## 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;

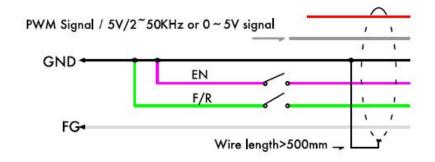
j. LED 2 fast flash two times--MOSFET lower bridge error;

k. LED 2 fast flash three times--Motor phase short circuit;

I. 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

