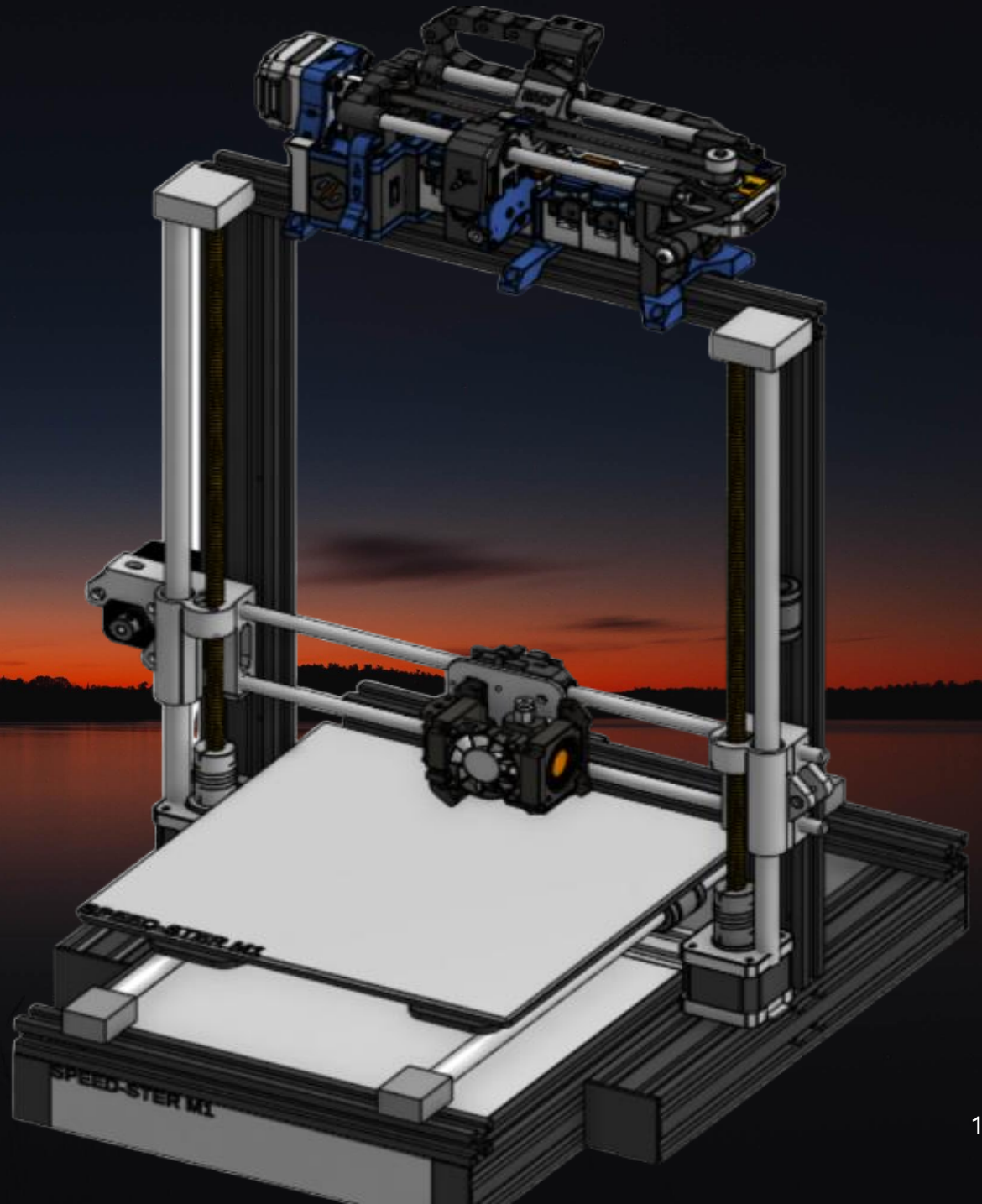
PRESENTING

SPEED-STER M1

INDIA FIRST 5TH GEN FDM 3D PRINTER

MAKE IN INDIA MADE IN INDIA



M1-SPECS

- 4 Time faster then normal printer
- Multi-material and Multi-Color printing
- Custom Klipper Firmware
- Powerful Board 32bit 2040 chip
- Powerful TMC 2225 Driver
- Ultra-silet Printer
- Wifi Equipped
- Powerful Main CPU Chip Raspberry Pi 4b+
- 5 MP 1080p Camera
- ALL Metal Hot-End
- Equipped with offline and Wifi Printing

ALL –METAL FRAME

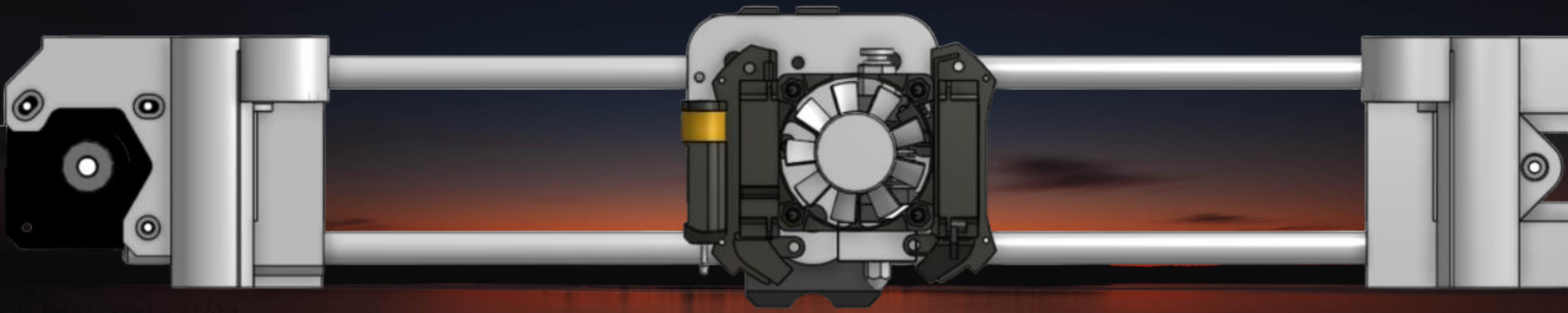
•An all-metal frame in a 3D printer provides exceptional stability and durability, ensuring precise prints even during high-speed operations.

•With its robust construction, an all-metal frame minimizes vibrations, resulting in smoother and more accurate prints, especially for intricate designs.

The thermal stability of an all-metal frame reduces the risk of warping or distortion, maintaining consistent print quality across various materials and print sizes.

For professional-grade applications, the rigidity of an all-metal frame enhances reliability and longevity, making it ideal for continuous and demanding printing tasks.

PRINTING SPEED

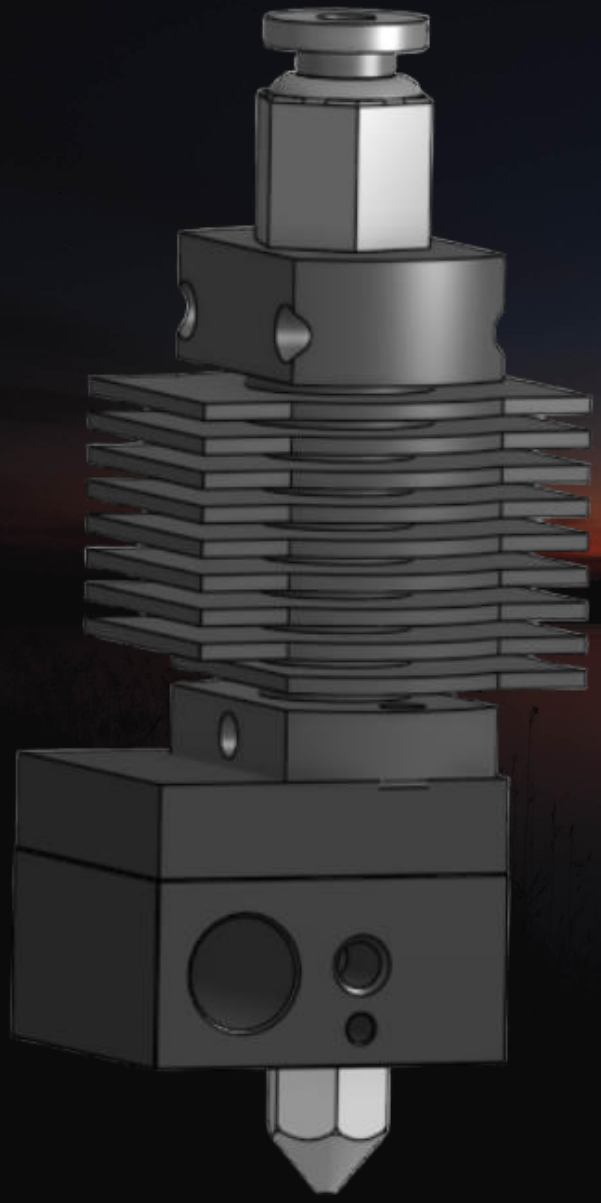


UPTO 400 MM/S SPEED

2700K ACCELERATION

Capable of reaching speeds up to 400mm/s, this 3D printer excels in rapid prototyping and high-speed production while maintaining exceptional print quality.

