

Lerdge-iX Q&A

Content

Q: Is the cantilever structure of Lerdge-iX stable?	3
Q: Why doesn't Lerdge-iX use linear guides?	3
Q: Why does the Z-axis lead screw not use an anti-backlash nut?	3
Q: How capable are the model cooling fans of the Lerdge-iX?	4
Q: Why doesn't Lerdge-iX use springs as the support feet of the hot bed for the purpose of leveling?	4
Q: Does Lerdge-iX support auto-leveling function?	4
Q: Is the movement of the profile with the pulleys stable?	5
Q: What should I do if the pulley is worn out?	5
Q: How to adjust the tension of X-axis and Y-axis belts?	5
Q: What should I do if the belt makes a screeching sound of “da”, “da” and “da” when the X and Y axes move?	6
Q: After pressing the power-on metal switch, what should I do if the screen automatically turns off after a while?	6
Q: What should I do if it prompts that the power failure when the printer is turned off?	6
Q: What should I do if the endstop does not work?	7
Q: What should I do if the printer cannot go home?	7
Q: What should I do if the motor does not move?	8
Q: What should I do if the direction of the motor is wrong?	9
Q: What should I do if the motor does not move smoothly, and the vibration is very large?	9
Q: No matter how the Z-axis screw is adjusted, there is always a sharp metal noise when the X-axis cantilever moves down the Z-axis direction?	9
Q: What should I do if the prints cannot stick to the printing platform?	9
Q: What should I do if the print head does not spit out filament?	10
Q: What should I do with the filament drawing during the printing process?	11
Q: What should I do if there are bumps on the surface of the print?	11
Q: What should I do if the size of the print is wrong?	11
Q: What should I do if the Z-axis layers of the prints are uneven?	12
Q: What should I do if there is a dislocation layer in the print?	12
Q: How to eliminate the water ripples in the X-axis and Y-axis directions of the model?	13

Q: What should I do if the system does not recognize the U disk or TF card?	13
Q: what should I do if the printer stops printing or prompts a memory error during printing?	14
Q: What should I do if the hot end shows that the temperature is 0 or more than 300 degrees? ...	14
Q: What should I do if the system prompts that the temperature measurement is wrong or the power is insufficient?	14
Q: What should I do if the hot end cannot be heated?	15
Q: What should I do if the hot end starts heating automatically as soon as the printer is turned on?	15
Q: What should I do if the temperature of the hot end is unstable?	15
Q: What should I do if the filament cannot be fully loaded or unloaded?	16
Q: What should I do if the system prompts that the materials are exhausted even though there are still materials?	16

Q: Is the cantilever structure of Lerdge-iX stable?

A: This problem is relative. For the Lerdge-iX's printing space, the cantilever structure is stable enough.

All sliders on the Lerdge-iX are made of 6mm bakelite, which is a kind of non-metal with high mechanical strength and can provide good rigidity for the Lerdge-iX frame. And the counterweight of the cantilever is also considered when designing the cantilever of Lerdge-iX. The center of gravity of the entire cantilever is always kept within a small range, and there will be no large center of gravity shift and resonance jitter when the X-axis slider moves on the cantilever, which further ensure the stable movement of the X-axis slider on the cantilever. The actual printing effect is also a good proof of the stability of the cantilever structure in the Lerdge-iX.

Q: Why doesn't Lerdge-iX use linear guides?

A: Linear guides are usually used in heavy-load or high-speed motion systems. Lerdge-iX is a light-load and low-speed motion system as a desktop 3D printer. The linear guides cannot significantly improve the printing quality and performance of Lerdge-iX. Compared with the pulley used by Lerdge-iX, the advantage of linear guide is only that there is no need to adjust the engagement between the pulley and the profile after the first installation.

