

L-Titrator MAIN BOARD

Version 0.1

SCHEMATICS PAGE DESCRIPTIONS

P01: COVER
P02: BLOCK DIAGRAM
P03: REVISION HISTORY
P04: DAC
P05: POWER/PARALLEL_IN_OUT
P06: TEMP/24VOUT/BLDC
P07: UART
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INPUT POWER SUPPLY RATING

+24VDC: INPUT
+12VDC : 1A (Max)
+7VDC : not use
+A5V : 100mA (Max)
+D5V : 800mA (Max)
+3.3VDC : 800mA (Max)

INDICATION LED for SYSTEM POWER

LED5 : RED(D3.3V)

BOARD TYPE & REVISION

SW2 : TYPE
SW3 : REVISION

TOP SILK

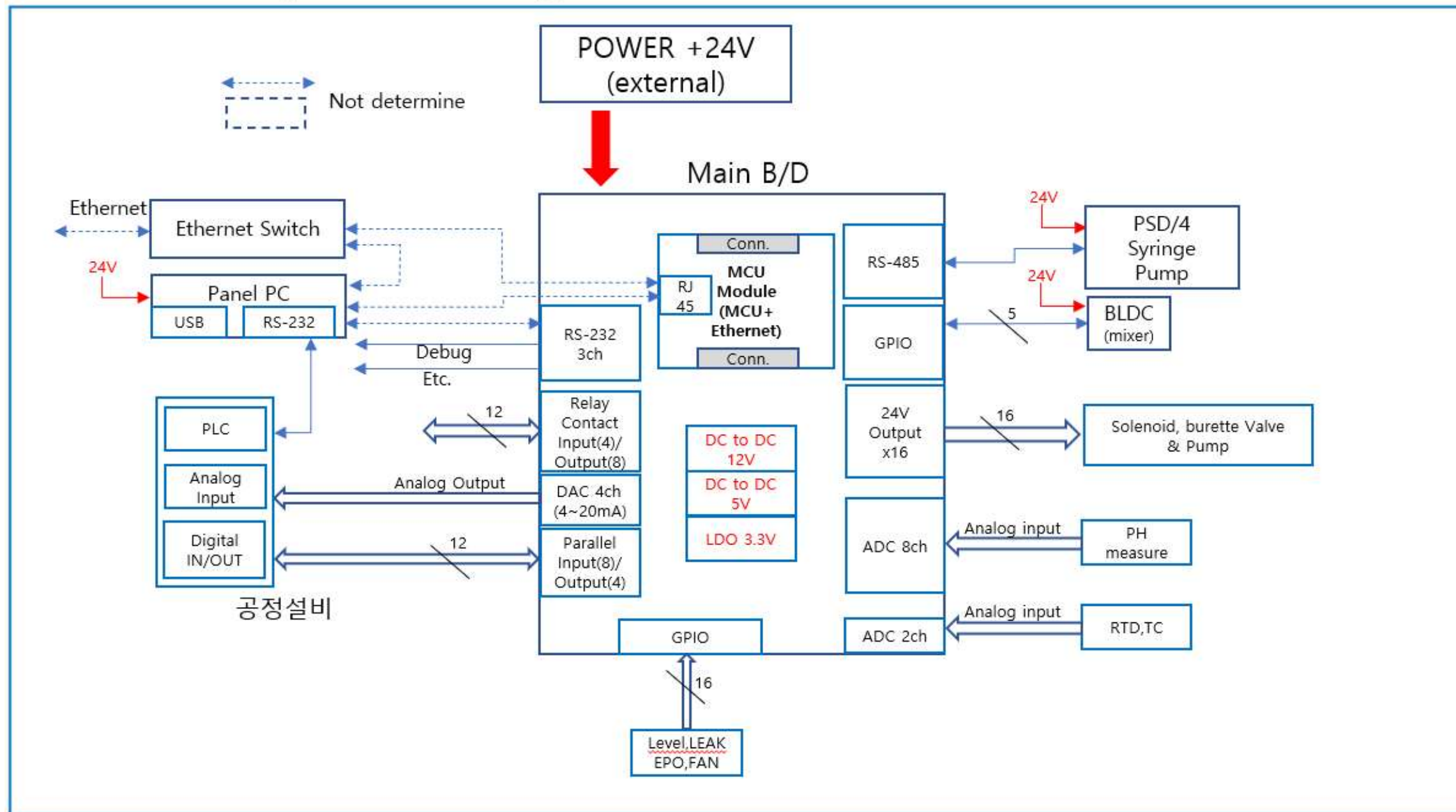
ATiK Logo	ATiK Co., Ltd ASS'Y: L-Titrator Main Rev0.1 Date : 2021.12.01 S/N : <input type="text"/>
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Bottom Silk
- L-Titrator Main, Rev0.1

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2021.12.01

L-Titrator Simple Block Diagram

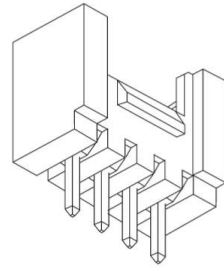


Revision History

[illegible]

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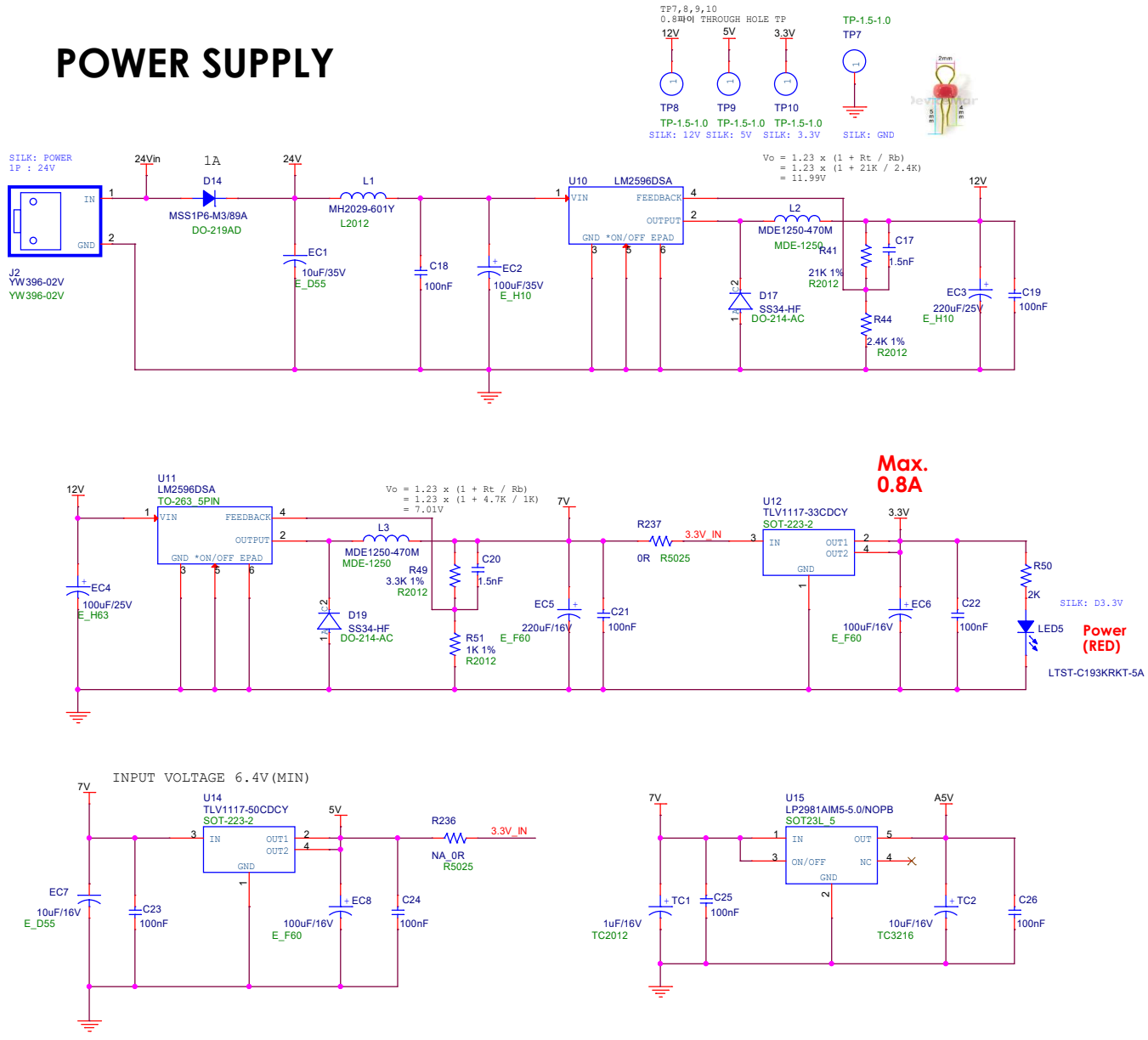
DAC 4채널 공급설비와 연결
APMi ISOLATION 적용 안됨



