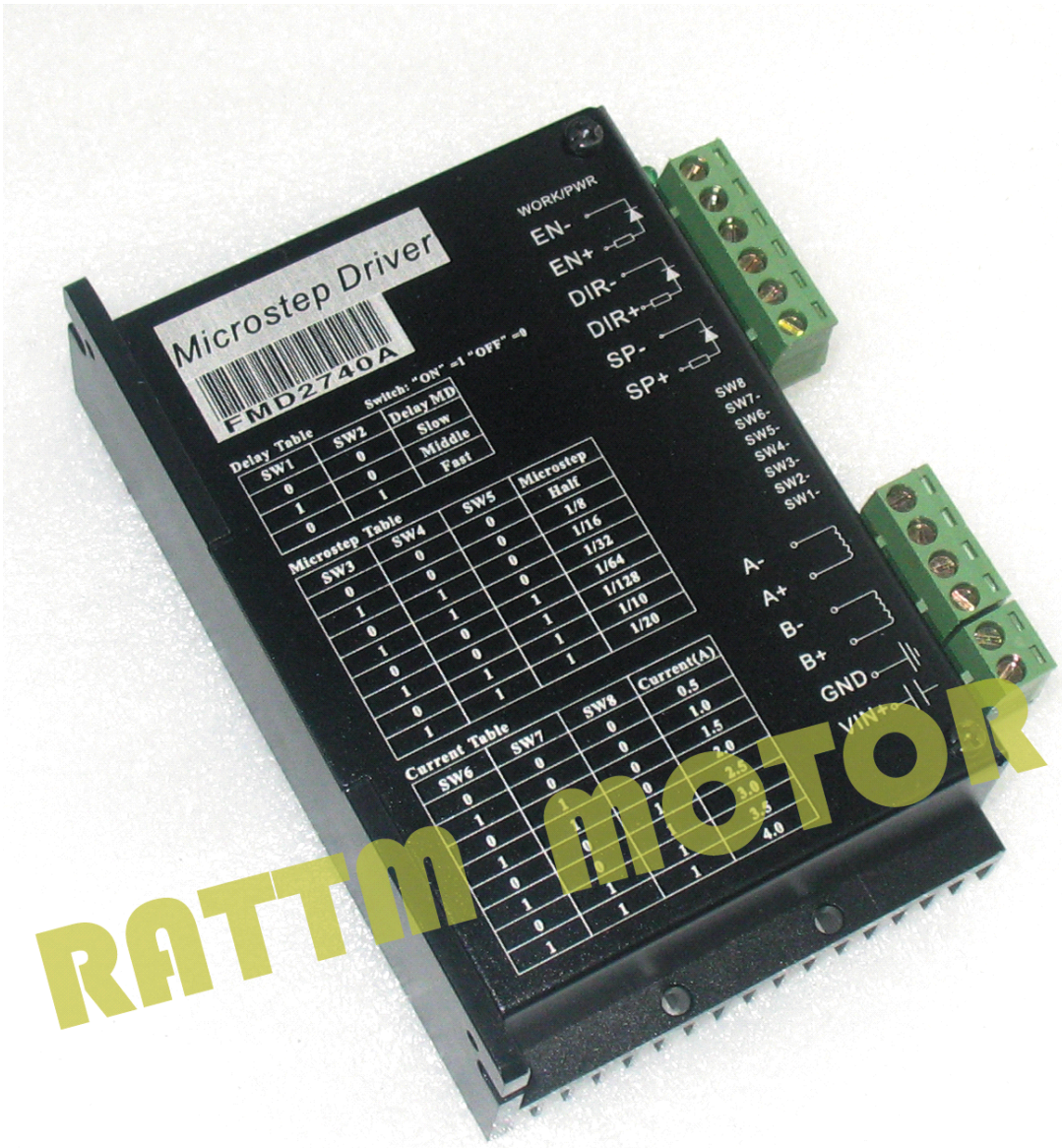
STEPPER MOTOR DRIVER
FMD2740A



FMD2740A stepper motor driver

Product manual

（English version）

Changzhou RATTM Motor Co.,Ltd Email:sale1@rattmmotor.com Email:sale2@rattmmotor.com
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FMD2740A stepper motor driver

1、 Brief introduction

FMD2740A FMD2740A driven by Japanese sanyo's chip,After multiple optimize R & D and production of high-subdivision 2-phase stepper motor drives, suitable for driving small and medium-sized phase current is less than 4A 2-phase or 4-phase hybrid stepping motor. Due to the adoption of the new bipolar constant current chopper drive technology, using the same motor can output more speed and power than other drivers. Segments stepper motor running accuracy improved, reduces vibrations and noise reduction.

