Geeetech E180 3D Printer

User Manual

Content

1 Attentions

1.1 Safety Instructions

1) Be sure the switch is in the correct position or it will damage the power supply unit (PSU).
2) Be sure all wires are correctly connected before turning on the printer.
3) Don’t touch extruder head when printing as they generate high temperature which may cause burn.
4) Don’t leave the printer unattended when printing.

1.2 Factory Test Before Delivery

To ensure quality, each printer is tested at the factory. As a result, there may be filament residue in the extruder head or on the platform but it should not affect normal use. We provide the spare nozzle in the accessory kit just in case.

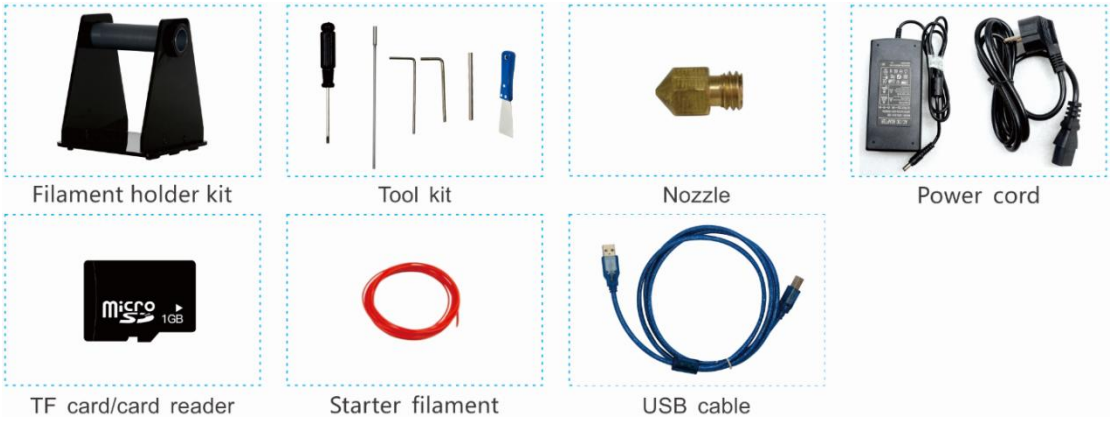
2 Printer Display

(Picture 2-1)

(Picture 2-2)

1. Extruder head,
2. Hot bed
3. Power switch
4. Touch screen
5. TF card slot
6. USB port
7. Adapter power socket

Please check the parts/accessories when you receive the printer (Refer to Picture 2-3). If any spare parts are missing, please contact your sales representative.



(Picture 2-3)

3 First print

3.1 Check the filament

Put the filament on the spool holder, and plug adapter power into the back of corresponding power socket and then turn on the front power switch. See picture(3-1)(3-2).

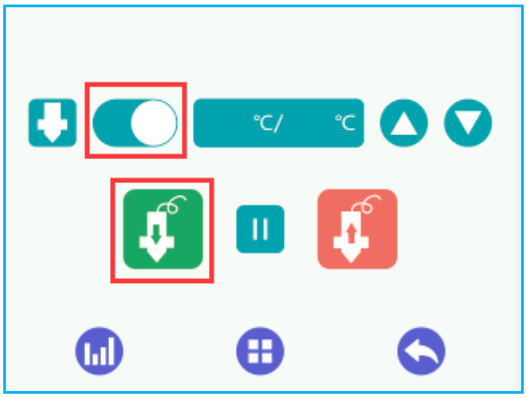
(Picture 3-1)

(Picture 3-2)

Since the filament is bent, the first section of it needs to be straightened by hand and trimmed to make it easier to insert the filament into the feeder. Press down the lever handle of the extruder and insert the filament into the feeding tube until it reaches the extruder head. See picture (3-3).

(Picture 3-3)

When print PLA, set the target nozzle temperature about 190-210℃. When the temp is stable, control the extruder filament feeding on touch screen, feed until there is molten material flowing from the nozzle. See picture (3-4).



(Picture 3-4)

Observe the nozzle, if there is no filament stuck and the filament is coming out smoothly, then stop filament feeding, clean the nozzle with tweezers. See picture (3-5).

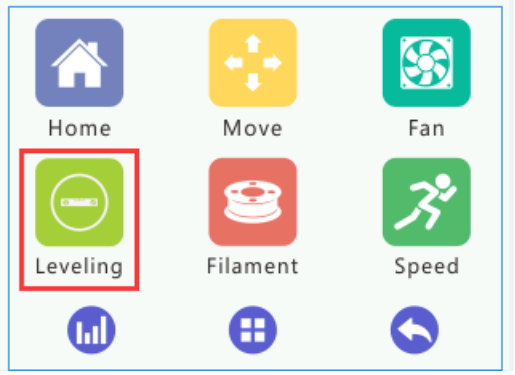
(Picture 3-5)

3.2 Level the print bed

The first layer is key to a successfully printed model. The factory default setting is a little high in order to avoid scratching the printing platform with the nozzle, so users need to adjust the distance between nozzle and hotbed again. After the first-time bed leveling, users may need to level the bed again in future. Detailed steps are as follows:

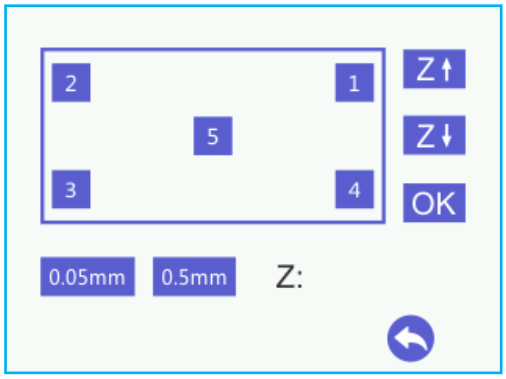
1) Rough leveling

Please click the “Home” to enter “Leveling” interface on the touch screen. See picture (3-6).



(Picture 3-6)

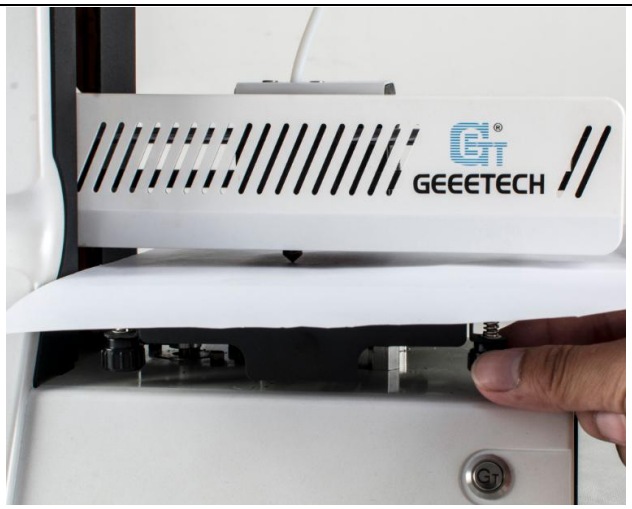
Put a piece of leveling paper or A4 paper between printing platform and nozzle, click position**"5"**and select the appropriate height adjustment amount repeatedly (adjust height in increments of 0.05mm/0.5mm) at bottom left of interface, to adjust the z-axis height until the distance between platform and the nozzle is about the thickness of a piece of paper (about 0.1 / 0.2 mm).Slide the paper back and forth to see if you feel a slight resistance. If yes, it means that extruder head is in the right place. See picture (3-7). After adjusting the height at position **"5"**, click **"OK"** to save current value.



(Picture 3-7)

Please click the position in order from 1-4, At each corner, use the adjusting nuts under the bed to set the distance between nozzle and printing platform to about the thickness of a piece of paper (Slide the paper back and forth to see if you feel a slight resistance). Now rough leveling is finished. See picture (3-8) (3-9).

(Picture 3-8)

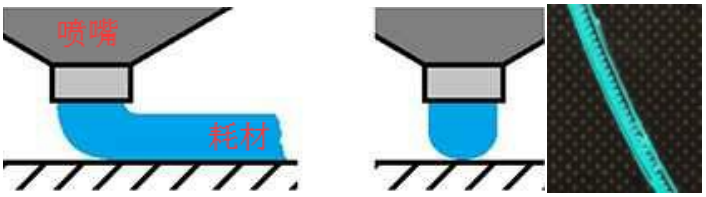


(Picture 3-9)

2) Accurate leveling

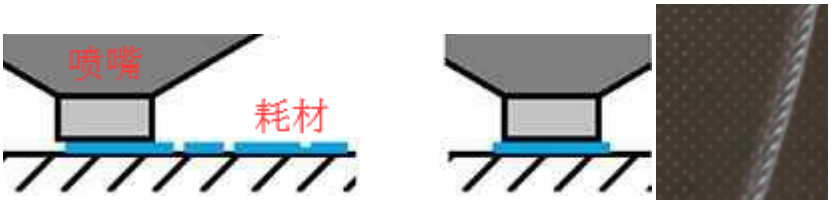
If you level printing platform with A4 paper, the first layer might be too high, too low or moderate.

a. Too high: If the distance between nozzle and printing platform is too far, filament will not stick to the platform well. See picture (3-10).



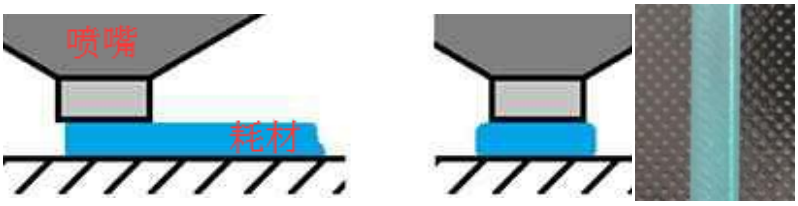
(Picture 3-10)

b. Too low: If the distance between nozzle and printing platform is too close, it prevents filament from coming out, causes the extruder gear to click or grind on filament and even worse, it would scratch nozzle and printing platform. See picture (3-11).



(Picture 3-11)

c. Moderate: Extrude filament properly and evenly. Stick to the platform. See picture (3-12).



(Picture 3-12)

In case of too high and too low, please adjust knobs under the hotbed slightly until you achieve proper height. It may take some trial and error to achieve the best result.

Note:

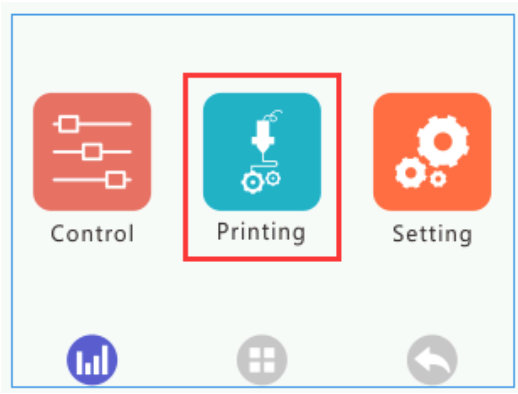
1) Be sure to adjust the height at center point (position5) on the touch screen, after clicking **"OK"** to save its data, you can use then knobs to adjust the platform at the 4 corners.
2) When viewed from the above, turning the knobs clockwise, the platform will rise, and vice versa.
3) Avoid the nozzle touching the platform; use a piece of A4 paper. Or it will scratch the bed.

3.3 SD card printing

Insert TF card into the slot. See picture (3-13).

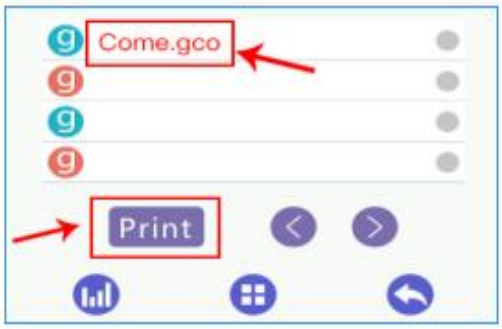
(Picture 3-13)

Click **"Printing"** to its interface on the touch screen menu.

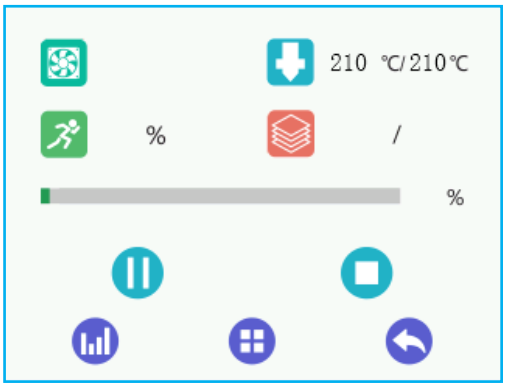


(Picture 3-14)

Select the .gco files stored in TF card and click **"Print"** as shown in Picture (3-15), the printer will start printing automatically after heating to the target temp. See picture (3-16).



