

DN-8468DB Data Sheet

(Version 1.1)

For Delta ASDA-A Type Motor

1 DN-8468DB Daughter Board

The DN-8468DB is the daughter board for Delta ASDA-A Series Amplifier. It has 4-axis I/O signals.

1.1 Board Layout for DN-8468DB

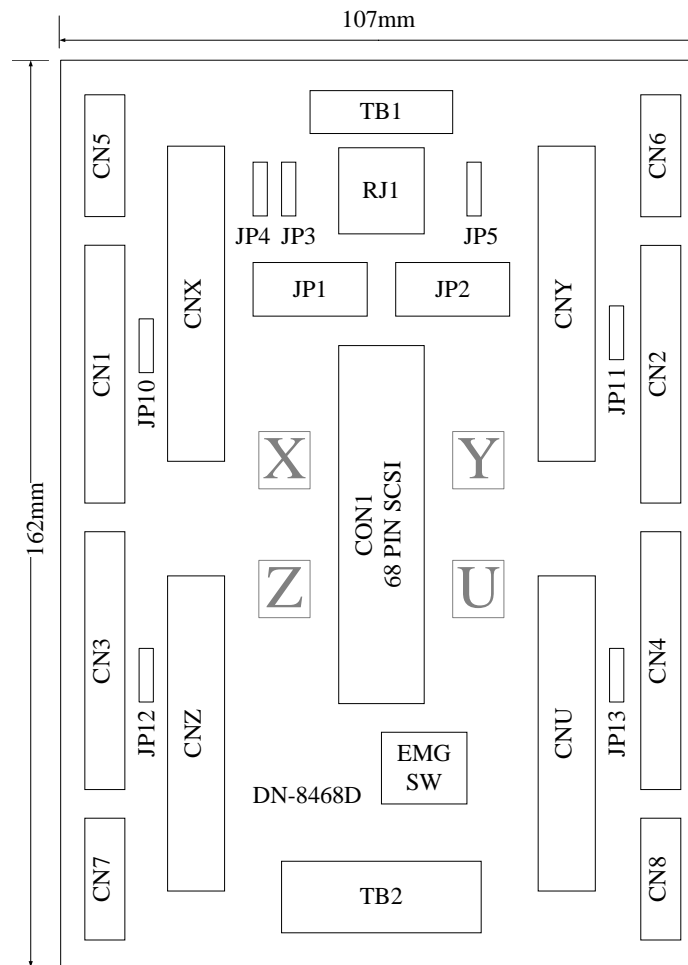


Fig. 3-1 Board layout for the DN-8468DB

1.2 Signal Connections for DN-8468DB

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-8468DB is a 68-pin SCSI II connector that enables you to connect to the I-8094 motion card. Fig. 3-2 shows the pin assignment for the 68-pin I/O connector on the DN-8468DB (or on the I-8094), and refer to Table 3-2, 3-3 for description of each motion I/O signal.

