

# MF4806

## Multifunction Microstepping Drive

[www.pwm.pe.kr](http://www.pwm.pe.kr)

### Features

- High torque drive for 2 phase stepping motors
- Wide Input Range of Voltage [24 ~ 48V]
- High Output Current [1 ~ 6A]
- Microstepping 10x and 5x
- Full and Half step
- Anti-Resonance Control
- Optically Isolated
  - Inputs of Pulse, Direction and Motor-Off
- Running Speed up to 3,000 rpm

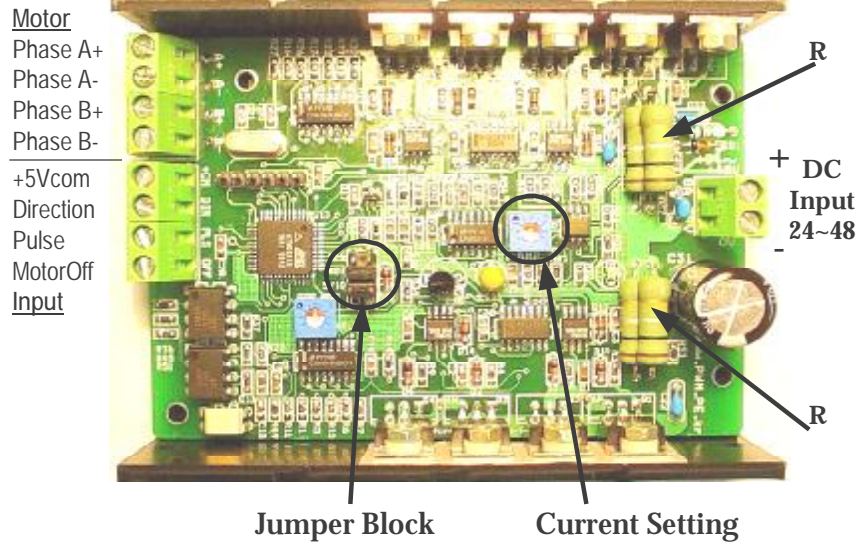


MF4806 is designed for 2 phase stepping motors of NEMA#23 and NEMA#34 sizes. A microprocessor is employed to control step motors for intelligent functions such as anti-resonance, microstepping, full-step, half-step and auto-current reduction. 20kHz PWM is carried out on current controllers. Bipolar and Unipolar motors can be driven with MF4806. MF4806 can drive 1.8 deg/step motors up to 3,000 rpm.

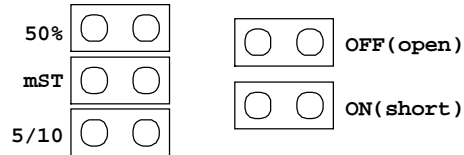
Although a stepping motor is to identify the most economical actuator of motion control system, the stepping motor system will vibrate in the speed range of 600~900 rpm with conventional drives. It is commonly called Mid Range Instability. MF4806 has a function of anti-resonance and gives speed range of 0 to 3,000 rpm. But, the full-step mode has a lower limit to about 50 rpm.

### CAUTIONS

1. When a big motor(NEMA#34) is connected to MF4806, a 1000uF/63V capacitor should be connected across the power terminal. Back EMF makes a higher voltage on power supply during deceleration of motor.
2. When distance between MF4806 and the power supply is longer than 100mm, the power wires must be twisted and an external capacitor(Electrolytic Cap.) is needed at power terminal of MF4806.
3. An extra heat sink must be added when the case temperature rises over 65deg. Use heat sink compound between the back plate and the heat sink.