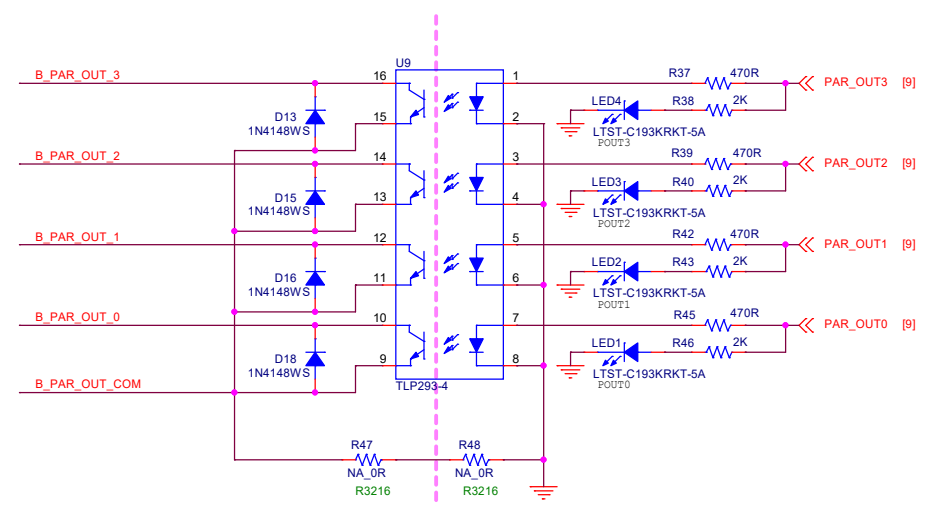
```
SILK:4~20mA OUT
1P : 1 +
2P : 1 -
3P : 2 +
4P : 2 -
5P : 3 +
6P : 3 -
7P : 4 +
8P : 4 -
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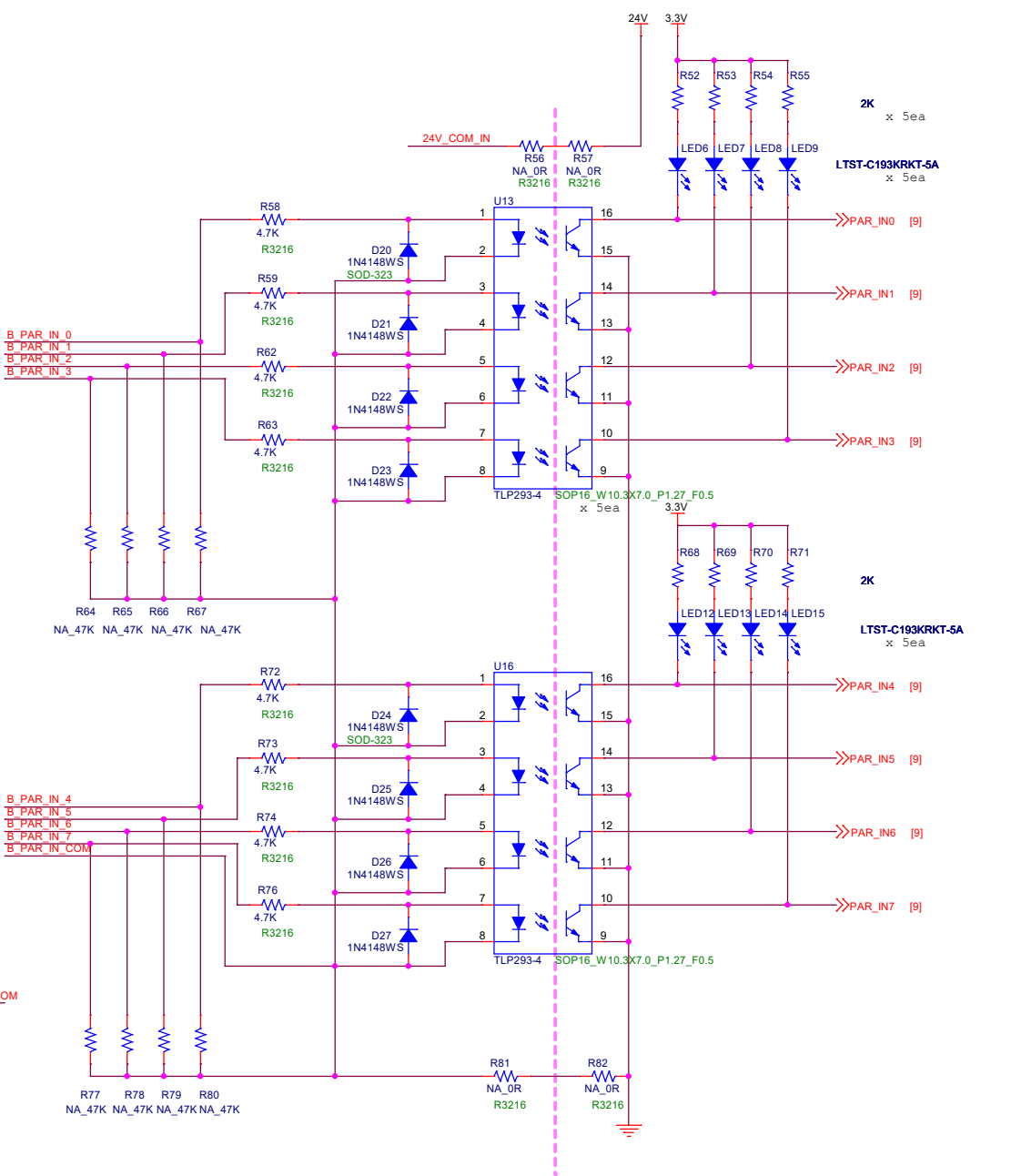
POWER SUPPLY



Parallel IN : 8 Ports
(24V Drive input)
Parallel OUT : 4 Ports

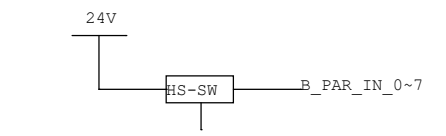


Isolation Barrier

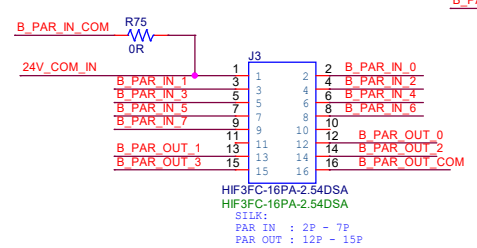


Isolation Barrier

24V DRIVE INPUT 경우(Default, Isolation)
