

## BL-210 Stepping Motor Driver

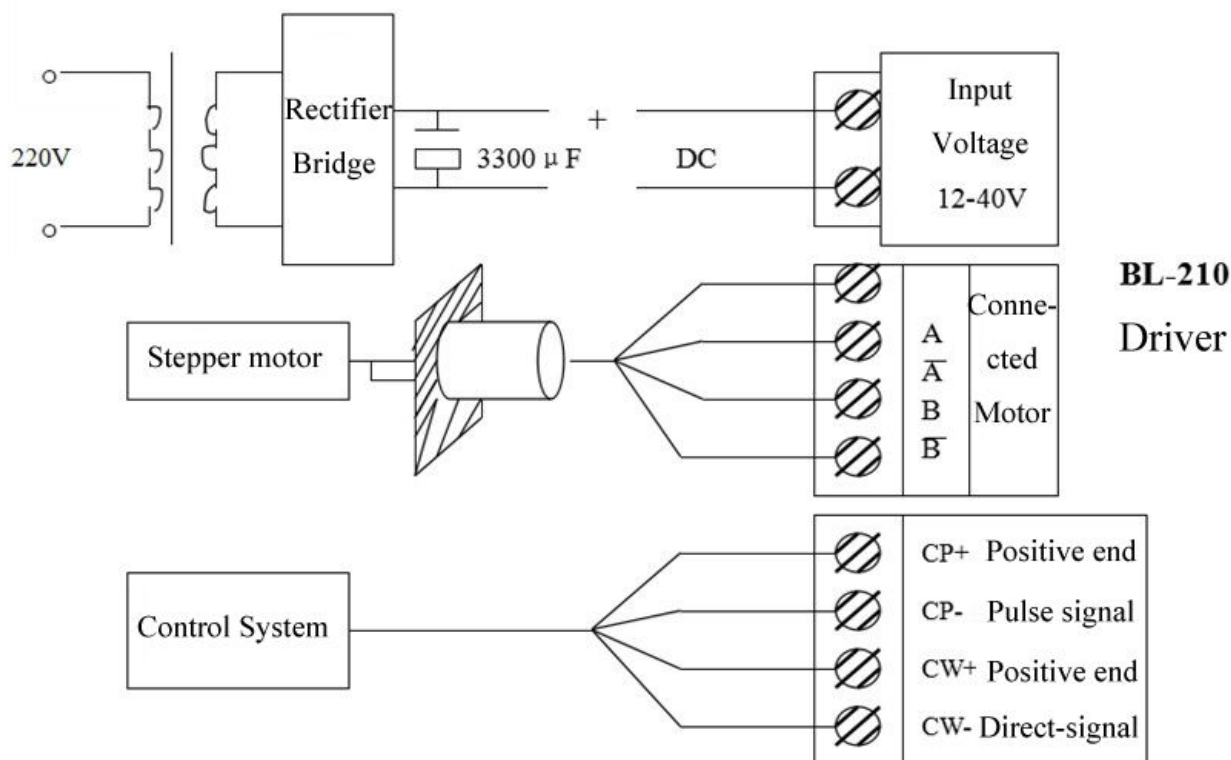
BL-210 driver drive the 2-phase stepping motor. The driver uses the module which is imported with original packing, it makes the high frequency chopping and the constant current driving coming turn. The driver has a lot of advantages, such as strong anti-interference, good high frequency performance, starting with high frequency, an optional current, simple structure, smooth operation, good reliability, low noise and so on. It can control signals and the internal to achieve photoelectric isolation. Also it can drive the stepping motors which the current is under 1.0A.

This type driver is very welcome to consumers since put on the market. Especially in the stage of lighting,automation,instrumentation,POS machine,engraving machine,paper printer,industrial label printers, semiconductor diffusion furnace and other fields have been widely used.

