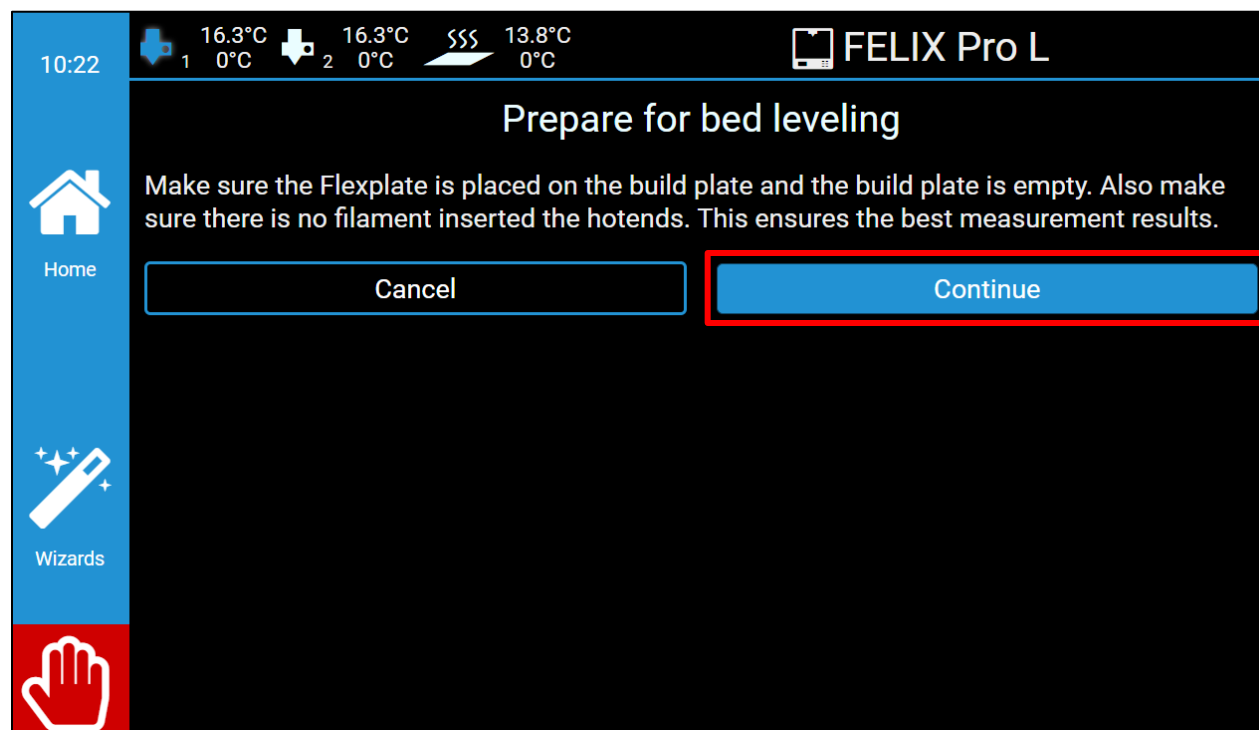
- Select "bed leveling".



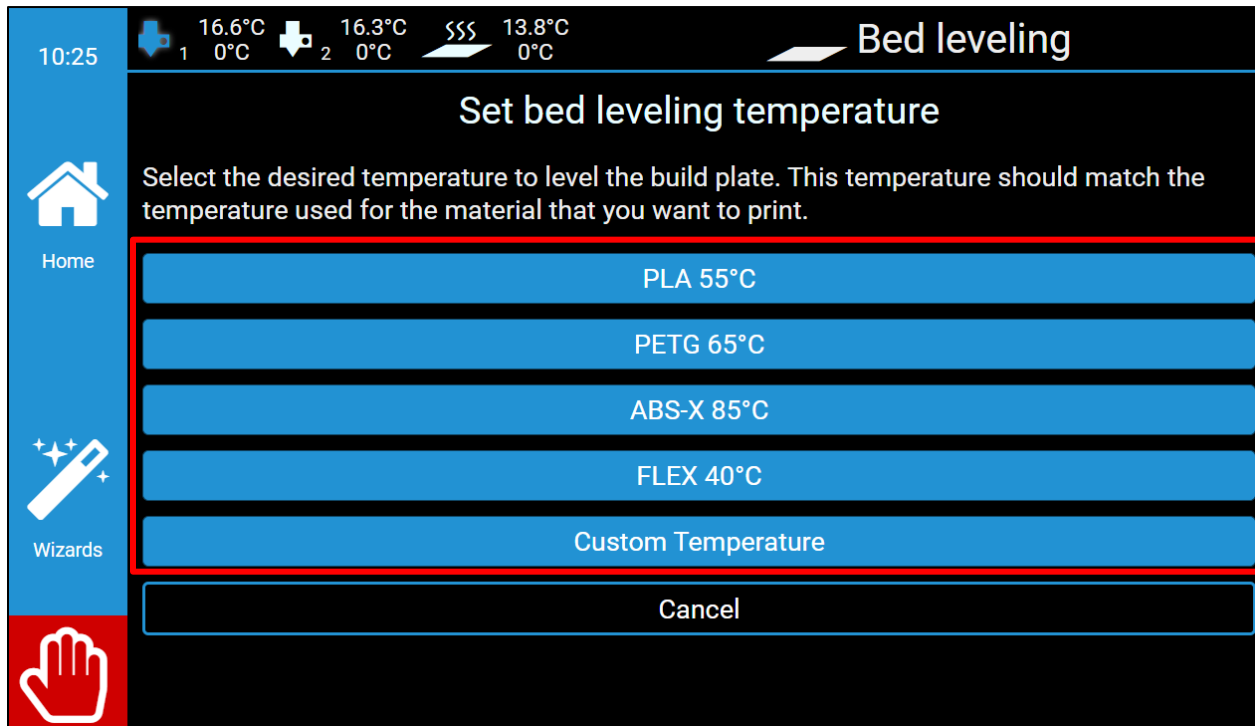
- Select "yes" to start the bed leveling.