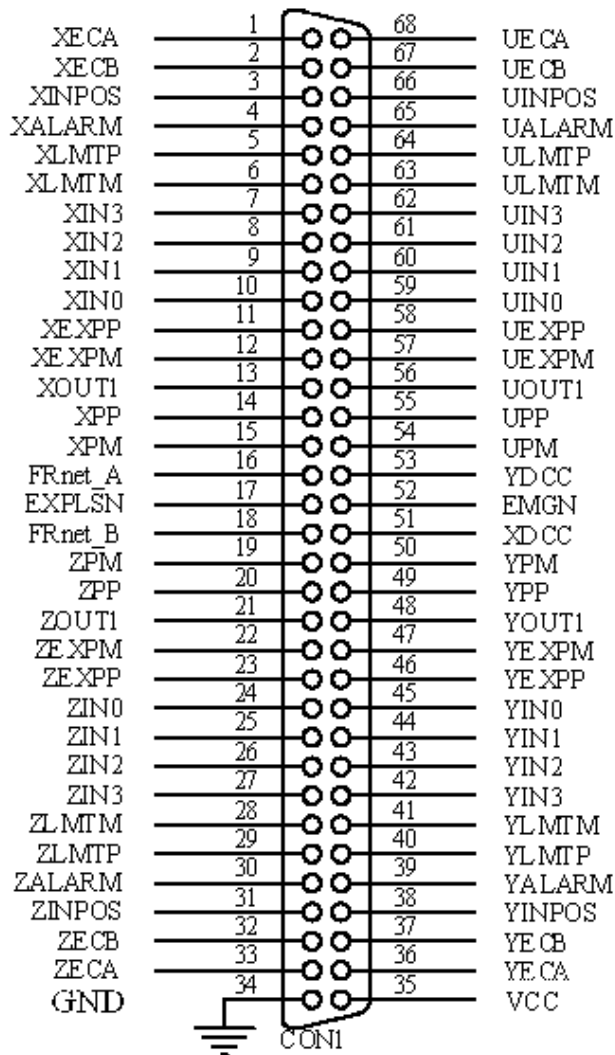


Fig. 3-2 I/O connector pin assignment for the CON1

Table 3-2 DN-8468DB I/O connector signal description (part 1)

Pin name	Pin number	Description
XECA	1	Encoder A-phase signal for X axis
YECA	36	Encoder A-phase signal for Y axis
ZECA	33	Encoder A-phase signal for Z axis
UECA	68	Encoder A-phase signal for U axis
XECB	2	Encoder B-Phase signal for X axis
YECB	37	Encoder B-Phase signal for Y axis
ZECB	32	Encoder B-Phase signal for Z axis
UECB	67	Encoder B-Phase signal for U axis
XINPOS	3	In-position signal for X axis
YINPOS	38	In-position signal for Y axis
ZINPOS	31	In-position signal for Z axis
UINPOS	66	In-position signal for U axis
XALARM	4	Alarm signal for X axis
YALARM	39	Alarm signal for Y axis
ZALARM	30	Alarm signal for Z axis
UALARM	65	Alarm signal for U axis
XLMTM	5	Limit switch input signal (+) for X axis
YLMTM	40	Limit switch input signal (+) for Y axis
ZLMTM	29	Limit switch input signal (+) for Z axis
ULMTM	64	Limit switch input signal (+) for U axis
XLMTM	6	Limit switch input signal (-) for X axis
YLMTM	41	Limit switch input signal (-) for Y axis
ZLMTM	28	Limit switch input signal (-) for Z axis
ULMTM	63	Limit switch input signal (-) for U axis
XIN3	7	Input 3 signal for X axis
YIN3	42	Input 3 signal for Y axis
ZIN3	27	Input 3 signal for Z axis
UIN3	62	Input 3 signal for U axis
XIN2	8	Input 2 signal for X axis
XIN2	43	Input 2 signal for Y axis
XIN2	26	Input 2 signal for Z axis
XIN2	61	Input 2 signal for U axis
XIN1	9	Input 1 signal for X axis
YIN1	44	Input 1 signal for Y axis
ZIN1	25	Input 1 signal for Z axis
UIN1	60	Input 1 signal for U axis
XIN0	10	Input 0 signal for X axis
YIN0	45	Input 0 signal for Y axis
ZIN0	24	Input 0 signal for Z axis
UIN0	59	Input 0 signal for U axis

Table 3-3 DN-8468DB I/O connector signal description (part 2)

Pin name	Pin number	Description
XEXPP	11	EXT pulsar input signal (+) for X axis
YEXPP	46	EXT pulsar input signal (+) for Y axis
ZEXPP	23	EXT pulsar input signal (+) for Z axis
UEXPP	58	EXT pulsar input signal (+) for U axis
XEXPM	12	EXT pulsar input signal (-) for X axis
YEXPM	47	EXT pulsar input signal (-) for Y axis
ZEXPM	22	EXT pulsar input signal (-) for Z axis
UEXPM	57	EXT pulsar input signal (-) for U axis
XDRIVE	13	Driver enable signal for X axis
YDRIVE	48	Driver enable signal for Y axis
ZDRIVE	21	Driver enable signal for Z axis
UDRIVE	56	Driver enable signal for U axis
XPP	14	Driving pulsar signal (+) for X axis
YPP	49	Driving pulsar signal (+) for Y axis
ZPP	20	Driving pulsar signal (+) for Z axis
UPP	55	Driving pulsar signal (+) for U axis
XPM	15	Driving pulsar signal (+) for X axis
YPM	50	Driving pulsar signal (+) for Y axis
ZPM	19	Driving pulsar signal (+) for Z axis
UPM	54	Driving pulsar signal (+) for U axis
XOUT1	16	Output 1 signal for X axis
YOUT1	48	Output 1 signal for Y axis
ZOUT1	21	Output 1 signal for Z axis
UOUT1	56	Output 1 signal for U axis
EXPLSN1	17	EXT pulse input signal for interpolation
EMGN1	52	Emergency stop input signal
FRnetA	16	FRnet port A
FRnetB	18	FRnet port B
XDCC	51	Deviation Counter Clear for X axis
YDCC	53	Deviation Counter Clear for Y axis
GND	34	Ground
VCC	35	External power (12~24V)

