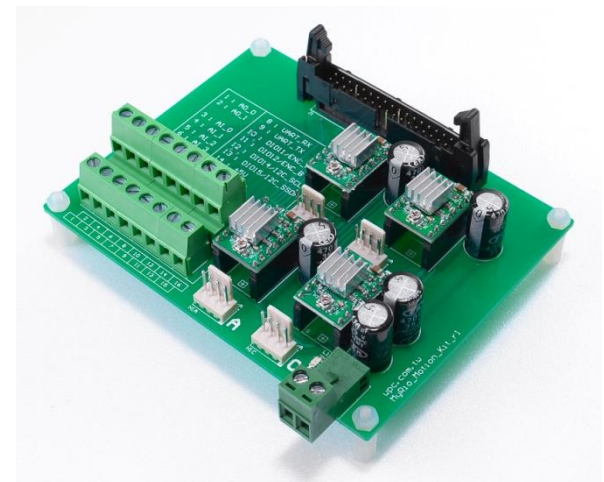


# myRIO 4-axes stepper motor module

2016-08-16

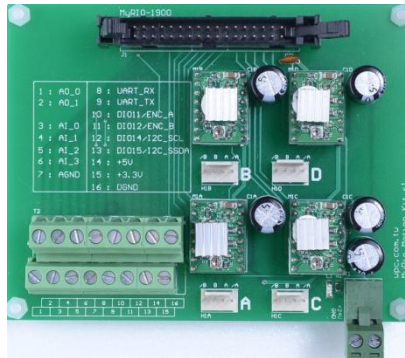
Justin Wu

WPC Systems Ltd.



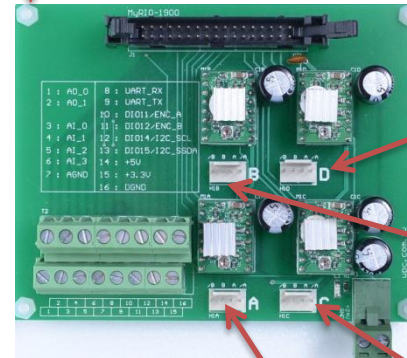


myRIO  
運動模組

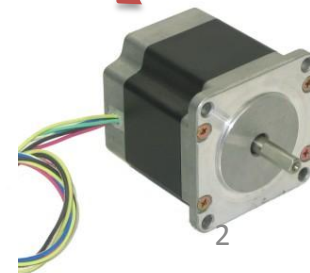
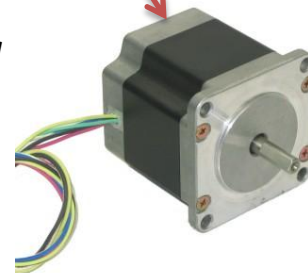
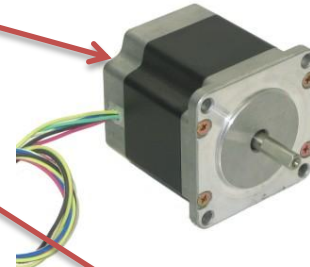
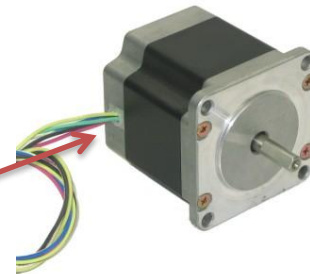
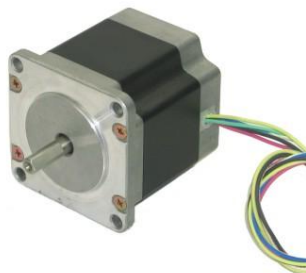
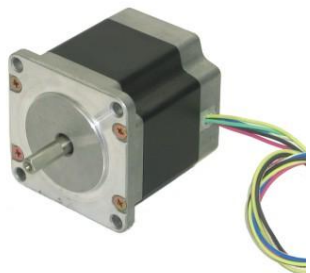
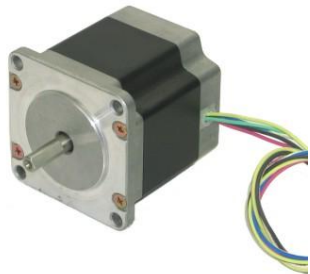