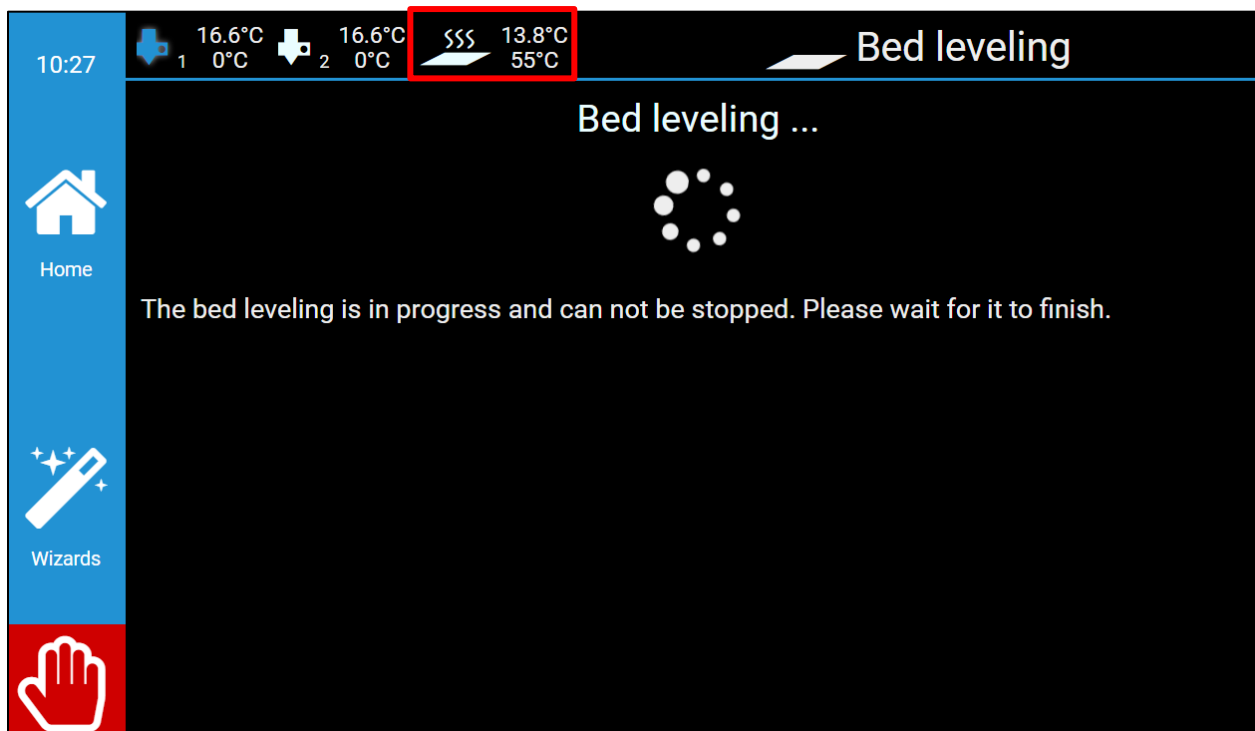
- Make sure the Flexplate is placed on to the build plate and the build plate is empty. Also make sure there is no filament inserted in the hot ends.
- Select "Continue".



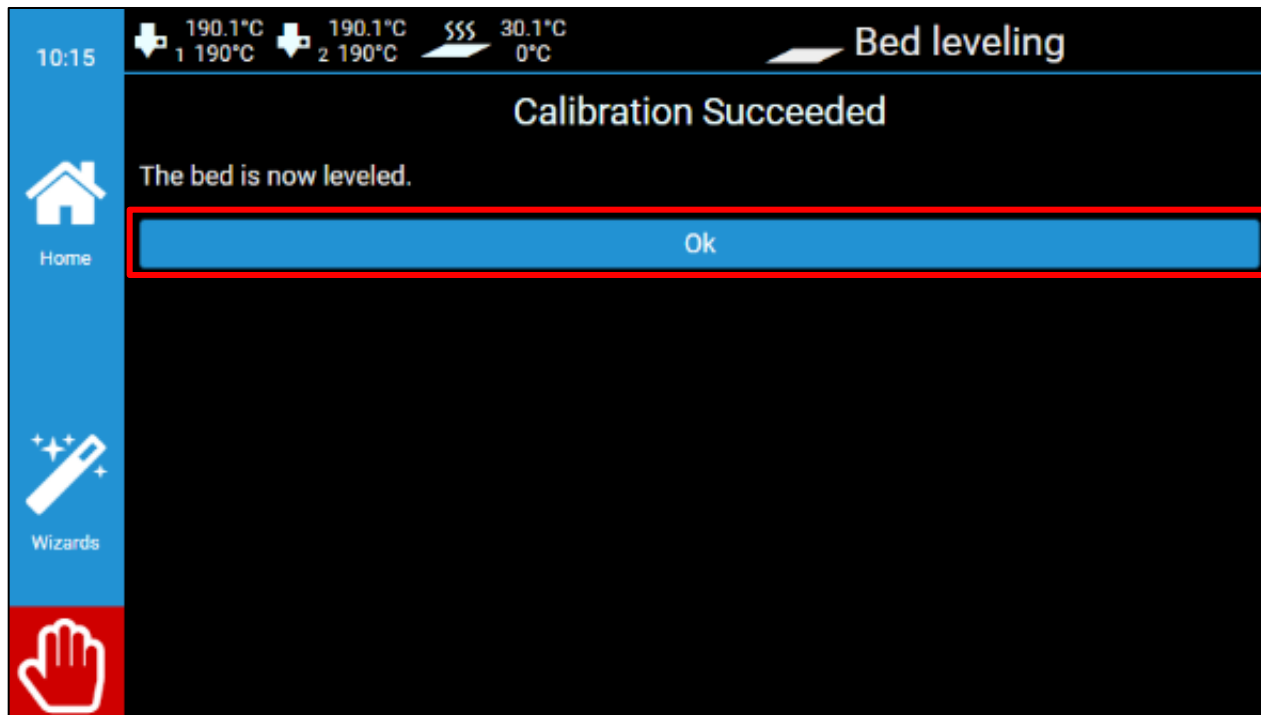
- Choose the desired temperature to level the build plate on.



- The build plate will heat up to the temperature you choose. The printer will wait 1 minute when it reaches the temperature and will start the bedleveling.

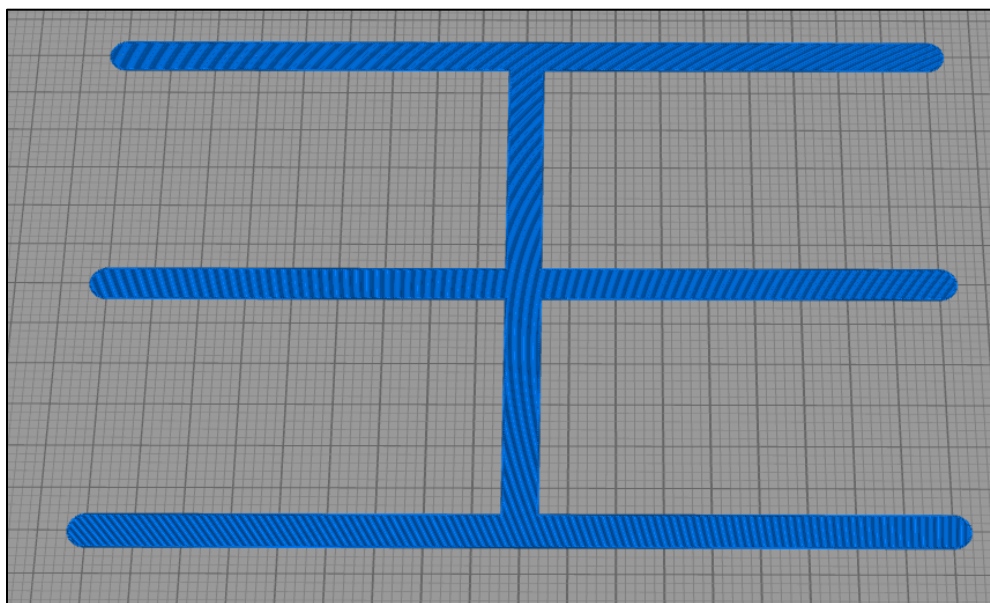


- When you see this message, the bedleveling is done. Select “ok”.