Secondly, the characteristic of the linear guide is to ensure the straightness during long-distance movement. For the 180mm travel space of the Lerdge-iX 3D printer, the straightness of the aluminum profile has no problem at all. Therefore, the solution of aluminum profiles with pulleys is no worse than the solution of linear guides in terms of the accuracy of linear motion. Considering the cost, appearance and performance, the use of profiles with pulleys is the most suitable solution.

Q: Why does the Z-axis lead screw not use an anti-backlash nut?

A: The lead screw transmits motion through sliding friction, so the assembly of the lead screw and the nut requires a certain clearance, otherwise the nut cannot move smoothly. The principle of the anti-backlash nut is to keep the lead screw and the nut in a preloaded state at all times through the spring to ensure that the rotary motion of the lead screw can be accurately and timely converted into the linear motion of the nut, avoiding the movement error of the nut and the lead screw due to the assembly gap. In the Z-axis direction, the downward weight of the X-axis cantilever has already made the preloading state of the lead screw and the nut due to the action of gravity, which has achieved the effect of anti-backlash nut, so there is no need to use an anti-backlash nut.

Q: How capable are the model cooling fans of the Lerdge-iX?

A: Lerdge-iX match the 4020 turbo fan with 5000 RPM by default, taking into account the air volume and noise. It can achieve 30° angle overhang printing and 50mm bridging capability. you can upgrade the 9500 RPM high-volume eddy current fan If you need to achieve a larger angle of overhang printing and a longer distance bridging ability, but the fan runs noisy.

Q: Why doesn't Lerdge-iX use springs as the support feet of the hot bed for the purpose of leveling?

A: Here is a direct conclusion: the use of springs as four support feet of the hot bed to leveling is an outdated structure with imperfect software technology of the previous generation. The reasons are as follows:

1. When the four corner of the hot bed are supported by springs, the hot bed and the Y-axis slider are not hard-connected. The hot bed will be slightly deformed when you remove the model or printing platform from hot bed, resulting in the original leveling failure.
2. During leveling, one support foot that has been adjusted will also change when other support feet are adjusted due to the inherent connection of the hardware, which makes the leveling process difficult and needs to be repeated many times.
3. Since the hot bed is adjusted with reference to the position of the print head above each support foot, the force of the hot bed may be inconsistent on each foot. The hot bed is deformed due to its uneven force after the hot bed is heated during the printing process, and you have to fine-tune before each print, making the leveling process very tedious.

Lerdge-iX realizes real-time firmware algorithm compensation for leveling. The hot bed is hard-connected to the slider to solve all the above problems. And the Lerdge-iX supports real-time fine-tuning of Z-axis compensation during printing, realizing the effect of one adjustment and printing all the time, which is more convenient to use and easier to maintain.

Q: Does Lerdge-iX support auto-leveling function?

A: The control system of the Lerdge-iX supports the auto-leveling function, but the Lerdge iX is not equipped with an auto-leveling module as standard.

If you are a novice user, we recommend that you start with the manual leveling method, which is actually very simple and works well. You only need to observe the distance between the nozzle and the printing platform at each testing point when manually leveling. However, when using automatic leveling, you need to connect the probe and the board by yourself, and need to accurately set the offset between the nozzle and the probe in the display. The actual probed point

will deviate from the calculated compensation point if the offset setting is not accurate enough, and the leveling effect may not be satisfactory; secondly, the triggering accuracy of the probe is a common problem. The effect of automatic leveling is not better than manual leveling if the repeated triggering accuracy of the probe has a large error.

The design concept of Lerdge-iX is one-time leveling, long-term use. And it does not need to perform the leveling process every time before you start printing. So compared to the manual leveling, the convenience brought by automatic leveling is compared with its complicated debugging, not all users can accept. Therefore, auto-leveling is limited to master players to upgrade by themselves.

Q: Is the movement of the profile with the pulleys stable?

A: The pulleys roll and slide on the aluminum profile, which will cause certain wear and tear to the pulley. The pulleys of Lerdge-iX use POM material, which is a non-metallic material with relatively high mechanical strength. It can ensure the stable operation of each pulley on the Lerdge-iX. However, it must make sure that the pulleys motion on the slider is in rolling friction rather than sliding friction when each slider is in motion.

