

# Digital Encoder Dist8. Board 매뉴얼



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Rev. 0.10

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(Preliminary)

Digital Encoder Distribution Board(P/N: 9118-00-055-x)는 하나의 Digital Encoder 입력을 8개의 Digital Encoder 로 분배하여 주는 보드 입니다.

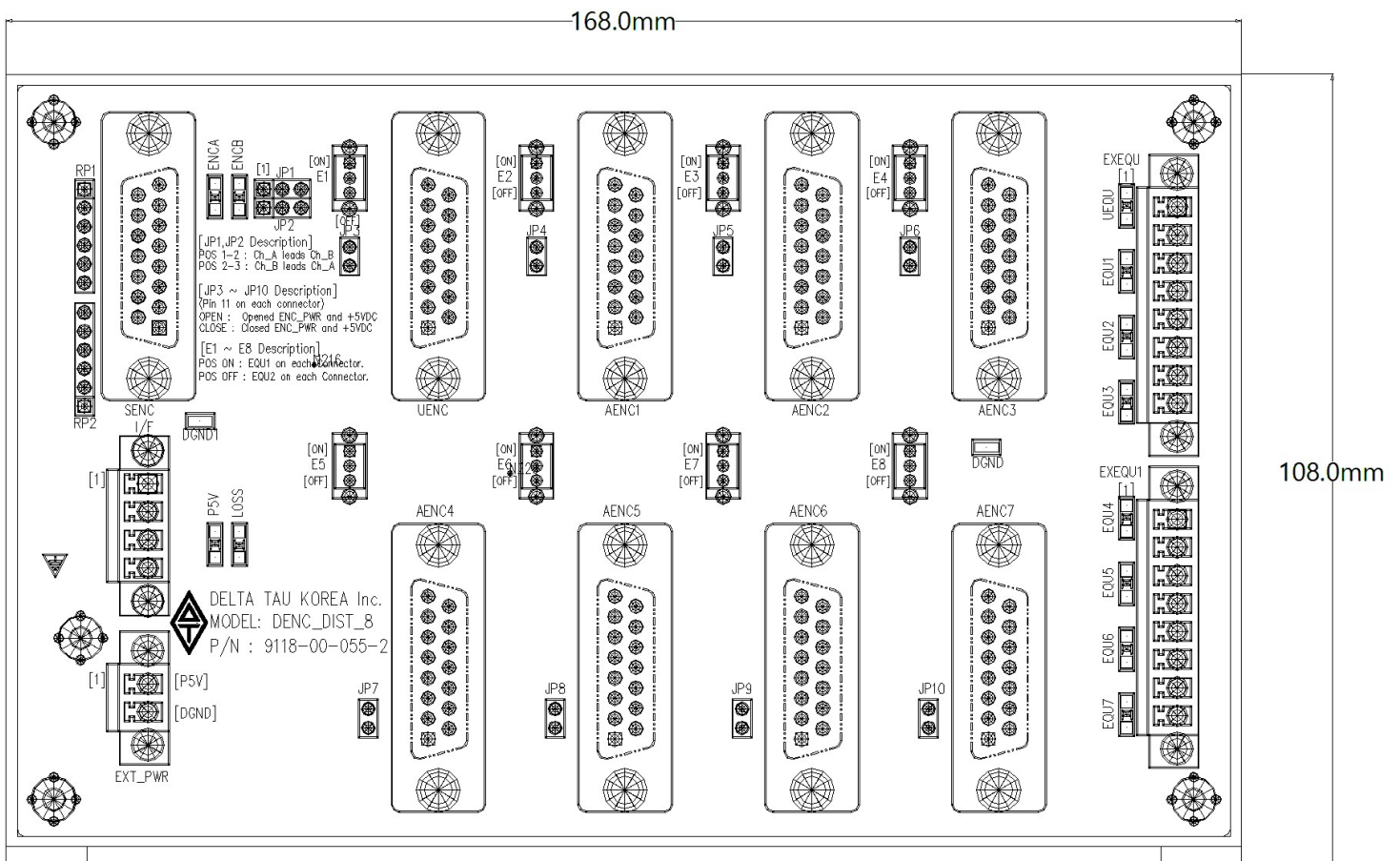
### 주요특징

1. Buffered Schmitt EQU 신호 내장
2. Encoder Loss Detection 회로 내장

\* 입력전원 : **DC5V(1A)**

\* Dimension : 168 x 108mm (W \* H) – Din Rail 장착 가능

### Layout 및 설치 Dimension



## 콘넥터 설명(개요)

1. **SENC** : Source Encoder 입력 .
2. **UENC** : 엔코더 출력 1 , UMAC 사용시 ACC24Ex 계열 Board와 핀맵이 같습니다.
3. **AENC 1 ~ 7** : 엔코더 출력 2`8 콘넥터
4. **EXT PWR** : Board 구동 용 전원 콘넥터.
5. **I/F** :Encoder Loss Detection 신호 출력 콘넥터
6. **EXEQU/EXEQU1** : Buffered EQU 출력 콘넥터

## JUMPER SETTING

\*\* 보드의 안정된 동작에 관련된 중요한 내용입니다. 반드시 이해가 필요합니다.

JUMPER	Description	DEFAULT
JP1 ~2	Encoder 방향 변경 <b>JP1/2를 반드시 같은 위치에 있어야 합니다.</b>	1-2

JUMPER	Description	DEFAULT
JP3 ~10	Encoder 전원 선택 Jmuper CLOSE: (CONNECTOR 보드 전원 입력 받음 )	<b>Jumper 없음.</b> <b>(EXT PWR 에 전원 공급 필요)</b>

Slide SW	Description	DEFAULT
E1	UNC EQU 신호 선택 SW (PIN 15,EQU1/ PIN8, EQU2)	<b>EXEQU CONN.참조</b>
E2	AENC1 EQU 신호 선택 SW (PIN 15,EQU1/ PIN8, EQU2)	
E3	AENC2 EQU 신호 선택 SW (PIN 15,EQU1/ PIN8, EQU2)	
E4	AENC3 EQU 신호 선택 SW (PIN 15,EQU1/ PIN8, EQU2)	
E5	AENC4 EQU 신호 선택 SW (PIN 15,EQU1/ PIN8, EQU2)	<b>EXEQU1 CONN.참조</b>
