

DN-8368GB
User Manual
(Version 1.0)
For General Type Motor



ICP DAS CO., LTD.
泓格科技股份有限公司

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1 English version

The DN-8368GB is General-Purpose terminal board connecting between servo driver (with pulse trains input amplifier) and ICP DAS PISO-PS600, PISO-VS600 or PMDK motion controller card. Please do not use it to connect any other cards. Moreover, it also includes 3-axis I/O signals. It can connect different brands of servo drivers and stepper drivers with the motion controller card. This manual describes signals and operation instructions of DN-8368GB; the content is divided into 4 parts: 1. Board layout, 2. I/O Signal connectors, 3. Jumper and switch setting, 4. LED function display, etc.

1.1 Board Layout for DN-8368GB

Dimension and Placement

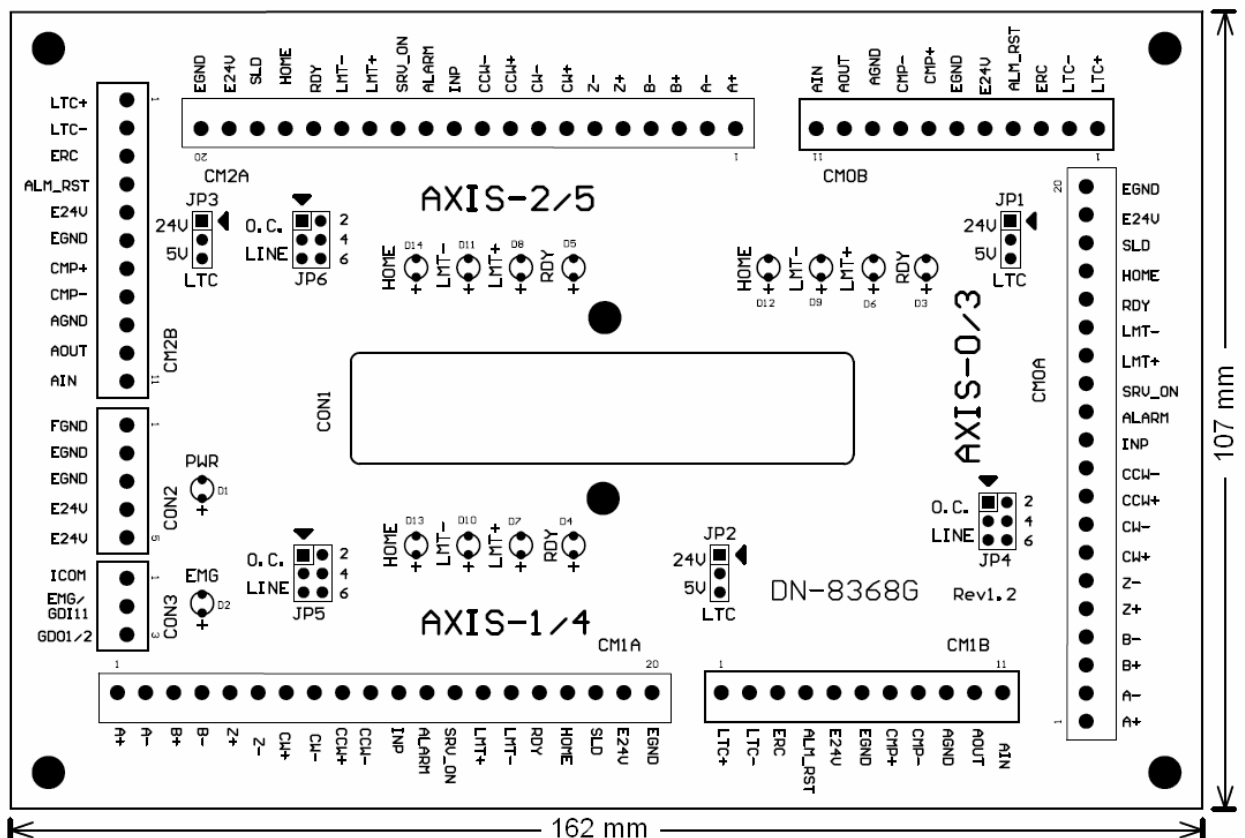


Fig. 1-1 Board layout for the DN-8368GB

1.2 Signal Connections for DN-8368GB

Assuring reliable connections is one of the most important tasks when sending or receiving data from your application systems. This chapter will introduce I/O connector (for general purposes) on DN-8368GB, that for specific I/O connector and other signals.

■ CON1

The I/O connector on DN-8368GB is a 68-pin SCSI II connector that enables you to connect sensors and motor drivers to the motion card. Please note: there are two groups of connectors (CN1A/ CN1B) on the main card; therefore, the same signal may have a different name on each sub board. Please refer to Table 1-1, Table 1-2) for your reference.