Q: What should I do if the pulley is worn out?

A: There are two types of rolling wear of the pulley, one is rolling wear and the other is eccentric wear. For rolling wear, the wear occurs evenly on the surface of the pulley, you just need to adjust the engagement between the pulley and the profile by rotating the eccentric nut. If the pulley does not run smoothly, sliding friction occurs, resulting in eccentric wear, that is, the wear of a certain position of the pulley is severe, and the pulley needs to be replaced at this time.

Q: How to adjust the tension of X-axis and Y-axis belts?

A: The Lerdge iX 3D printer drives the X-axis and Y-axis sliders to move through the belt. The tightness of the belt directly determines the accuracy of sliders movement. The too loose belt can cause the reversing resonance of the slider and fail to transmit precise motion, resulting in the strange texture or the loss of details on the surface of the print model. The too tight belt will increase the reversing resistance of motor, leading to reverse step loss and the wrong layer of print model. So, Lerdge iX has been designed the tension adjustment knobs for both X and Y axes belts: Rotating the knob clockwise can tighten the belt, and rotating the knob counterclockwise can loosen the belt.

Firstly, make sure that the X and Y axis motors are unlocked and can rotate freely when adjusting the belt. Then move respectively the X-axis slider back and forth by hand to observe the tightness of the connection between the belt and the sliders. At the same time, rotate the X-axis adjustment knob, until the belt is just not deformed well when the X-axis slider is reversing during the movement. And then it can be adjusted a little tighter on this basis, about one-tenth more of circle.

Adjust the Y-axis belt tightness in the same way as above.

Q: What should I do if the belt makes a screeching sound of “da”, “da” and “da” when the X and Y axes move?

A: This problem is caused by the eccentric wear of the edge of the belt and the guide bearing. It can be solved by fine-tuning the fixed position of the belt on the slider or fine-tuning the position of the motor's synchronous wheel to reduce the left and right offset of the belt in the entire stroke of the slider. Or add a 0.5mm thick spacer between the two guide bearings of the belt, and increase the width of the two guide bearing ribs to solve the problem.

Q: After pressing the power-on metal switch, what should I do if the screen automatically turns off after a while?

A: This case is caused by the system not being fully powered on. The capacitance at system startup is relatively large in order to successfully save data in case of unexpected power failure, and the startup capacitance of the power supply needs to be charged when the system is started. Therefore, do not let go immediately after pressing the metal switch when starting up, hold it until you hear a "click" sound from the power management module, and then release the metal switch to successfully boot.



Q: What should I do if it prompts that the power failure when the printer is turned off?

A: At this time, please check the pressing feel of the metal switch on the side of the display. Usually you cannot feel the segmental feeling of pressing the metal switch in this case, but only a soft feeling of pressing it to the end. This case is usually caused by the sticking of the contacts inside the metal switch, which may be caused by the voltage instability or the accumulation of static electricity when the switch is turned on. You can vibrate the metal switch or quickly press and release the switch several times until you can clearly feel the segmental sense when the metal switch is pressed.



If you can feel the normal segmental feeling when pressing the metal switch, you need to check whether the cable (3pin cable with P mark) of the board and the power management module is connected reliably, whether the blue cable socket of the metal switch is plugged stably, whether the cable of the metal switch and the power management module are connected reliably.

Q: What should I do if the endstop does not work?

A: First, move the slider of each axis to the position where the endstop of each axis is not triggered. Enter the endstop setting interface, directly trigger the endstop of X-axis and Y-axis in turn with your fingers, and observe the endstop trigger status on the LCD screen to see if the following descriptions are met:

- ✓ When the finger triggers the endstop, the icon in front of the endstop setting item is ".
- ✓ When the finger released the endstop, the icon in front of the endstop setting item is ".

