

**1. Control Function:**

F/R: Connects GND = CW running, Disconnect = CCW running

EN: Connects GND = Stop, Disconnect = Run

SV: 0-5V or PWM

FG: Motor Speed Pulse

**Note that** the control signal wire and Hall wire cannot be entangled with the motor wire, otherwise it will cause signal interference, and the wire length exceeding 500mm needs to be shielded.

**2. Operate Voltage: 15-30VDC.** "+" and "-" poles cannot be reversed

**3. Continous Current: 8A, Peak Current: 16A**

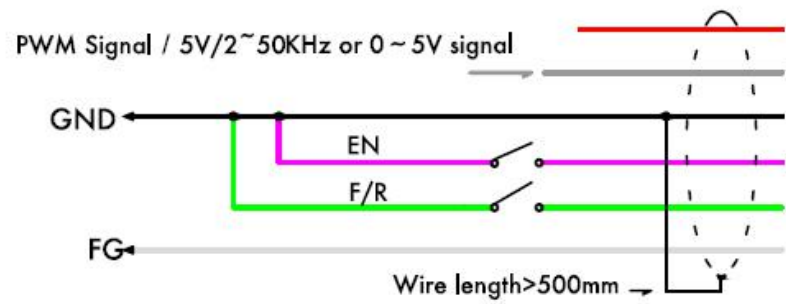
**4. Power Supplier Output Current > Rated Motor Current**

**5. Error Code**

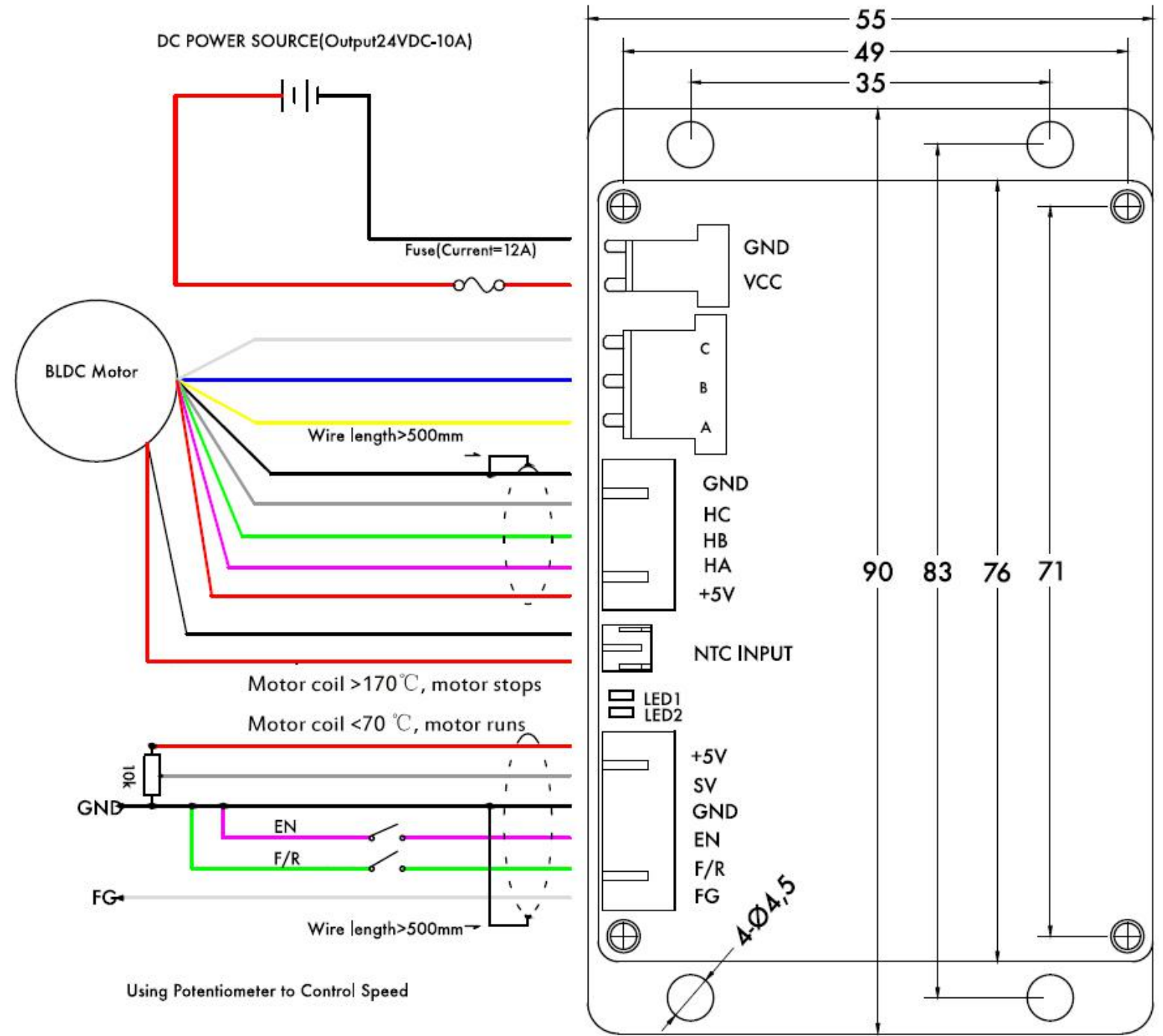
- a. LED 2 flashes--Motor stop normally;
- b. LED 2 lights out-- Motor runs;
- c. LED 2 and LED 1 lights ON--Over heat;
- d. LED 2 slow flash two times--Over voltage or Below voltage;
- e. LED 2 slow flash three times--LM358 current error;
- f. LED 2 slow flash four times--Motor stall;
- g. LED 2 slow flash five times--Motor phase error;
- h. LED 2 slow flash six times--Motor hall error;
- i. LED 2 fast flash one time--MOSFET upper bridge error;
- j. LED 2 fast flash two times--MOSFET lower bridge error;
- k. LED 2 fast flash three times--Motor phase short circuit;
- l. LED 2 fast flash four times--Over current.

**6. Motor Starting Time: 2s**

**7. Total Weight: 135g**



Using PWM or 0-5v to Control Speed



Using Potentiometer to Control Speed