KNOMI2



Product Overview

The BIGTREETECH KNOMI V2.0 is a compact touchscreen display developed by Shenzhen BIQU Innovation Technology Co., Ltd. for 3D printer nozzle monitoring and control. Its intuitive touch interface simplifies machine operation, offering seamless interaction for users.

Product Link: BIGTREETECH Official Website

Key Features

Screen	
Display Size	1.28inches
Display Area	32.4(H)mm x 32.4(V)mm
Resolution	240RGB x 240dots
Viewing Angle	178°
Backlight Brightness	400Cd/m2
Backlight Lifespan	>20,000hours
Chip	>GC9A01
Power Supply	
Input	DC 5V 1A
Logic Voltage	DC 3.3V
Rated Power	5W
Communication & Memory	
Communication	ESP32-WIFI 802.11 b/g/n (802.11n, up to 150 Mbps), operating center frequency range: 2412 - 2484 MHz
Screen Communication	SPI
Wireless Connectivity	Onboard 2.4GHz Wi-Fi + Bluetooth Low Energy (BLE) SoC IEEE 802.11 b/g/n (2.4GHz Wi-Fi) and

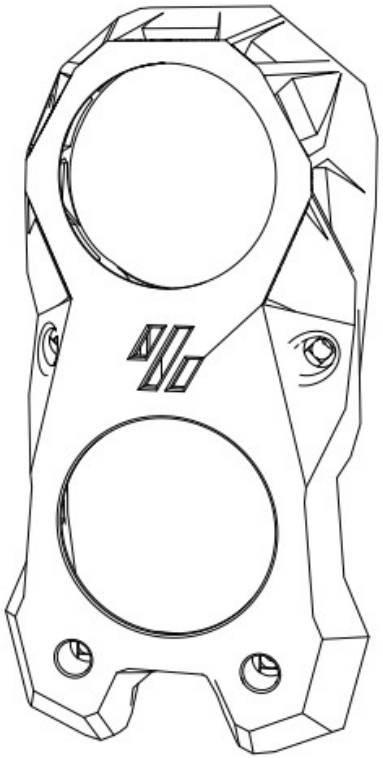
	Bluetooth 5 (LE)
Flash	**16MB**
PSRAM	**8MB**
Operating & Storage Conditions	
Firmware Support	**Klipper**
Operating Temperature	**-20°C to 70°C**
Storage Temperature	**-30°C to 80°C**

!!! note For detailed structural and setup information, refer to the KNOMI 2 USER GUIDE.PDF

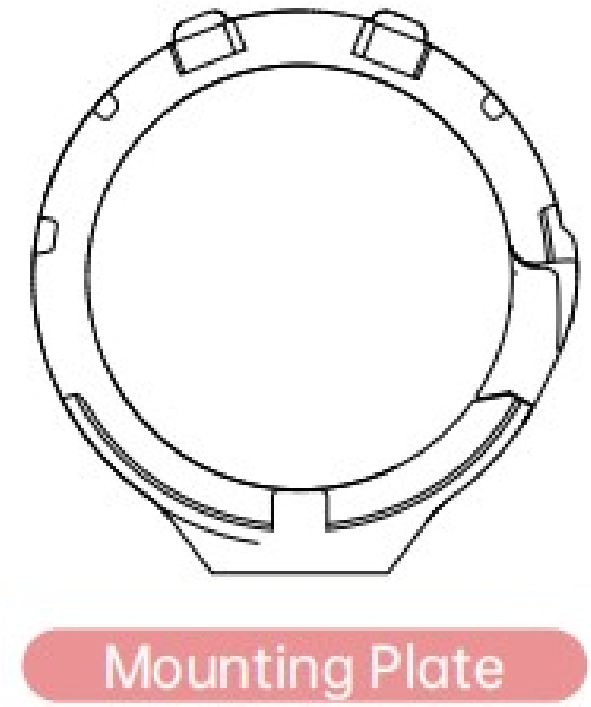
Performance Comparison Test

!!! question Does KNOMI 2 affect StealthBurner performance?

Our custom-designed StealthBurner Main Body integrates KNOMI 2 seamlessly while maintaining optimal airflow and heat dissipation. The modified design includes a top ventilation opening, ensuring no compromise in cooling efficiency.



StealthBurner Main Body for KNOMI 2 v1.1

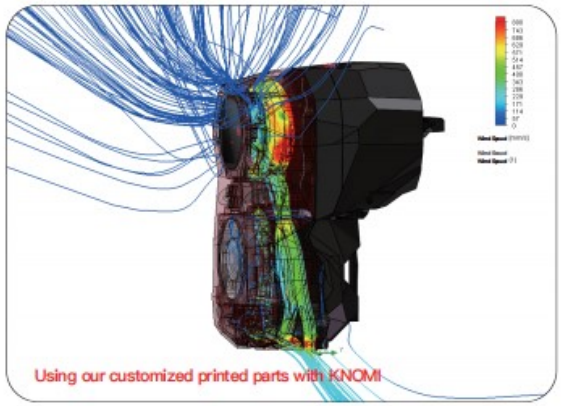


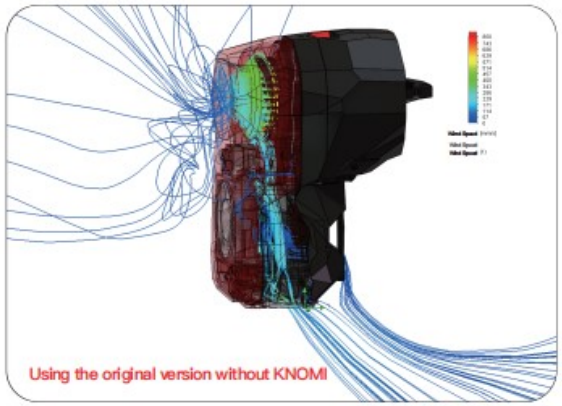
!!! note "Printed Parts" Download The Printed Parts from Bigtreetech/Knomi

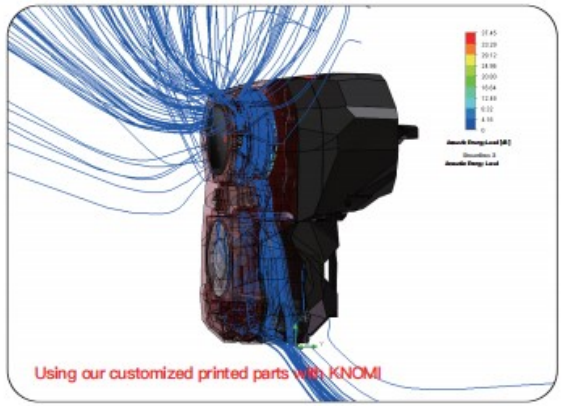
Mounting Plate

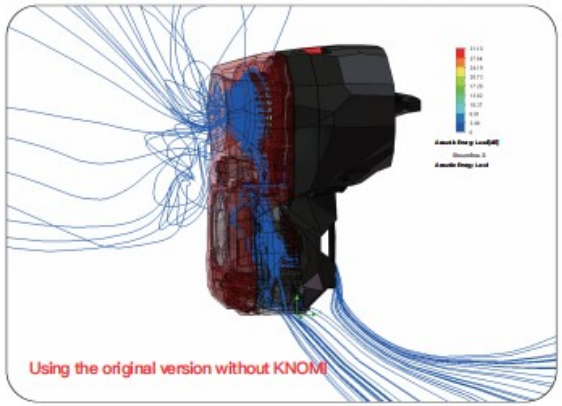
Before beginning installation, make sure you have both printed parts ready. Due to size constraints and airflow requirements, the mounting plate uses a snap-fit design. Note that this design may wear out with repeated removal and reinstallation. We recommend printing extra copies for convenience.

Our performance testing compared airflow velocity and acoustic levels between the standard StealthBurner and the modified KNOMI-equipped version. The results demonstrated equivalent cooling performance and noise output between both configurations, confirming that the KNOMI integration - including its additional ventilation features - maintains the StealthBurner's original operational performance without compromise.





