

# IMS-1 motor drive module



## ELECTRICAL SPECIFICATIONS :

### Version 1(30A/0-15V):

Rated input voltage : 3V-12V  
Min input voltage : 0V(R1 disconnect)  
Max input voltage : 15V  
Max output current: 30A

### Version 2(50A/0-15V):

Rated input voltage : 3V-12V  
Min input voltage : 0V(R1 disconnect)  
Max input voltage : 15V  
Max output current: 50A

### Version 3(20A/0-24V):

Rated input voltage : 0V-24V(R1 disconnect)  
Min input voltage : 0V(R1 disconnect)  
Max input voltage : 30V  
Max output current: 30A

## Electrical Characteristics:

The high-power NMOS power tube with full-bridge control chip combinations.  
Input signal modes: PWM (the duty cycle of the fixed frequency adjustment).

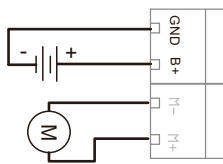
The input PWM range: 0% -98% (the maximum PWM for 98% more than this value drive may be damaged)

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## Electrical and Power Port



**Note: Do not reverse**

The V + pin default direct connection with the B + pin, so do not with your MCU 5V power connections together. However, when you mentioned the motor terminal voltage higher than 15V voltage R1 position of the circuit board solder balls can be disconnected. Power port added a voltage higher than 15V. V + pin input a 5V-12V power supply for the control board power supply, thus completing the motor voltage extensions (only "version 3" drive module can be changed here).

## Input Port



- 1、V+ : Default for the same power output pin, this pin voltage power supply input voltage.
- 2、GND : Public places end point microcontroller.
- 3、EN : The Driver Enable input, enable high level, low level close.
- 4、RPWM : Forward PWM input, active high.
- 5、LPWM : Reversion PWM input, active high.
- 6、CT : The current acquisition signal conditioning output end.
- 7、VT : The Voltage acquisition signal conditioning output end.

CT: Supply-side current acquisition conditioning output (Analog signal output, microcontroller AD collection)

VT: supply voltage acquisition conditioning output (Analog signal output, microcontroller AD collection)

Control mode <b>1</b>		Forward	Reverse	brake	Close
	RPWM	PWM	0	0	X
	LPWM	0	PWM	0	X
	EN	1	1	1	0

Control mode  2		Forward	Reverse	brake	Close
	RPWM	1	0	0	X
	LPWM	0	1	0	X
	EN	PWM	PWM	1	0

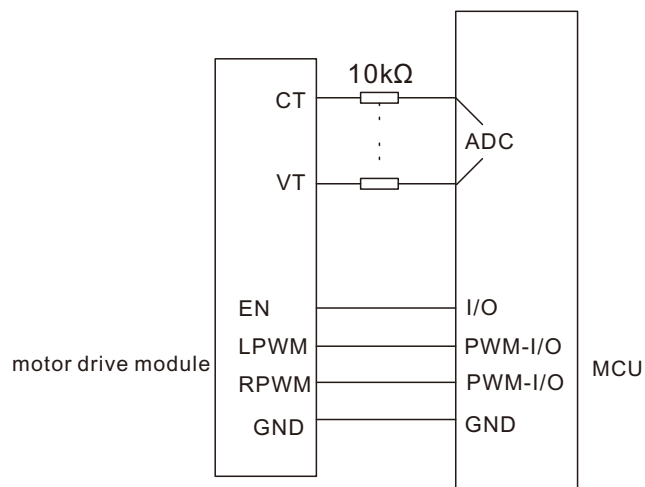
Note:

- 1, the form of the "1" represents a high level (level voltage 3.3V-5V compatible).
- 2, the form of "0" represents a low level (level voltage 0V).
- 3 "PWM" represents the input form the suitable PWM signal (as the load select the appropriate frequency, such as the control of ordinary DC motor PWM frequency can be set to 16kHz) PWM signal is active high. PWM maximum duty cycle of 98% (more than this value may result in damage to the drive)
- 4 ,can enter any form of "X" represents the state.

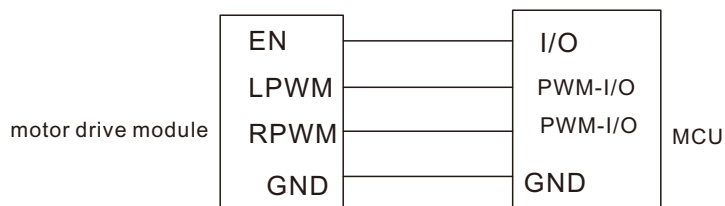
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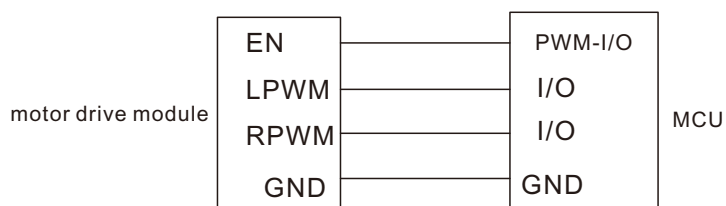
## Wiring