E6	AENC5 EQU 신호 선택 SW (PIN 15,EQU1/ PIN8, EQU2)	
E7	AENC6 EQU 신호 선택 SW (PIN 15,EQU1/ PIN8, EQU2)	
E8	AENC7 EQU 신호 선택 SW (PIN 15,EQU1/ PIN8, EQU2)	

## Terminal Block Description

### SENC (PCB\_Side : DSUB 15Pin Female ,Cable\_Side DSUB 15Pin Male)

Pin	Symbol	Function	Description	Note
1	N.C			
2	Hall V	Input	Hall Sensor V Phase	(Source)
3	DGND	Output		
4	CHC/	Input	ENCODER C CH.NEGATIVE	(Source)
5	CHB/	Input	ENCODER B CH.NEGATIVE	(Source)
6	CHA/	Input	ENCODER A CH.NEGATIVE	(Source)
7	DGND	Output		
8	N.C			
9	Hall W	Input	Hall Sensor W Phase	(Source)
10	Hall U	Input	Hall Sensor U Phase	(Source)
11	+5VDC	Output	Power for Encoder	
12	CHC	Input	ENCODER C CH.POSITIVE	(Source)
13	CHB	Input	ENCODER B CH.POSITIVE	(Source)
14	CHA	Input	ENCODER A CH.POSITIVE	(Source)
15	N.C			

### UENC (PCB\_Side : DSUB 15Pin Male ,Cable\_Side DSUB 15pin Female)

Pin	Symbol	Function	Description	Note
1	N.C			
2	Hall V	Output	Hall Sensor V Phase	
3	DGND	Output		
4	CHC1/	Output	ENCODER C CH.NEGATIVE	
5	CHB1/	Output	ENCODER B CH.NEGATIVE	
6	CHA1/	Output	ENCODER A CH.NEGATIVE	
7	DGND	Output		
8	BEQU2	Input	Position Compare2 Input	
9	Hall W	Output	Hall Sensor W Phase	
10	Hall U	Output	Hall Sensor U Phase	
11	ENC_PWR	Input/Output		JP3 과 관련됨
12	CHC1	Output	ENCODER C CH.POSITIVE	
13	CHB1	Output	ENCODER B CH.POSITIVE	
14	CHA1	Output	ENCODER A CH.POSITIVE	
15	BEQU1	Input	Position Compare1 Input	

