

Bias power supply with SMPS pre-regulator

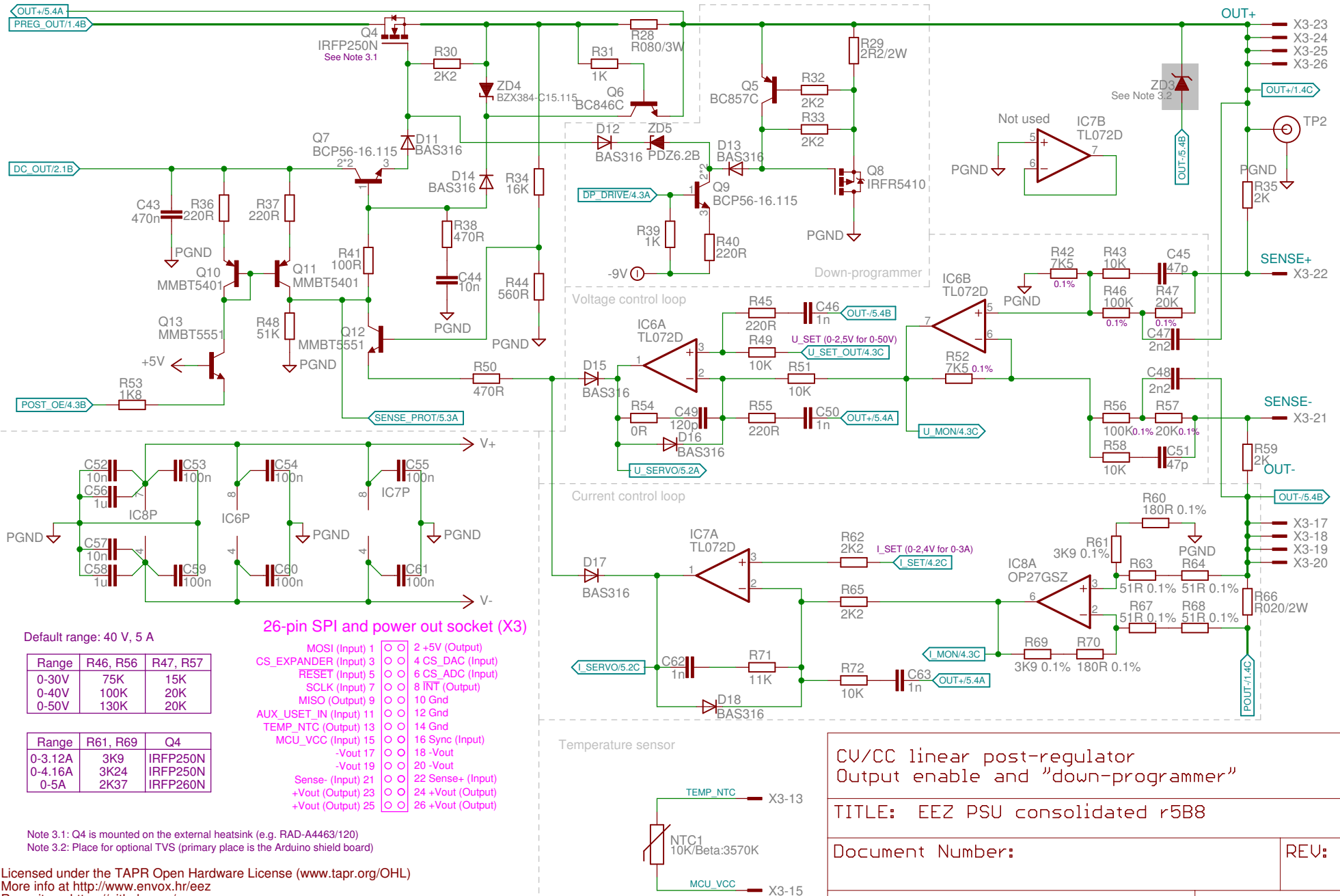
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Digital control (SPI)