■ TB1

The connector TB1 is 7-pin connector that enables you to connect to the signals of your motor drivers. Fig.3-3 shows the pin assignment for the 7-pin connector on the DN-8468DB, and the Table 3-4 shows its I/O connector signal description.

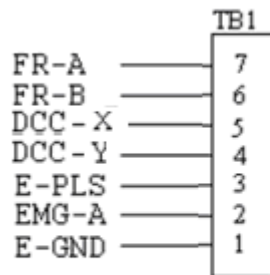


Fig. 1-3 Pin definition for TB1

Table 1-4 TB1 Signal Connection

Name	Description
FR-A	FRnet port A
FR-B	FRnet port B
DCC - X	Deviation Counter Clear for X axis
DCC - Y	Deviation Counter Clear for Y axis
E-PLS	EXT pulse signal
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-8468DB, and the Table 3-5 shows its I/O connector signal description.

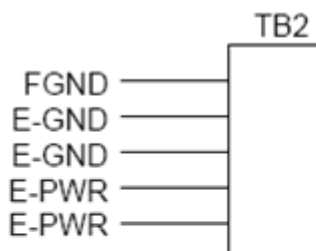


Fig. 1-4 Pin definition for TB2

Table 1-5 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.

■ **CNX, CNY, CNZ, CNU (CN 1 connector for each AXIS in Driver)**

The connectors CNX, CNY, CNZ, and CNU are 50-pin connectors that enable you to connect to the CN1 connector of Delta ASDA-A series motor drivers. Fig.3-5 shows the pin assignment for the 50-pin connector on the DN-8468DB, and the Table 3-6 shows its I/O connector signal description.

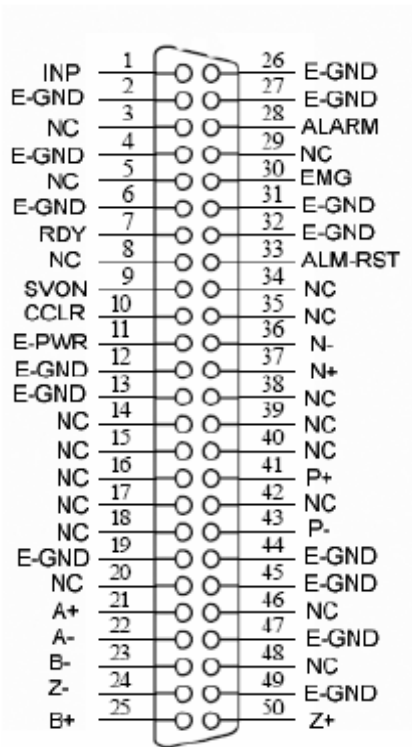


Fig. 3-5 Pin definition for CNX, CNY, CNZ, CNU

Table 3-6 CN 1 Signal Connection

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

- ▶ **Note 1:** There are two sets encoder signals for X and Y axes. In X axis, one is from CNX and the other is from CN5. In Y axis, one is from CNY and the other is from CN6. Users can select encoder signals from JP1 and JP2, respectively.
- ▶ **Note 2:** In Z and U axes, only one set of encoder signals is used for each axis. In Z axis, do not connect CNZ and CN7 at the same time. In U axis, do not connect CNU and CN8 at the same time.
- ▶ **Note 3 :** Don't connect NC (not connected) signals. Connecting these signals could cause permanent damage to your motion controller.

■ CN1~CN4 (The I/O signals of the X, Y, Z, U AXIS)

The connectors CN1~CN4 are 11-pin connectors that enable you to connect to the signals of your motor drivers. Fig.1-7 shows the pin assignment for the 20-pin connector on the DN-8468DB, and the Table 3-8 shows its I/O connector signal description.

