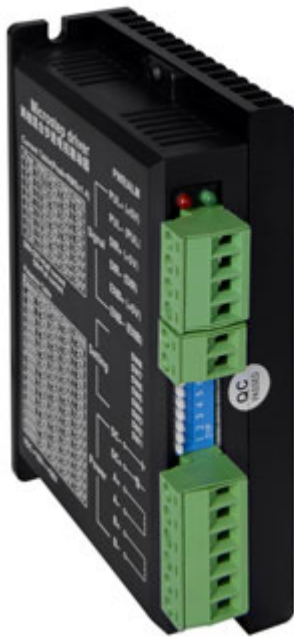


# OWNER'S GUIDE

## 2P202 HYBRID STEPPER MOTOR DRIVE



2P202  
STEPPER MOTOR DRIVER

I.CH

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# TECHNICAL DOCUMENT

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**Note:**if you have any problems,please  
email [sales@ichmo.com](mailto:sales@ichmo.com) to to contact us.



# TECHNICAL DOCUMENT

## 1. Introduction

2P202 is a high performance micro-stepping motor driver, which is used in the 2 phase stepper motor. The voltage can up to 50V. The 2 phase stepper motor equipped with 2P202 operates like a servo motor.

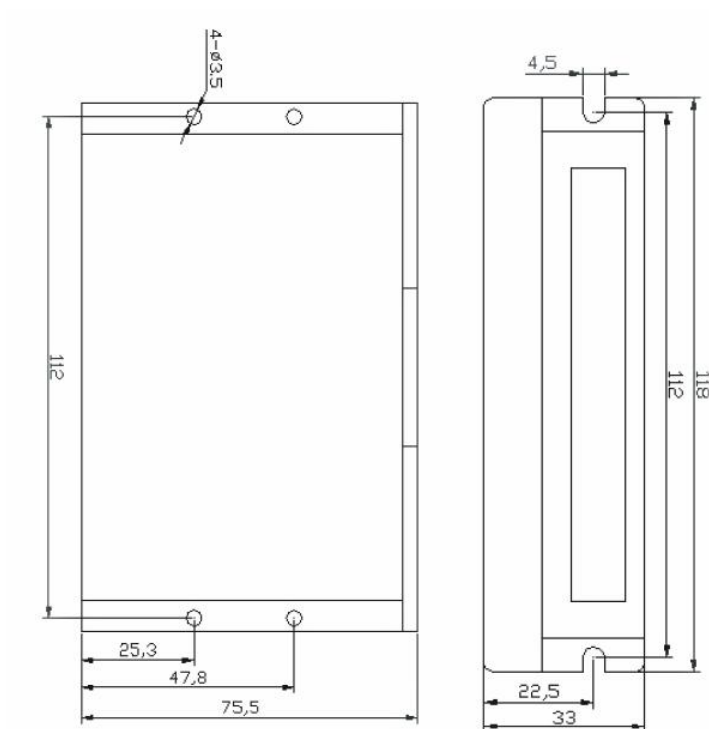
## 2. Feature

- Over- and under-voltage protection function
- Supply voltage up to +50VDC, current output up to 4.2A peak
- Overcurrent protection function
- Protection function against short circuit between phases
- Photoelectric isolation signal input/output
- 15 selectable resolutions in decimal and binary
- 8 level output phase current setting
- Offline function
- High starting speed
- High torque at high speed

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## 3. Specification

Parameters	2P202			
	Min.	Typical	Max.	Unit
Output Current	0.54	-	4.2(RMS 3A)	Amps
Supply voltage	20	36	50	VDC
Logic signal current	7	10	16	mA
Pulse input frequency	0	-	400	Khz
Isolation resistance			500	MΩ



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## 4. Connection Configuration