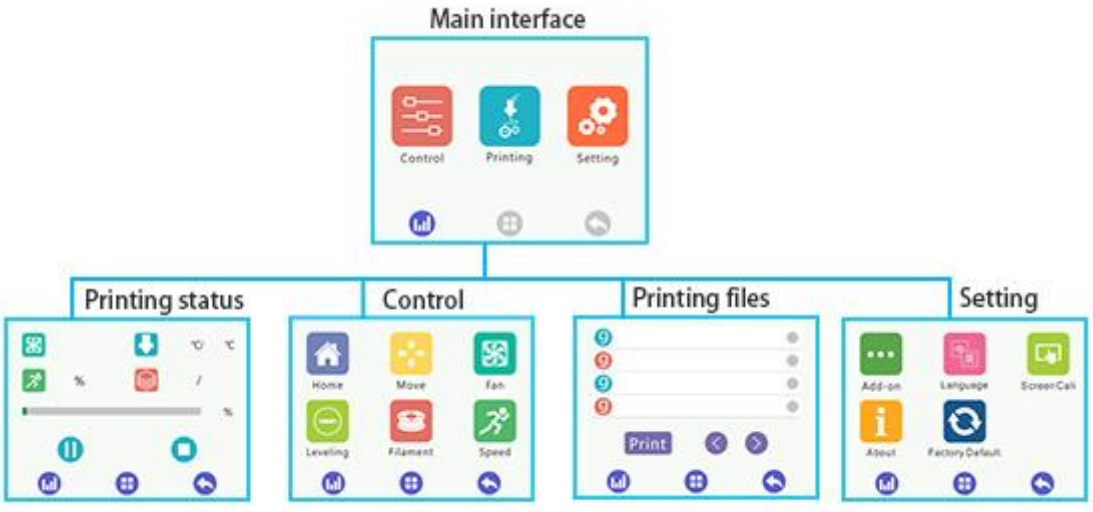
(Picture 3-15)



(Picture 3-16)

4 Introduction of touch screen menu

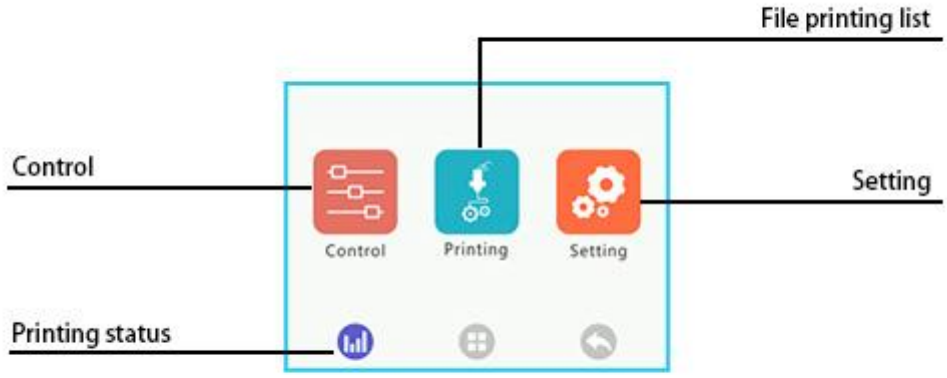
4.1 Tree diagram



(Picture 4-1)

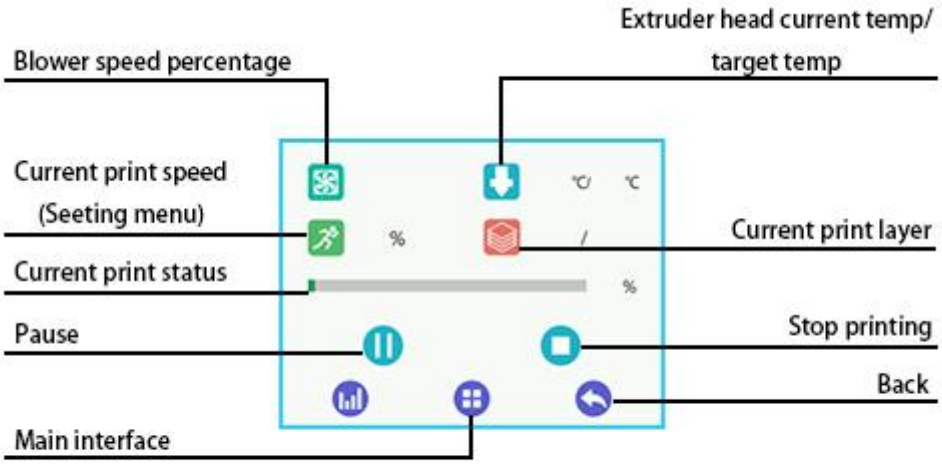
4.2 Main Functions

4.2.1 Main interface:



(Picture 4-2)

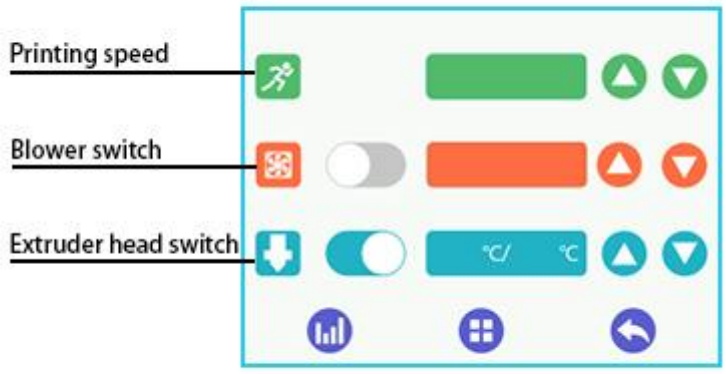
4.2.2 Printing status Interface:



(Picture 4-3)

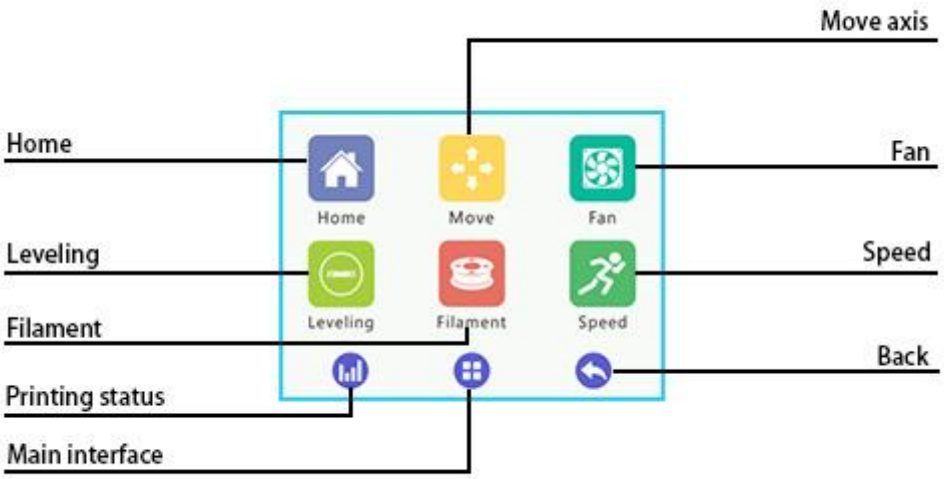
One submenu for printing status interface:

1) Click the icon of extruder head temperature/printing speed to enter the interface of temperature and speed setting. See picture (4-4).



(Picture 4-4)

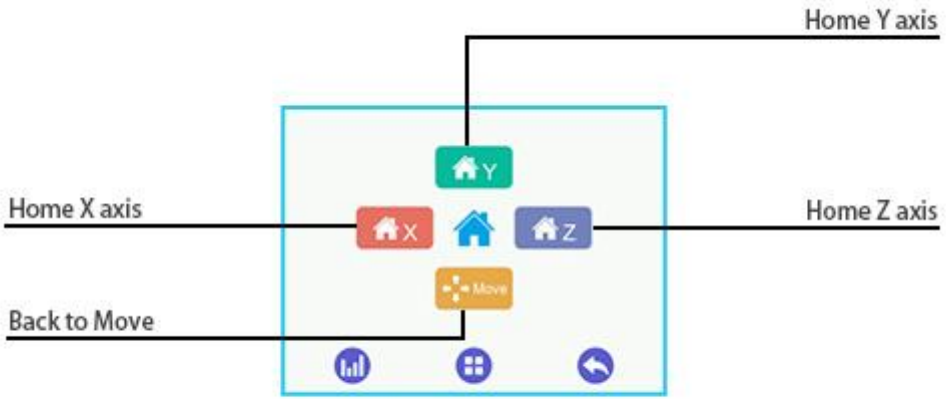
4.2.3 Main functions of control menu:



(Picture 4-5)

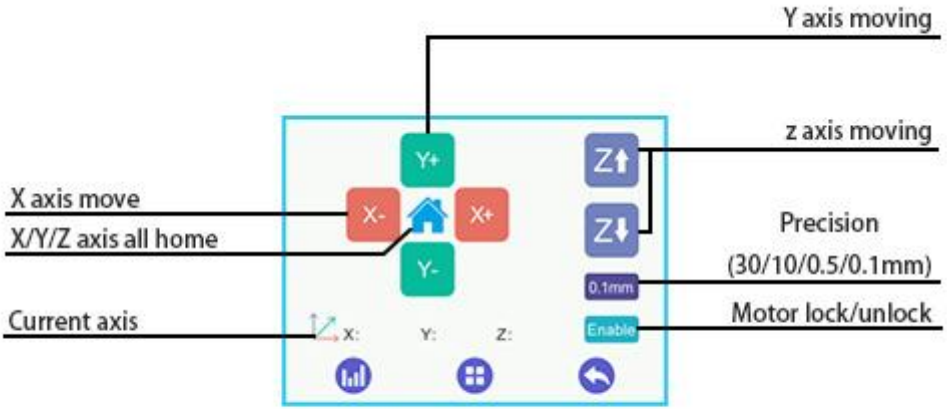
Six submenus at control menu homepage:

1) Click **"Home"** to its interface, See picture (4-6).



(Picture 4-6)

2) Click **“Move”** to its interface, See picture (4-7).

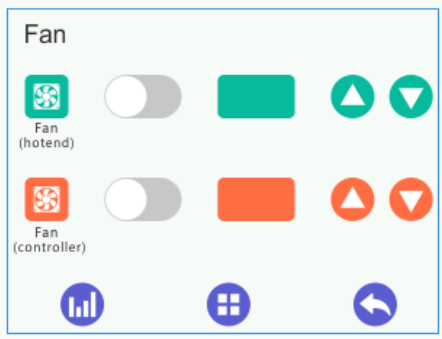


(Picture 4-7)

Please choose its precision firstly before moving axes. There are **“30/10/1/0.5/0.1mm”**available. And control every axis moving. Moreover, when the bottom right corner motor status is in the **"Enable"** state, motor is locked. When **“Disable”** releases, motor is unlocked, you can move every axis by hand.

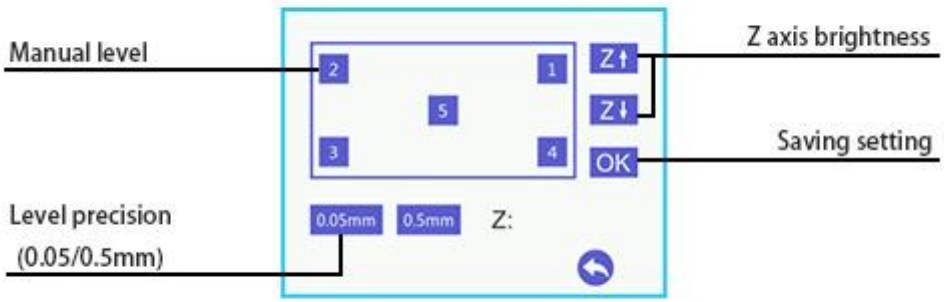
3) Click **“Fan”** and enter its interface. See picture (4-8).

You can set extruder head and fan speed on the main board.



(Picture 4-8)

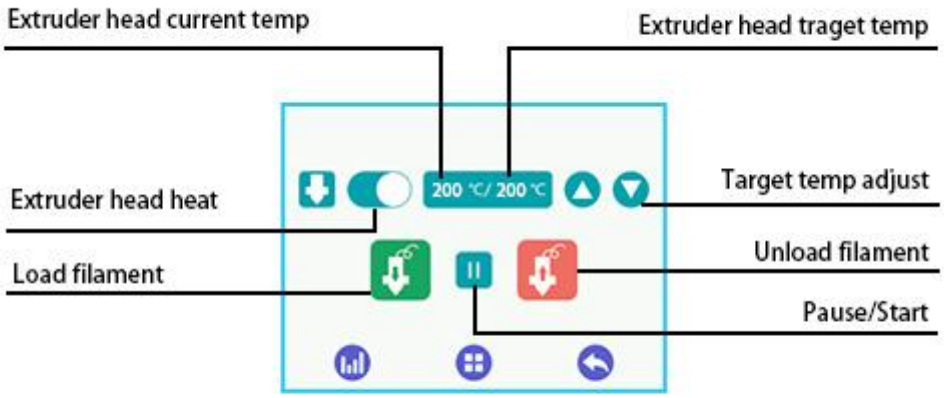
4) Click **"Leveling"** to its interface. See picture (4-9).