SSW-113-02-T-D-RA

X3-9 PS_MISO

X3-5 PS_RESET

X3-1 PS_MOSI

X3-7 PS_SCLK

X3-3 CS_EXPANDER

+5V

X3-2

X3-10

X3-12

X3-14

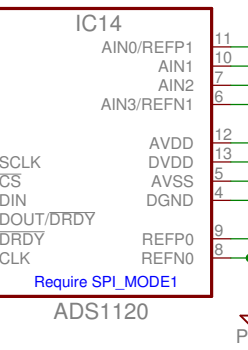
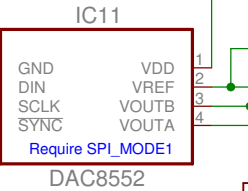
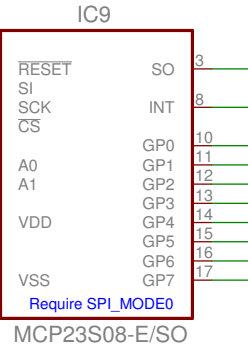
PGND

X3-8 INT

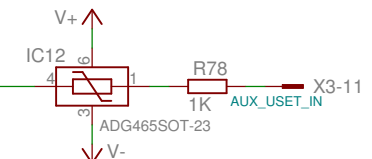
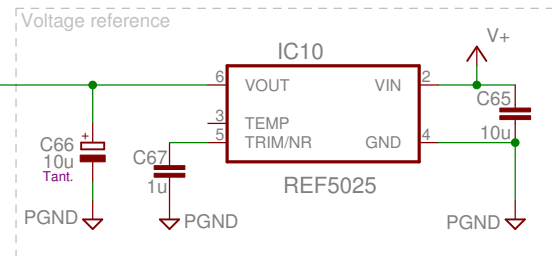
JP2-0R

X3-4 CS_DAC

X3-6 CS_ADC



I/O Expander		
Bit	Function	Direction
0	Sense error	Output
1	Down programmer disable	Output
2	CC	Input
3	Set 100% duty cycle	Output
4	Remote programming	Output
5	CV	Input
6	Power good	Input
7	Output enable	Output



SPI I/O expander, DAC, ADC, Voltage reference
Remote programming

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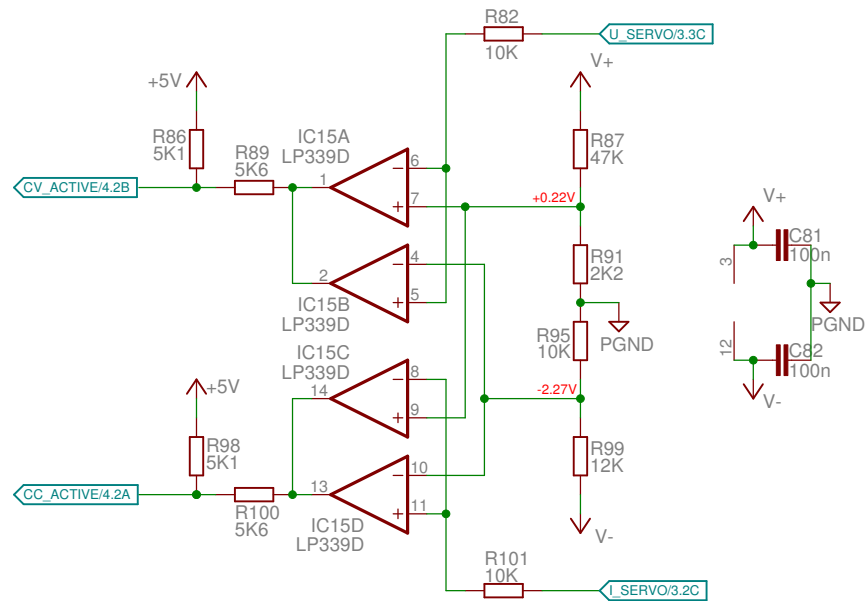
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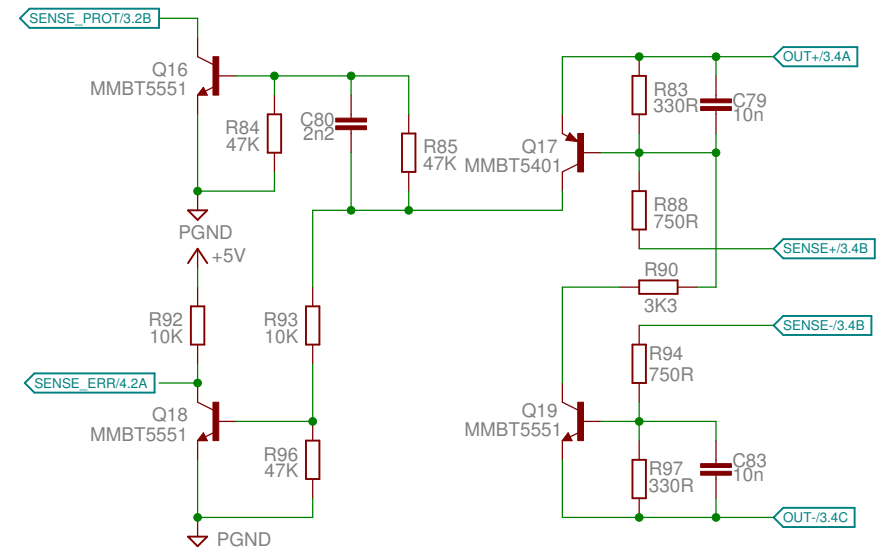
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Constant Voltage (CV) and Constant Current (CC) mode indicator