Ass'y : R47
N.A : R57, R58, R90, R91, R64~67, R86~89

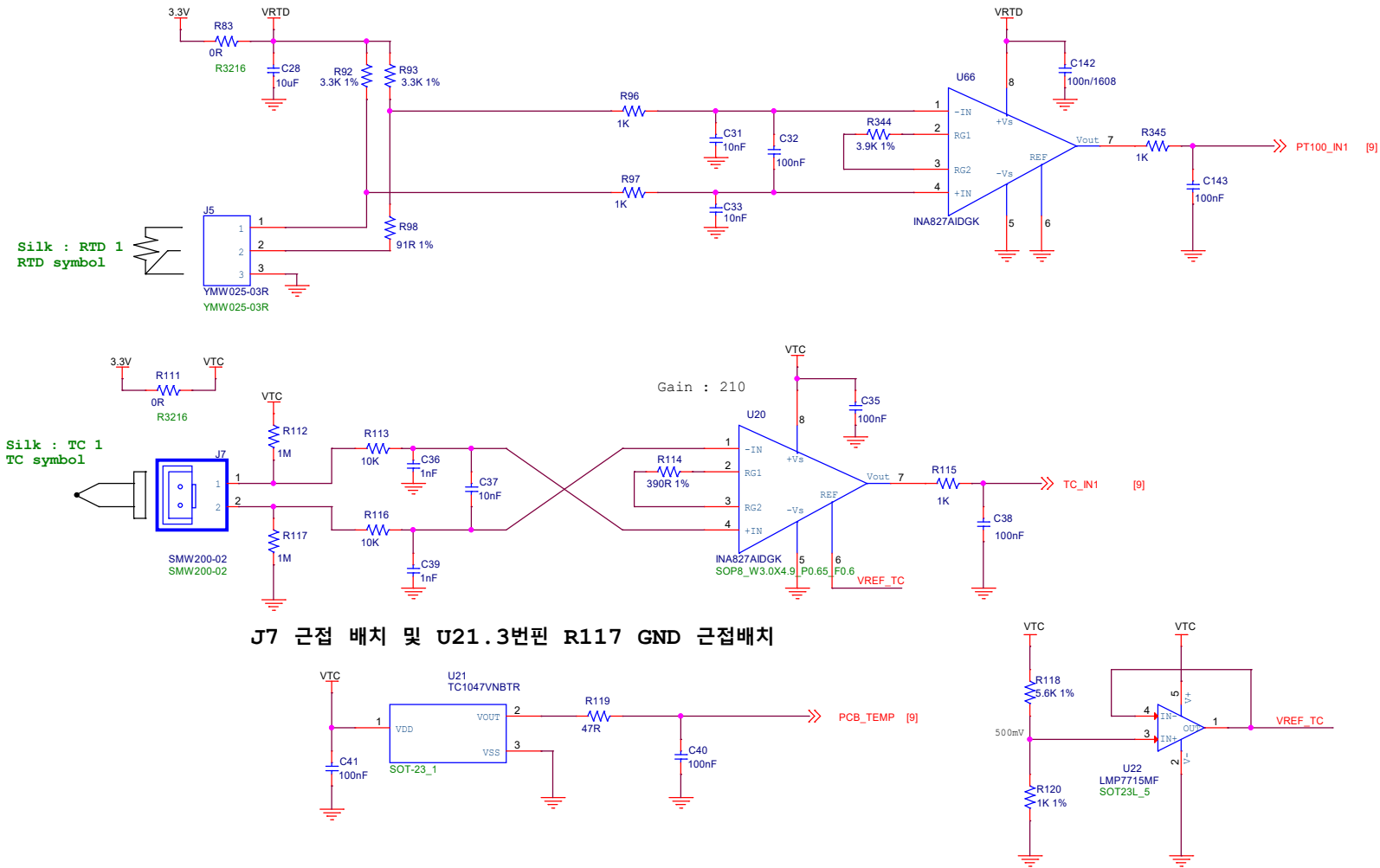


RELAY CONTACT INPUT 경우(OPTION, non-Isolation)
Ass'y : R57, R58, R90, R91, R64~67, R86~89
N.A : R47

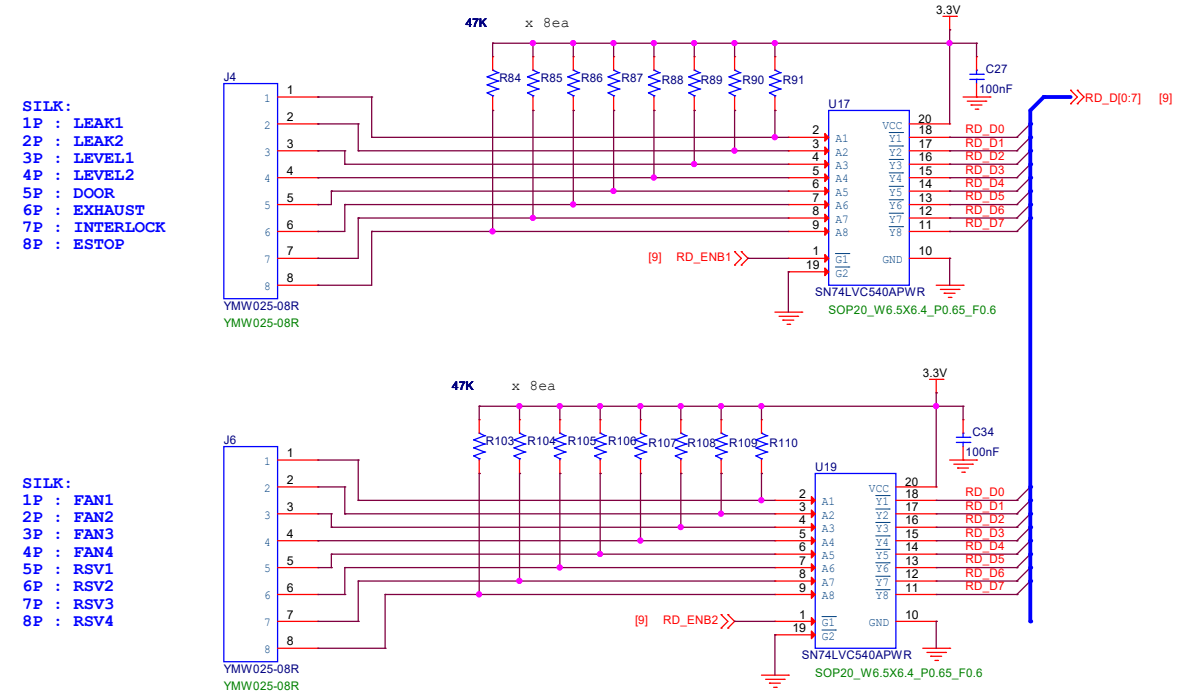


R,L,C,LED 사이즈 미표기 --> 1608 (Metric)

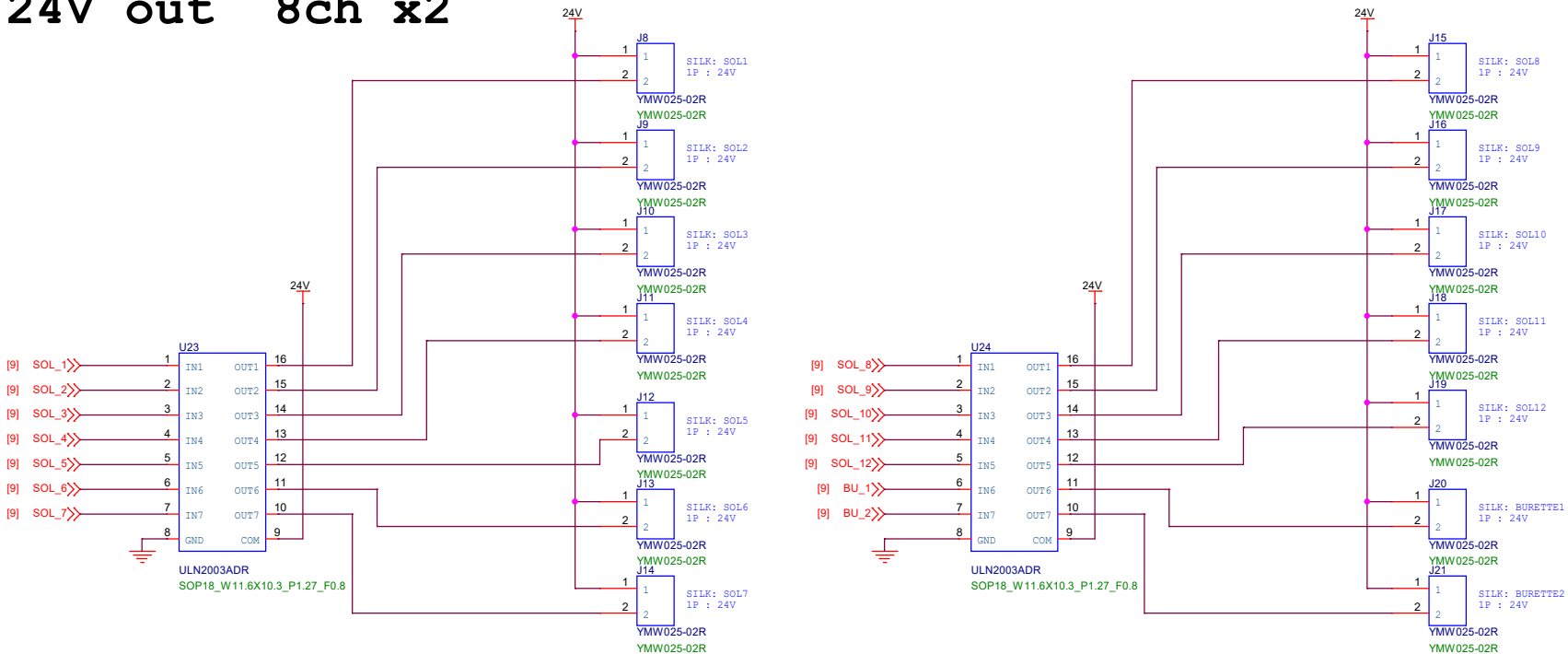
PT100(RTD) & TC SENSOR
- External ADC : PT100 CH#1, TC K-TYPE CH#2



SENSOR/FAN INPUT

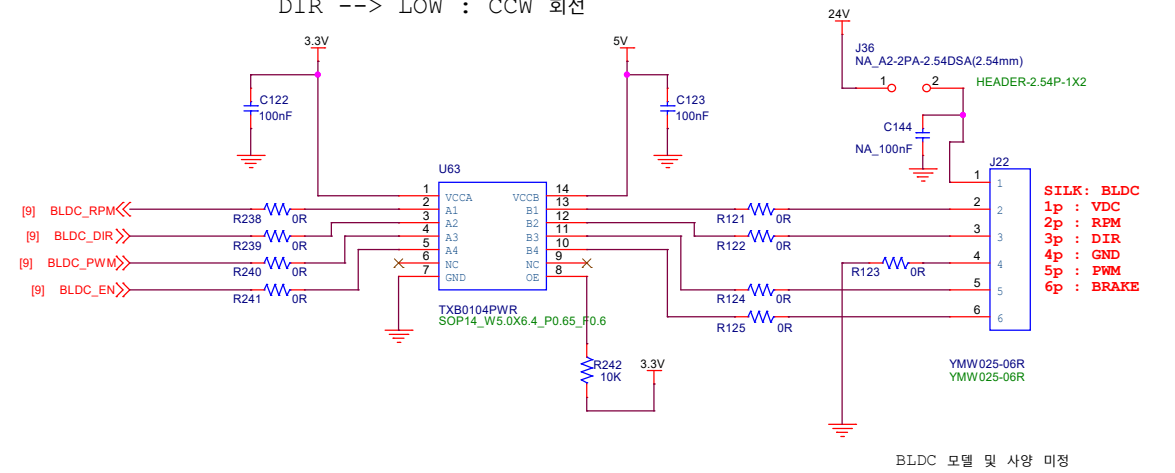


24V out 8ch x2



