

# **DN-8237PB Data Sheet**

**(Version 1.1)**

**For Panasonic minas A4 series Amplifier**

# 1 DN-8237-PB Daughter Board

The DN-8237PB is the daughter board for Panasonic A4 Series Amplifier. It has 2-axis I/O signals.

## 1.1 Board Layout for DN-8237-PB

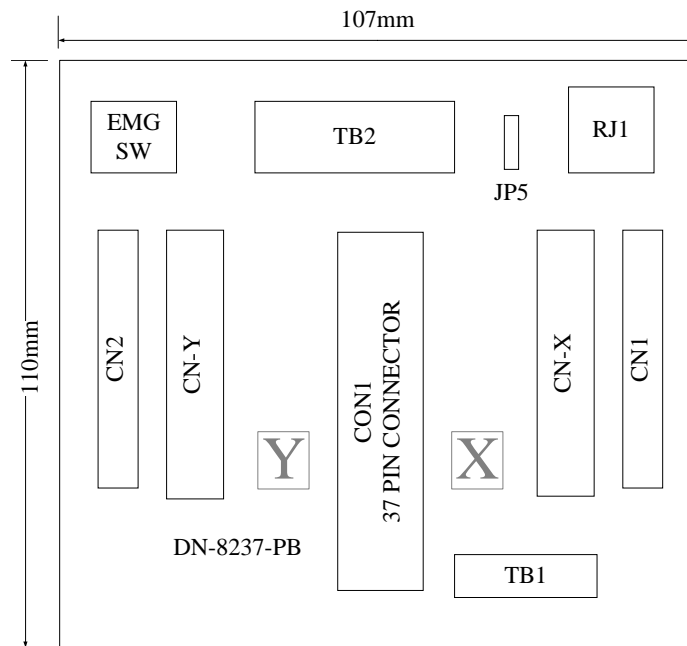


Fig. 3-1 Board layout for the DN-8237-PB

## 1.2 Signal Connections for DN-8237-PB

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-PB 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-PB (or on the motion card), and refer to Table 3-2 for description of each motion I/O signal.

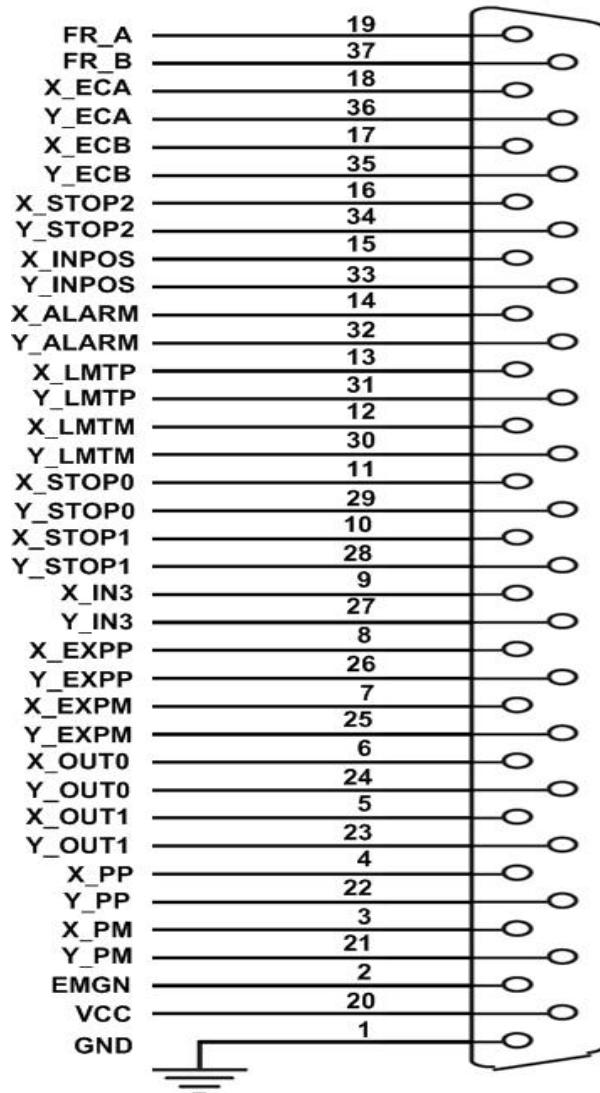


Fig. 3-2 I/O connector pin assignment for the CON1

Table 3-2 DN-8237-PB 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

## ■ TB1

The connector TB1 is 7-pin connector that enables you to connect to the signals of your motor drivers. Fig.1-3 shows the pin assignment for the 7-pin connector on the DN-8237-PB, and the Table 3-3 shows its I/O connector signal description.