ALL METAL HOTEND



260C MAX TEMP HOTEND

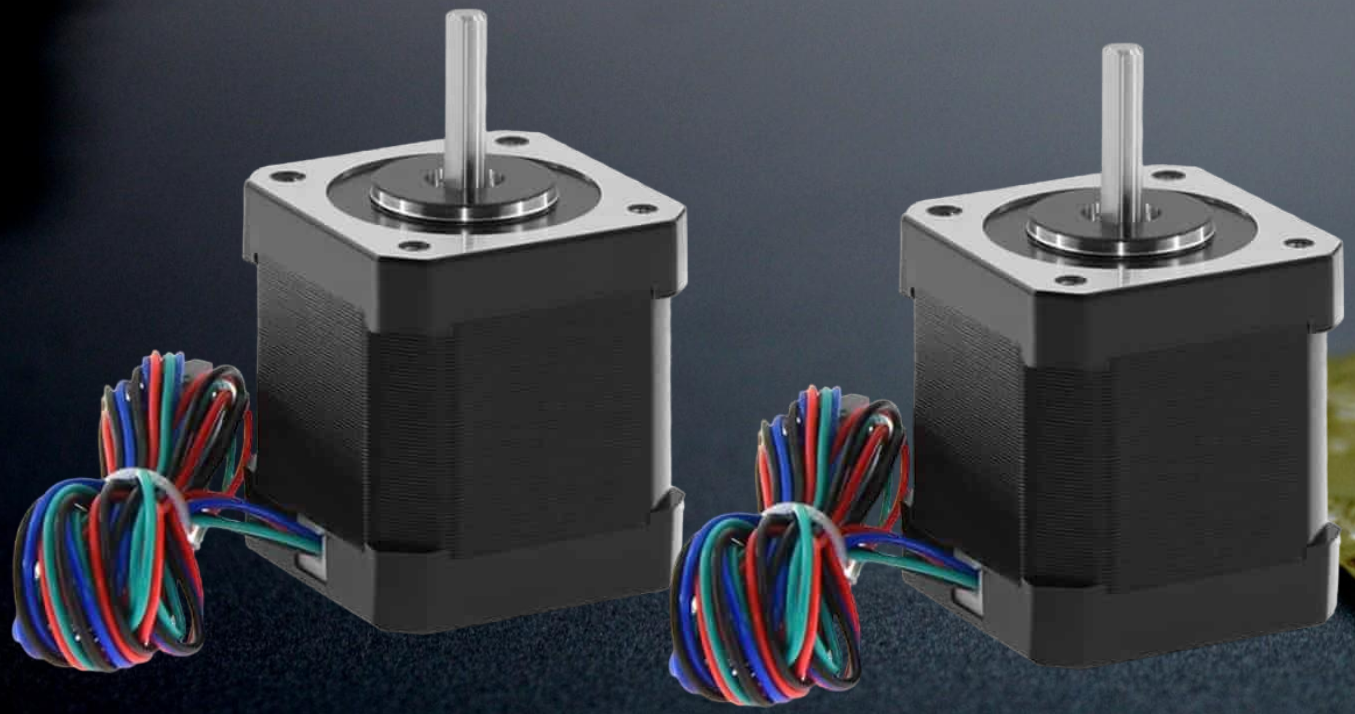
110C BED TEMP

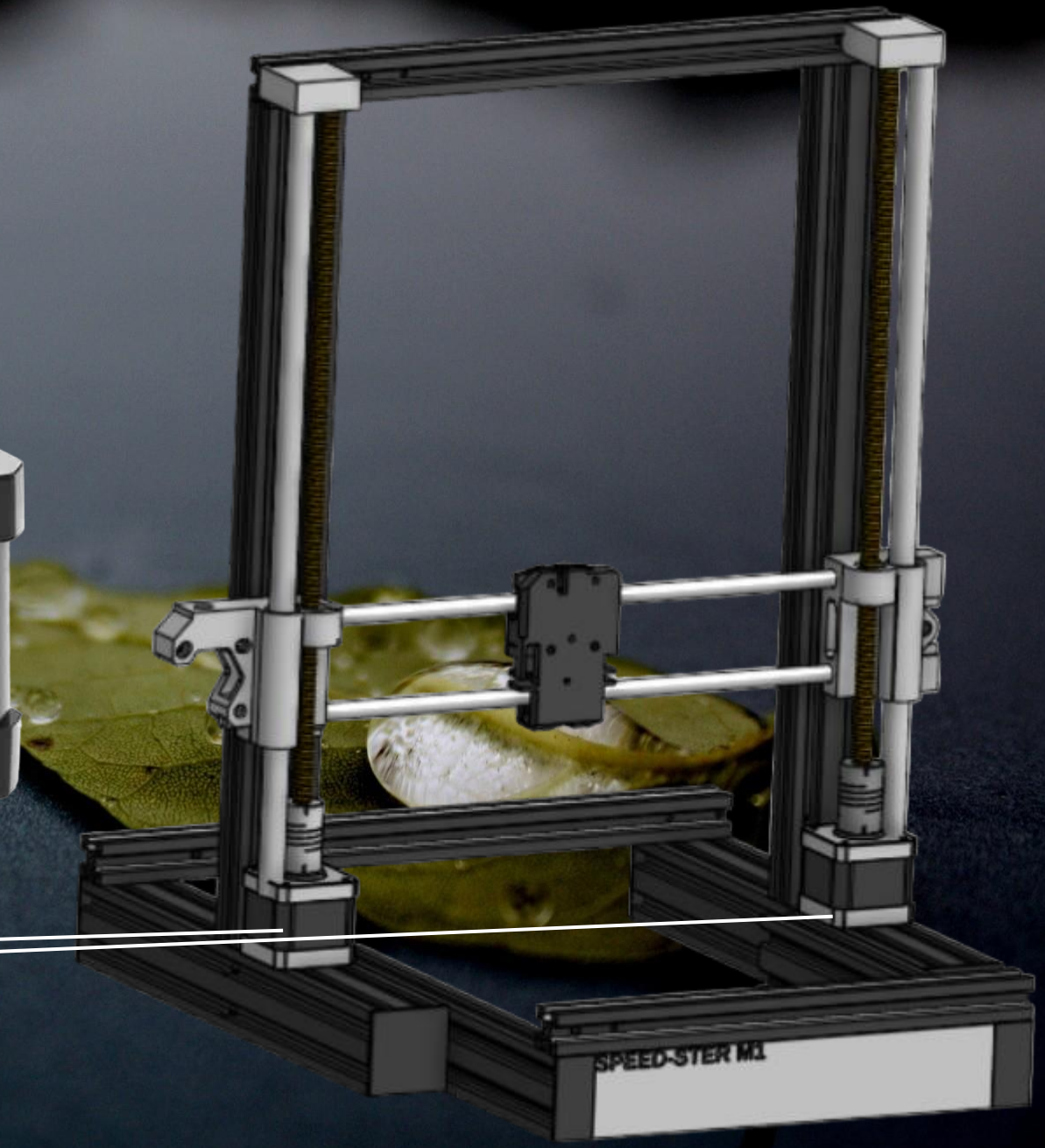
MATERAIL SUPPORT

- PLA
- ABS
- PETG
- TPU
- Nylon
- PVA
- HIPS

DUAL-Z STEPPER MOTORS

NEMA-17





DUAL Z MOTOR

Dual z motor for more stability .
Create perfect print every time..

FIRMWARE KLIPPER OPEN SOURCE

•**High-Speed Printing**: Klipper offloads complex calculations to a single-board computer (SBC), such as a Raspberry Pi, allowing for faster print speeds without sacrificing quality.

•**Precise Movement Control**: Utilizes the processing power of the SBC for precise stepper motor control and advanced kinematics algorithms, resulting in smoother movements and more accurate prints.

•**Flexible Configuration**: Supports a wide range of 3D printer hardware configurations, including Cartesian, Delta, CoreXY, and more, with easy configuration through a simple text-based configuration file.

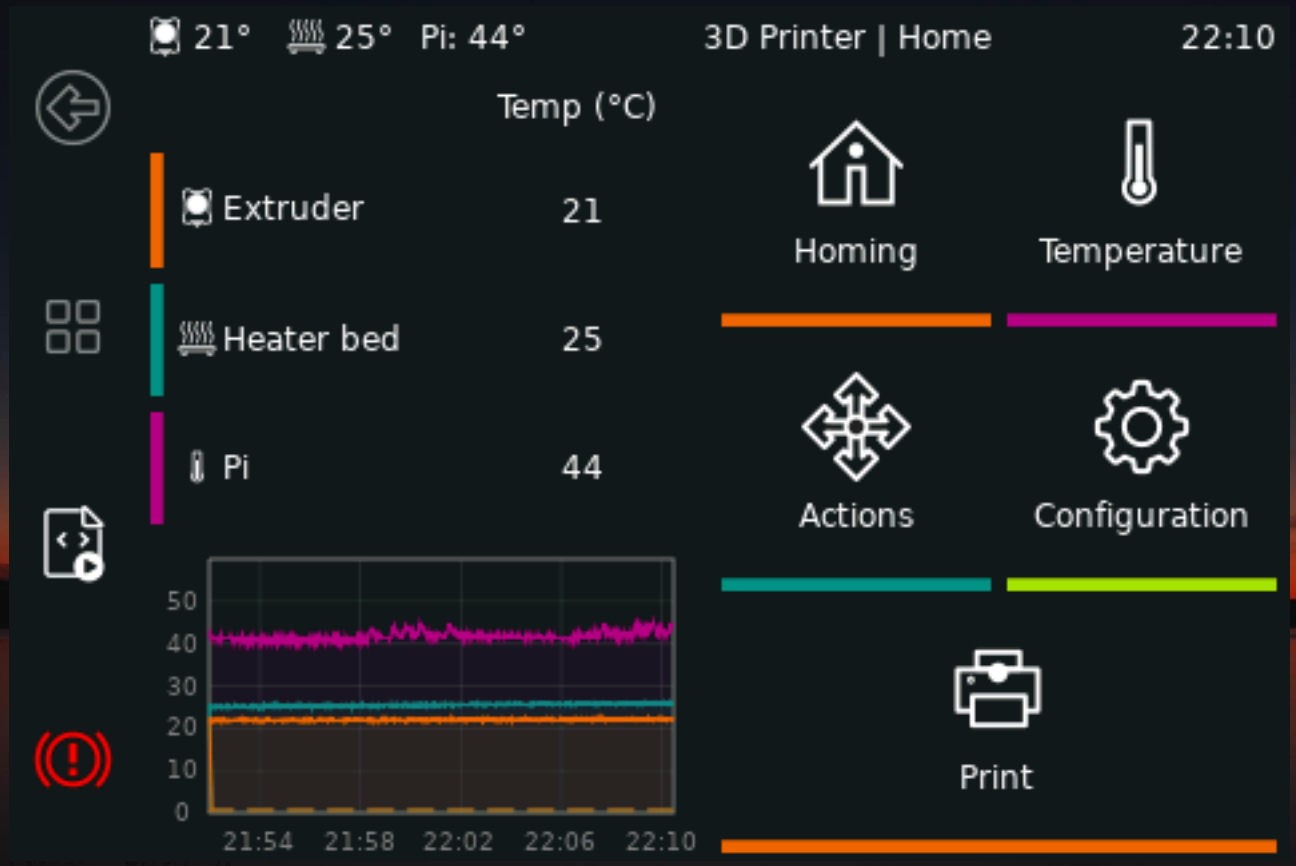
•**Auto Bed Leveling**: Integrates seamlessly with various auto bed leveling sensors and systems, ensuring a level print bed for optimal first-layer adhesion and print consistency.

•**Pressure Advance**: Implements pressure advance algorithms to compensate for the compression of filament in the extruder, reducing oozing and improving print quality, especially at higher speeds.

•**Dynamic Acceleration and Jerk Control**: Allows dynamic adjustment of acceleration and jerk settings during printing, optimizing print speed and quality based on the complexity of the print.

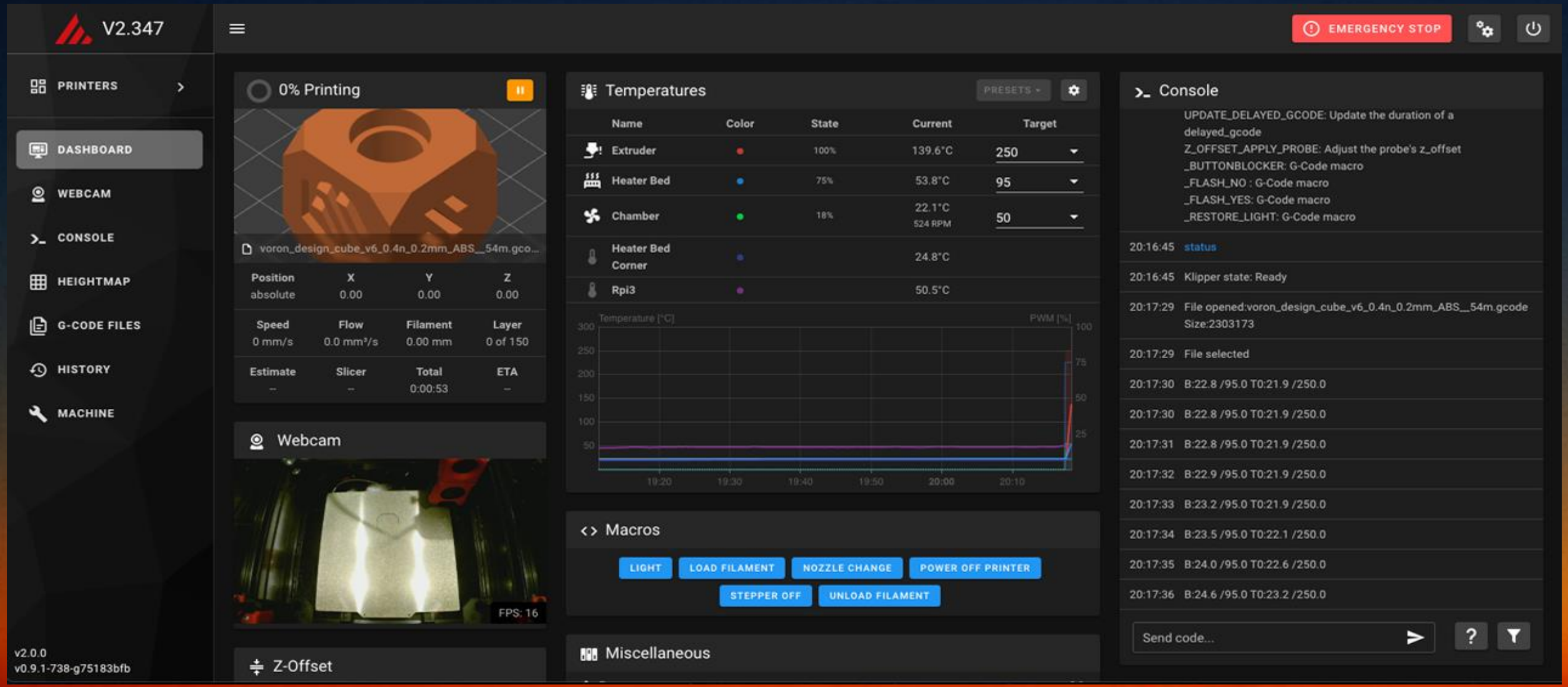
•**Multi-Extruder Support**: Handles multiple extruders efficiently, enabling multi-material printing and advanced features like mixing colors or materials within a single print.

