

# **CERAMBOT Pro Instruction Manual**

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<b>Author</b>	<b>Jony</b>

# CERAMBOT Pro tutorial

## 1. Preparation:

- 1) According to the assembly tutorial, the CERAMBOT Pro is assembled, the wiring is completed, and the firmware is burned.
- 2) Supply power to the printer connection adapter, supply power to the push rod motor control board, connect the worm and worm push rod motor harness to the right side of the CERAMBOT Pro control board, marked with ABAB, only one female seat on this side, do not insert wrong.

## 2. First use

- 1) CERAMBOT Pro is loaded with mud

Referring first to the video, the mud is loaded into the barrel. Then, the standard barrel is screwed into the push rod motor, one end of the barrel is quickly inserted into the PU tube of  $\phi 10$  mm, and the other end of the PU tube of  $\phi 10$  mm is inserted into the quick connection of the black extruder.



a) Screw the barrel into the push rod motor, remember to match the thread and align it. Do not twist the tooth and screw it. Before screwing, use the water to wet the tail of the barrel for easy screwing.

b) Insert the conveying pipe and connect the quick connection of the barrel. About the quick-connect method: one hand squats down the blue part and the other hand pulls out the transparent pipe

c) Insert the extruder. When pulling out the transparent tube, as shown in the figure: one hand is holding down the blue part, and the other hand is pulling out the transparent tube.

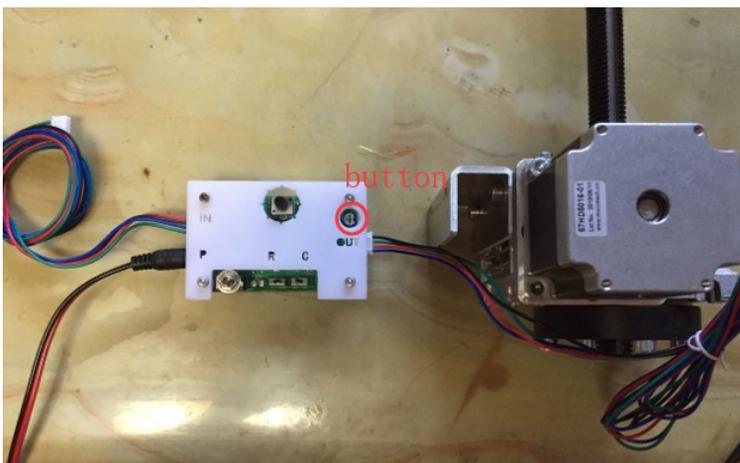
2) CERAMBOT Pro control board explanation



This control board is the dedicated control board of CERAMBOT Pro, and the wiring method is wired as shown above. The metal toggle is controlled by the power supply of the control panel and can be pulled left and right. The middle 1 and 2 buttons are function buttons, where 1 is the push rod motor forward and reverse control, and the tilt can realize the forward and reverse switching. The 2 button is a software and hardware switching control button. On the one hand, the push rod motor can be controlled by the control panel and the forward and reverse rotation control. On the other hand, it can also keep the rotation of the black extruder. The algorithm uses Marlin's M163 code.

The latest version of the control panel, compared with the original version, 1 blue changed to R dial code, 2 red changed to C dial code, the other consistent:

Pro control board wiring diagram, IN is the output signal from MKS expansion version, P is power supply, R is 57 stepping motor forward and reverse in hardware mode, C is hardware mode and software mode (M163 follow control) switching dial, right The output current of the 57 stepping motor can be adjusted in the side hole, and the middle knob (which should be rotated counterclockwise to the minimum in the initial state) can adjust the speed of the 57 stepping motor (in hardware mode).



Note: There is a white knob in the upper right corner of the CERAMBOT Pro control board to adjust the current of the pusher motor, and then adjust the thrust. Generally, it is about 3A. The current can be adjusted according to the hardness of the mud. If the control panel is too large, the control panel will be hot and easy to burn. Bad.

**note:**

1 button: Observe the steering of the worm and worm push rod motor. From the tail of the 57 stepping motor of the push rod motor, the clockwise rotation is the forward of the push rod, and the counterclockwise rotation is the backward of the push rod.

2 button: Under normal circumstances, it is generally preferred to adjust the speed by the control panel, not consistent with the extruder, and the switch can be switched.

Silver knob: When starting, the silver knob is adjusted counterclockwise to the minimum speed, then slowly rotate clockwise to observe the material discharge of the material. The silver knob must be turned counterclockwise to the minimum each time it is started. Silver knob rotation range: generally rotates 100°-180° clockwise from the minimum.

1 button: Press to go forward (the 57 stepping motor in the push rod motor turns clockwise from the tail, push the rod forward), do not press to reverse (the 57 stepping motor in the push rod motor turns counterclockwise from the tail, The putter is backwards). 2 button, press to go to software control, do not press, control panel control. Metal wrench: the left pull is open and the right pull is closed.

**Please use the following mode:**

When pushing forward: 1 button is pressed, 2 button is not pressed, and the metal wrench is pulled to the left;

When going backwards: 1 button does not press, 2 button does not press, metal wrench to the left;

Turn off the push rod motor: The metal wrench is pulled to the right.

3) Pre-extrusion of mud

Open the power control metal wrench of the push rod motor control board, and press the 1 button (switch the front and rear of the push rod motor) to ensure that the push rod motor advances. Check the 2 button. At this time, do not press it to ensure the control panel is pushed. Rod motor. Rotate the control panel silver knob (for push rod motor speed control) to observe the mud feed into the black extruder, observe the mud from the front end of the black extruder, push the metal switch to the right, close the push rod Motor.

4) Offline printing steps:

a) Insert the SD card into the left side of the printer control board to print.

b) Follow the steps below to execute the Gcode file for printing. Press the silver knob down to enter the menu bar. Rotate the silver knob to select the item. Find "CERAMBOT.gcode" and press the knob to print. You can observe the black squeeze at this time. The machine moves up.

c) At this time, turn on the metal switch of the push rod motor and the push rod motor starts to work. At

this time, the stepper motor of the push rod motor 57 rotates clockwise, and the push rod motor pushes the



### 3. Other considerations

- 1) Observe the discharge condition of the black extruder nozzle during printing. If the discharge is small, the extrusion line is narrow, the knob of the pressure regulating valve can be adjusted to increase the value of the pressure regulating valve at the top of the printer, not exceeding 0.6MPa. Otherwise, it is dangerous. When the line width is about 5mm in the printing process, the extrusion amount is appropriate.
- 2) How to pull out the feeding tube, one hand presses the blue circle and the other hand pulls out.



- 3) After printing, be sure to clean the extrusion head and soak the PU transparent tube filled with mud in the water for the next use.
- 4) Cleaning the black extruder
  - a) rotate the black sleeve counterclockwise;
  - b) Unscrew the white nozzle on the front of the black extruder and push the screw out from the rear of the black sleeve;
  - c) Wash the black extruder in addition to the motor with clean water.