### Connector P1 configuration

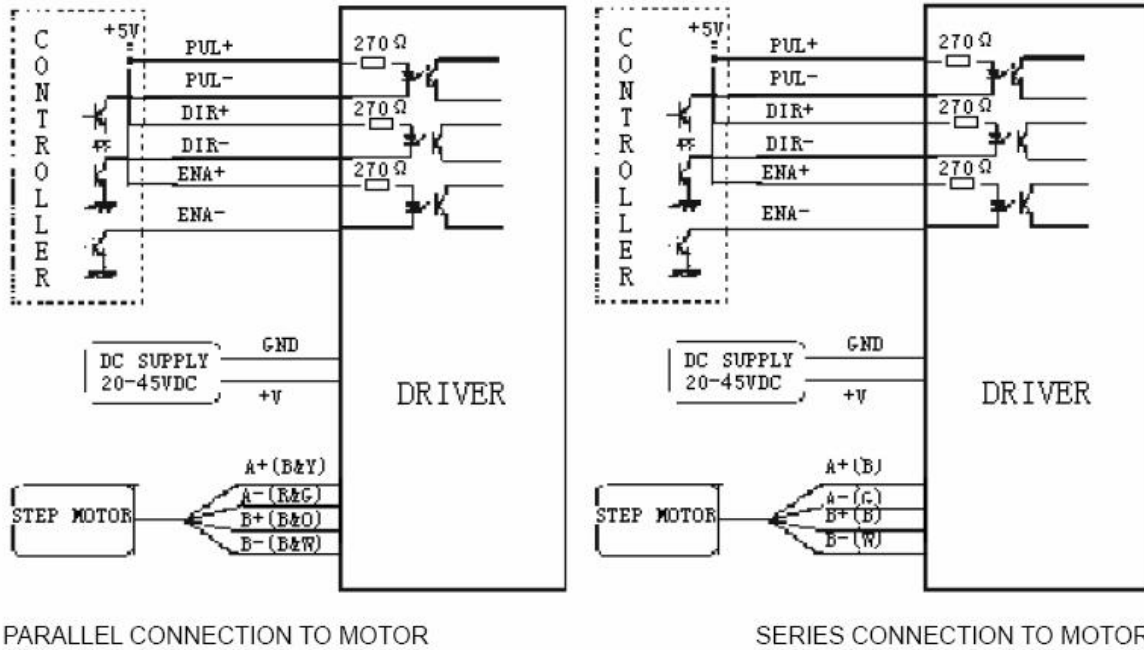
Signal	Functions
PUL + (-5V)	Pulse signal: in single pulse(direction) mode, this input represents pulse signal, effective for each upward - rising edge; in double pulse mode (pulse/pulse) this input represents clockwise(CW) pulse. For reliable response, pulse width should be longer than 1.5 $\mu$ s.
PUL - (PUL)	
DIR + (+5V)	Direction signal: in single-pulse mode, this signal has low/high voltage levels, representing two directions of motor rotation; in double-pulse mode (set by inside jumper JMP1), this signal is counter-clock (CCW) pulse, effective on each rising edge. For reliable motion response, direction signal should be sent to driver 2 $\mu$ s before the first pulse in the reverse motion direction.
DIR - (DIR)	
ENA + (-5V)	Enable signal: this signal is used for enable/disable, high level for enabling driver and low level for disabling driver. Usually left unconnected(enabled).
ENA - (ENA)	

### Connector P2 configuration

Pin No.	Signal	Functions
1	Gnd	DC power ground
2	+V	DC power supply, +18VDC - +50VDC, Including voltage fluctuation and EMF voltage.
3, 4	Phase A	Motor coil A (leads A+ and A-)
5, 6	Phase B	Motor coil B (leads B+ and B-)

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## 5. Wiring Diagram



Remark: B (blue) Y (yellow) R (red) G (green) B (brown) O (orange) B (black) W (white)

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## 6. Output Current and Microstep Resolution

DIP Setting for current during motion

Peak current	RMS	SW1	SW2	SW3
1.00A	0.71A	on	on	on
1.46A	1.04A	off	on	on
1.91A	1.36A	on	off	on
2.37A	1.69A	off	off	on
2.84A	2.03A	on	on	off
3.31A	2.36A	off	on	off
3.76A	2.69A	on	off	off
4.20A	3.00A	off	off	off

Microstep resolution is set by SW5,6,7,8 of the DIP switch as shown in the following table

Microstep	ustep/rev (for 1.8° motor)	SW5	SW6	SW7	SW8
2	400	Off	On	On	On
4	800	On	Off	On	On
8	1600	Off	Off	On	On
16	3200	On	On	Off	On
32	6400	Off	On	Off	On
64	12800	On	Off	Off	On
128	25600	Off	Off	Off	On
5	1000	On	On	On	Off
10	2000	Off	On	On	Off
20	4000	On	Off	On	Off
25	5000	Off	Off	On	Off
40	8000	On	On	Off	Off
50	10000	Off	On	Off	Off
100	20000	On	Off	Off	Off
125	25000	Off	Off	Off	Off

## 7. Application

For the application with low vibration, high speed, and high precision, the stepper motor driver with a stepper motor is a solution.