EASY TO USE ON DISPLAY UI



Simple to use easy interactive and open source UI
Highly customizable by Macros
Support language Jinga, GCODES, MCODES

EASY TO USE WEB-UI

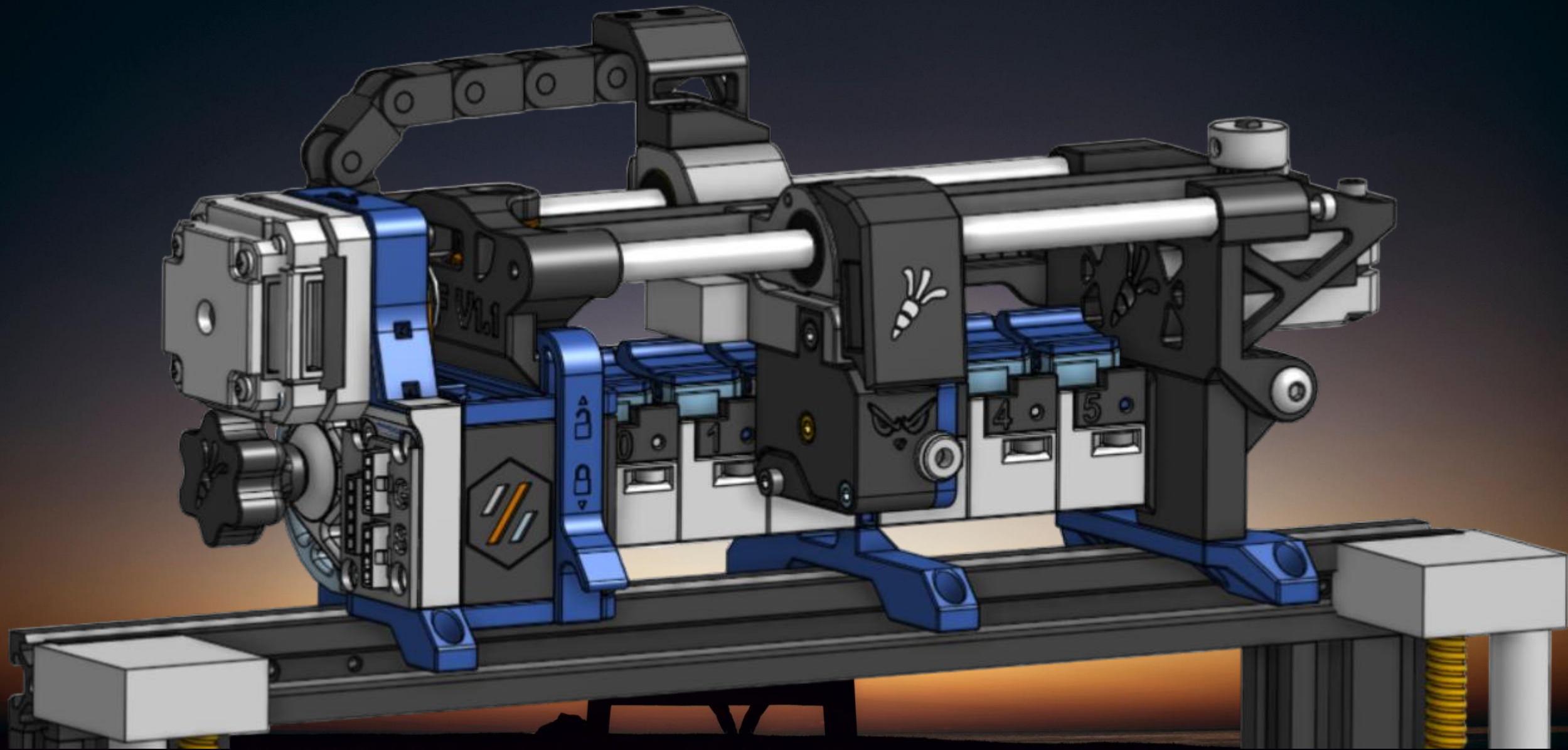


SIMPLE EASY AND INTRACTIVE KLIPPER SCREEN

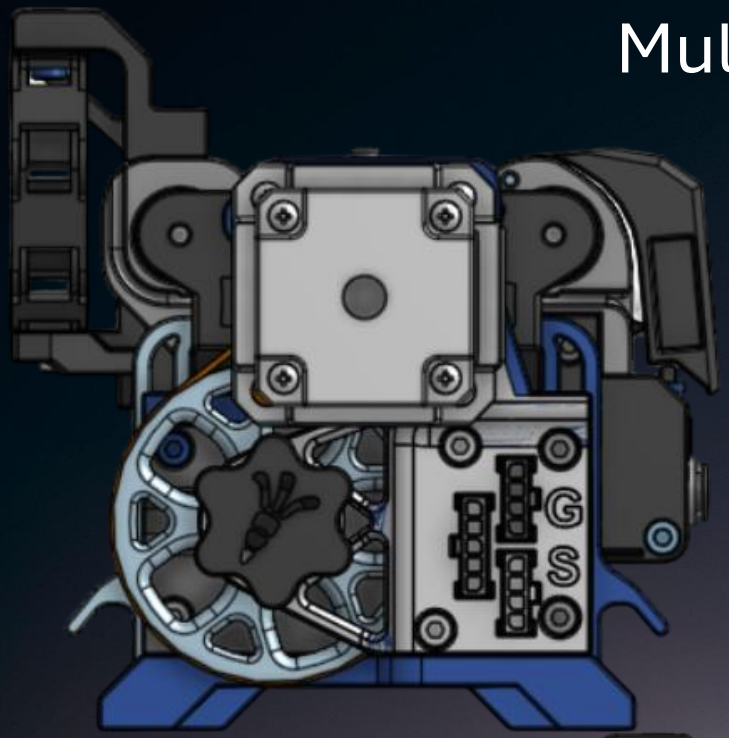
HIGHLY CUSTOMIZABLE OPEN SOURCE

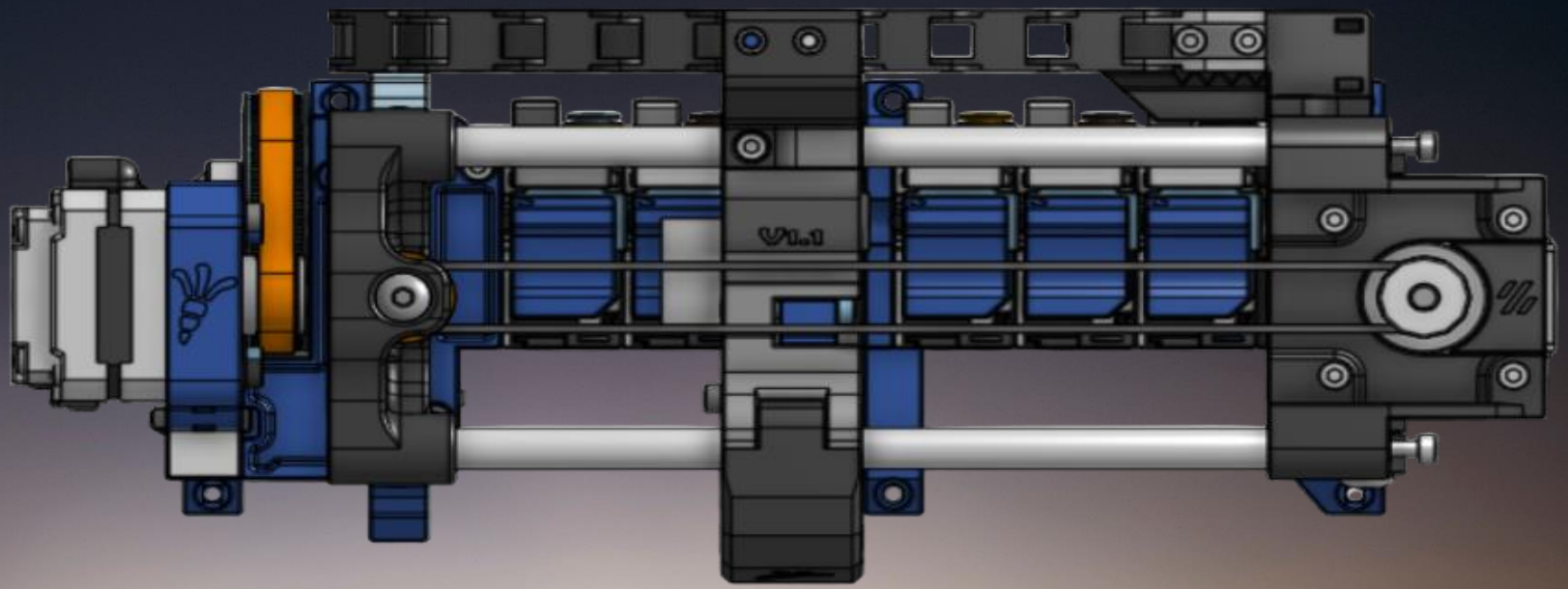
MULTI-MATERIAL AND MULTICOLOR PRINTING

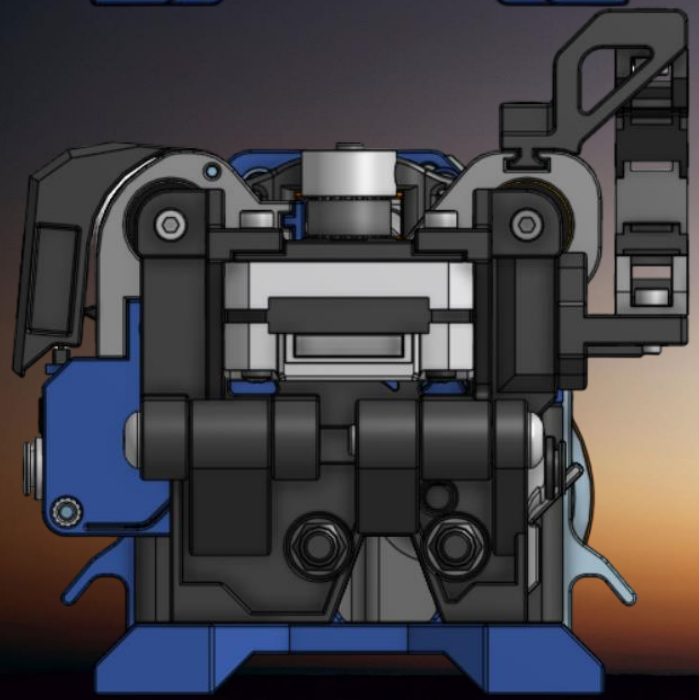
ENRAGED RABBIT OR AX1 MECH



Multi-Material and Multicolor printing





