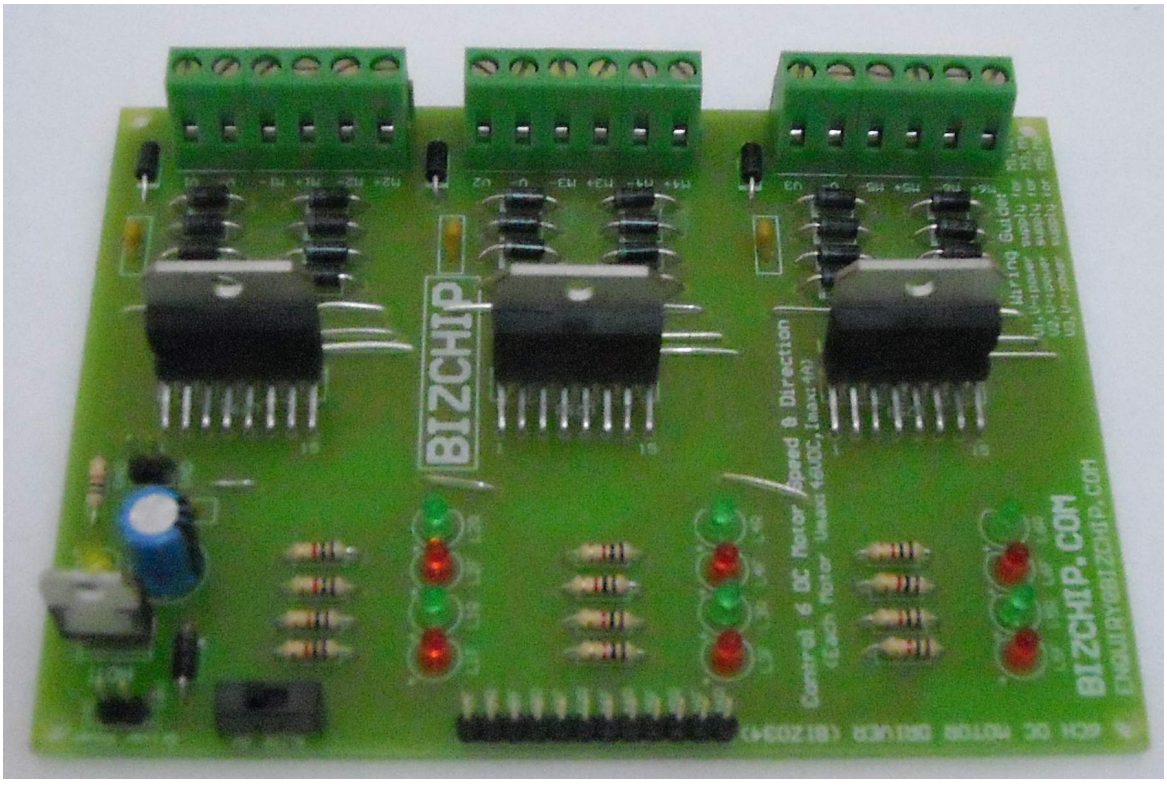
6CH DC Motor Driver

User's Manual



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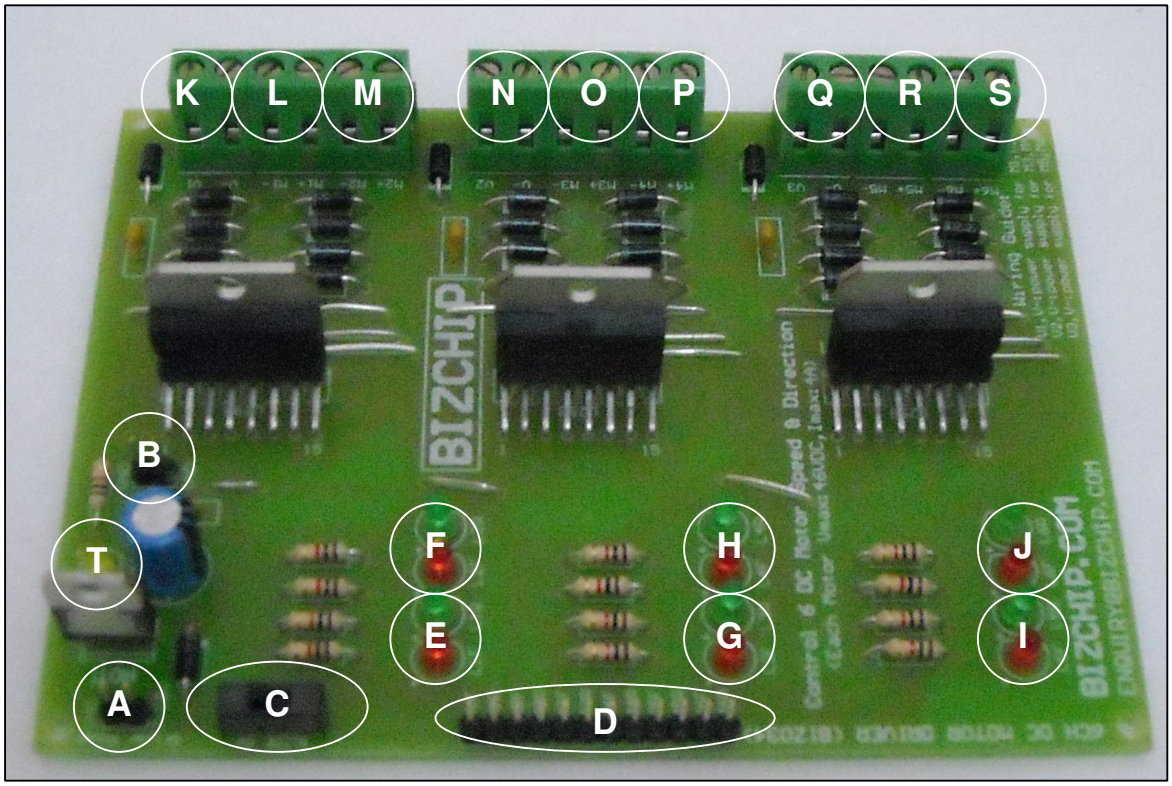
Introduction

6CH DC Motor Driver is capable to drive up to 6 DC motors (each motor Vmax: 46VDC, Imax: 4A). The driver supports TTL and PWM control signals. Only 2 signal lines required to control each motor forwards, reverse, stop and moving speed. 12 LED indicators are used to show the operation of each motor. It is cheapest solution for robot arm, mobile robot and automation projects.

Driver Overview



Symbol	Connect To	Function
A	7-18V: Adapter or battery, voltage range from 7V DC to 18V DC. GND: Adapter or battery ground.	Power supply for motor driver.
B	Common ground of control card.	Common ground motor driver and control card.
C	-	Motor driver power on/off.
D	Control card TTL (0V / 5V) output pin	Control each motor speed / direction. M1F=1 or PWM, Motor1 forwards. M1R=1 or PWM, Motor1 reverse. Either M1F or M1R must =0 when you run motor1. M2F=1 or PWM, Motor2 forwards. M2R=1 or PWM, Motor2 reverse.

		Either M2F or M2R must =0 when you run motor2. M3F=1 or PWM, Motor3 forwards. M3R=1 or PWM, Motor3 reverse. Either M3F or M3R must =0 when you run motor3. M4F=1 or PWM, Motor4 forwards. M4R=1 or PWM, Motor4 reverse. Either M4F or M4R must =0 when you run motor4. M5F=1 or PWM, Motor5 forwards. M5R=1 or PWM, Motor5 reverse. Either M5F or M5R must =0 when you run motor5. M6F=1 or PWM, Motor6 forwards. M6R=1 or PWM, Motor6 reverse. Either M6F or M6R must =0 when you run motor6.