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myRIO  
運動模組



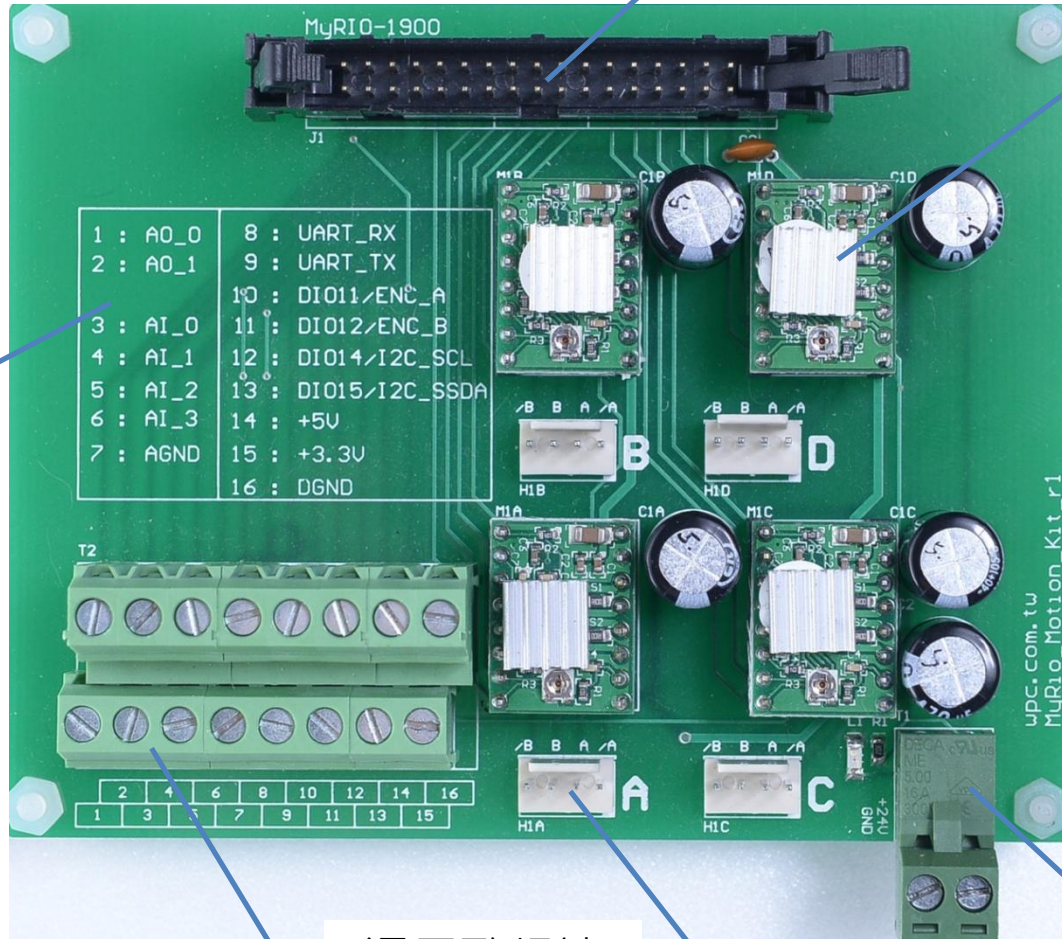
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*\*2-phase stepper motor only!*

歐規端子  
接腳說明

1 : AO_0	8 : UART_RX
2 : AO_1	9 : UART_TX
3 : AI_0	10 : DIO11/ENC_A
4 : AI_1	11 : DIO12/ENC_B
5 : AI_2	12 : DIO14/I2C_SCL
6 : AI_3	13 : DIO15/I2C_SSDA
7 : AGND	14 : +5V
	15 : +3.3V
	16 : DGND



myRIO MXP  
連接器

馬達驅動  
電路

通用歐規端  
子台

兩相步進  
馬達

24VDC  
外部電源

### MyRIO 4-axes stepper motor 2016\_08\_16

AO1	AI1	AI3	UART_RX	ENC_A	I2C_SCL	5V	DGND
2	4	6	8	10	12	14	16
1	3	5	7	9	11	13	15
AO0	AI0	AI2	AGND	UART_TX	ENC_B	I2C_SDA	3V3

