Instruction Manual-MA860H

Stepper Motor Driver

1、 Introduction

　　This stepper motor driver is a professional two-phase driver, it can realize the motor positive or inversion control. The S1,S2,S3 dial switchs' function is corresponding to 8-ch current control (2.4A, 3.2A, 3.8A, 4.4A, 5.1A, 6.0A, 6.8A and 8.0A). The S4 dial switch's fuction is choosing the half current or full current . The S5,S6,S7,S8　dial switchs' function is corresponding to 15 subdivision control (2, 4, 8,16,32,64,128,256,5,10, 25, 50,125,250).It's suitable for driving 86(<4NM),60,57,42 (two phase or four phase hybrid) stepper motors. The driver has the characteristics of　low noise, small vibration and stable operation.The CPU of the driver is digital MCU.

Electrical parameters:

Input voltage	24～110VDC/16-80VAC
Input current	2.4～8.0A
Output current	2.4～8.0A
Maximum power	800W
Subdivision	2, 4, 8, 16, 32, 64, 128, 256, 5, 10,　25,　50, 125, 250
Temperature	-10～55℃；　storage temperature,-20℃～65℃
Humidity	not dew, not water
Gas	combustible gas and electricity are forbidden
Weight	0.6kg

2、 Input and output instructions

　The signal input terminal

　（1）PUL+: pulse signal input positive

　（2）PUL-: pulse signal input negative

　（3）DIR+: direction control input positive

　（4）DIR-: direction control input negative

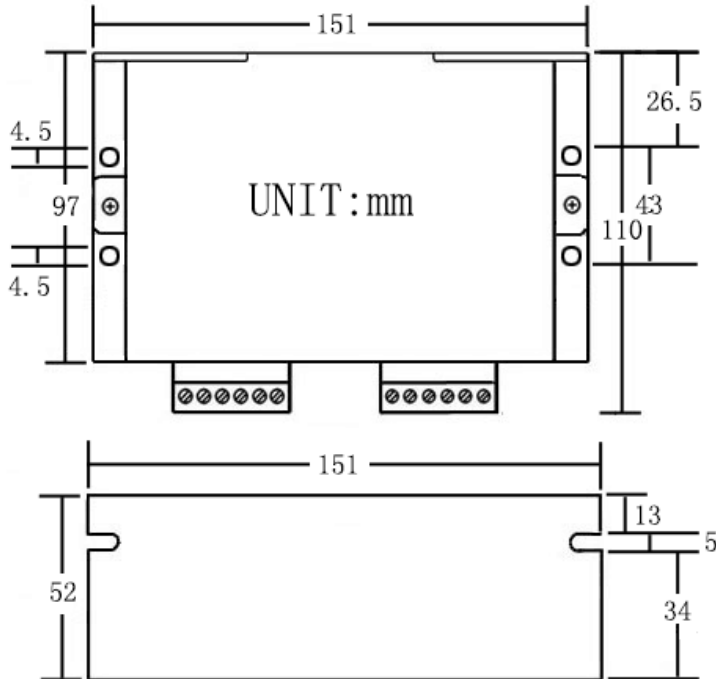　（5）EN+: Motor free control positive

　（6）EN-: Motor free control negative

　The motor winding connection

　（1）A+: connecting the motor winding A+ phase

　（2）A-: connecting the motor winding A- phase

　（3）B+: connecting the motor winding B+ phase

　（4）B-: connecting the motor winding B- phase

The voltage of power supply connection(24 -110VDC/16-80VAC)
（1）DC-: power positive "+"
（2）DC+: power negative "-".

3、Dimensions and Appearance

4、Subdivision and current setting by the code switchs

Attention: the dial switch is pressed down: ON.

(1) Current: setting by the S1,S2,S3

CUR	S1	S2	S3
2.4A	ON	ON	ON
3.2A	OFF	ON	ON
3.8A	ON	OFF	OFF
4.4A	OFF	OFF	ON
5.1A	ON	ON	OFF
6.0A	OFF	ON	OFF
6.8A	ON	OFF	OFF
8.0A	OFF	OFF	OFF

(2)The S4

S4	Current
ON	Full Current
OFF	Half Current

(1) Subdivision: setting by the S5,S6,S7,S8.

SUB/Pulse per circle	S1	S2	S3	S4
2	OFF	ON	ON	ON
4	ON	OFF	ON	OFF
8	OFF	OFF	ON	ON
16	ON	ON	OFF	ON
32	OFF	ON	OFF	ON
64	ON	OFF	OFF	ON
128	OFF	OFF	OFF	ON
256	ON	ON	ON	OFF
5	OFF	ON	ON	OFF
10	ON	OFF	ON	OFF
25	OFF	OFF	ON	OFF
50	ON	ON	OFF	OFF
125	OFF	ON	OFF	OFF
250	ON	OFF	OFF	OFF

5、Input terminal connection (control signal)

Three input signals,First: steps connet to the pulse signal PUL+, PUL-; Second: the direction Signal connets to the DIR+, DIR-; Third: the freedom input signal

connets to the EN+, EN-. The input signal interface has two kinds of connection method, The users can use the common anode or the common cathode method.

(1) Common anode method

if the control system's power voltage supply is 3V ~24V,the PUL+, DIR+, EN+ are connected to the power +, and the pulse input signal is connected with PUL- , and the direction signal is connected with the DIR-,and the free signal is connected with EN-.

(2)Common cathode method

The PUL-, DIR-, EN- are connected to the ground terminal of the control system; and the pulse input signal is connected with PUL+ , and the direction signal is connected with the DIR+,and the free signal is connected with EN+.

Controller		Controller
PUL+ — Common anode		PUL+ — Pulse signal
PUL- — Pulse signal		PUL-
DIR+		DIR+ — Direction signal
DIR- — Direction signal		DIR-
ENA+		ENA+ — Enable signal
ENA- — Enable signal		ENA- — Common cathode

Stepper Driver — GND V- / VCC V+ — Power ; B- B- / B+ B+ / A- A- / A+ A+ — M

Stepper Driver — GND V- / VCC V+ — Power ; B- B- / B+ B+ / A- A- / A+ A+ — M