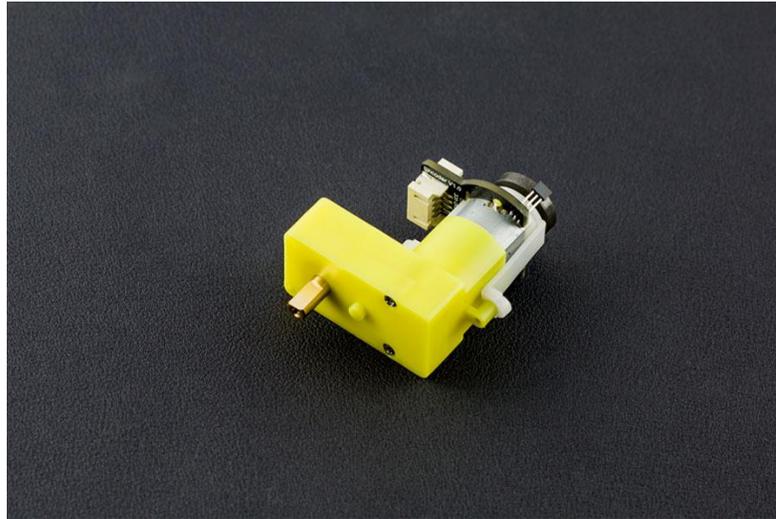




DFROBOT
DRIVE THE FUTURE

TT Geared Motor with Encoder (6V 160RPM 120:1 L Shape)

SKU: FIT0458



INTRODUCTION

This is the DFRobot TT Micro DC geared motor with encoder. It is a motor with a 120:1 gearbox and an integrated quadrature encoder that provides a resolution of 8 pulse single per round giving a maximum output of 960 within one round. With an Arduino controller and motor driver, applications for this include a closed-loop PID control or PWM motor speed control. This motor is an ideal option for mobile robot projects. The copper output shaft, embedded thread and reinforced connector greatly extends the motor's service life.

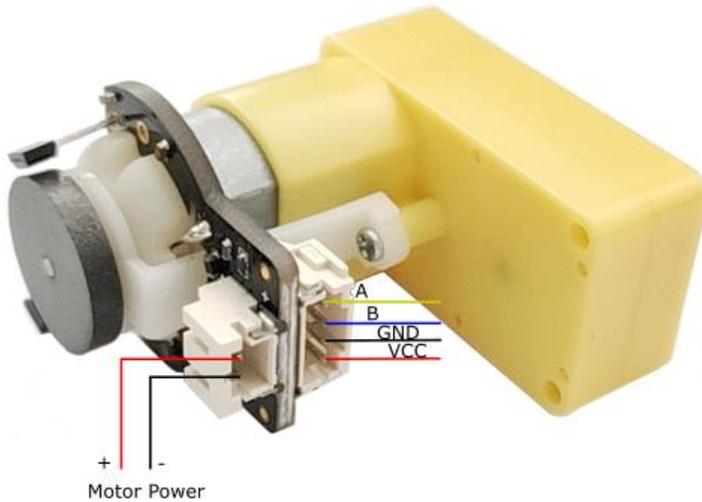
The encoder interface is compatible with DFRobot's Gravity interface.

SPECIFICATION

- Gear ratio: 120:1
- No-load speed @ 6V: 160 rpm
- No-load speed @ 3V: 60 rpm
- No-load current @ 6V: 0.17A
- No-load current @ 3V: 0.14A
- Max Stall current: 2.8A

- Max Stall torque: 0.8kgf.cm
- Rated Torque: 0.2kgf.cm
- Encoder Operating Voltage: 4.5~7.5V
- Motor Operating Voltage: 3~7.5V (Rated voltage 6V)
- Operating Ambient Temperature: -10~+60°C
- Weight: 50g