## 7.2 Bed leveling test

- Start the “Bedleveling test” shown below. You can also download it from the FELIXprinters website. (1. Pro Series → 4. FELIX Pro L\_XL → 4. Printables)

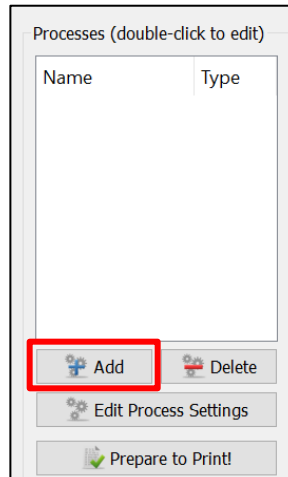


- Check if the first layer is consistent is on the whole print. If not, repeat the steps mentioned above.

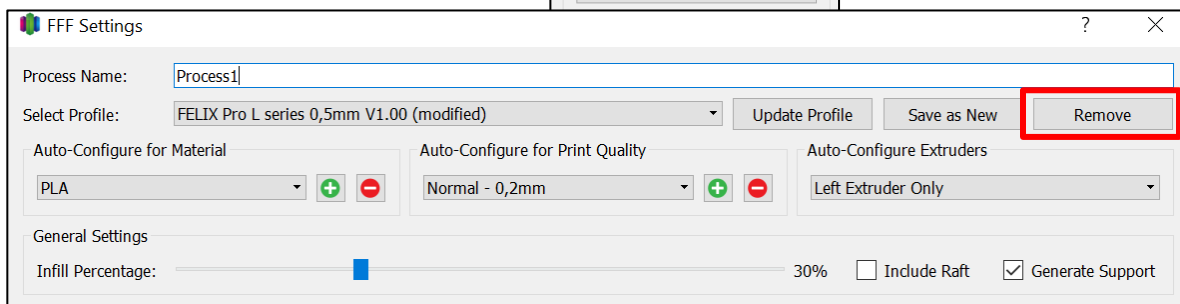
## 8 Upload slice profiles

### 8.1 Remove old profiles

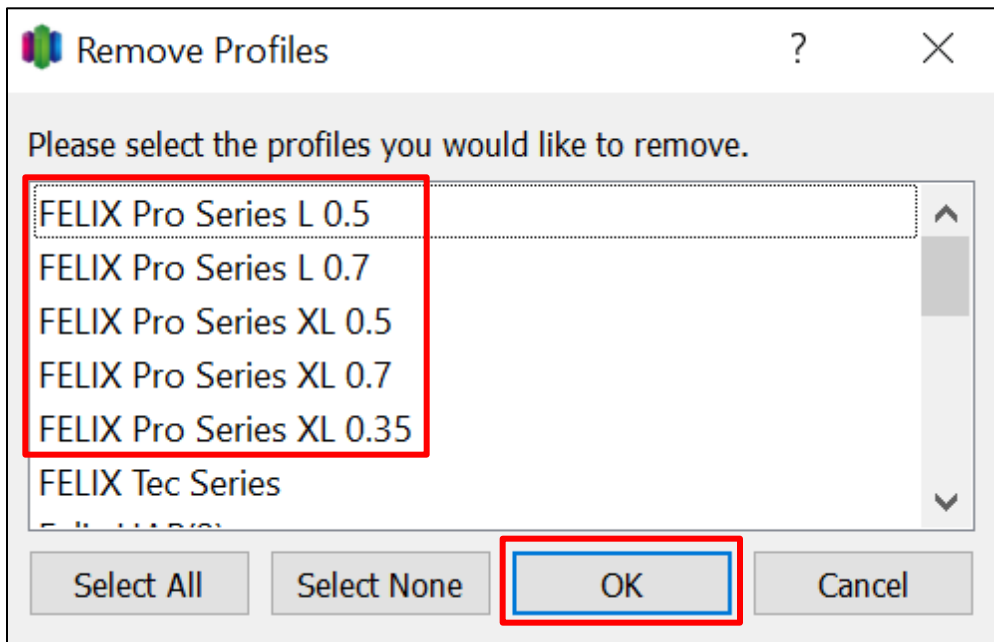
- Open Simplify3D.
- Select "Add".



- Select "Remove".



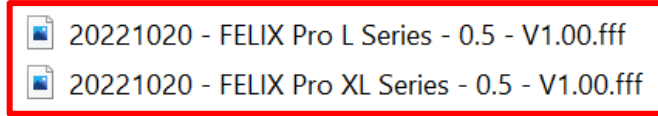
- Select all old L/XL slice profiles you have installed.
- Select "OK" to confirm the removal



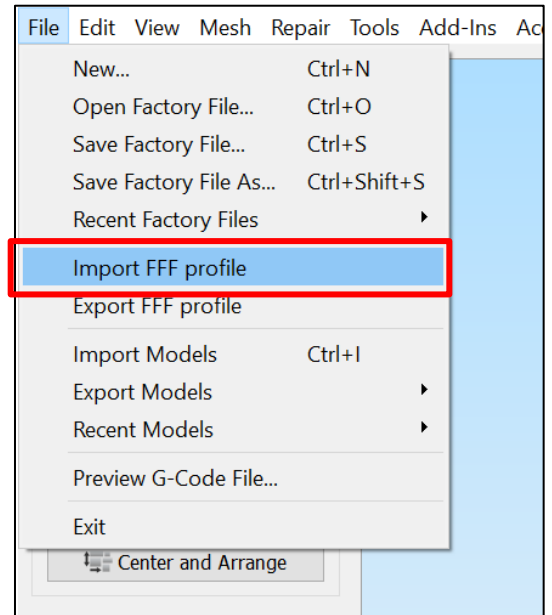
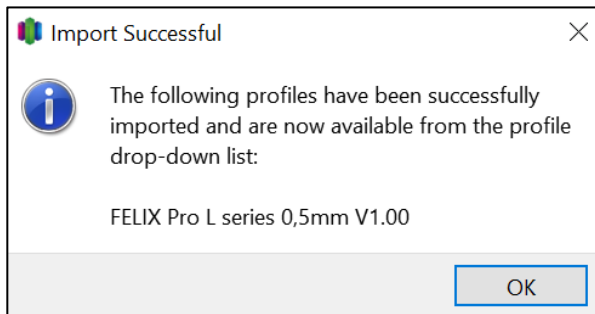


## 8.2 Import

- Select "File" and "Import FFF profile".
- Select the slice profile for your machine.