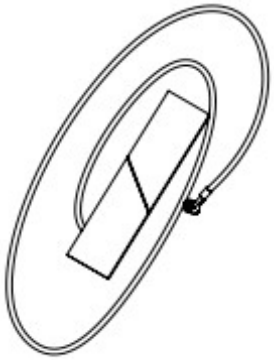




Packing List



KNOMI 2 1pc



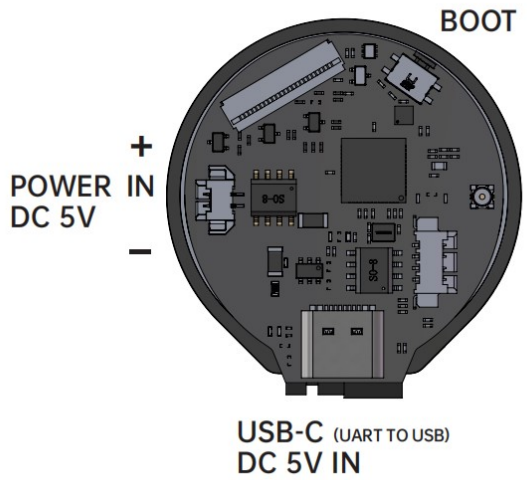
ANTENNA 1pc



CABLE (ZH1.25 2-Pin to Dual DuPont 2.54 1-Pin) 1pc

Overview





CONFIGURING WIFI

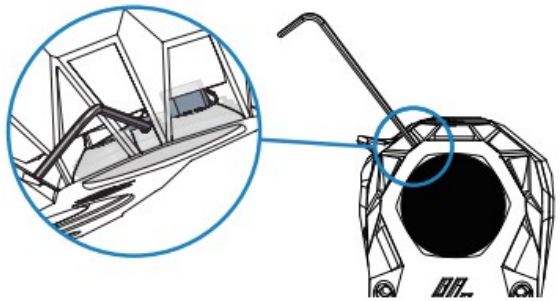


KNOMI 2 STARTUP

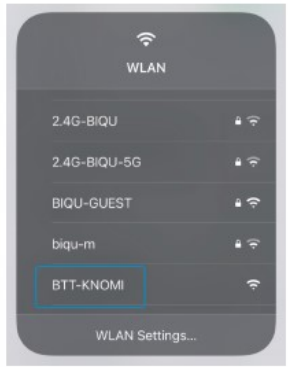
Power KNOMI 2 via the USB-C or ZH1.25 connector. On power up, KNOMI 2 will display the HELLO interface indicating readiness for network configuration.
This interface appears in three cases: first boot, after factory reset, or if unable to connect to the previously set Wi-Fi within 15 seconds of boot.



Before initial setup and powering on, ensure the external antenna is connected. After successful configuration, the antenna can be removed for installing in the StealthBurner. Note that the antenna will need to be reattached per this manual's instructions after final assembly.

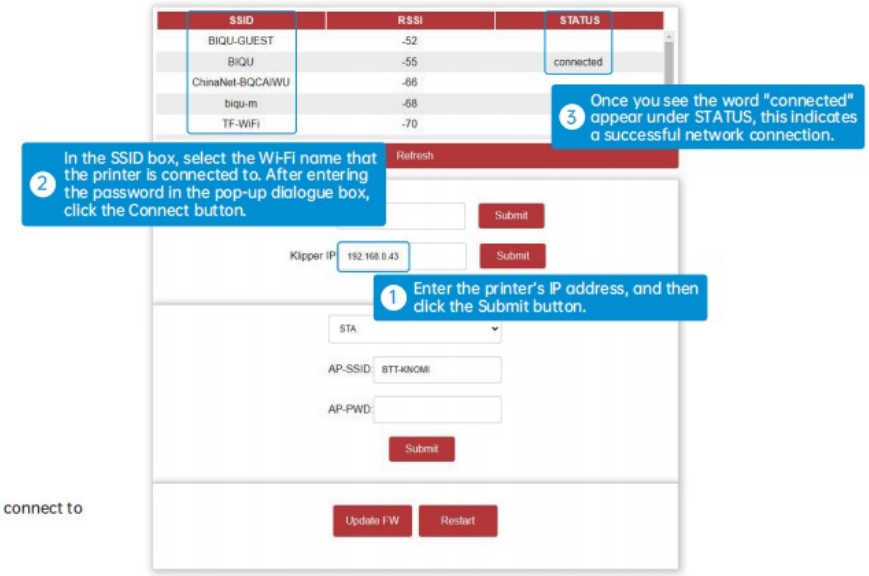


If KNOMI 2 is already installed in the StealthBurner but you need to switch Wi-Fi networks, you can also press the BOOT button using a thin tool like a hex key.



CONNECTING TO KNOMI 2
Use a device that supports Wi-Fi to find and connect to the "BTT-KNOMI" network.

Your browser will automatically open up the configuration page. If it does not redirect automatically, you can manually enter **"http://knomi.local"** in your browser to access it.



Approximately 10 seconds later, KNOMI 2 will switch to the main interface.

!!! note "Wi-Fi Compatibility" Due to device compatibility issues, KNOMI 2 cannot configure networks with `WPA PSK encryption` .If you experience connection issues during setup, please verify your router's encryption settings in the admin panel and change it to `WPA/WPA2 PSK` mixed mode or another supported encryption protocol to establish a successful connection.

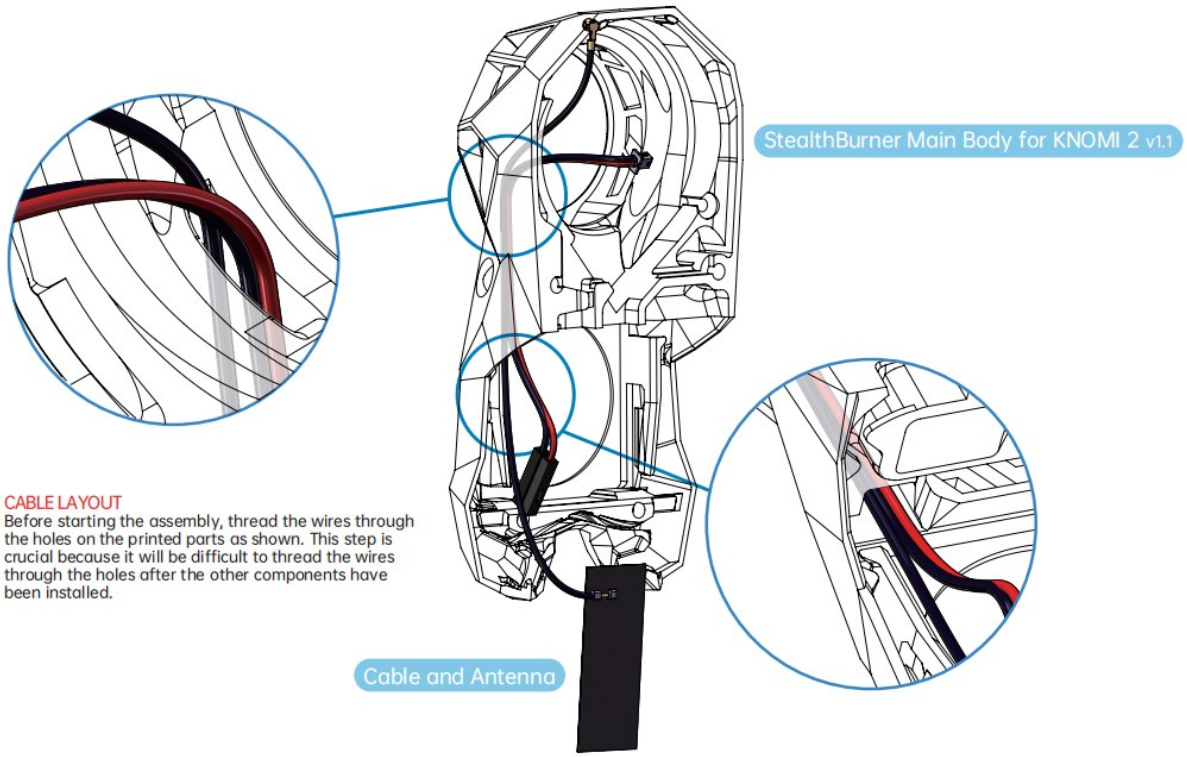
Knomi Disconnected



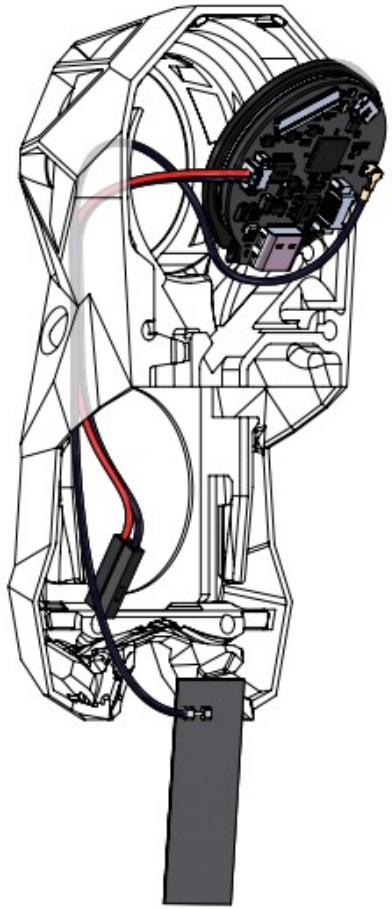
This status on KNOMI 2 indicates it has lost connection to the WiFi hotspot. Potential causes:

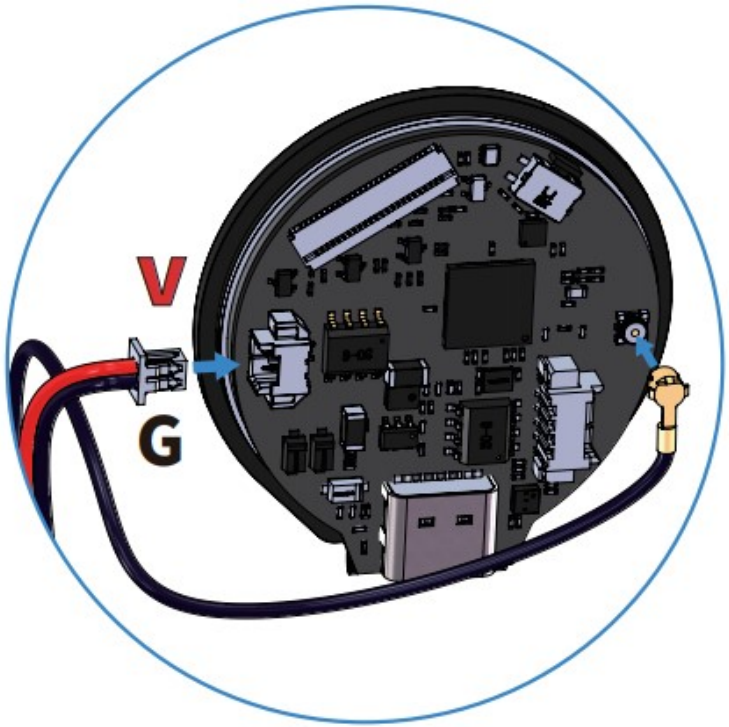
1. You changed the WiFi name or password, requiring a long press of the BOOT button to get to the HELLO interface and reconfigure KNOMI 2's network connection.
2. KNOMI 2 is too far from the WiFi hotspot, resulting in poor signal quality.

