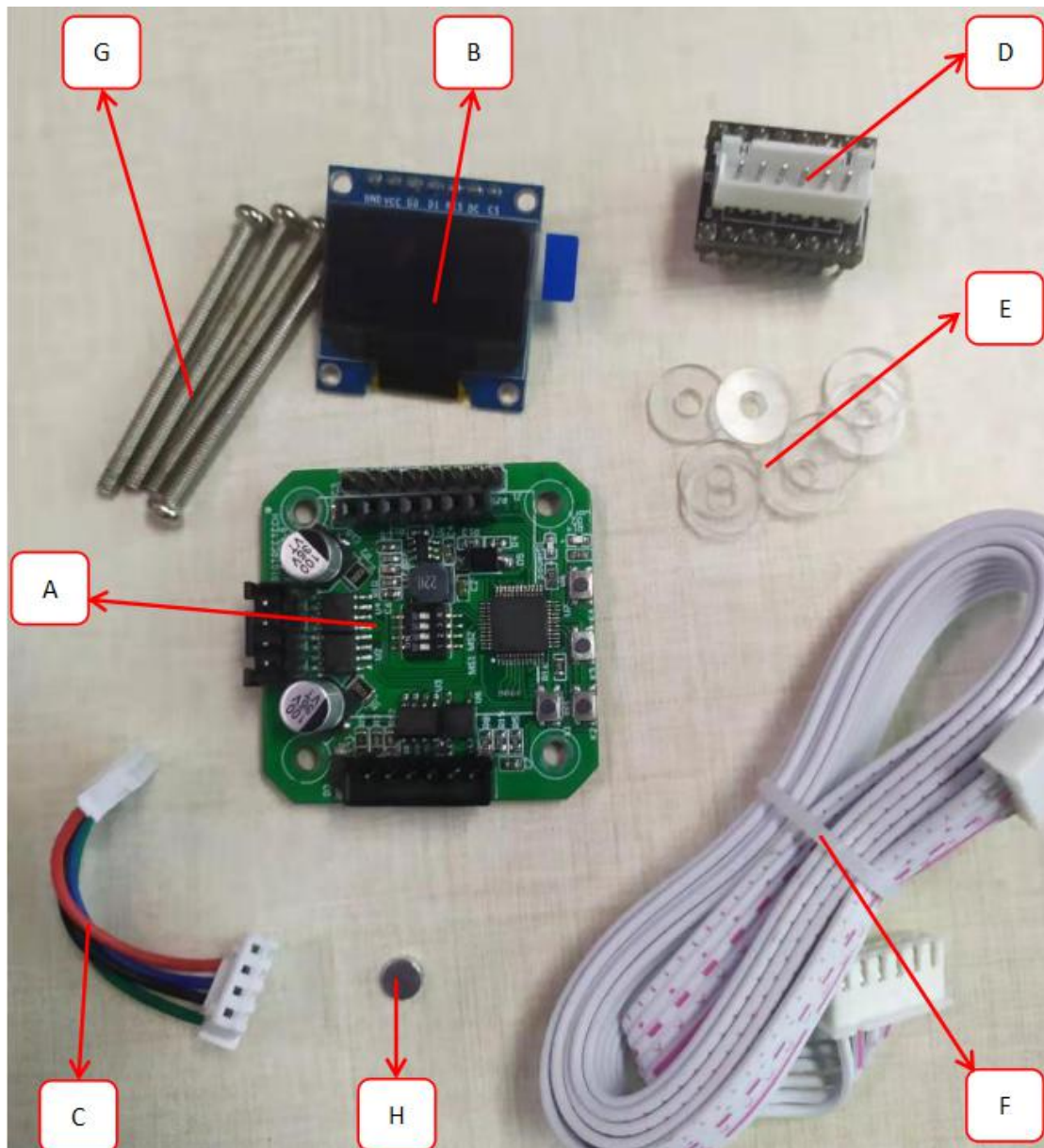# 42 Stepper Motor Closed-loop Driver Board User Development Guide

As shown above, prepare items:

A: 1 closed-loop control board

B: 1 7pin OLED screen

C: 1 connection wire between the motor and the closed-loop board

D: 1 closed-loop driver adapter board
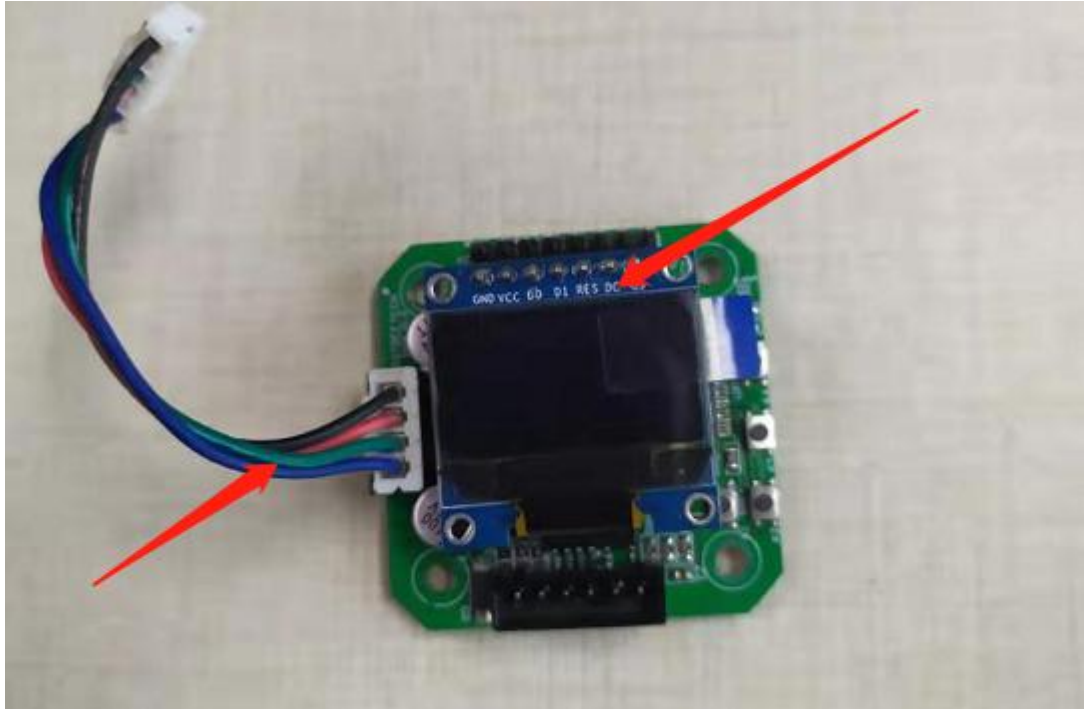
E: 8 gaskets

F: 1 connecting wire between the closed-loop driver board and the main control board

