

## Specifications of Bipolar Driver Circuit Board BD202411-M

- For Ring Pump RP-M04 / RP-H II 04 series -

1. Power supply voltage DC 24V

2. Drive system Limited to Quarter (1/4) steps.



Quarter Step Drive Waveform (CLK: 2400Hz)

3. Output current 1.2 A

Applicable Stepper Motor : NKM-17D40A4 (Three Peaces Co., Ltd.)

4. CW/CCW switching High = CW Low = CCW  
Select High when the voltage is higher than 2.0V and lower than 5.0V.  
Select Low when the voltage is lower than 0.8V.

5. Start/Stop switching High = Start Low = Stop  
Select High when the voltage is higher than 2.0V and lower than 5.0V.  
Select Low when the voltage is lower than 0.8V.

6. Driver IC BD63725BEFV (ROHM)

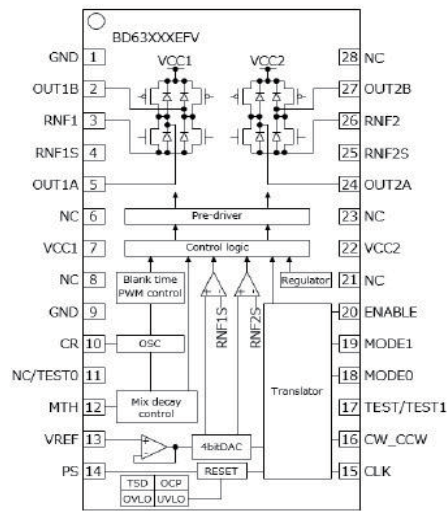


Figure 2 Driver Block Diagram

Terminal Number	Name	Function	Terminal Number	Name	Function
1	GND	Ground Terminal	15	CLK	Phase-Forward Clock Input Terminal
2	OUT1B	H-bridge output terminal	16	CW_CCW	Motor rotation direction setting terminal
3	RNF1	Resistor connection terminal for current sensing	17*1	TEST	Test terminal (used by connecting to GND)
4	RNF1S	Current-sense comparator input terminal		TEST1	Test terminal
5	OUT1A	H-bridge output terminal	18	MODE0	Motor excitation mode setting terminal
6	NC	Non-connection	19	MODE1	Motor excitation mode setting terminal
7	VCC1	Power Terminal	20	ENABLE	Output Enable Terminal
8	NC	Non-connection	21	NC	Non-connection
9	GND	Ground Terminal	22	VCC2	Power Terminal
10	CR	Chopping frequency setting terminal	23	NC	Non-connection
11*1	NC	Non-connection	24	OUT2A	H-bridge output terminal
	TEST0	Test terminal	25	RNF2S	Current-sense comparator input terminal
12	MTH	Current attenuation method setting terminal	26	RNF2	Resistor connection terminal for current sensing
13	VREF	Output current value setting terminal	27	OUT2B	H-bridge output terminal
14	PS	Power Save Terminal	28	NC	Non-connection

\* 1 : Upper row BD63715AEFV, BD63725BEFV, BD63525AEFV

## 7. Clock terminal

Duty : 50%

Select High when the voltage is higher than 2.8V and lower than 5.0V.

Select Low when the voltage is lower than 0.6V.

### RP-M04 \* -60Z-DC24VS

RP-M04 series Continuous Driving Max : 1332Hz 333PPS 100rpm

Frequency (Hz)	40	400	1000	1333	<b>2000</b>
PPS	10	100	250	333	<b>500</b>
Rotation (rpm)	3	30	75	100	<b>150</b>

Intermittent Drive

ON time Max 30min.

ON:OFF time=1:1

### RP-H II 04 \* -200Z-DC24VS

RP-H II 04 series Continuous Driving Max : 333Hz 833PPS 250rpm

Frequency (Hz)	40	666	1333	2666	3333	<b>4000</b>
PPS	10	167	333	667	833	<b>1000</b>
Rotation (rpm)	3	50	100	200	250	<b>300</b>

Intermittent Drive

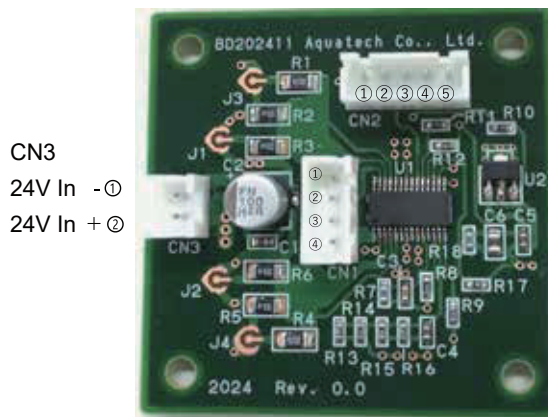
ON time Max 30min.

ON:OFF time=1:1

## 8. Optical terminal

DC5.0V 15mA Output terminal (CN2 ⑤Pin)

## 9. Explanation of Bi-polar Driver Board **BD202411-M** 50 x 50□



CN3  
24V In - ①  
24V In + ②

Board-side male connector  
B\*B-XH-A Series/JST

Connection-side female connector  
XHP\* Series/JST  
Contact Pin  
BXH-001T-P0.6

### CN1 Stepper motor connection

- |   |     |       |
|---|-----|-------|
| ① | B + | Red   |
| ② | B - | Blue  |
| ③ | A + | Black |
| ④ | A - | Green |

### CN2 Control circuit connection

- |   |            |
|---|------------|
| ① | GND        |
| ② | CLK        |
| ③ | START/STOP |
| ④ | CW/CCW     |
| ⑤ | DC5V-out   |

### CN3 Power Input

- |   |            |
|---|------------|
| ① | DC24V In - |
| ② | DC24V In + |

[ An example of control board connection circuit ]

