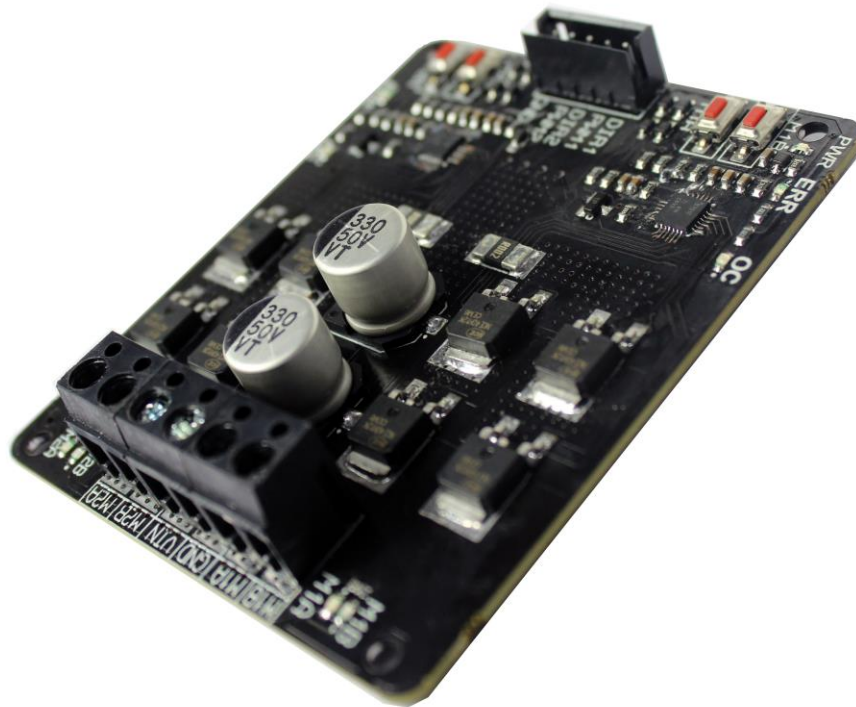


SmartElex 13D Dual Channel DC Motor Driver

User's Manual



INDEX

1. INTRODUCTION
2. SPECIFICATION FOR THE RD10
3. HOW TO USE
4. DIMENSION
5. WARRANTY

INTRODUCTION

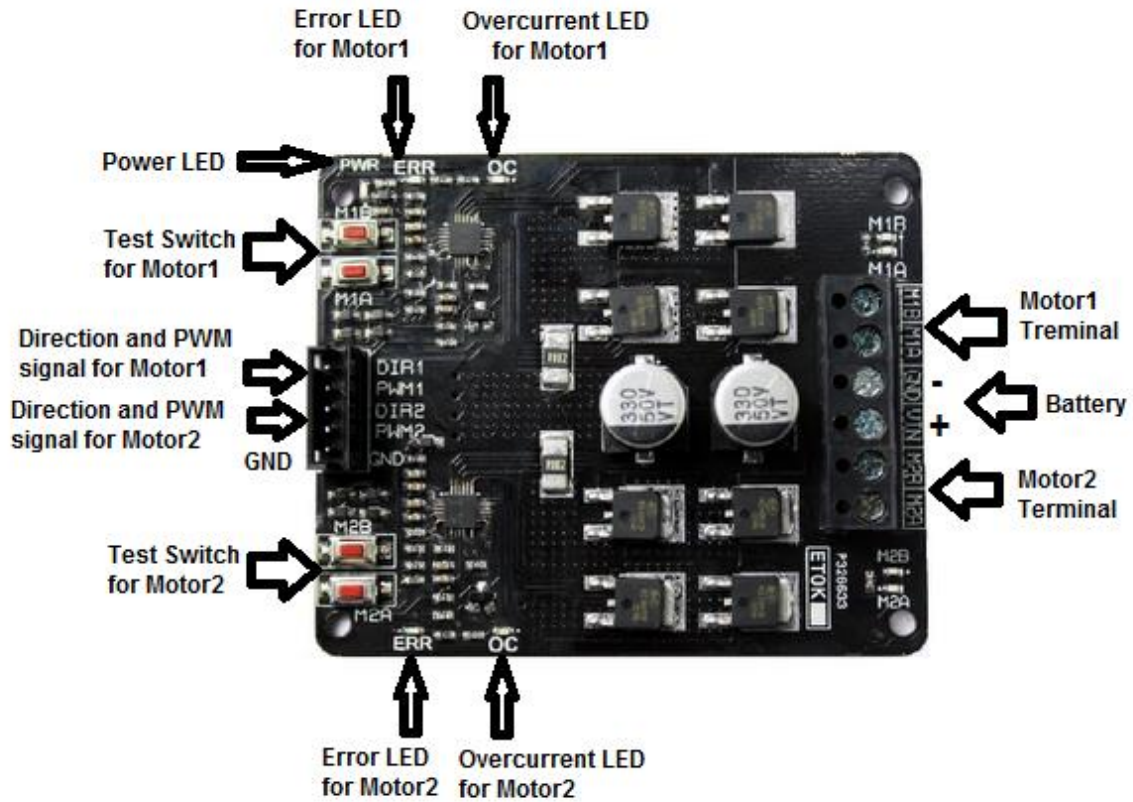
Brush DC motors are the most widely used drivers due to their low cost and simple drive control options. SmartElex 13D Dual Channel DC Motor Driver is powerful motor driver board. This motor driver has a lot of great specs that make it useful for a wide variety of mechatronics. The wide operating voltage range and easy to interface with microcontrollers (MCU) allows customer to quickly adopt them into applications.

