Stepper Motor Driver

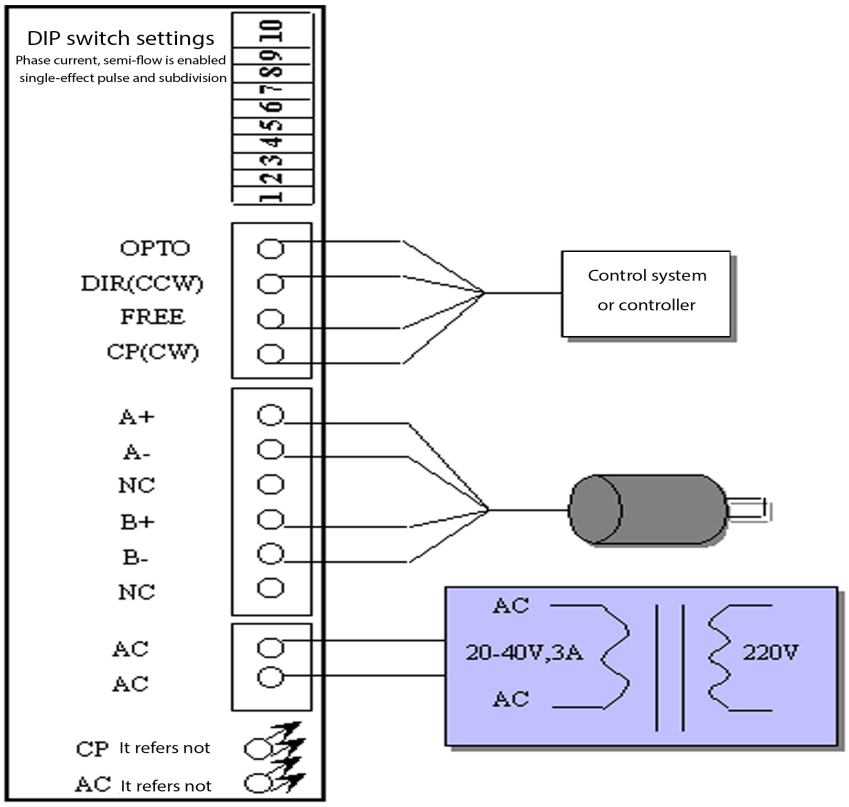
Model:SH2046M

1、INTRODUCTION

The SH2046M step motor driver is the new subdivision driver by imbibing new type and high speed electrical technology by my company on original driver electrical source base. This driver contain acvanced technology. which offers the low noise, higher efficiency, user wider voltage range and diversiform setting. Especially, Balanced running and accurate orientation are the most trait of this driver.

2、Specification of driver

***wiring diagrammatic sketch**



***input power wiring point:** single external power supply AC link 20-40V,3A

Warning：voltage can not overrun this area

***motor wiring point：**

For two-phase four-wire motor, it can be connected with driver directly.

For four-phase six-wire motor, the center two taps (black and red) are free and other four end wires is connected with driver.

For four-phase eight-wire motor, it can be connected with driver after machine winding is pairwise parallel connected. (See Fig.2.)

Warning：motor's line can not be linked wrongly, Otherwise, the driver will be mangled.

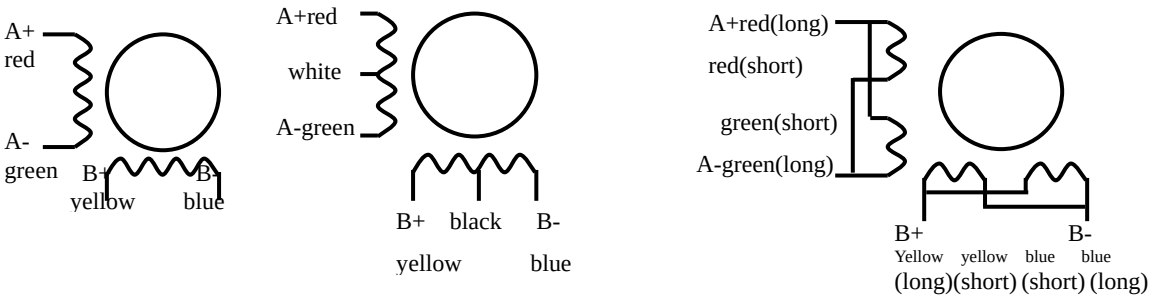


Fig.2.