Table 1-1 CN1A (be close the PCB)

No	Name	I/O	Function Axis	No	Name	I/O	Function Axis
1	AOUT0	O	Analog Output	35	AIN0	I	Analog Input
2	AOUT1	O	Analog Output	36	AIN1	I	Analog Input
3	AOUT2	O	Analog Output	37	AIN2	I	Analog Input
4	AGND	-	Analog Ground	38	AGND	-	Analog Ground
5	DGND	-	Digital Ground	39	ERC0	O	Error Counter Clear
6	LTC0	I	Position Latch	40	SVON0	O	Servo On
7	EA0	I	Encoder A-Phase	41	RDY0	I	Servo Ready
8	EB0	I	Encoder B-Phase	42	INP0	I	Servo In-Position
9	EZ0	I	Encoder Z-Phase	43	ALM0	I	Servo Alarm
10	CW0	O	Clockwise pulse	44	SLD0	I	Slow Down
11	CCW0	O	Counter-Clockwise pulse	45	ORG0	I	Origin Signal
12	CMP0	O	Compare Trigger	46	MEL0	I	Minus End Limit
13	EMG	I	Emergency Stop	47	PEL0	I	Positive End Limit
14	ALMRST0	O	Servo Alarm Reset	48	DGND	-	Digital Ground
15	DGND	-	Digital Ground	49	ERC1	O	Error Counter Clear
16	LTC1	I	Position Latch	50	SVON1	O	Servo On
17	EA1	I	Encoder A-Phase	51	RDY1	I	Servo Ready
18	EB1	I	Encoder B-Phase	52	INP1	I	Servo In-Position
19	EZ1	I	Encoder Z-Phase	53	ALM1	I	Servo Alarm
20	CW1	O	Clockwise pulse	54	SLD1	I	Slow Down
21	CCW1	O	Counter-Clockwise pulse	55	ORG1	I	Origin Signal
22	CMP1	O	Compare Trigger	56	MEL1	I	Minus End Limit
23	GDO1	O	Generic Digital Output	57	PEL1	I	Positive End Limit
24	ALMRST1	O	Servo Alarm Reset	58	DGND	-	Digital Ground
25	DGND	-	Digital Ground	59	ERC2	O	Error Counter Clear
26	LTC2	I	Position Latch	60	SVON2	O	Servo On
27	EA2	I	Encoder A-Phase	61	RDY2	I	Servo Ready
28	EB2	I	Encoder B-Phase	62	INP2	I	Servo In-Position
29	EZ2	I	Encoder Z-Phase	63	ALM2	I	Servo Alarm
30	CW2	O	Clockwise pulse	64	SLD2	I	Slow Down
31	CCW2	O	Counter-Clockwise pulse	65	ORG2	I	Origin Signal
32	CMP2	O	Compare Trigger	66	MEL2	I	Minus End Limit
33	DGND	-	Digital Ground	67	PEL2	I	Positive End Limit
34	ALMRST2	O	Servo Alarm Reset	68	VCC	-	5V Digital Power from Bus

Table 1-2 CN1B (be distance from PCB)

No.	Name	I/O	Function Axis	No.	Name	I/O	Function Axis
1	AOUT3	O	Analog Output	35	AIN3	I	Analog Input
2	AOUT4	O	Analog Output	36	AIN4	I	Analog Input
3	AOUT5	O	Analog Output	37	AIN5	I	Analog Input
4	AGND	-	Analog Ground	38	AGND	-	Analog Ground
5	DGND	-	Digital Ground	39	ERC3	O	Error Counter Clear
6	LTC3	I	Position Latch	40	SVON3	O	Servo On
7	EA3	I	Encoder A-Phase	41	RDY3	I	Servo Ready
8	EB3	I	Encoder B-Phase	42	INP3	I	Servo In-Position
9	EZ3	I	Encoder Z-Phase	43	ALM3	I	Servo Alarm
10	CW3	O	Clockwise pulse	44	SLD3	I	Slow Down
11	CCW3	O	Counter-Clockwise pulse	45	ORG3	I	Origin Signal
12	CMP3	O	Compare Trigger	46	MEL3	I	Minus End Limit
13	GDI11	I	Generic Digital Input	47	PEL3	I	Positive End Limit
14	ALMRST3	O	Servo Alarm Reset	48	DGND	-	Digital Ground
15	DGND	-	Digital Ground	49	ERC4	O	Error Counter Clear
16	LTC4	I	Position Latch	50	SVON4	O	Servo On
17	EA4	I	Encoder A-Phase	51	RDY4	I	Servo Ready
18	EB4	I	Encoder B-Phase	52	INP4	I	Servo In-Position
19	EZ4	I	Encoder Z-Phase	53	ALM4	I	Servo Alarm
20	CW4	O	Clockwise pulse	54	SLD4	I	Slow Down
21	CCW4	O	Counter-Clockwise pulse	55	ORG4	I	Origin Signal
22	CMP4	O	Compare Trigger	56	MEL4	I	Minus End Limit
23	GDO2	O	Generic Digital Output	57	PEL4	I	Positive End Limit
24	ALMRST4	O	Servo Alarm Reset	58	DGND	-	Digital Ground
25	DGND	-	Digital Ground	59	ERC5	O	Error Counter Clear
26	LTC5	I	Position Latch	60	SVON5	O	Servo On
27	EA5	I	Encoder A-Phase	61	RDY5	I	Servo Ready
28	EB5	I	Encoder B-Phase	62	INP5	I	Servo In-Position
29	EZ5	I	Encoder Z-Phase	63	ALM5	I	Servo Alarm
30	CW5	O	Clockwise pulse	64	SLD5	I	Slow Down
31	CCW5	O	Counter-Clockwise pulse	65	ORG5	I	Origin Signal
32	CMP5	O	Compare Trigger	66	MEL5	I	Minus End Limit
33	DGND	-	Digital Ground	67	PEL5	I	Positive End Limit
34	ALMRST5	O	Servo Alarm Reset	68	VCC	-	5V Digital Power from Bus