2、Features

- High-performance, low price
- Bipolar constant current chopping mode
- Power supply voltage 12 to 50VDC
- High-speed optocoupler signal isolation input
- 20kHz chopping frequency
- Subdivision precision 2\8\16\32\64\128\10\20 optional
- Electrical input signal is TTL compatible
- Stationary current is automatically reduced by half
- Shape design is convenient for installation
- Maximum drive current is 4A
- Drive any 4A phase current of 2-phase or 4-phase hybrid stepping motor

3、Applications

Suitable for a variety of small and medium-sized automation equipment and instruments,for example: Small engraving machine, SMT machine, etc.

4、wiring defined

Weak signal interface

Signal	Function
SP+	Pulse signal + end
SP-	Pulse signal - end
DIR+	Direction signal +end
DIR-	Direction signal-end
EN+	Enable signal +end
EN-	Enable signal -end

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Strengths connection port

Signal	Function
VIN+	12to50 v dc power supply input +end，it is recommended to use 36V3A
GND	DC power supply connection ground
A+	Stepper motor A + Phase terminal
A-	Stepper motor A - Phase terminal
B+	Stepper motor B+ Phase terminal
B-	Stepper motor B - Phase terminal

This drive does not contain anti-anti-interpolation circuit so non-input positive and negative power supply upside down! Otherwise it will damage the drive!

5、The electrical characteristics

Electrical Characteristics (T = 25 ° C)

Introductions	FMD2740A			
	Min	Type	Max	Unit
Output phase current	0.5	-	4	A
Input power voltage	12	36	50	V
Logic input voltage	3	5	7	V
Logic input current	5	10	15	mA
Stepper motor pulse frequency	0	-	150	KHz
Minimum pulse time	5	-	-	us

6、The use of the environment and parameters

Cooling method		Natural cooling or forced air cooling
Use of the environment	Occasions	Avoid dust, oil mist and corrosive gases
	Temperature	0℃-+50℃
	Humidity	40-90%RH
	Vibration	6m/s2 MAX
Storage temperature		-20℃-+65℃
Weight		250g