BLDC

PWM --> LOW : FULL SPEED
DIR --> LOW : CCW 회전



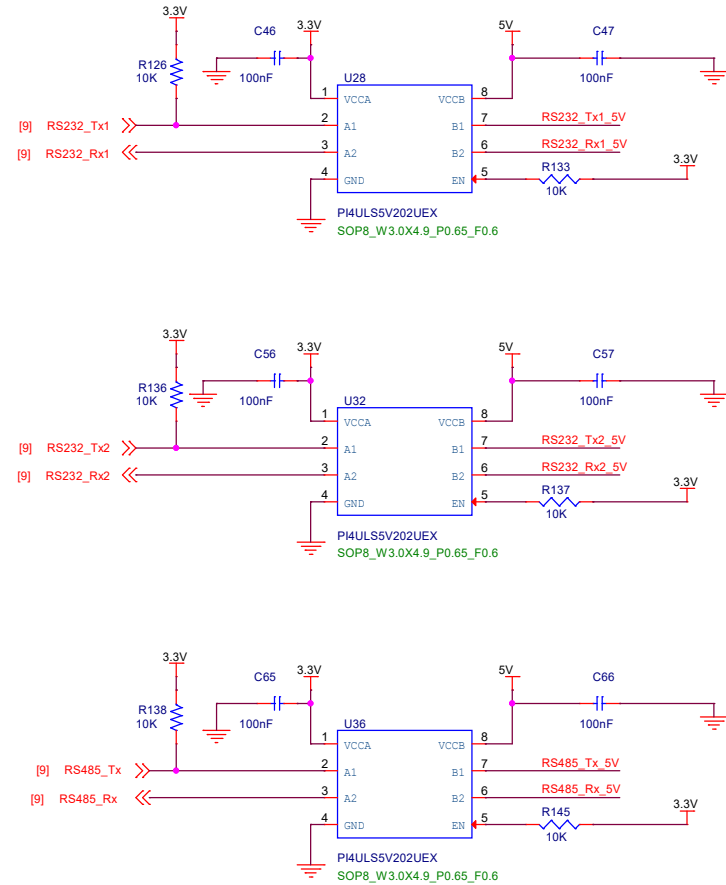
BLDC 모델 및 사양 미정

R, L, C 사이즈 미표기 --> 1608 (Metric)

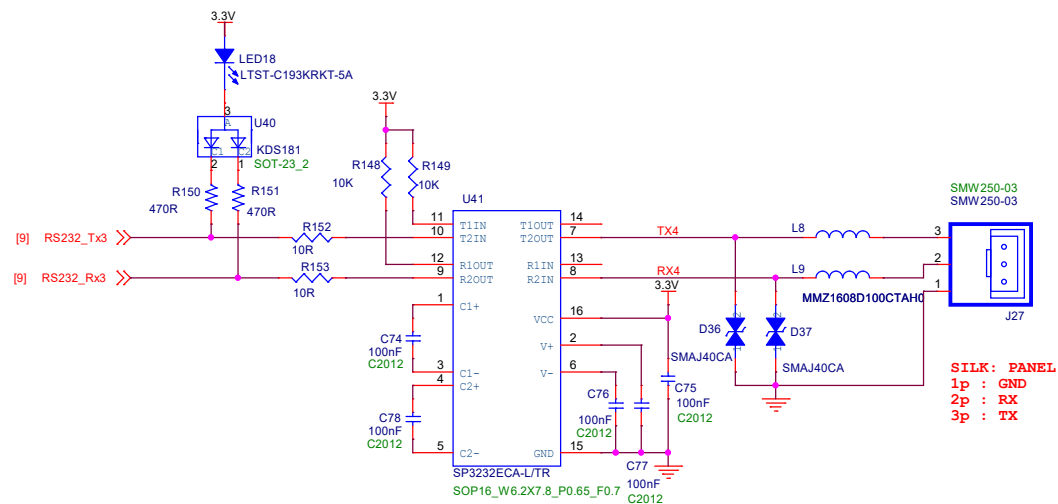
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RS-232/RS-485

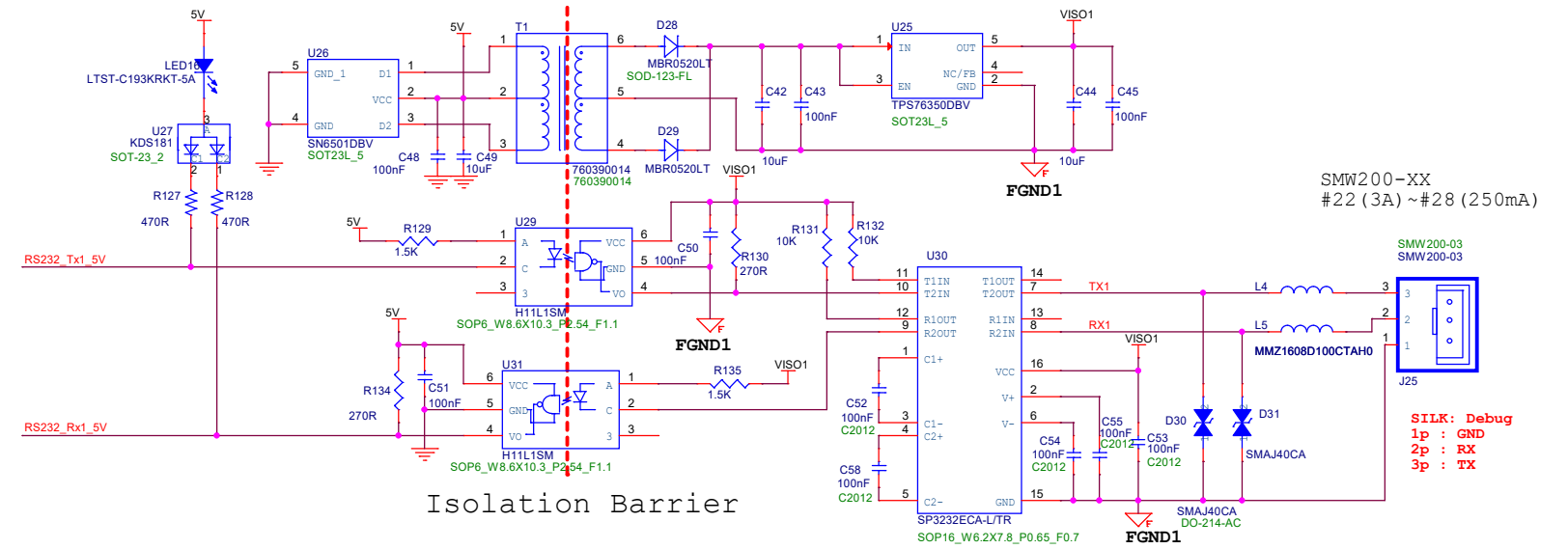
LEVEL SHIFTER(3.3V <-> 5V)



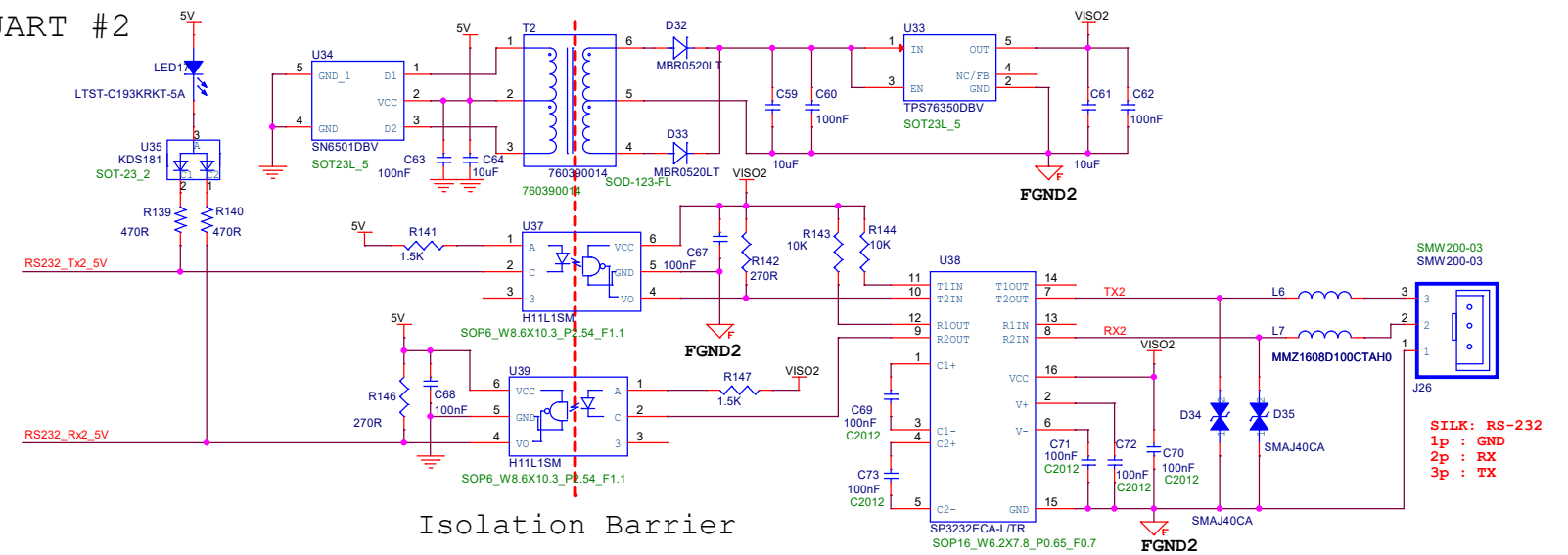
UART #3 RS232 -> panel PC 연결



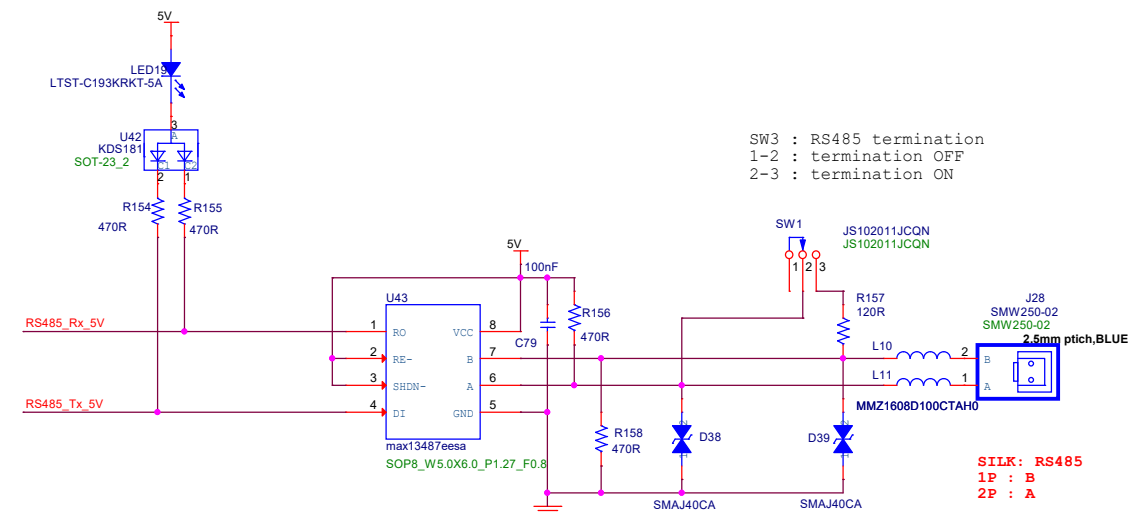
UART #1



