

VLO (Voltage Logic Onboard) :

When the motor drive chip L298N work , there are two voltage: logical voltage (such as 7.2 V, 9V or 12V). In order to convert the motor voltage to logic voltage, and this motor driven shield supply with a corresponding voltage. Because the voltage transform circuit's working voltage is restricted (less than 20V, then can not use this voltage transform circuit. The function is to choose the open status of logic transform circuit (switch to "ON") or the closed status of logic transform circuit (switch to "OFF").

(VLC) (Voltage Logic Connected) :

Besides L298N motor driven shield supply with a corresponding voltage , it also directly connect with Arduino's 5V logical voltage terminal to get 5V logical voltage. The function of VLC switch is used for L298N motor driven shield to choose whether to connect with Arduino's 5V logical voltage terminal (switch to "ON") or break the connection (switch to "OFF").

VM (Voltage Motor) :

The function of VM is used to choose motor voltage. When L298N motor driver shield connecting with Arduino , there are two ways to supply power to the motor:

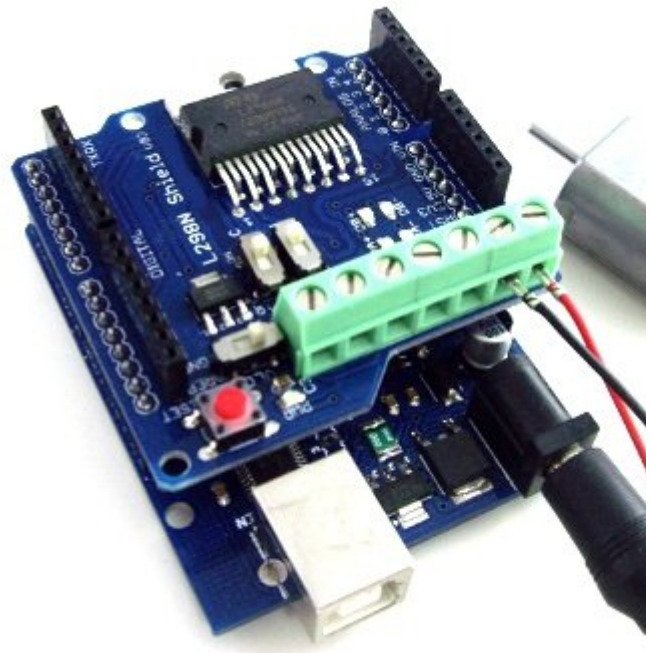
- 1、 Through Vin pin of Arduino (switch to Vin)
- 2、 Through VEX terminals of motor driven shield (switch to VEX).

Compared with Arduino, L298N motor driver shield can bear higher voltage. When using L298N motor driver shield, you must pay special attention to circuit connection. Here are some typical circuit connections for references :

1. Motor voltage is from 6v to 12 v

Generally speaking, Arduino can get power through external 6V - 12V transformer (connected to Arduino), if your motor voltage just in this range, that you can just use this transformer to supply power simultaneously for Arduino and motor. Then VLO, VLC and VM can be set to "ON".

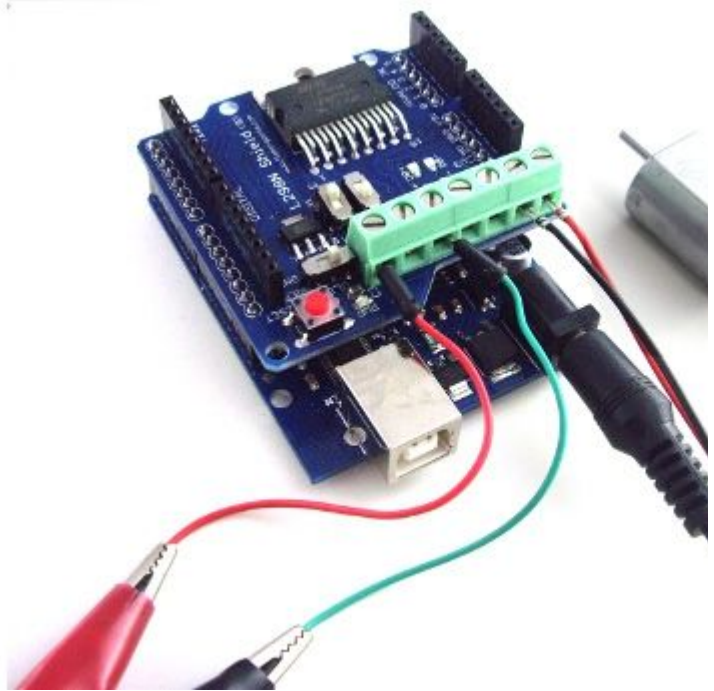
- * VLO : OFF
- * VLC : ON
- * VM : VIN



2. Motor voltage is less than 6V

You can only supply power to motor through VEX terminals and GND terminal of shield, because the 5V voltage transform circuit of motor driven shield can't supply enough power (5V is too low), so we can only connect with 5V terminals of Arduino to supply our motor shield. Then VLO, VLC and VM are set as below :