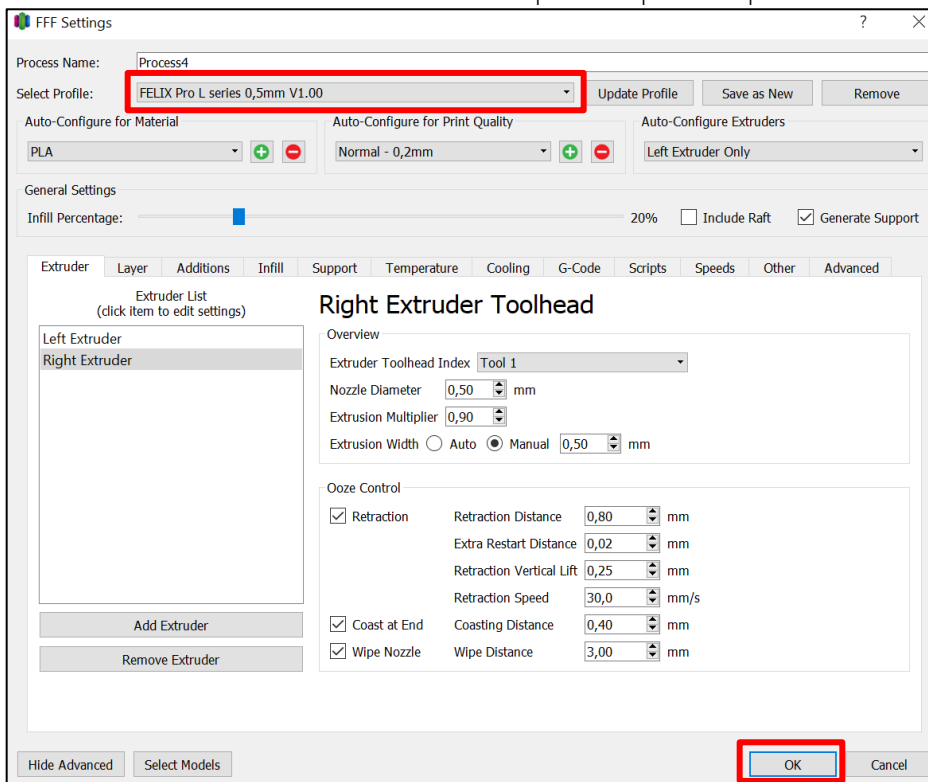


- Make sure you get this message from Simplify3D.



## 8.3 Process

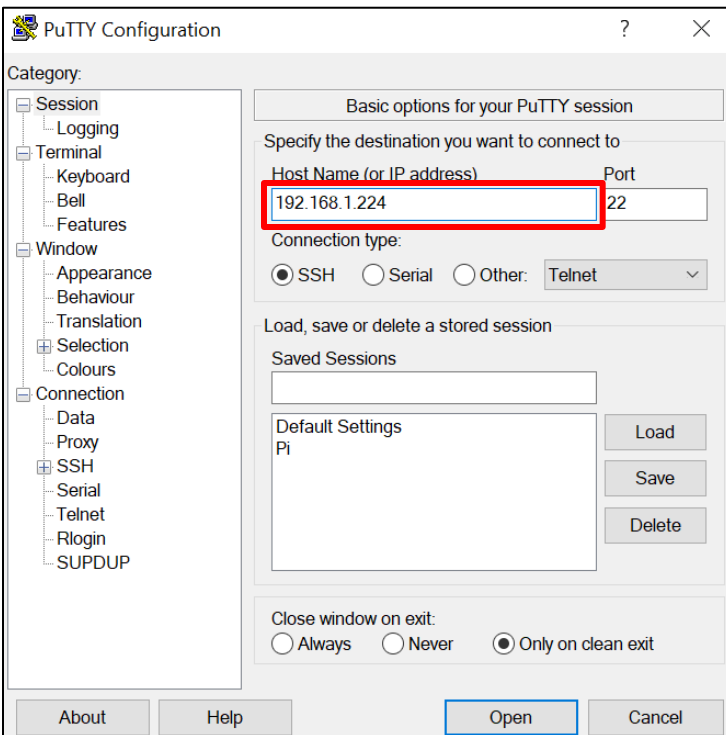
- Create a new process.
- Make sure to select the new imported printer profile and hit "OK".



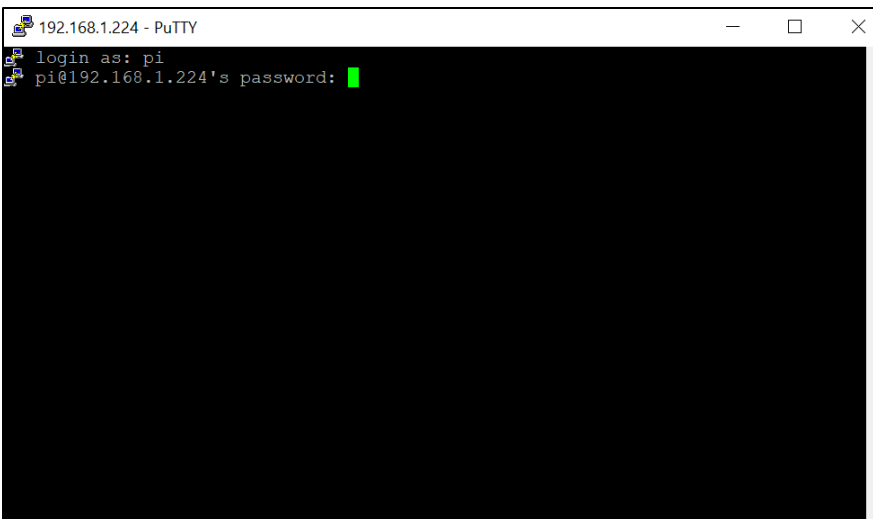
## 9 Troubleshoot

### 9.1 Auto update for server does not work.

- Download “putty” using the link below. Choose the version that suits your system.  
<https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html>
- Open putty and fill in the IP address of the printer and Select “Open”.



- Log in with “pi” and password “raspberrry”. No capital letters.
- When you enter the password, it does not show it. Type the password and press enter.