## Mode 1



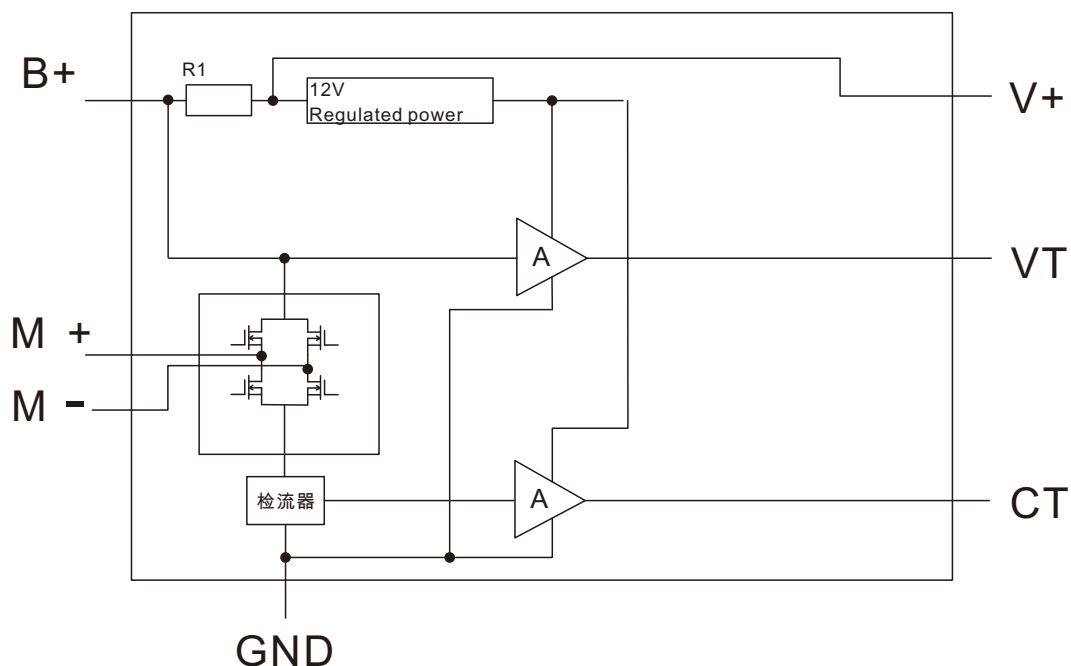
## Mode 2



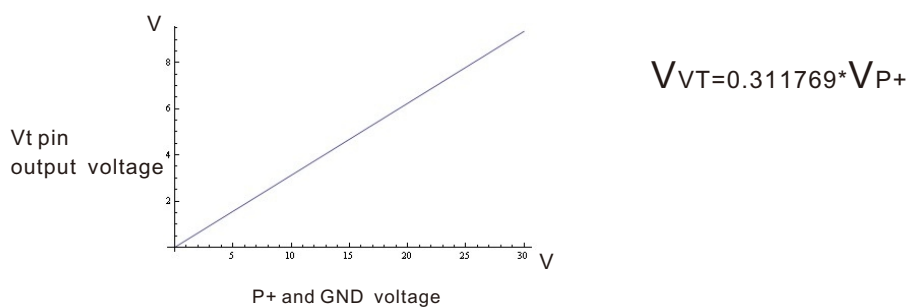
## Mode 3

# IMS-1 motor drive module

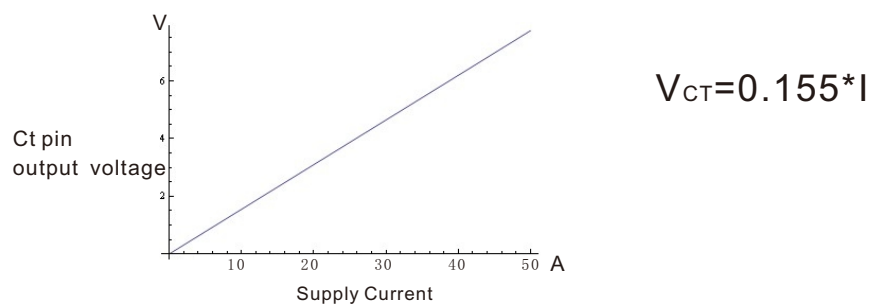
IMS-1 System block diagram



- 1, If you need to increase the power section voltage R1 position since the resumption of insurance disconnected port "V +" pin provides 5V-12V power supply to the control. B + and GND power to the motor, the voltage can be increased to 26V.
- 2, VT output voltage for the microcontroller the AD ports detector B + voltage and GND. Corresponding to the output voltage corresponding relationships:



- 3, CT output voltage for microcontroller AD port detection power:



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## Mounting dimensions