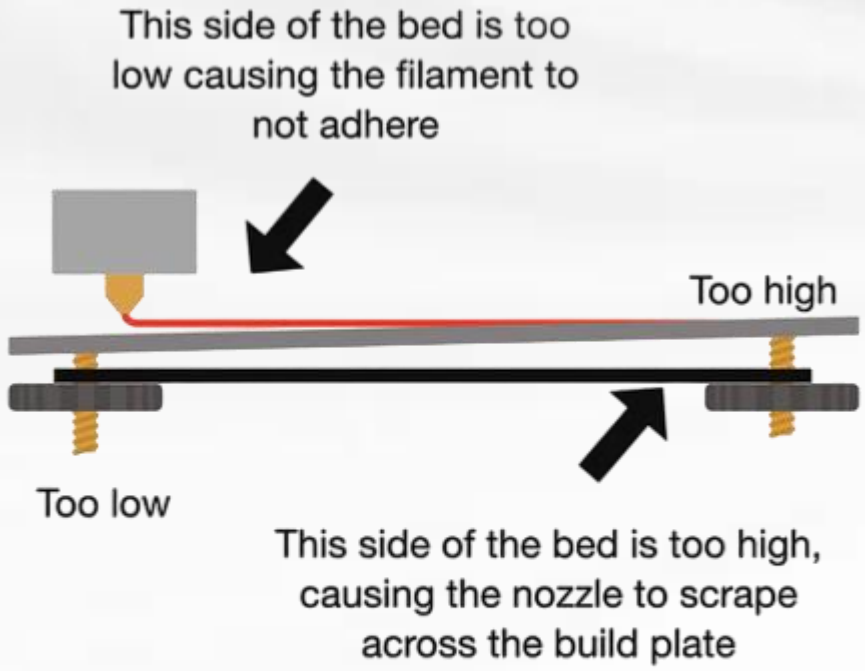


UPTO 8 DIFFERENT MATERIAL AND COLORS

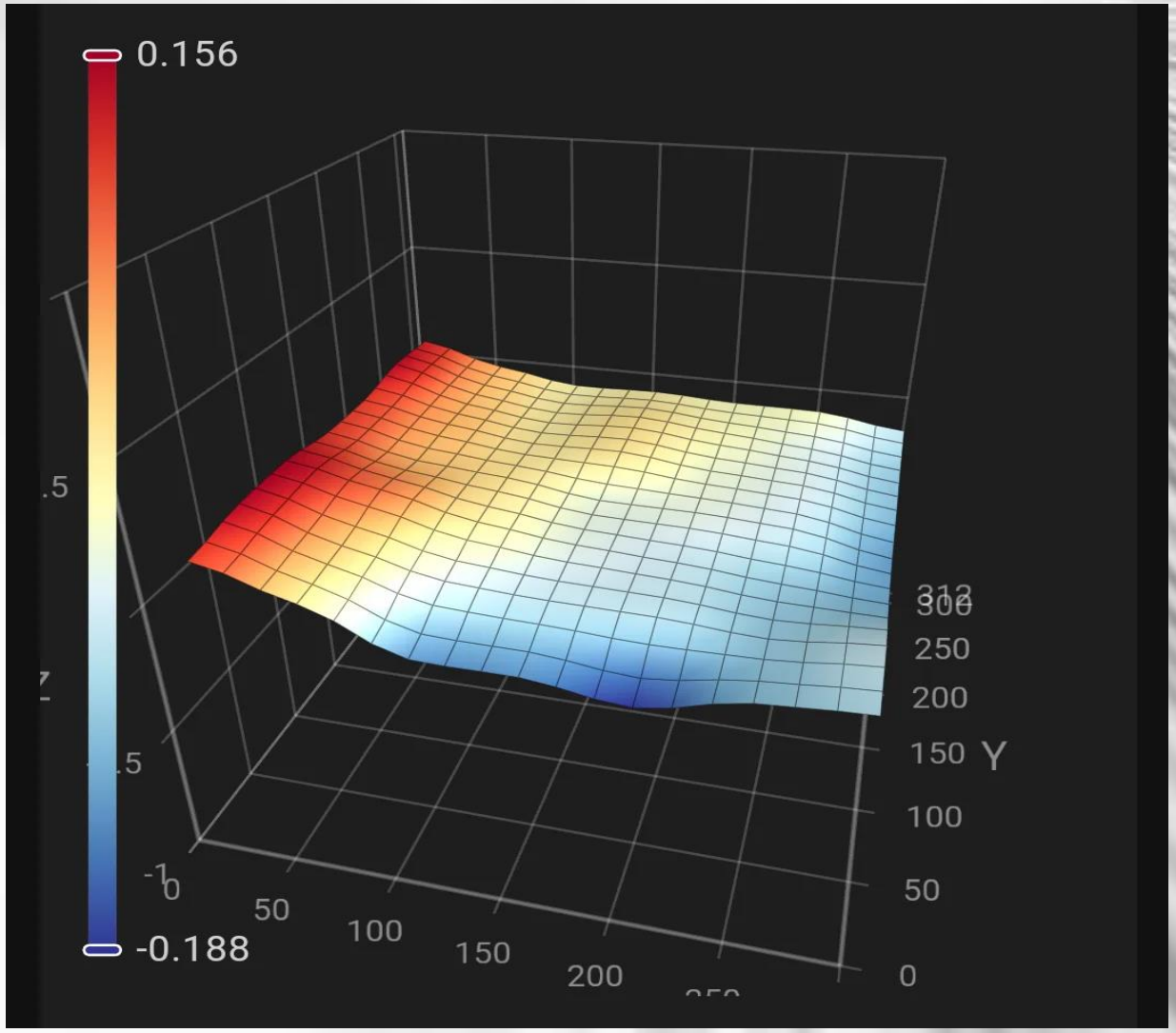
COLOR pRINTS upto 8 colors

AUTOMATIC BED LEVELLING

BY BL - TOUCH

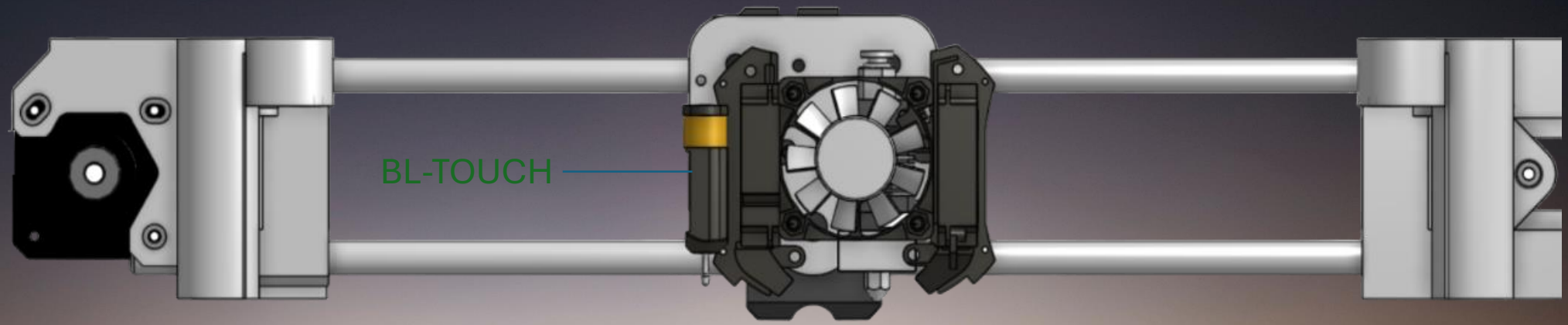


Example of a 3D printer with a bed that is not level



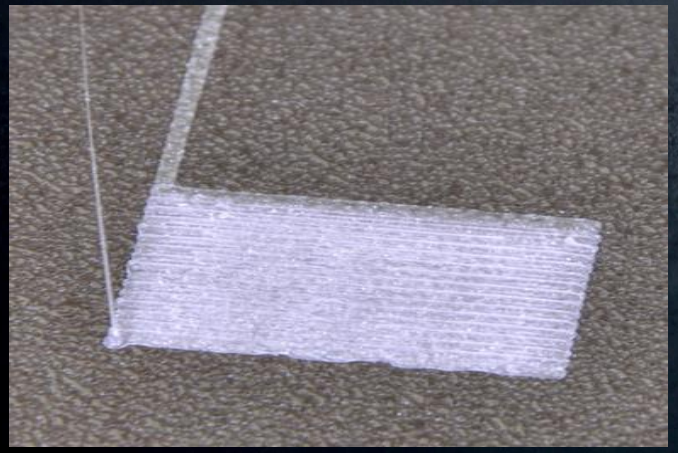
BED LEVELLING SENSOR

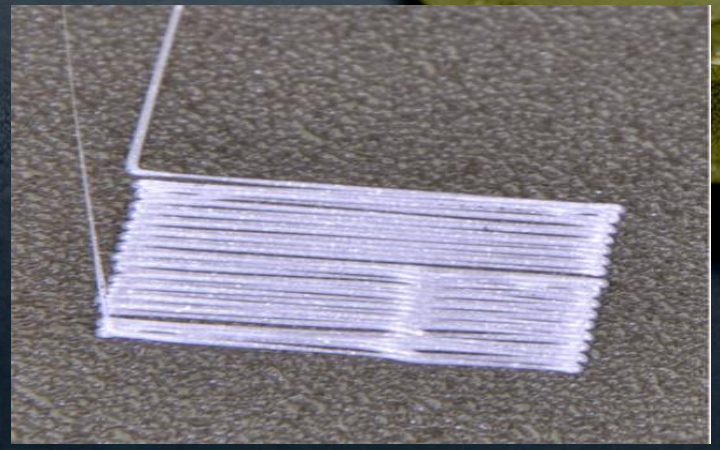
BL-TOUCH

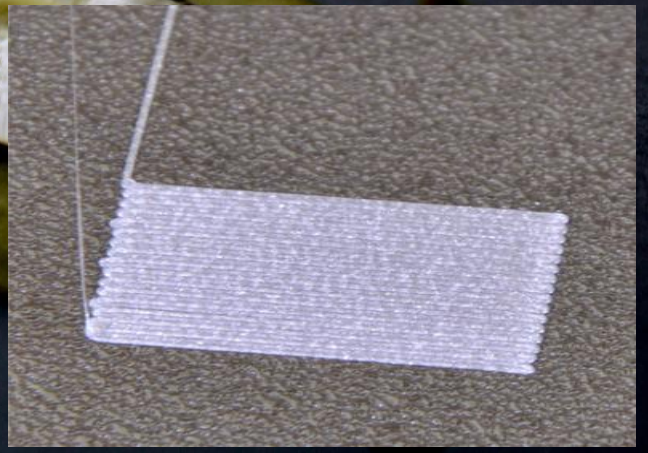


REMOVE THE MECHANICAL BED LELLING PROBLEM.
ACTIVE BEFORE THE PRINT START.