Board Overview



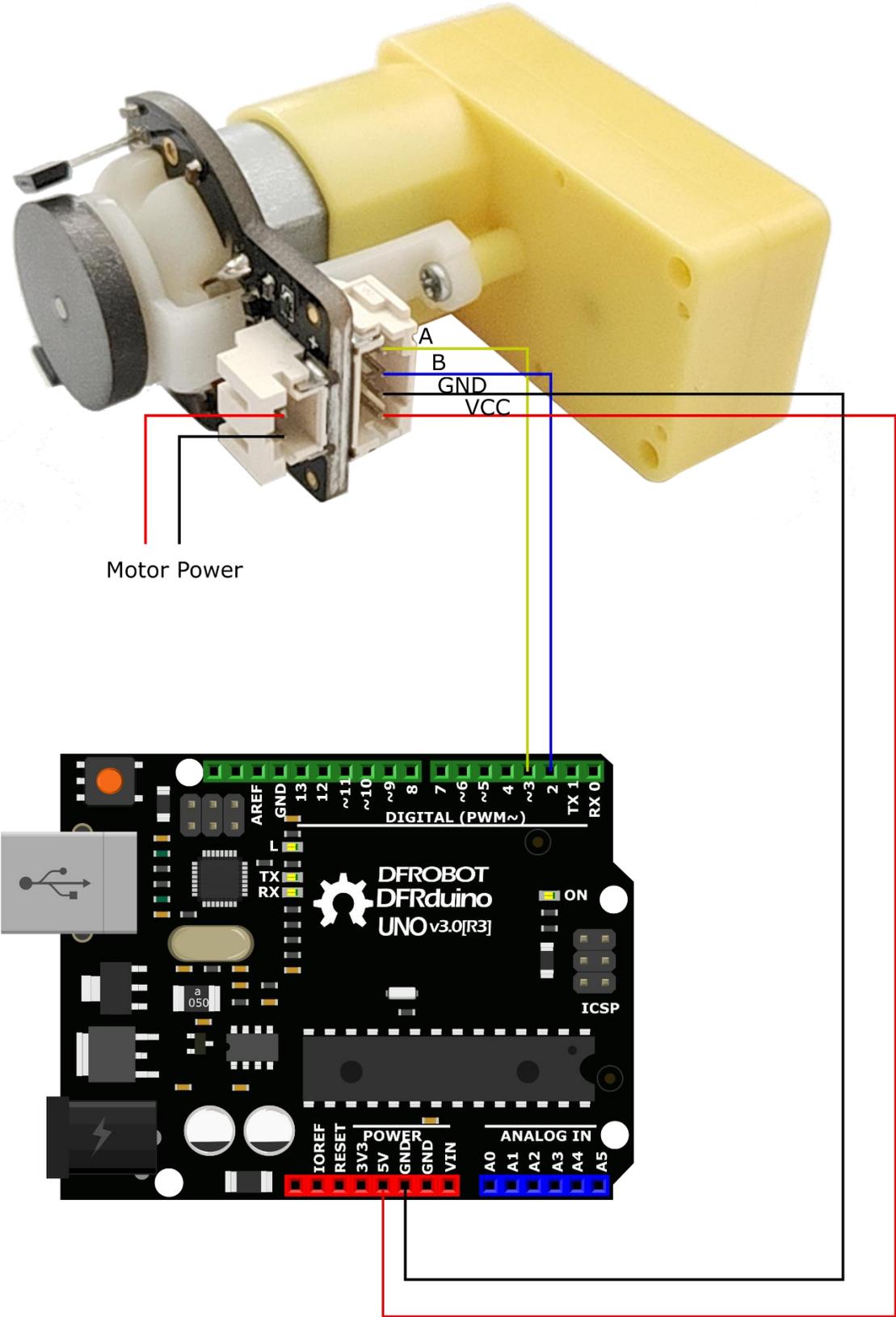
Grade	Name	Functional Description
+	Motor power supply pin +	3-7.5V, Rated voltage6V
-	Motor power supply pin -	
VCC	Encoder supply +	4.5-7.5V
GND	Encoder supply GND	
B	Encoder B phase output	Changes square wave with the output frequency of Motor speed(interrupt port)
A	Encoder A phase output	Changes square wave with the output frequency of Motor speed

Tutorial

Ready to work

- **hardware**
 - [DFRduino UNO](#) x1
 - DC power supply x1
 - [L298](#) x1
- **software**
 - Arduino IDE [Download Arduino IDE](#)

Connection Diagram



This tutorial is intended to use the encoder, Select D2 pin and D3 pin, Wherein D2 as an interrupt port, D3 as an input pin. In practice, two pins need to ensure that one of pins must be an interrupt pin, and the other definable (see the interrupt port with different board).

Interrupt Port with Different Board

Notcie: attachInterrupt()

Board	int.0	int.1	int.2	int.3	int.4	int.5
Uno, Ethernet	2	3				
Mega2560	2	3	21	20	19	18
Leonardo	3	2	0	1	7	

If using an Arduino UNO and you want to use interrupt port 0 (Int.0), you need to connect digital pin D2 on the board. The following code is only used in UNO and Mega2560. If you want to use Arduino Leonardo, you should change digital pin D3 instead of digital pin D2.

See the link for

details <https://www.arduino.cc/reference/en/language/functions/external-interrupts/attachinterrupt/>