Features SmartElex 13S DC Motor Driver motor driver:

1. Wide 6.5V to 30V motor Operating Voltage.
2. Continuous 13A maximum current without Heatsink and 30A peak current for 10 Seconds.
3. Two brushed DC motor Bidirectional control.
4. Current limiting at 30A.
5. PWM frequency up to 20KHz
6. Support TTL PWM from microcontroller
7. Internal thermal shutdown
8. Under-voltage lockout
9. PWM and direction controlled driving of four externally powered NMOS transistors
10. 3.3V and 5V logic level input.

SPECIFICATION FOR THE RD10

Sr.No	Parameter	Min	Max	Unit
1	Input Voltage	6.5	30	V
2	Maximum Continuous Current I_{max}	-	13	A
3	Peak Motor Current for 10 Sec	-	30	A
4	V_{IOH} (Logic Input – High Level)	3	5.5	V
5	V_{IOL} (Logic Input – Low Level)	0	0.5	V
6	PWM frequency	-	20	Khz

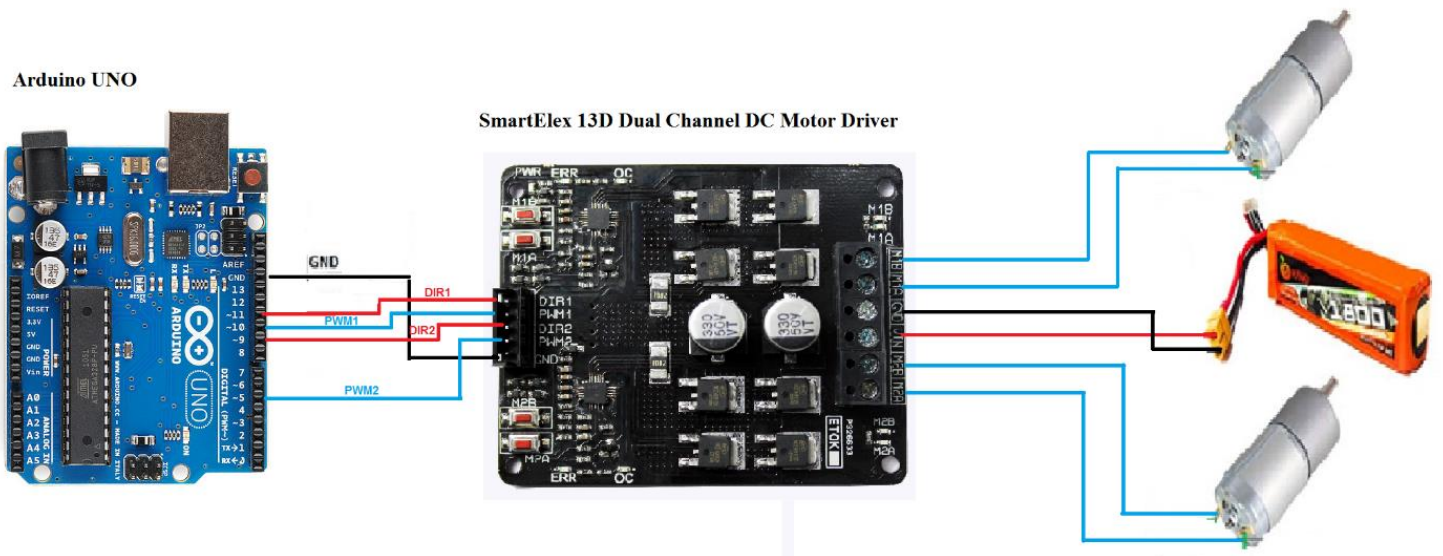