Install Knomi To Stealthburner

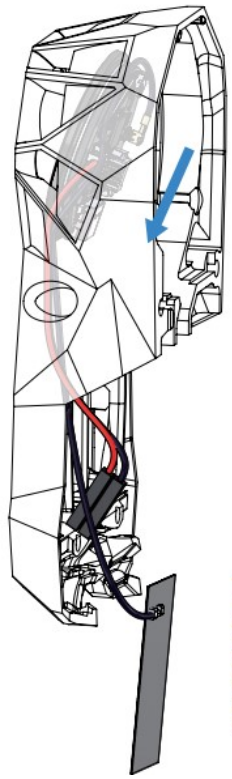


CABLE LAYOUT
Before starting the assembly, thread the wires through the holes on the printed parts as shown. This step is crucial because it will be difficult to thread the wires through the holes after the other components have been installed.

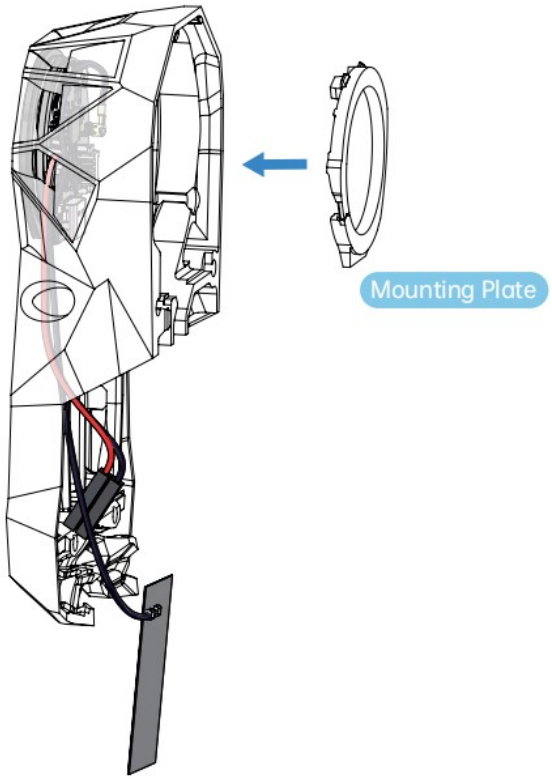


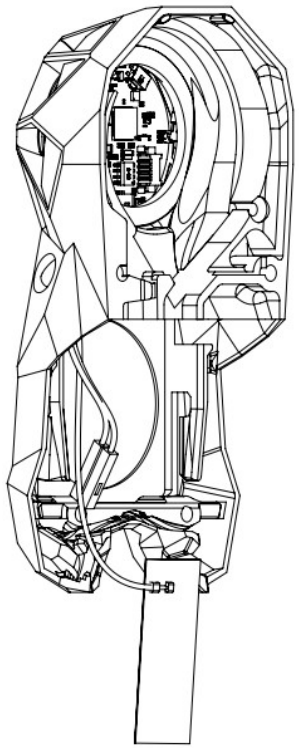


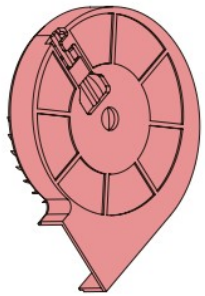
CONNECT POWER AND ANTENNA
Connect the ZH1.25 connector of the power cable and the antenna to their respective ports on KNOMI 2.



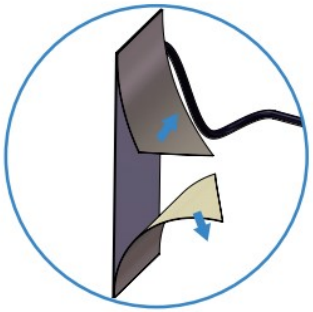
TIPS
To insert KNOMI 2, first, tilt KNOMI 2, aligning its bottom with the corresponding position on the StealthBurner Main Body for KNOMI 2 v1.1 and position it. Then, carefully integrate the entire KNOMI 2 into the StealthBurner Main Body for KNOMI 2 v1.1 until it is completely flush with the surface.



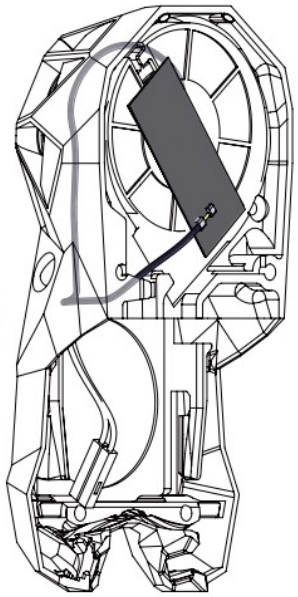


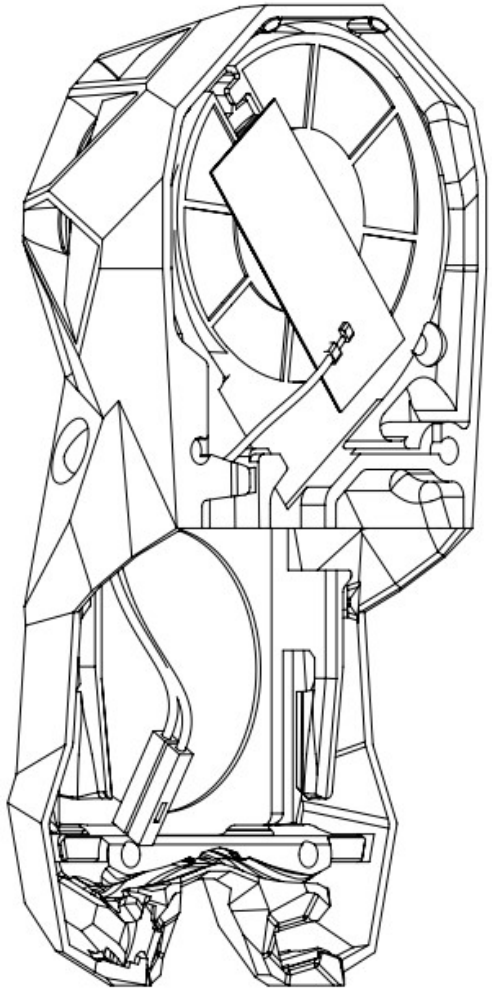


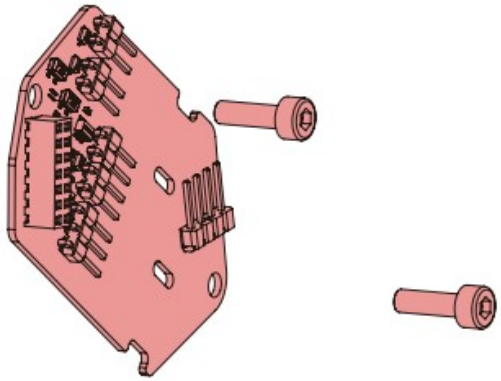
TURBINE FAN
Install the turbine fan using the same steps as without KNOMI 2.