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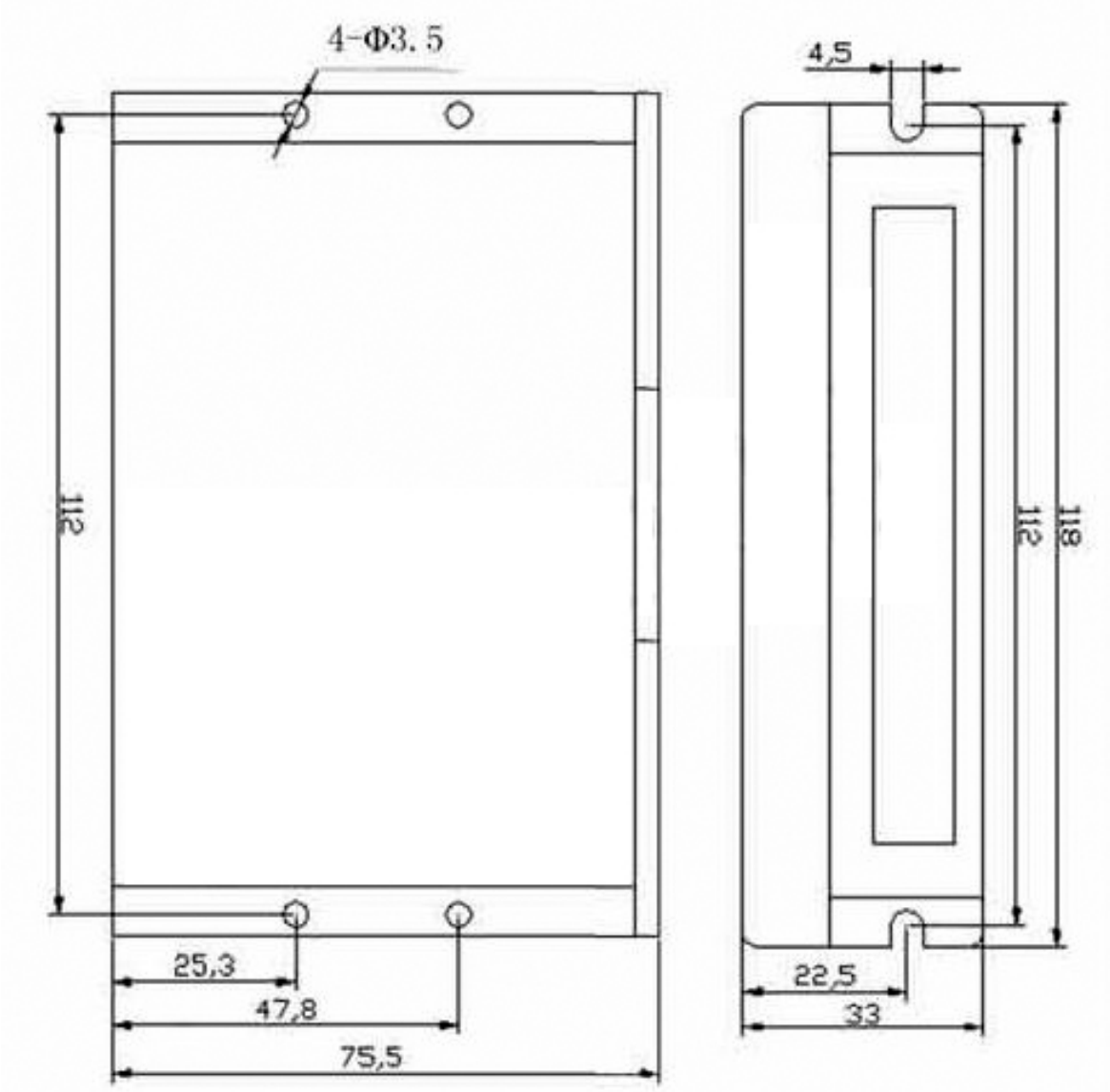
7、Mechanical installation size



8、Power supply

The supply voltage can work normally in between DC12V-50V, FMD2740A driver can use ordinary switch DC power supply, can also be used for transformer and the bridge rectifier and filter capacitor, capacitance desirable 2000U to 5000U. Note rectified voltage ripple crest does not exceed 50V.Recommended the user to use the 24V-32V DC supply , avoid the grid fluctuations over drive voltage operating range.

Note: 1, Wiring should pay attention to the power of positive and negative Do not be reversed;
2, In order to reduce costs, multiple drives can share a power supply. But it should improve the rated power and rated output current of the power and attention to cooling.

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9、Attenuation of the DIP switch settings

Decay mode	SW1	SW2
Slow decay	OFF	OFF
Mixed decay	ON	OFF
Fast decay	OFF	ON

10、Subdivision DIP switch settings

Subdivision factor	The number of steps / revolution (1.8 ° / full step)	SW3	SW4	SW5
2	400	OFF	OFF	OFF
8	1600	ON	OFF	OFF
16	3200	OFF	ON	OFF
32	6400	ON	ON	OFF
64	12800	OFF	OFF	ON
128	25600	ON	OFF	ON
10	2000	OFF	ON	ON
20	4000	ON	ON	ON

11、Current DIP switch settings

The current value (A)	SW6	SW7	SW8
0.5	OFF	OFF	OFF
1.0	ON	OFF	OFF
1.5	OFF	ON	OFF
2.0	ON	ON	OFF
2.5	OFF	OFF	ON
3.0	ON	OFF	ON
3.5	OFF	ON	ON
4.0	ON	ON	ON