HOW TO USE

SmartElex 13D Dual Channel DC Motor Driver can controlled by two way-

1. 2 control signals are used to control the speed and direction of the motor. PWM is feed to the PWM pin to control the speed while DIR pin is used to control the direction of the motor.
2. Only 1 control signal is needed to control the speed and direction of the motor. PWM pin is connected to logic high while the DIR pin is being feed with the PWM signal. When the PWM signal has 50% duty cycle, the motor stops running. If the PWM has less than 50% duty cycle, the motor will turn CW (or CCW depending on the connection). If the PWM signal has more than 50% duty cycle, motor will turn CCW (or CW depending on the connection).

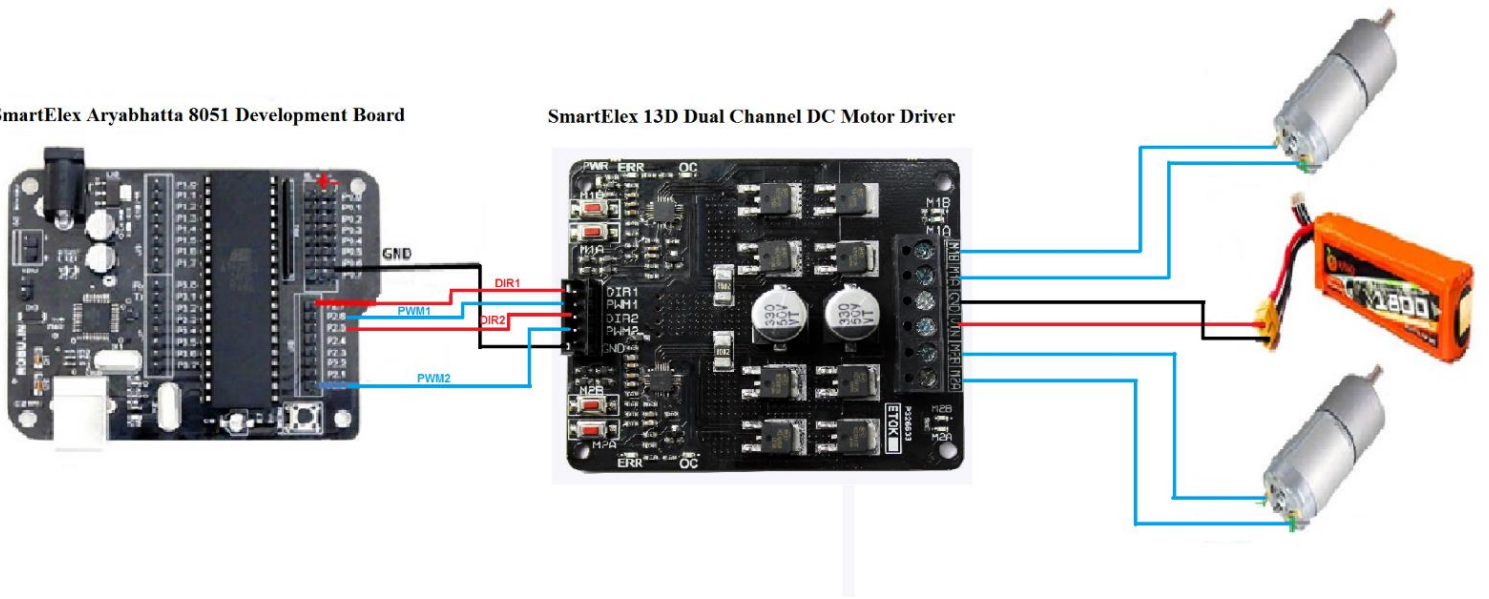
Connection Diagram with Arduino UNO Board-