(Picture 4-9)

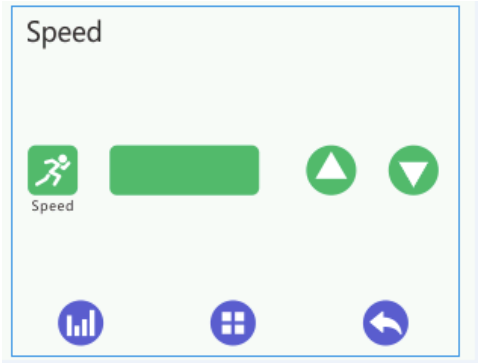
Please choose its precision firstly before manual leveling. You can choose**"0.05/0.5mm"**. Then adjust z axis height according to the actual situation. And click **"Ok"** to save its settings.

5) Click **"Filament"** to its interface. See picture (4-10).



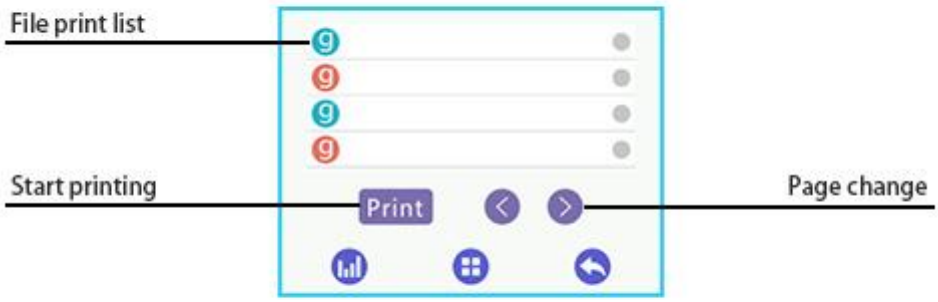
(Picture 4-10)

6) Click **"Speed"** to its interface. See picture (4-11).



(Picture 4-11)

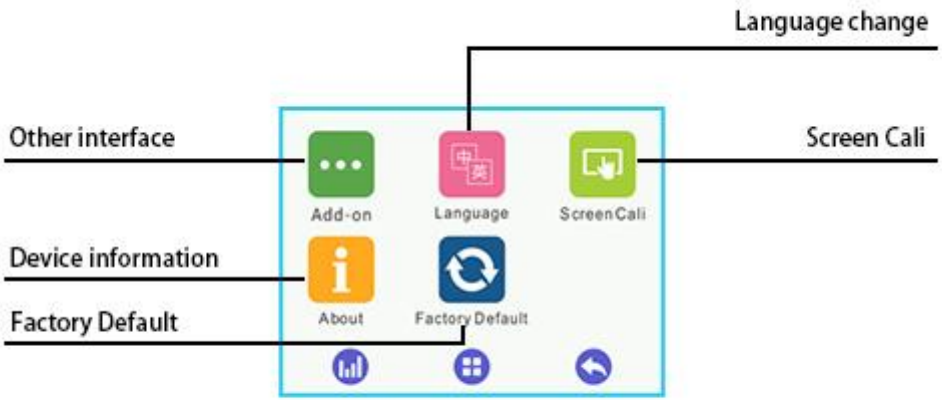
4.2.4 Interface of printing list:



(Picture 4-12)

Please choose the model file at printing file list, and click **"Print"** and then start printing.

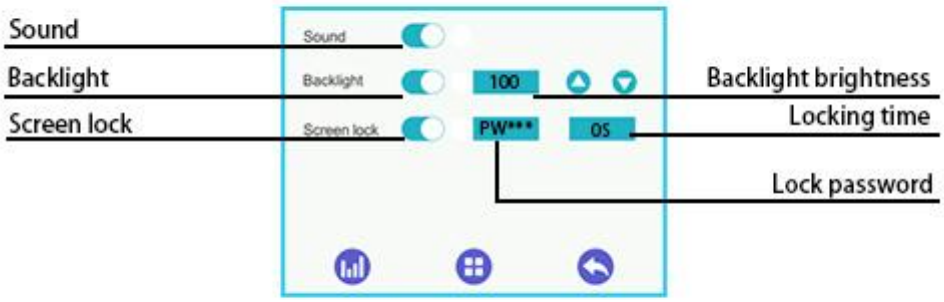
4.2.5 Interface of setting:



(Picture 4-13)

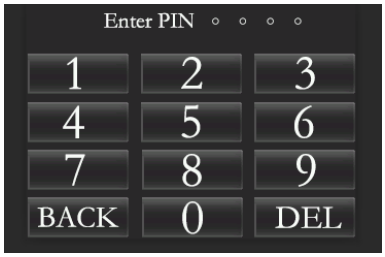
Five submenus at setting interface:

1) Click **"Add-on"** to enter its interface. See picture (4-14).



(Picture 4-14)

Click “lock password” and you can set the password. This function provides you for a safe printing experience. It prevents other people from operating your printer without your permission. See picture (4-15).

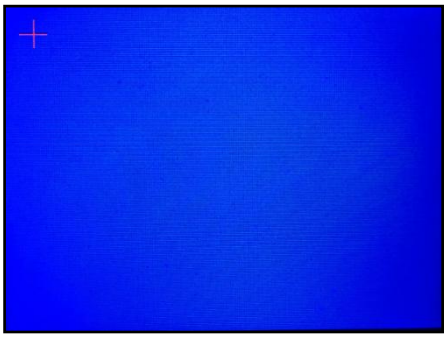


(Picture 4-15)

2) Click **“Language”** to its interface. See picture (4-16).

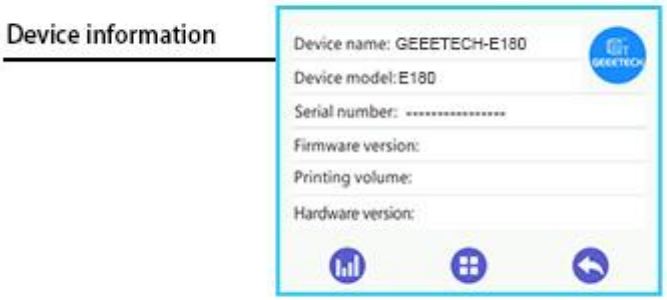
(Picture 4-16)

3) Click **"Screen Cali"** to its interface. See picture (4-17).



(Picture 4-17)

4) Click **"About"** to the device information. See picture (4-18).



(Picture 4-18)

5) If you click **"Yes"**, it will restore factory settings. See picture (4-19).

(Picture 4-19)

5 Software setting

5.1 Install drivers

Two printing choices of E180: TF card printing and USB printing.

TF card printing: Insert TF card into the slot after leveling, and choose a .gcode file to start printing. No USB driver is required.

USB printing:

Connect the printer and computer with a USB cable to control printer with slicing software such as Repetier-Host. Due to some unstable factors such as signal interference, the USB printing is prone to fail. So we suggest TF card printing.

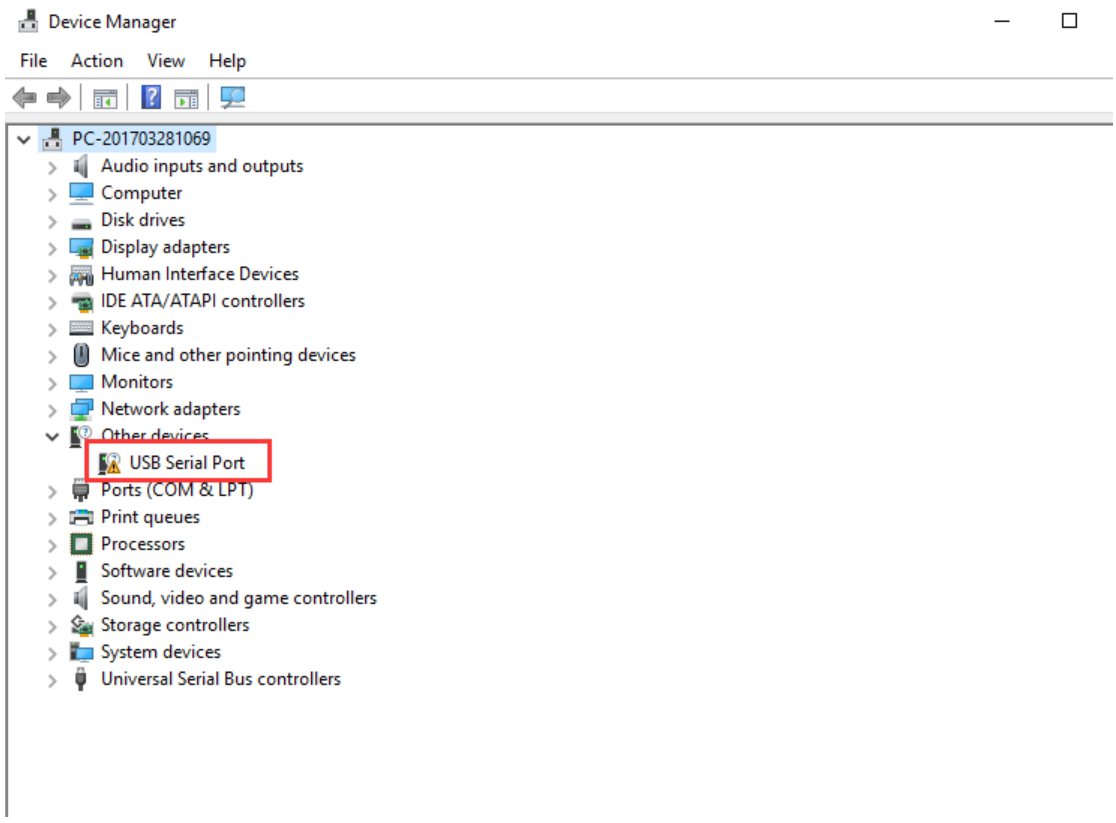
Details of USB printing are as follows:

Firstly, turn on the printer, and connect the printer to computer with a USB cable. Normally, the computer will automatically search the install drive.

The newest communication chip of E180 is FT232.

Check whether the driver is automatically installed successfully or not. Click to choose **"My computer>Property>Device manager"**.

If it shows the exclamation mark as Picture below (5-1), then you need manually install the driver.

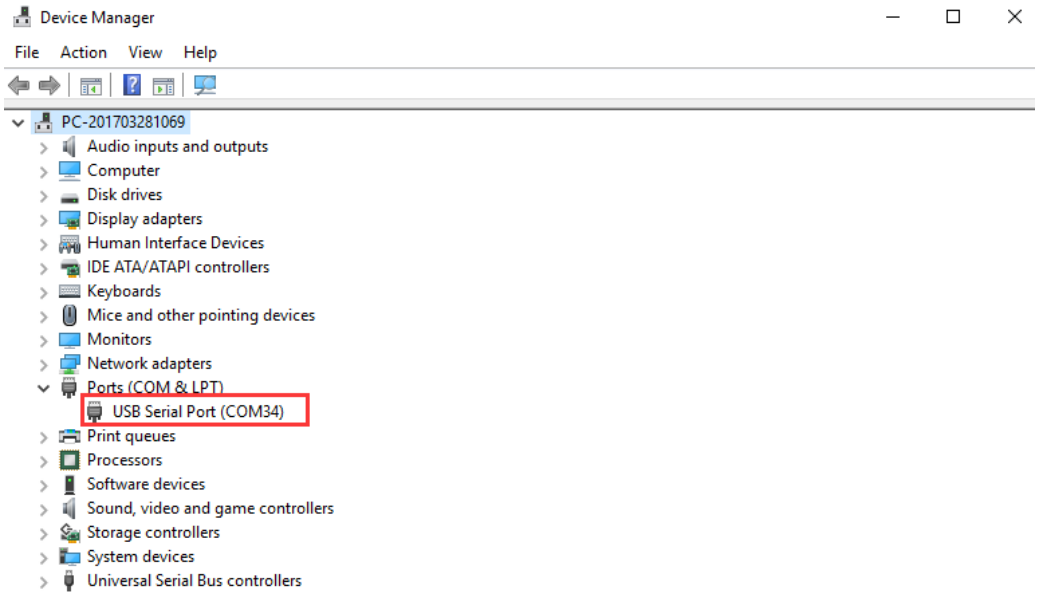


(Picture 5-1)

Download link for driver:

https://www.geeetech.com/index.php?main_page=download&download_id=40.

After the driver is installed, check the “Device manager” and see if it is same as the Picture (5-2) below. If so, it means the driver is successfully installed.



