Handson Technology

TB6600 4.0A Stepper Motor Driver

TB6600 is an easy-to-use professional stepper motor driver, which could control a two-phase stepping motor. It is compatible with Arduino and other microcontrollers that can output a 5V digital pulse signal. TB6600 stepper motor driver has a wide range power input. And it is able to output 4A peak current, which is enough for the most of stepper motors. 6 DIP switch for micro steps and output drive current setting. All signal terminals adopt high-speed opto-coupler isolation, enhancing its ground loop interference ability. As a professional device, it is able to drive 57, 42-type 2-phase, 4-phase, hybrid stepper motors.
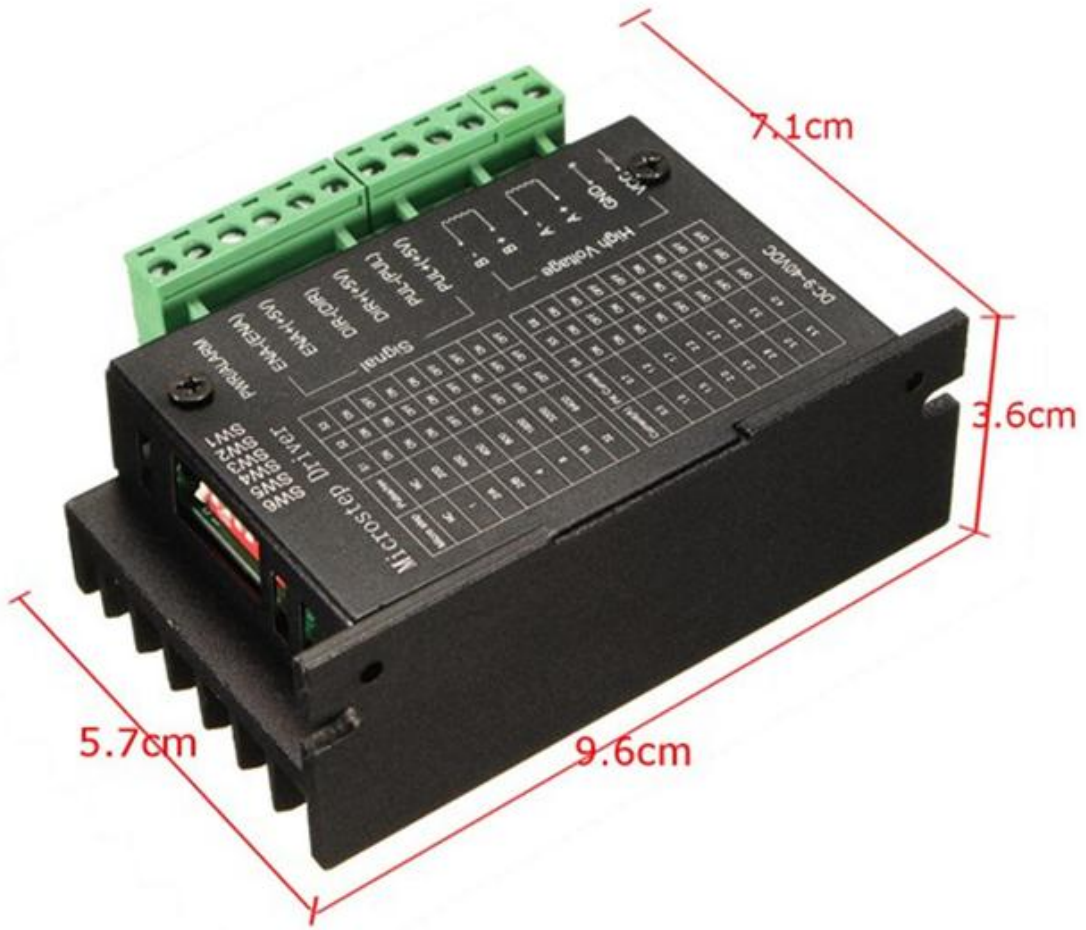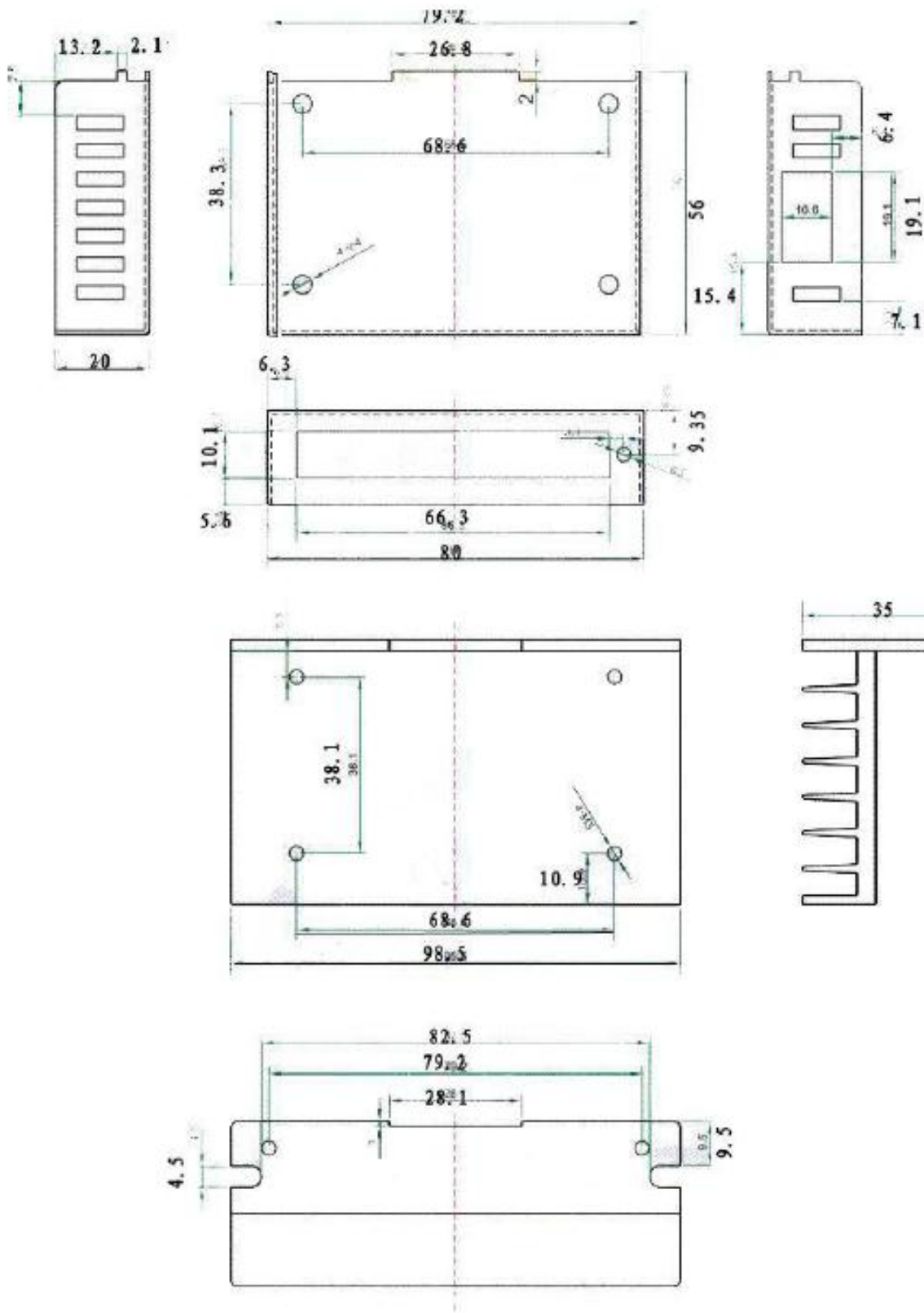
SKU: **MDU1059**