Remote sense reverse polarity detection



CC/CV indicators, Sense error detection

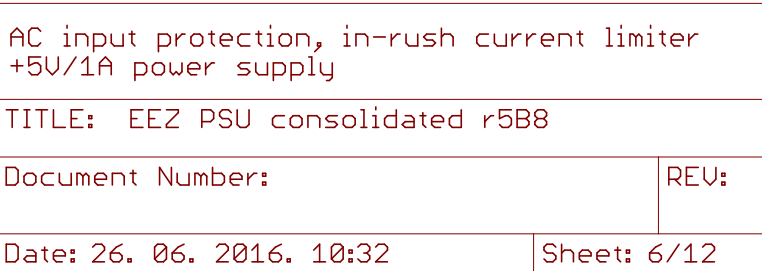
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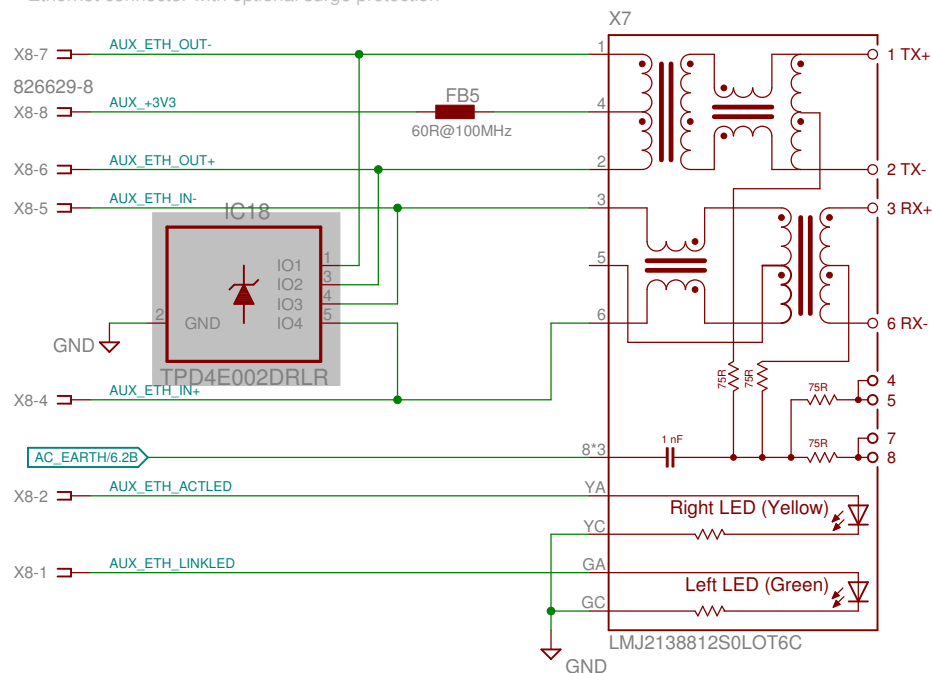
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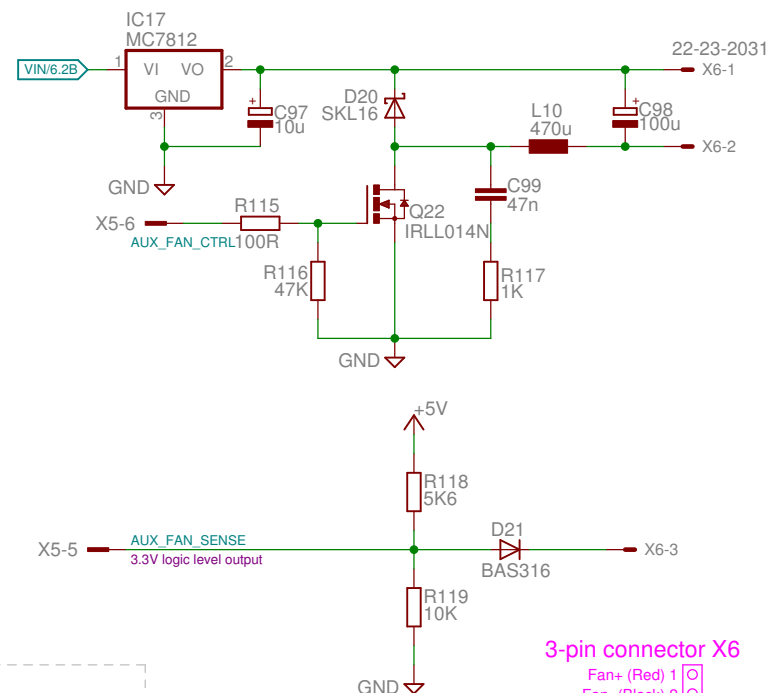
Ethernet connector with optional surge protection