Jumper Block



## Jumper Settings

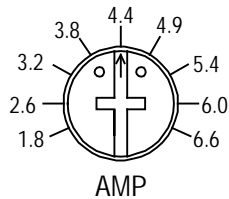
Jumper	State	Function
50%	OFF	No current reduction at standby state
	ON	At zero speed, Phase current is reduced slowly to 50%

Jumper	State	Function	Resolution	Max. Freq
	OFF	Half-step	400/rev.	20kHz (3000rpm)
	OFF			
[mST]	OFF	Full-step*	200/rev.	10kHz (3000rpm)
	ON			
[5/10]	ON	Microstepping	1000/rev.	50kHz (3000rpm)
	OFF	X5		
	ON	Microstepping	2000/rev.	100kHz (3000rpm)
	ON	X10		

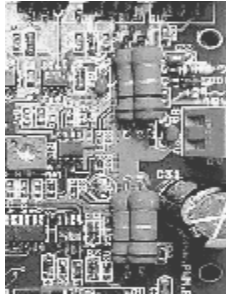
\* Vibration can be generated around speed of 40 rpm in full-step mode, so driving above 50 rpm is recommended.

## Current Settings

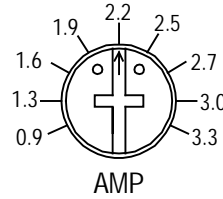
### High-A Mode



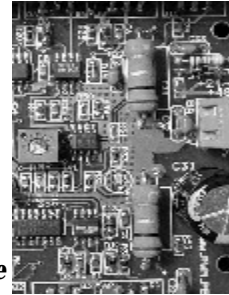
**AMP**  
 **$R_{sense} = 0.05\Omega$**   
**Range [3~6A]**  
**Default.**



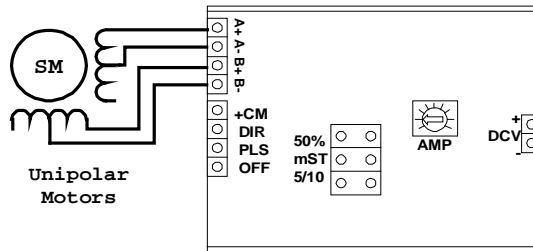
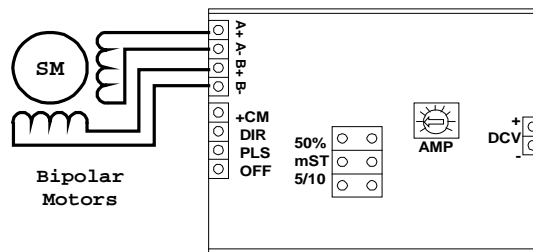
### Low-A Mode



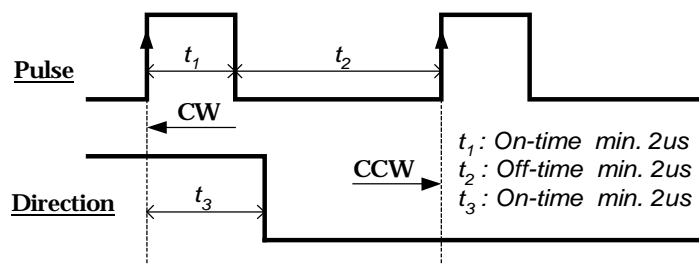
**AMP**  
 **$R_{sense} = 0.1\Omega$**   
**Range [1~3.6A]**  
 **$R[0.1\Omega]$  should be removed on each phase.**

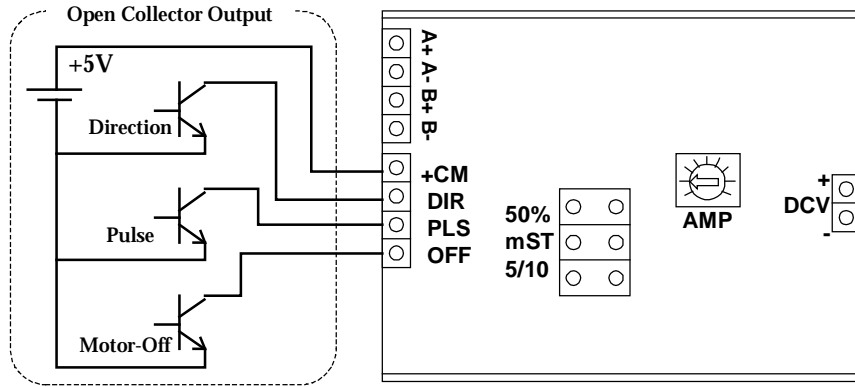


## Motor Connections



## Input Command Connections





## Dimensions

