DN-8237GB Data Sheet

(Version 1.1)

For General Type Motor

1 DN-8237-GB Daughter Board

The DN-8237-GB is the daughter board for General Purpose Ampilifiers.   It has 2-axis I/O signals.
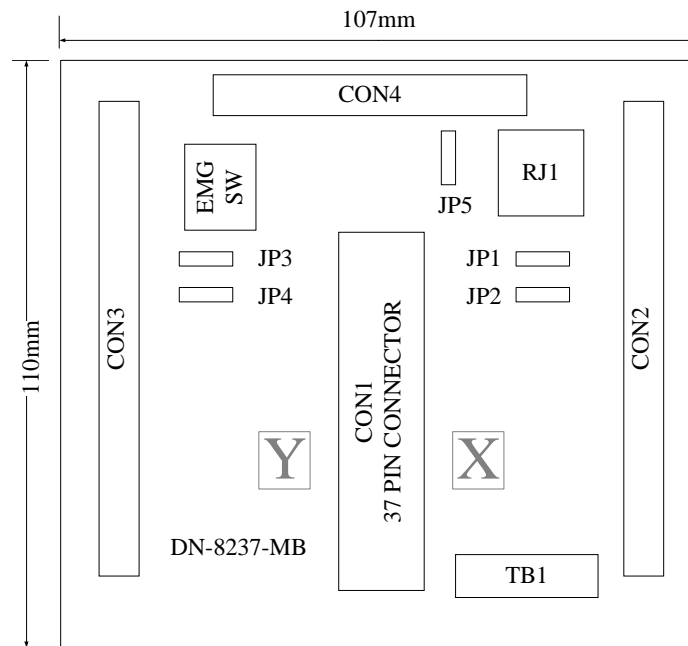
1.1 Board Layout for DN-8237-GB

Fig. 3-1   Board layout for the DN-8237-GB

1.2 Signal Connections for DN-8237-GB

Maintaining signal connections is one of the most important factors in ensuring that your application system is sending and receiving data correctly.

■ **Pin Assignment for CON1**

The I/O connector on the DN-8237-GB is a 37-pin connector that enables you to connect to the PISO-PS200(or I-8092F) motion card. Fig. 3-2 shows the pin assignment for the 37-pin I/O connector on the DN-8237-GB (or on the motion card), and refer to Table 3-2 for description of each motion I/O signal.
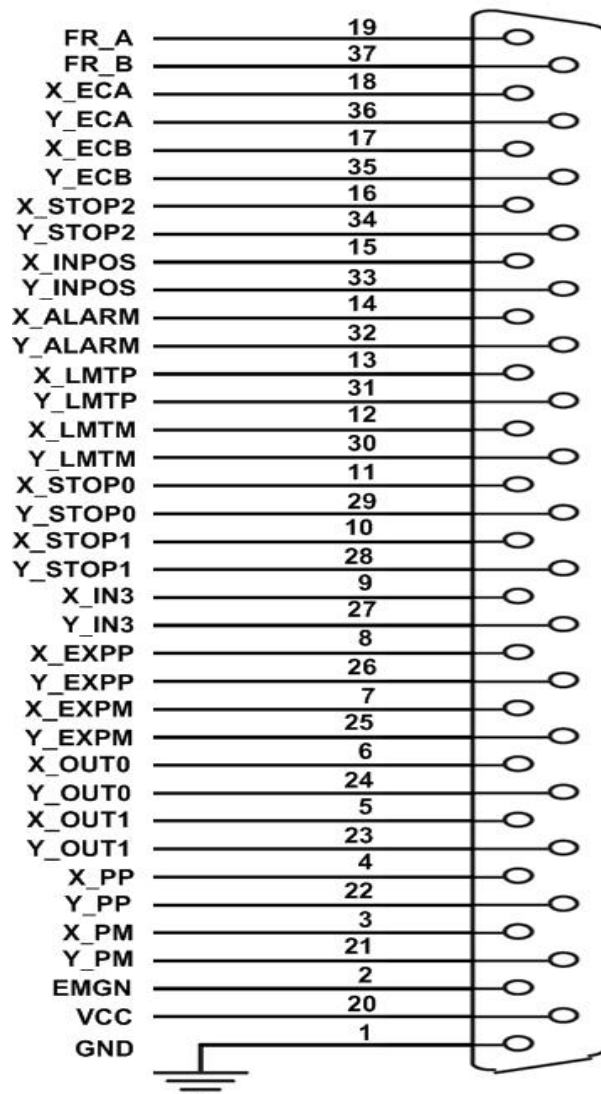
Signal	Pin
FR_A	19
FR_B	37
X_ECA	18
Y_ECA	36
X_ECB	17
Y_ECB	35
X_STOP2	16
Y_STOP2	34
X_INPOS	15
Y_INPOS	33
X_ALARM	14
Y_ALARM	32
X_LMTP	13
Y_LMTP	31
X_LMTM	12
Y_LMTM	30
X_STOP0	11
Y_STOP0	29
X_STOP1	10
Y_STOP1	28
X_IN3	9
Y_IN3	27
X_EXPP	8
Y_EXPP	26
X_EXPM	7
Y_EXPM	25
X_OUT0	6
Y_OUT0	24
X_OUT1	5
Y_OUT1	23
X_PP	4
Y_PP	22
X_PM	3
Y_PM	21
EMGN	2
VCC	20
GND	1