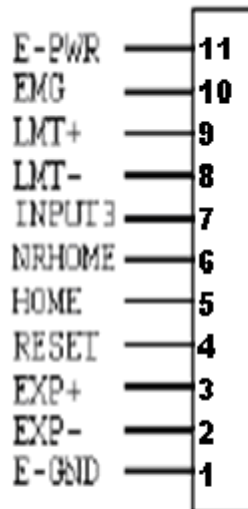


Fig.1-7 Pin definition for CN1 ~ CN4

Table 3-8 CN1~4 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

■ CN5~CN8 (The I/O signals of the X, Y, Z, U AXIS)

The connectors CN5~CN8 are 15-pin connectors that enable users to connect the signals to external motor drivers. Fig.3-8 shows the pin assignment for the 15-pin connector on the DN-8468DB, and the Table 3-9 shows its I/O connector signal description.

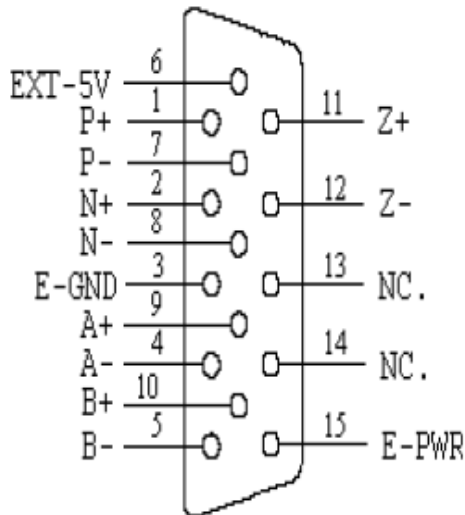


Fig. 3-8 Pin definition for CN5 ~ CN8

Table 3-9 CN5~8

Name	No.	Description
A+	9	Encoder A-Phase (+)
A-	4	Encoder A-Phase (-)
B+	10	Encoder B-Phase (+)
B-	5	Encoder B-Phase (-)
Z+	11	Encoder Z-Phase (+)
Z-	12	Encoder Z-Phase (-)
P+	1	Positive Direction Pulse Output(+)
P-	7	Positive Direction Pulse Output(-)
N+	2	Negative Direction Pulse Output(+)
N-	8	Negative Direction Pulse Output(-)
E-PWR	15	EXT power +24V
E-GND	3	EXT power ground
EXT-5V	6	EXT power +5V
NC	13, 14	No connection

- ▶ **Note 1:** There are two sets encoder signals for X and Y axes. In X axis, one is from CNX and the other is from CN5. In Y axis, one is from CNY and the other is from CN6. Users can select encoder signals from JP1 and JP2, respectively.
- ▶ **Note 2:** In Z and U axes, only one set of encoder signals is used for each axis. In Z axis, do not connect CNZ and CN7 at the same time. In U axis, do not connect CNU and CN8 at the same time.
- ▶ **Note 3 :** Don't connect NC (not connected) signals. Connecting these signals could cause permanent damage to your motion controller.

■ 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.3-9 shows the pin assignment for the 8-pin connector on the DN-8468DB, and the Table 3-10 shows its I/O connector signal description.

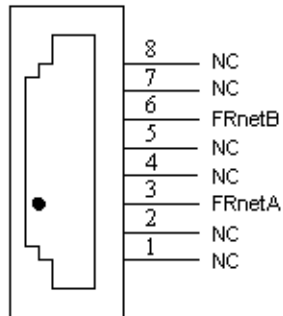


Table 3-10 RJ1

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

Fig. 3-9 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 TB1 connector. The following diagram is shown the selection condition of the jumper 5.

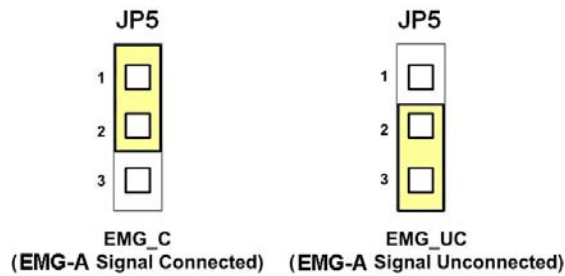


Fig. 3-10 Jumper 5 setting

■ JP1, JP2

The encoder signals of axis X and axis Y can be chosen from servo driver encoder or external encoder. Fig. 3-11 shows that the encoder signals are selected from servo driver encoder. In meantime, Fig. 3-12 shows that the encoder signals are selected from external encoder.

