FEATURES

1 - Average output current control;

2 - Bipolar sinusoidal micro-step stepping driver;

3 - Wide supply range from 9 to 42VDC;

4 - Digital Inputs optically isolated;

5 - Under-voltage protection;

6 - Over-current detection circuit;

7 - Six selectable micro-stepping possibilities (1/1, 1/2, 1/4, 1/8, 1/16 and 1/32);

8 - Eight selectable output phase current settings;

9 - High starting speed;

10 - High-speed torque.

TECHNICAL DATA

Supply voltage 9 ~ 42VDC

Input current of 0.7 to 4A depending on the selected

Output current settings.

Stepper Motor output current of 0.5A ~ 4A

Operating Temperature -10 to 45 ℃;

Storage temperature -40 ℃ to 70 ℃

Weight 230 grams

CONTROL SIGNAL INTERFACE

1- Control signals description:

PUL + : step pulse signal positive input;

PUL - : step pulse signal negative input;

DIR + : stepping direction signal positive input;

DIR - : stepping direction signal negative input;

ENA+ : offline enable signal positive input;

ENA - : offline enable signal negative input;

2- Control Signal Connections

The control signals can be low-level active or high-level active. For low-level active, the positive inputs must be connected to VCC (+5V) and for high-level active the negative inputs must be connected to reference GND (0V). For open-collector and PNP output interface the connections should be as follows:
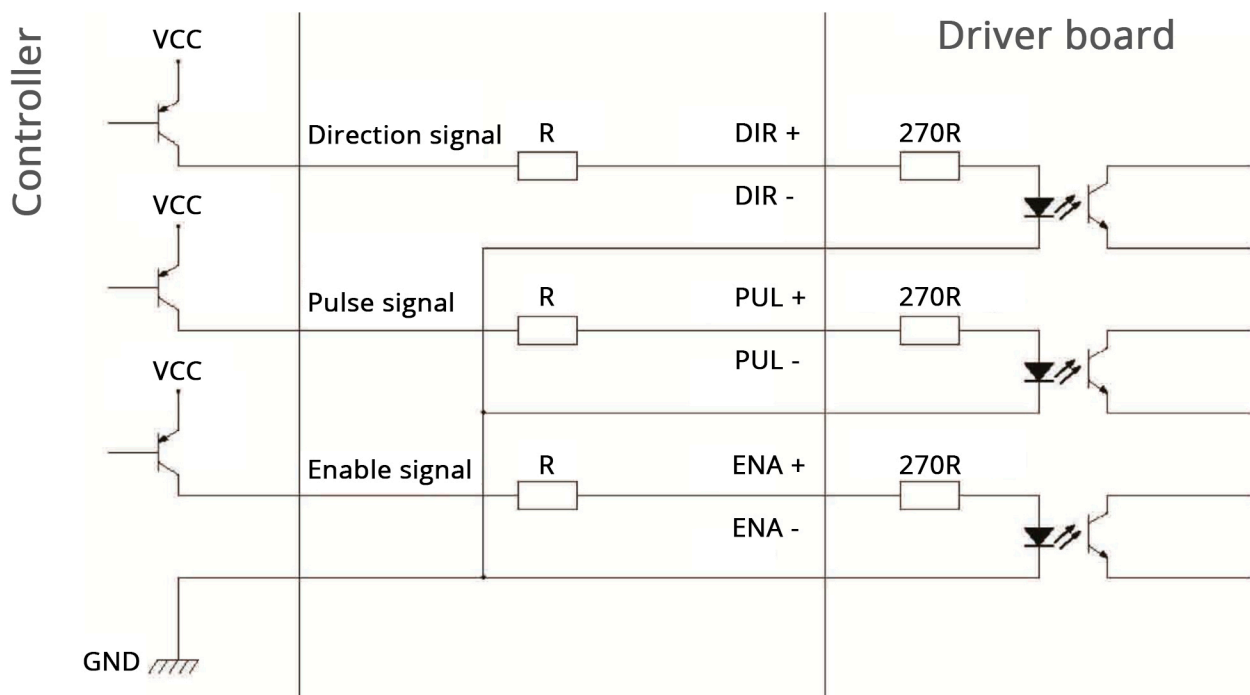
Note:

For VCC = 5V, R in not necessary;

For VCC = 12V, R should be 1K – 1/4W resistor;

For VCC = 24V, R should be 2K – 1/4W resistor;

R resistor must be connected to the controller output terminals.

FUNCTION SELECTION (DIP-switch on the drive panel)

Microstep resolutions and output current are programmable, the steps can be set from full-step (1/1) to (1/32) 6400 steps/rev and the latter can be set from 0.2A to 4A.

1- Microstep Resolution Selection

The microstep resolution is set by DIP-switches SW1, SW2 and SW3 as shown in the following table.

Micro Step	Pulse/rev	S1	S2	S3
NC	NC	ON	ON	ON
1	200	ON	ON	OFF
2/A	400	ON	OFF	ON
2/B	400	OFF	ON	ON
4	800	ON	OFF	OFF
8	1600	OFF	ON	OFF
16	3200	OFF	OFF	ON
32	6400	OFF	OFF	OFF

2- Output phase current settings

The dynamic current limitation for the motor coils is set by the DIP-switches SW4, SW5 and SW6 as shown in the following table.

Current (A)	PK Current	S4	S5	S6
0.5	0.7	ON	ON	ON
1.0	1.2	ON	OFF	ON
1.5	1.7	ON	ON	OFF
2.0	2.2	ON	OFF	OFF
2.5	2.7	OFF	ON	ON
2.8	2.9	OFF	OFF	ON
3.0	3.2	OFF	ON	OFF
3.5	4.0	OFF	OFF	OFF

Note:
- Select a setting closest to your motor's required current.
- Due to motor inductance, the actual current in the coil may be smaller than the dynamic current setting, particularly under high speed condition.
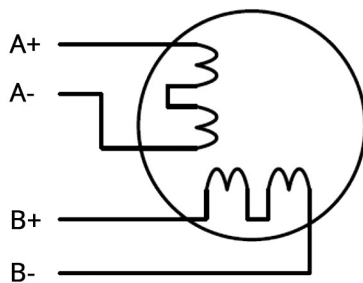
3- POWER INTERFACE

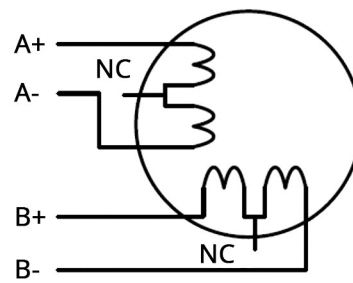**DC +, DC-**: Connection for power supply voltage (9 to 42VDC);
A+, A-, B+, B-: Connection for the two-phase hybrid stepping motor;

The stepper-motor driver WD-2404 supports any 2-phase or 4-phase hybrid stepping motors of 4, 6 and 8 wires. The following motor connections are possible:
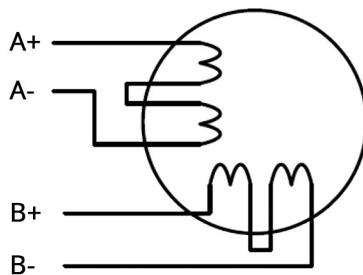
4-wire motor

6-wire motor

8-wire motor series

8-wire motor parallel