Automatic bed-LEVELLING result





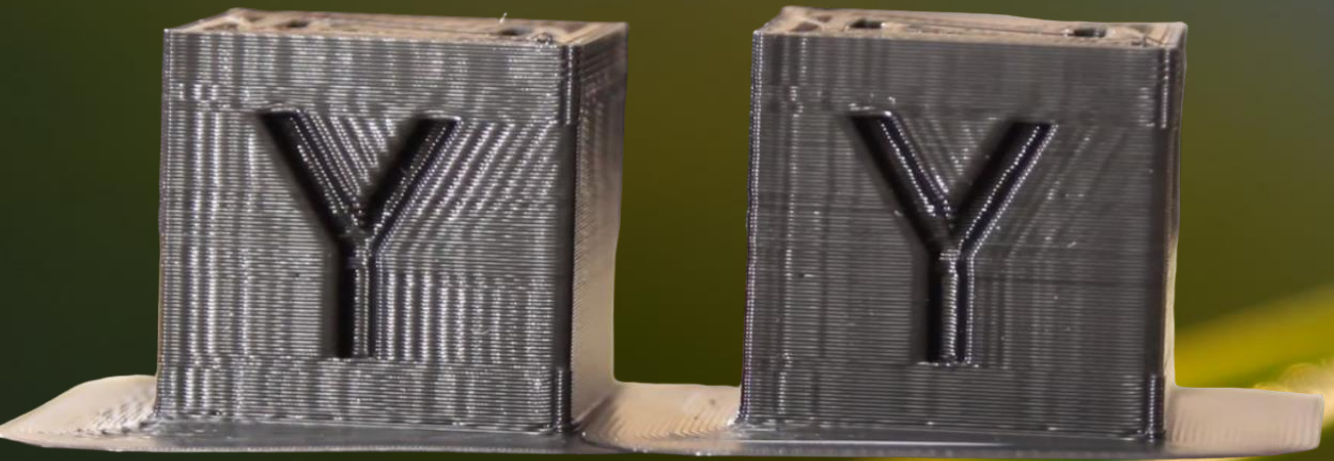


TO LOW

TOO HIGH

BL –TOUCH PERFECT

EQUIPPED WITH PRESSURE ADVANCE AND INPUT SHAPER



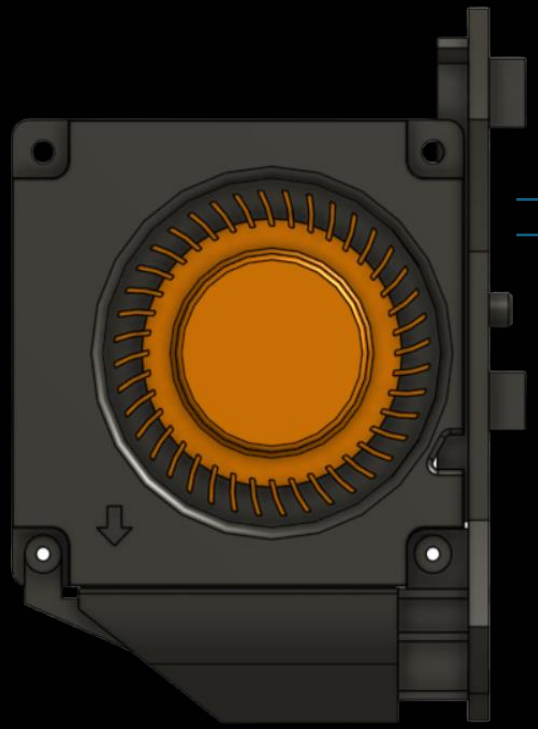
PRESSURE ADVANCE

INPUTSHAPER

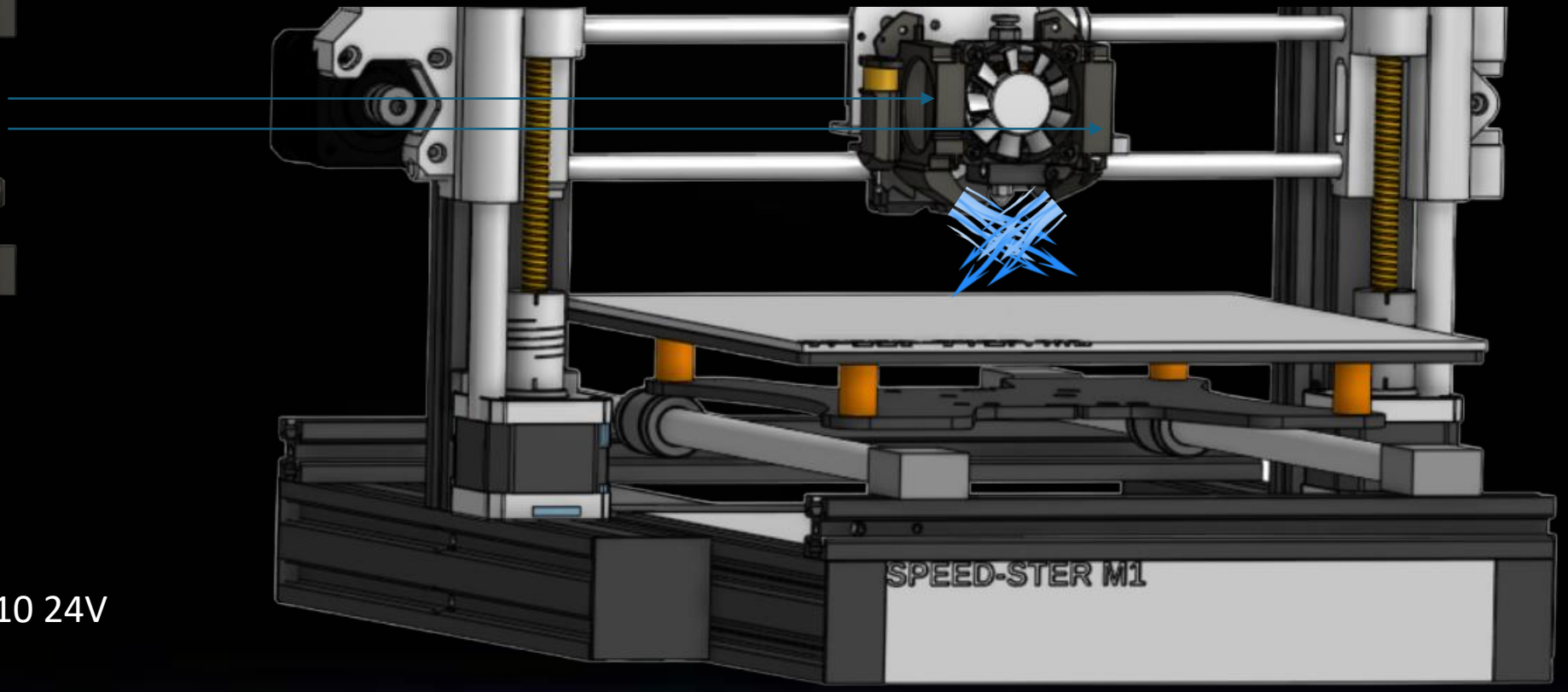
Pressure Advance: "Optimize extrusion flow in 3D printing by dynamically adjusting the pressure to prevent under- or over-extrusion"

Input Shaper: "Minimize vibrations and improve print quality by using a control algorithm to adjust movements and reduce resonance effects.

DUAL FAN FOR COOLING

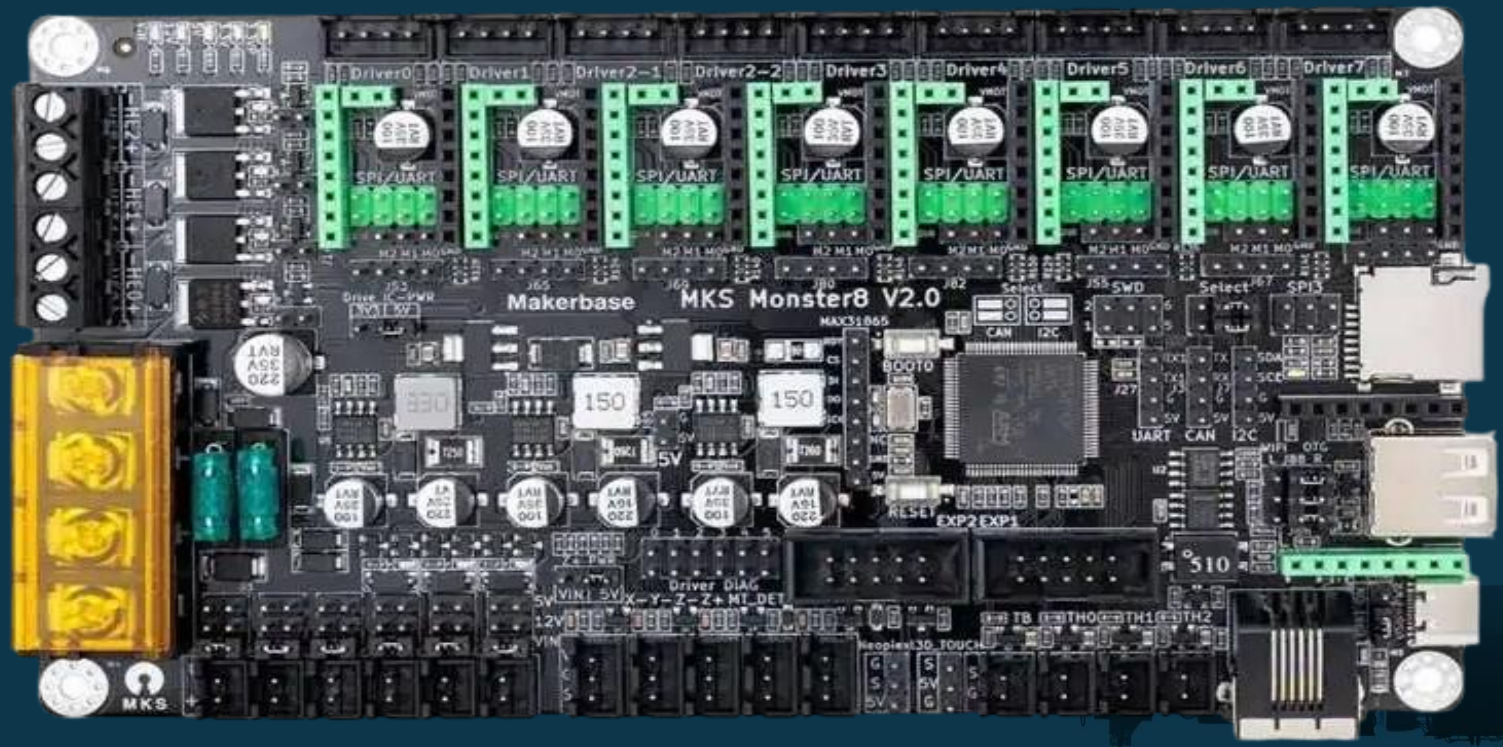


2 Axial Cooling Fan 4010 24V



Two axial cooling fans in a 3D printer enhance print quality by providing better cooling, which helps to reduce warping and improve layer adhesion.

MKS MONSTER 8 32 BIT SLAVE BOARD



THE MKS MONSTER 8 EXCELS WITH ITS EXPANSIVE BUILD VOLUME AND HIGH-SPEED PRINTING CAPABILITIES, OFFERING UNMATCHED VERSATILITY AND PRECISION.

POWERFUL MASTER CONTROLLER RASPBERRY PI 4+

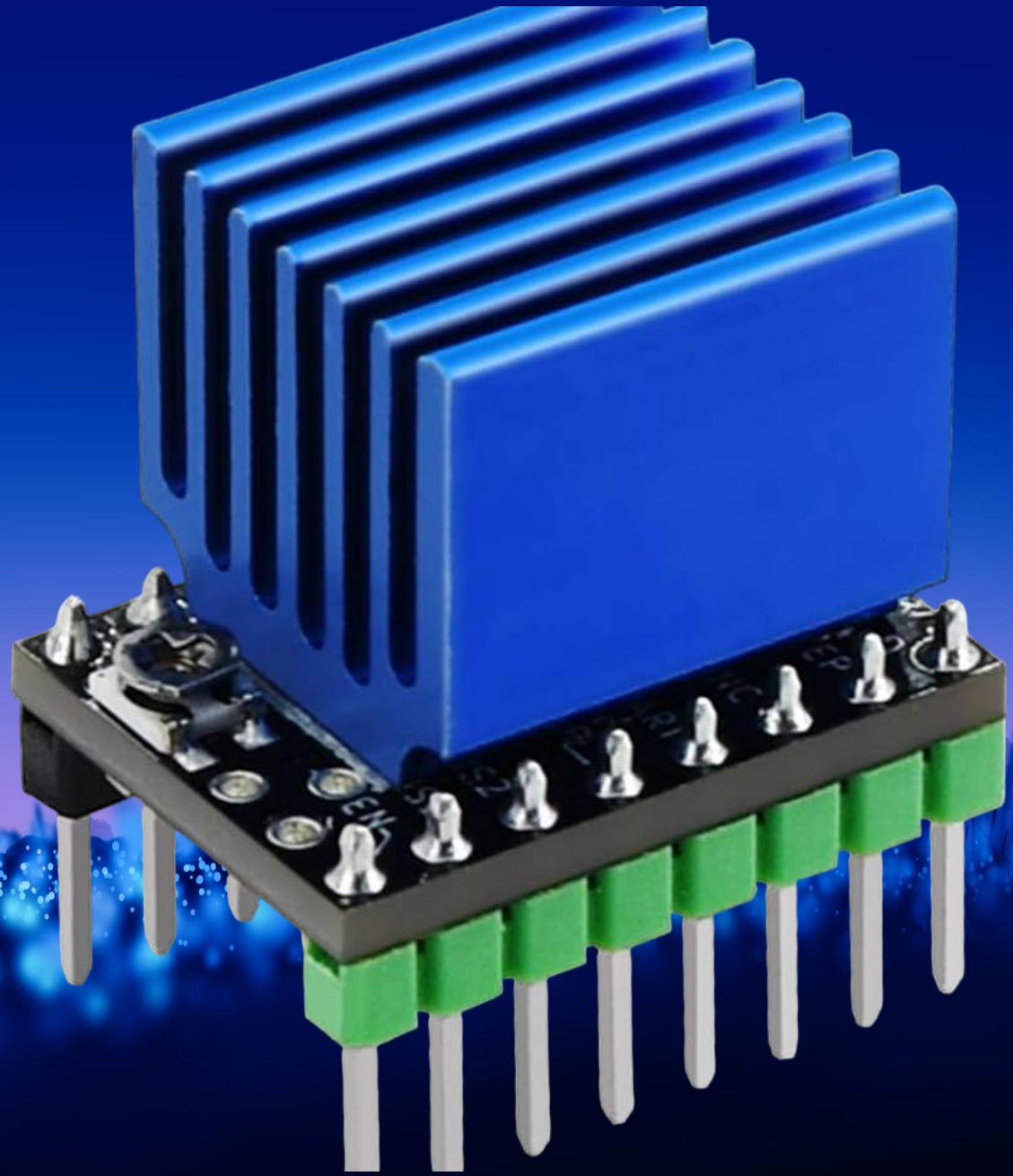
1. **Remote Access and Control**: With OctoPrint installed on the Raspberry Pi, you can control your 3D printer remotely from any device with a web browser. This means you can start, pause, or stop prints, adjust settings, and monitor progress from anywhere, whether you're at home, work, or on the go.