8-pin connector X8

- LED Link (Input) 1
- LED Act (Input) 2
- Shield 3
- RX+ (Output) 4
- RX- (Output) 5
- TX+ (Input) 6
- TX- (Input) 7
- +3.3V (Input) 8

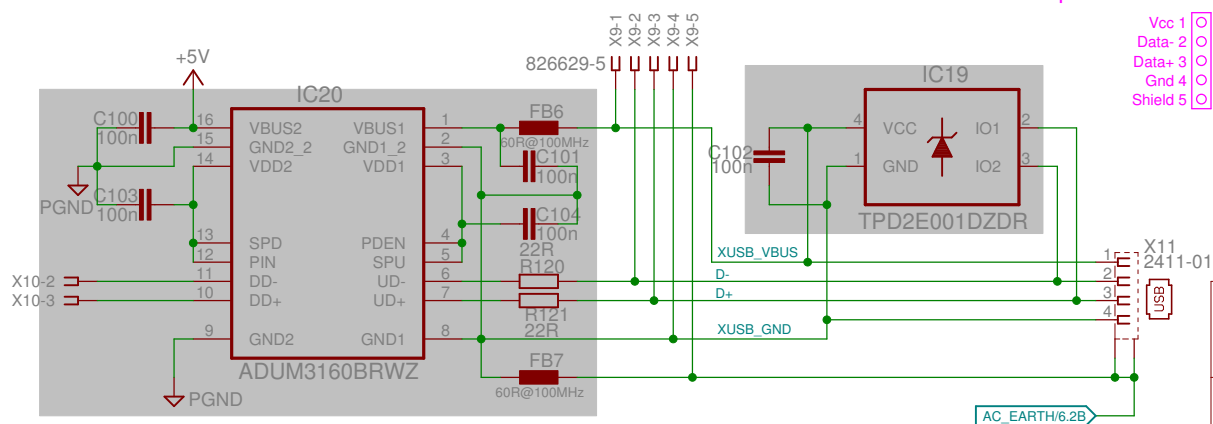
12VDC fan control



3-pin connector X6

- Fan+ (Red) 1
- Fan- (Black) 2
- Fan sense (Yellow) 3

USB connector with optional isolator and surge protection



5-pin connector X9, X10

- Vcc 1
- Data- 2
- Data+ 3
- Gnd 4
- Shield 5

Note 2.1: Mount X4 and X8 on the opposite (top) side of the PCB. Use 14 mm (e.g. Bossard B3X14/BN3320) for enclosure with 3 mm rear panel

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Repository: <https://github.com/eez-open>

Ethernet and USB PCB connectors
12VDC fan driver (max. 300 mA)