For the optical endstop of Z-axis, you can find a piece of paper and insert it into the photoelectric slot to trigger it. When the paper is inserted, the green indicator light on the optical endstop will be lit. Observe whether the endstop trigger status icon meets the following table:

- ✓ After the paper is inserted into the photoelectric slot, the green light on the optical endstop is on, and the icon in front of the endstop setting item is ".
- ✓ After the paper is removed from the photoelectric slot, the green light on the optical endstop is off, and the icon in front of the endstop setting item is ".

If the green indicator on the optical endstop module cannot be turned on when the paper is inserted into the photoelectric slot, please check whether the wiring of the optical endstop is correct and stable, and whether the cable is damaged.

If the icon display and operation are reversed, it proves that there is an error in the setting of the endstop. You can adjust the wiring mode and trigger mode options of the endstop according to the actual usage. There are 4 combinations in total, and users who do not understand can try one by one. Try until you meet the trigger description above. Lerdge-iX printer default limit switch settings are as follows:

- ✓ **X-axis:** Wiring Mode: Normally Closed; Trigger Mode: Low Level
- ✓ **Y-axis:** Wiring Mode: Normally Closed; Trigger Mode: Low Level
- ✓ **Z-axis:** Wiring Mode: Normally open; Trigger Mode: High Level

If there is no change in the icon before the endstop option in the display during operation, it may be that there is a problem with the wiring of the endstop, or the endstop itself is faulty. You can try to check the wiring or replace the endstop.

Q: What should I do if the printer cannot go home?

A: First, judge whether the endstop function of each axis is normal, and refer to the article of "What should I do if the endstop does not work?". When the endstop can be triggered normally by hand, move the slider of each axis, use the slider to trigger the endstop, and judge whether the

endstop can be effectively triggered by the slider.


For the X and Y axes, if the slider fails to trigger the endstop, it is usually due to limited movement or damage to the endstop. Please check whether the slider of X and Y axes moves smoothly. Please replace the endstop if the endstop is damaged.

For the Z-axis, you need to adjust Z-axis home adjuster first to ensure that the probe on the Z-axis homing adjuster can extend more than halfway into the optical slot before the print head hits the hot bed:

1. Due to some assembly errors, the Z-axis homing probe may not trigger the Z-axis endstop normally even if it has been inserted into the photoelectric slot. At this time, loosen the fixing screw of the Z-axis homing probe, and then swing the Z-axis homing probe left and right to find the position where the Z-axis homing probe can normally trigger the optical switch, and then tighten the fixing screw.
2. If the nozzle has been pressed against the printing platform when the Z-axis is homing, but the Z-axis homing probe has not yet protruded into the slot of the optical endstop, you need to adjust Z-axis origin position (Please refer to the [usage steps NO.10](#)). Make sure that the Z-axis homing probe can trigger the Z-axis optical endstop before the print head touches the print platform.
3. If the printer is used in an environment with strong natural light, the Z-axis optical endstop may fail. Please move the printer to an environment that avoids direct sunlight, because the infrared rays in the sunlight will cause the optical endstop to fail.

Q: What should I do if the motor does not move?

A: First, determine whether the motor can be locked, so as to judge whether the motor wiring is normal. Enter the control interface and click the motor lock option, and make sure the small lock

on the motor icon is the lock icon . At this time, rotate the output shaft of the motor by hand to check whether the output shaft of the motor can rotate. If it cannot rotate, it proves that the motor can be locked normally. The motor wiring and motor driver can work fine.

If the motor output shaft can still rotate easily, it proves that the motor wiring is bad or the motor driver is faulty. At this time, please check whether the motor wiring terminals are in good condition, whether the wiring is stable, whether the motor wire is damaged, and whether the wiring between the motor and the main board is correct.