G: 4 screws

H: magnet, thickness 2x, diameter 5mm
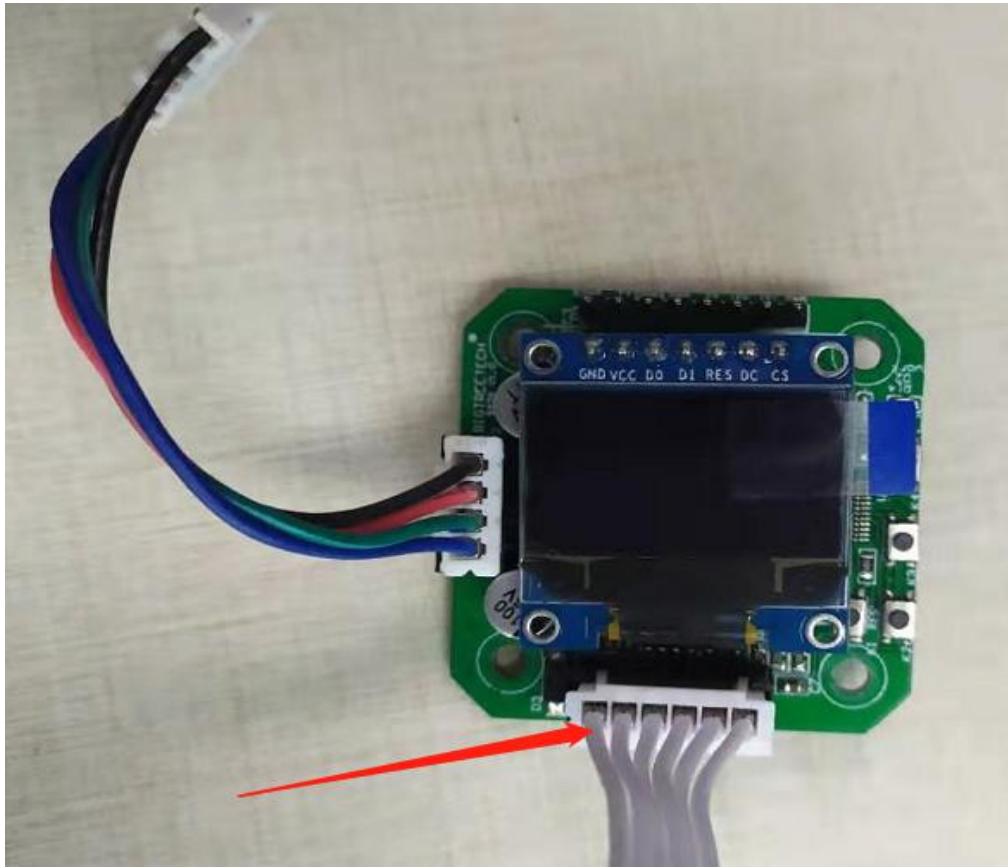
Ⅰ. Hardware installation diagram

    1. Install the connecting wire among the screen, motor and the closed-loop board, as shown in the picture
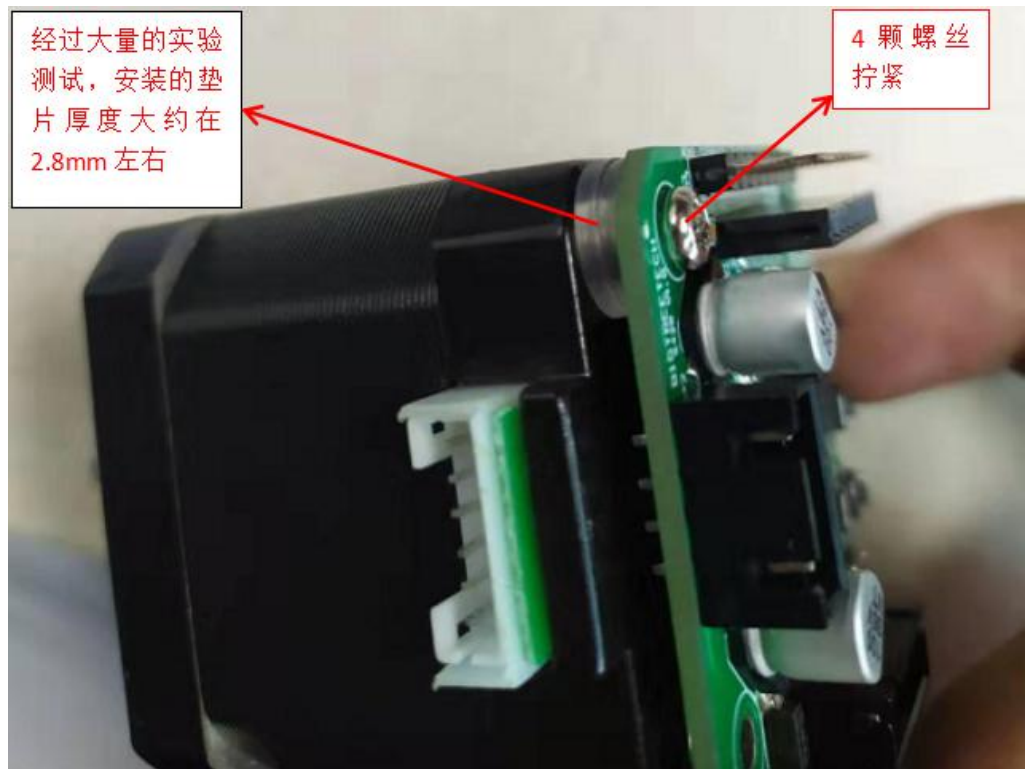