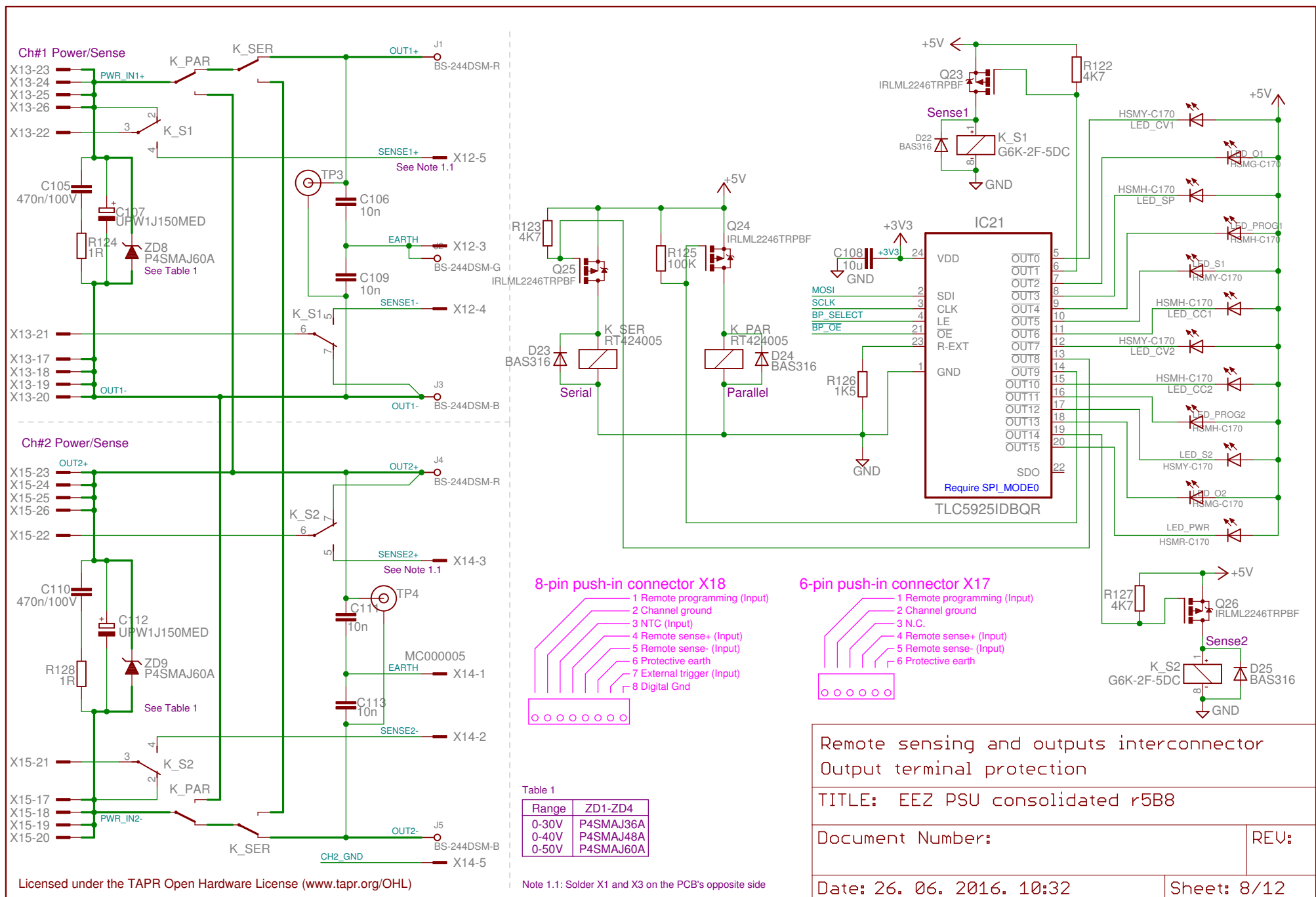
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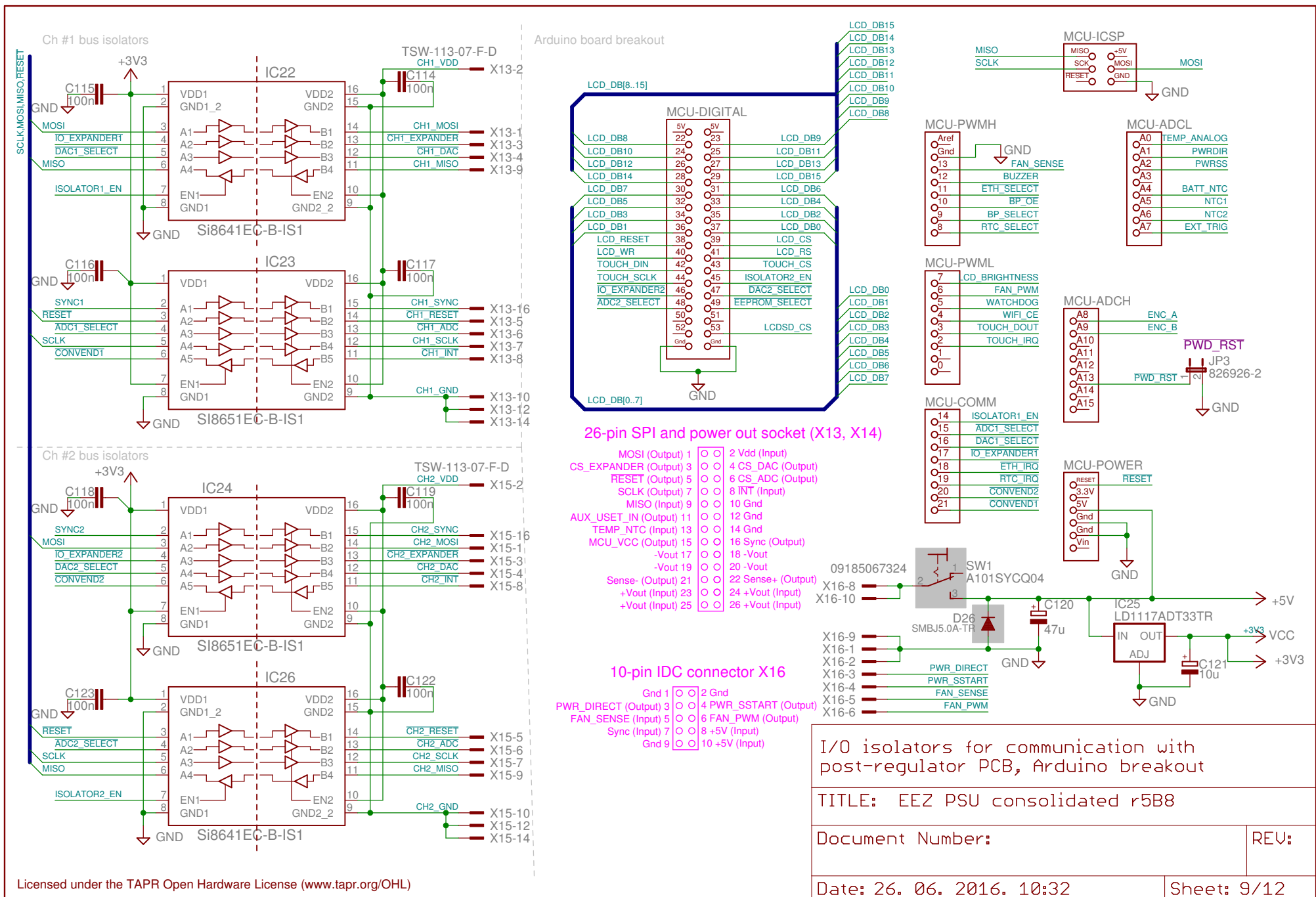
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I/O isolators for communication with post-regulator PCB, Arduino breakout

