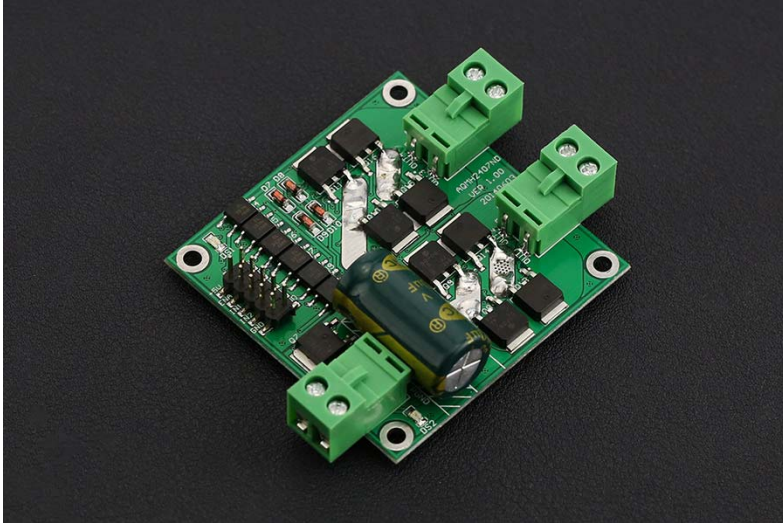


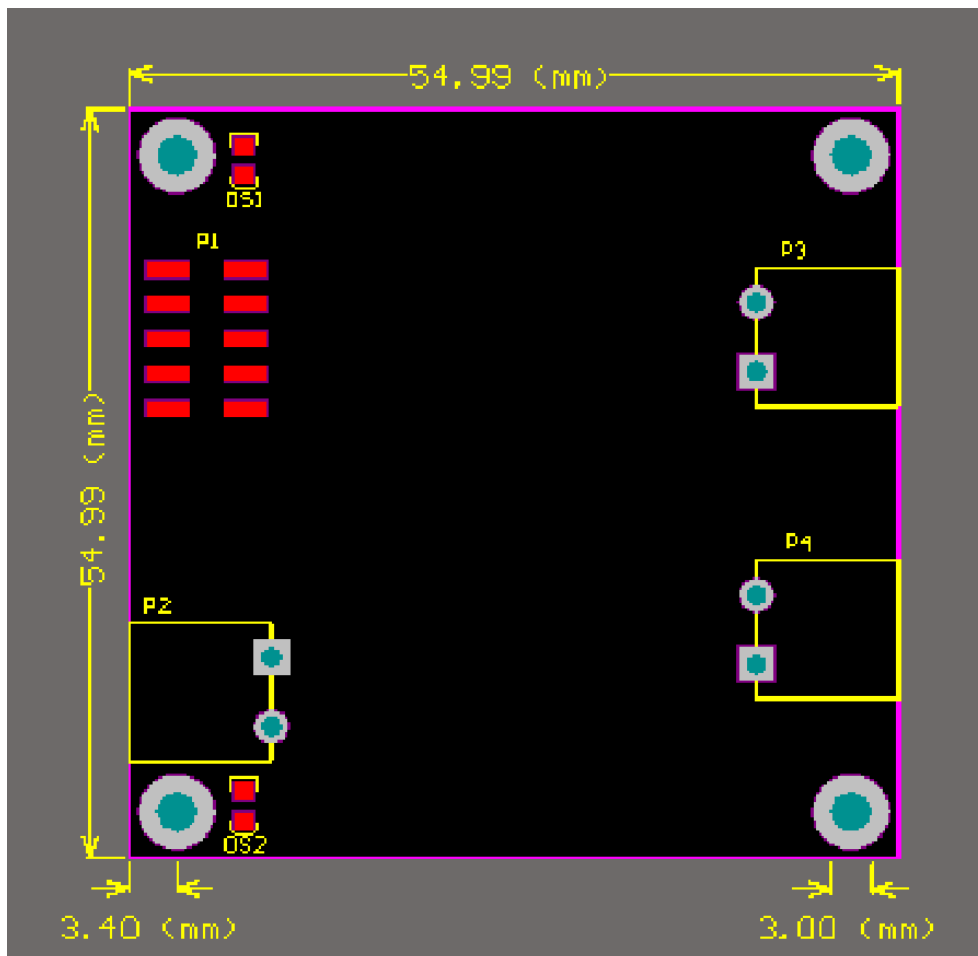
7A Dual DC Motor Driver SKU DRI0041

Introduction



This is an ultra small dual **DC motor driver** for space limited projects. It features a UVLO (Under Voltage Lock Out) circuit, ESD protection, and opto-isolated inputs. The opto-isolated inputs prevent motor power from damaging or interfering with your control circuit.