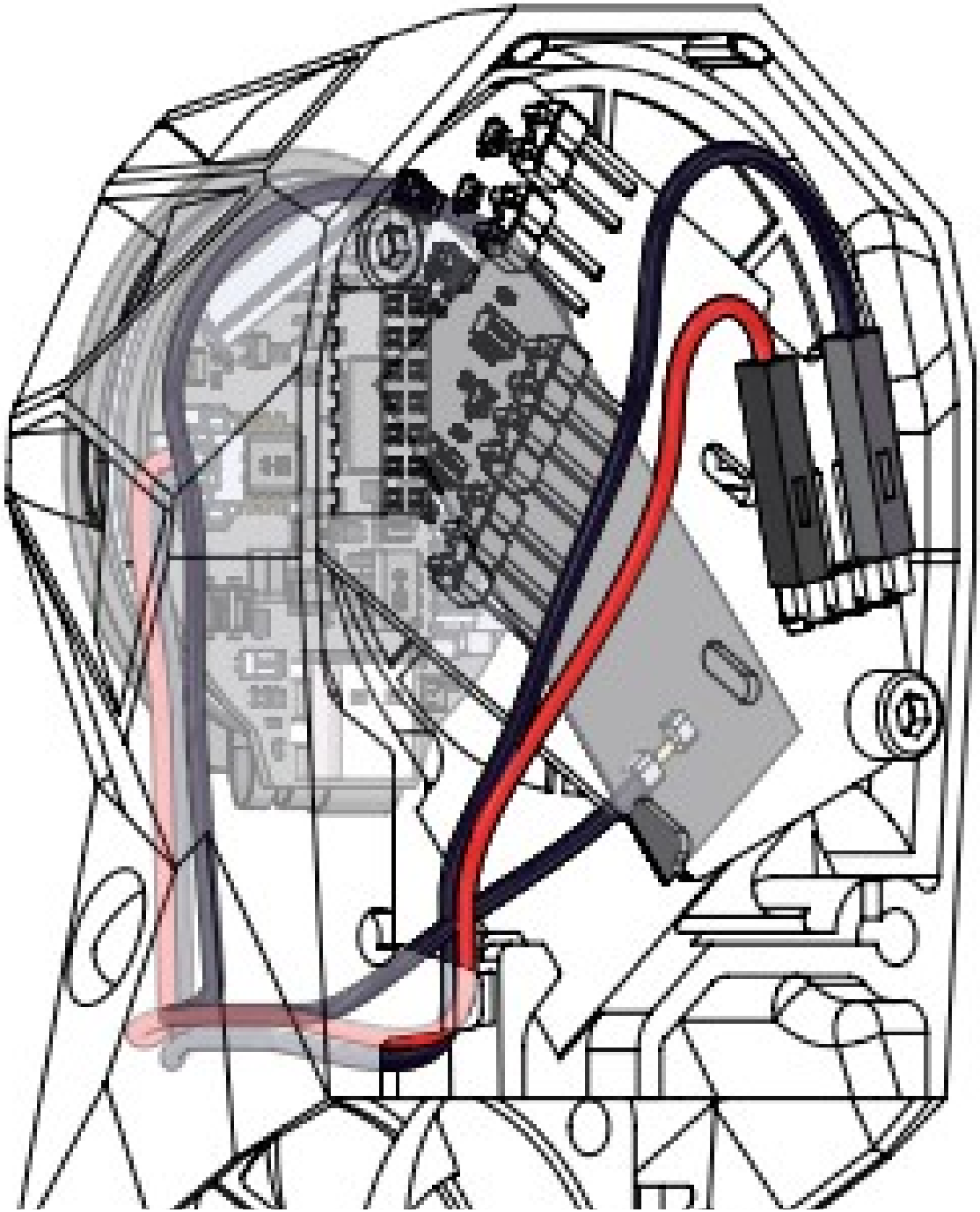
ANTENNA INSTALLATION
After removing the backing paper from the antenna, stick it on the back of the turbine fan.

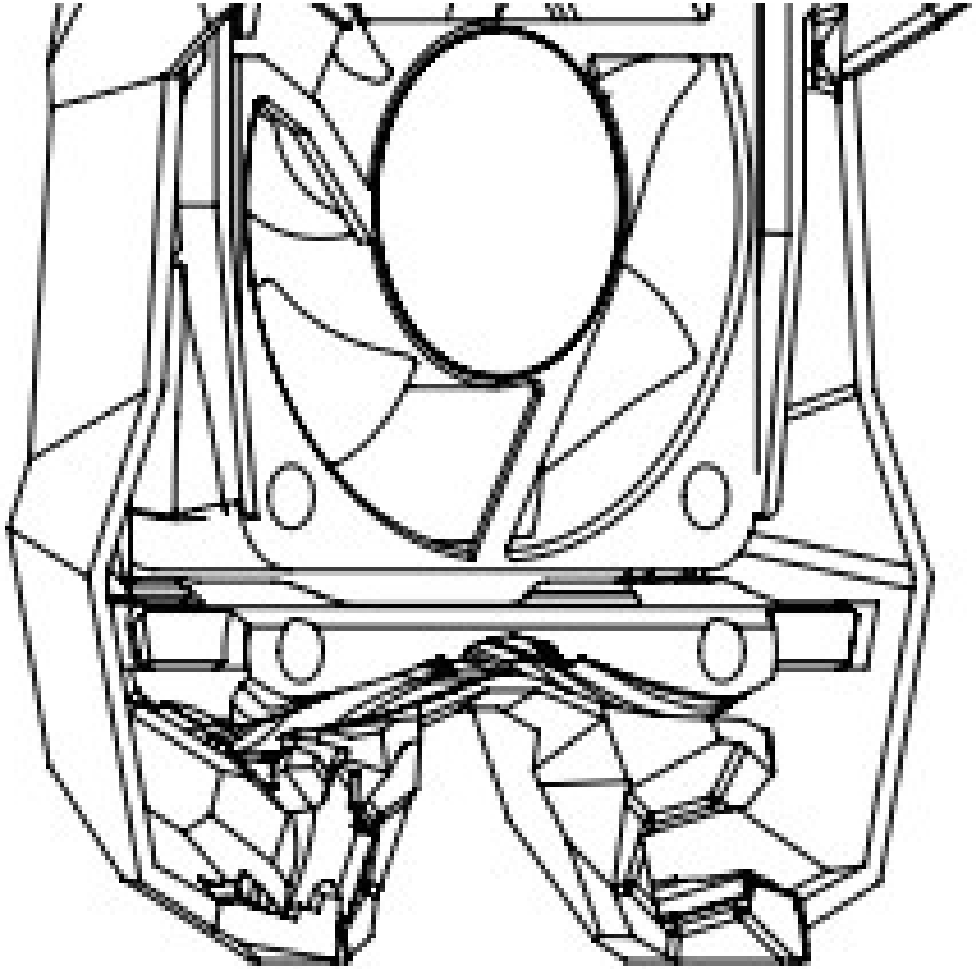




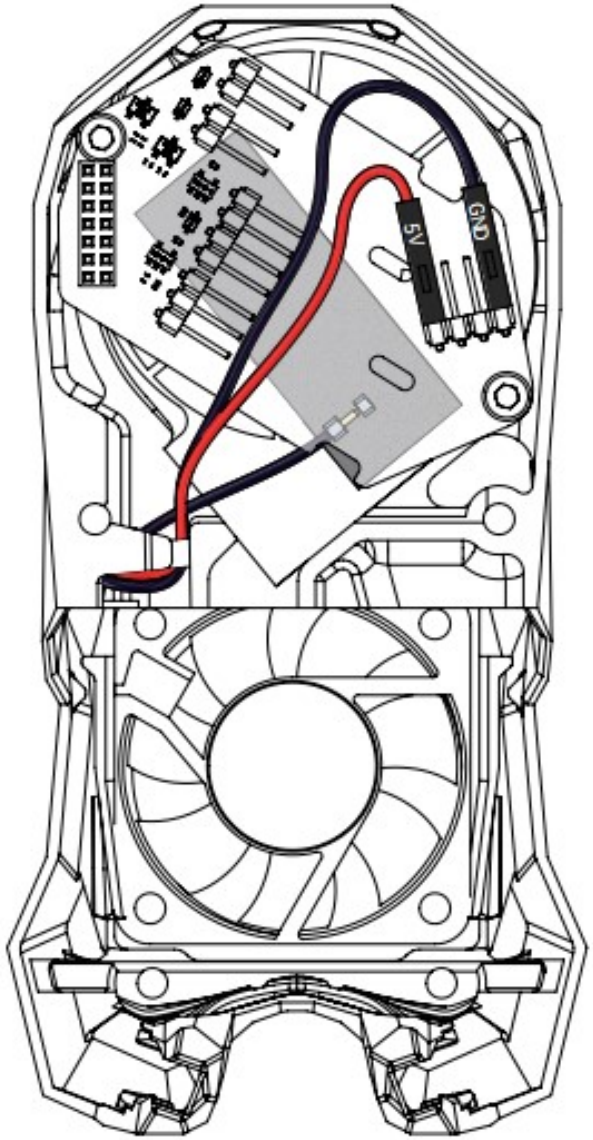


EBB SB0000 CAN
Install the EBB SB0000 CAN or a similar tool board (you can skip this step if you are not using the EBB SB0000 CAN or a similar tool board).





!!! tip "Power Cable Routing"



As shown, guide KNOMI 2's power cable through the hole in the printed part, and then direct it towards the rear of the EBB SB0000 CAN.

If you are not using the EBB SB0000 CAN or a similar tool board, after routing the power cable as shown in the diagram, connect it to your motherboard or other power source.

