Irfora K6

Irfora K6 3D Printer User Manual

Model: K6

Introduction

This user manual provides comprehensive instructions for the setup, operation, and maintenance of your Irfora K6 3D Printer. Please read this manual thoroughly before using the printer to ensure safe and optimal performance. The K6 is a compact FDM (Fused Deposition Modeling) desktop 3D printer designed for beginners, featuring a 100x100x100mm print size and a 2.4-inch touchscreen for easy control.

Safety Information

- Always operate the printer in a well-ventilated area.
- Keep hands clear of moving parts during operation.
- The extruder nozzle can reach high temperatures (180-230°C). Avoid direct contact to prevent burns.
- Ensure the power supply is disconnected before performing any maintenance or cleaning.
- Do not attempt to modify the printer. Use only original or approved replacement parts.
- Keep the printer away from water and humid environments.
- Supervise children when operating the printer.

Package Contents

Verify that all items listed below are included in your package:



Figure 1: Included components of the K6 3D Printer kit. This image displays the main printer unit, a USB cable, a TF card with a card reader, a filament holder, the power supply unit, a screwdriver, a set of screws, and a small coil of PLA filament.

- 1 x K6 3D Printer Unit
- 1 x USB Cable
- 1 x TF Card & Card Reader
- 1 x Filament Holder
- 1 x Power Supply
- 1 x Screwdriver
- Set of Screws
- 1 x 10M PLA Filament (color random)

Setup

Follow these steps to set up your K6 3D Printer for the first time.

1. Unpacking and Initial Assembly

1. Carefully remove the printer and all components from the packaging. Retain the packaging for future transport or storage.
2. Place the printer base on a stable, level surface.
3. Attach the gantry assembly to the base unit using the provided screws and screwdriver. Ensure all connections are secure.
4. Connect the necessary cables (e.g., extruder cable, limit switch cables) as shown in the diagram or video.

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Video 1: Easythreed K6 FDM 3D printer setup and operation. This video demonstrates the unboxing, simple assembly, filament loading, and initiation of a print job on the K6 3D printer.

2. Installing Filament Holder

1. Assemble the filament holder components.
2. Mount the assembled filament holder onto the designated slots at the top of the printer frame.
3. Place a spool of 1.75mm PLA filament onto the holder.



Figure 2: The K6 3D Printer with the filament holder securely attached to the top frame, ready for filament loading. A spool of white filament is shown mounted on the holder.

3. Power Connection

1. Connect the power adapter to the printer's power input port.

2. Plug the power adapter into a suitable electrical outlet.
3. Turn on the printer using the power switch, usually located near the power input.

Operating Instructions

1. Loading Filament

1. Ensure the printer is powered on.
2. From the touchscreen menu, navigate to the "Extrude" or "Preheat" option to heat the nozzle. The recommended temperature for PLA is 180-230°C.
3. Once the nozzle reaches temperature, gently feed the filament from the spool into the extruder's input hole until it catches the gears.
4. Select the "Load" or "Extrude" function on the touchscreen to automatically feed the filament through the nozzle until it comes out smoothly.



Figure 3: A detailed view of the extruder assembly, showing the filament path from the top-mounted spool into the hotend. This illustrates where the filament is fed for printing.

2. Preparing for Print (Leveling)

The K6 features a removable build platform. While the manual doesn't explicitly detail leveling, it's a crucial step for successful prints.

1. From the touchscreen, select the "Leveling" option. This will move the nozzle to various points on the print bed.
2. Use a piece of paper (standard printer paper thickness) between the nozzle and the print bed. Adjust the leveling screws under the print bed until there is slight friction when moving the paper.
3. Repeat for all leveling points to ensure the bed is uniformly level.



Figure 4: The K6 3D Printer with a sheet of paper positioned on the print bed, demonstrating the manual bed leveling procedure. The nozzle is positioned above the paper to check the gap.

3. Starting a Print

1. Prepare your 3D model using a slicer software (Easyware KS, CURA, Simplify3D). Save the file in .gcode format onto the TF card.
2. Insert the TF card into the printer's TF card slot.
3. On the touchscreen, select the "Print" option, then navigate to the desired .gcode file on the TF card.
4. Confirm your selection to begin the printing process. The printer will automatically preheat and start printing.



Figure 5: The K6 3D Printer in operation, actively printing a green dinosaur figurine on its build platform. This image highlights the printer's compact design and its ability to produce detailed models.



Figure 6: The K6 3D Printer showcasing its print volume by printing a yellow vase. The image emphasizes the 100x100x100mm print size, suitable for small to medium-sized objects.

4. Unloading Filament

1. From the touchscreen menu, navigate to the "Extrude" or "Preheat" option to heat the nozzle to the filament's printing temperature.
2. Once the nozzle reaches temperature, select the "Unload" or "Retract" function on the touchscreen. The printer will automatically pull the filament out.
3. Once the filament is fully retracted, gently pull it out from the extruder's input hole.

Maintenance

- **Clean the Print Bed:** After each print, remove any residual filament from the removable print platform. A clean surface ensures good adhesion for subsequent prints.
- **Clean the Nozzle:** Periodically inspect the nozzle for clogs or debris. Use a small brush or needle to gently clear any blockages when the nozzle is heated.
- **Lubricate Moving Parts:** Apply a small amount of lithium grease or machine oil to the smooth rods and lead screws every few months to ensure smooth movement.
- **Check Belts:** Ensure the timing belts are properly tensioned. They should be taut but not overly tight.
- **Firmware Updates:** Check the manufacturer's website for any available firmware updates to improve performance or add new features.

Troubleshooting

Problem	Possible Cause	Solution
Filament not extruding	Clogged nozzle, tangled filament, incorrect temperature.	Clean the nozzle, untangle filament, verify correct extruder temperature.
Print not sticking to bed	Bed not level, print speed too fast, dirty print surface.	Re-level the print bed, reduce first layer print speed, clean the print surface.
Poor print quality (layer shifting)	Loose belts, print speed too high, unstable printer.	Check and tighten belts, reduce print speed, ensure printer is on a stable surface.
Printer not turning on	Power cable loose, power supply failure.	Check power connections, try a different outlet, contact support if power supply is suspected.

SPECIFICATIONS

Feature	Detail
Model Name	K6
Print Technology	FDM (Fused Deposition Modeling)
Building Size	100x100x100mm (3.94x3.94x3.94in)
Number of Nozzles	1
Nozzle Diameter	0.4mm
Layer Thickness	0.05-0.3mm
Printing Filament	PLA
Diameter of Filament	1.75mm
Printing Accuracy	0.1-0.2mm
Hotbed	Separate heatbed available (purchased separately)
Slicer Software	Easyware KS, CURA, Simplify3D
Extruder Temperature	180-230℃
Building Platform	Removable
Print Speed	10-40mm/s
File Format (Input)	.Stl/.obj
File Format (Output)	.gcode
Power	12V, 30W
Support OS	Windows XP/7/8/10 (32 bit/64bit)
Print Connectivity	TF Card, USB Cable
Machine Size (H x W x L)	280(h)x265(w)x250(l)mm
Product Weight	1.3kg (2.86lb)
Package Size	295x280x155mm (11.6x11x6.1in)
Package Weight	1.95kg (4.29lb)

Figure 7: Dimensional overview of the K6 3D Printer, showing its height (280mm/11 inches), length (265mm/10.43 inches), and width (220mm/8.65 inches). The image also highlights the 100x100x100mm print volume.

Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or visit the official Irfora website. Keep your purchase receipt as proof of purchase for warranty claims.

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