E	-	L1F: Indicator to show motor1 forwards. L1R: Indicator to show motor1 reverse.
F	-	L2F: Indicator to show motor2 forwards. L2R: Indicator to show motor2 reverse.
G	-	L3F: Indicator to show motor3 forwards. L3R: Indicator to show motor3 reverse.
H	-	L4F: Indicator to show motor4 forwards. L4R: Indicator to show motor4 reverse.
I	-	L5F: Indicator to show motor5 forwards. L5R: Indicator to show motor5 reverse.
J	-	L6F: Indicator to show motor6 forwards. L6R: Indicator to show motor6 reverse.
K	V1: Adapter or battery, voltage range: from 0V to 46VDC. V-: Adapter or battery ground.	Power supply for motor 1, 2
L	M1+: Motor1 pin 1 M1-: Motor1 pin 2	Connector for motor1
M	M2+: Motor2 pin 1 M2-: Motor2 pin 2	Connector for motor2
N	V2: Adapter or battery, voltage range from 0V to 46VDC. V-: Adapter or battery ground.	Power supply for motor 3, 4
O	M3+: Motor3 pin 1 M3-: Motor3 pin 2	Connector for motor3
P	M4+: Motor4 pin 1 M4-: Motor4 pin 2	Connector for motor4
Q	V3: Adapter or battery, voltage range from 0V to 46VDC. V-: Adapter or battery ground.	Power supply for motor 5, 6
R	M5+: Motor5 pin 1 M5-: Motor5 pin 2	Connector for motor5

S	M6+: Motor6 pin 1 M6-: Motor6 pin 2	Connector for motor6
T	-	Power indicator for motor driver. LED on = motor driver on, LED off = motor driver off.