Specification



Voltage supply: DC 7 ~ 24 V

Voltage supply limit: 6.5 ~ 27 V

Control signal Level (Compatible 3.3V/5V)

High: DC 3.0 ~ 6.5 V

Low: DC 0 ~ 0.8 V

Output Channels: 2

Control signal current: 3 ~ 11 mA (per input)

Maximum continuous operating current: 7 A

Peak current: 50 A

Speed control: PWM

Minimum valid Pulse Width: 5 us

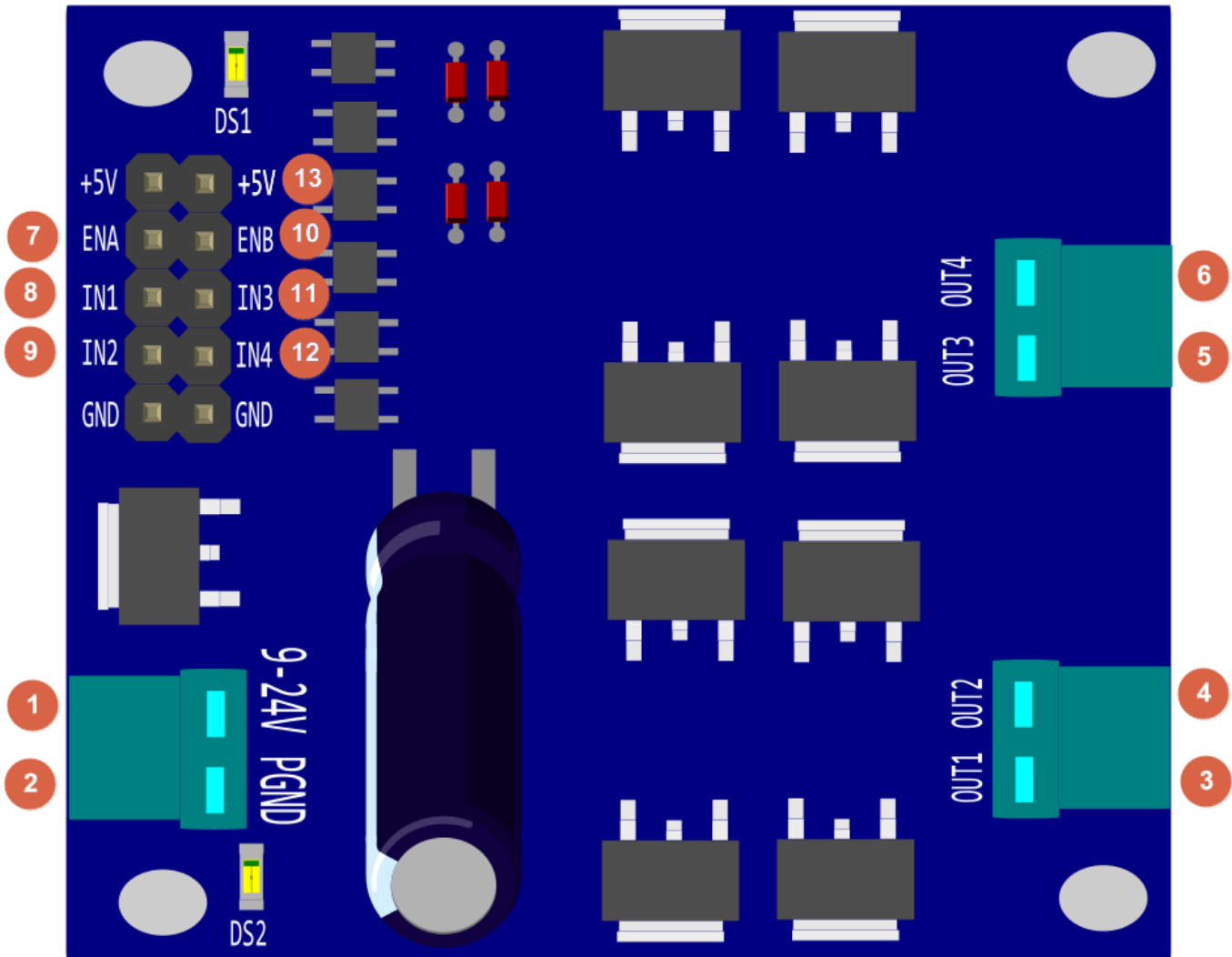
Working Temperature: -25 ~ 85 °C

Mounting Hole: M3

Dimension (Length * Width * Height): 55 x 55(mm)/2.165 x 2.165(in)

Weight: 32g

Board Overview



Num	Label	Description
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Num	Label	Description
1	9 - 24V	Power Supply, +
2	PGND	Power Supply, GND
3	OUT1	Motor1_+
4	OUT2	Motor1_-
5	OUT3	Motor2_+
6	OUT4	Motor2_-
7	ENA	Motor1 PWM
8	IN1	Motor1 control signal
9	IN2	Motor1 control signal
10	ENB	Motor2 PWM
11	IN3	Motor2 control signal
12	IN4	Motor2 control signal
13	+5V	Voltage Reference Input, +5V OR 3.3V

Control Method

IN1	IN2	ENA/ ENB	Motor1/2 Behavior
0	0	x	Stop (brake)
1	1	x	Vacant
1	0	1	Forward 100%
0	1	1	Reverse 100%
1	0	PWM	Forward at PWM speed
0	1	PWM	Reverse at PWM speed

In this table

IN1 & IN2: the control signal input to change the motor behavior

"0": TTL_Low

"1": TTL_High

"x": Any TTL, and it is default TTL_Low while no PWM signal.

"ENA/ ENB": PWM speed setting

Note:

IN1 & IN2

To protect your motor, before switching the motor drive direction, first BRAKE the motor by setting **IN1=0 & IN2=0**. This is especially important when the PWM is set to 100% (full speed). The suggested braking time is >0.1sec, depending on your motor.

+5V

This signal is a reference that must be set to the same power supply that your microcontroller operates on. Connect this to the 3.3v or 5v power supply used by the controller.

Tutorial

This tutorial will cover how to use PWM to control a motor using the shield. Do the wiring according to the Connection Diagram below, and then upload the sample code below to the Arduino board. Here we use a [arduino UNO](#) as the controller, you should see your motor run forward for 3 seconds and then run reverse for another 3 seconds and then repeat.

Requirements

Hardware

1 x DFRduino UNO (or similar)