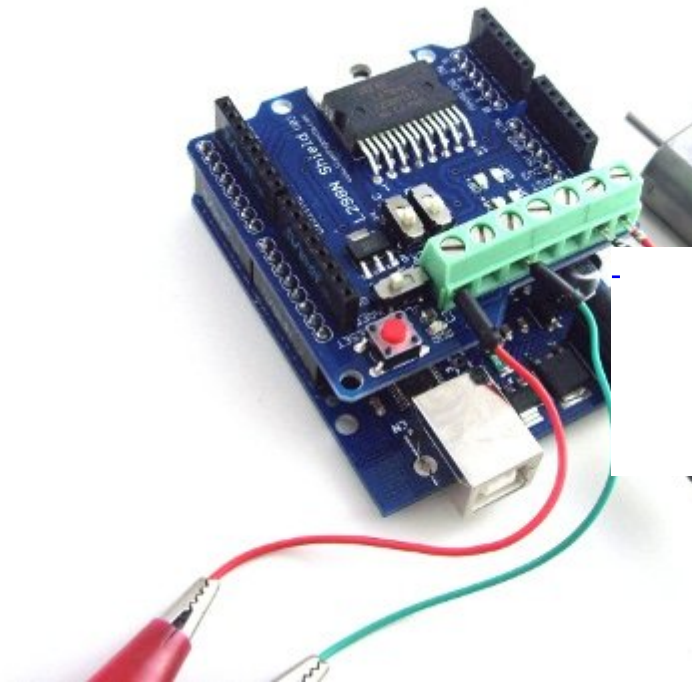
- * VLO : OFF
- * VLC : ON
- * VM : VEX



3. Motor voltage is from 12V to 20V

You can only supply power to motor through VEX terminals and GND terminal, but the 5V voltage transform circuit of motor driver shield can work. VM are set as below :

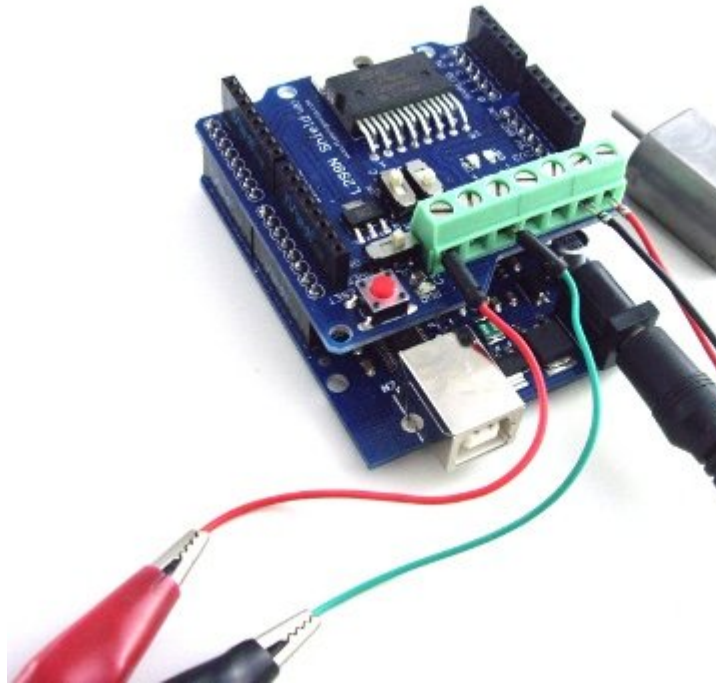
- * VLO : ON
- * VLC : OFF
- * VM : VEX



4. Motor voltage is from 20V to 46V

You can only supply power to motor through VEX terminals and GND terminal shield, because the 5V voltage transform circuit of motor driven shield can be too high, so we can only connect with 5V terminals of Arduino to supply our motor shield. Then VLO, VLC and VM are set as below :

- * VLO : OFF
- * VLC : ON
- * VM : VEX



More information is the same as [Arduino motor drive shield-L298N](#)

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