Specifications:

- Input Voltage: 9V~40V.
- Input Current: 0~5A.
- Output Current: 0.5-4.0A.
- Power (MAX): 160W.
- Micro Step: 1, 2/A, 2/B, 4, 8, 16, 32.
- Temperature: -10～45℃
- Dimension: 96x56x33 mm.
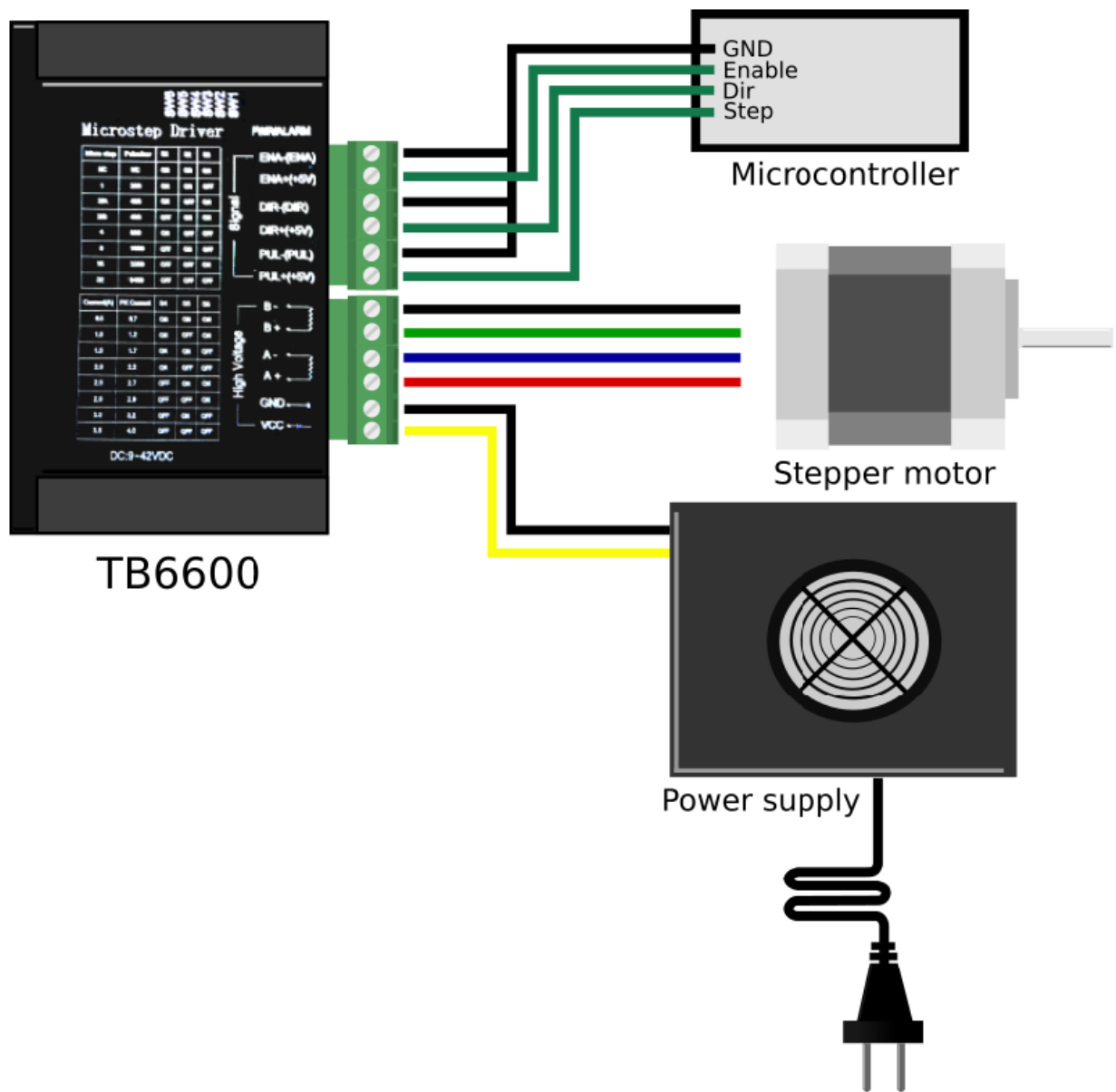- Weight: 0.2 kg.

Mechanical Dimension:

Unit: mm

Basic Wiring:

The following diagram shows how to connect the stepper driver within you application. Review the documentation of the electronics for details on the three signal lines. Note that the voltage applied from the microprocessor should be 5V. You can connect a 9 to 42V DC power source to VCC/GND.

DIP Switch Setting:

You can set the current and microsteps using the dip switches SW1-SW6 on the side. Refer to the following tables for details.
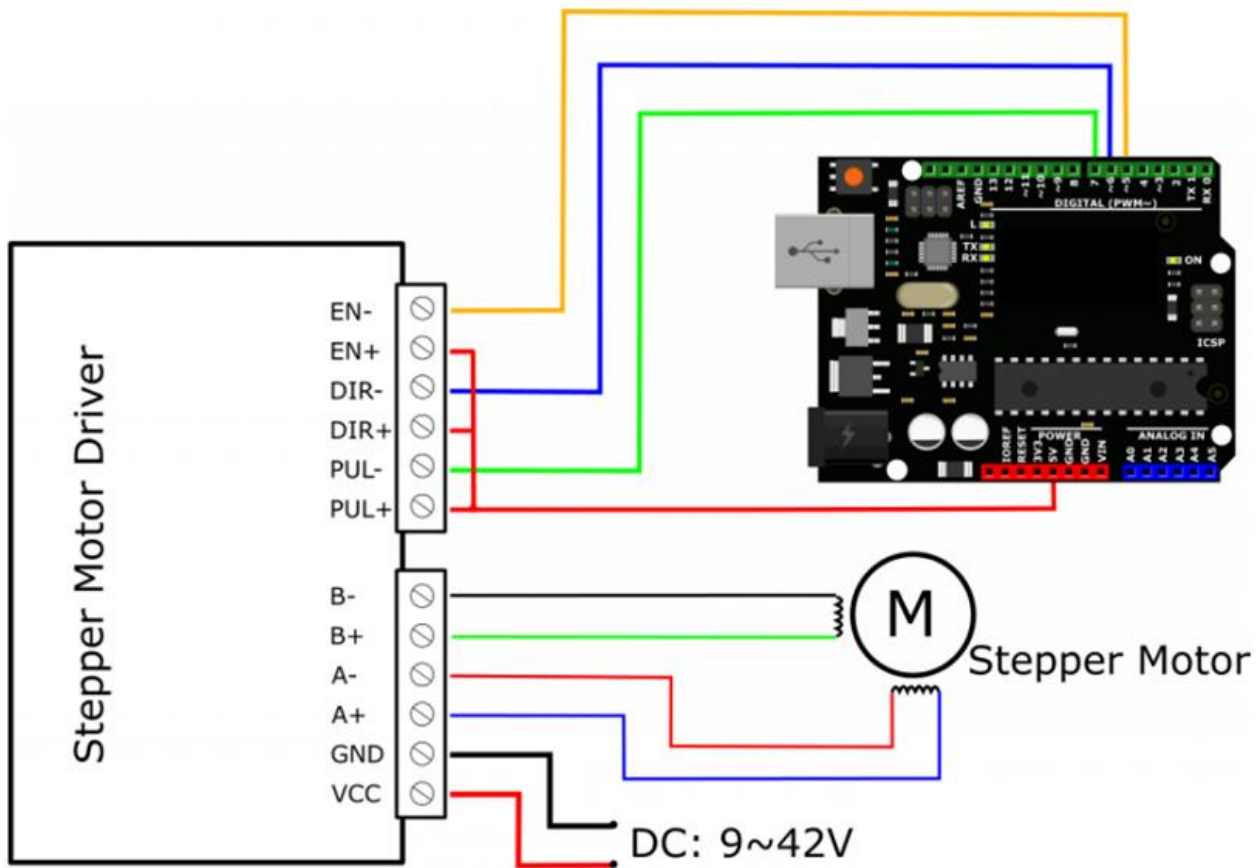
Microsteps

Micro steps	Pulse/rev	SW1	SW2	SW3
-	-	ON	ON	ON
1	20	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

Current setting

Current (A)	Peak current	SW4	SW5	SW6
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

Arduino Connection Application Example:

In this section, we'll show you how to use TB6600 with Arduino to drive stepper motor quickly. Wiring up the TB6600 driver to Arduino Uno controller board as shown below:

Copy and paste the below sketch into Arduino IDE and upload to Arduino Uno board:

```
/*=========================================================================

// Author      : Handson Technology
// Project     : Arduino Uno
// Description : TB6600 Stepper Motor Driver
// Source-Code : tb6600.ino
//=========================================================================
*/


int PUL=7; //define Pulse pin
int DIR=6; //define Direction pin
int ENA=5; //define Enable Pin

void setup() {
  pinMode (PUL, OUTPUT);
  pinMode (DIR, OUTPUT);
  pinMode (ENA, OUTPUT);

}
```

```
void loop() {
  for (int i=0; i<6400; i++)    //Forward 5000 steps
  {
    digitalWrite(DIR,LOW);
    digitalWrite(ENA,HIGH);
    digitalWrite(PUL,HIGH);
    delayMicroseconds(50);
    digitalWrite(PUL,LOW);
    delayMicroseconds(50);
  }
  for (int i=0; i<6400; i++)    //Backward 5000 steps
  {
    digitalWrite(DIR,HIGH);
    digitalWrite(ENA,HIGH);
    digitalWrite(PUL,HIGH);
    delayMicroseconds(50);
    digitalWrite(PUL,LOW);
    delayMicroseconds(50);
  }
}
```

After successful upload, the stepper motor attached to TB6600 driver board will turn forward and backward continuously.

```
void loop() {
  for (int i=0; i<6400; i++)    //Forward 5000 steps
  {
    digitalWrite(DIR,LOW);
```

Web Resources:

- SMPS Power Supply Module
- 775 Ball Bearing DC Motor
- A58SW-555 Worm Gear Motor
- JGB37-3530 Metal Gear Motor
- Motor Bracket

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