■ CON2

The connector CON2 is a 5-pin connector for external Power supply (24V input). Table 1-3 shows its I/O connector signal description.

Table 1-3

Pin NO	Pin Define	Function description
1	FGND	Frame ground of DN-8368GB
2	EGND	Ground of the external power
3	EGND	Ground of the external power
4	E24V	External power supply of +24V DC
5	E24V	External power supply of +24V DC

■ CON3

The connector CON3 is a 3-pin connector for connecting general purpose I/O. There are one digital input and one digital output signal. When the connectors connect to the CN1A of main card (the one closer to the PCB board), the input signal is defined as emergency stop. When the connector connects to the CN1B of main card, the input signal is defined as general purpose input signal. Table 1-4 shows its I/O connector signal description:

Table 1-4

Pin NO	Pin Define	Function description
1	ICOM	Input common, when use with NPN sinking type sensor, connecting to E24V. When use with PNP sourcing type sensor, connecting to EGND.
2	EMG/GDI11	Emergency stop signal (or General purpose input signal)
3	GDO1/GDO2	General purpose output signal

■ CM0A~CM2A

The connector CMxA is a 20-pin connector that enables you to connect the main card to the signals of your motor drivers. The Table 1-5 shows its I/O connector signal description for the 20-pin connector on the DN-8368GB.

Table 1-5

Pin NO	Pin Define	Function description
1	A+	Encoder A-phase(+)
2	A -	Encoder A-phase(-)
3	B+	Encoder B-phase(+)
4	B -	Encoder B-phase(-)
5	Z+	Encoder Z-phase(+)
6	Z-	Encoder B-phase(-)
7	CW+	Positive Direction Pulse(+)
8	CW -	Positive Direction Pulse(-)
9	CCW+	Negative Direction Pulse(+)
10	CCW -	Negative Direction Pulse(-)
11	INP	In-Position signal from the servo motor driver
12	ALARM	Alarm signal from the servo motor driver
13	SRV_ON	Servo ON signal to the servo motor driver
14	LMT+	Positive End Limit signal (PEL) input
15	LMT-	Negative End Limit signal (MEL) input
16	RDY	RDY signal from the servo motor driver
17	HOME	Origin signal (ORG) input
18	SLD	Slow-Down signal input
19	E24V	External Power +24V
20	EGND	External Power Ground

■ CM0B~CM2B

The connector CMxB is an 11-pin connector that enables you to connect the main card to the signals of Digital and Analog input/output. The Table 1-6 shows its I/O connector signal description for the 11-pin connector on the DN-8368GB.

Table 1-6

Pin NO	Pin Define	Function description
1	LTC+	High Speed Position Latch input
2	LTC-	Ground for Position Latch input
3	ERC	Error Counter Clear signal to servo motor driver
4	ALM_RST	Alarm Reset signal to servo motor driver
5	E24V	External power +24V
6	EGND	External Power Ground
7	CMP+	High Speed Compare trigger output
8	CMP-	Ground for Compare trigger output
9	AGND	Ground of analog signal (only for PISO-VS600 and PMDK)
10	AOUT	Analog output signal (only for PISO-VS600 and PMDK)
11	AIN	Analog input signal (only for PISO-VS600 and PMDK)

1.3 Jumper Settings

■ JP1 ~ JP3

Jumper 1~3(Fig 1-2) controls the input voltage of LTC for 24V (Jumper position is in 1~2) or 5V (Jumper position is in 2~3). The default setting is 5V.

