

Making Board for Motor with Quadrature Encoder

This file contains instructions to make board for connecting motor with quadrature encoder.

Required Hardware:

1. Motor with quadrature encoder
2. Perf Board/General Purpose PCB
3. Relimate Connector
4. Resistors (Quantity-2, Value 10K Ω)
5. Soldering Iron and Soldering wire

Circuit Diagram:

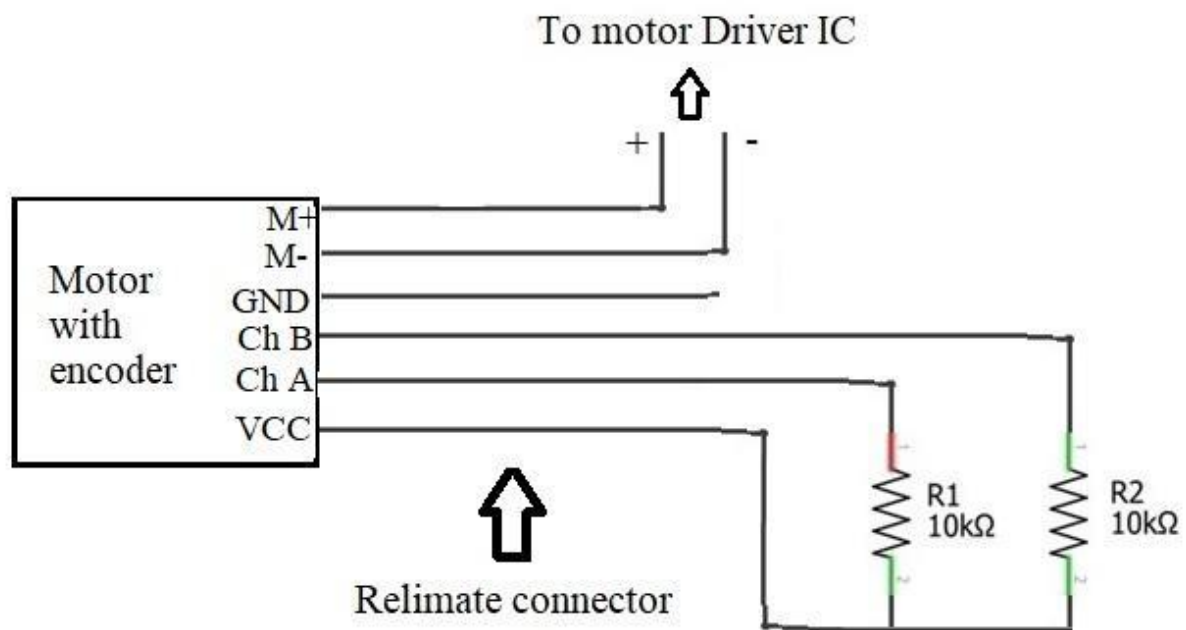


Figure 1: Circuit diagram for board

Note: Motor with quadrature encoder

Motor with quadrature encoder consists of six cables, two are for motor and four are for quadrature encoder sensor. Cable labeled “**M-**” and “**M+**” are connected to power supply for motor and other four are connected to quadrature encoder sensor as shown in Figure 2. Motor cables M+ and M- can be connected to 10-15V power supply. But Vcc is to be connected to 5V. Be careful while connecting these pins with power supply, otherwise sensor may get damaged. Output channels of quadrature encoder, “**Ch-A**” and “**Ch-B**”, are open collector outputs. A pull up resistor is connected between “**Ch-A**” and “**Vcc**” and another between “**Ch-B**” and “**Vcc**”.

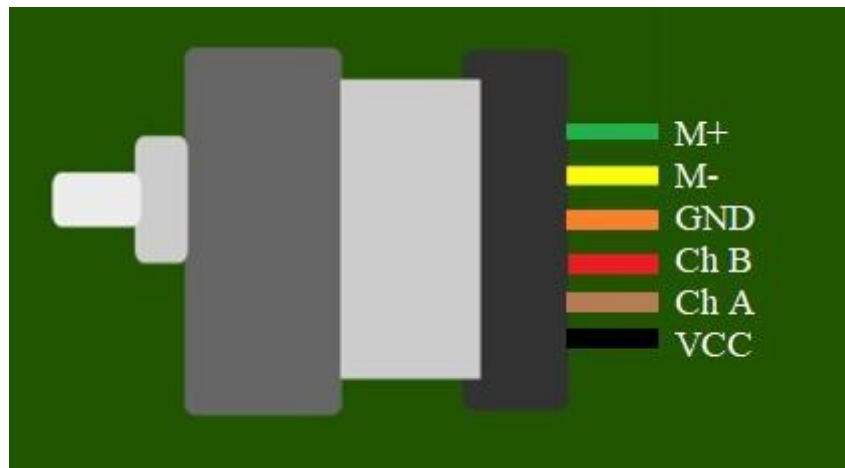


Figure 2: Motor with quadrature encoder

Connection Instructions:

1. First study the circuit diagram as shown in Figure 1.
2. Cut the perf board 50x20 mm.
3. Place open ends of relimate connector and two resistors in perf board and solder them according to connections in Figure 1.
4. Connect other ends of relimate connector to the motors.
5. After finishing the connection board should look like Figure 3.

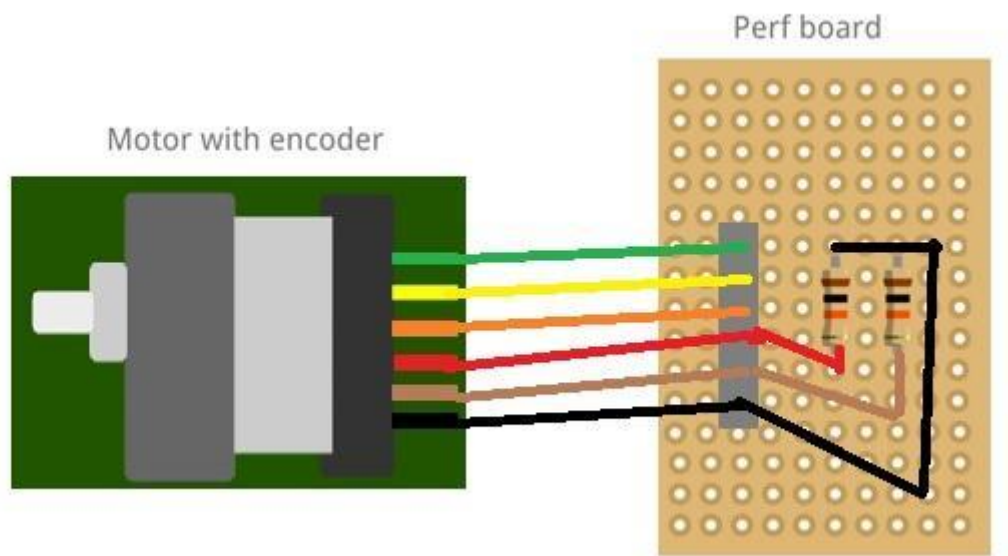


Figure 3: Board for Motor with quadrature encoder