Adding Relevant Macros

printer.cfg *

```
[gcode_macro _KNOMI_STATUS]
variable_homing: False
variable_probing: False
variable_qgling: False
variable_heating_nozzle: False
variable_heating_bed: False
gcode:

[gcode_macro M109]
rename_existing: M109.1
gcode:
  SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=heating_nozzle VALUE=True
  M109.1 {rawparams}
  SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=heating_nozzle VALUE=False

[gcode_macro M190]
rename_existing: M190.1
gcode:
  SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=heating_bed VALUE=True
  M190.1 {rawparams}
  SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=heating_bed VALUE=False

[gcode_macro G28]
rename_existing: G28.1
gcode:
  SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=homing VALUE=True
  G28.1 {rawparams}
  SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=homing VALUE=False

[gcode_macro BED_MESH_CALIBRATE]
rename_existing: BTT_BED_MESH_CALIBRATE
gcode:
  SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=probing VALUE=True
  BTT_BED_MESH_CALIBRATE
  SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=probing VALUE=False
```

TIPS
You can copy it
It's not a picture.

```
[gcode_macro _KNOMI_STATUS]
variable_homing: False
variable_probing: False
variable_qgling: False
variable_heating_nozzle: False
variable_heating_bed: False
gcode:

[gcode_macro M109]
rename_existing: M109.1
gcode:
    SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=heating_nozzle VALUE=True
    M109.1 {rawparams}
    SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=heating_nozzle VALUE=False

[gcode_macro M190]
rename_existing: M190.1
gcode:
    SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=heating_bed VALUE=True
    M190.1 {rawparams}
    SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=heating_bed VALUE=False

[gcode_macro G28]
rename_existing: G28.1
gcode:
    SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=homing VALUE=True
    G28.1 {rawparams}
    SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=homing VALUE=False

[gcode_macro BED_MESH_CALIBRATE]
rename_existing: BTT_BED_MESH_CALIBRATE
gcode:
    SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=probing VALUE=True
    BTT_BED_MESH_CALIBRATE
    SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=probing VALUE=False
```

If the printer has a QGL feature




```
[gcode_macro QUAD_GANTRY_LEVEL]
rename_existing: BTT_QUAD_GANTRY_LEVEL
gcode:
    SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=qgling VALUE=True
    BTT_QUAD_GANTRY_LEVEL
    SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=qgling VALUE=False
```

If there is no QGL but there is a Z_TILT function, you can follow the settings below :



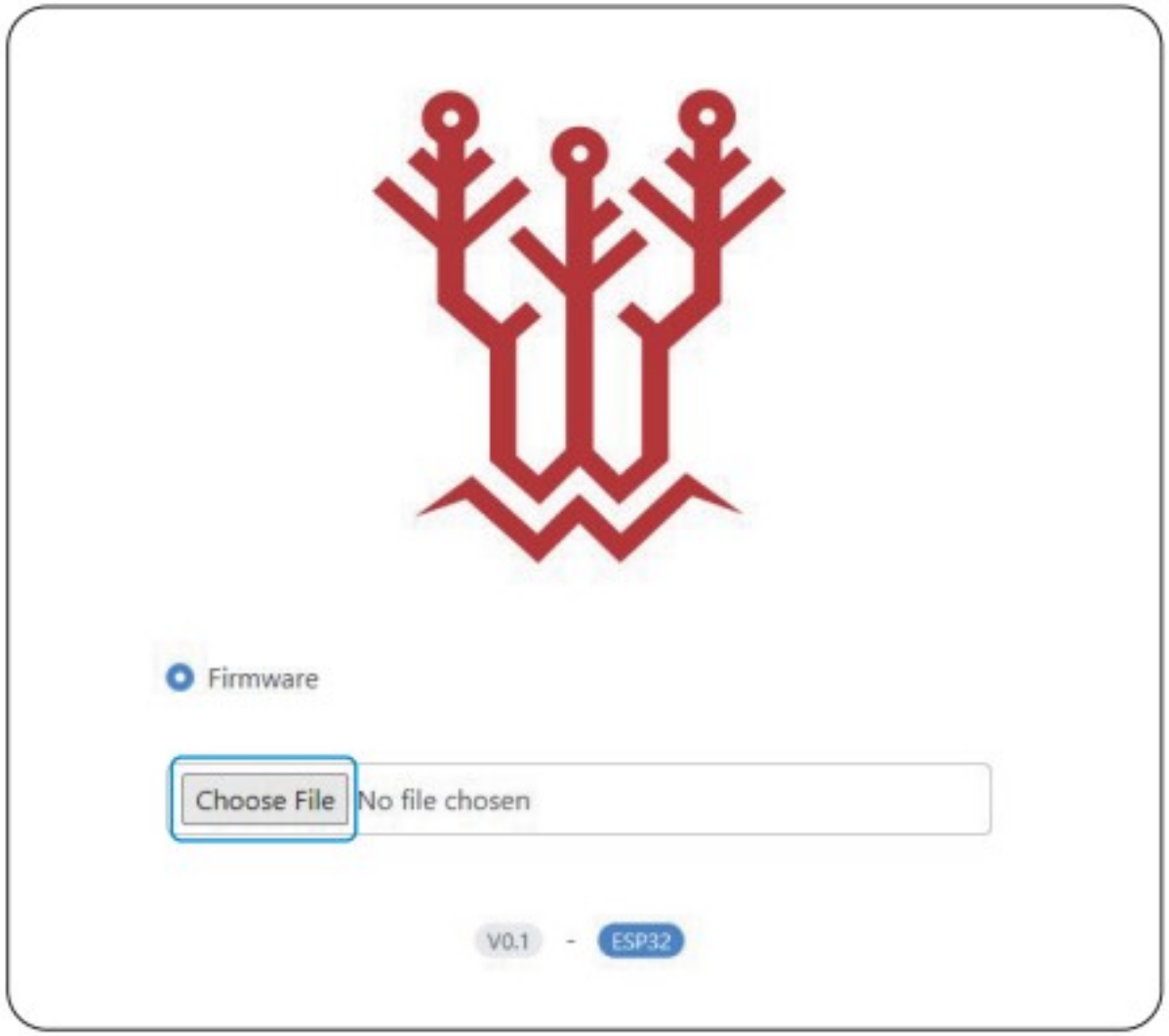

```
[gcode_macro QUAD_GANTRY_LEVEL]
gcode:
    SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=qgling VALUE=True
    Z_TILT_ADJUST
    SET_GCODE_VARIABLE MACRO=_KNOMI_STATUS VARIABLE=qgling VALUE=False
```

Updating Firmware

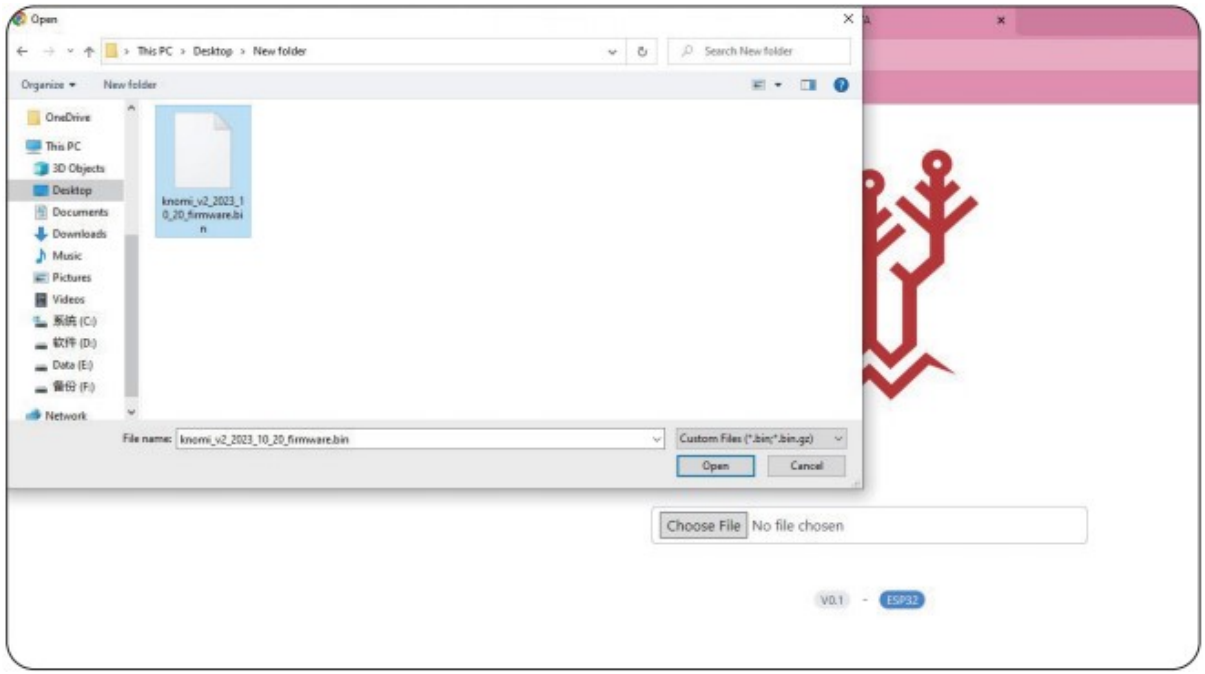
Enter http://knomi.local into your browser to access the KNOMI 2 network configuration page. Scroll to the bottom of the page and click `Update FW`.



