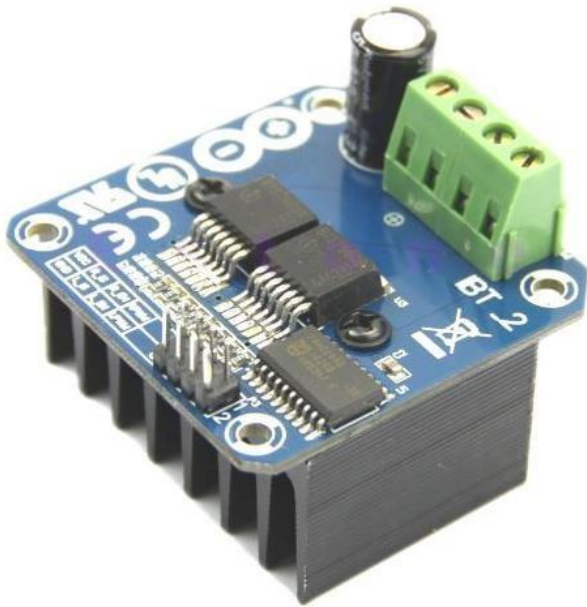


BTS7960 High Current 43A H-Bridge Motor Driver

Highly integrated high current H bridge module for motor drive applications. Interfacing to a microcontroller is made easy by the integrated driver IC which features logic level inputs, diagnosis with current sense, current limit, current feedback, current adjustment, dead time generation and protection against overtemperature, overcurrent and short circuit. The BTS7960 provides a cost optimized solution for high current PWM motor drives with very low board space and power consumption.



12

Voltage: 6 ~ 27Vdc.

BTS7960 H Bridge Configuration.

43-Amp.

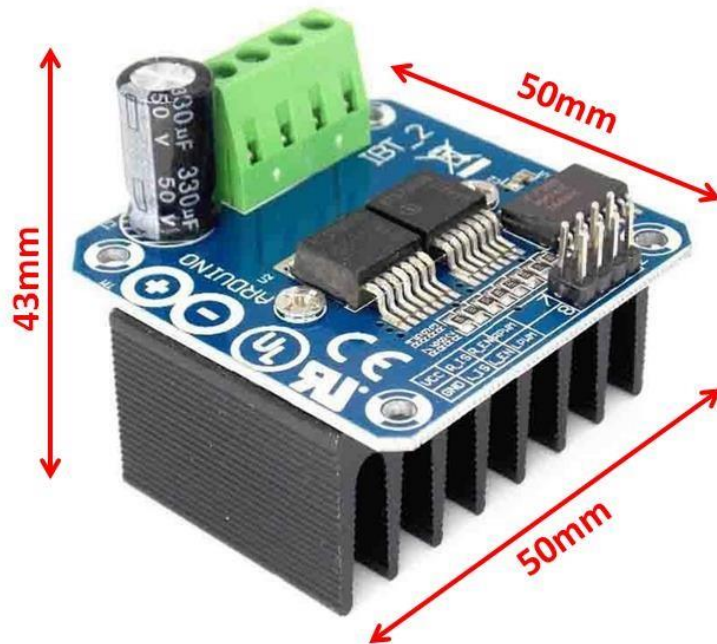
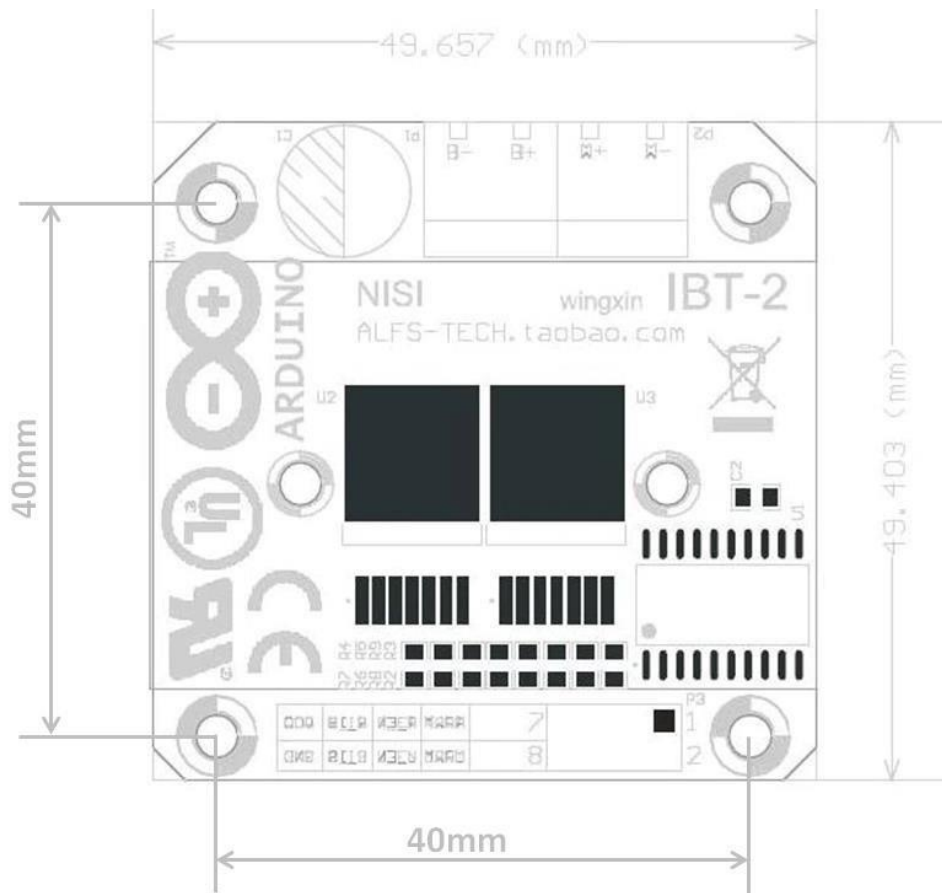
Switching frequency: up to 25 kHz. Control Input Level:

Mode: PWM or level

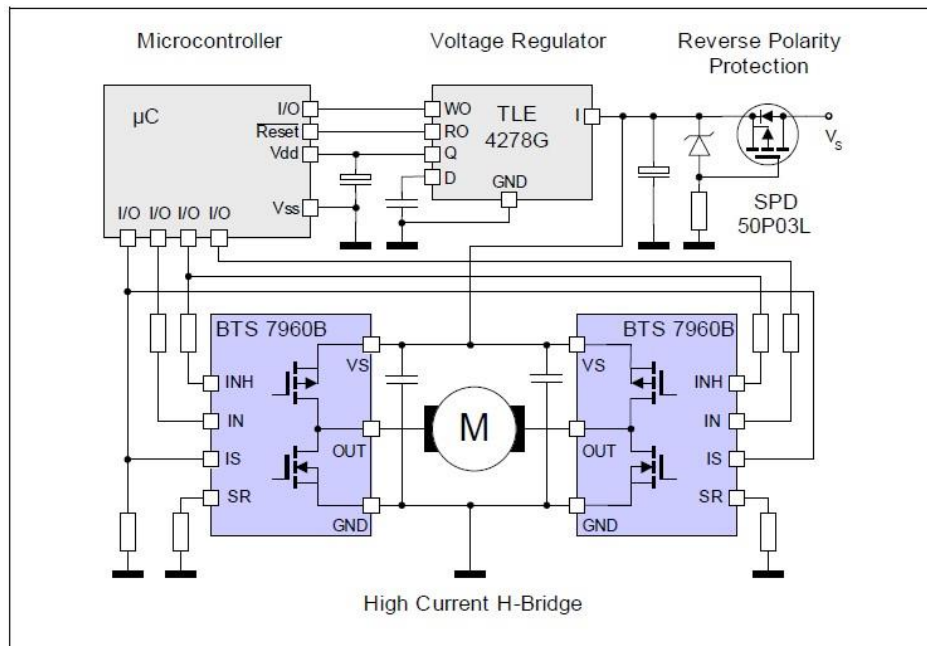
Duty Cycle: 0 ~100%. voltage Lock

Control Input: voltage Shut Down.

