

# TA0052 Stepper Motor Controller Module

## 1. Introduction

Double H driver module uses ST L298N dual full-bridge driver, an integrated monolithic circuit in a 15- lead Multiwatt and PowerSO20 packages. It is a high voltage, high current dual full-bridge driver designed to accept standard TTL logic levels and drive inductive loads such as relays, solenoids, DC and stepping motors. Two enable inputs are provided to enable or disable the device independently of the input signals. The emitters of the lower transistors of each bridge are connected together and the corresponding external terminal can be used for the connection of an external sensing resistor. An additional supply input is provided so that the logic works at a lower voltage.

### Specification:

- Driver: L298N
- Driver power supply: +5V~+35V
- Driver Io: 2A
- Logic power output Vss: +5~+7V (internal supply +5V)
- Logic current: 0~36mA
- Controlling level: Low -0.3V~1.5V, high: 2.3V~Vss
- Enable signal level: Low -0.3V~1.5V, high: 2.3V~Vss
- Max power: 25W (Temperature 75 cesus)
- Working temperature: -25C~+130C

## 2. Pin Instruction

Pin Name	Description
"MOTORA"	Motor1
"MOTOR"	Motor2
"VMS"	5V~35V DC
"GND"	Ground
"5V"	Power input for the logic circuit on the board
"ENA"	is the enable pin for the two motor 1
"IN1"	is the pin for the motor 1control
"IN2"	is the pin for the motor1 control
"IN3"	is the pin for the motor2 control
"IN4"	is the pin for the motor2 control
"ENB"	is the enable pin for the two motor 2
"5V"	Output 5V
"GND"	Ground
"CSB"	The current test pin for motor 2, this pin can be wired a resistor for current testing or tied a jumper to disable it.
"CSA"	The current test pin for motor 1, this pin can be wired a resistor for current testing or tied a jumper to disable it.

	"UR1"	Pull up resistor
	"UR2"	Pull up resistor
	"UR3"	Pull up resistor
	"UR4"	Pull up resistor
	"5V_EN"	5V source jumper. When the jumper is put on, The 78M05 supplies the 5V power for logic circuit on the board from the VMS port(7V < VMS < 18V). The power of logic circuit of the board is supplied by the 5V port when this jumper put off.

### 3. Example

This module can drive 2 channel DC motor or 2 phase stepper motor.

#### For 2 channel DC motor, connection and code as below:

Connection:

```
IN1=====13;
IN2=====12;
IN3=====11;
IN4=====10;
```

\*\*\*\*\*Code begin\*\*\*\*\*

```
int in1=13;
int in2=12;
int in3=11;
int in4=10;
```

```
int speedPinA=6;
int speedPinB=5;
```

```
void setup()
```

```
{
  pinMode(in1,OUTPUT);
  pinMode(in2,OUTPUT);
  pinMode(in3,OUTPUT);
  pinMode(in4,OUTPUT);
```

```
  digitalWrite(in1,HIGH);
  digitalWrite(in2,HIGH);
  digitalWrite(in3,HIGH);
  digitalWrite(in4,HIGH);
```

```
}
```

```
void loop()
```

```
{
```

```

    _mRight(in1,in2);
    _mRight(in3,in4);

    int n=analogRead(A0)/4;
    _mSetSpeed(speedPinA,n);
    _mSetSpeed(speedPinB,n);
}
void _mRight(int pin1,int pin2)
{
    digitalWrite(pin1,HIGH);
    digitalWrite(pin2,LOW);
}
void _mLeft(int pin1,int pin2)
{
    digitalWrite(pin1,LOW);
    digitalWrite(pin2,HIGH);
}
void _mStop(int pin1,int pin2)
{
    digitalWrite(pin1,HIGH);
    digitalWrite(pin2,HIGH);
}
void _mSetSpeed(int pinPWM,int SpeedValue
{
    analogWrite(pinPWM,SpeedValue);
}
}
*****Code begin*****

```

**For 2 phase stepper motor the connection and code as below:**

Connection:

```

    IN1=====8;
    IN2=====9;
    IN3=====10;
    IN4=====11;
*****Code begin*****

```

```

#include <Stepper.h>

```

```

#define STEPS 100

```

```

Stepper stepper(STEPS, 8, 9, 10, 11);

```

```

int previous = 0;

```

```
void setup()
{
  stepper.setSpeed(90);
}

void loop()
{
  int val = analogRead(0);
  stepper.step(val - previous);
  previous = val;
}
```

\*\*\*\*\*Code End\*\*\*\*\*