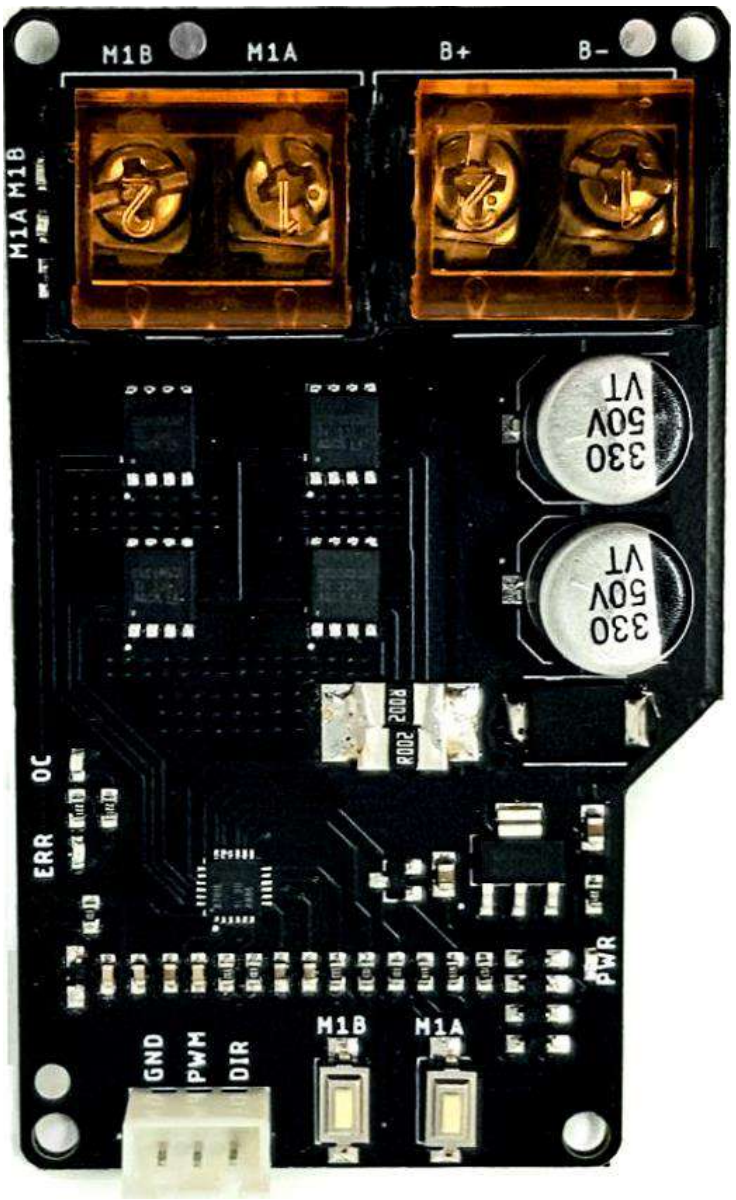
SmartElex 30S DC Motor Driver



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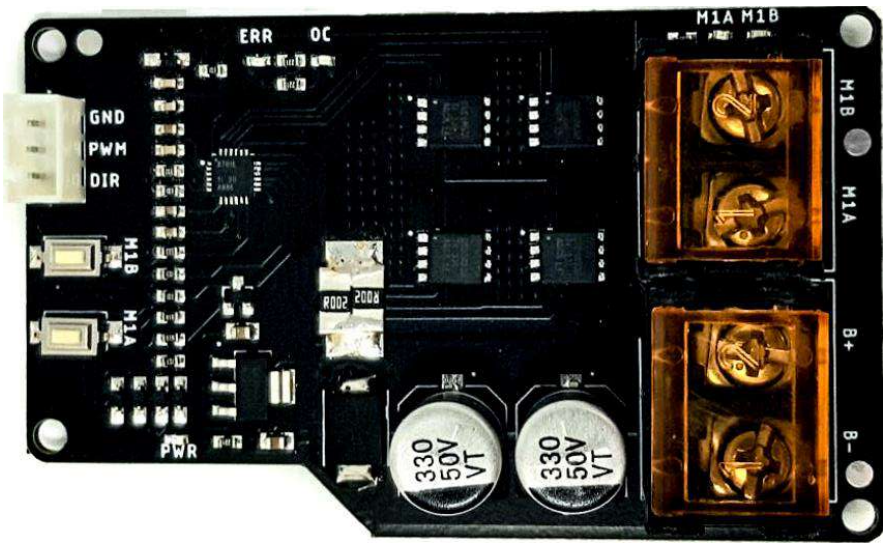
Introduction:

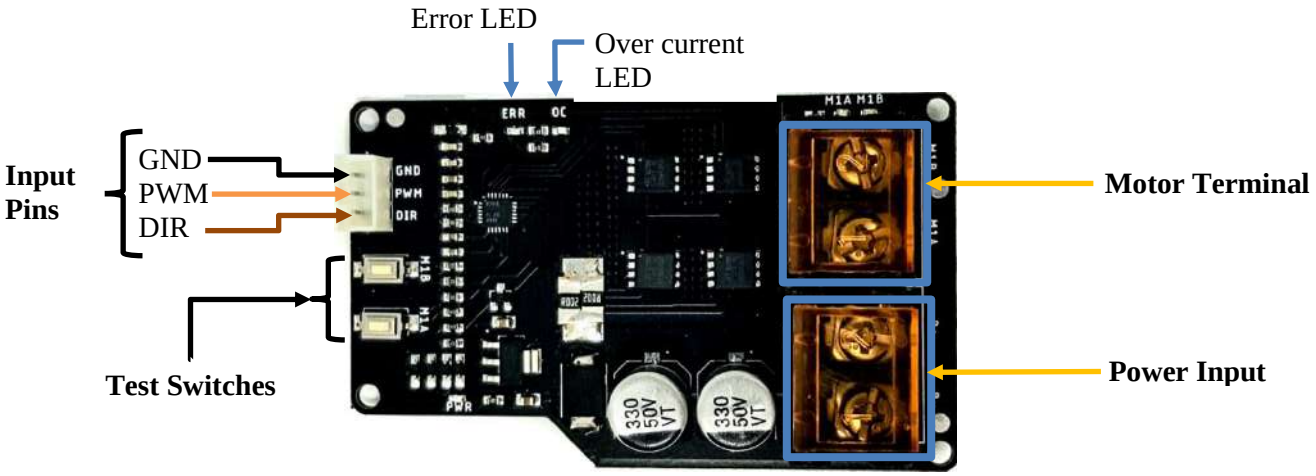
SmartElex 30s is a dual channel motor driver capable of supplying 30 amps continuous with peak currents up to 85 amps (2Sec) per channel. It can be operated from PWM.



Features:

- Supplying 30 amps continuous with peak currents up to 85 amps (2 Sec) per channel
- Support motor voltage from 7V to 28.
- Over current protection and indication.
- Input mode: PWM
- On board push buttons for test and manual operation.

Overview:



Power Input: Connect to a 7V-28V Battery or Power Supply.

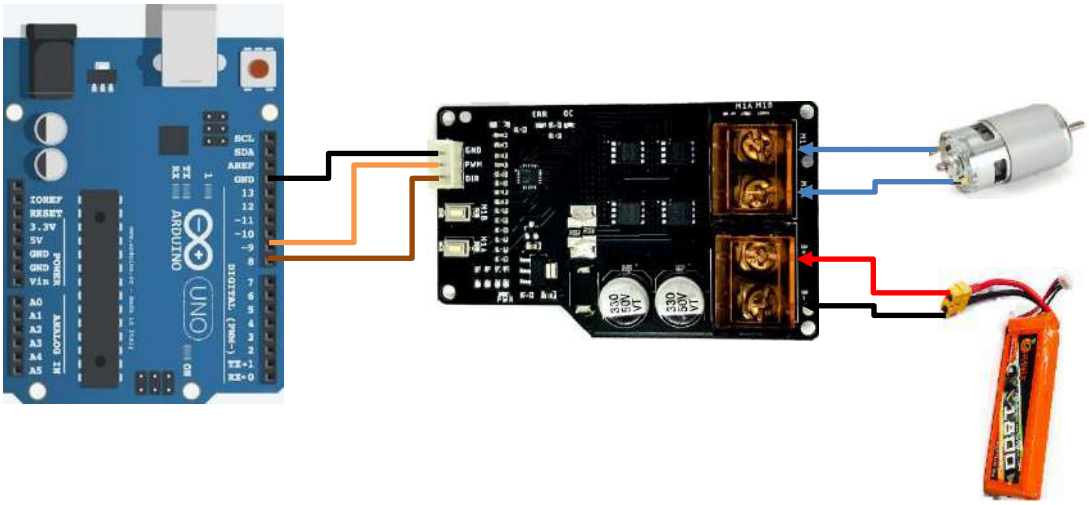
Motor Terminal: Connect Motor to Motor Terminal.

Error (ERR) and Over Current (OC) LEDs: Error LED glows when Under Voltage Lockout (Input Voltage less than 7V) .Overcurrent LEDs glows due to current greater than 85 AMP.

Specifications:

Sr.No	Parameter	Min	Max	Unit
1	Input Voltage	7	28	V
2	Maximum Continuous Current I_{max}	-	30	A
3	Peak Motor Current for 10 Sec	-	85	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	-	490	Hz

Connections/Wiring:



SmartElex 30S can be used with power supplies or batteries. Input power is connected to the power terminals labeled B+ and B-. The input voltage range is 7V to 28V. The input current is dependent on the motors being used and the load placed upon them.

As a general rule of thumb, you should use the thickest wire that is practical to make power connections, especially on the battery leads. Using undersized wire will lead to the wire getting hot, and can lead to elevated temperatures on the SmartElex 30S as well.

The main power connections to the SmartElex 30S are on the rear edge of the board. Connections are made to large black screw terminals. These terminals will accept 10 to 28 gauge wire. Using stranded wire it is possible to run twinned 10 gauge wire connections to the battery terminals. This is often a good idea if your design will be running both motors near or above the 30 amp continuous limit. For the motor connections, single 12 gauge wires should be sufficient for all applications.

Example Code :

```
#define PWM 9
#define DIR 8
void setup()
{
 pinMode(PWM,OUTPUT);
 pinMode(DIR,OUTPUT);
}
void loop()
{

 digitalWrite(DIR,HIGH);
 for(int i=0;i<255; i++)
 {
 analogWrite(PWM,i);
 delay(2);
 }
 delay(2000);
 digitalWrite(DIR,LOW);
 for(int j=0;j<255;j++)
 {
 analogWrite(PWM,j);
 delay(2);
 }
 delay(2000);
}
//////////////////////////////////////END//////////////////////////////////////
```

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.