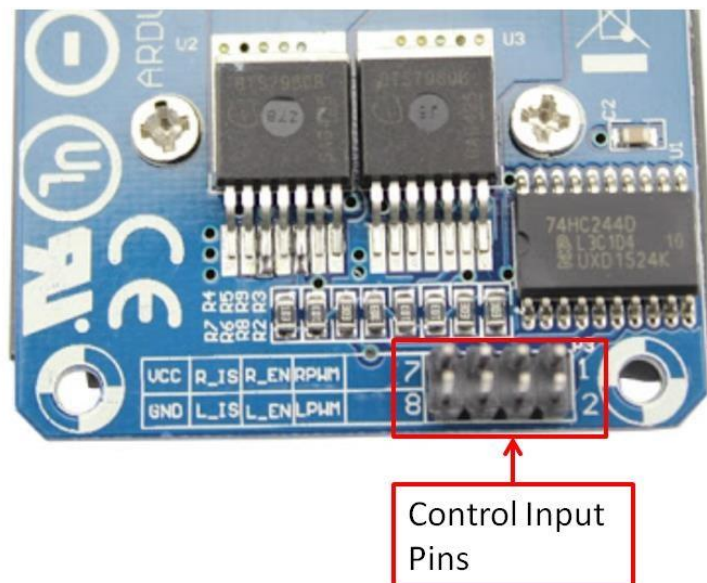
Dimensions (LxWxH): 50mm x 50mm x 43mm. ~66g.



Schematic Diagram:

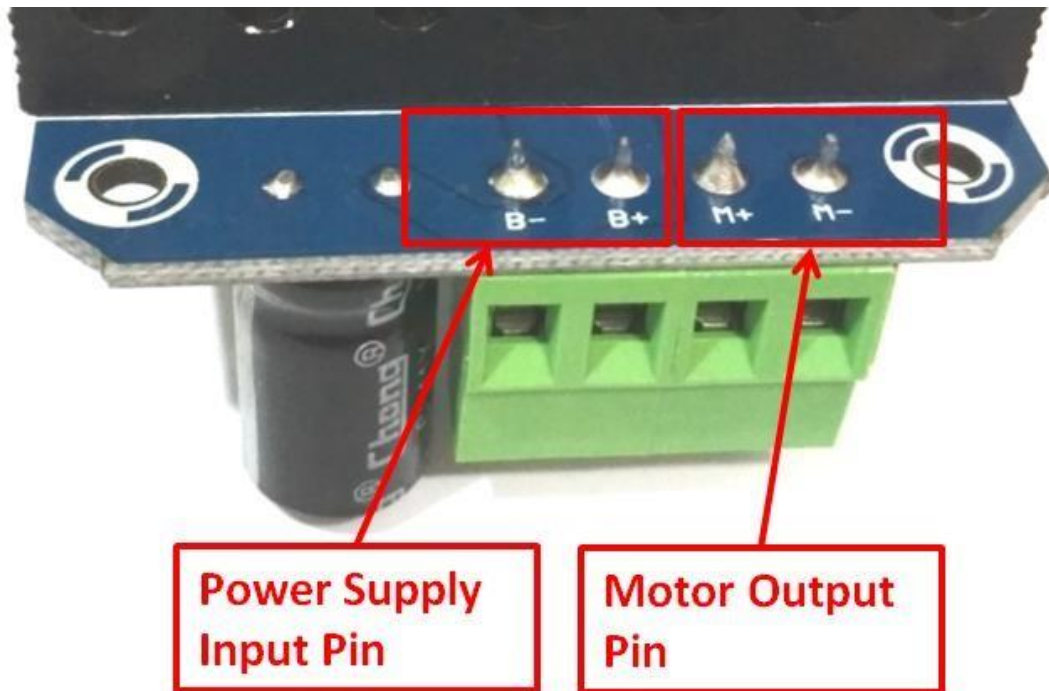


Control Input Pin Function:



Pin No	Function	Description
1	RPWM	Forward Level or PWM signal, Active High
2	LPWM	Reverse Level or PWM signal, Active High
3	R_EN	Forward Drive Enable Input, Active High/ Low Disable
4	L_EN	Reverse Drive Enable Input, Active High/Low Disable
5	R_IS	Forward Drive, Side current alarm output
6	L_IS	Reverse Drive, Side current alarm output
7	Vcc	+5V Power Supply microcontroller
8	Gnd	Ground Power Supply microcontroller