(Picture 5-2)

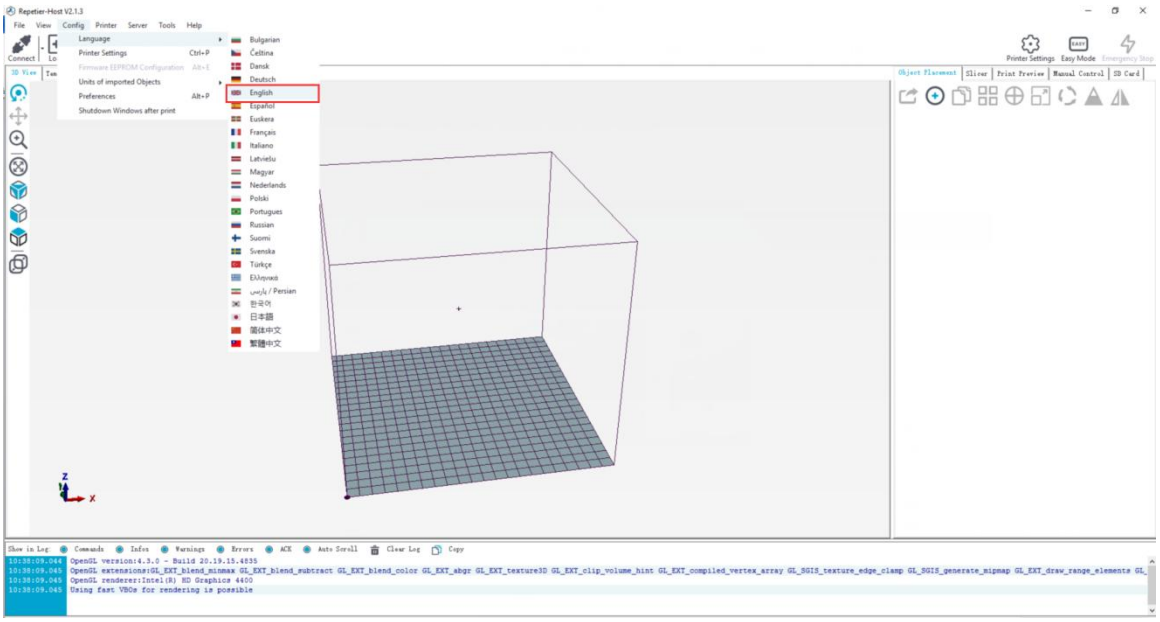
5.2 Install slicing software

Repetier-Host is the default slicing software here. Download address:

https://www.repetier.com/download-software/

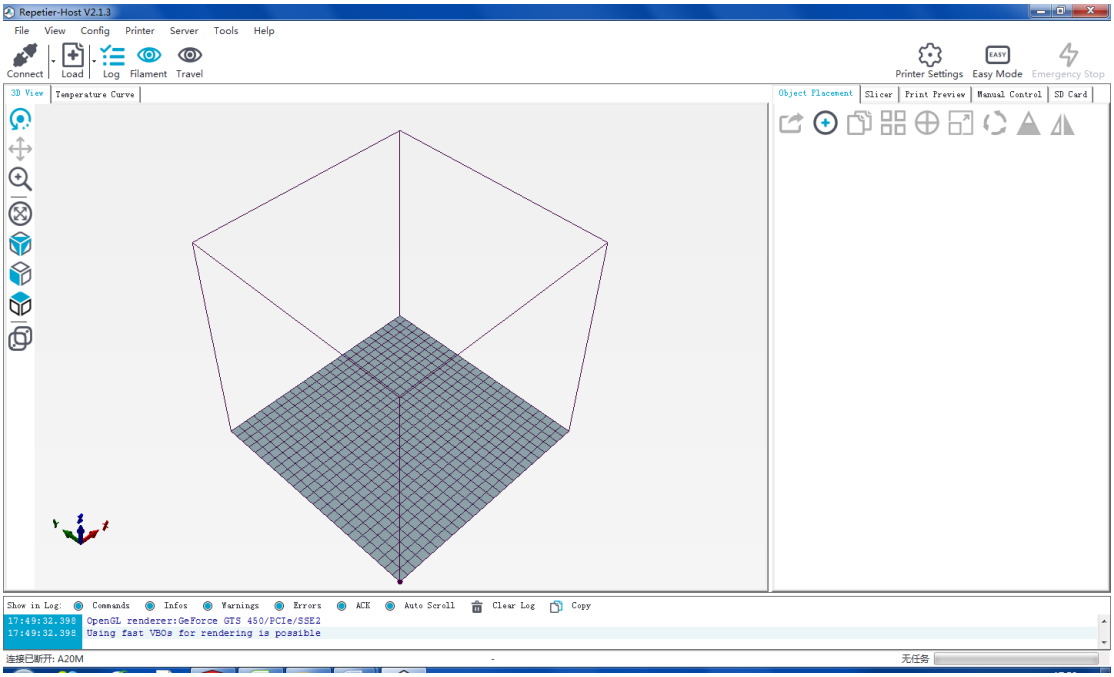
1) Set printer parameter

When Repetier-Host is installed, turn on the printer and open the Repetier-Host. Repetier-Host supports several languages. You can choose your native language from **Config>Language** (Picture 5-3 for details).



(Picture 5-3)

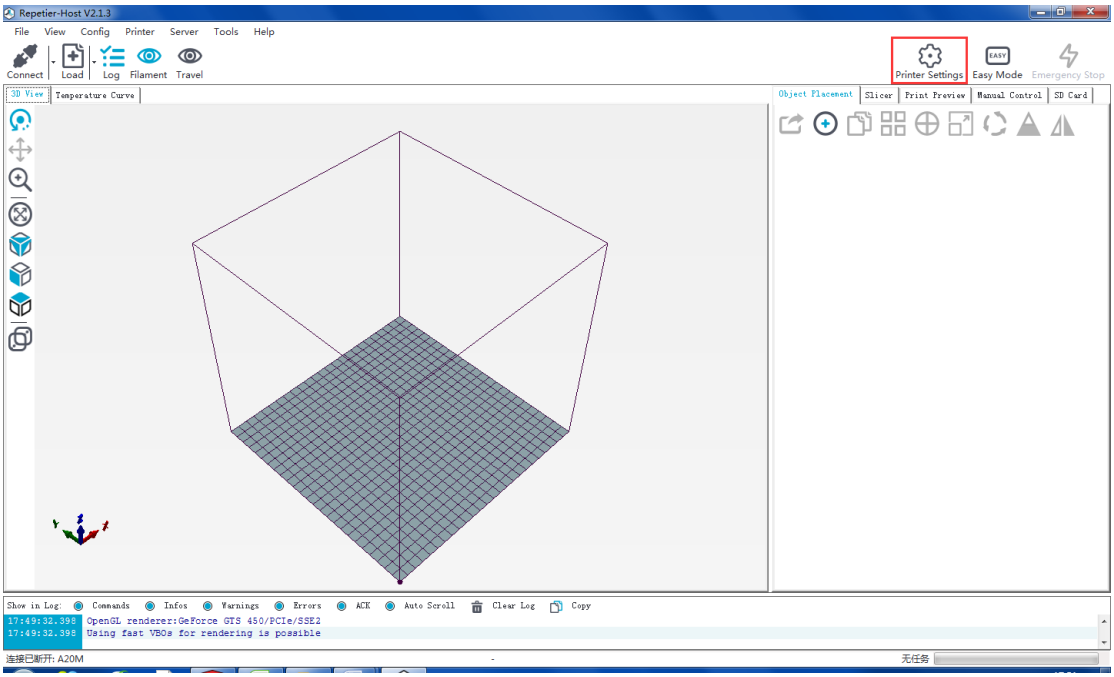
English interface as Picture (5-4):



(Picture 5-4)

Using the Repetier-Host for the first time, printer parameters need to be configured before connecting.

Click **“Printer settings”** on the top right corner, See picture (5-5).

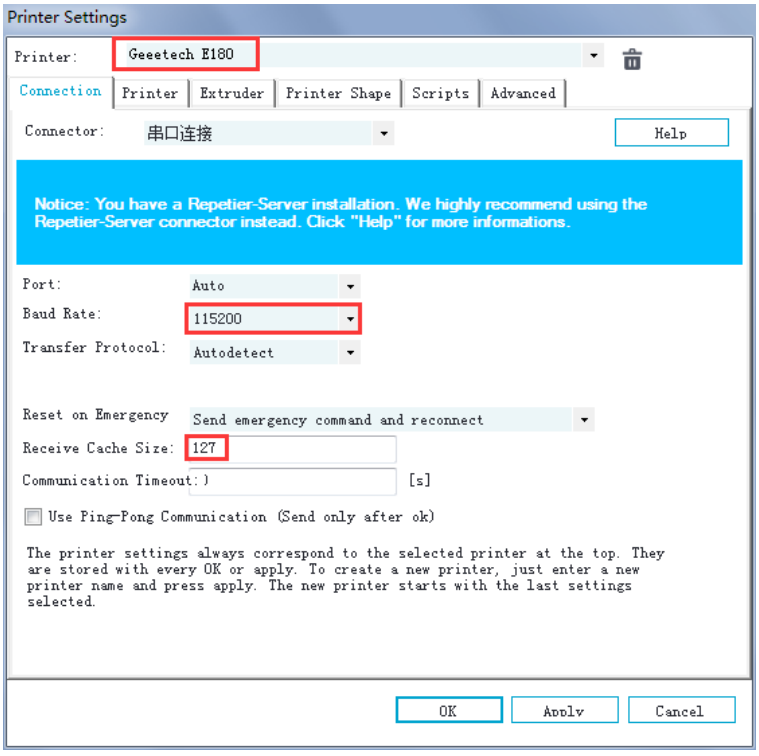


(Picture 5-5)

It pops up the content as the Picture. Write down the relevant info accordingly.

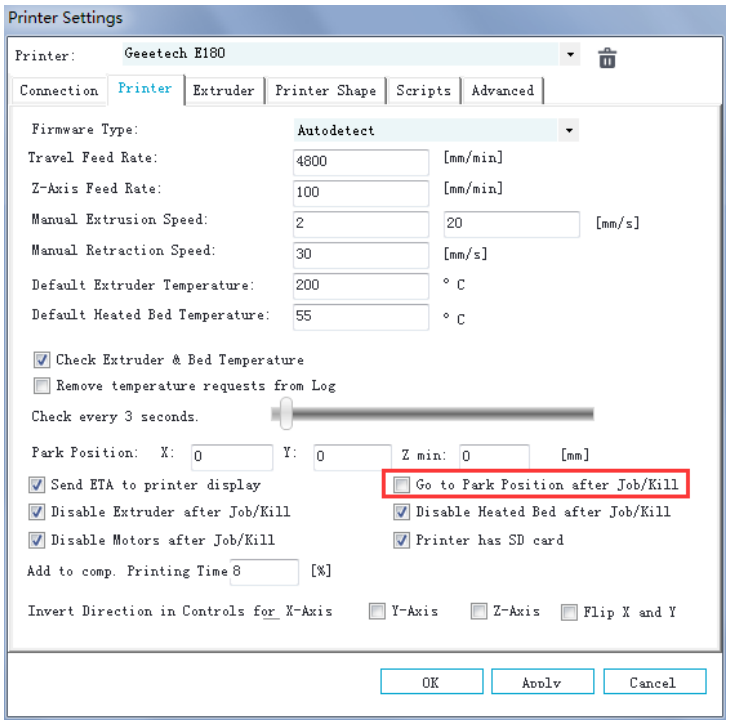
(Pay attention to the highlighted parts).

a. Connection dialog: See picture (5-6).



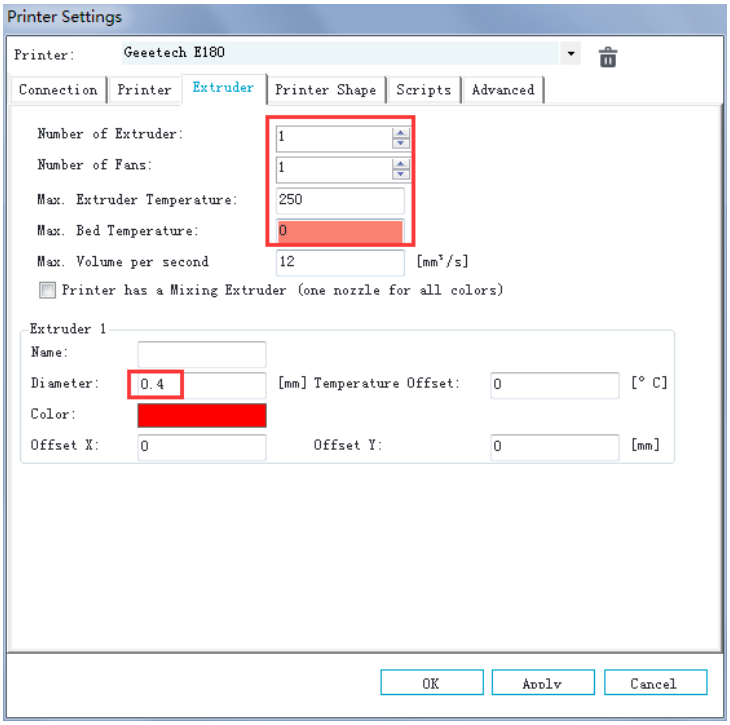
(Picture 5-6)

b.Printer dialog (Picture 5-7).