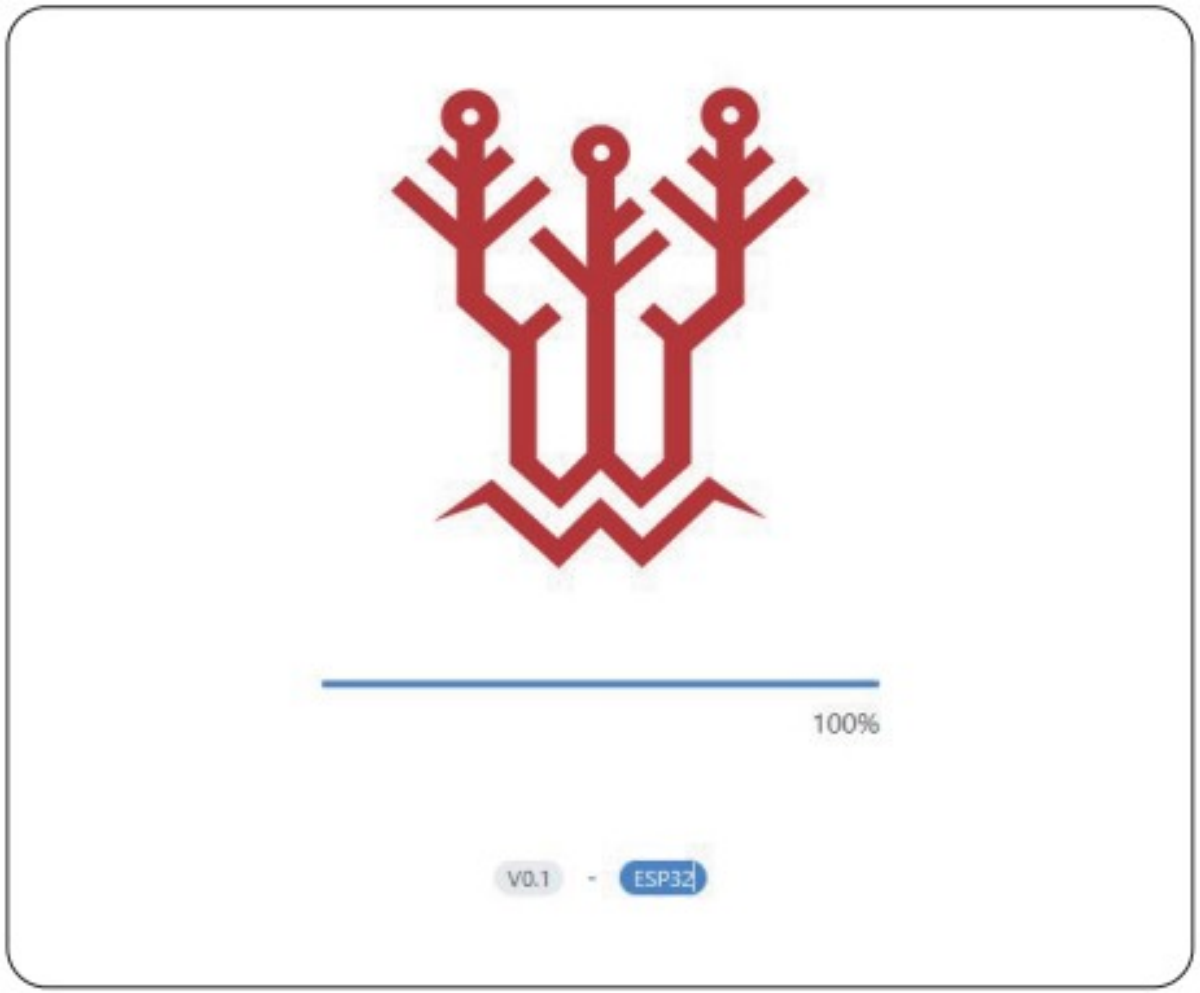
Click on `Choose File` on the firmware update page.



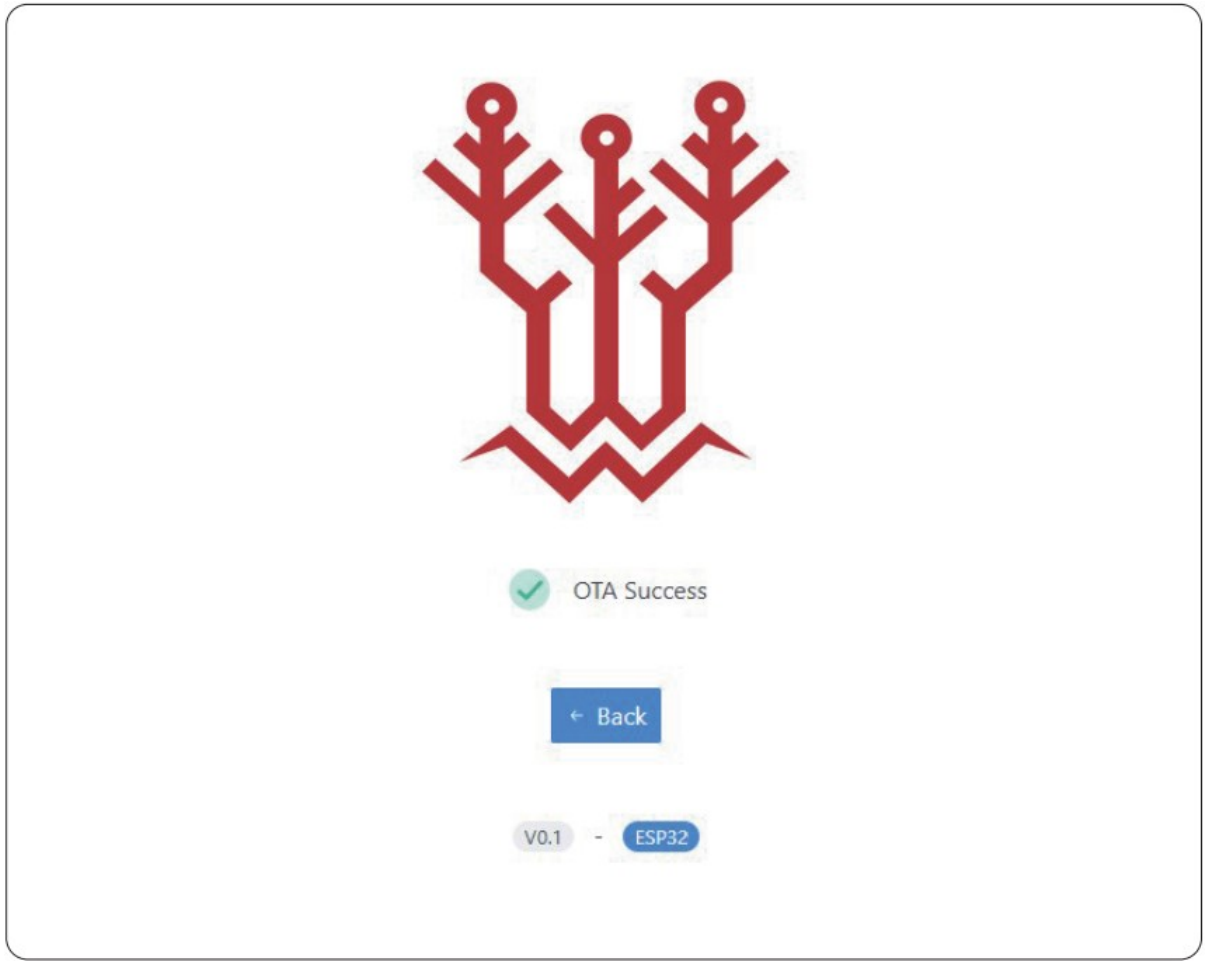
Select the `xxx.bin` file.



The firmware will automatically update over-the-air.



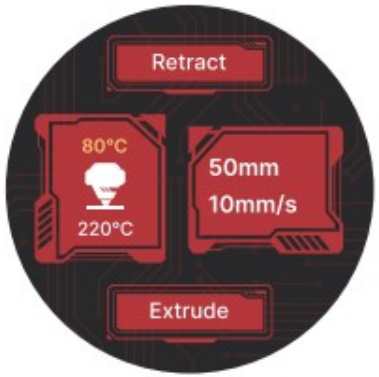
Upon completing the firmware update, KNOMI 2 will automatically reboot. You'll see a confirmation message on both the device screen and web interface indicating the update was successful You may now click the `Back` to return to KNOMI 2's main network configuration interface.



KNOMI UI

!!! note "Knomi Control UI Instruction & Gesture Operation" KNOMI 2's touchscreen supports swipe gestures (up/down/left/right) for navigation and long presses for selections.