If you are sure that the wiring is correct, it may be a problem with the driver. Usually, all motors do not have problems at the same time. You can try to replace the driver corresponding to the problematic motor with other motor drivers without problems, and check again whether the problem can be solved. It proves that the driver is faulty and the driver needs to be replaced if the problem can be solved by swapping the driver. There may be other problems at this time if the

problem still cannot be solved after replacing the driver, please contact customer service for specific judgment and solution.

Q: What should I do if the direction of the motor is wrong?

A: If the motor runs in the wrong direction, it may be that the wire sequence of the motor cable is reversed. You can adjust it by the motor direction setting option in the motor settings. It can also be solved by directly adjusting the motor line sequence.

Q: What should I do if the motor does not move smoothly, and the vibration is very large?

A: This usually happens when you have replaced the motor or motor driver of other manufacturers. The original motor cable of Lerdge-iX is matched with the motor and motor driver. If the motor or motor driver is replaced, the wire sequence of the motor wire may not match the output of the motor or motor driver. This requires adjusting the wire sequence of the motor cable according to the motor interface and the output of the motor driver. Experienced users can use pointed tweezers to re-adjust the wire sequence of the motor cable.

If the problem still occurs when using the original motor, cable and driver, please check whether the motor cable connector is damaged, whether the connection between the cable and the motor and the motor socket on the board is stable and effective, and whether the cable itself is damaged.

Q: No matter how the Z-axis screw is adjusted, there is always a sharp metal noise when the X-axis cantilever moves down the Z-axis direction?

A: The lead screw of Lerdge-iX is equipped with the copper nut. The lead screw may resonate and produce sharp noises since the direction of movement is consistent with the direction of gravity during the downward movement of the X-axis cantilever. There are two solutions, apply some grease or Vaseline to the lead screw, or replace the lead screw nut with POM material.

Q: What should I do if the prints cannot stick to the printing platform?

A: The default printing platform of Lerdge-iX is PEI, which is currently the most suitable printing platform and is loved by the majority of users, but this PEI is not omnipotent and cannot be adapted to all filaments. For the different types and formulations of filaments, the adhesion effect to the platform is different.

When the first layer of printing cannot stick to the platform well:

1. Consider increasing the temperature of the platform in the slicer when printing the first layer, reduce the thickness of the first layer, increase the discharge flow of the first layer, reduce the printing speed of the first layer, disable first layer cooling, or add model side skirts.
2. In the process of printing the first layer, adjust the Z-axis fine-tuning compensation to reduce the distance between the nozzle and the printing platform, and improve the adhesion of the filament.
3. If some areas of the printing area can stick to filaments, but some areas cannot, you can try to clean the printing platform. It may be that there is a lot of grease or other substances on the platform after it is touched by your hands.
4. Re-level the print platform.
5. The above methods cannot solve the problem, you can try to apply solid glue or stick masking tape on the printing platform. When selecting solid glue, remember to buy PVP formula, PVA formula solid glue has no effect.

Q: What should I do if the print head does not spit out filament?

A: The clogging of 3D printer nozzles is one of the most common problems that all users encounter, and there are various reasons for clogging. Common reasons are as follows:

1. There are impurities in the filament, and the impurities are larger than the diameter of the nozzle, causing the nozzle to be blocked;
2. The heat dissipation of the print head is not good, and the filament expands in advance before entering the nozzle, which cause the clogging of nozzle. Usually the reason for this is: (1) The small square fan on the side of the print head is assembled in the opposite direction. The correct transfer direction of this small fan should be that it blows air to the inside, not blows air to the outside; (2) The wiring is unstable, and there will be poor contact during the movement of the X-axis, which will cause it to stop working.
3. The printer is forced to shut down when the temperature is high, and the cooling fan have to stop working. The residual temperature of the heating block melts the filament in the heat-break, resulting in plugging;
4. The diameter of filaments in the same roll varies greatly, some are thick and some are thin, and filaments with thick diameters cannot be fed normally;
5. Some lipids in the filament remain in the heat-break of the print head after long-term use, which will increase the feeding resistance over time, and eventually cause clogging.