Fig. 3-2 I/O connector pin assignment for the CON1

Table 3-2 DN-8237-MB CON1 I/O connector signal description

Pin name	Pin number	Description
FR_A	19	FRnet A-phase signal
FR_B	37	FRnet B-phase signal
X_ECA	18	Encoder A-phase signal for the X axis
Y_ECA	36	Encoder A-phase signal for the Y axis
X_ECB	17	Encoder B-Phase signal for the X axis
Y_ECB	35	Encoder B-Phase signal for the Y axis
X_STOP2	16	Stop 2 signal for the X axis
Y_STOP2	34	Stop 2 signal for the Y axis
X_INPOS	15	In-position signal for the X axis
Y_INPOS	33	In-position signal for the Y axis
X_ALARM	14	Alarm signal for the X axis
Y_ALARM	32	Alarm signal for the Y axis
X_LMTP	13	Limit switch input signal (+) for the X axis
Y_LMTP	31	Limit switch input signal (+) for the Y axis
X_LMTM	12	Limit switch input signal (-) for the X axis
Y_LMTM	30	Limit switch input signal (-) for the Y axis
X_STOP0	11	Stop 0 signal for the X axis
Y_STOP0	29	Stop 0 signal for the Y axis
X_STOP1	10	Stop 1 signal for the X axis
Y_STOP1	28	Stop 1 signal for the Y axis
X_IN3	9	Input 3 signal for the X axis
Y_IN3	27	Input 3 signal for the Y axis
X_EXPP	8	EXT pulsar input signal (+) for the X axis
Y_EXPP	26	EXT pulsar input signal (+) for the Y axis
X_EXPM	7	EXT pulsar input signal (-) for the X axis
Y_EXPM	25	EXT pulsar input signal (-) for the Y axis
X_OUT0	6	Output 0 signal for the X axis
Y_OUT0	24	Output 0 signal for the Y axis
X_OUT1	5	Output 1 signal for the X axis
Y_OUT1	23	Output 1 signal for the Y axis
XPP	4	Driving pulsar signal (+) for the X axis
YPP	22	Driving pulsar signal (+) for the Y axis
XPM	3	Driving pulsar signal (+) for the X axis
YPM	21	Driving pulsar signal (+) for the Y axis
EMGN	2	Emergency stop input signal
VCC	20	Module power (+5V)
GND	1	Ground

■ CON2 & CON3   (I/O connector for each AXIS)

The connectors CON2 and CON3 are 20-pin connectors that enable you to connect to the I/O signals for general purpose motor drivers. Fig.3-3 shows the pin assignment for the 20-pin connector on the DN-8237-GB, and the Table 3-3 shows its I/O connector signal description.
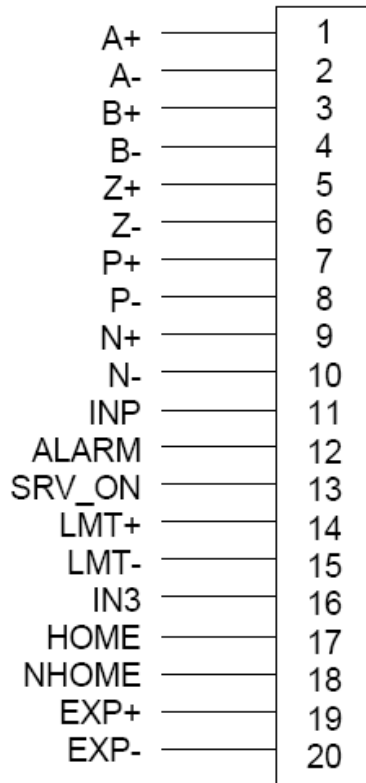
```
A+  ———  1
A-  ———  2
B+  ———  3
B-  ———  4
Z+  ———  5
Z-  ———  6
P+  ———  7
P-  ———  8
N+  ———  9
N-  ———  10
INP ———  11
ALARM ——  12
SRV_ON ——  13
LMT+ ———  14
LMT- ———  15
IN3 ———  16
HOME ———  17
NHOME ——  18
EXP+ ———  19
EXP- ———  20
```