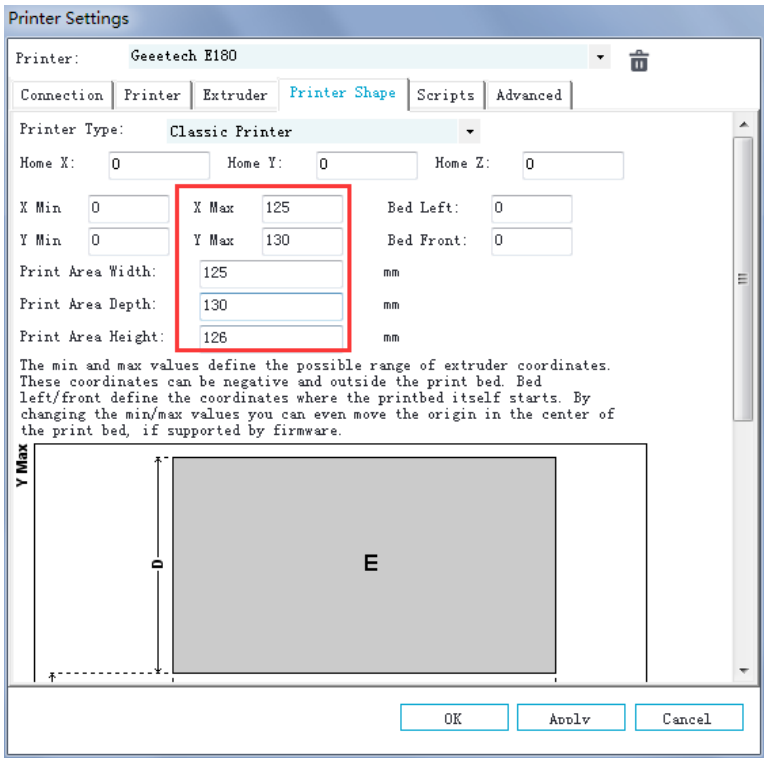
(Picture 5-7)

c.Extruder head dialog: Picture (5-8).



(Picture 5-8)

d.Printer shape dialog (Picture 5-9).



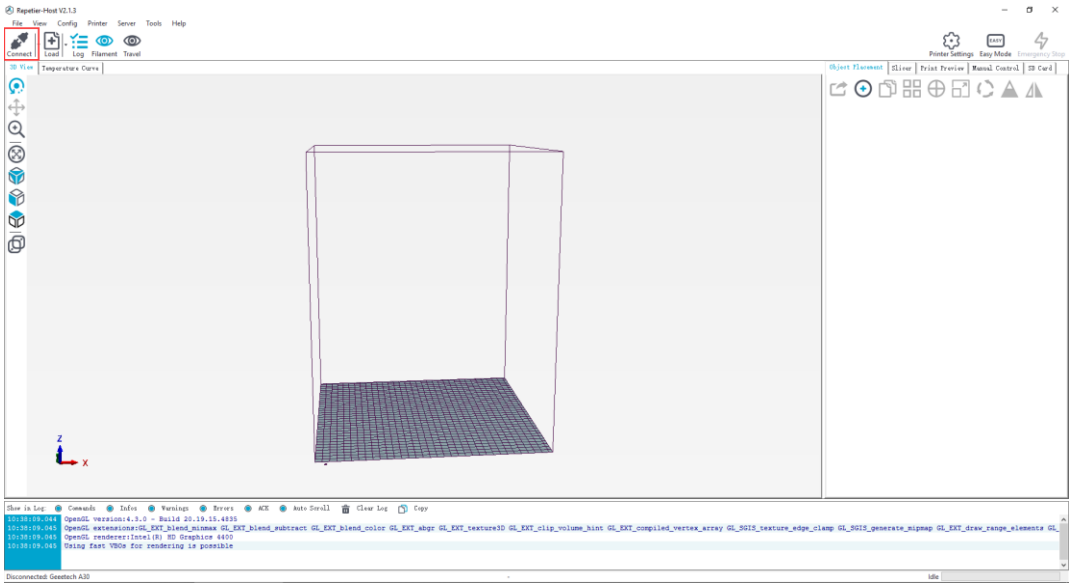
(Picture 5-9)

Now the printer parameters are set.

Note: The baud rate is still **115200**, Mac OS, Repetier Host are the same.

2) Setting slicing parameter

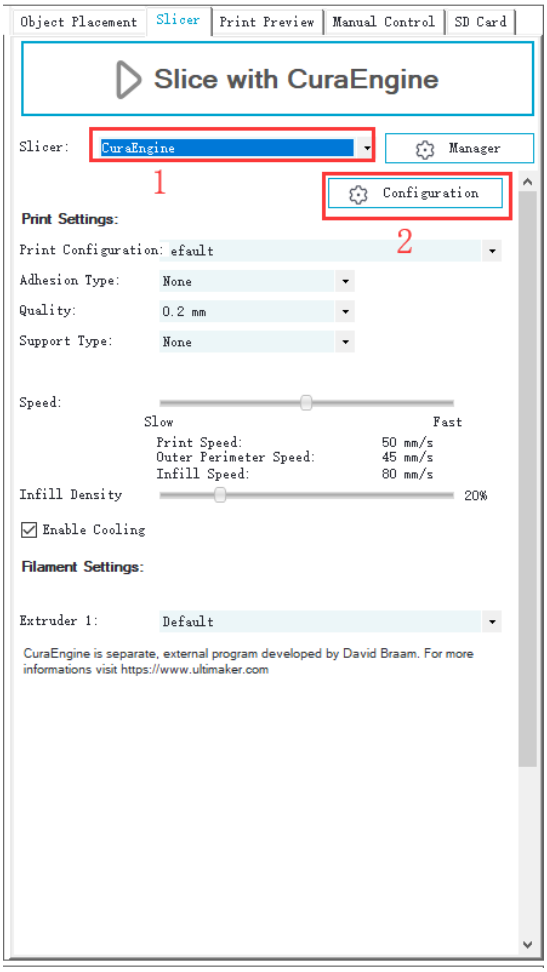
After setting the printer parameters, click **"Connect"** on the top left corner. The color of the icon changed to green means the printer connects to the Repetier-Host successfully. Click it again to **"Disconnect"**. See picture (5-10).



(Picture 5-10)

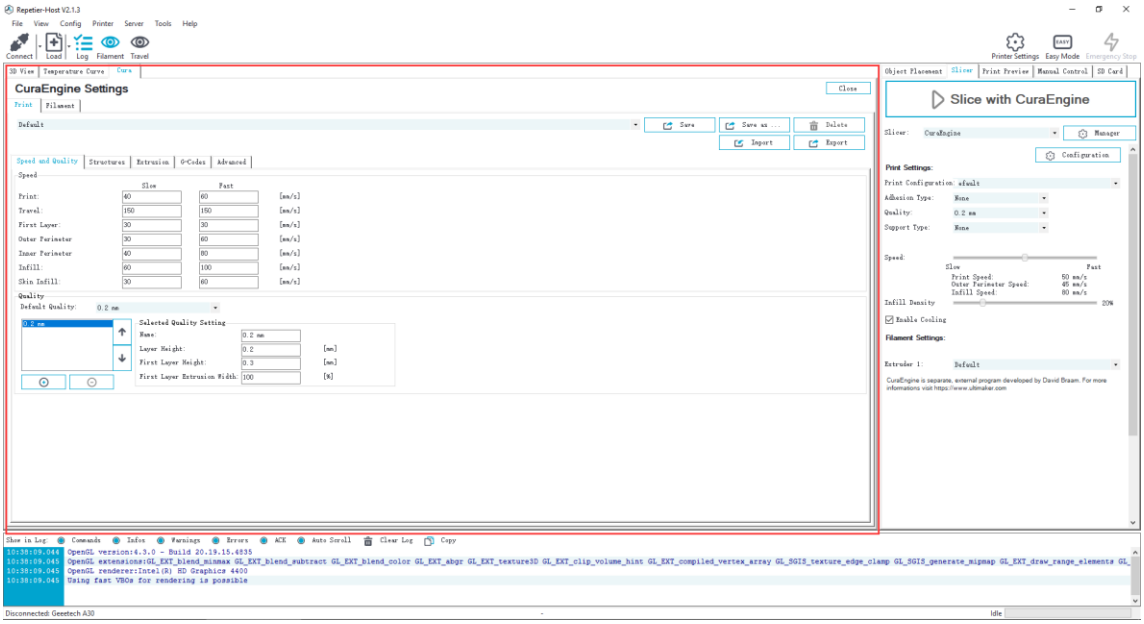
After successfully connected, choose **"Slicer> CuraEngine" a**nd open the configuration menu. See

picture (5-11).



(Picture 5-11)

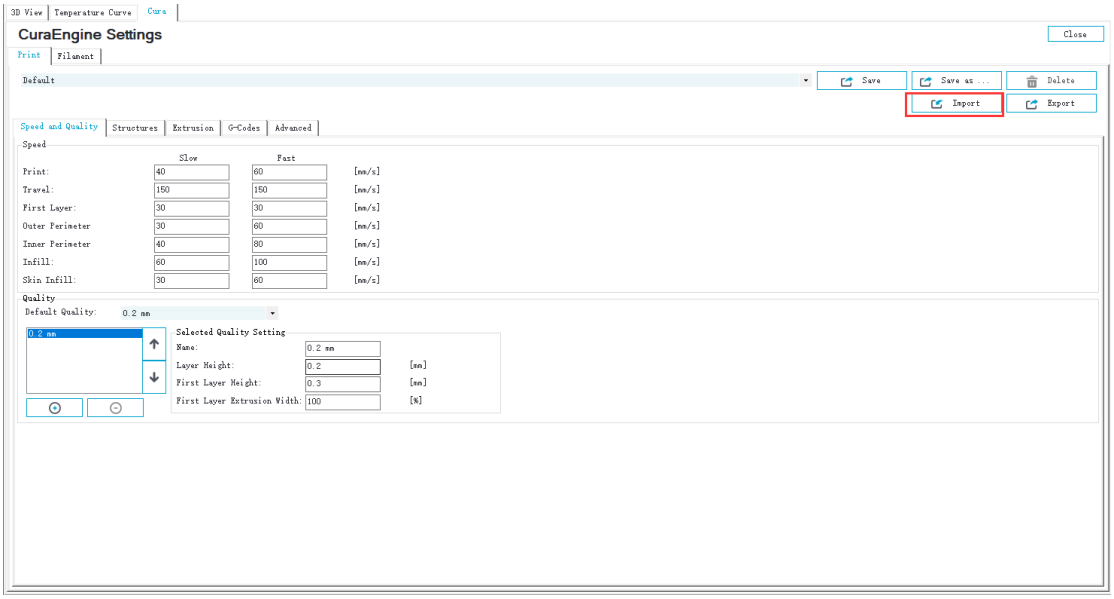
It pops up dialog as picture (5-12):



(Picture 5-12)

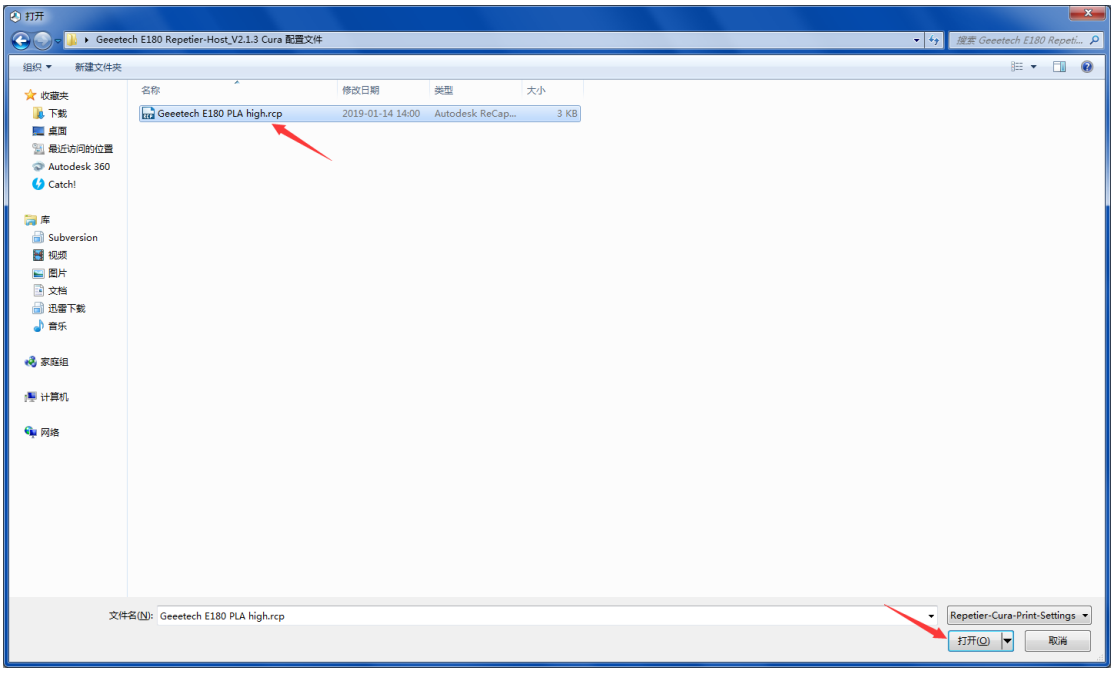
Printer parameters are important to print quality. Customers need to explore and learn from experience for a long time. In order to work it out of the box, we provide a configuration file for your reference (“**Geeetech E180 PLA high.rcp”**). You can import it according to the steps as follows. The following is an example of parameters for PLA:

Click **“Print>Import”**. See picture (5-13).