**AENC1 (PCB\_Side : DSUB 15Pin Male ,Cable\_Side DSUB 15pin Female)**

Pin	Symbol	Function	Description	Note
1	N.C			
2	N.C			
3	DGND	Output		
4	CHC2/	Output	ENCODER C CH.NEGATIVE	
5	CHB2/	Output	ENCODER B CH.NEGATIVE	
6	CHA2/	Output	ENCODER A CH.NEGATIVE	
7	DGND	Output		
8	BEQU2	Input	Position Compare2 Input	
9	N.C			
10	N.C			
11	ENC_PWR	Input/Output		JP4과 관련됨
12	CHC2	Output	ENCODER C CH.POSITIVE	
13	CHB2	Output	ENCODER B CH.POSITIVE	
14	CHA2	Output	ENCODER A CH.POSITIVE	
15	BEQU1	Input	Position Compare1 Input	

**AENC2 (PCB\_Side : DSUB 15Pin Male ,Cable\_Side DSUB 15pin Female)**

Pin	Symbol	Function	Description	Note
1	N.C			
2	N.C			
3	DGND	Output		
4	CHC3/	Output	ENCODER C CH.NEGATIVE	
5	CHB3/	Output	ENCODER B CH.NEGATIVE	
6	CHA3/	Output	ENCODER A CH.NEGATIVE	
7	DGND	Output		
8	BEQU2	Input	Position Compare2 Input	
9	N.C			
10	N.C			
11	ENC_PWR	Input/Output		JP5과 관련됨
12	CHC3	Output	ENCODER C CH.POSITIVE	
13	CHB3	Output	ENCODER B CH.POSITIVE	
14	CHA3	Output	ENCODER A CH.POSITIVE	
15	BEQU1	Input	Position Compare1 Input	

**AENC3 (PCB\_Side : DSUB 15Pin Male ,Cable\_Side DSUB 15pin Female)**

Pin	Symbol	Function	Description	Note
1	N.C			
2	N.C			
3	DGND	Output		
4	CHC4/	Output	ENCODER C CH.NEGATIVE	
5	CHB4/	Output	ENCODER B CH.NEGATIVE	
6	CHA4/	Output	ENCODER A CH.NEGATIVE	
7	DGND	Output		
8	BEQU2	Input	Position Compare2 Input	
9	N.C			
10	N.C			
11	ENC_PWR	Input/Output		JP6과 관련됨
12	CHC4	Output	ENCODER C CH.POSITIVE	
13	CHB4	Output	ENCODER B CH.POSITIVE	
14	CHA4	Output	ENCODER A CH.POSITIVE	
15	BEQU1	Input	Position Compare1 Input	

**AENC4 (PCB\_Side : DSUB 15Pin Male ,Cable\_Side DSUB 15pin Female)**

Pin	Symbol	Function	Description	Note
1	N.C			
2	N.C			
3	DGND	Output		
4	CHC5/	Output	ENCODER C CH.NEGATIVE	
5	CHB5/	Output	ENCODER B CH.NEGATIVE	
6	CHA5/	Output	ENCODER A CH.NEGATIVE	
7	DGND	Output		
8	BEQU2	Input	Position Compare2 Input	
9	N.C			
10	N.C			
11	ENC_PWR	Input/Output		JP7과 관련됨
12	CHC5	Output	ENCODER C CH.POSITIVE	
13	CHB5	Output	ENCODER B CH.POSITIVE	
14	CHA5	Output	ENCODER A CH.POSITIVE	
15	BEQU1	Input	Position Compare1 Input	