Main Interface



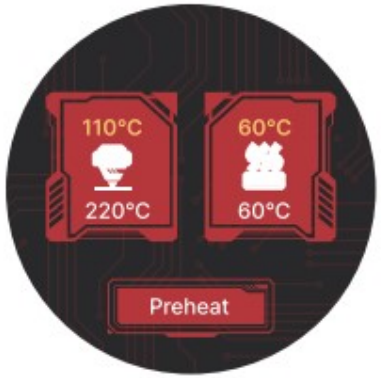
Extruding and Retracting Filament



Standby



ABL/QGL/Homing



Nozzle/Heated Bed Temperature Settings



Settings

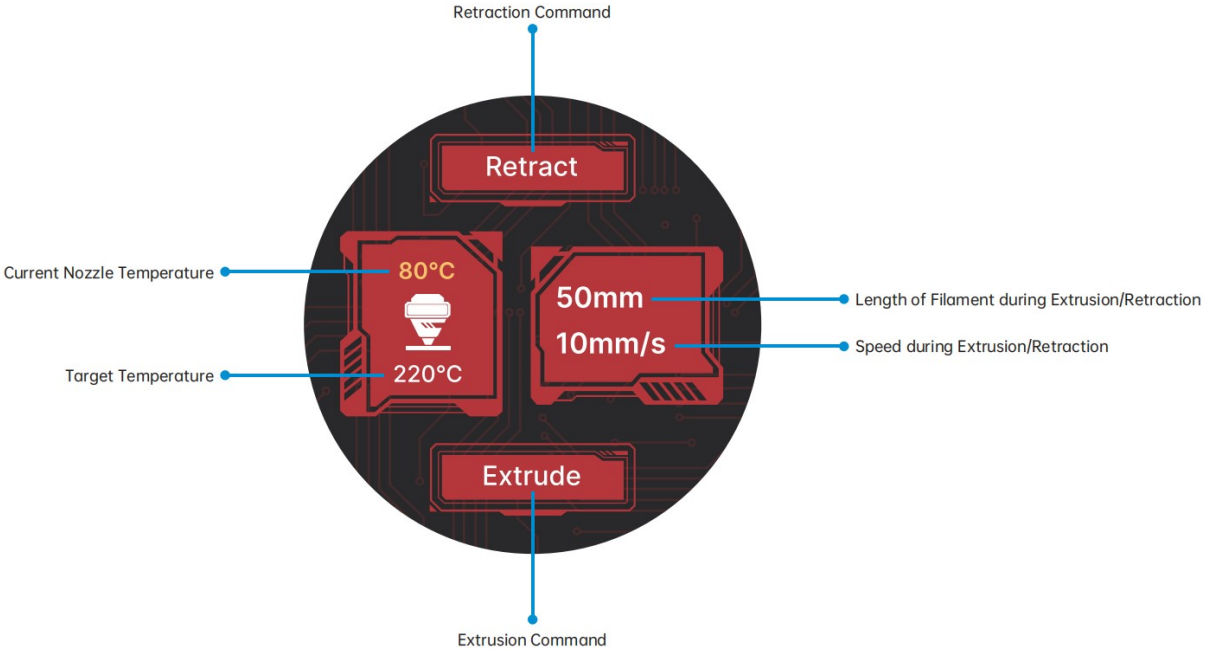


QR Code for the Online Manual

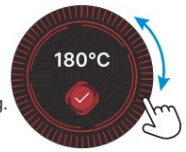
Gesture	Function
Swipe Left/Right	Swipe left and right on the Main Interface to switch between the [Extruding and Retracting Filament] , [ABL/QGL/Homing] , [Nozzle/Heated Bed Temperature Settings] , [Settings] , and [Online Manual QR Code] .
	Swiping Left and Right on Other Interfaces: Returns to the previous interface / No action.
Tap	Confirms your selection.

How To Extrude And Retract Filament?

Swipe right from the Standby UI to access the Extruding/Retracting Filament interface.



1. Tap  .

2. Turn the temperature dial clockwise or counter-clockwise to change the setting. 

3. When you've picked the temp you want, tap  and you'll go back to the Extruding/Retracting Filament interface with the new value selected.

4. Tap 

, keep your finger on the screen, and adjust the length and speed by scrolling the respective bars up and down until you reach your preferred values, release your finger and tap ✓. KNOMI 2 will automatically return to the Extruding/Retracting Filament interface with the new value selected.



5. Tap Extrude or Retract .Your printer will start Extruding or Retracting.

* While on the temperature adjustment dial, you can return to the Nozzle/Heated Bed Temperature Settings interface by swiping up from any spot.





HOW TO ABL/QGL/HOMING?

Swipe left from the Standby UI to access the ABL/QGL/Homing interface.

For ABL

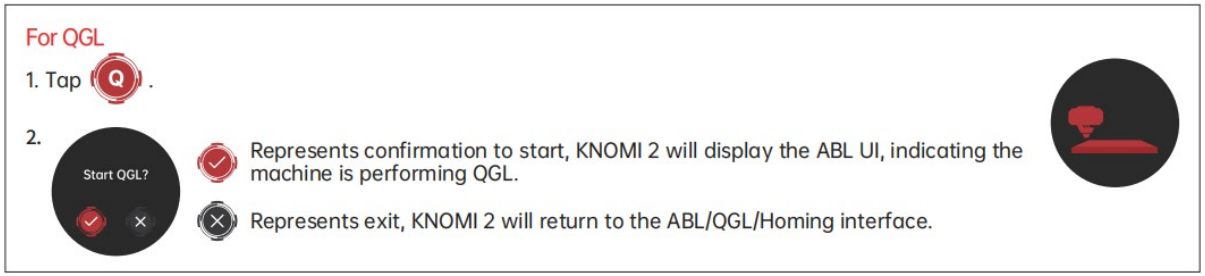
1. Tap  .

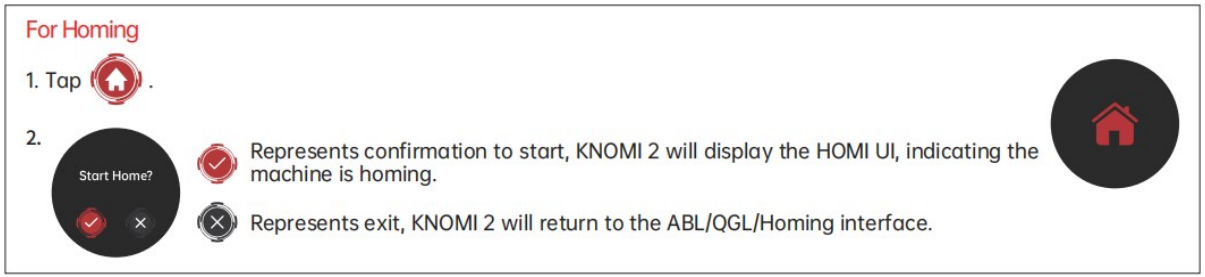
2. 

✓ Represents confirmation to start, KNOMI 2 will display the ABL UI, indicating the machine is performing ABL.

✕ Represents exit, KNOMI 2 will return to the ABL/QGL/Homing interface.

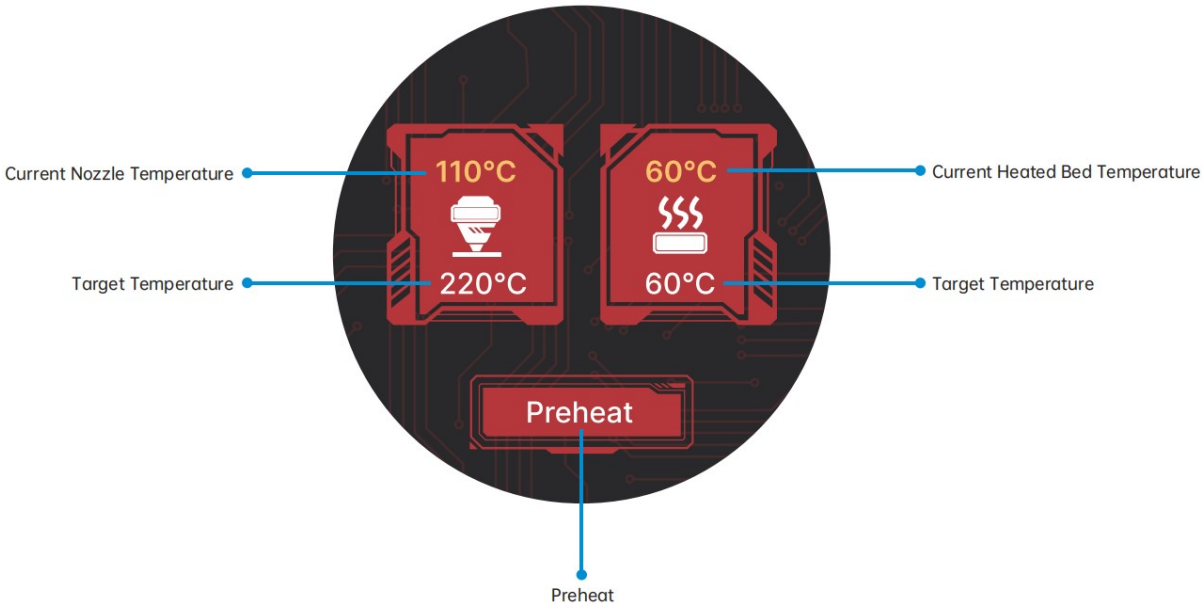






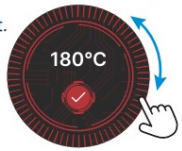
How To Adjust The Temperature Of The Nozzle/bed?

Swipe left from the Standby UI to access the Nozzle/Heated Bed Temperature Settings interface.