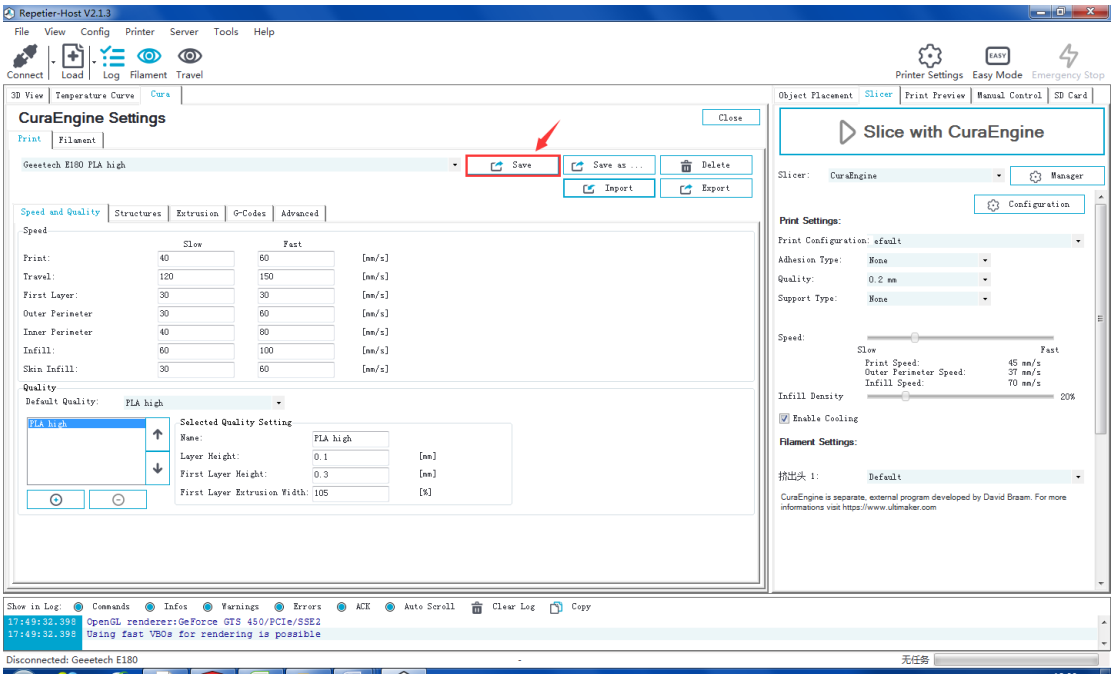
(Picture 5-13)

It pops up the dialog as below. Choose “**Geeetech E180 PLA high.rcp**” and open it. See picture (5-14).



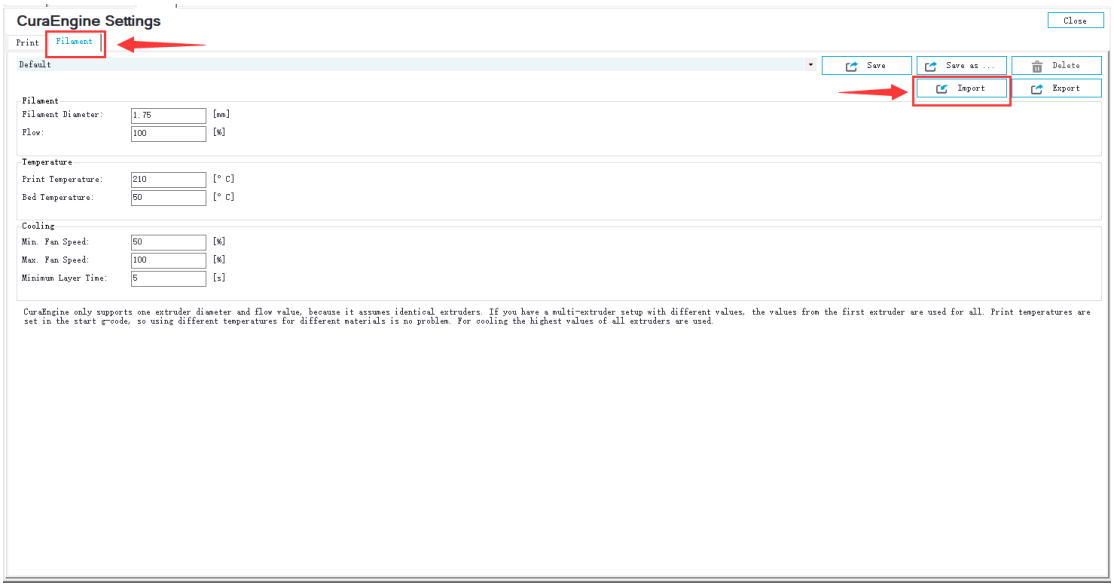
(Picture 5-14)

Now, the configuration file is imported, click “**Save**”. See picture (5-15).



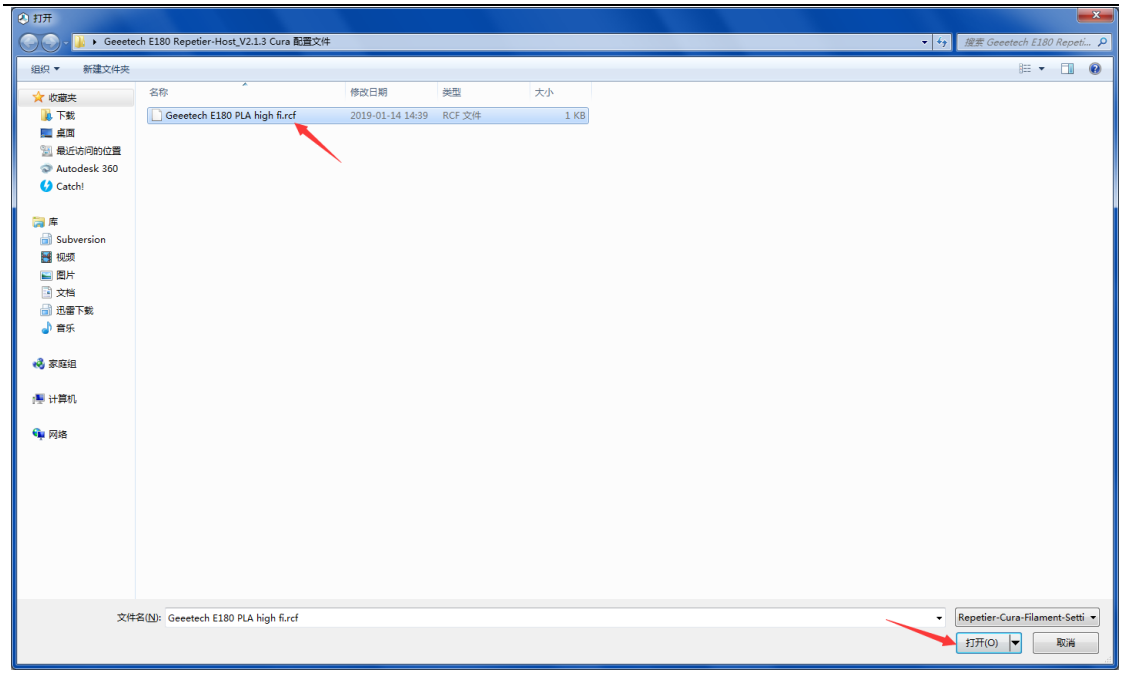
(Picture 5-15)

Click **“Filament”>“Import”**. See picture (5-16).



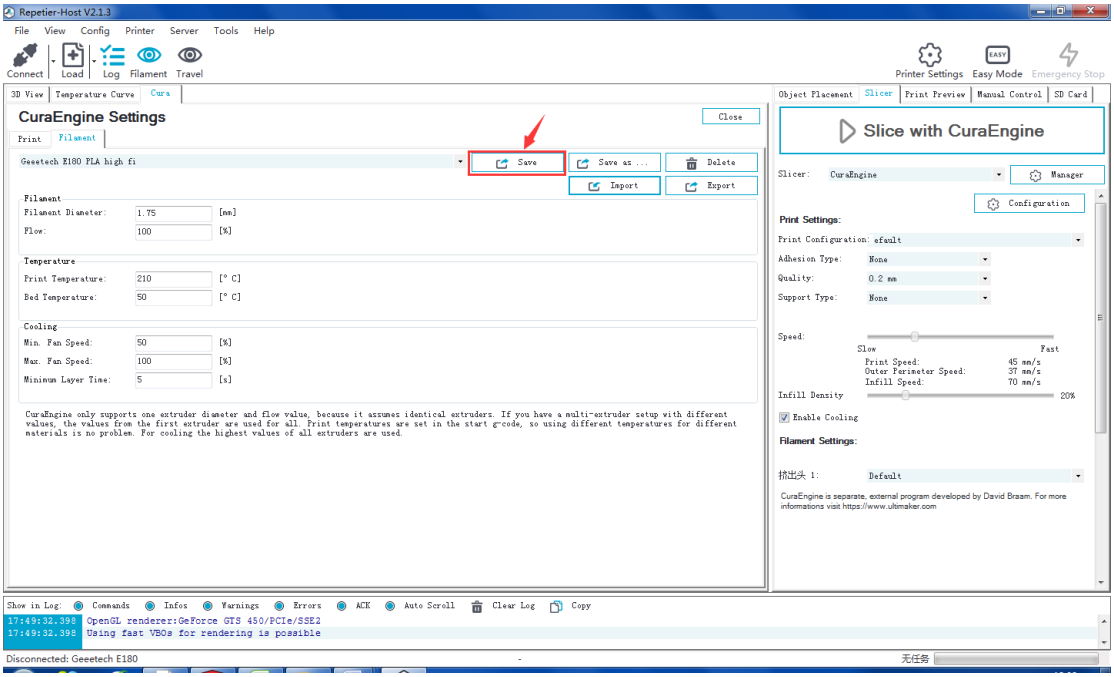
(Picture 5-16)

It pops up dialog as below (Picture 5-17); choose **“Geeetech E180PLA high fi.rcf”** and open it.



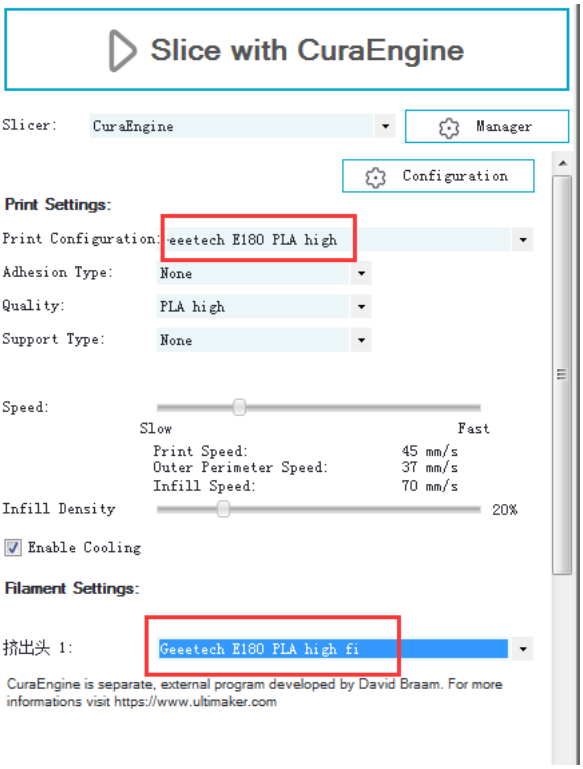
(Picture 5-17)

Now, the configuration file is imported. Click **"Save".** See picture (5-18).



(Picture 5-18)

Choose **"Geeetech E180 PLA high"** as print configuration and **"Geeetech E180 PLA high fi"** as printing material setting. Details see picture (5-19).



(Picture 5-19)

Now parameters settings are finished.

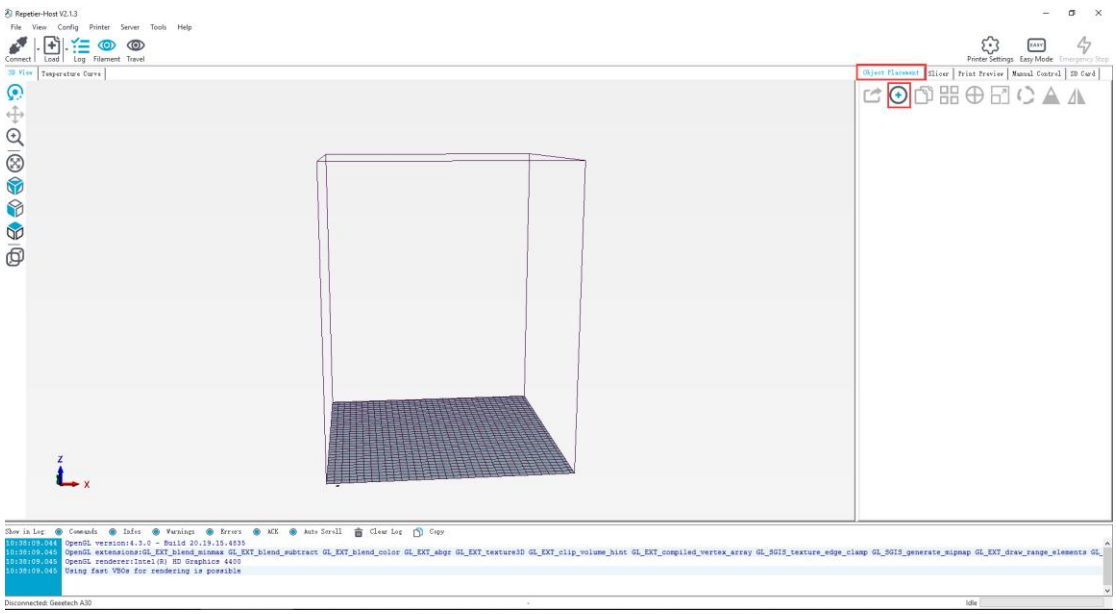
5.3 USB printing

You can start USB printing when the parameters setting finished.