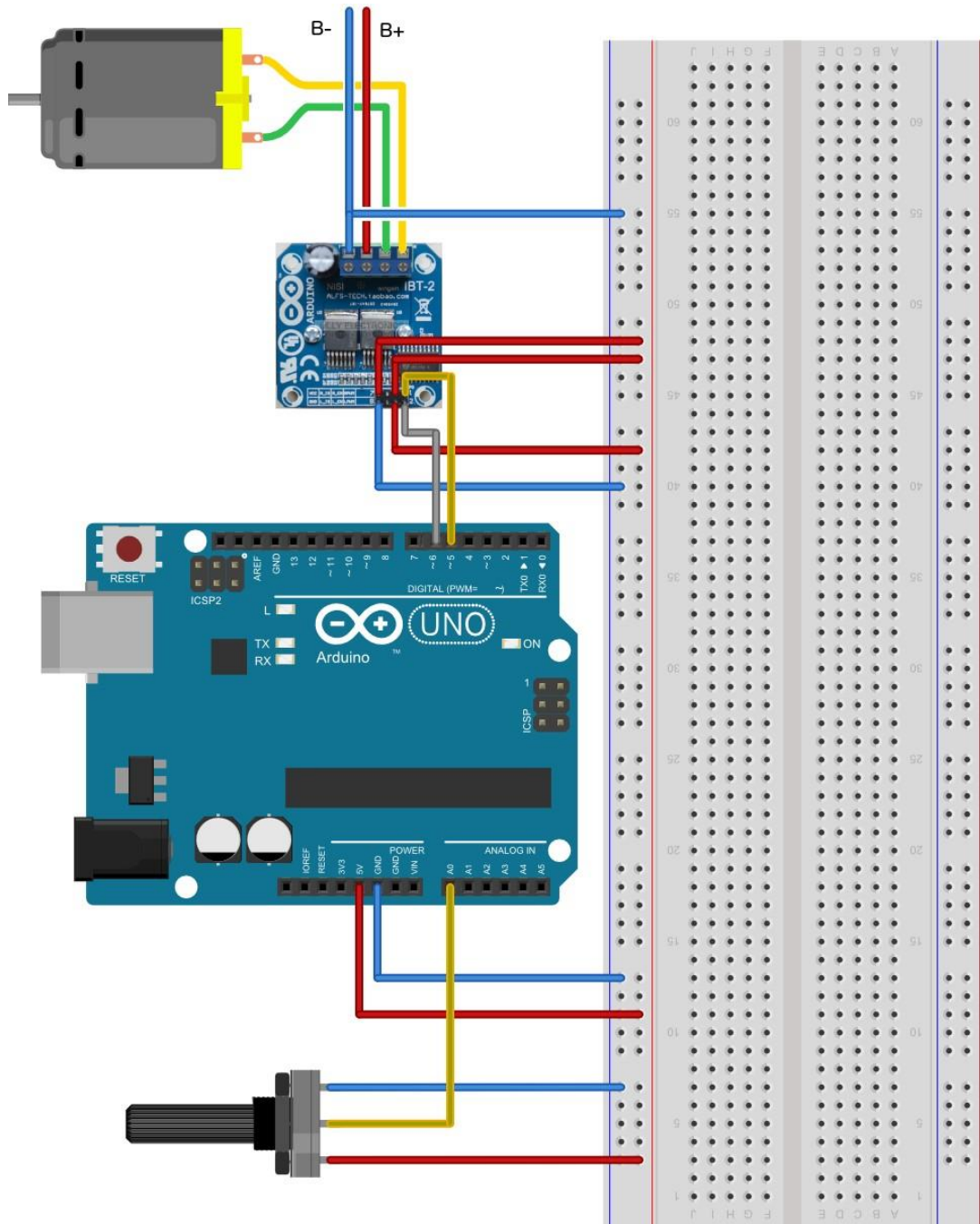
Motor Power Supply & Output Pin Assignment:



Pin No	Function	Description
1	B+	Positive Motor Power Supply. 6 ~ 27VDC
2	B-	Negative Motor Power Supply. Ground
3	M+	Motor Output +
4	M-	Motor Output -

Controlling DC Motor with BTS7960 Using Arduino:

Below is the circuit connection using BTS7960 high power driver to control one DC motor with Arduino board. The potentiometer allows the control of motor speed and rotation direction of the motor.