2. **Enhanced Functionality**: The Raspberry Pi's GPIO pins allow for easy integration of additional hardware, such as cameras for monitoring prints or sensors for detecting filament jams. This expandability enables you to customize and enhance your 3D printing setup according to your specific needs.

3. **Stability and Reliability**: The Raspberry Pi 4+ offers improved performance and stability compared to earlier models, ensuring smooth operation of OctoPrint and other software applications. Its robust design and low power consumption make it well-suited for continuous operation in a 3D printing environment

STEPPER DRIVER TMC – 2225

- StealthChop2
- SpreadCycle
- CoolStep
- StallGuard
- MicroPlyer
- 256 microsteps
- Smooth motion
- Energy efficiency
- Thermal management
- UART interface



PRINTING THROUGH Wi-Fi FROM ANYWHERE.

klipper

UPLOAD & PRINT | EMERGENCY STOP

- DASHBOARD
- CONSOLE
- G-CODE FILES
- G-CODE VIEWER
- HISTORY
- MACHINE

Standby

Webcam

Toolhead

Position: relative

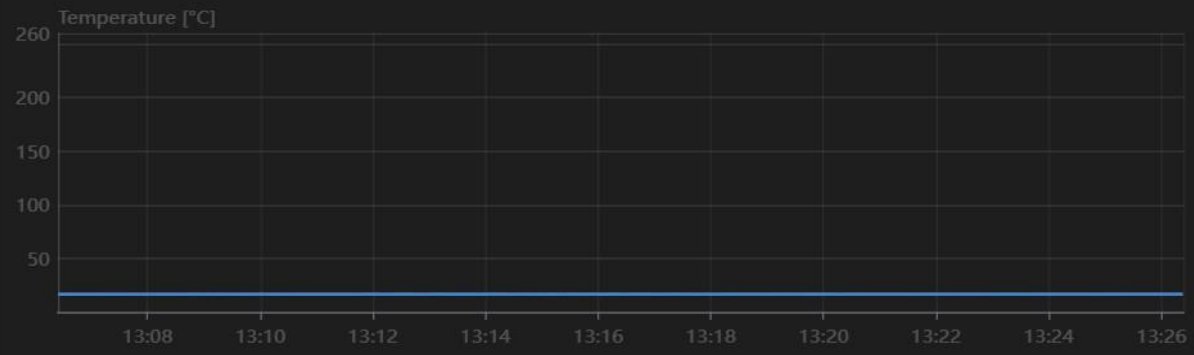
X	Y	Z
[0.00] 0.00	[0.00] 0.00	[26.100] 26.100

ALL

−100 | −10 | −1 | X | +1 | +10 | +100

Temperatures COOLDOWN

Name	State	Current	Target
Extruder	off	16.7°C	0 °C
Heater Bed	off	16.6°C	0 °C



Console

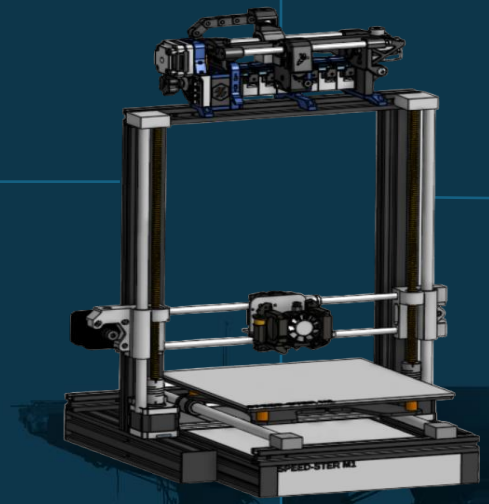
Send code...

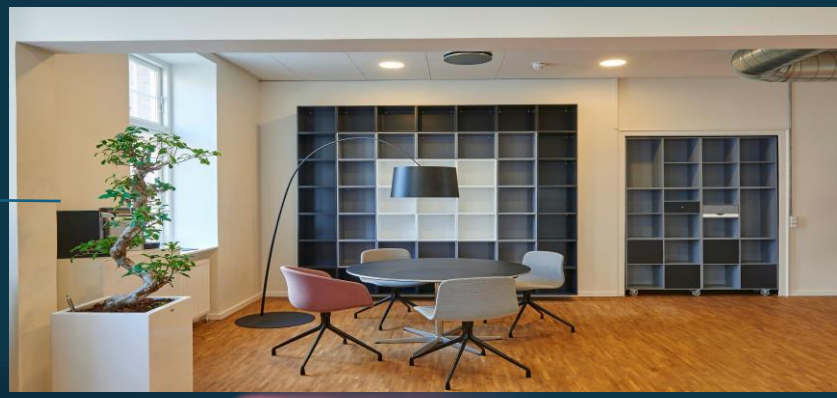
```
2:41 PM G91
       G1 Z+25 F1500
2:41 PM G91
       G1 Z+25 F1500
2:41 PM G91
       G1 Z+1 F1500
2:41 PM G91
```

CONTROL PRINTER FROM ANY ANYWHERE THROUGH CLOUD

FROM HOME

FROM ANYWHERE



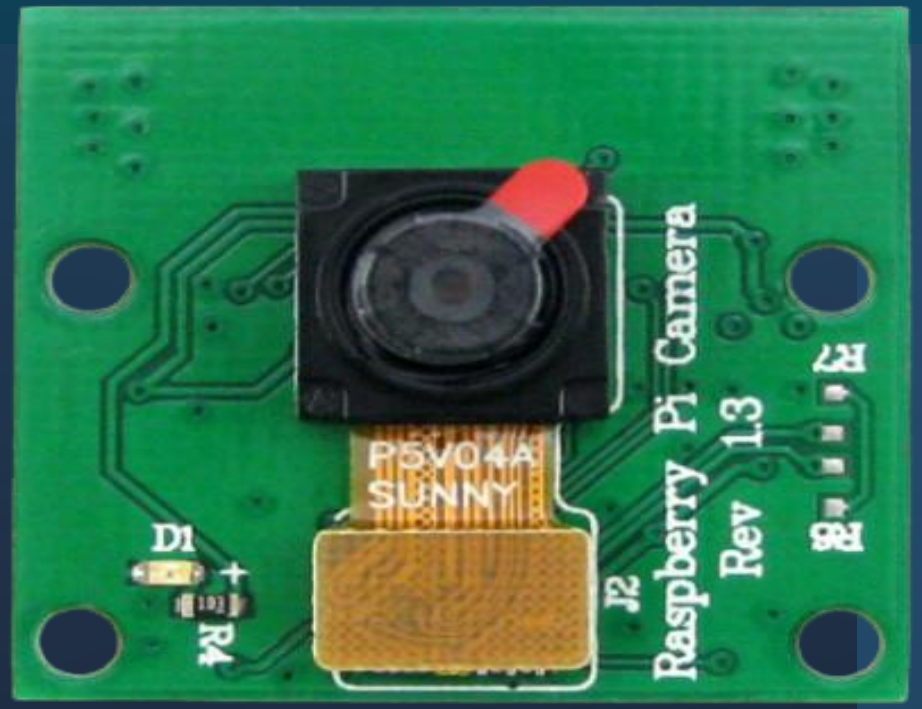


FROM OFFICE

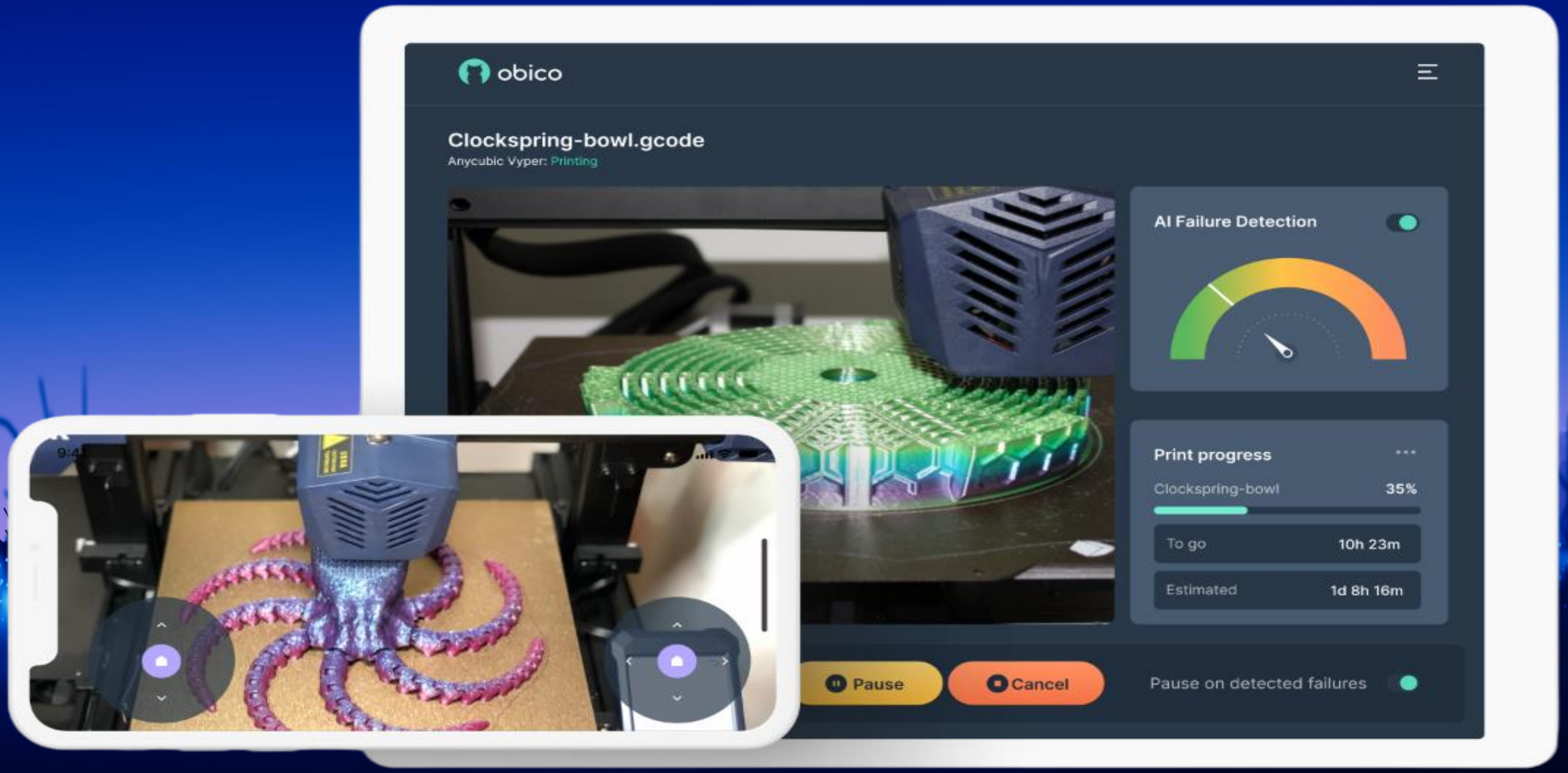
FROM REMOTE LOCATION

Equip with Camera Rev 1.3

- REMOTE MONETERING
- QUALITY CONTROL AND TROUBLE SHOOTING
- TIME LAPSE RECORDING
- SURVEILLANCE
- FAILTURE DETECTION



With Live camera feed from anywhere through cloud



CAMERA FEATURES

•**Remote Monitoring**: One of the primary advantages of using a camera with Klipper is the ability to remotely monitor your 3D prints. By streaming live video feeds of the print process, you can keep an eye on the progress without needing to be physically present near the printer. This is particularly useful for long prints or when you need to check on the printer's status from another location.