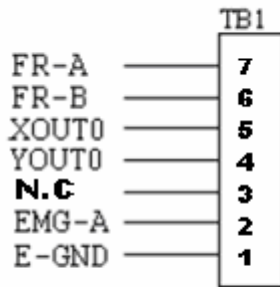


Fig. 1-3 Pin definition for TB1

Table 1-3 TB1 Signal Connection

Name	Description
FR-A	FRnet port A
FR-B	FRnet port B
XOUT0	General Output 0 for X axis
YOUT0	General Output 0 for Y axis
<b>N.C</b>	<b>No Connection</b>
EMG-A	EMG input signal for all axes
E-GND	EXT power ground

## ■ TB2

The connector TB2 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-PB, and the Table 3-4 shows its I/O connector signal description.

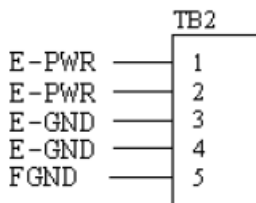


Fig. 3-4 Pin definition for TB2

Table 3-4 TB2 Signal Connection

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.

■ **CN-X & CN-Y (CN X5 connector for each Axis in Driver)**

The connectors CN-X and CN-Y are 50-pin connectors that enable you to connect to the CN X5 connector of Panasonic motor drivers. Fig.3-5 shows the pin assignment for the 50-pin connector on the DN-8468-PB, and the Table 3-5 shows its I/O connector signal description.

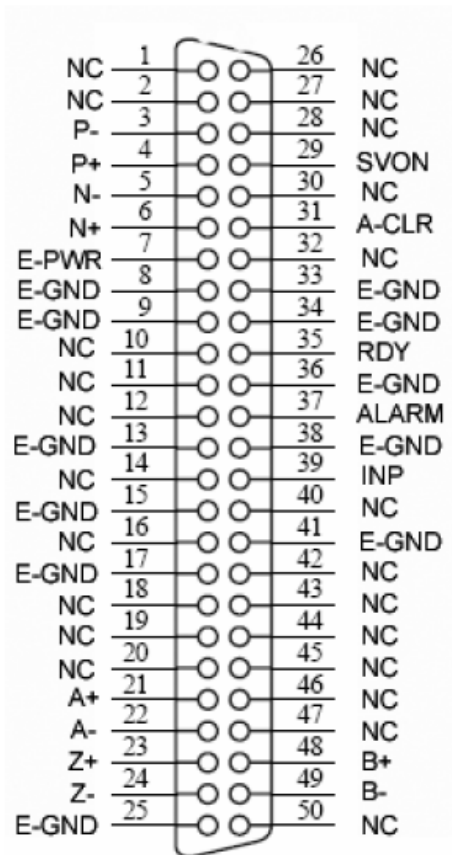


Fig. 3-5 Pin definition for CNX and CNY

Table 3-5 CN X5 Signal Connection

Name	Number	Description
A+	21	Encoder A-Phase (+)
A-	22	Encoder A-Phase (-)
B+	48	Encoder B-Phase (+)
B-	49	Encoder B-Phase (-)
Z+	23	Encoder Z-Phase (+)
Z-	24	Encoder Z-Phase (-)
P+	4	Positive Direction Pulse Output(+)
P-	3	Positive Direction Pulse Output(-)
N+	6	Negative Direction Pulse
N-	5	Negative Direction Pulse Output(-)
INP	39	Servo In Position
RDY	35	Servo Ready
SVON	29	Servo On
A-CLR	31	Alarm Clear
ALARM	37	Servo Alarm
E-PWR	7	EXT power +24V
E-GND	8, 9, 13, 15, 17, 25, 33, 34, 36, 38, 41	EXT power ground
NC	1, 2, 10, 11, 12, 14, 16, 18, 19, 20, 26, 27, 28, 30, 32, 40, 42, 43, 44, 45, 46, 47, 50	No connection

► **Note 1:** Don't connect NC (not connected) signals. Connecting these signals could cause permanent damage to your motion controller.

## ■ CN1& CN2 (The I/O signals of the X and Y axis)

The connectors CN1 and CN2 are 11-pin connectors that enable you to connect to the signals of your motor drivers. Fig.1-6 shows the pin assignment for the 20-pin connector on the DN-8237-PB, and the Table 1-6 shows its I/O connector signal description.