- After you have logged in you will get the screen that you can see below. We are now going to manually download and install the update.

```

pi@RepetierServer: ~
SSH is enabled and the default password for the 'pi' user has not been changed.
This is a security risk - please login as the 'pi' user and type 'passwd' to set
a new password.

*****
*****

Access Repetier-Server from a web browser on this network using one of the follo
wing URLs:
  http://RepetierServer.local
  http://192.168.1.224

You can also use https with a self-signed certificate - your browser will not tr
ust it and that is normal!

Your pi is configured to start a display environment. If you have no display con
nected you should disable it:
sudo nano /boot/repetier-image-setup.txt
and set RUN_CHROME=0
If you need a visible cursor to use the mouse set HIDE_MOUSE=0

pi@RepetierServer:~ $

```

- Select the text below and click "ctrl+C" on your keyboard.

```

cd /tmp
sudo rm -r /usr/local/Felix
rm FelixServerPi.sh
wget http://download1.repetier.com/files/server/felix/FelixServerPi.sh
sudo bash ./FelixServerPi.sh

```

- Go back to Putty and click on your right mouse button to copy the text into Putty.
- And finally Select "Enter" on your keyboard. The update will download and install now.

Do not turn the printer off during this process!

```

pi@Repetier-Server: /tmp
Removed /etc/systemd/system/multi-user.target.wants/RepetierServer.service.
Unpacking repetier-server (1.4.1) over (1.4.3) ...
Setting up repetier-server (1.4.1) ...
Install Repetier-Server
Created symlink /etc/systemd/system/multi-user.target.wants/RepetierServer.servi
ce → /lib/systemd/system/RepetierServer.service.
/usr/sbin/ModemManager
----- IMPORTANT -----
You have ModemManager installed. This software automatically connects to new ser
ial devices
until it detects them not being a modem. This will interfere with printer connec
tions and
can cause communication errors during the first 20 seconds. To get rid of this y
ou can
uninstall the software with:
sudo apt-get remove modemmanager
If you need it for communication with mobile broadband modems make it ignore you
r serial ports:
https://linux-tips.com/t/prevent-modem-manager-to-capture-usb-serial-devices/284
/2
Processing triggers for systemd (232-25+deb9u8) ...
pi@Repetier-Server: /tmp $

```

When the screen to the left is shown,  
the update is done.

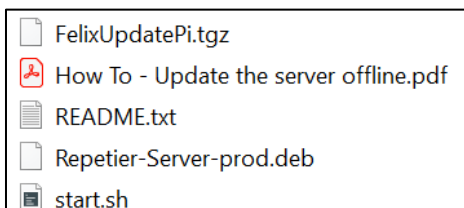
finally type "sudo reboot" in putty  
and select enter.

You can close putty now and go on  
to chapter 5 update XML/RPC.

## 9.2 No active LAN/WLAN connection on the printer

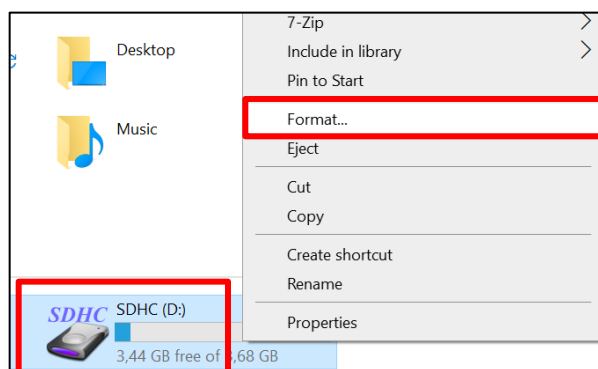
Some printers are not connected to the internet. Use the steps below to perform an offline update for the server to version 1.4.3. For this way of updating, you need an empty USB.

- Go to the FELIXprinters website and download the “Offline USB Server Updater (1.4.3)” in the troubleshooting of the Pro L and XL. (1. Pro Series → 4. Felix Pro L\_XL → 3. Troubleshooting) [https://shop.felixprinters.com/downloads\\_felixprinters](https://shop.felixprinters.com/downloads_felixprinters)

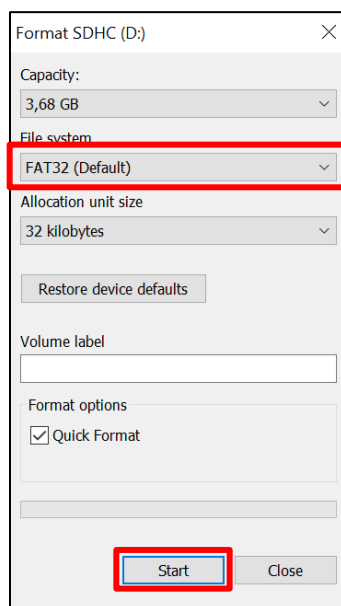


- In this file you find the 5 files shown right →

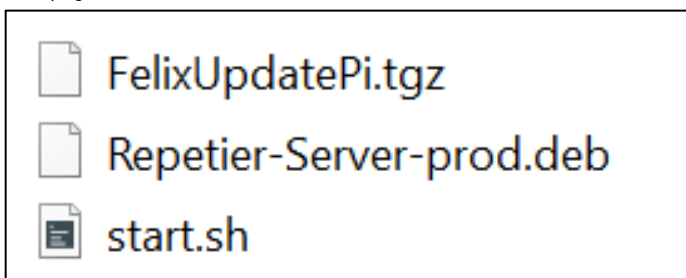
- Find yourself a USB with at least 60MB of free space. Make sure to make a backup of the files that on the USB stick you will lose them otherwise.
- Select the USB with right mouse button and select “Format...”.



- Make sure to select “FAT32” for the file system.
- Select “Start”.