    2. The connecting wire of the main control board of the 3D printer and the adapter board, as shown in the figure
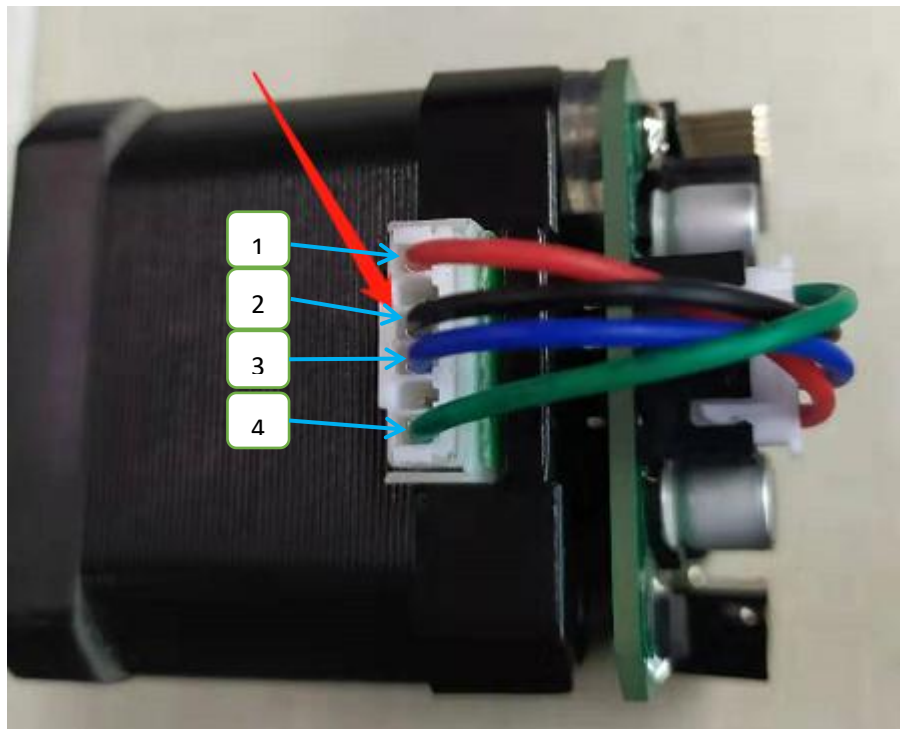
3. Installation and wiring of main control board and closed-loop board, as shown in the figure

4. Fix the motherboard to the motor as shown
   Here is a personal DIY illustration:

5. Closed-loop board and motor installation connection wire

1
2
3
4

6.Here is an example of a 42 stepper motor. Pay attention to the line sequence problem. Lines 1 and 4 should be connected crosswise, and lines 2 and 3 should be connected in parallel

7. Installation completed, as shown in the figure

Complete the hardware installation according to the above diagram, and then the software debugging. The software installation will not be described in detail. Please refer to the installation of development tools in the *Closed-loop driver module Installation Instructions for 3D printer (Ender3)*

II. Software debugging

1、After power is switched on, the interface displays as shown in the figure:

2、After energizing, select "Calibration" for direct Calibration operation.

Wait about 2 minutes for calibration to complete. The system indicator will keep flashing. Directly press the reset key or power off and on again

3、Parameter modification

Mainly modify P, I and D. At present, there is no good method, we can only use observation and trial.

P value: between 20 and 40

I value: between 0 and 10

D value: between 100 and 400

Debugging can be modified directly with the serial port, also can be modified in the firmware, compile, burn. The data communication mode of serial port can be referred to the *Serial Port Protocol*, or to the modification parameters of serial port communication in *42 Stepper Motor Closed-loop Driver Board Operating Instructions*.

Note: if you have any questions, please consult our after-sales staff!