Fig. 3-3   Pin definition for CON2 & CON3

Table   3-3 CON2 ~ CON3 Signal Connection

Name	Number	Description
A+	1	Encoder A-Phase (+)
A-	2	Encoder A-Phase (-)
B+	3	Encoder B-Phase (+)
B-	4	Encoder B-Phase (-)
Z+	5	Encoder Z-Phase (+)
Z-	6	Encoder Z-Phase (-)
P+	7	Positive Direction Pulse Output(+)
P-	8	Positive Direction Pulse Output(-)
N+	9	Negative Direction Pulse Output(+)
N-	10	Negative Direction Pulse Output(-)
INP	11	Servo In Position
ALARM	12	Servo Alarm
SRV_ON	13	Servo On
LMT+	14	Limit Switch Input Signal (+)
LMT-	15	Limit Switch Input Signal (-)
IN3	16	Input Signal (IN3)
HOME	17	Home Sensor Input Signal
NHOME	18	Near Home Sensor Input Signal
EXP+	19	EXT Positive Direction Pulse (+)
EXP-	20	EXT Negative Direction Pulse (-)

■ CON4

The connector CON4 is 16-pin connector that enables you to connect to the signals of your motor drivers. Fig.1-4 shows the pin assignment for the 16-pin connector on the DN-8237-GB, and the Table 3-4 shows its I/O connector signal description.
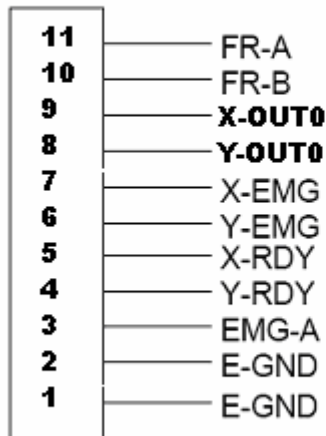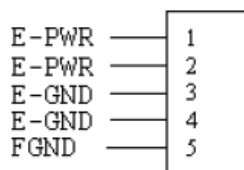
Table 3-4 CON4 Signal Connection

Fig.1-4   Pin definition for CON4

Name	Description
FR-A	FRnet port A
FR-B	FRnet port B
X-OUT0	**OUT0 output signal for X** axis
Y-OUT0	**OUT0 output signal for Y** axis
X-EMG	EMG input signal for X axis
Y-EMG	EMG input signal for Y axis
X-RDY	Ready input signal for X axis
Y-RDY	Ready input signal for Y axis
EMG-A	EMG input signal for all axes
E-GND	EXT power ground
E-GND	EXT power ground

■ TB1

The connector TB1 is 5-pin connector that enables you to connect to the signals of your motor drivers. Fig.3-4 shows the pin assignment for the 5-pin connector on the DN-8237-GB, and the Table 3-4 shows its I/O connector signal description.

Table 3-4 TB1 Signal Connection

Fig. 3-4   Pin definition for TB1

Pin name	Description
E-PWR	EXT power supply +24V
E-GND	EXT power ground
FGND	Frame ground

▶ **Note:**   Don't reverse connect signals with E_PWR and E_GND.   Serious damage to your motion card and motion controller might be happened.

■ RJ1   (The I/O signals of the FRnet)

The connectors RJ1 is an 8-pin RJ45 connector that enable you to connect to the signals of FRnet.   Fig.3-5 shows the pin assignment for the 8-pin connector on the DN-8237-GB, and the Table 3-5 shows its I/O connector signal description.
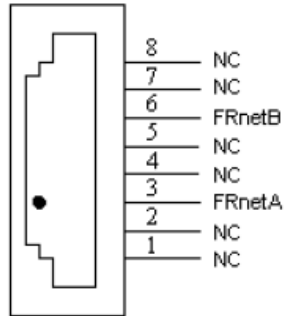
Table 3-5 RJ1

Pin name	Description
FRnetA	FRnet port A
FRnetB	FRnet port B
NC	No connection

Fig. 3-5 Pin definition for RJ1

▶ **Note:** Don't connect NC (not connected) signals. Connecting these signals could cause permanent damage to your motion controller.