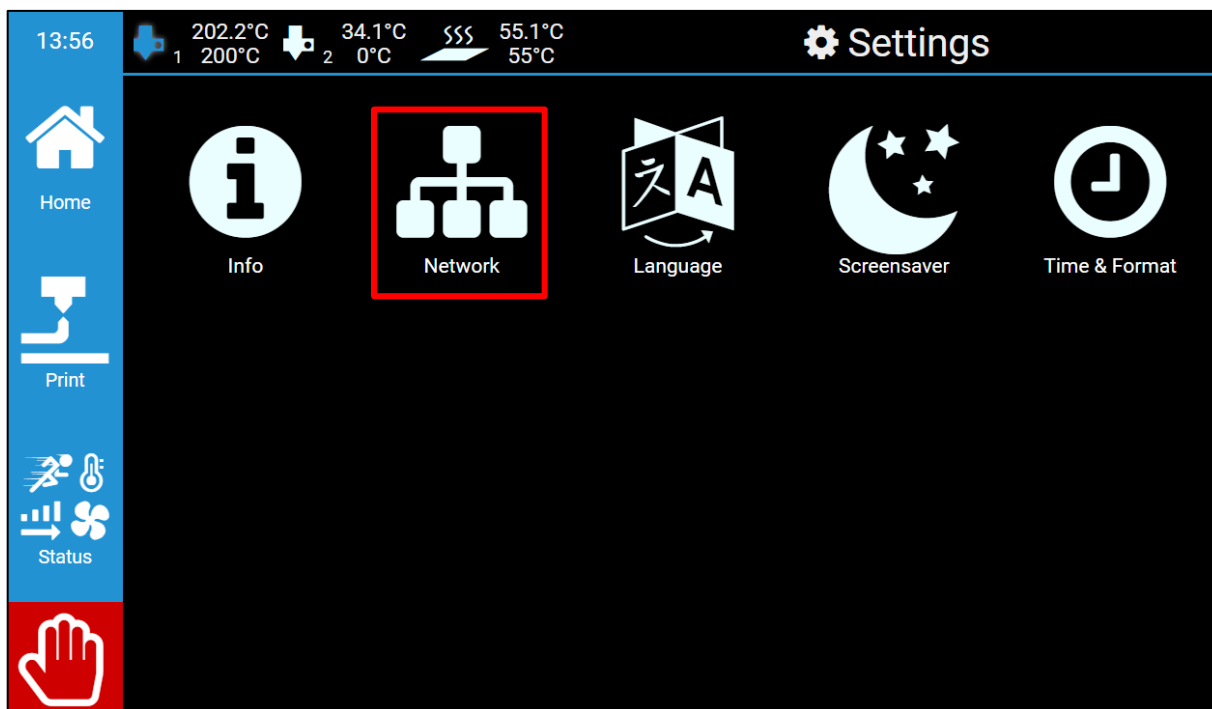
- When this is done, copy the 3 files shown below to the USB from the “Offline USB Updater” map you downloaded earlier. Insert the USB into the USB port in the front of the printer.



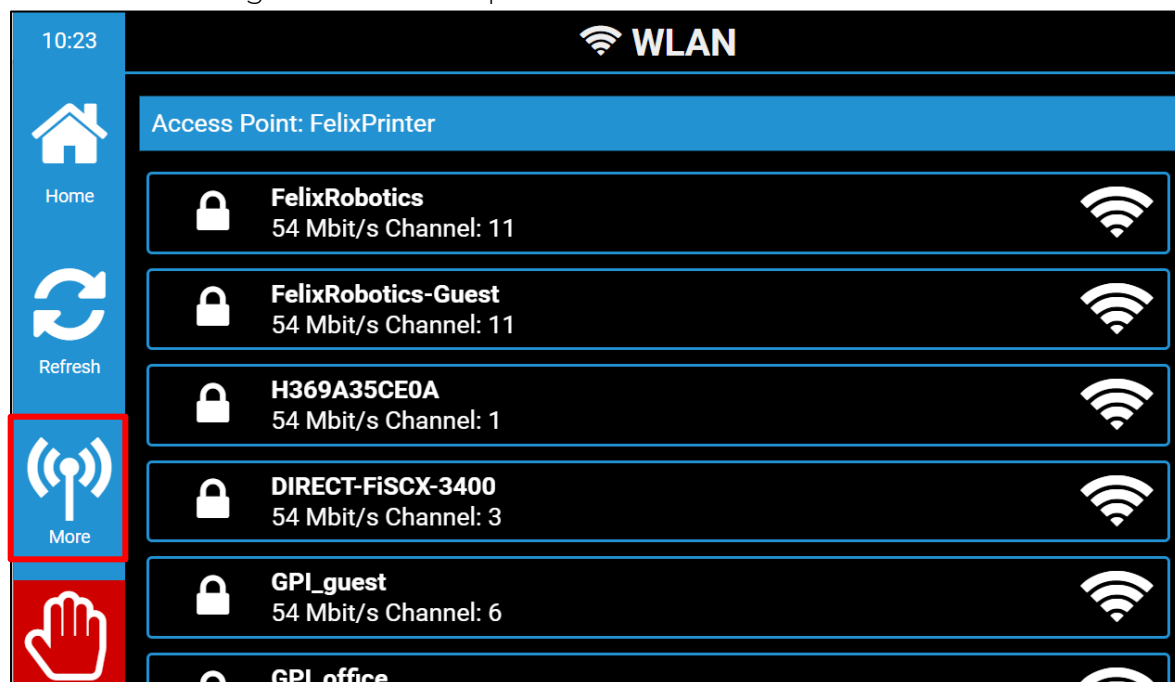
- Make sure you can connect to the printer by connecting it to a network or setting up an access point. Follow the steps below to set up an access point.
- Select "Settings" on your touchscreen.



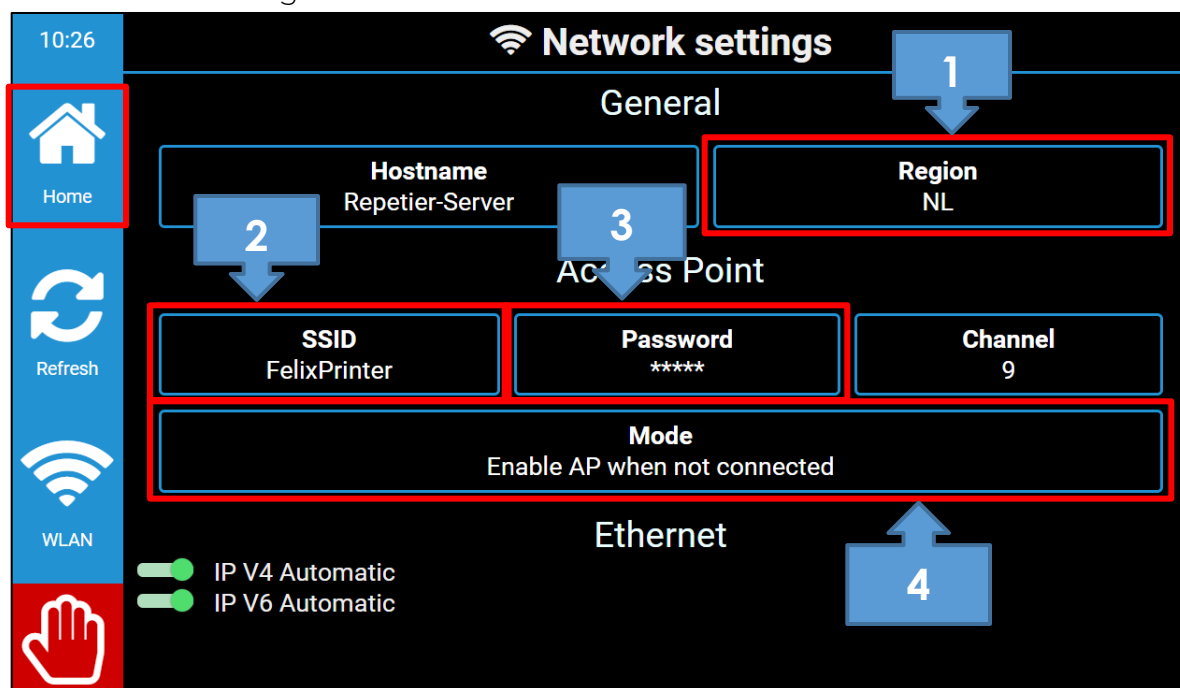
- Select "Network".