UART #2



UART #6 RS485 -> 해밀턴 실린지 펌프 사용 (isol X)



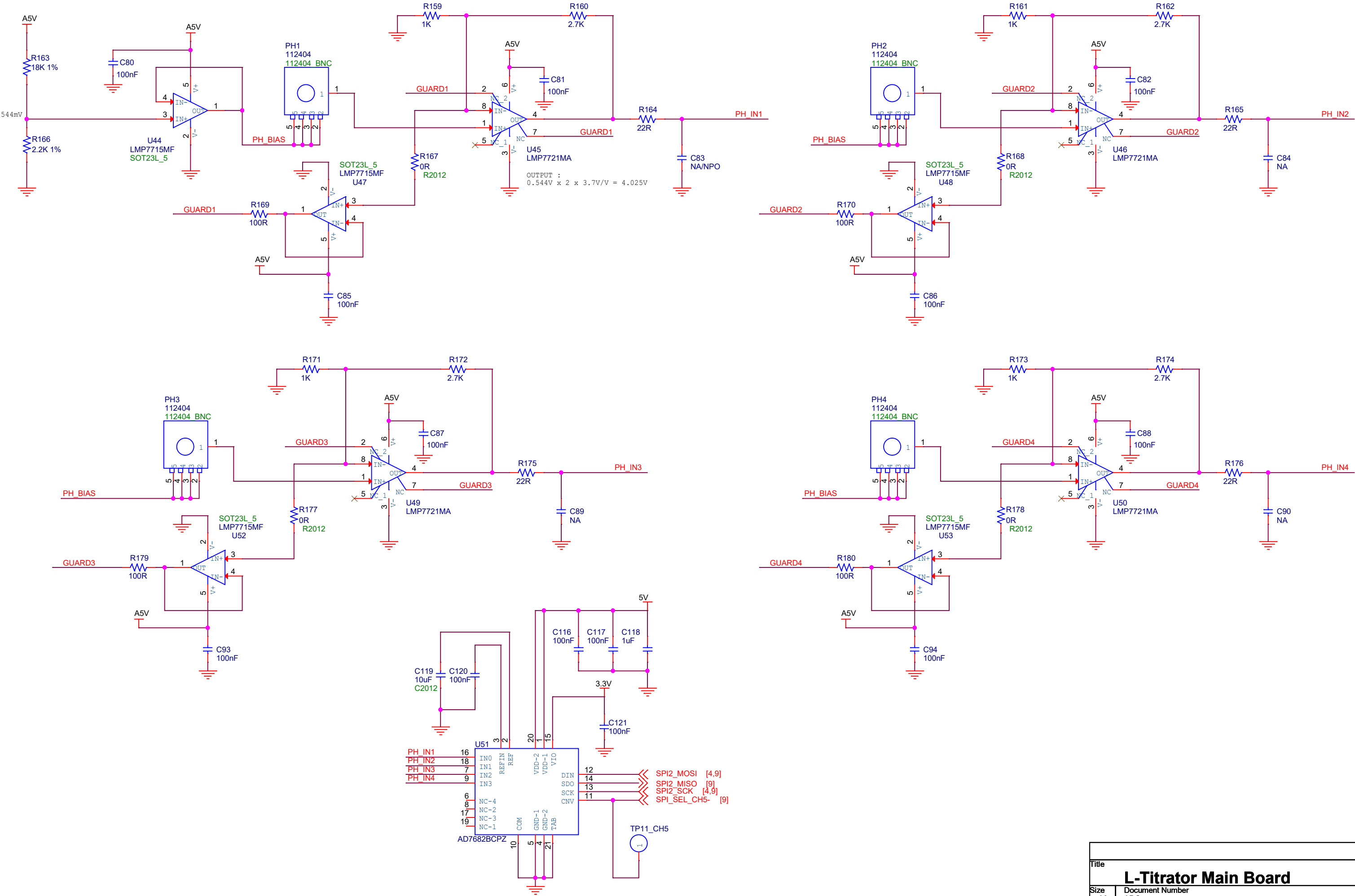
Analog(pH) Input ch #1~#4

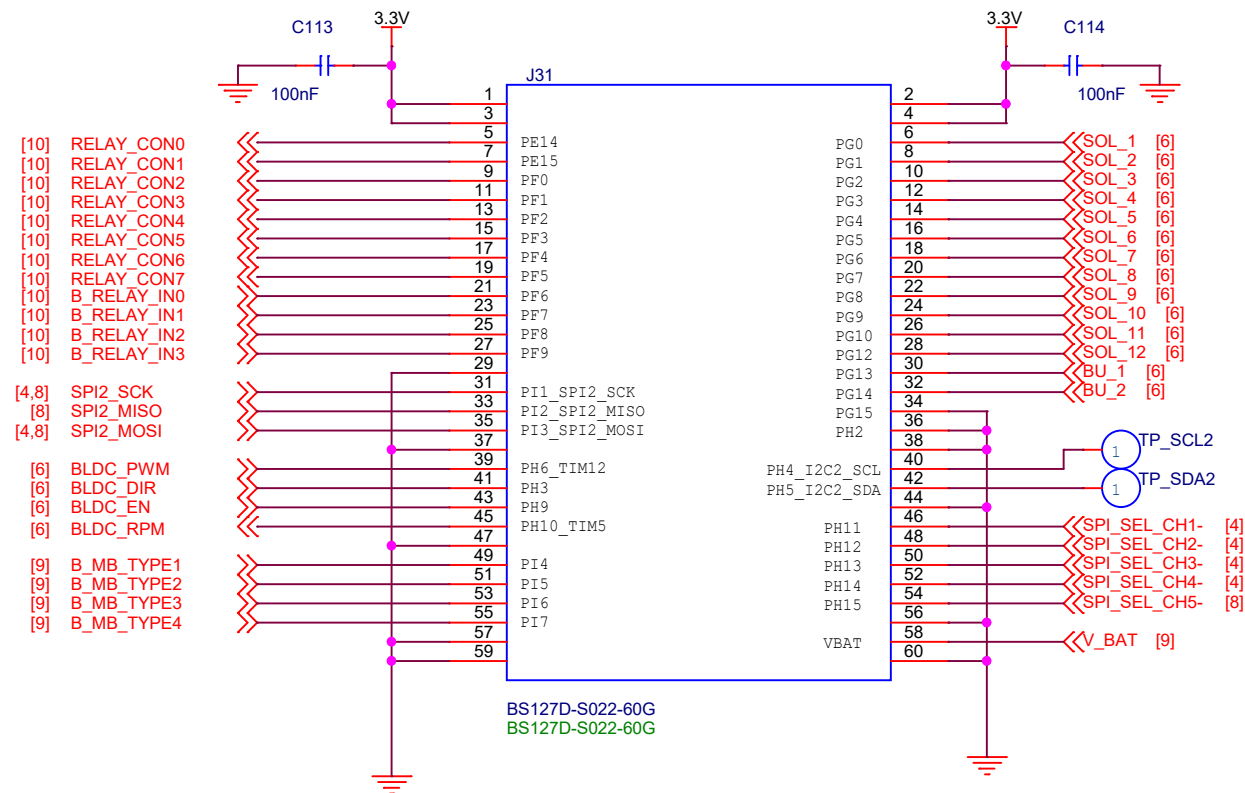
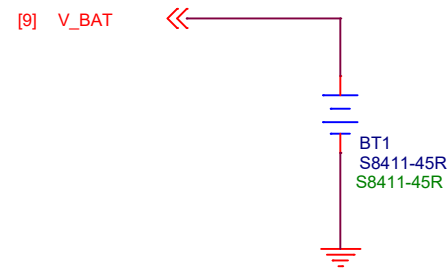
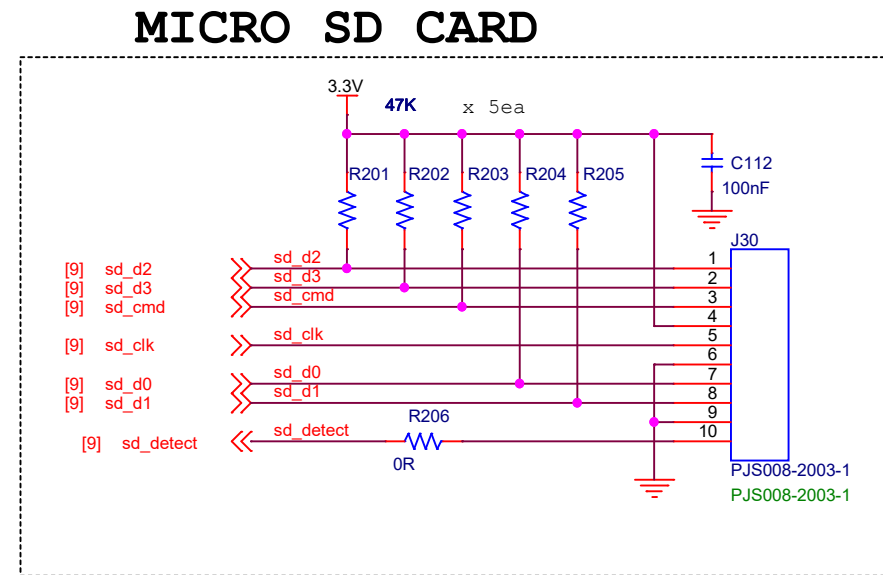
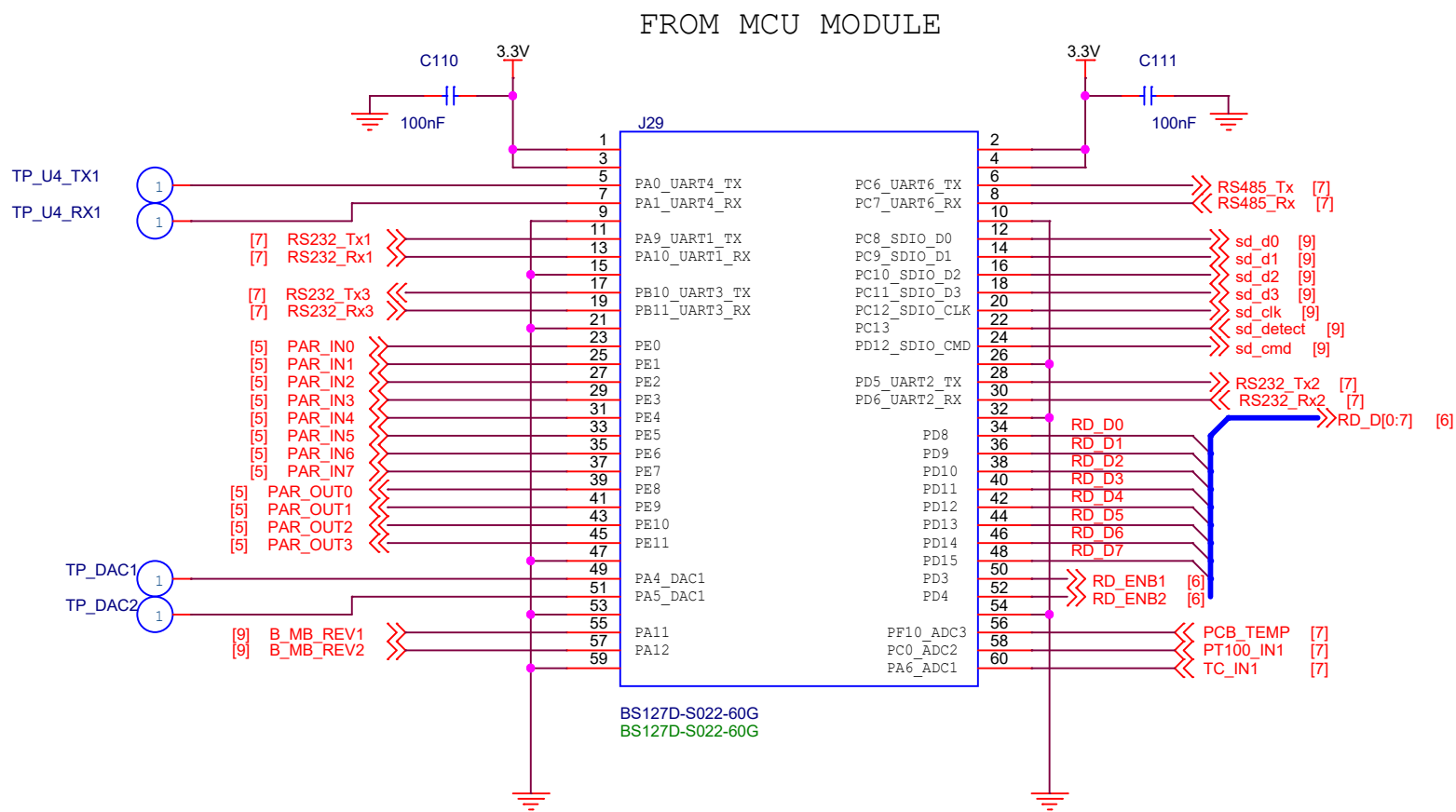
$$G = 1 + (R2/R1)$$

$$= 1 + (2.7K/1K)$$

$$= 3.7$$

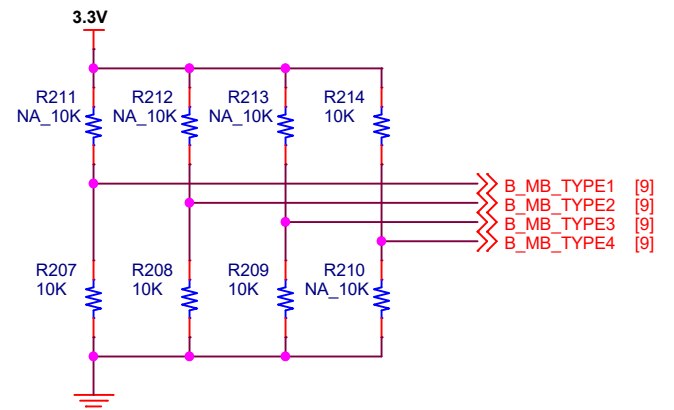
BNC (112404) 사용시 (5핀) : 순수 패턴으로 가드
 TRIAX 커넥터 사용시 (6핀, R/A) :
 커넥터 1핀 연결하여 가드 --> 단가 42,000원 사용불가
