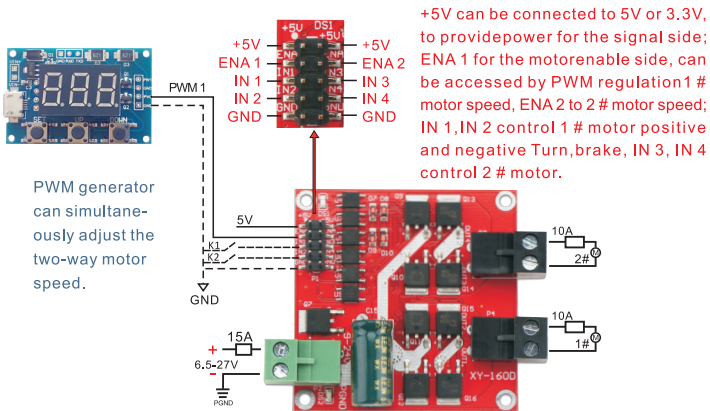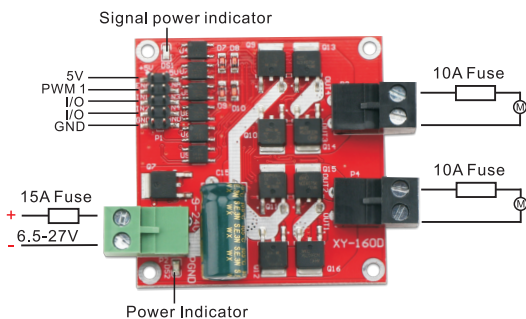# 7A / 160W dual DC motor drive module, high-power industrial grade, positive and negative, PWM speed, L298 logic

Product parameters:

- Power supply voltage DC 6.5V-27V, the power cannot be connected to reverse or over DC 27V, or may burn the module, it is recommended connecting in series 15A fuse in the power input.
- Dual motor interface, each rated output current 7A, peak current 50A, the motor interface cannot short-circuit, the proposed series 10A fuse.
- Control signal voltage DC 3-6.5V, respectively, is the enable signal and the positive inversion control signal.
- Enable signal terminal (ENA) input PWM adjustable speed, PWM frequency range 0-10KHZ, PWM minimum pulse width 10us.
- Working temperature -25 ℃ −80 ℃.
- Product size: 55 * 55 * 16mm (length and width).
- Installation hole diameter: 3mm, pay attention to prevent short circuit on the back of the circuit, you can add insulation pad or copper column to raise the circuit board.

+5V can be connected to 5V or 3.3V, to providepower for the signal side; ENA 1 for the motorenable side, can be accessed by PWM regulation1 # motor speed, ENA 2 to 2 # motor speed; IN 1, IN 2 control 1 # motor positive and negative Turn, brake, IN 3, IN 4 control 2 # motor.

PWM generator can simultane-ously adjust the two-way motor speed.

Signal GND can not be shared with the PGND of the power supply side!

Product Highlights:

- Double H bridge, which can drive two DC motors, single 7A current, high power;
- Wide voltage input range: DC 6.5V - 27V.
- Signal optocoupler isolation input, IO port can be directly controlled, without interference;
- Under voltage protection, to prevent instantaneous high-current burned module;
- High power TVS and electrostatic discharge circuit, inhibit the transient interference pulse and static, enhanced EMC performance, made stable and reliable product, which are industrial design.

Suitable for motor parameters:

- Rated voltage 24V of the motor, the appropriate identification of rated power 115W and below or rated current of 7A or less the following long-term work of the motor.
- Rated voltage 12V of the motor, the appropriate identification of rated power 40W and below or rated current 7A rated below the motor for a long time full of work.

Precautions:

- Drive power must not be reversed, the proposed power connector in series 15A fuse, the voltage should be between DC 6.5 ~ 27V. If the voltage is over-voltage, power-on may burn the drive module.
- It is recommended that the rated output current of the power supply be at least 2 times of the rated power supply, in case the power supply voltage cannot reach the required input voltage of the motor when it is started, which will lead to off output, then causing motor pause for under voltage protection.
- Do not short-circuit the motor interface, or may burn the driver module, the proposed electrical interface in series 10A fuse.
- When switching the forward and reverse, the motor needs to brake more than 0.1S then reverse; cannot reverse when the motor is not stopped, otherwise it may damage the drive.
- When the drive module is powered down, don't rotate the motor directly or indirectly at high speed, otherwise the electromotive force generated by the motor may burn the drive module. If the application requires a high-speed rotation of the motor when the drive module is powered down, it is recommended that a relay (NO and COM) be connected in series to the motor interface of the drive, and then the relay coil and the drive are connected in common. In this way, when the power down, the relay will disconnect the drive from the motor.
- CAUTION Do not expose the drive to moisture. Do not short-circuit the components on the drive board. Do not touch the pins and pads on the board.

Control signal logic

Note: Where 0 is low, 1 is high level, × is any level, when floating high.

- 1 # motor interface control signal logic

IN 1	IN 2	ENA 1	OUT1、OUT2
0	0	×	brake
1	1	×	Floating
1	0	PWM	Forward to speed
0	1	PWM	Reverse speed
1	0	1	Full speed forward
0	1	1	Full speed reversal

- 2 # motor interface control signal logic

IN 3	IN 4	ENA 2	OUT3、OUT4
0	0	×	brake
1	1	×	Floating
1	0	PWM	Forward to speed
0	1	PWM	Reverse speed
1	0	1	Full speed forward
0	1	1	Full speed reversal