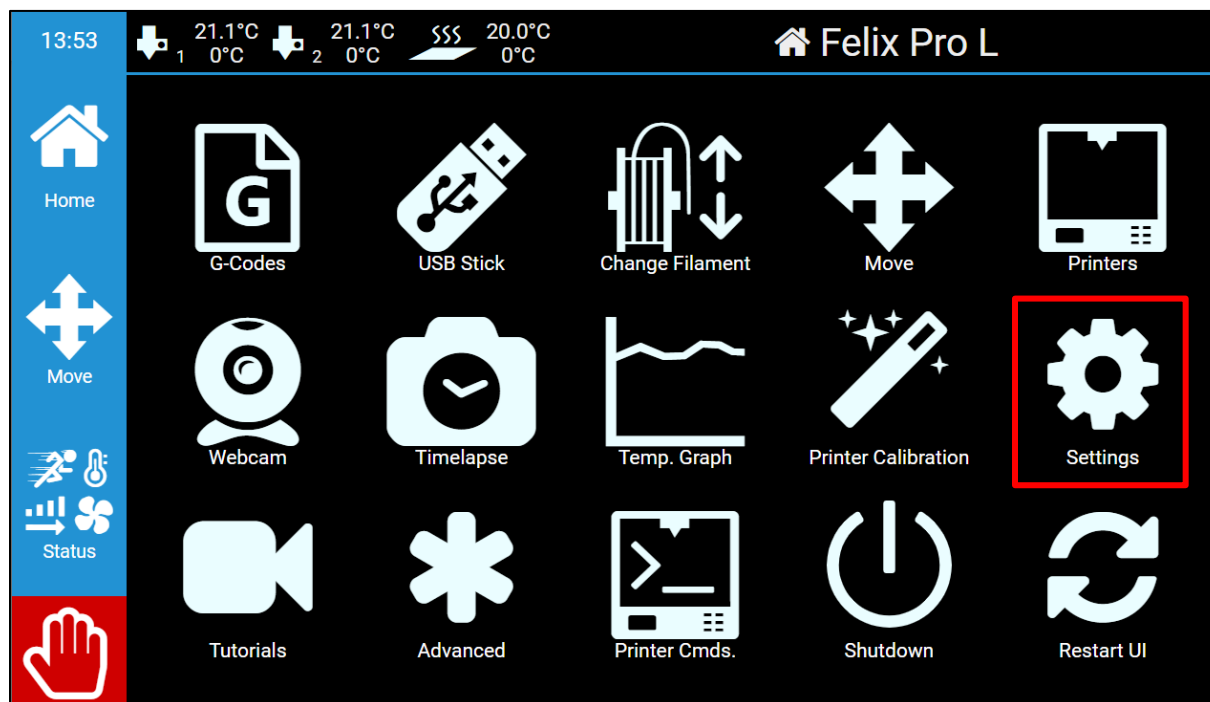
- Select "More" to go to the access point section.



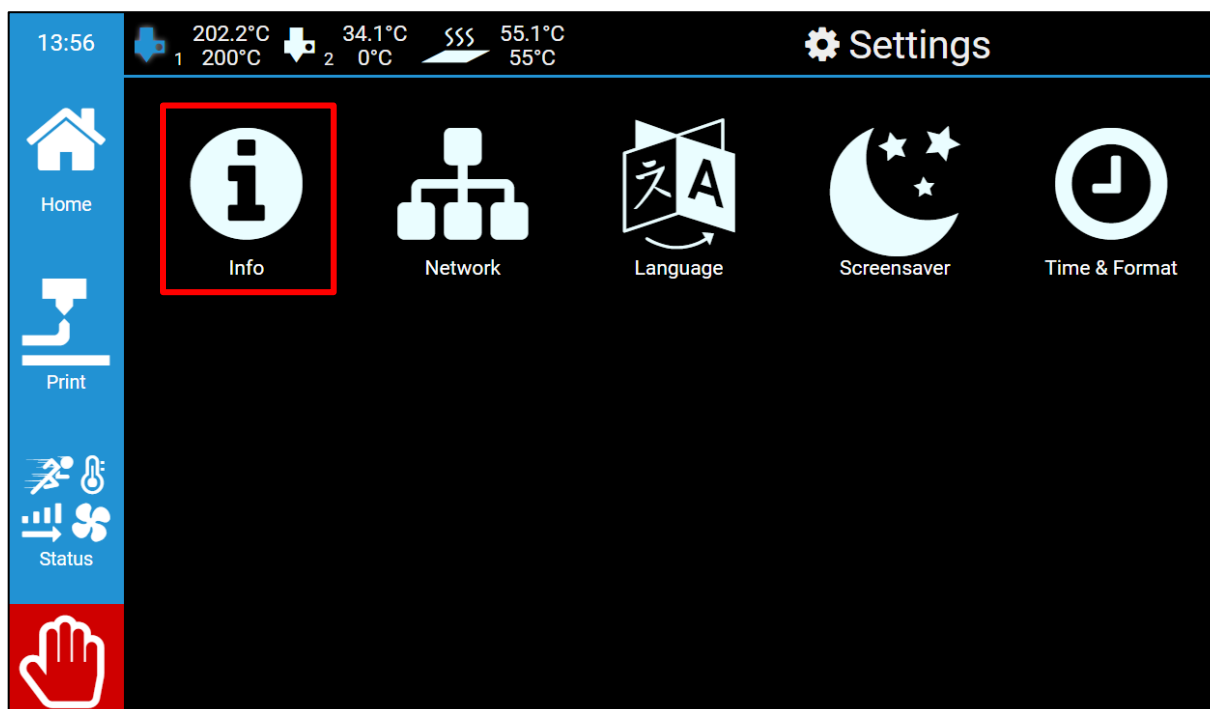
- 1. Select your region.
- 2. Select a name.
- 3. Select a password. You need this password to connect to the printer through Wi-Fi.
- 4. Select "Enable AP when not connected" or "Always enable AP".
- Give the printer some time to set up the access point.
- Select "Home" to go back to the home screen.



- Select "Settings" to go to the settings menu.



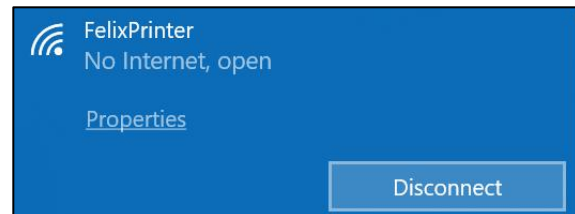
- Select "Info" to show the current version of the server and the IP address.