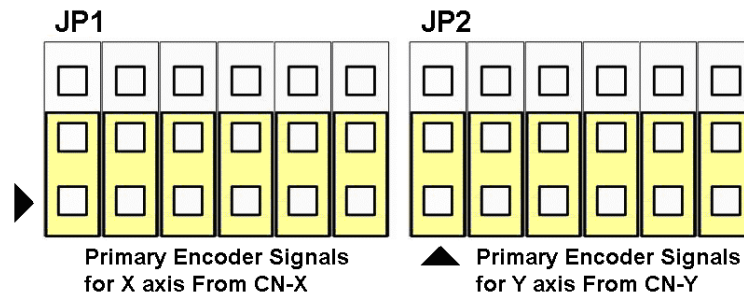


Fig. 3-11 Primary encoder signals setting

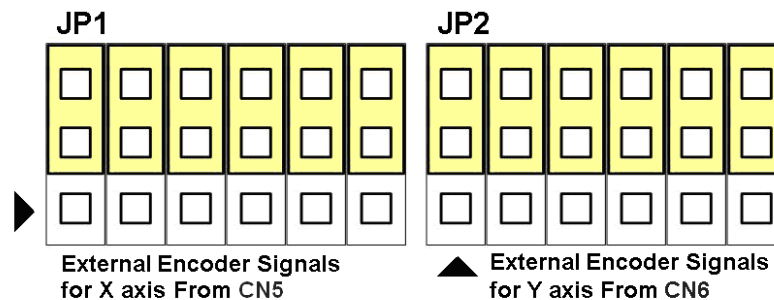


Fig. 3-12 External encoder signals setting

■ SW1

The emergency stop signal for each servo amplifier can be selected from SW1. The number 1, 2, 3, 4 on SW1 are denoted as axis X, Y, Z, U, respectively. Fig. 3-13 is the default setting to connect the EMG signals to GND. The EMG signals from CN1 ~ CN4 will not take effect. If the switch is disconnected as shown in Fig. 3-14, the emergency stop signals can be controlled from EMG signals in CN1 ~ CN4.

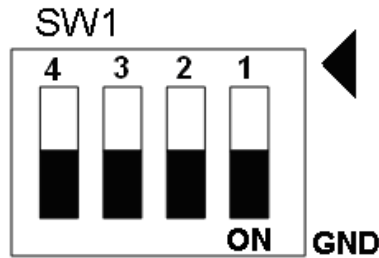


Fig. 3-13 SW1 setting for normally GND (Default setting)

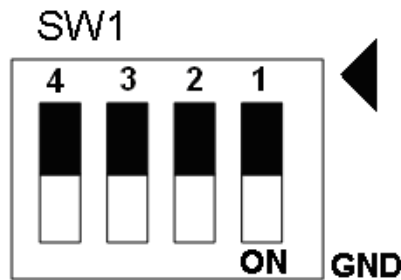


Fig. 3-14 SW1 setting for user controlled signals.

■ JP10 ~ JP13

Jumper 10 ~ Jumper 13 can select the reset function in CN1 ~ CN4 for each axis. The following diagram is shown the selection condition of the JP10.

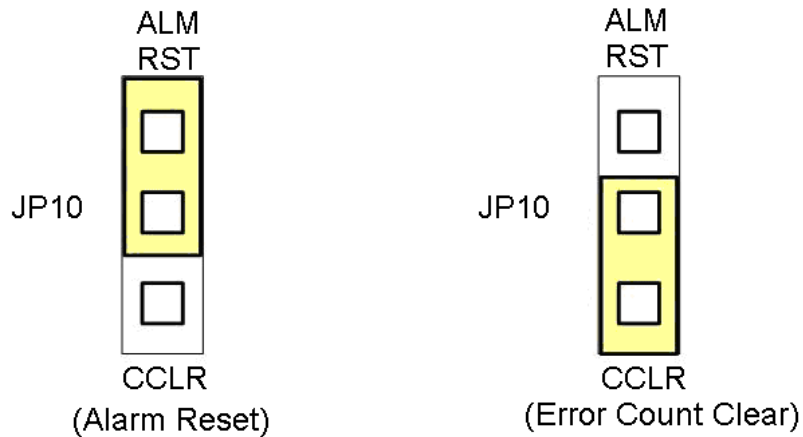


Fig. 3-15 JP 10 ~ 13 setting