(歐規端子編號)

*\*Enable signals are active LOW.*

	<b>B</b>
ENA	DIO 5
Step	DIO 4
Dir	DIO 3

Pin 21  
 Pin 19  
 Pin 17

	<b>D</b>
ENA	DIO 13
Step	DIO 10
Dir	DIO 9

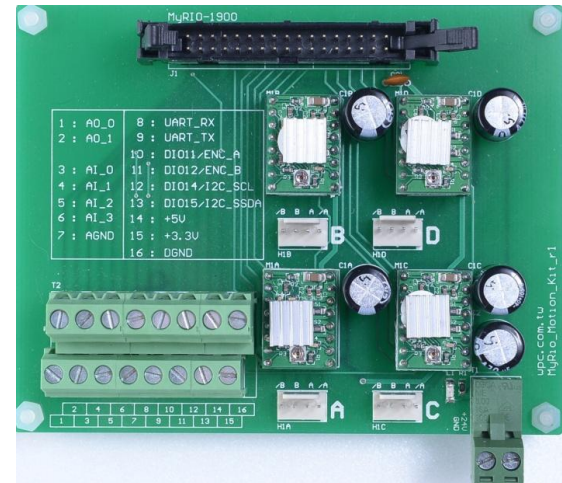
Pin 26  
 Pin 31  
 Pin 29

	<b>A</b>
ENA	DIO 2
Step	DIO 1
Dir	DIO 0

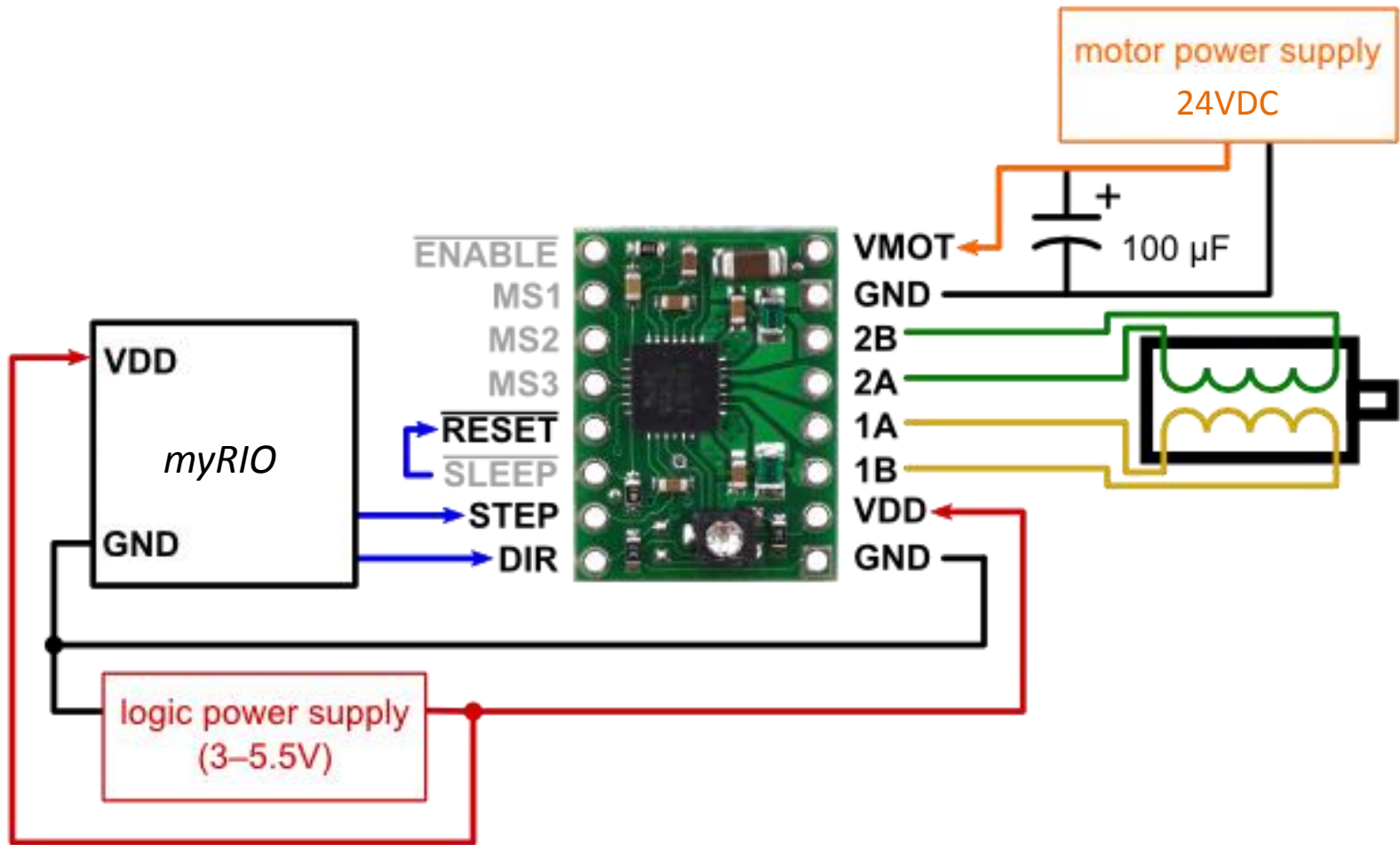
Pin 15  
 Pin 13  
 Pin 11

	<b>C</b>
ENA	DIO 8
Step	DIO 7
Dir	DIO 6

Pin 27  
 Pin 25  
 Pin 23

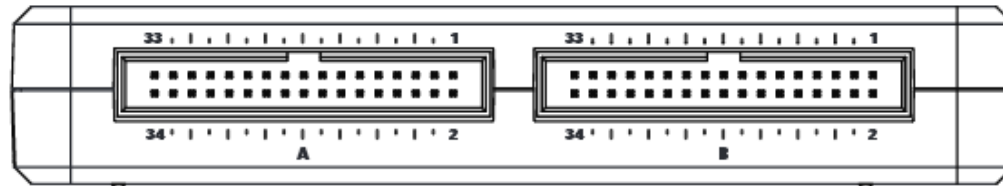


# Driver circuit diagram



# Digital I/O (歐規端子)

Figure 3. Primary/Secondary Signals on MXP Connectors A and B