1 x This 7A Dual DC Motor Driver

2 x DC Motor

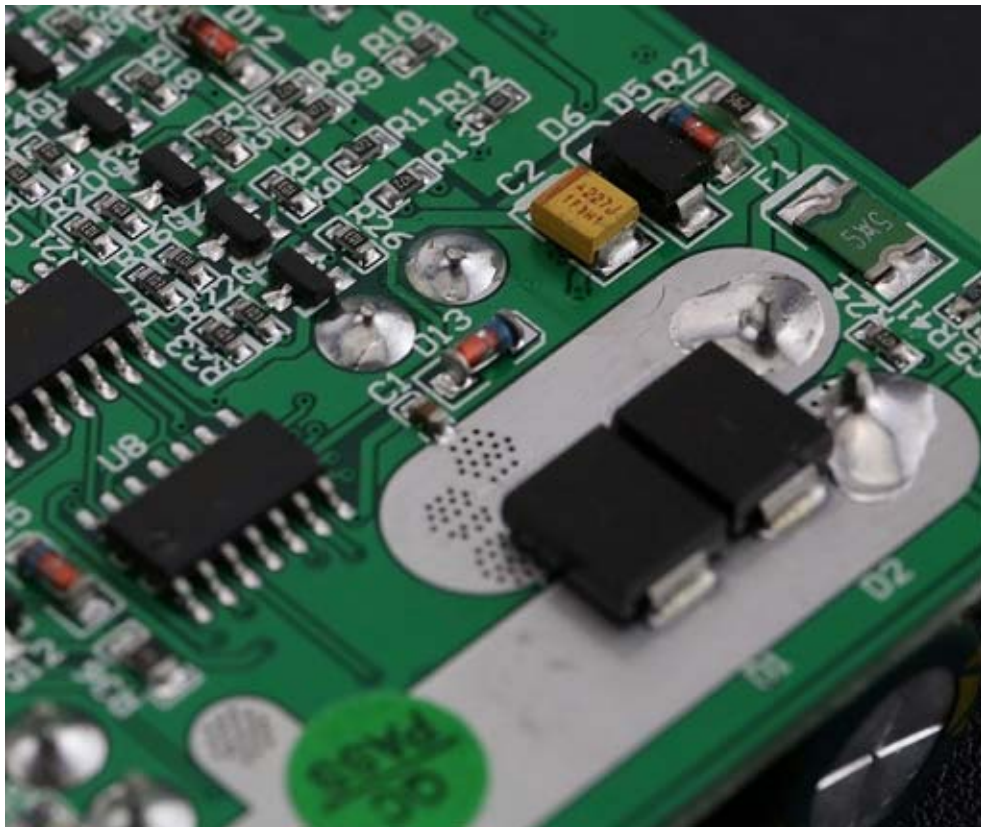