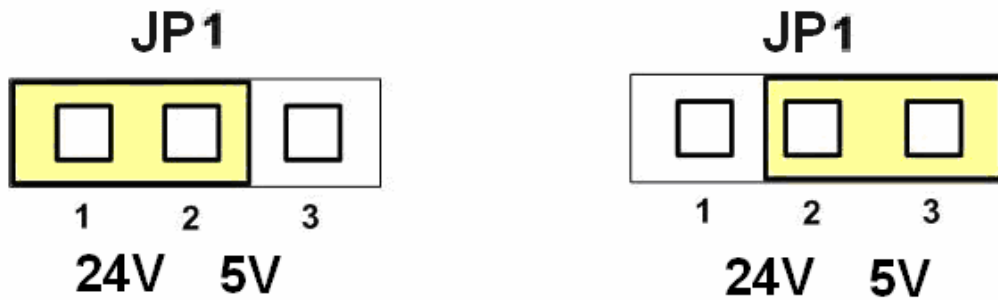


Fig. 1-2 Jumper 1~ Jumper 3 setting

■ JP4 ~ JP6

Jumper 4 ~ 6 (Fig 1-3) control the pulse output mode. Two types of the pulse output signal, Differential-Type and Open-Collector Type, can be selected from JP4 ~ JP6. The default setting is Differential-Type.

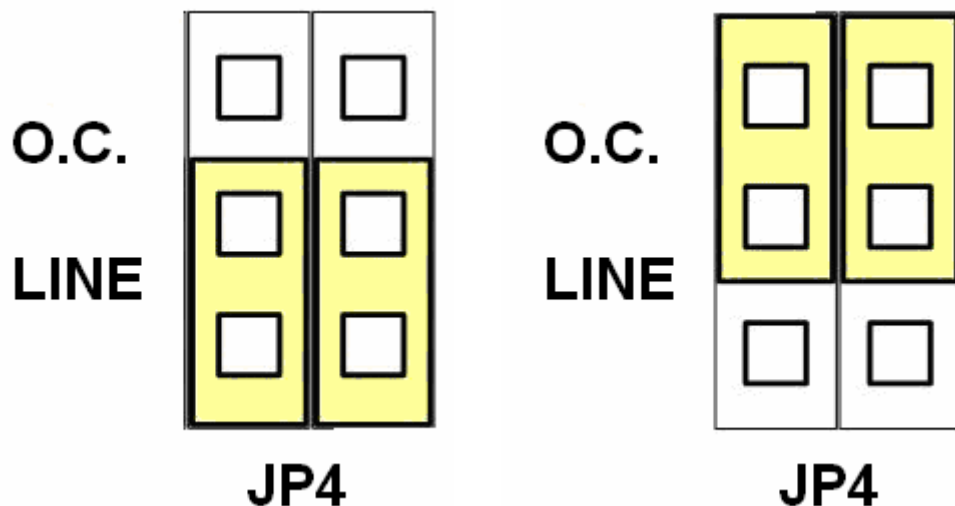


Fig 1-3 Jumper 4~6(Default setting is Differential-Type)

1.4 LED Description

LED is used for indicating the special or important DI state, there are two status on the daughter board, one is the machine I/O state (Home, LMT-, LMT+, RDY, etc.), the other is Power and EMG state. These " LED" indicate the following status:

- **HOME:** The LED will be turned on when the motion control axis "Home" sensor is ON.
- **LMT -:** It shows the negative end-limit signal of motion control on the machine. The negative end-limit signal of motion axis is to decide the end point of minus moving. If this signal is on, the LED will be turned on. (This is the case when "Normal Open" mode is set, for "Normal Close" mode, the LED is turned off when signal is on.)
- **LMT +:** It shows the positive end-limit signal of motion control on the machine. The positive end-limit signal of motion axis is to decide the end point of positive moving. If this signal is on, the LED will be turned on. (This is the case when "Normal Open" mode is set, for "Normal Close" mode, the LED is turned off when signal is on.)
- **RDY:** It point out whether the servo motor is in the state that can be controlled. The LED will be turned on when the motor can be controlled.
- **Power:** It shows the power state of DN-8368GB. The LED will be turned on when it is power on.
- **EMG:** It shows the state of EMG signal. The LED will be turned on when the EMG signal is triggered.