### 1、Features

- 1.1 The maximum current/ phase is 1.0A.
- 1.2 The use of non current patent technology.
- 1.3 The power electronic components adopt imported.
- 1.4 You can choose full or half current.
- 1.5 Microstep can set as 1/2, 1/4, 1/8.
- 1.6 All of imputing signals are isolated by photoelectric.
- 1.7 The chopping frequency is 40KHZ
- 1.8 The phase current of the motor is a sine wave.

### The wiring diagram



## 2、 Technical Specifications

Symbol	Instruction	Minimum	Classical	Maximum	Unit
Vss	Input voltage	12		40	V
Iss	Input current			1.5	A
Iout	Output current/phase	0.4		1.0	A
Iin	Input logic current	5	10	15	mA
Tp	Step pulse duration	5			μs
Ts	Direction stabilization time	0			ms
Th	Direction keep time	10			μs
Td	ON/OFF time	20			μs
Fmax	Maximum pull-out freq.			50	Khz
Famb	Ambient temperature	0		+50	°C
Tstg	Storage temperature	-40		+125	°C

2.1 Power supply: DC 12V--40V (input voltage)

2.2 Match motor: 42BYG or smaller series stepping motor.

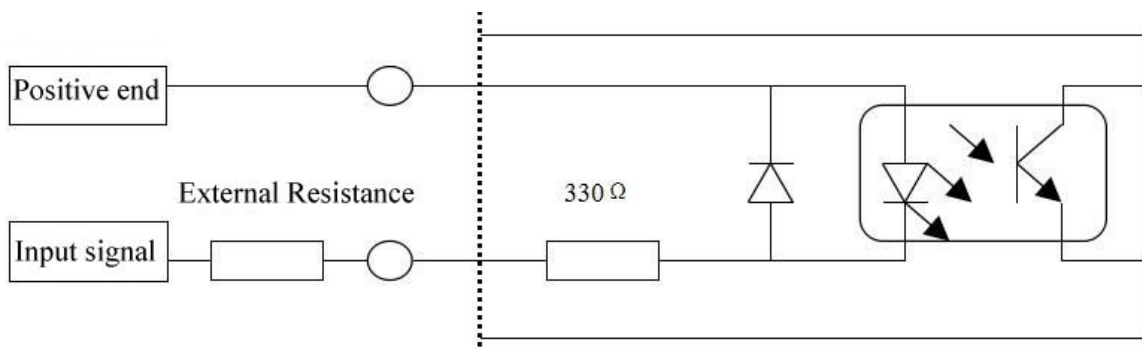
2.3 Driving current: the maximum current / phase is 1.0A.

2.4 Driving method: Microstep and chopper current.

2.5 Switch setting:

Switch setting ON=0, OFF=1					
P1, 2 (Micro)		P3 (Half-Current selection)		P4 (current selection)	
P1, 2	Microstep	ON	OFF	ON	OFF
00	2	Half-Curent	Full-Current	0.5A	1A
01	4				
10	8				
11	Test				

2.6.1 The input signal



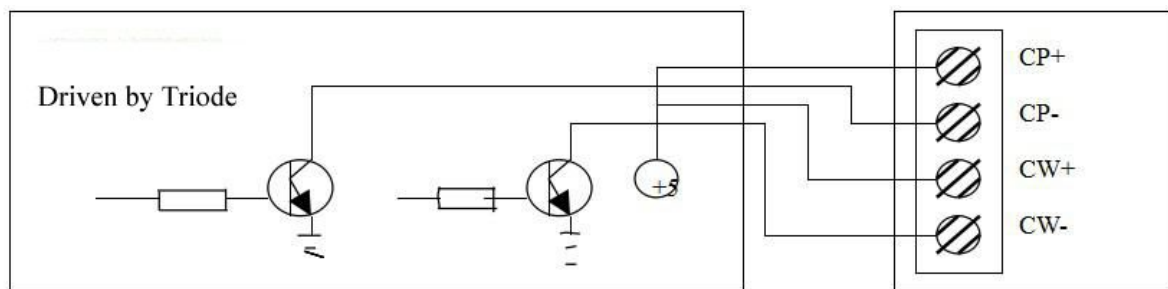
Attention: the input current of the circuit is 5mA~20mA, generally we set it as 15mA, in figure1, the pulse signal(CP-), the directional signal(CW-), the external resistance(R) is determined by the input voltage. If the input voltage exceeds 5V, please refer to table followed, and add the external resistance to limit the current.