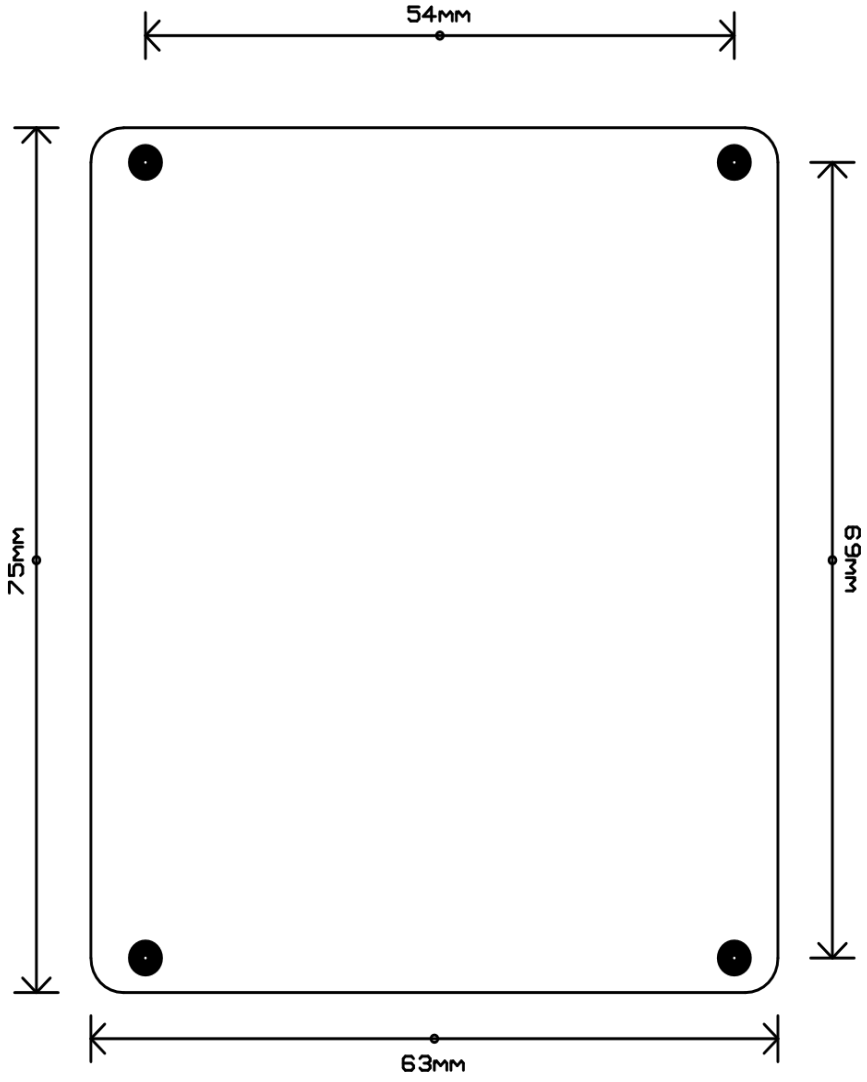
Connection Diagram with SmartElex Aryabhata 8051 Development Board-

SmartElex Aryabhata 8051 Development Board

SmartElex 13D Dual Channel DC Motor Driver



DIMENSION



WARRANTY

- Standard warranty of product is 6 months.
- No warranty will apply if the Product has been subject to misuse, static discharge, neglect, accident, modification, or has been soldered or altered in any way.
- Warranty only applies to manufacturing defect.