1. Tap  or .

2. Turn the temperature dial clockwise or counter-clockwise to change the setting. When you've picked the temp you want, tap  and you'll go back to the Nozzle/Heated Bed Temperature Settings interface with the new value selected. The nozzle/heated bed will heat up or cool down to match that target.



* While on the temperature adjustment dial, you can return to the Nozzle/Heated Bed Temperature Settings interface by swiping up from any spot.



Manual Temperature Adjustment Is Not Required

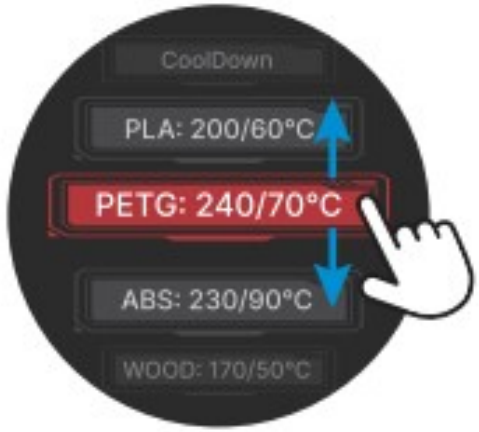
Optimal nozzle and heated bed temperature parameters for various filament are preset.

Simply tap 

and slide up or down to find your desired filament and tap it.

KNOMI 2 will go back to the Nozzle/Heated Bed Temperature Settings interface and your chosen nozzle/bed temps will be set. The nozzle and bed will start heating up/cool down to reach the target temp.





* While on the Preheat interface, you can return to the Nozzle/Heated Bed Temperature Settings interface by swiping left/right from any spot.





SETTINGS
Swipe left from the Standby UI to access Settings Interface.

UI Theme Color	DIY KNOMI UI Color with RGB Selection.
Backlight	Adjust backlight brightness.
[1]Klipper Control	Restart / Firmware Restart.
[1]Service Control	[1] Klipper, Crowsnest, Klipper MCU, Moonraker, KlipperScreen (start/stop/restart available for each).
[1]Host Control	Reboot /Shutdown
Knomi Info	STA: shows KNOMI's network IP when connected to a router; AP: KNOMI's hotspot IP address; [2] Local: The mDNS hostname for KNOMI on the local network. You can access KNOMI's web interface within the same LAN by typing knomi.local directly without needing the IP address; Host: displays the IP of the connected Klipper printer.
Factory Reset	Factory Reset

Advanced setting

please only use it if you fully understand its specific function.

Config mDNS URL

KNOMI has built-in mDNS. You can enter `http://knomi.local` in the browser (The default hostname is KNOMI. If users have modified it, please use the custom name instead of `knomi` in the URL, the URL characters are case-insensitive), or view the IP address on the Knomi Info.

Adjust Knomi UI Colors?

1. On the Settings interface, tap UI theme Color .

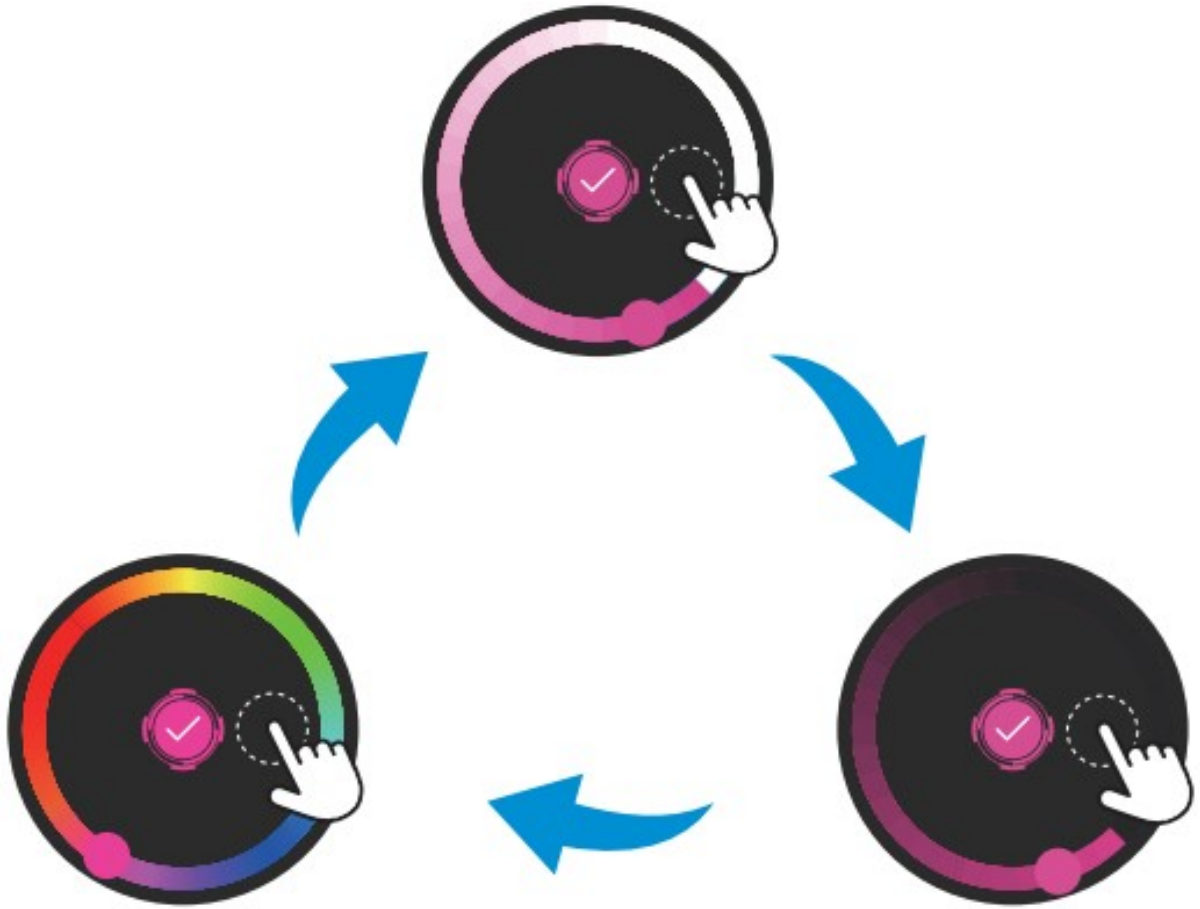
2. KNOMI 2 has preset red(Default), blue, purple, green. Slide up/down to position the selection box on the desired color, then tap the color name to change the KNOMI UI to that color.



To choose custom colors, slide to the bottom and tap "Custom" to access the RGB color wheel. Select your preferred color then tap to immediately change the KNOMI interface to your chosen color.



You can further customize the saturation and brightness: After choosing a color from the wheel, long-press the outer black area to cycle through saturation adjustment, brightness adjustment, and return to the RGB color wheel.



Your selected saturation/brightness settings remain applied when you return to the RGB color wheel.



Adjust Brightness?

1. On the Settings interface, tap 

.

2. Keep your finger on the screen and slide up/down to adjust the icon. The screen brightness will dim/brighten with the icon. Once at the desired brightness, swipe left/right to go back to the Settings interface.



HOW TO ACCESS THE ONLINE USER MANUAL?

From the Standby interface, swipe left to the QR code for the online manual. Use your phone to scan the code which will directly take you to the online manual.



KNOMI UI Status Icons

KNOMI UI uses visual elements to provide status information at different stages of printer operation :

STANDBY		The printer awaits operational instructions.
HEATING BED		Target temperature shown below, real-time heating progress displayed above.
HEATING NOZZLE		Target temperature shown below, real-time heating progress displayed above.
ABL/QGL/HOMING		
		
The printer is performing ABL/QGL/Homing.		

READY TO PRINT		The bed and nozzle have reached their respective target temperatures, and the printer is ready to print.
PRINT STARTING		The print head is moving, the print is beginning.
PRINT PROGRESS		Once over 1%, print progress is visually displayed as a percentage and circular progress bar. The jumping XYZ bars reflect acceleration changes in the XYZ axes.
PRINT DONE		The print job is finished.

FAQ



KNOMI is unable to obtain data from Moonraker. Please confirm the printer is running normally and the Klipper IP set in KNOMI is correct.



KNOMI can get data from Moonraker, but the data returned by Moonraker indicates the printer is in an abnormal s tate. Please check the detailed error information on a web interface like Mainsail. Once the printer returns to normal, KNOMI will automatically return to the main interface.

Where to Buy & Support

Purchase KNOMI 2:

(https://biqu.equipment/products/bigtreetech-knomi-2-for-voron-stealthburner?_pos=2&_psq=knomi&_ss=e&_v=1.0)

Need assistance? Submit a support ticket.

https://biqu3d.com/pages/submit-a-ticket

Official Channels

BIQU Official Website： http://biqu3d.com

BIGTREETECH Official Website： http://bigtree-tech.com

Online Store： https://biqu.equipment

Community & Discussion

BIGTREETECH Official Group: https://www.facebook.com/groups/bigtreetech

Discord: https://discord.gg/hhZsV7zk

Reddit: https://www.reddit.com/r/BIGTREETECH/