Input signal voltage	External resistance
DC 5V	Without external resistor
DC 12V	680 Ω
DC 24V	1.8KΩ

### 2.6.2 The input signal specifications

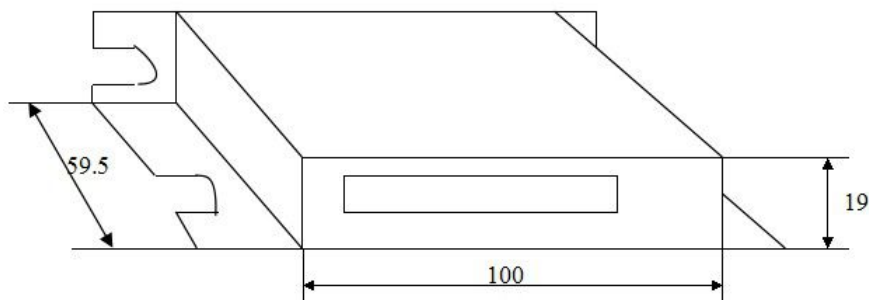
- (1) The amplitudes of the input signal: “H” is 4.0~5.5V, “L” is 0~0.5V。
- (2) The pulse working state also duty cycle: 50% or under 50%

Some users can not drive the driver by their control system, which is mainly caused by the driven current is not enough or the polarity is wrong. Commonly used the correct driving circuit as the followed figure.



2.7 Weight: 0.2Kg

2.8 Dimension: (Refer to the following diagram)



### 3、 Terminal board instructions:

3.1 The power wiring:

VDD: DC power supply (no more than 40VDC)

GND: DC power ground (is not common with the input signal CW-, CP-)

3.2 Motor wiring: A+, A- is connected with motor's A-phase, B+, B- is connected with motor's B-phase.

3.3 Control signal:

CP+, CW+: the public positive end of the input signal;

CW- :the inputting end of directional signal (this terminal is added to low level, then the motor is rotated in opposite direction )

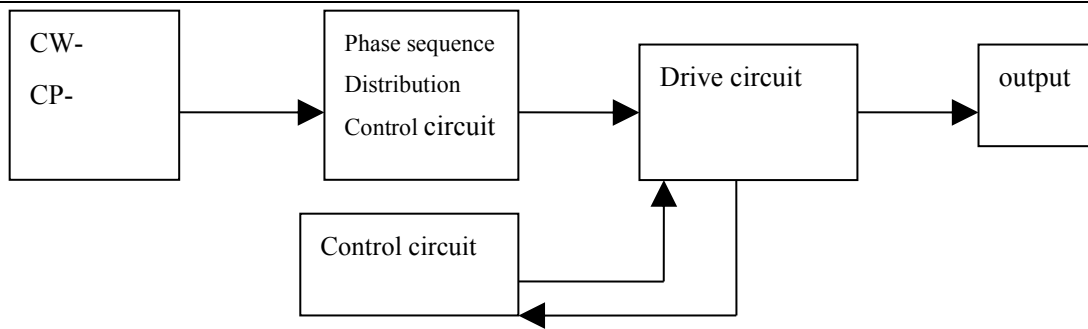
CP-: the inputting end of pulse signal (ensure that the CP is high and the internal coupling deadline when CP is stop and the motor is locked)

Attention:the input signal current is 5mA~20mA, generally we set it as 15mA.

3.4 Indicator light:The power is on if the light is on .

### 4、 Constitution of driver's circuit

Current detecting /over current protection circuit:



## 6、 Sales Principles

Based on the principle of taking customer experience and company reputation as the first goal, our company help users solving problems in the using process.

Also, we will work together to help users have a good understanding of our products in order to use them better. It is our pleasure to work with users to discuss the questions of technical aspects during using this product. All products have one year warrantee and life-long repair service.