2 繁體中文版

DN-8368 GB 是一塊通用型的馬達驅動器配接端子板。它配置有3個軸的各種I/O 信號連接器。而此端子板為搭配泓格科技公司所出產的PISO-PS600, PISO-VS600及PMDK等運動控制產品（本文之後統稱為主卡）使用。客戶可以經此端子板與各種不同廠牌的伺服或步進馬達混合配接合控制。本手冊主要是描述此端子板上的所有訊號連接器及相關使用說明，內容共分為：1. 端子板配置及尺寸；2. I/O 訊號連接器；3. Jumper and Switch 設定；4. LED顯示等四大部份。

2.1 DN-8368GB 配置

尺寸與配置

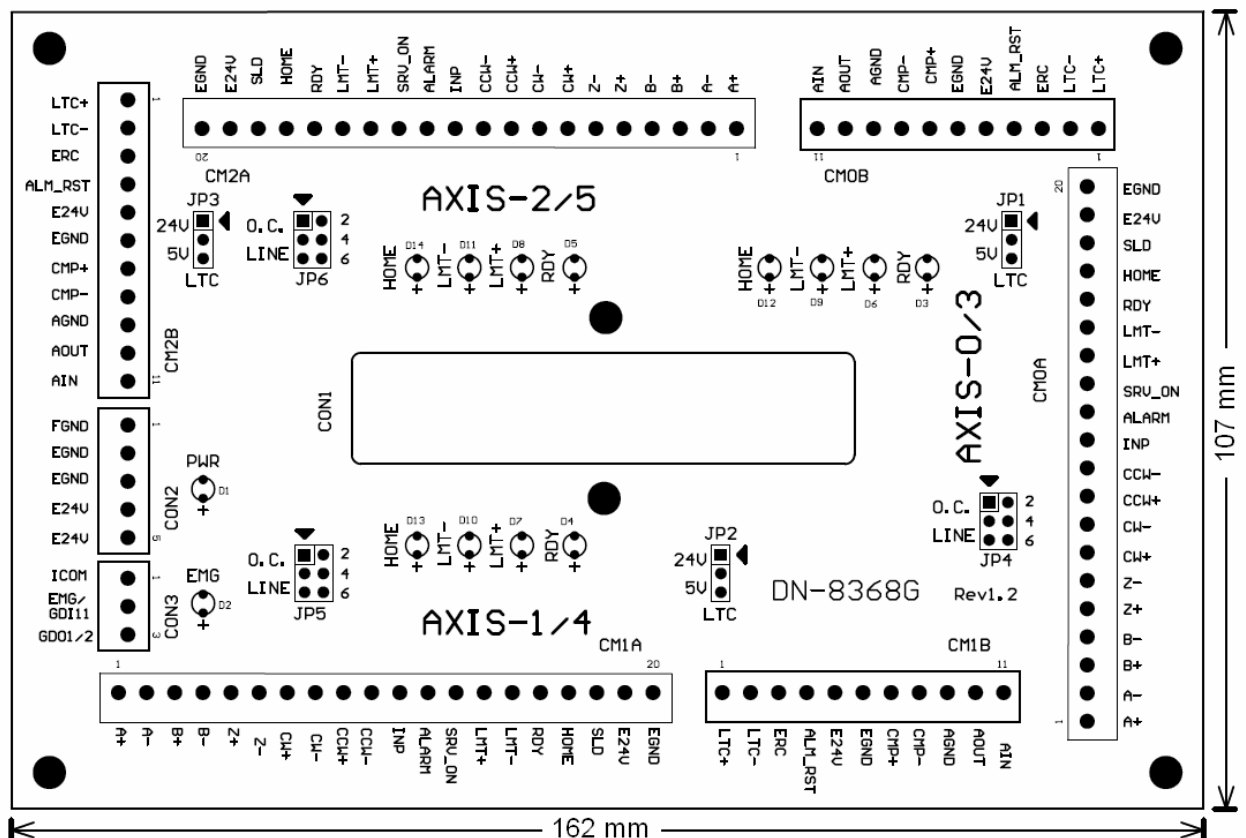


Fig. 2-1 Board layout for the DN-8368GB

2.2 訊號連接器

正確的信號連接可以讓應用系統能正確地收發送，在配接訊號線時請詳細參考本章節描述本端子板的各種連接器內容。

■ CON1

DN-8368 GB上的I/O 連接器是經由68腳位的SCSI II的連接器端子，讓使用者可以將端子板訊號連接到主控端的主卡。由於主卡上有兩組連接器（CN1A/ CN1B），因此對應到端子板上的訊號名稱時將有所不同，故我們將相關的訊號表列於下【表2-1、表2-2】；不過因為此連接器僅是將端子台與主卡的控制訊號直接連接起來，而使用者並無法直接控制使用，所以使用者是可以忽略此說明內容！