Arduino to BST7960 Connecting Table:

BST 7960 Pin	Arduino Pin
1 (RPWM)	D5
2 (LPWM)	D6
3 (R_EN)	Arduino 5V
4 (L_EN)	Arduino 5V
5 (R_IS)	Un-connected
6 (L_IS)	Un-connected
7 (VCC)	Arduino 5V
8 (GND)	Arduino GND

Sketch Listing:

Upload the following sketch to Arduino board. Try to turn the potentiometer clock-wise and anti-clock-wise and observe how the motor turn.

```
/*=====
// Author      : Handson Technology
// Project     : BTD7960 Motor Control Board driven by Arduino.
// Description : Speed and direction controlled by a potentiometer attached //
to analog input A0. One side pin of the potentiometer (either one) to
//             ground; the other side pin to +5V
// Source-Code : BTS7960.ino
// Program: Control DC motors using BTS7960 H Bridge Driver.
//=====
// Connection to the BTS7960 board:
// BTS7960 Pin 1 (RPWM) to Arduino pin 5(PWM)
// BTS7960 Pin 2 (LPWM) to Arduino pin 6(PWM)
// BTS7960 Pin 3 (R_EN), 4 (L_EN), 7 (VCC) to Arduino 5V pin
// BTS7960 Pin 8 (GND) to Arduino GND
// BTS7960 Pin 5 (R_IS) and 6 (L_IS) not connected
*/
int SENSOR_PIN = 0; // center pin of the potentiometer
int RPWM_Output = 5; // Arduino PWM output pin 5; connect to IBT-2 pin 1
(LPWM) int LPWM_Output = 6; // Arduino PWM output pin 6; connect to IBT-2 pin 2
(LPWM)

void setup()
{
  pinMode(RPWM_Output, OUTPUT);
  pinMode(LPWM_Output, OUTPUT);
}
void loop()
{  int sensorValue =
analogRead(SENSOR_PIN);

  // sensor value is in the range 0 to 1023
  // the lower half of it we use for reverse rotation; the upper half for forward
rotation
  if (sensorValue < 512)
  {
    // reverse rotation
    int reversePWM = -(sensorValue - 511) / 2;
    analogWrite(LPWM_Output, 0);
    analogWrite(RPWM_Output, reversePWM);
  }
else
  {
    // forward rotation
    int forwardPWM = (sensorValue - 512) / 2;
    analogWrite(LPWM_Output, forwardPWM);    analogWrite(RPWM_Output,
0);
  }
}
```

Web Resources:

- <https://howtomechatronics.com/tutorials/arduino/arduino-dc-motor-control-tutorial-1298npwm-h-bridge/>
- <http://www.labelektronika.com/2016/09/high-current-motor-driver-1bt-2-arduino.html>



Handsontec.com

We have the parts for your ideas

HandsOn Technology provides a multimedia and interactive platform for everyone interested in electronics. From beginner to diehard, from student to lecturer. Information, education, inspiration and entertainment. Analog and digital, practical and theoretical; software and hardware.



HandsOn Technology support Open Source Hardware (OSHW) Development Platform.

Learn : Design : Share

www.handsontec.com



The Face behind our product quality...

In a world of constant change and continuous technological development, a new or replacement product is never far away – and they all need to be tested.

Many vendors simply import and sell without checks and this cannot be the ultimate interests of anyone, particularly the customer. Every part sell on Handsotec is fully tested. So when buying from Handsotec products range, you can be confident you're getting outstanding quality and value.

We keep adding the new parts so that you can get rolling on your next project.



www.handsontec.com

[Breakout Boards & Modules](#)



[Connectors](#)



www.handsontec.com

[Electro-Mechanical Parts](#)



[Engineering Material](#)



www.handsontec.com

[Mechanical Hardware](#)



[Electronics Components](#)

P



www.handsontec.com

[Power Supply](#)



[Arduino Board & Shield](#)

[Tools & Accessory](#)



www.handsontec.com

[Tools & Accessory](#)