When the printing nozzle is blocked, first check whether it is caused by filament. Please replace the filament with a better quality if it is a filament issue. Just clean or replace the heat break and

print nozzle if it is not a filament issue.

Q: What should I do with the filament drawing during the printing process?

A: Different filaments require different printing temperatures. The prints will be drawn if the temperature is too high or too low. You can find a more suitable printing temperature by testing multiple times at 5°C intervals. You can also increase the retraction length and retraction speed in the slicer to solve this issue. Similar drawing will arise if the filament is damp, impure, and of poor quality.

Q: What should I do if there are bumps on the surface of the print?

A: Usually this problem is caused by the fact that the print head cannot retract the filament in time at the position where it needs to stop extruding the filament, or the temperature of the print head fluctuates too much and the print head leaks the filament.

Firstly, observe whether the temperature of the print head is stable at the target temperature during the printing process. Normally, the system can control the temperature within the range of the target temperature $\pm 0.5^{\circ}\text{C}$. If the temperature fluctuation is too large, please check whether the wiring of the thermistor and the heating tube is stable, and whether there will be a large temperature change due to the movement of the print head. Then re-execute the PID auto-tuning to re-tune the temperature control parameters. When the temperature is stable, increase appropriately the E-axis retraction length and retraction speed in the slicer.

In addition, it may also be caused by bubbles and moisture or other quality problems in the filament. In this case, it is recommended to replace other brands of filament.

Q: What should I do if the size of the print is wrong?

A: First check whether the synchronous wheel and lead screw connected to the motor are stably locked, whether the assembly direction of the synchronous wheel on the output shaft of the motor is correct, and whether the tension of the belt is properly adjusted. In addition, the size of the print is only related to the step value of the motor. If the size of the print is wrong, usually the step value of each axis is not set correctly. In the case of not replacing any driver, motor and transmission accessories of Lerdge-iX, please go to the step value setting interface in the display to check and set the following step values:

- ✓ X-axis step value: 80
- ✓ Y-axis step value: 80
- ✓ Z-axis step value: 400
- ✓ E-axis step value: 92.5

Please recalculate the step value according to the following formula if you have replaced the driver,

motor or transmission accessories of the Lerdge iX. The specific calculation method is as follows:

- ✓ Synchronous wheel: $\text{step value} = (360 / \text{step angle of stepper motor}) * \text{microstep number} / \text{circumference of synchronous wheel}$
- ✓ Lead screw: $\text{step value} = (360 / \text{step angle of stepper motor}) * \text{microstep number} / \text{the lead of screw}$
- ✓ Extruder: $\text{step value} = (360 / \text{stepper motor step angle}) * \text{microstep number} / \text{circumference of extruder wheel}$

Step angle of stepper motor: 1.8 or 0.9, the specific value can consult the motor manufacturer or refer to the motor specification;

Microstep number: determined according to the jumper cap in the motor driver seat of the board and the motor driver model together;

Circumference of synchronous wheel or extrusion wheel = $3.1415926 * \text{diameter of wheel}$;

Screw lead: consult the screw manufacturer or refer to the screw specification.

Note: If you use an extruder with a reduction ratio, the step value of the E-axis extruder also needs to be multiplied by the reduction ratio.

Q: What should I do if the Z-axis layers of the prints are uneven?

A: Z-axis layering of prints printed by Lerdge-iX is uneven or periodic abnormal layering occurs, usually due to the poor concentricity of Z-axis motor, screw and screw-nut assembly, resulting in it is more stuck when the Z-axis screw rotates to certain positions, and it is smoother at other positions. This phenomenon is more obvious when the X-axis cantilever descends closer to the Z-axis motor. This problem can be solved by adjusting the locking position of the Z-axis motor, so as to achieve the effect of adjusting the concentricity of the assembly of the lead screw and the lead screw nut. For specific operation methods, please refer to this tutorial: [Adjust the verticality and concentricity of the Z-axis lead screw](#)

Q: What should I do if there is a dislocation layer in the print?