CN1A (較靠近PCB板) 表2-1

No.	Name	I/O	Function Axis	No.	Name	I/O	Function Axis
1	AOUT0	O	Analog Output	35	AIN0	I	Analog Input
2	AOUT1	O	Analog Output	36	AIN1	I	Analog Input
3	AOUT2	O	Analog Output	37	AIN2	I	Analog Input
4	AGND	-	Analog Ground	38	AGND	-	Analog Ground
5	DGND	-	Digital Ground	39	ERC0	O	Error Counter Clear
6	LTC0	I	Position Latch	40	SVON0	O	Servo On
7	EA0	I	Encoder A-Phase	41	RDY0	I	Servo Ready
8	EB0	I	Encoder B-Phase	42	INP0	I	Servo In-Position
9	EZ0	I	Encoder Z-Phase	43	ALM0	I	Servo Alarm
10	CW0	O	Clockwise pulse	44	SLD0	I	Slow Down
11	CCW0	O	Counter-Clockwise pulse	45	ORG0	I	Origin Signal
12	CMP0	O	Compare Trigger	46	MEL0	I	Minus End Limit
13	EMG	I	Emergency Stop	47	PEL0	I	Positive End Limit
14	ALMRST0	O	Servo Alarm Reset	48	DGND	-	Digital Ground
15	DGND	-	Digital Ground	49	ERC1	O	Error Counter Clear
16	LTC1	I	Position Latch	50	SVON1	O	Servo On
17	EA1	I	Encoder A-Phase	51	RDY1	I	Servo Ready
18	EB1	I	Encoder B-Phase	52	INP1	I	Servo In-Position
19	EZ1	I	Encoder Z-Phase	53	ALM1	I	Servo Alarm
20	CW1	O	Clockwise pulse	54	SLD1	I	Slow Down
21	CCW1	O	Counter-Clockwise pulse	55	ORG1	I	Origin Signal
22	CMP1	O	Compare Trigger	56	MEL1	I	Minus End Limit
23	GDO1	O	Generic Digital Output	57	PEL1	I	Positive End Limit
24	ALMRST1	O	Servo Alarm Reset	58	DGND	-	Digital Ground
25	DGND	-	Digital Ground	59	ERC2	O	Error Counter Clear
26	LTC2	I	Position Latch	60	SVON2	O	Servo On
27	EA2	I	Encoder A-Phase	61	RDY2	I	Servo Ready
28	EB2	I	Encoder B-Phase	62	INP2	I	Servo In-Position
29	EZ2	I	Encoder Z-Phase	63	ALM2	I	Servo Alarm
30	CW2	O	Clockwise pulse	64	SLD2	I	Slow Down
31	CCW2	O	Counter-Clockwise pulse	65	ORG2	I	Origin Signal
32	CMP2	O	Compare Trigger	66	MEL2	I	Minus End Limit
33	DGND	-	Digital Ground	67	PEL2	I	Positive End Limit
34	ALMRST2	O	Servo Alarm Reset	68	VCC	-	5V Digital Power from Bus

CN1B (較遠離PCB板) 表2-2

No.	Name	I/O	Function Axis	No.	Name	I/O	Function Axis
1	AOUT3	O	Analog Output	35	AIN3	I	Analog Input
2	AOUT4	O	Analog Output	36	AIN4	I	Analog Input
3	AOUT5	O	Analog Output	37	AIN5	I	Analog Input
4	AGND	-	Analog Ground	38	AGND	-	Analog Ground
5	DGND	-	Digital Ground	39	ERC3	O	Error Counter Clear
6	LTC3	I	Position Latch	40	SVON3	O	Servo On
7	EA3	I	Encoder A-Phase	41	RDY3	I	Servo Ready
8	EB3	I	Encoder B-Phase	42	INP3	I	Servo In-Position
9	EZ3	I	Encoder Z-Phase	43	ALM3	I	Servo Alarm
10	CW3	O	Clockwise pulse	44	SLD3	I	Slow Down
11	CCW3	O	Counter-Clockwise pulse	45	ORG3	I	Origin Signal
12	CMP3	O	Compare Trigger	46	MEL3	I	Minus End Limit
13	GDI11	I	Generic Digital Input	47	PEL3	I	Positive End Limit
14	ALMRST3	O	Servo Alarm Reset	48	DGND	-	Digital Ground
15	DGND	-	Digital Ground	49	ERC4	O	Error Counter Clear
16	LTC4	I	Position Latch	50	SVON4	O	Servo On
17	EA4	I	Encoder A-Phase	51	RDY4	I	Servo Ready
18	EB4	I	Encoder B-Phase	52	INP4	I	Servo In-Position
19	EZ4	I	Encoder Z-Phase	53	ALM4	I	Servo Alarm
20	CW4	O	Clockwise pulse	54	SLD4	I	Slow Down
21	CCW4	O	Counter-Clockwise pulse	55	ORG4	I	Origin Signal
22	CMP4	O	Compare Trigger	56	MEL4	I	Minus End Limit
23	GDO2	O	Generic Digital Output	57	PEL4	I	Positive End Limit
24	ALMRST4	O	Servo Alarm Reset	58	DGND	-	Digital Ground
25	DGND	-	Digital Ground	59	ERC5	O	Error Counter Clear
26	LTC5	I	Position Latch	60	SVON5	O	Servo On
27	EA5	I	Encoder A-Phase	61	RDY5	I	Servo Ready
28	EB5	I	Encoder B-Phase	62	INP5	I	Servo In-Position
29	EZ5	I	Encoder Z-Phase	63	ALM5	I	Servo Alarm
30	CW5	O	Clockwise pulse	64	SLD5	I	Slow Down
31	CCW5	O	Counter-Clockwise pulse	65	ORG5	I	Origin Signal
32	CMP5	O	Compare Trigger	66	MEL5	I	Minus End Limit
33	DGND	-	Digital Ground	67	PEL5	I	Positive End Limit
34	ALMRST5	O	Servo Alarm Reset	68	VCC	-	5V Digital Power from Bus