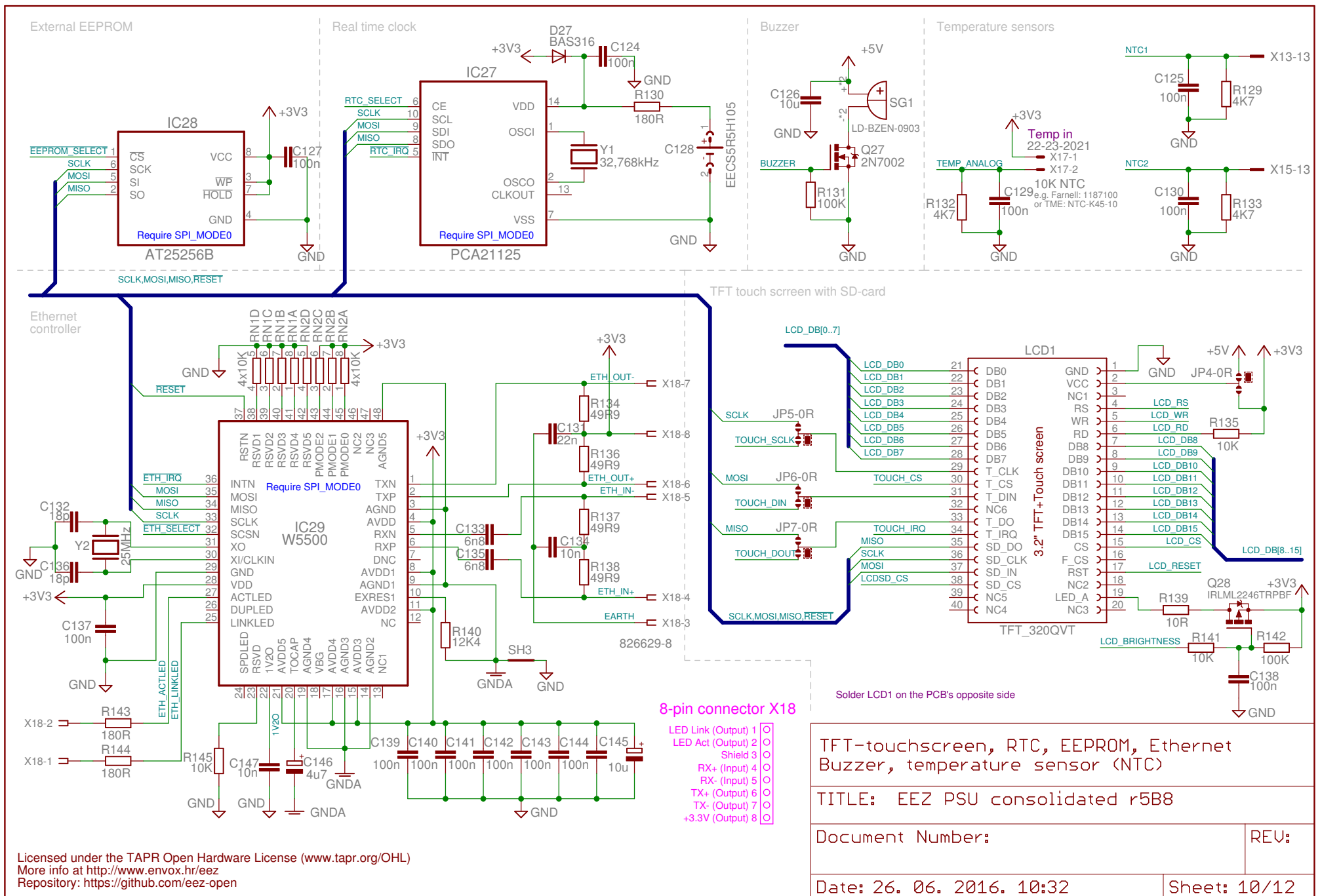
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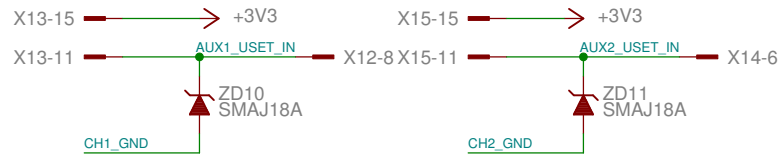
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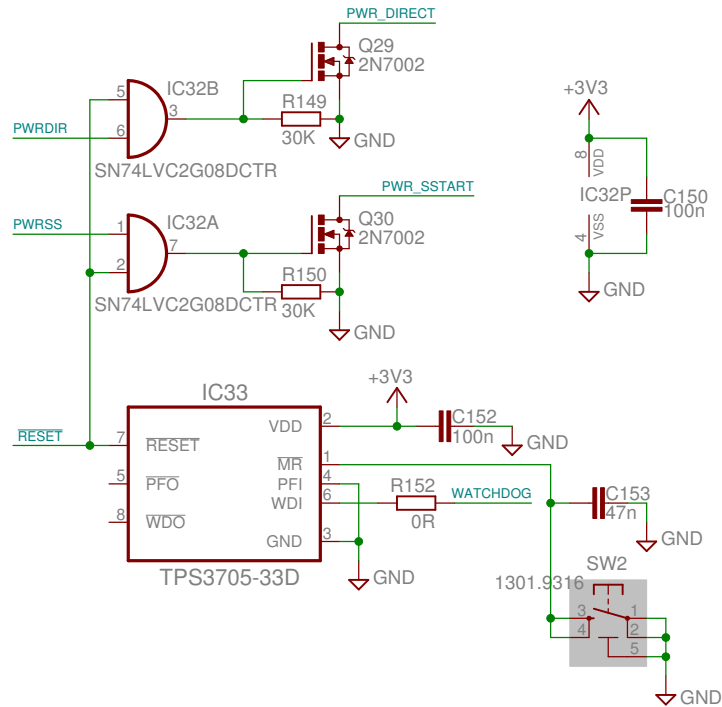
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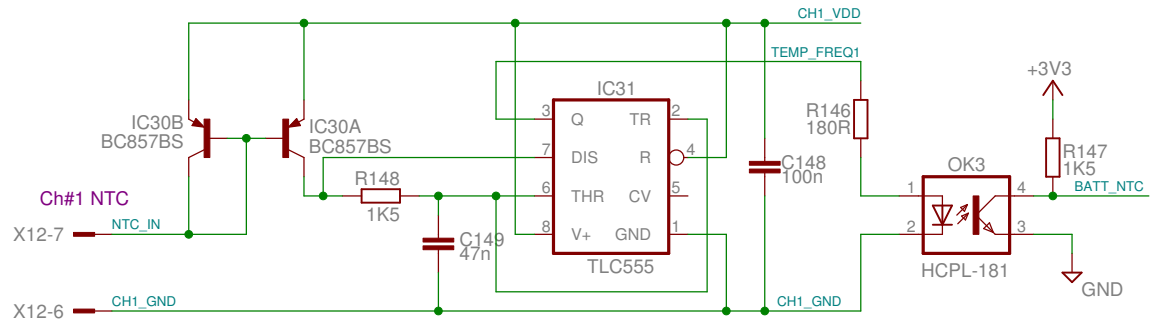
Remote programming inputs