A: First observe in which direction the dislocation layer occurs.

If the dislocation layer occurs randomly on the X and Y axes:

1. Make sure that the motor driver is pasted with a heat sink, the driver cooling fan is assembled in the correct direction, and the fan should blow air to the driver instead of exhausting air.
2. Check whether the synchronizing wheels of the X and Y axis motors are tightened with screws,

whether the assembly position of the synchronizing wheels is correct, and whether there will be belt eccentric wear or tooth skipping;

3. Check whether the tension of the X and Y axis belts is appropriate. Too loose or too tight belt will lead to different degrees of lost steps, resulting in staggered layers;
4. Check whether the cooling fan of the print head model is working normally. The floating structure of the print may be curled when the heat dissipation of the model is insufficient. When the print head moves past this curled part, the impact or scratching to the curling position may cause a certain axis to lose steps and cause dislocation.

If the dislocation layer only occurs in the X-axis direction:

1. Check whether the X-axis motor cable connection is reliable, and whether it will cause poor contact due to the overall up and down movement of the X-axis cantilever.
2. Check whether the cable will hang on the top of the lead screw or the top of the Z-axis profile when the X-axis slider moves, which will limit the movement of the X-axis slider.
3. If the user modifies the aluminum alloy metal plate, it is recommended to add non-metallic gaskets between the motor and the metal plate to insulate the motor and the metal frame to avoid electromagnetic interference.

If the dislocation layer only occurs in the Y-axis direction:

1. Check whether the pulley on the Y-axis slider will be hooked to the cable on the board;
2. Check whether the Y-axis motor cable connection is stable and reliable.

Q: How to eliminate the water ripples in the X-axis and Y-axis directions of the model?

A: For the water ripples in the X-axis and Y-axis directions, you can optimize the water ripples on the surface of the printed part by tightening the belt, reducing the mutation speed, and reducing the acceleration.

Q: What should I do if the system does not recognize the U disk or TF card?

A: The storage device used on the Lerdge-iX needs to meet the following conditions: the storage capacity is less than 128G, the single storage file is less than 4G, the storage file format is FAT32, and the USB protocol is compatible with USB1.0, USB1.1, and USB2.0. At present, the TF card has not found the compatibility problem of recognition. Most of the U disks can be recognized normally, and some non-brand or expansion U disks cannot be recognized.

Q: what should I do if the printer stops printing or prompts a memory error during printing?

A: If the printer stops printing during printing, but there is no prompt in display, the print head randomly stops at a certain position of the model, in this case it is usually possible that the Gcode file itself is damaged. You can insert the storage device into the computer, use the TXT software to open the Gcode file in the storage device, and then slide to the end of the Gcode file to check whether the content of the file is complete or garbled. Please format the storage device, and then regenerate the Gcode file to the storage device if the Gcode file is incomplete or garbled. If not, please report the problem to the Lerdge team.

If a memory error message pops up on the display, you can save the printing progress firstly while the Lerdge iX pauses printing, so that you can recover printing after the problem is resolved. Usually in this case there is a hardware error in the storage device, please format the storage device, and then copy the Gcode file again, and ensure that the path and name of the Gcode file in the storage device are the same as before, in this way, you can continue to print progress before failure.

Experience: At present, U disks on the market are designed for short-term use, especially metal U disks of no-name brands. Working for a long time may make the U disk extremely hot, resulting in loss of files or memory errors. Long-term stable printing cannot be guaranteed. For long-term printing, usually we recommend using a TF card or a USB card reader + TF card, and please use a high-quality card reader as much as possible.

Q: What should I do if the hot end shows that the temperature is 0 or more than 300 degrees?