***input signal wiring point：**

The SH2046M has optically isolated logic signals inputs. (See Fig.3.)

Table 1

Opto Supply	R
5V	-
12V	680Ω
24V	1.8KΩ

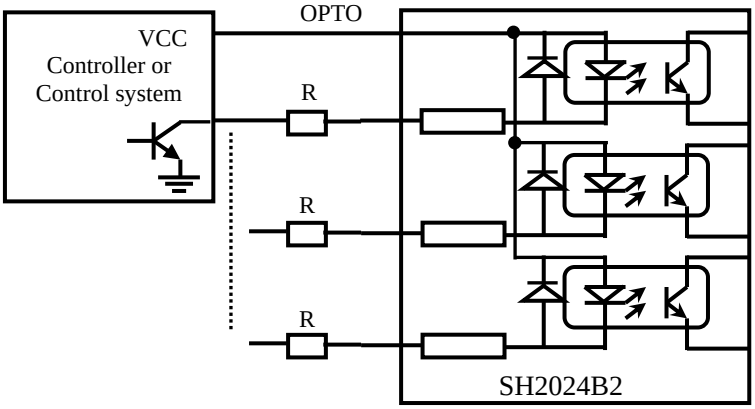


Fig.3.

OPTO：common port of input signal，OPTO must connect VCC of external system. If VCC is +5VDC, they can connect directly. However, if the supply is greater than +5VDC, the external connective current-limiting resistance R must be connected in series with each signal line to ensure that the drive current ranging from 8 mA to15mA is running through the internal optocoupler, See Table 1：

DIR：direction level signal input port. high/low level control the CW/CCW of motor. The stabilization time of signal level should be longer than 10us.

FREE：free signal(active low). when this input end is low level，the exciter current of motor is shutoff and motor is in the status of freedom.

CP：step-by-step pulse signal input. active falling edge，the highest response frequency should be 100KHz，low level pulse width should be not less than 5us。

Warning：Input signal must have enough current, (Currently,TTL,COMS signal are not drive firsthand). Otherwise, System can not work natural.

***Set phase current and subdivision number：**

Shift switch is adopted to set phase current and subdivision number in SH2046M driver. Thereinto, 5 switch is viscid non-energy(ON show non-energy, OFF show energy), 6 switch is the setting of single or double pulse(ON show single pulse CP,DIR; OFF show double pulse CW,CCW). See Table2，Table3.After the subdivision of driver is set, the step angle in motor is equal to whole step angle divided by subdivision number. For example：if subdivision number is set to 2 and two phase motor of 0.9°/1.8°is two-phase，its subdivision step angle is 1.8°/2=0.9°。

Warning：shift switch ON=0，OFF=1.

Table 2

Set phase current(bit 1 2 3 4)			
1234	Phase current	1234	Phase current
0000	0.25A	1000	2.25A
0001	0.50A	1001	2.50A
0010	0.75A	1010	2.75A
0011	1.00A	1011	3.00A
0100	1.25A	1100	3.25A
0101	1.50A	1101	3.50A
0110	1.75A	1110	3.75A
0111	2.00A	1111	4.00A

Table 3

Set subdivision number(bit 7 8 9 1 0)			
7 8 9 1 0	subdivision number	7 8 9 1 0	subdivision number
0000	1	1000	18
0001	2	1001	20
0010	4	1010	32
0011	5	1011	40
0100	6	1100	50
0101	8	1101	64
0110	10	1110	128
0111	16	1111	256

* explain of connection:

OPTO: public anode (+5V)	B+: link to B+ of motor
DIR: bearing of motor	B-: link to B- of motor
FREE: bearing of offline (availability when low level)	AC: link to 20-40V alternating current
CP: bearing of pulse(availability when drop)	CW: positive pulse(availability when drop)
A+: link to A+ of motor	CCW: minus pulse(availability when drop)
A-: link to A- of motor	NC: empty feet

Warning：CP: pulse show . AC: AC electrical source is OK

3、Contour and Installation Dimension：

the shell with radiator is adopted, so when installing, please pay attention to elimination of heat.(unit: mm)