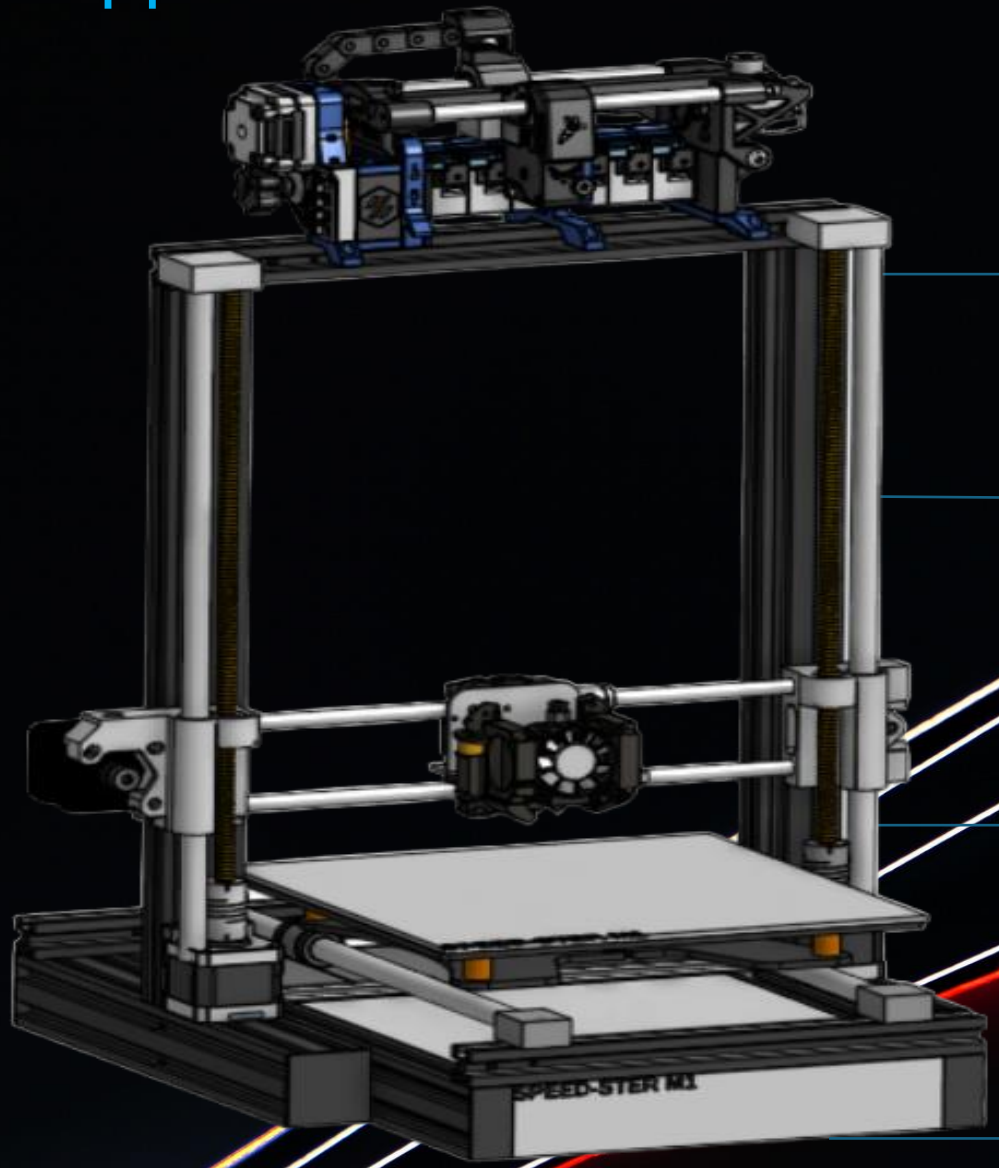
•**Quality Control and Troubleshooting**: The camera feed allows you to visually inspect the print as it progresses. This can help in identifying potential issues such as layer shifting, adhesion problems, or filament jams early on. By catching problems sooner, you can intervene promptly to prevent print failures and optimize print quality.

•**Time-Lapse Recording**: Klipper supports time-lapse recording through the camera feed. This feature captures snapshots of the print at regular intervals and compiles them into a video, showcasing the entire printing process in a condensed format. Time-lapse videos are not only visually appealing but also useful for documenting your prints or sharing progress on social media.

•**Security and Surveillance**: In addition to monitoring prints, the camera can serve a security role by keeping an eye on your printer and its surroundings. This is particularly valuable in shared spaces or environments where security is a concern. Some users also use the camera to detect unexpected events like filament tangles or mechanical failures.

•**Integration with OctoPrint**: Klipper integrates seamlessly with OctoPrint, allowing you to access camera features directly through the OctoPrint interface. This means you can control camera settings, view live feeds, and manage time-lapse recordings all within the same web-based dashboard used for managing your prints and printer settings.

Supported Devices for Controlling printer from Anywhere



From Mobile

From Tablet

From Apple tv

From Laptop

Available SOFTWARE FOR REMOTE CONTROL
fully supported from day 1 FOR
MOBILE , LAPTOP, TABLE

Obico

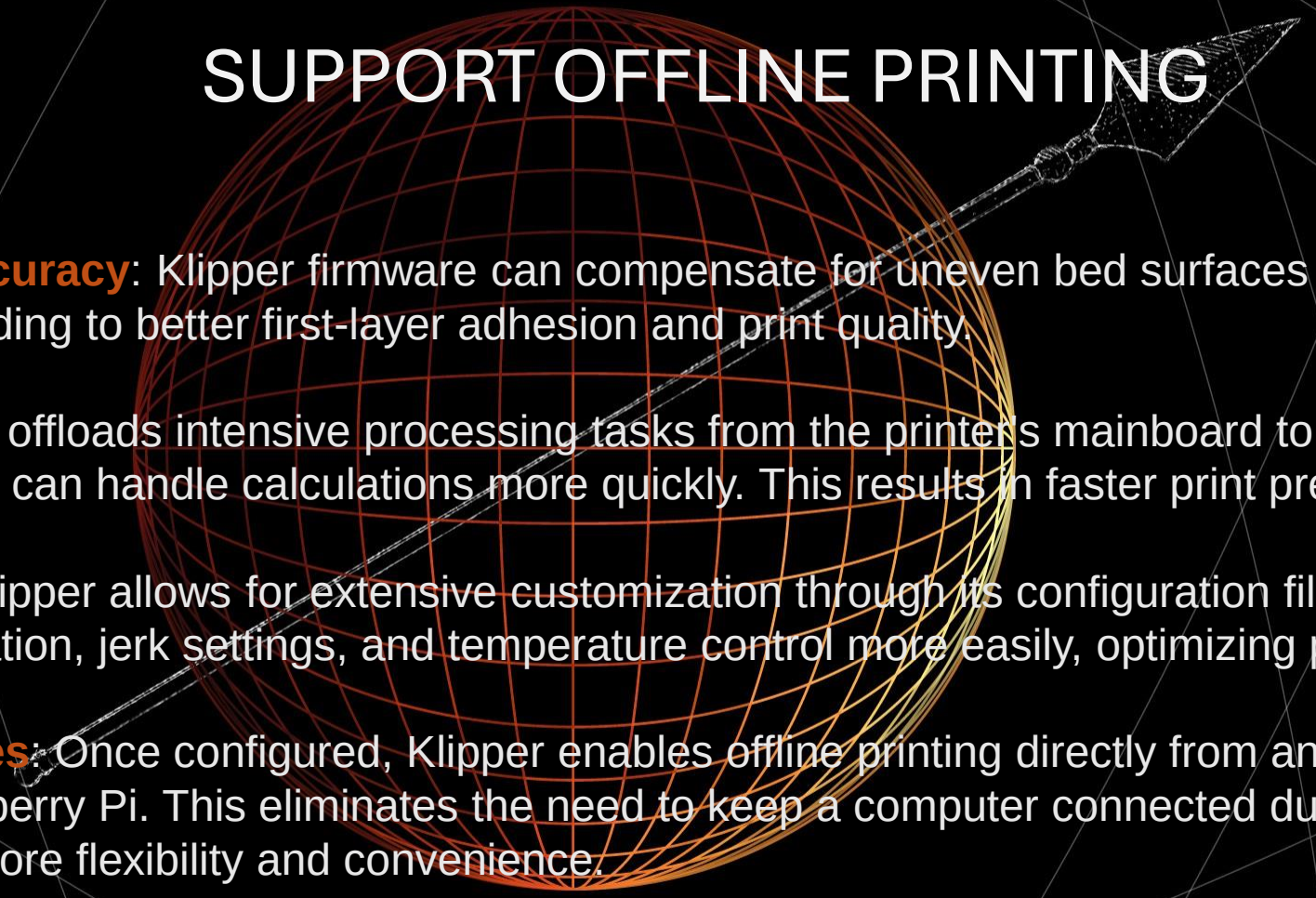
Astroprint

MatterControl Cloud

Mobile Racker

Octo Print Cloud

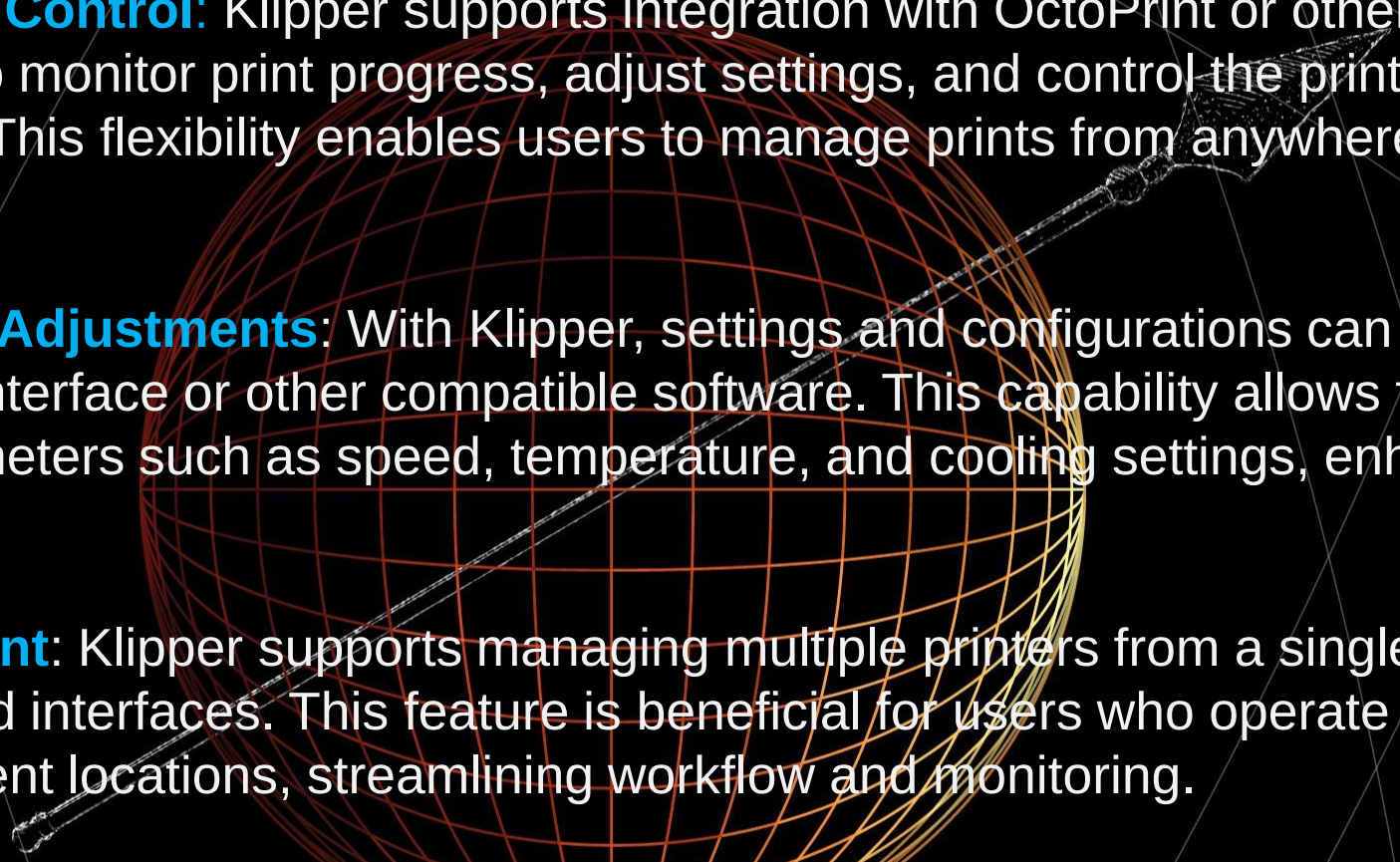
SUPPORT OFFLINE PRINTING



Improved Bed Leveling Accuracy: Klipper firmware can compensate for uneven bed surfaces more accurately than traditional firmware, leading to better first-layer adhesion and print quality.