 가드 패턴 : LAYOUT GUIDE 문서 참조





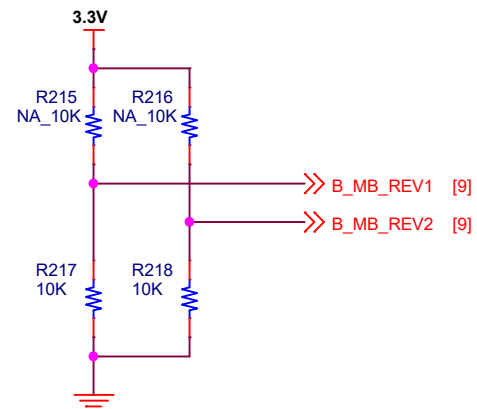
TYPE1~4 (0001~1111)
MAIN TYPE 15종류 지정

SILK: M/B TYPE

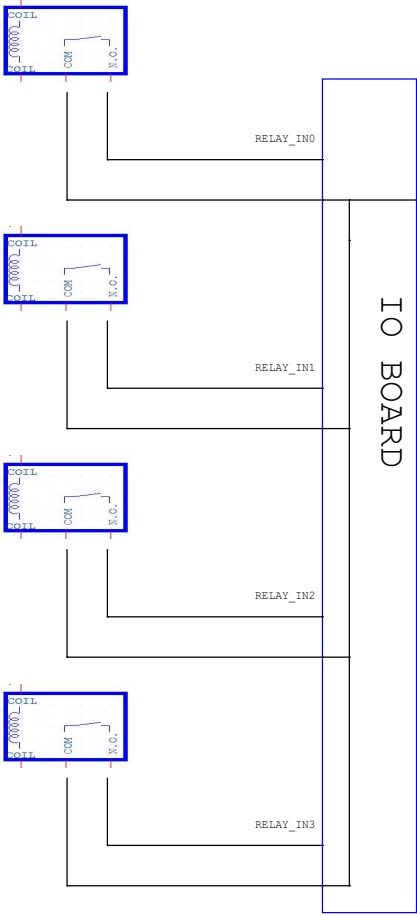


< PCB Issue >		
PA11	PA12	PCB Issue
0	0	Rev 0.1
0	1	Rev 0.2
1	0	Rev 1.0
1	1	Rev 1.1

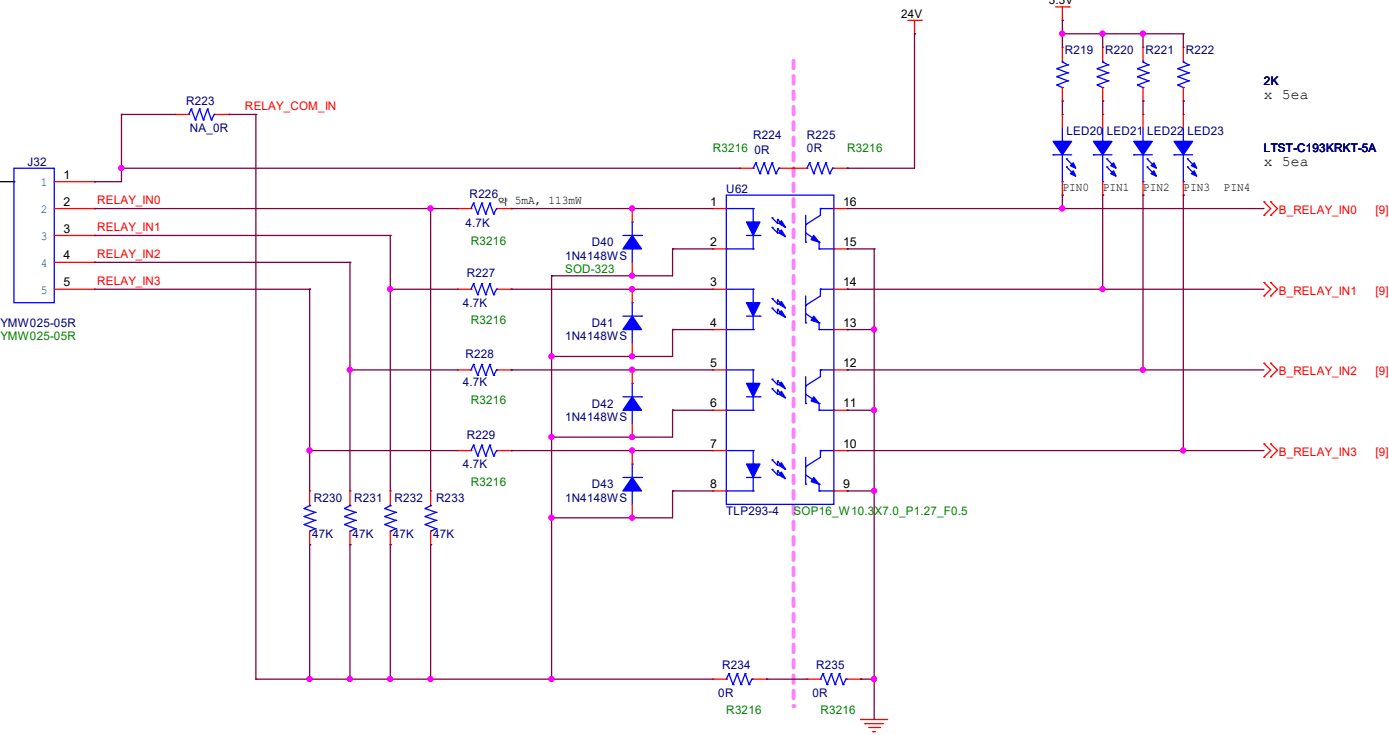
SILK: M/B Rev.



RELAY CONTACT INPUT
Ass'y : R79, R80, R97, R98, R93~96
N.A : R78

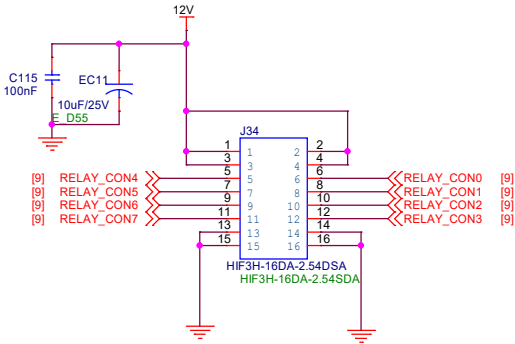


Relay Contact Input x 4



