# 2-Phase stepper Motor Driver ST-M5045
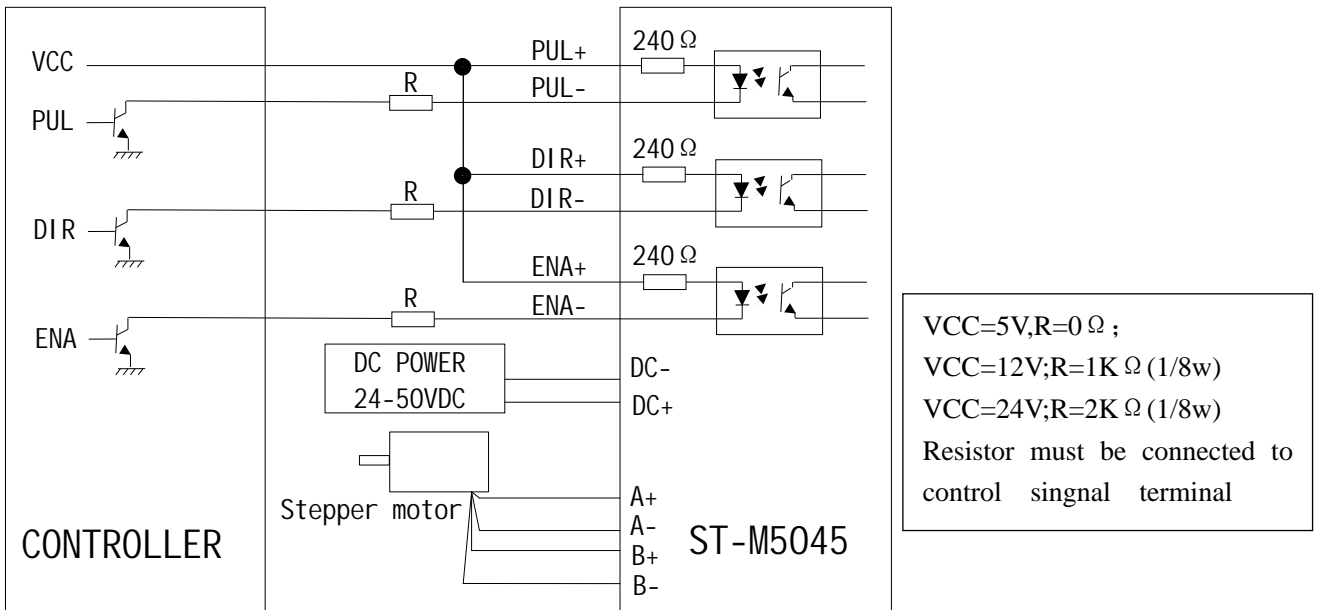
## Characteristics：

1.DC power input type:24V~50V

2.Output current:1～**4.5**A

3.Mircostep：2、4、8、16、32、64、128、256 、5、10、25、50、125、250

4.Protect form : Overheated    protect, Short-voltage, over-voltage, over-current protection

5.The maximum pulse rate is 300KHZ.

6.Dimensions：120mm*92mm*33mm

7.Weight：<280g.

8.Working environment：Temperature-15～40℃  Humidity<90%。

## I/O Ports：

1、DC+：DC power positive pole

　　**Note**: Must guard against exceeding 50V,
　　　　　　　so as not to damage the module.

2、DC-：DC power cathode

3、A+、A-：Stepping motor one winding

4、B+、B-：Stepping motor other winding

5、PUL+、PUL -：Stepping pulse input+5V (Rising edge effective , rising edge duration >10μS)

6、DIR +、DIR-：Stepping motor direction input,  voltage level touched off, high level foreward , low level reverse

7、ENA+、ENA-: motor free

## Typical Connection



VCC=5V,R=0Ω；
VCC=12V;R=1KΩ (1/8w)
VCC=24V;R=2KΩ (1/8w)
Resistor must be connected to control  singnal  terminal

## Switch Choice:

1、 **Microstep choice:**

| Microstep | Pluse/rev.(for 1.8° motor) | SW5 | SW6 | SW7 | SW8 |
|---|---|---|---|---|---|
| 2 | 400 | ON | ON | ON | ON |
| 4 | 800 | ON | OFF | ON | ON |
| 8 | 1600 | ON | ON | OFF | ON |
| 16 | 3200 | ON | OFF | OFF | ON |
| 32 | 6400 | ON | ON | ON | OFF |
| 64 | 12800 | ON | OFF | ON | OFF |

| 128 | 25600 | ON | ON | OFF | OFF |
|---|---|---|---|---|---|
| 256 | 51200 | ON | OFF | OFF | OFF |
| 5 | 1000 | OFF | ON | ON | ON |
| 10 | 2000 | OFF | OFF | ON | ON |
| 25 | 5000 | OFF | ON | OFF | ON |
| 50 | 10000 | OFF | OFF | OFF | ON |
| 125 | 25000 | OFF | ON | ON | OFF |
| 250 | 50000 | OFF | OFF | ON | OFF |

**2、 Current choice：**

| Peak current | Reference current | SW1 | SW2 | SW3 |
|---|---|---|---|---|
| 1.0A | 0.71A | ON | ON | ON |
| 1.5A | 1.07A | OFF | ON | ON |
| 2.0A | 1.43A | ON | OFF | ON |
| 2.5A | 1.79A | OFF | OFF | ON |
| 3.0A | 2.14A | ON | ON | OFF |
| 3.5A | 2.50A | OFF | ON | OFF |
| 4.0A | 2.86A | ON | OFF | OFF |
| 4.5A | 3.21A | OFF | OFF | OFF |

**3、 Full current or half current choice：**

SW4:OFF＝Half current ; ON＝Full current；

**4、 Pulse choice：**

In the driver has a jump： ⇒ (1 2 3 4 5 6)

STEP+DIR： ⇒

CW+CCW： ⇒
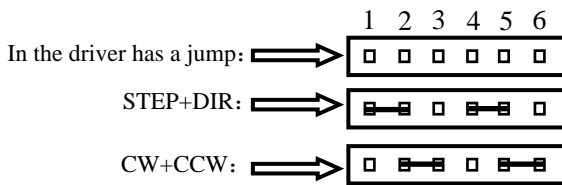
*Usually default setting is step + direction.*

# Dimension