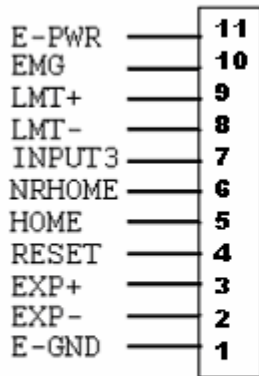


Fig. 1-6 Pin definition for CN1 & CN2

Table 1-6 CN1 & CN2 Signal Connection

Pin name	Description
E-PWR	EXT power supply +24V
EMG	EMG input signal
LMT+	Limit Switch Input Signal (+)
LMT-	Limit Switch Input Signal (-)
INPUT3	Input Signal (IN3)
NRHOME	Near Home Sensor Input Signal
HOME	Home Sensor Input Signal
RESET	Reset input signal
EXP+	EXT Positive Direction Pulse (+)
EXP-	EXT Negative Direction Pulse (-)
E-GND	EXT power ground

## ■ 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.3-7 shows the pin assignment for the 8-pin connector on the DN-8237-PB, and the Table 3-7 shows its I/O connector signal description.

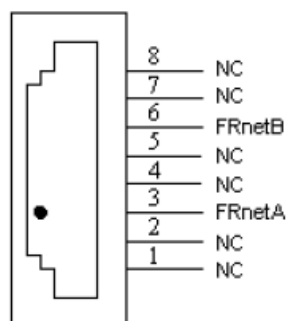


Fig. 3-7 Pin definition for RJ1

Table 3-7 RJ1

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

► **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 TB1 connector. The following diagram is shown the selection condition of the jumper 5.

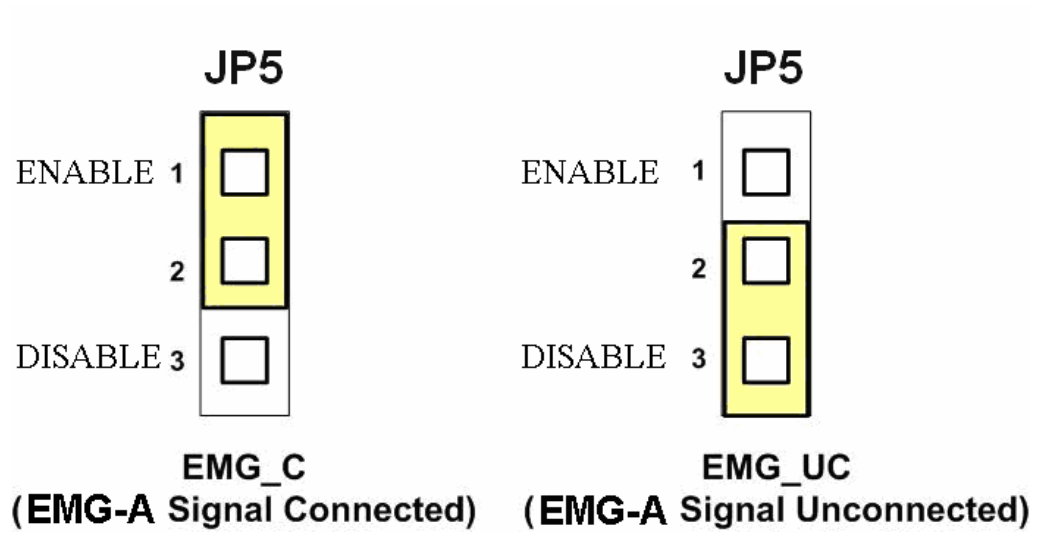


Fig. 3-8 Jumper 5 setting



## ■ SW 1

The emergency stop signal for each servo amplifier 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. 3-9 is the default setting to connect the EMG signals to GND. The EMG signals from CN1 and CN2 will not take effect. If the switch is disconnected as shown in Fig. 3-10, the emergency stop signals can be controlled from EMG signals in CN1 and CN2.

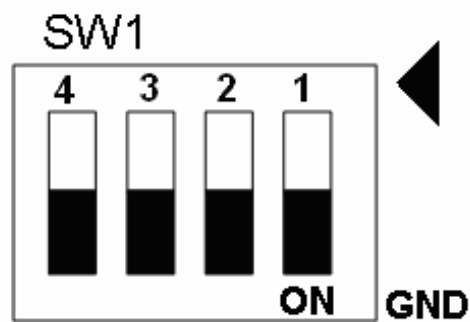


Fig. 3-9 SW1 setting for normally GND (Default setting)

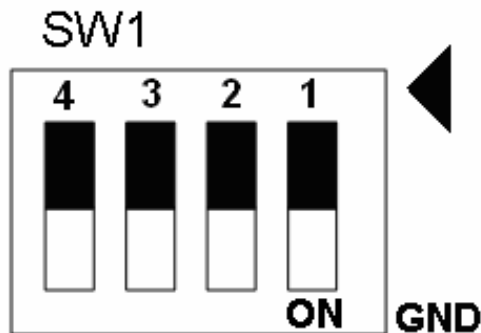


Fig. 3-10 SW1 setting for user controlled signals.