■ CON2

連接器【CON2】是提供給使用者引入外部電源輸入【24(伏特)】，此連接器總共有5腳位。表格2-3為顯示它的I/O 連接器信號定義及功能描述。

表 2-3

Pin NO	Pin Define	Function description
1	FGND	Frame ground of DN-8368GB
2	EGND	Ground of the external power
3	EGND	Ground of the external power
4	E24V	External power supply of +24V DC
5	E24V	External power supply of +24V DC

■ CON3

此連接器為一般用途的數位I/O 訊號配接端子，且DI、DO及ICOM各1，其中DI的部份為當此端子板的主要連接器【CON2】是連接到主卡的CN1A（較靠近PCB板）時，此輸入訊號將定義為緊急停止開關（EMG）之輸入使用；而當端子板的主要連接器【CON2】是連接到主卡的CN1B（較遠離PCB板）時，則此輸入訊號做為一般用途的GDI11使用；而DO的部份則都是當做一般用途的GDO1/GDO2使用；詳細腳位定義及描述內容如下表2-4：

表 2-4

Pin NO	Pin Define	Function description
1	ICOM	Input common, When user use with NPN sourcing type sensor, connect to E24V; When user use with PNP sinking type sensor, connected to EGND.
2	EMG/GDI11	Emergency stop signal (or General purpose input signal)
3	GDO1/GDO2	General purpose output signal

■ CM0A~CM2A

連接器【CM0A~CM2A】是一個20腳位的配接端子，其主要是提供使用者能夠配接主卡上所須要之各種運動控制訊號【脈衝輸出訊號、編碼器迴授輸入訊號、伺服馬達專用的數位輸出（輸入）訊號及運動控制機台使用的各種感應器訊號輸入】；而使用者可以自己依實際機台開發設計須求來配接其所須要之各類控制輸出（輸入）訊號，也由於此端子板屬通用規格配接，故可以適用配接於各種馬達之驅動器及各類輸出（輸入）訊號。相關的詳細腳位定義及描述如下列表2-5。

表 2-5

Pin NO	Pin Define	Function description
1	A+	Encoder A-phase(+)
2	A -	Encoder A-phase(-)
3	B+	Encoder B-phase(+)
4	B -	Encoder B-phase(-)
5	Z+	Encoder Z-phase(+)
6	Z-	Encoder B-phase(-)
7	CW+	Positive Direction Pulse(+)
8	CW -	Positive Direction Pulse(-)
9	CCW+	Negative Direction Pulse(+)
10	CCW -	Negative Direction Pulse(-)
11	INP	In-Position signal from the servo motor driver
12	ALARM	Alarm signal from the servo motor driver
13	SRV_ON	Servo ON signal to the servo motor driver
14	LMT+	Positive End Limit signal (PEL) input
15	LMT-	Negative End Limit signal (MEL) input
16	RDY	RDY signal from the servo motor driver
17	HOME	Origin signal (ORG) input
18	SLD	Slow-Down signal input
19	E24V	External Power +24V
20	EGND	External Power Ground

■ CM0B~CM2B

連接器【CM0B~CM2B】是一個11腳位的配接端子，其主要功能為提供使用者可以配接特殊專用的數位輸出（CMP+、CMP-、ERC、ALM_RST）、輸入（LTC+、LTC-）及類比輸出入（AOUT、AIN）訊號。詳細的腳位定義及功能描述，如下列表2-6：

表 2-6

Pin NO	Pin Define	Function description
1	LTC+	High Speed Position Latch input
2	LTC-	Ground for Position Latch input
3	ERC	Error Counter Clear signal to servo motor driver
4	ALM_RST	Alarm Reset signal to servo motor driver
5	E24V	External power +24V
6	EGND	External Power Ground
7	CMP+	High Speed Compare trigger output
8	CMP-	Ground for Compare trigger output
9	AGND	Ground of analog signal (only for PISO-VS600 and PMDK)
10	AOUT	Analog output signal (only for PISO-VS600 and PMDK)
11	AIN	Analog input signal (only for PISO-VS600 and PMDK)