- When you set up an access point the IP is always 10.10.10.1



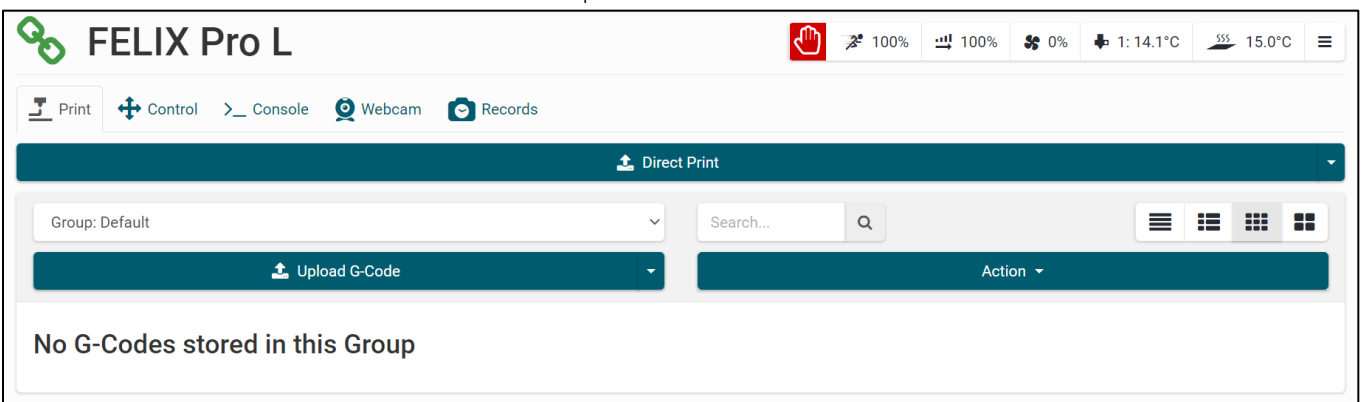
- Open your network setting on your PC/laptop and connect to the access point using the password you setup earlier.



- Check if the connection is good by filling in the IP address into a web browser of you PC/laptop.



- You should see the web interface of the printer.

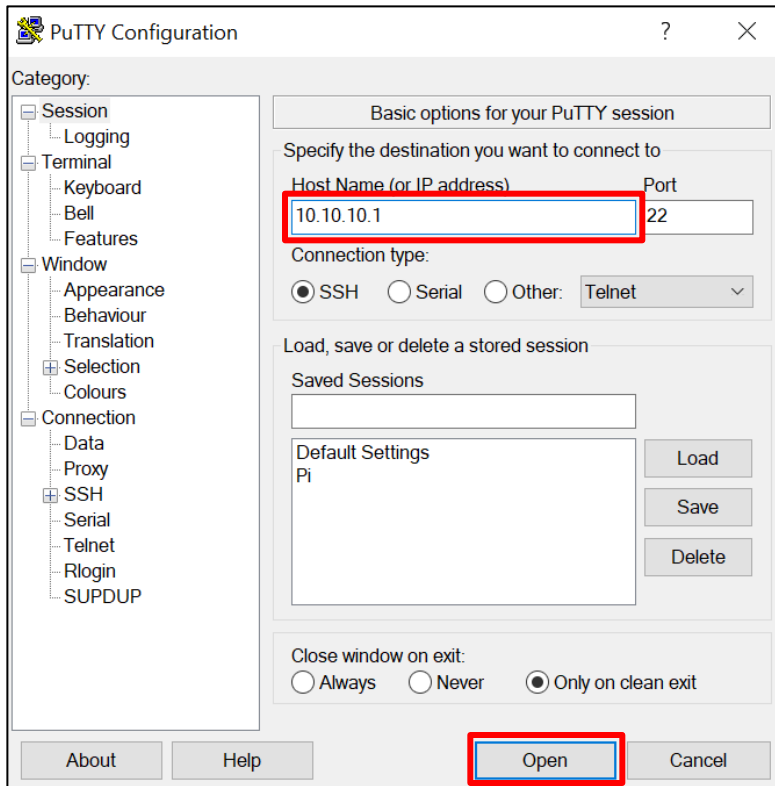




- For the next step, download “putty” using the link below. Choose the version that suits your system.

<https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html>

- Open putty and fill in the IP address of the printer and Select “Open”.



- Log in with “pi” and password “raspberry”. No capital letters.
- When you enter the password, it does not show it. Type the password and press enter.



- After you have logged in you will get the screen that you can see below. We are now going to manually install the update.

```

pi@RepetierServer: ~
SSH is enabled and the default password for the 'pi' user has not been changed.
This is a security risk - please login as the 'pi' user and type 'passwd' to set
a new password.

*****
*****

Access Repetier-Server from a web browser on this network using one of the follo
wing URLs:
  http://RepetierServer.local
  http://192.168.1.224

You can also use https with a self-signed certificate - your browser will not tr
ust it and that is normal!

Your pi is configured to start a display environment. If you have no display con
nected you should disable it:
sudo nano /boot/repetier-image-setup.txt
and set RUN_CHROME=0
If you need a visible cursor to use the mouse set HIDE_MOUSE=0

pi@RepetierServer:~ $

```

- Select the text below and click "ctrl+C" on your keyboard.

```

cd /media/flash
sudo bash ./start.sh

```

- Go back to Putty and click on your right mouse button to copy the text into Putty.
- And finally Select "Enter" on your keyboard. The update will install now.

**Do not turn the printer off during this process!**

```

pi@Repetier-Server: /tmp
Removed /etc/systemd/system/multi-user.target.wants/RepetierServer.service.
Unpacking repetier-server (1.4.1) over (1.4.3) ...
Setting up repetier-server (1.4.1) ...
Install Repetier-Server
Created symlink /etc/systemd/system/multi-user.target.wants/RepetierServer.servi
ce → /lib/systemd/system/RepetierServer.service.
/usr/sbin/ModemManager
----- IMPORTANT -----
You have ModemManager installed. This software automatically connects to new ser
ial devices
until it detects them not being a modem. This will interfere with printer connec
tions and
can cause communication errors during the first 20 seconds. To get rid of this y
ou can
uninstall the software with:
sudo apt-get remove modemmanager
If you need it for communication with mobile broadband modems make it ignore you
r serial ports:
https://linux-tips.com/t/prevent-modem-manager-to-capture-usb-serial-devices/284
/2
Processing triggers for systemd (232-25+deb9u8) ...
pi@Repetier-Server:/tmp $

```

When the screen to the left is shown, the update is done.

finally type "sudo reboot" in putty and select enter.

Remove the USB from the printer.

You can close putty now and go on to chapter 5 update XML/RPC.

If you are unable to continue or have any questions, you can check at the support section of our website or you can contact us directly:

Website: [www.felixprinters.com/support](http://www.felixprinters.com/support)

Email: [support@felixprinters.com](mailto:support@felixprinters.com)

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Kind regards,

FELIXprinters