1.3 Jumper and Switch Settings

■ JP5

Jumper 5 controls the EMG-A signal of the CON4 connector. The following diagram is shown the selection condition of the jumper 5.
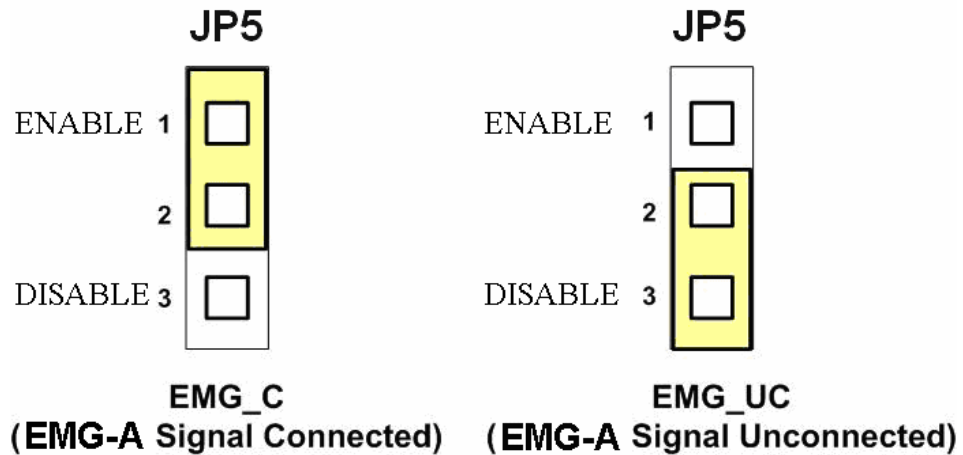

Fig. 3-6 Jumper 5 setting

■ SW 1

The emergency stop signal for each servo ampilfier can be selected from SW1. The number 1 and 2 on SW1 are denoted as axis X and Y, respectively. The number 3 and 4 on SW1 are reserved for future work. Fig. 3-7 is the default setting to connect the EMG singals to GND. The X-EMG and Y-EMG signal from CON4 not take effect. If the switch is disconnected as shown in Fig. 3-8, the emergency stop signals can be controlled from the X-EMG and Y-EMG signal in CON4.
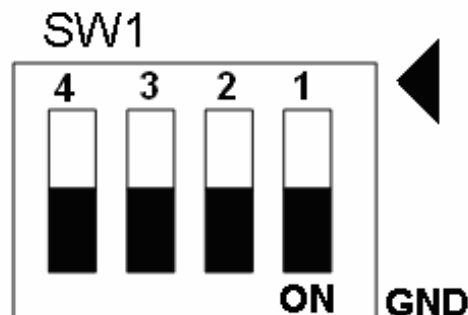

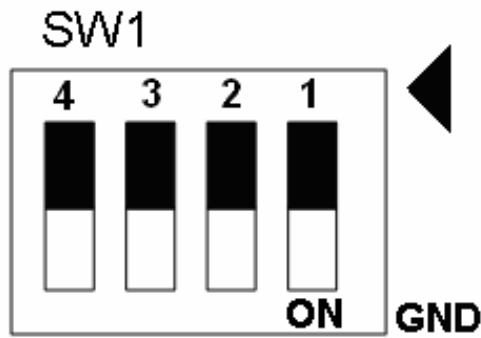Fig. 3-7   SW1 setting for normally GND   (Default setting)

Fig. 3-8   SW1 setting for user controlled signals.

■ **JP1/2 & JP3/4**

Jumper 1, 2 controls the XPP, XPM signals of the CON2. The couple of jumpers are indicated the type of pulse output signal for X axis. However there are the same jumper settings for Y axis (Jumper 3, 4 for Y axis). The following diagram is shown the selection condition of the jumper 1, 2.
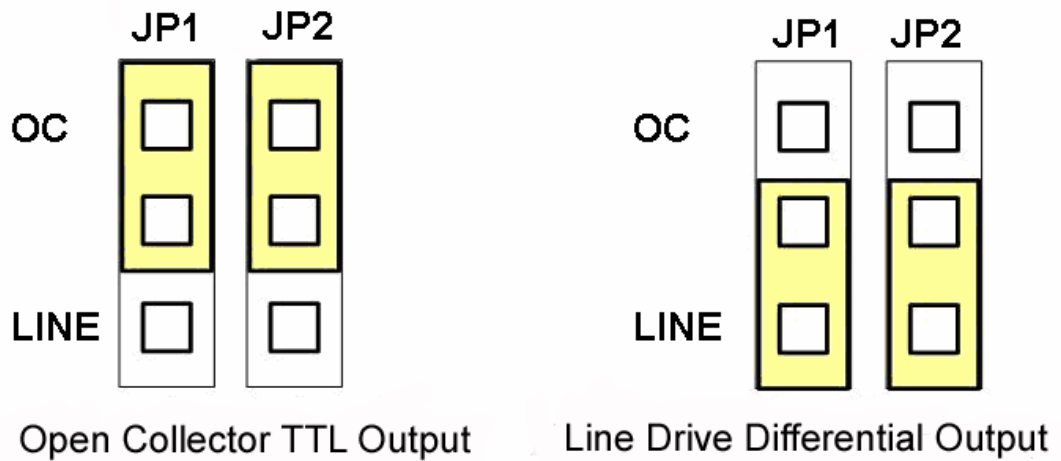

Fig. 3-9 Jumper 1, 2 setting