- **Faster Processing**: Klipper offloads intensive processing tasks from the printer's mainboard to a Raspberry Pi or similar microcontroller, which can handle calculations more quickly. This results in faster print preparation and smoother print performance.
- **Customizable Features**: Klipper allows for extensive customization through its configuration files. Users can adjust parameters such as acceleration, jerk settings, and temperature control more easily, optimizing printing speeds and quality.
- **Offline Printing Capabilities**: Once configured, Klipper enables offline printing directly from an SD card or USB drive connected to the Raspberry Pi. This eliminates the need to keep a computer connected during the entire printing process, providing more flexibility and convenience.

Support Online Printing



- **Remote Monitoring and Control**: Klipper supports integration with OctoPrint or other monitoring software, allowing users to monitor print progress, adjust settings, and control the printer remotely from a computer or smartphone. This flexibility enables users to manage prints from anywhere with internet access.

- **Real-Time Updates and Adjustments**: With Klipper, settings and configurations can be adjusted on the fly through the OctoPrint interface or other compatible software. This capability allows for immediate adjustments to print parameters such as speed, temperature, and cooling settings, enhancing print quality and efficiency.

- **Multi-Printer Management**: Klipper supports managing multiple printers from a single OctoPrint instance or through other networked interfaces. This feature is beneficial for users who operate multiple printers simultaneously or in different locations, streamlining workflow and monitoring.

- **Advanced Firmware Features**: Klipper's architecture offloads processing tasks to a separate microcontroller (e.g., Raspberry Pi), which can handle calculations faster and more efficiently than traditional printer firmware. This setup results in smoother operation, reduced print times, and enhanced print quality, especially for complex models and high-resolution prints

Other printer vs m1 under 20k

M1

1.More Advance Klipper

2.Printing speed 400 mm/s

3. 5MP Camera

4.Power Master Raspberry pi and 32 bit slave board

5.Multi-color and Multmaterail Printing

6.Live Monitaring with camera

7.Can Access with with anywhere from any device.

8.250 Watt PSU

9.Portable

Other printers Ender 3 v3

1.Marlin Firmware

2.Printing Speed 180mm/s

3.No Camera

4.Only 32 bit slave board

5.No Multicolr

6.No livecamera

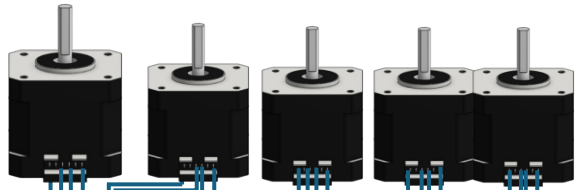
7.Only Access on site

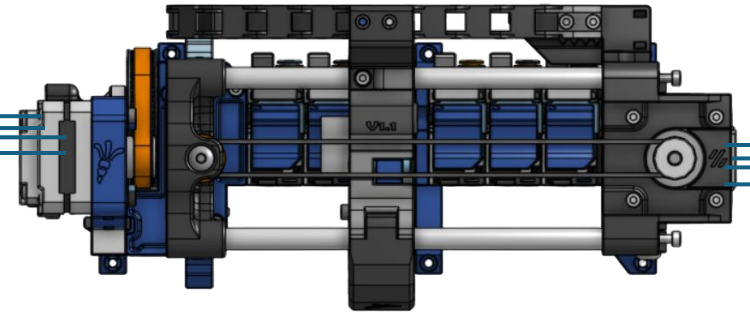
8.250watt PSU

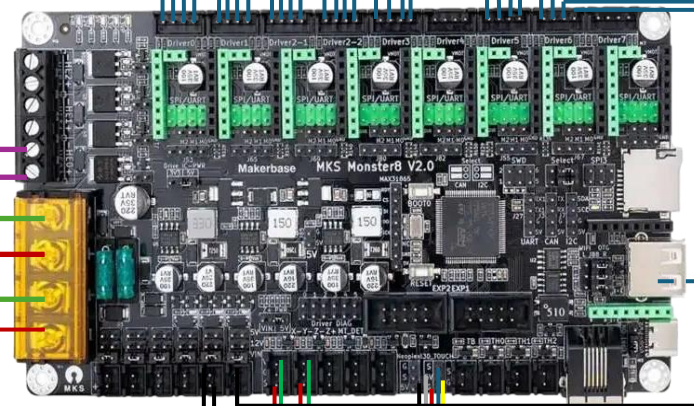
9.Non-Portable

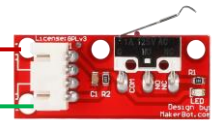
CIRCUIT

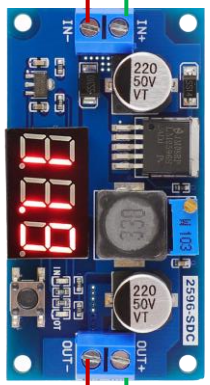

PCB Heatbed MK2B DUAL POWER
HOT ZONE
DO NOT TOUCH!
Power
PIN 12V 24V
HOT ZONE
DO NOT TOUCH!
CAUTION:
Before touching, power off the heatbed and wait at least 10 minutes!
Still hot after powered off
Do not leave unattended!
Keep away from children!
WARNING: Still hot after LED goes out!





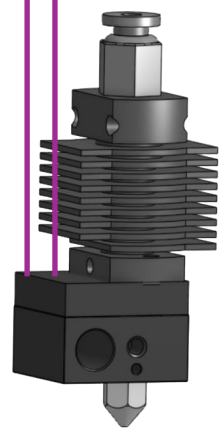

Makerbase
MKS Monster8 V2.0

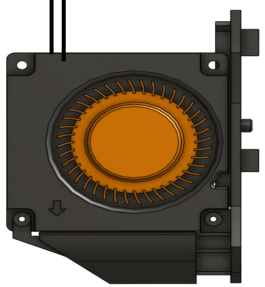


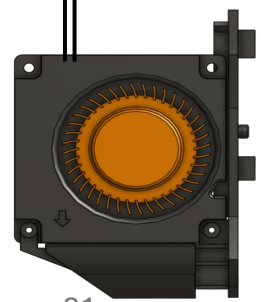

IN-
IN+
220
50V
VT
OUT-
OUT+
2596-SDC


Raspberry Pi 4 Model B
©Raspberry Pi 2018
HDMI

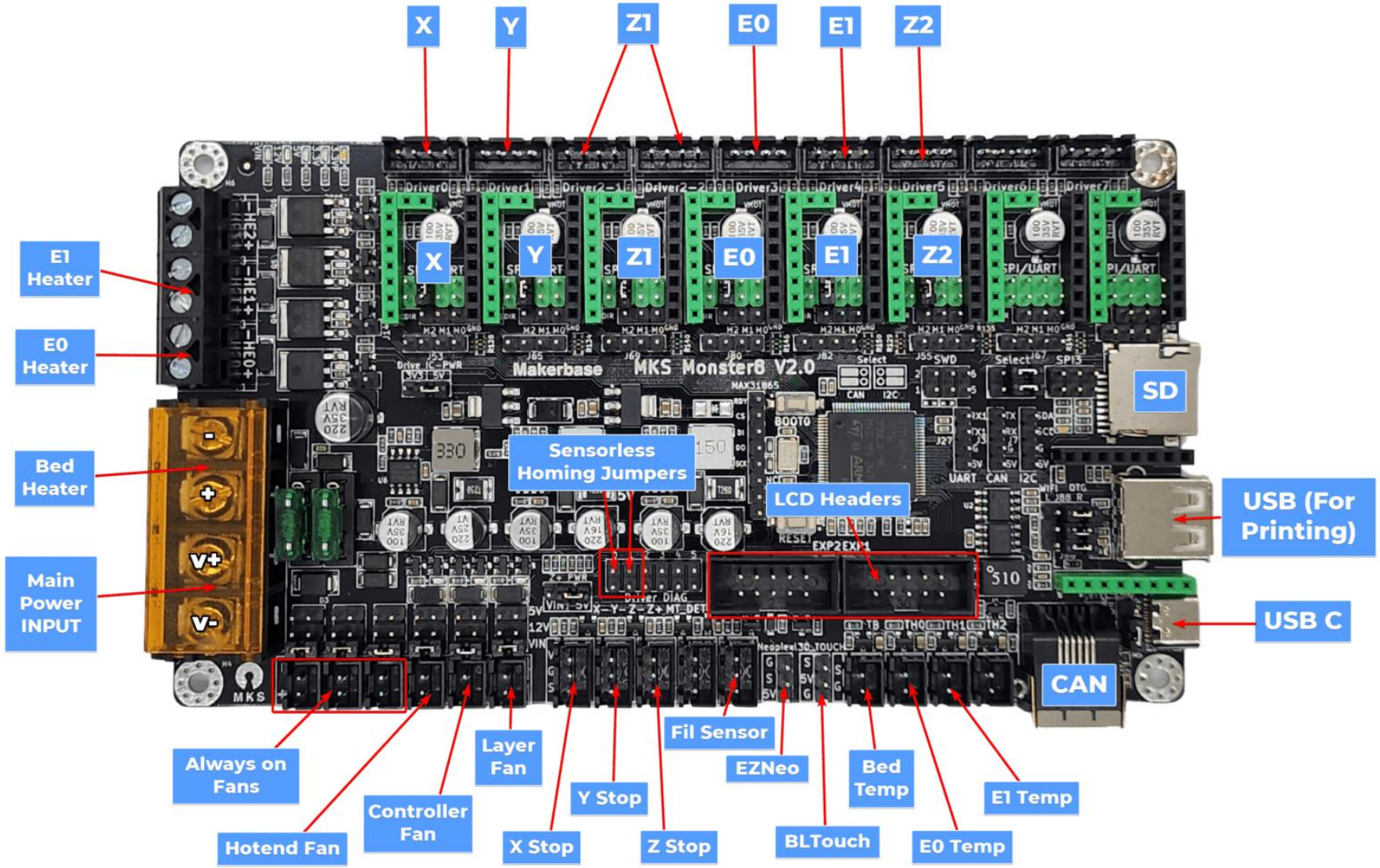

Sunsart
BLTouch







MORE DETAIL MKS MONSTOR 8 CIRCUIT



USEFULL LINKS OF PRODUCT

REPO OF SPEED-STER M1 : https://github.com/ahil01/Speed-ster-M1

Config file MKS Monster ：https://github.com/makerbase-mks/Klipper-for-MKS-Boards/blob/main/MKS%20Monster8/generic-mks-monster8.cfg