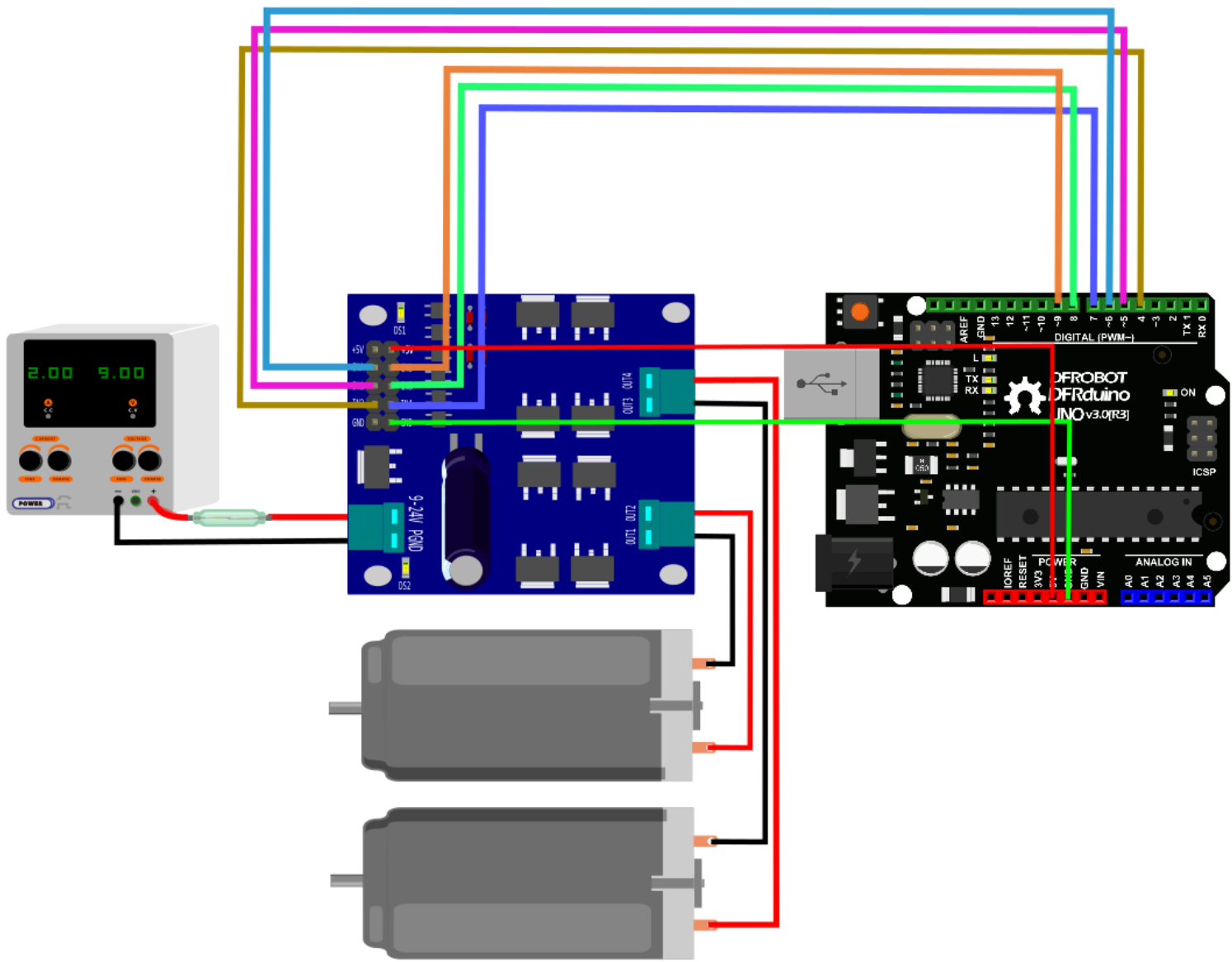
1 x Fuse@20A