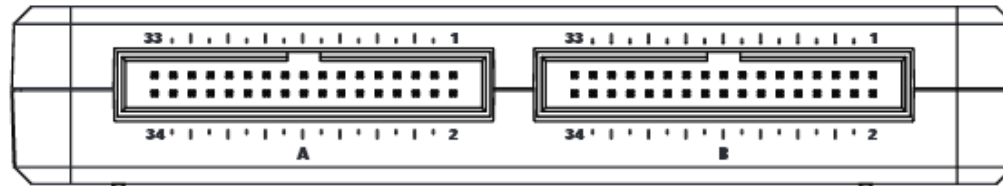


+3.3V	DIO10 / PWM2	DIO9 / PWM1	DIO8 / PWM0	DIO7 / SPI.MOSI	DIO6 / SPI.MISO	DIO5 / SPI.CLK	DIO4	DIO3	DIO2	DIO1	DIO0	AI3	AI2	AI1	AI0	+5V
33	31	29	27	25	23	21	19	17	15	13	11	9	7	5	3	1
34	32	30	28	26	24	22	20	18	16	14	12	10	8	6	4	2
DIO15 / I2C.SDA	DIO14 / I2C.SCL	DGND	DGND	DIO13	DGND	DIO12 / ENC.B	DGND	DIO11 / ENC.A	DGND	UART.TX	DGND	UART.RX	DGND	AGND	AO1	AO0

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# Analog input (歐規端子)