2.3 Jumper 設定

■ JP1 ~ JP3

Jumper 1~3【 Fig 2-2】主要是用來設定LTC訊號的輸入電壓為是 24V (Jumper位置在1~2) 或 5V (Jumper位置在2~3) 。而此訊號的出廠預設值為 5V 。

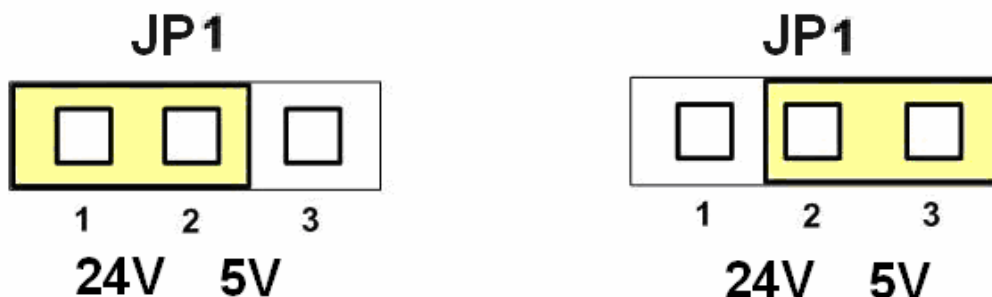


Fig. 2-2 Jumper 1~ Jumper 3 setting

■ JP4 ~ JP6

JP4~JP6【 Fig 2-3】主要是用設定Pulse output mode為Open collector or Line drive (differential mode), 使用者可以透過這些Jumper來設定 (AXIS-0/3; AXIS-1/4 and AXIS2/5) 各軸的Pulse輸出模式。而此訊號的出廠預設值為Line drive mode】

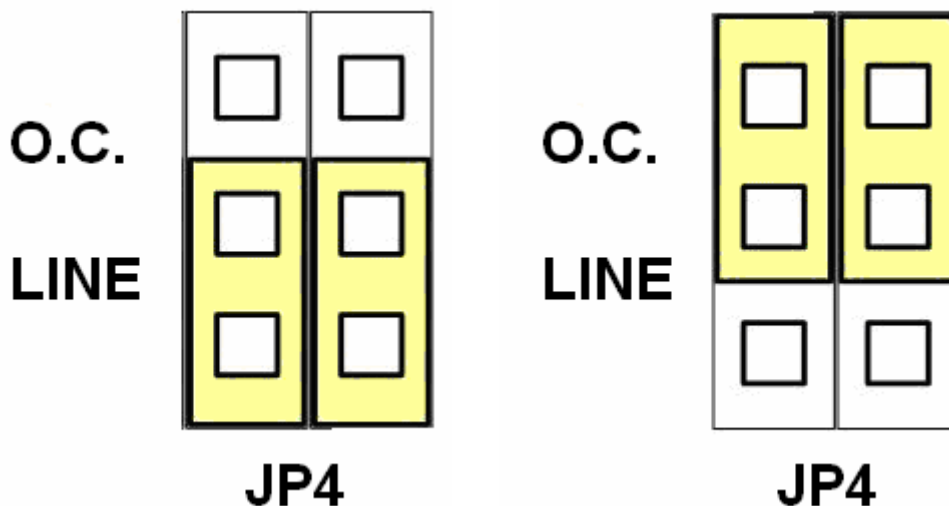


Fig 2-3 JP4 ~ JP6 setting

2.4 LED 功能描述

LED主要是用來顯示特別或重要的DI狀態，此端子上大致分為兩部份，一個為各軸的機台機械I/O (依序為：HOME, LMT- LMT- and RDY) 狀態顯示；另一為Power LED 與EMG LED狀態顯示；這些LED的主要意義詳如下述：

- **HOME**：運動控制軸的歸原點訊號，當HOME訊號被觸發啟動時LED將會被點亮！
- **LMT -**：運動控制軸的負極限訊號，主要是用來決定硬體的負向運動的極限；當此訊號被觸發作動時，LED點將會被點亮 (由於實體電路為NO [Normal Open]，所以當使用者的開關為Normal Close的設計時，則LED的顯示會剛好與前述相反)！
- **LMT +**：運動控制軸的正極限訊號，主要是用來決定硬體的正向運動的極限；當此訊號被觸發作動時，LED點將會被點亮 (由於實體電路為NO [Normal Open]，所以當使用者的開關為Normal Close的設計時，則LED的顯示會剛好與前述相反)！
- **RDY**：指示伺服馬達是否處於可以被控制的狀態；當LED被點亮時即代表伺服馬達是處在可被控制的狀態。
- **Power**：當端子的電源入力端被正確的接入所要求電源後，Power LED將會被點亮。
- **EMG**：主要是顯示EMG訊號是否被啟觸發做動，當被觸發做動則會點亮LED。