Jumper wires

Software

[Arduino IDE](#) Click to Download Arduino IDE from Arduino®.

Connection Diagram



Facility Safety and the Personal Safety:

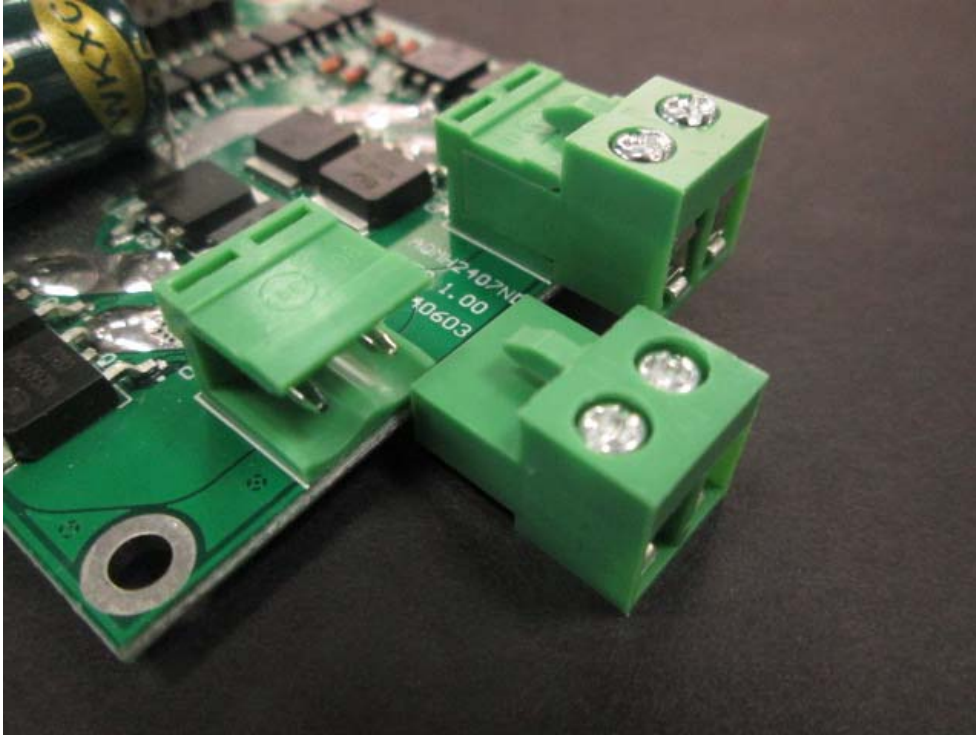
Please add a fuse@20A between the Power source and this shield.

Installation Tips

The back of the driver board has some large bare traces. It is important to make sure that these do not get shorted out against conductive surfaces of your project. Please measure carefully and if needed, apply 1mm of non-conductive epoxy to protect the board.

Pluggable Connector

The connectors are designed to be pluggable. This allows you to attach wires with male or female terminations.



Sample Code

FAQ

For any questions, advice or cool ideas to share, please visit the [DFRobot Forum](#).

More Documents