**AENC5 (PCB\_Side : DSUB 15Pin Male ,Cable\_Side DSUB 15pin Female)**

Pin	Symbol	Function	Description	Note
1	N.C			
2	N.C			
3	DGND	Output		
4	CHC6/	Output	ENCODER C CH.NEGATIVE	
5	CHB6/	Output	ENCODER B CH.NEGATIVE	
6	CHA6/	Output	ENCODER A CH.NEGATIVE	
7	DGND	Output		
8	BEQU2	Input	Position Compare2 Input	
9	N.C			
10	N.C			
11	ENC_PWR	Input/Output		JP8과 관련됨
12	CHC6	Output	ENCODER C CH.POSITIVE	
13	CHB6	Output	ENCODER B CH.POSITIVE	
14	CHA6	Output	ENCODER A CH.POSITIVE	
15	BEQU1	Input	Position Compare1 Input	

**AENC6 (PCB\_Side : DSUB 15Pin Male ,Cable\_Side DSUB 15pin Female)**

Pin	Symbol	Function	Description	Note
1	N.C			
2	N.C			
3	DGND	Output		
4	CHC7/	Output	ENCODER C CH.NEGATIVE	
5	CHB7/	Output	ENCODER B CH.NEGATIVE	
6	CHA7/	Output	ENCODER A CH.NEGATIVE	
7	DGND	Output		
8	BEQU2	Input	Position Compare2 Input	
9	N.C			
10	N.C			
11	ENC_PWR	Input/Output		JP9과 관련됨
12	CHC7	Output	ENCODER C CH.POSITIVE	
13	CHB7	Output	ENCODER B CH.POSITIVE	
14	CHA7	Output	ENCODER A CH.POSITIVE	
15	BEQU1	Input	Position Compare1 Input	

**AENC7 (PCB\_Side : DSUB 15Pin Male ,Cable\_Side DSUB 15pin Female)**

Pin	Symbol	Function	Description	Note
1	N.C			
2	N.C			
3	DGND	Output		
4	CHC8/	Output	ENCODER C CH.NEGATIVE	
5	CHB8/	Output	ENCODER B CH.NEGATIVE	
6	CHA8/	Output	ENCODER A CH.NEGATIVE	
7	DGND	Output		
8	BEQU2	Input	Position Compare2 Input	
9	N.C			
10	N.C			
11	ENC_PWR2	Input/Output		JP10과 관련됨
12	CHC8	Output	ENCODER C CH.POSITIVE	
13	CHB8	Output	ENCODER B CH.POSITIVE	
14	CHA8	Output	ENCODER A CH.POSITIVE	
15	BEQU1	Input	Position Compare Input	

**EXT\_PWR(2 PIN TERMINAL B'LK)**

Pin	Symbol	Function	Description	Note
1	P5V	Input	+5V SUPPLY	
2	DGND	Input	Ground	

**I/F\_(4 PIN TERMINAL B'LK)**

Pin	Symbol	Function	Description	Note
1	ENC_ERR+	Output	Encoder Loss시 출력	차동 출력
2	ENC_ERR-	Output	Encoder Loss시 출력	
3	N.C			
4	DGND	Output	Ground	

**EXEQU\_(8 PIN TERMINAL B'LK)**

Pin	Symbol	Function	Description	Note
1	UENC EQU	Output	UENC CONNECTOR EQU	
2	DGND	Output	Ground	
3	AENC1 EQU	Output	AENC1 CONNECTOR EQU	
4	DGND	Output	Ground	
5	AENC2 EQU	Output	AENC2 CONNECTOR EQU	



6	DGND	Output	Ground	
7	AENC3 EQU	Output	AENC3 CONNECTOR EQU	
8	DGND	Output	Ground	

**EXEQU1\_(8 PIN TERMINAL B'LK)**

Pin	Symbol	Function	Description	Note
1	AENC4 EQU	Output	AENC4 CONNECTOR EQU	
2	DGND	Output	Ground	
3	AENC5 EQU	Output	AENC5 CONNECTOR EQU	
4	DGND	Output	Ground	
5	AENC6 EQU	Output	AENC6 CONNECTOR EQU	
6	DGND	Output	Ground	
7	AENC7 EQU	Output	AENC7 CONNECTOR EQU	
8	DGND	Output	Ground	