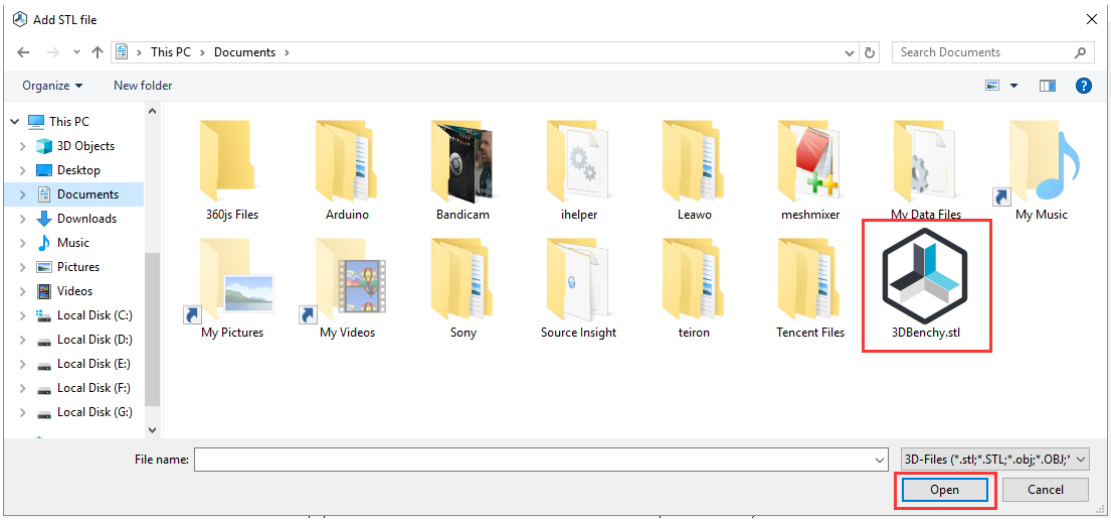
The model file format is .stl for 3D printer. You can download free models from websites such as thingiverse. You can also design your own models.

1) Load the printing model

Open the Repetier-Host and click **"load".** Choose a file and open it. See picture(5-20),(5-21).

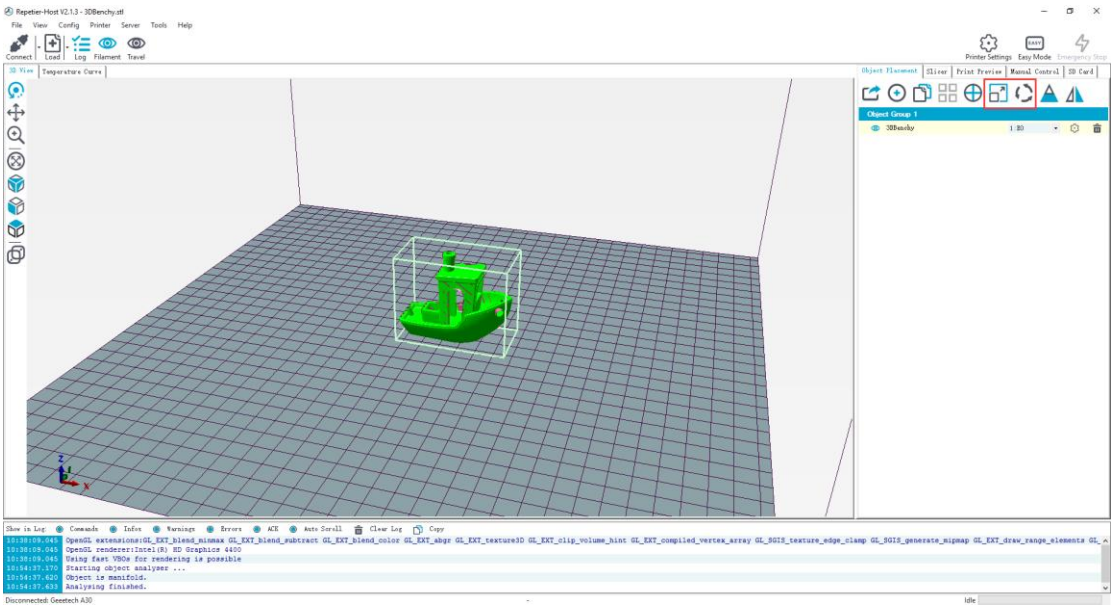


(Picture 5-20)



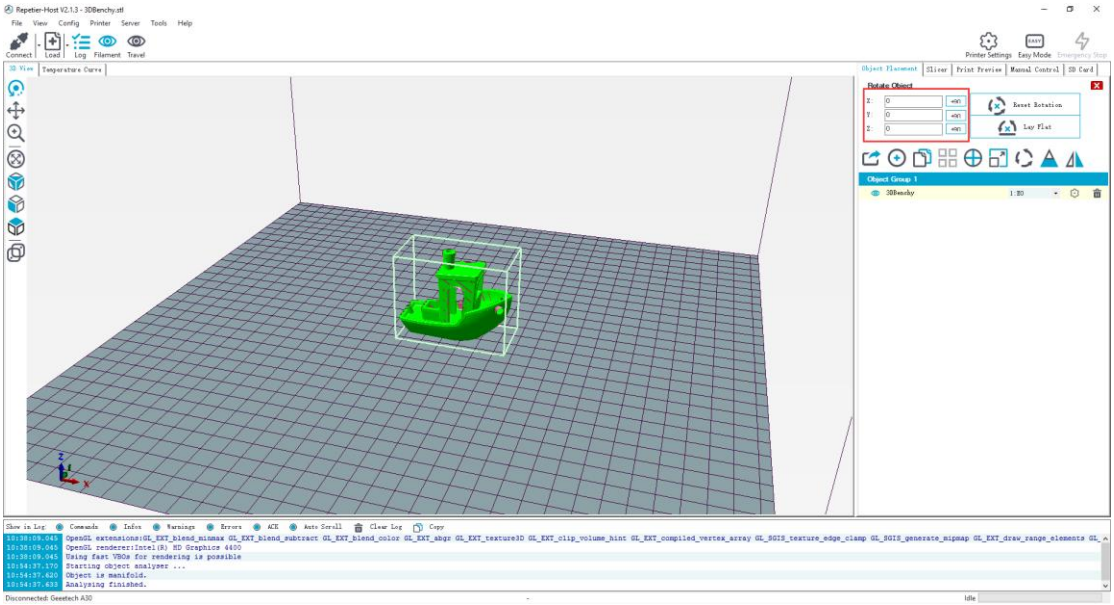
(Picture 5-21)

When model is loaded, you can use the buttons at picture (5-22) to zoom in, zoom out or rotate the model.



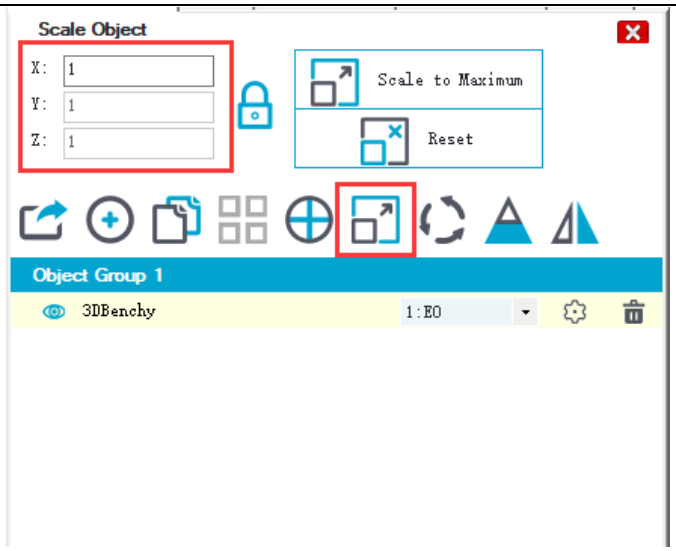
(Picture 5-22)

Adjust model's direction trying to let the model plane touch hot bed, which will make printing easier.



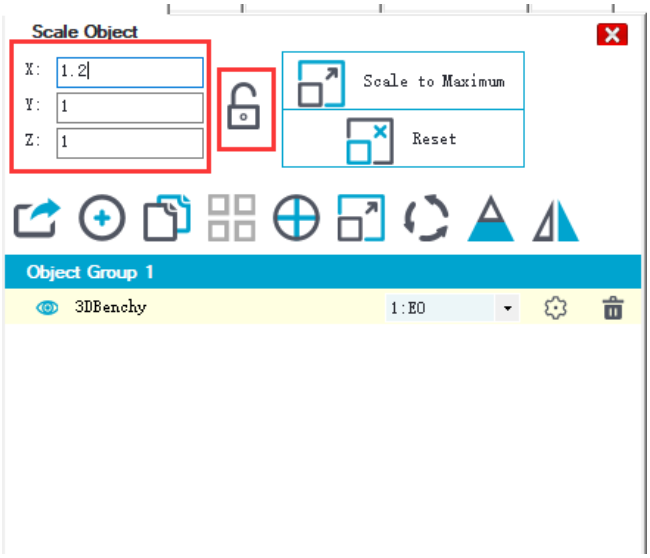
(Picture 5-23)

Note: If the model loaded is too big and beyond the printing platform, you need to zoom out the model. You can choose the X/Y/Z together, See picture (5-24).



(Picture 5-24)

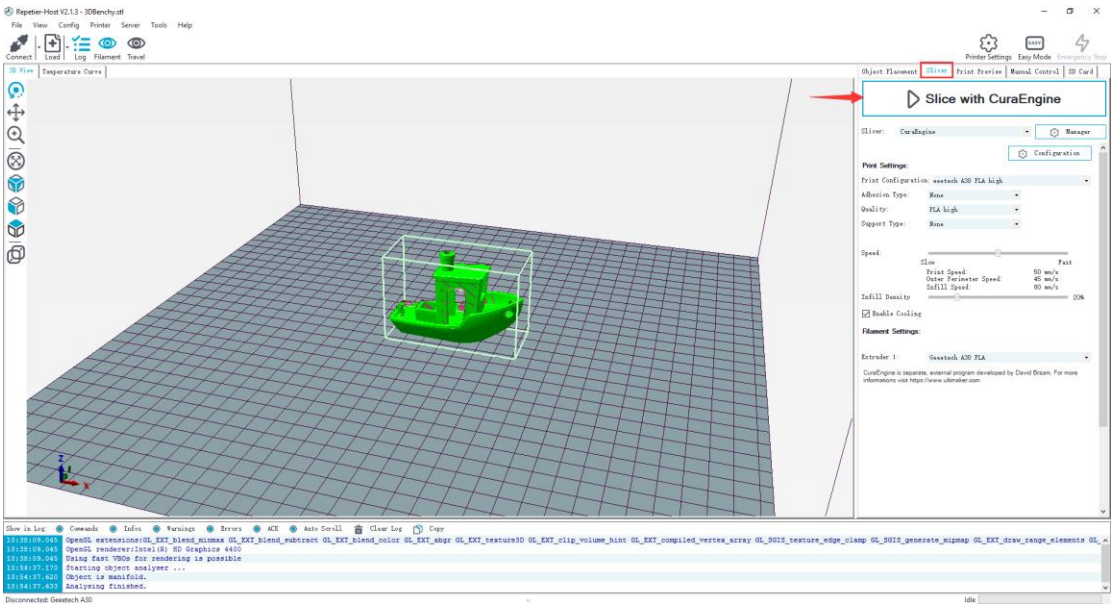
It can also be unlocked or zoom in/out them separately.



