

# Stepper Motor Driver

## CW5045 2-Phase stepping Motor Driver



## CW5045 2-Phase Microstepping Motor Driver

### Characteristics:

1. Power input type: 20VDC~50VDC
2. Output current: 1.5A - 4.5A
3. 100 Volt Advanced HEXFET® Power MOSFETs from International Rectifier utilise advanced processing techniques to achieve extremely low on-resistance per silicon area reducing heat and transferring more power to your stepper motor so allowing drivers to run cooler. The 100Volt output and max current of 33Amps hopefully will allow better fault tolerance than your average controller.
4. Microstepping with both imperial and metric step rates for ease of setup depending on the pitch of your ballscrew or trapezoidal screw or similar:  
Imperial: 1/2, 1/4, 1/8, 1/16, 1/32, 1/64, 1/128, 1/256,  
Metric: 1/5, 1/10, 1/25, 1/50, 1/125, 1/250.
5. Over temperature shutdown protection.
6. Automatic half current option for power saving and reduction in standby temperature
7. Stepper motor wiring error protection to protect against phase polarity errors.
8. The maximum pulse rate is 100KHz compatible with Mach 3 motion control software.
9. Working environment: Temperature -15 ~ 40 Humidity<90%.

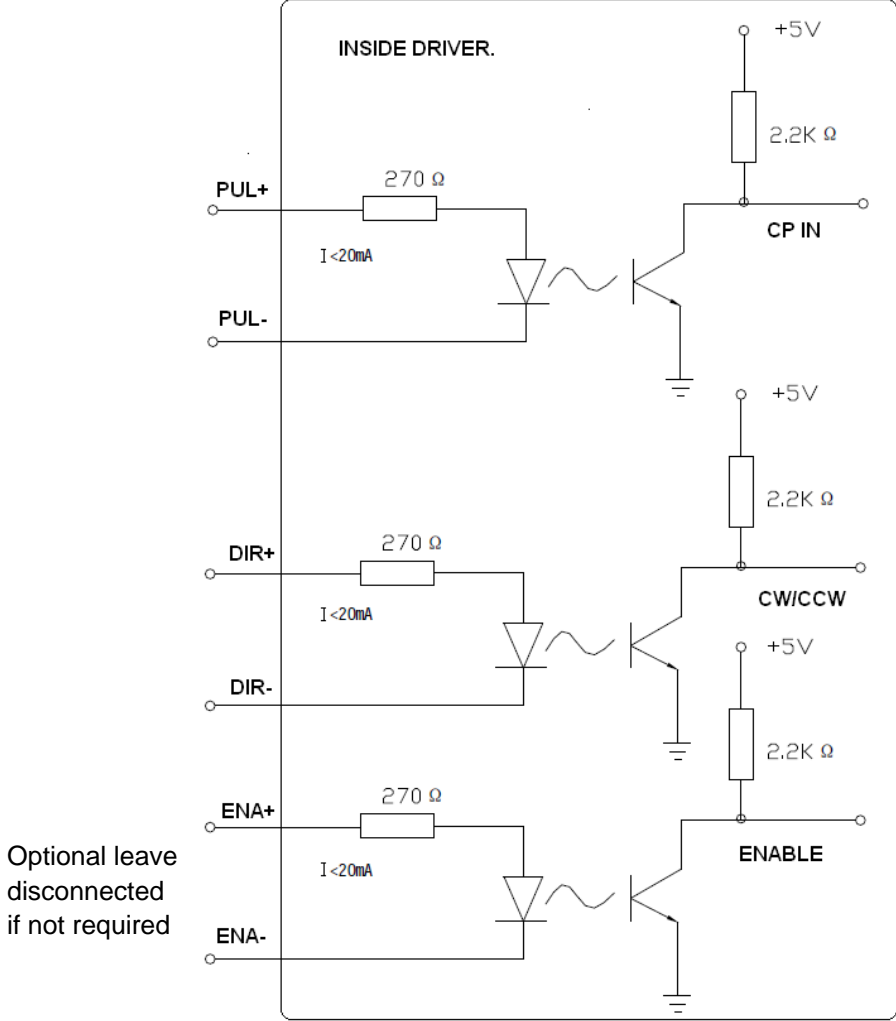
### I/O Pin Description:

1. VCC+: DC power supply positive connection.  
**Note: Must guard against exceeding 50V, to avoid damaging the module**
2. GND: DC power supply negative connection.
3. A+, A-: Stepping motor phase one winding
4. B+, B-: Stepping motor phase two winding
5. PUL+, PUL-: Stepping pulse input+5V (Positive edge effective, pulse duration>10µSec) .
6. DIR+, DIR-: Stepping motor direction input, high -> forwards, low -> reverse.
7. ENA+, ENA-: Enable motor input. Leave open if not required.

### NOTE :

1. If ambient temperature is high or working current over 2.7A, fix the module on metal plate, or use Axle fan to remove the heat, this will extend working life of the module.
2. Half current automatically: if no control signals are received for half second, driver will enter half current state automatically for power saving mode,
3. The protecting circuit within this driver, will help protect module when users connect stepper winding incorrectly, the driver will normally self protect but stepper will run abnormally, shake, and output current is reduced. Please switch off instantly and check the wiring of the machine.

**CW5045 2-Phase Mircostepping Motor Driver**



**Switch Choice:** (ON=0 , OFF=1)

**1、 Microstepping choice:**

SW5	0	0	0	0	0	0	0	0	1	1	1	1	1	1
SW6	0	1	0	1	0	1	0	1	0	1	0	1	0	1
SW7	0	0	1	1	0	0	1	1	0	0	1	1	0	0
SW8	0	0	0	0	1	1	1	1	0	0	0	0	1	1
Micro	1/2	1/4	1/8	1/16	1/32	1/64	1/128	1/256	1/5	1/10	1/25	1/50	1/125	1/250

**2、 Current choice :**

SW1	0	1	0	1	0	1	0	1
SW2	0	0	1	1	0	0	1	1
SW3	0	0	0	0	1	1	1	1
Current A	1.3	1.8	2.3	2.7	3.2	3.7	4.2	4.5

**3 Full current or half current choice : SW4 : 0 = Full current ; 1 = half current**

**DIP SWITCH SETTINGS**

SW1	SW2	SW3	Current (A)
ON	ON	ON	1.5
OFF	ON	ON	2
ON	OFF	ON	2.4
OFF	OFF	ON	2.8
ON	ON	OFF	3.2
OFF	ON	OFF	3.7
ON	OFF	OFF	4.2
OFF	OFF	OFF	4.5

SW4 OFF = HALF CURRENT    SW4 ON = FULL CURRENT

SW5	SW6	SW7	SW8	Microstep
ON	ON	ON	ON	2
ON	OFF	ON	ON	4
ON	ON	OFF	ON	8
ON	OFF	OFF	ON	16
ON	ON	ON	OFF	32
ON	OFF	ON	OFF	64
ON	ON	OFF	OFF	128
ON	OFF	OFF	OFF	256
OFF	ON	ON	ON	5
OFF	OFF	ON	ON	10
OFF	ON	OFF	ON	25
OFF	OFF	OFF	ON	50
OFF	ON	ON	OFF	125
OFF	OFF	ON	OFF	250
OFF	ON	OFF	OFF	DISABLE
OFF	OFF	OFF	OFF	DISABLE

**4 Installation dimension**