Relay Contact Output x 8

RELAY BOARD IN/OUT

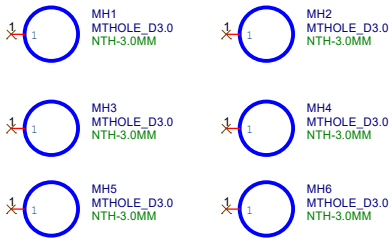


RELAY_COM_OUT0	1	2	RELAY_OUT0
RELAY_COM_OUT1	3	4	RELAY_OUT1
RELAY_COM_OUT2	5	6	RELAY_OUT2
RELAY_COM_OUT3	7	8	RELAY_OUT3
RELAY_COM_OUT4	9	10	RELAY_OUT4
RELAY_COM_OUT5	11	12	RELAY_OUT5
RELAY_COM_OUT6	13	14	RELAY_OUT6
RELAY_COM_OUT7	15	16	RELAY_OUT7

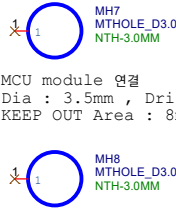
RELAY CONTACT OUT

RELAY_OUT0	1	2	RELAY_COM_OUT0
RELAY_OUT1	3	4	RELAY_COM_OUT1
RELAY_OUT2	5	6	RELAY_COM_OUT2
RELAY_OUT3	7	8	RELAY_COM_OUT3
RELAY_OUT4	9	10	RELAY_COM_OUT4
RELAY_OUT5	11	12	RELAY_COM_OUT5
RELAY_OUT6	13	14	RELAY_COM_OUT6
RELAY_OUT7	15	16	RELAY_COM_OUT7

Dia : 3.5mm , Drill : 3.5mm
KEEP OUT Area : 8mm



추후 사이즈에따라 추가/삭제 필요



MCU module 연결
Dia : 3.5mm , Drill : 3.5mm
KEEP OUT Area : 8mm

Relay board 연결
Dia : 3.5mm , Drill : 3.5mm
KEEP OUT Area : 8mm

R,L,C,LED 사이즈 미표기 --> 1608 (Metric)

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