Figure 3. Primary/Secondary Signals on MXP Connectors A and B

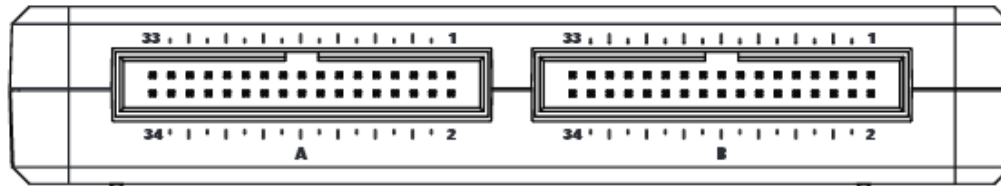


	+3.3V	DIO10 / PWM2	DIO9 / PWM1	DIO8 / PWM0	DIO7 / SPI.MOSI	DIO6 / SPI.MISO	DIO5 / SPI.CLK	DIO4	DIO3	DIO2	DIO1	DIO0	AI3	AI2	AI1	AIO	+5V
	33	31	29	27	25	23	21	19	17	15	13	11	9	7	5	3	1
	34	32	30	28	26	24	22	20	18	16	14	12	10	8	6	4	2
DIO15 / I2C.SDA		DIO14 / I2C.SCL	DGND	DGND	DIO13	DGND	DIO12 / ENC.B	DGND	DIO11 / ENC.A	DGND	UART.TX	DGND	UART.RX	DGND	AGND	AO1	AO0

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# UART (歐規端子)

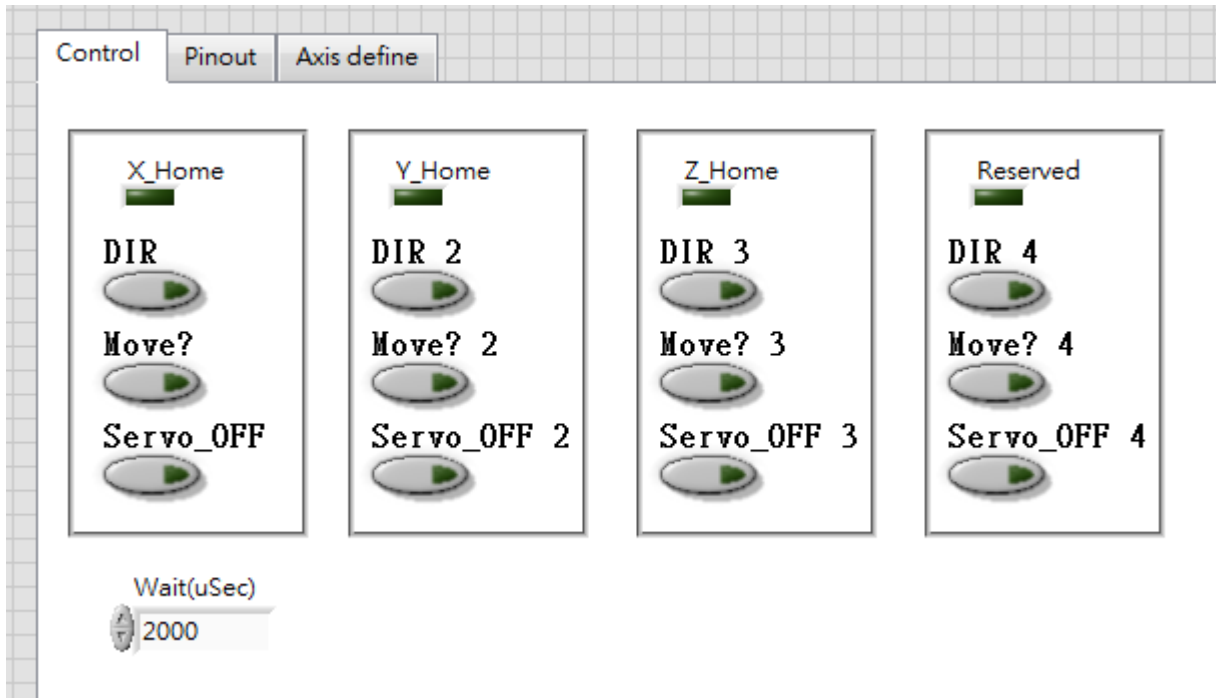
Figure 3. Primary/Secondary Signals on MXP Connectors A and B



DIO15 / I2C.SDA	+3.3V
DIO14 / I2C.SCL	DIO10 / PWM2
DGND	DIO9 / PWM1
DGND	DIO8 / PWM0
DIO13	DIO7 / SPI.MOSI
DGND	DIO6 / SPI.MISO
DIO12 / ENC.B	DIO5 / SPI.CLK
DGND	DIO4
DIO11 / ENC.A	DIO3
DGND	DIO2
UART.TX	DIO1
DGND	DIO0
UART.RX	A13
DGND	A12
AGND	A11
A01	A10
A00	+5V



# Example code



# Block diagram (example)