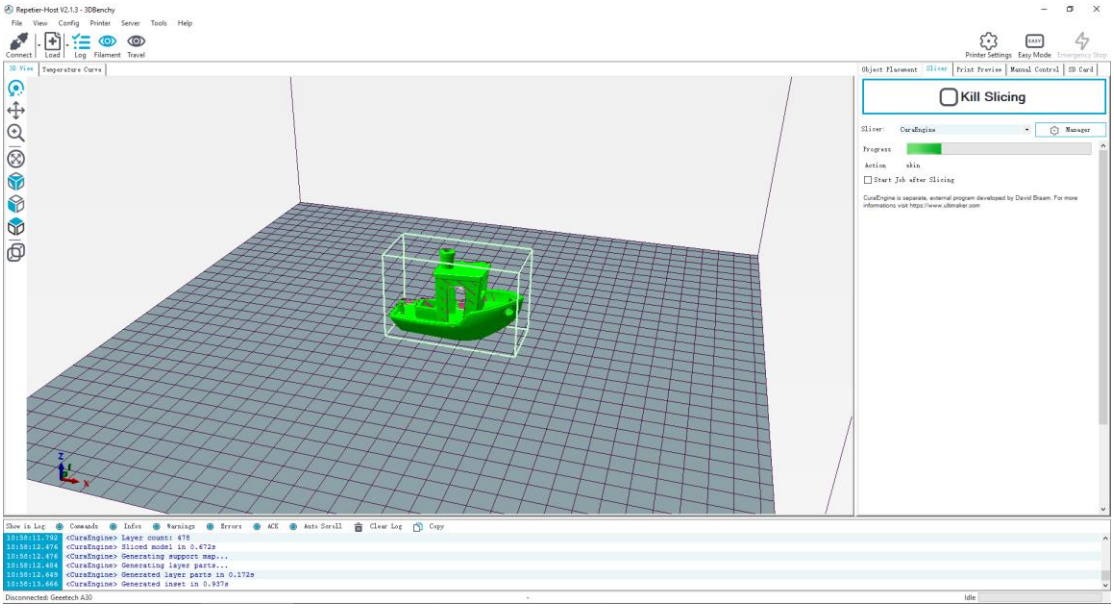
(Picture 5-25)

2) Model slicing

When the size and direction are set, choose the imported slicing parameter, and click **"Slice with Cura Engine".**



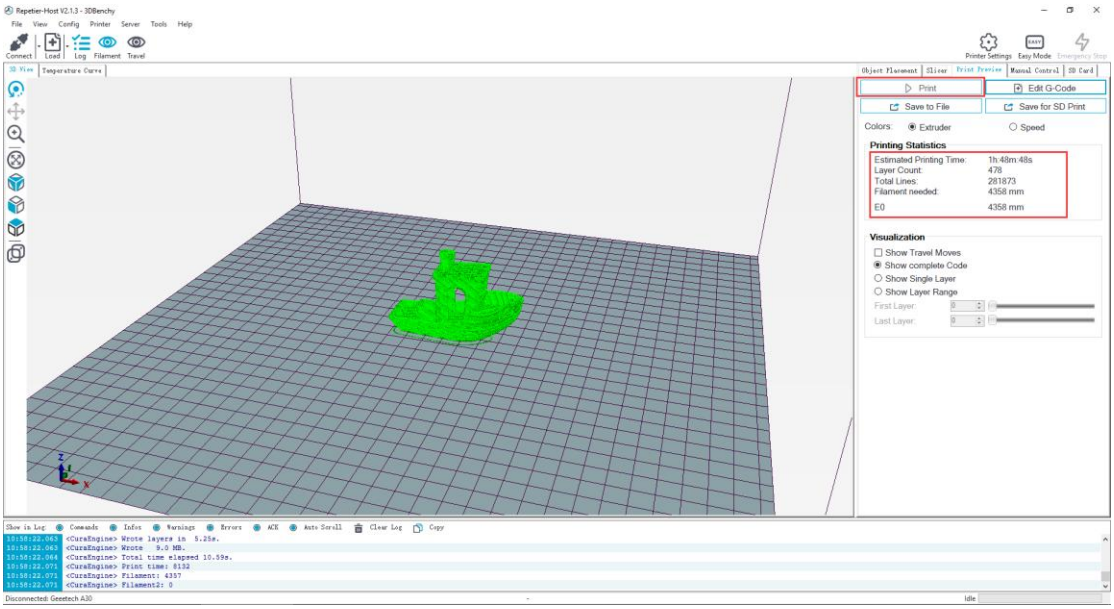
(Picture 5-26)



(Picture 5-27)

You can find the model information such as estimated time, the amount of filament needed, etc. Click **"Print"** to start USB printing.

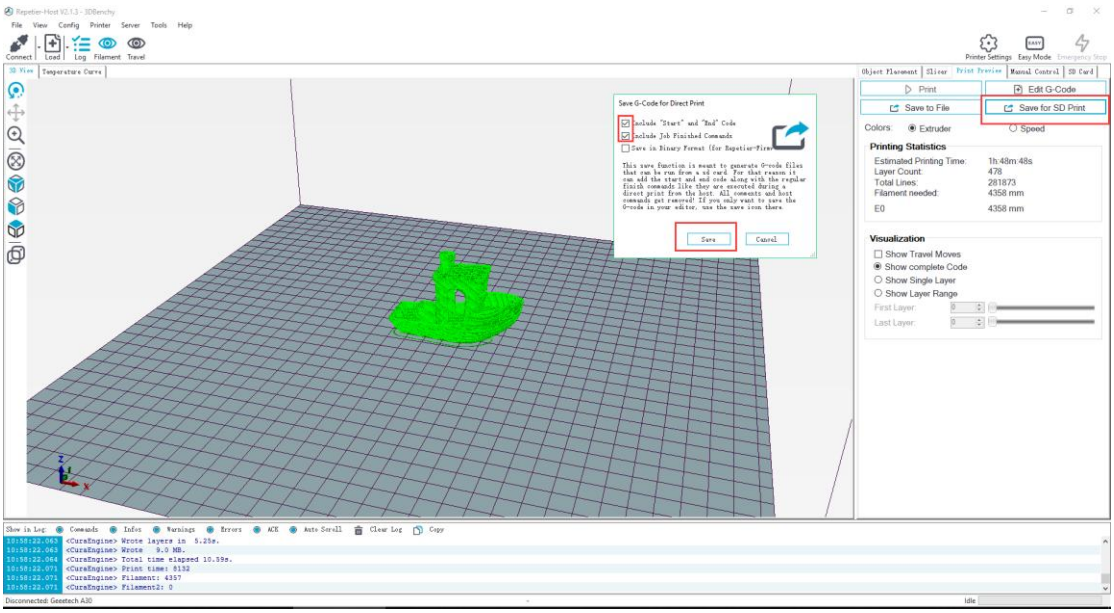
The printer will heat to the target temp and then start printing. Under high temperature, the filament will flow out of the nozzle, which is normal. You can use tweezers to clean up the residual material of the nozzle.



(Picture 5-28)

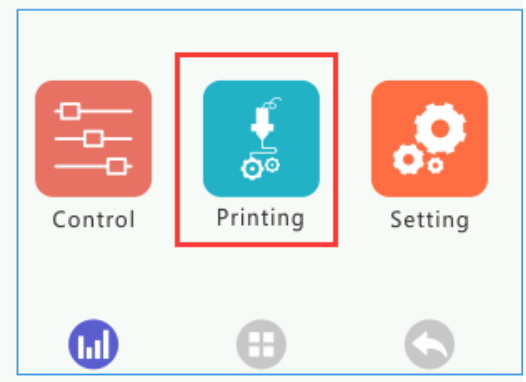
5.4 SD card printing

When all parameters are set, click **“Save for SD print”.** It will pop up a dialog, then click the save button to generate a .gcode file. Copy the gcode file to the TF card. See picture (5-29).



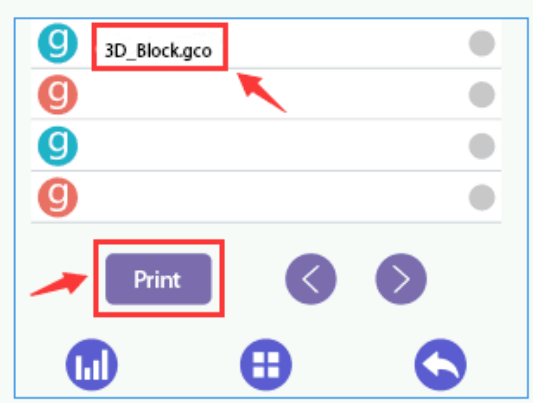
(Picture 5-29)

Insert the TF card into the slot. Press “printing” on the touch screen to enter the main menu. See picture (5-30).



(Picture 5-30)

Choose the corresponding gcode file to start printing. Click **"Printing"** and it will start printing automatically. See picture (5-31).



(Picture 5-31)

Note:

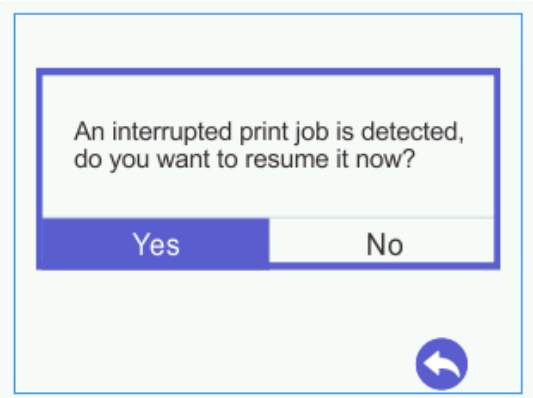
1) The printer can only read gcode file and the file name should be English letters, a space, an underscore or their combination.

2) The Gcode file cannot be placed in any folder of the TF card, otherwise it cannot be read.

6 Function introduction

6. 1 Power -resuming capability

E180 has the power loss-resuming capability. When power recovery starts, it will pop up a dialog to ask if continuing the unfinished print caused by power outage, choose “Yes” and it will resume printing. See picture (6-1).



(Picture 6-1)

When it reaches the target temperature, the X and Y axes will auto home. The extruder will extrude the residue in the nozzle. Use a tweezers to clean up the nozzle before starting printing again.

Note:

1) When power outage, move the nozzle away from the printing model in case the filament oozes out on to the print. In case the filaments in the nozzle overflow due to gravity, causing the model to have extra filament in the power-off position.
2) In order to ensure no obvious defects on the surface of the model after power-resuming. Be sure to clean the residue with tweezers in the nozzle before restarting the print, or it would affect the quality of the print.

7 Printing Parameters

Printing technology: FDM
Printing volume: 125*130*126mm^3
Printing accuracy: 0.05mm
Position precision: X/Y: 0.11mm Z: 0.0025mm
Printing speed: 80~110mm/s
Nozzle quantity: single nozzle
Nozzle diameter: 0.4mm
Filament diameter: 1.75mm
Filament: PLA

1) Temperature Parameters
Environment temperature: 10℃-40℃
Nozzle temperature: 230℃

2) Software Parameter
Operating system: Windows/Mac/Linux
Slicing software: Repetier-Host, EasyPrint 3D,Cura
File format: .gcode

3) Electrical Parameter
Power input: 110V/220V
Power output: 12V/7A
Connectivity: TF card, USB
Touch screen: 3.2 -Inch Full-color Touch Screen

4) Mechanical Parameter
Printer size: 284x156x320 mm^3
Package size: 374x267x386 mm^3
Net weight: 4.5kg
Gross weight: 6kg

8 Contact

Official site: https://www.geeetech.com/

Facebook Group:

Email us for technical support: https://www.geeetech.com/contact_us.html

9 FAQ(Frequently Asked Questions)

9.1 Abnormal extrusions

1) The filament is tangled. The nozzle temp is too low to reach the melting temperature required.
2) There is carbonized residue inside the nozzle, please use another nozzle.
3) Insufficient heat dissipation of radiator of the extruder head causes the filament in the tube to melt in advance and the extrusion strength is insufficient. Please check whether the cooling fan works normally.
4) The slicing speed is so fast that the nozzle speeding can't match it. Please reduce the printing speed.

9.2 The gear of the extruder skips and makes an abnormal noise

1) The nozzle is clogged; please refer to **9.1 abnormal extrusions.**
2) Check whether the friction force between the extruder gear and the filament is enough. Please clean the residue.
3) Check whether the voltage of the driver (Vref) of the extruder is normal, and try to increase it by 0.1v until it works normally.

9.3 First layer abnormal

1) Non-stick: the nozzle is too far from the hot bed. Please re-level the bed; or try to stick masking paper or glue stick on the surface of the hot bed.
2) Not extruding and the bed scratched: a. the nozzle is too close from the hot bed. Please re-level the bed; check if the nozzle extrusion normal.

9.4 Layer shift

The printing speed is too fast. Please slow it down.
2) The belt of X or Y axis is too lose. Please tighten it.
3) The X or Y axis synchronization wheel is not fixed firmly. Please adjust the eccentric nuts.
4) The voltage of the driver of X/Y axis is too low.

9.5 Print stopped

1) USB printing: the signal is interfered. Please copy the model to TF card and print via TF card.
2) TF card printing: the gcode file in the TF card is abnormal, please slice again.
3) The quality of the TF card is poor. Please try another TF card.
4) The power supply voltage in the area is not stable; please print after the voltage is stable.

Visit our official forum for more information
http://www.geeetech.com/forum/viewtopic.php?f=98&t=61864)

10 Declaration

10.1 Terms

Please be advised of the following terms (the "Terms") regarding this User Manual (this "Manual"):
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