A: If the real-time temperature of the hot end is displayed as 0 after power on, it means that the system does not recognize the temperature measurement signal of the hot end. If the real-time temperature of the hot end shows more than 300 degrees, it means that the hot end temperature measurement signal detected by the system has a short circuit. These conditions are abnormal. Please check whether the temperature measurement wiring of the hot end is correct, whether the cable interface is stable, whether the cable is damaged, and whether the temperature measuring tube is damaged.

Q: What should I do if the system prompts that the temperature measurement is wrong or the power is insufficient?

A: In order to prevent the dangerous temperature runaway problem, the system detects the temperature change every second when the hot end is running at full power. The system thinks

that there may be an abnormal temperature measurement if the system detects that the temperature rise per second is less than the set temperature protection threshold within 20 consecutive seconds (hot head: 0.5, hot bed: 0.2), or the temperature drops continuously for 20 seconds during the full power heating of the hot end. The system will close the heating output port of the hot end, and clear the target temperature setting value to ensure the safety of the hot end. You should check whether there is a problem of poor temperature measurement cable contact during the movement of the corresponding hot end, and solve such problems in time if this prompt appears in the system during the printing process.

Experience: The heating wire may be broken after a long period of use due to the frequent back-and-forth movement of the Y-axis drag chain although the heating wire of the hot bed uses ultra-soft silicone. Please pay attention to this problem and replace the heated bed heating wire in time.

Q: What should I do if the hot end cannot be heated?

A: First turn on the preheating of the hot end, and then observe whether the red indicator light next to the hot end interface on the board is lit. If the indicator light can be lit, but the hot end cannot heat up, the possible reason is that the wiring between the hot end and the board is not good or error, cable is damaged, or heating tube on the hot end is damaged.

Please check: 1. Whether the wiring is correct; 2. Whether the wire ends are stable and effective in the terminal; 3. Whether the cable is damaged or broken; 4. Whether the heating tube is damaged.

Q: What should I do if the hot end starts heating automatically as soon as the printer is turned on?

A: First, make sure that the preheating or heating function is not turned on at the hot end, that is, the data value of hot end temperature after the "/" on display is 0.

At this time, observe whether the red indicator next to the hot end interface on the board is lit. If the indicator light is on, turn off the power of the printer first to avoid the danger that the hot end will continue to heat up. Then check whether the wiring of the hot end and the power supply is correct. For example, the wrong wiring of connecting the power cable directly to the hot end interface. If the wiring is correct, it may be that the MOS tube that controls the hot end on the board is damaged, and the board needs to be sent to Lerdge Team for inspection and repairment.

Q: What should I do if the temperature of the hot end is unstable?

A: First, distinguish the case of temperature instability.

1. If the temperature can be stable when the print head is not moving, but the temperature will change suddenly when the print head moves during the printing process, which may be caused by the poor contact of the temperature measuring wire connector on the Z-axis drag

chain. Please re-plug the thermistor connector on Z-axis drag chain, adjust the cable, and try to ensure that the connector of the thermistor wire does not move frequently with the movement of the print head.

2. If the temperature does not stabilize even when the print head is not moving, you can try to perform automatic PID tuning to obtain new temperature control parameters.

Q: What should I do if the filament cannot be fully loaded or unloaded?

A: You can change the parameters about the filament replacement in the system settings. The default length of the refueling length is 550mm, and the default delivery tube length is 500mm when leaving the factory. Users can modify the relevant data, please refer to:

<https://www.lerdge.com/document/detail/ChangeFilament-Relatedparameters>

Q: What should I do if the system prompts that the materials are exhausted even though there are still materials?

A: In this case, the filament detection sensor is usually triggered by mistake. This may be caused by the smaller diameter of the filament or the wear of the blocking sheet of the filament detection module.

You can try to bias the filament in the direction of the sheet when loading it, or replace the filament detection module in the extruder. If you are printing small objects, you can temporarily unplug the signal cable of the filament detection module when the filament is sufficient to avoid the printing pause caused by accidental trigger.