Note:

- If all motors using same power and power supply has enough current for all motors. V1, V2, V3 can be connected together to share same power supply.
- DO NOT short motor connectors e.g. connect M1+ to M1-, connect M2+ to M2-.
- Do not touch L298 motor drivers and LM7805 voltage regulator while operating.

Application note

1. Use PIC digital output pin B0, B1 to control a 12V DC motor forwards.
   a. Connect PIC pin B0 to M1F, B1 to M1R.
   b. Connect 12V DC motor to M1+, M1-.
   c. Connect 12V DC power to V1, 12V DC power ground to V-.
   d. Connect 9V DC power to motor driver (7-18V and GND pin).
   e. Common ground PIC controller and motor driver.
   f. Switch on the motor driver using slide switch and the yellow LED indicator will turn on.
   g. Output high (5V) pin B0, output low (0V) pin B1 to forwards motor (L1F LED will on, L1R LED will off).
   h. To stop motor just output low pin B0, B1.

2. Use PIC digital output pin B0, B1, B2, B3, B4, B5 to control 3 units 24V motor reverse.
   a. Connect PIC pin B0 to M1F, B1 to M1R, B2 to M2F, B3 to M2R, B4 to M3F, B5 to M3R.
   b. Connect 1st 24V DC motor to M1+, M1-.
   c. Connect 2nd 24V DC motor to M2+, M2-.
   d. Connect 3rd 24V DC motor to M3+, M3-.
   e. Connect 24V DC power to V1, 12V DC power ground to V-.
   f. Connect V1 to V2.
   g. Connect 9VDC power to motor driver (7-18V and GND pin).
   h. Common ground PIC controller and motor driver.
   i. Switch on the motor driver using slide switch and the yellow LED indicator will turn on.

j. Output high (5V) pin B1, B3, B5, output low (0V) pin B0, B2, B4 to reverse the 3 motors (L1F, L2F, L3F LED will off, L1R, L2R, L3R LED will on).
k. To stop motor just output low pin B0, B1, B2, B3, B4, B5.

3. Use PIC digital output pin B0, B1 to control a 3V DC motor forwards and pin B2, B3 to control a 12V DC motor reverse.
   a. Connect PIC pin B0 to M1F, B1 to M1R, B2 to M3F, B3 to M3R.
   b. Connect 3V DC motor to M1+, M1-.
   l. Connect 12V DC motor to M3+, M3-.
   m. Connect 3V DC power to V1, 12V DC power ground to V-.
   n. Connect 12V DC power to V2, 12V DC power ground to V-.
   o. Connect 9VDC power to motor driver (7-18V and GND pin).
   p. Common ground PIC controller and motor driver.
   q. Switch on the motor driver using slide switch and the yellow LED indicator will turn on.
   r. Output high (5V) pin B0, output low (0V) pin B1 to forwards 3V DC motor (L1F LED will on, L1R LED will off).
   s. Output high (5V) pin B3, output low (0V) pin B2 to reverse 12V DC motor. (L3F LED will off, L3R LED will on).
   t. To stop motor just output low pin B0, B1, B2, B3.

4. Use PIC digital output pin C0 and PWM output pin C1 to control a 6V DC motor forward speed.
   a. Connect PIC pin C1 to M1F, C0 to M1R.
   b. Connect 6V DC motor to M1+, M1-.
   c. Connect 6V DC power to V1, 12V DC power ground to V-.
   d. Connect 9V DC power to motor driver (7-18V and GND pin).
   e. Common ground PIC controller and motor driver.
   f. Switch on the motor driver using slide switch and the yellow LED indicator will turn on.
   g. Output low pin C0 and set pin C1 to output 50% PWM pulse (L1F LED will on, L1R LED will off) to control the 6V DC motor operates at middle speed.
   h. Output low pin C0 and set pin C1 to output 100% PWM pulse (L1F LED will on, L1R LED will off) to control the 6V DC motor operates at maximum speed.
   i. Output low pin C0 and set pin C1 to output 0% PWM pulse (L1F LED will off, L1R LED will off) to stop the 6V motor.

Warranty

This product has 1 month warranty from date of purchase. Warranty is only valid for manufacturing defects. Keep receipt for warranty reference. You have to send / pos back the item with receipt to Bizchip. We will pos you a NEW unit after received the defect item.