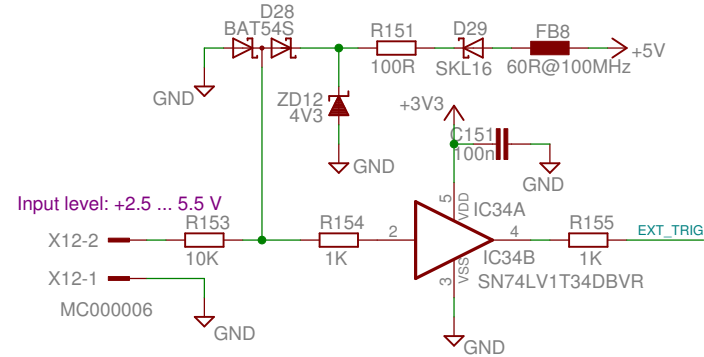
Power-on reset generator and power control



Channel 1 V/F converter for battery NTC (optional)



External trigger protection and level shifter/buffer



LED CC/CV indicators, Reset control,
Optional Ethernet module connector, External trigger,
V/F converter for battery NTC (optional), Encoder (optional)

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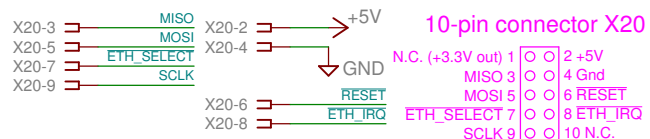
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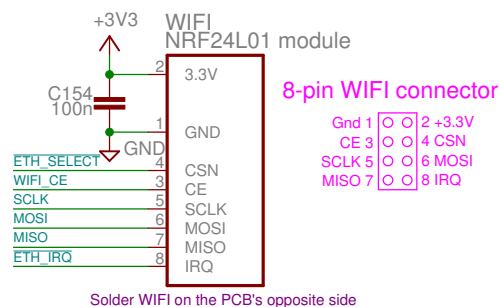
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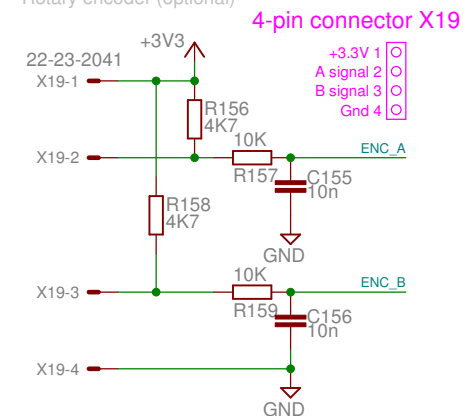
Optional Ethernet module connector



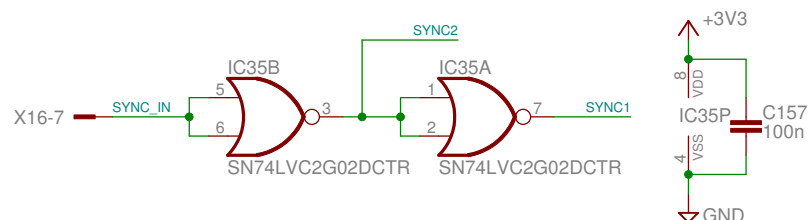
Optional Wifi module connector



Rotary encoder (optional)



Master sync signal phase shifting



Optional ethernet, Wifi and encoder
Power boards SMPS sync

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