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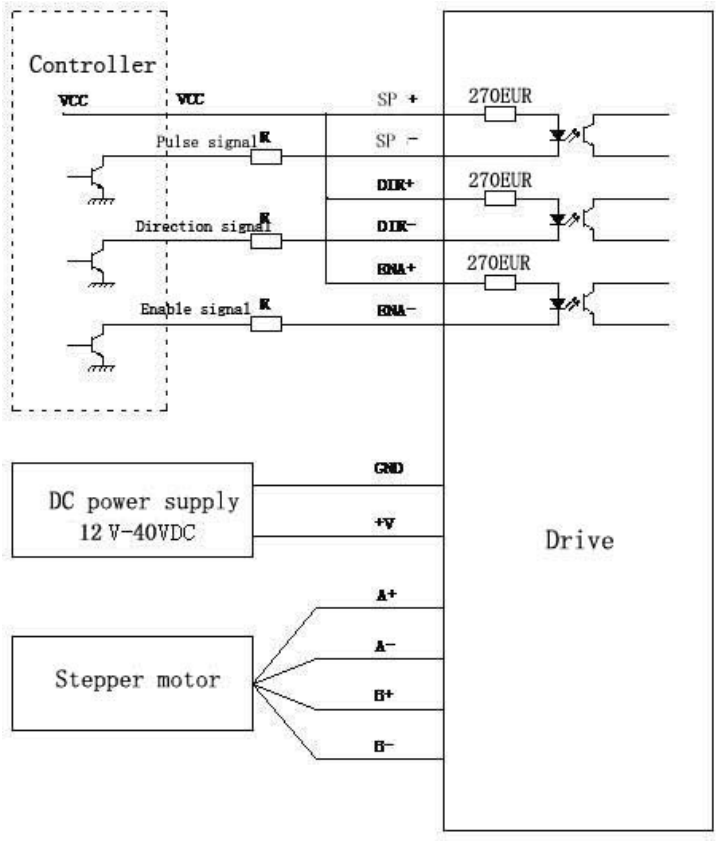
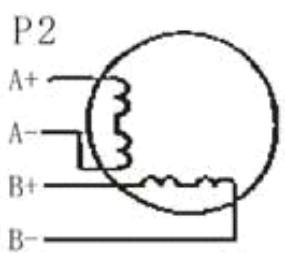
12、Drive motor controller wiring diagram

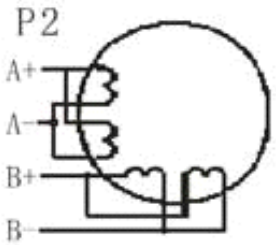


13、Electrical wiring

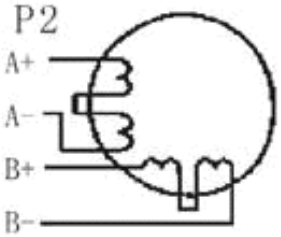
The FMD2740A driver can drive all current 4A 4-wire, 6-wire or 8-wire 2-phase / 4-phase motors, are detailed below 4-wire, 6-wire, 8 wire stepper motor connection:



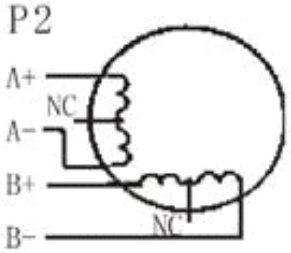
4-wire motor



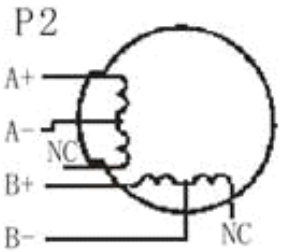
8-wire motor parallel connection high-speed performance



8-wire motor serial connection to low-speed torque



6-wire motor high torque mode



6-wire motor high-speed mode

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14、Matching of the drive and motor

FMD2740A driver can drive the domestic and foreign manufacturers of 2-phase or 4-phase motor, in order to obtain the most satisfactory driving, you need to choose a reasonable supply voltage and current setting. Supply voltage determines the level of the high-speed performance of the motor, and the current set value determines the output torque of the motor.

Supply voltage selected

Generally speaking, the higher the supply voltage, the greater the torque motor at high speed, the more it can avoid the high speed out. But another aspect, the voltage is too high will lead to over-voltage protection, and can even damage the drive, but also in the high-pressure work, low speed vibrations.

The output current is set

For the same motor, the greater the current setting, the higher speed, the current motor and drive more heat. So under normal circumstances the current setting into a powered machine warm but not too hot long-term value.

Note: the current settings after you run the motor for 15-30 minutes, if the motor temperature is too high, you should reduce the current settings. If the motor current setting, the motor output torque is not enough to improve heat dissipation conditions to ensure that the motor and drive are not hot.