

Bias power supply with SMPS pre-regulator

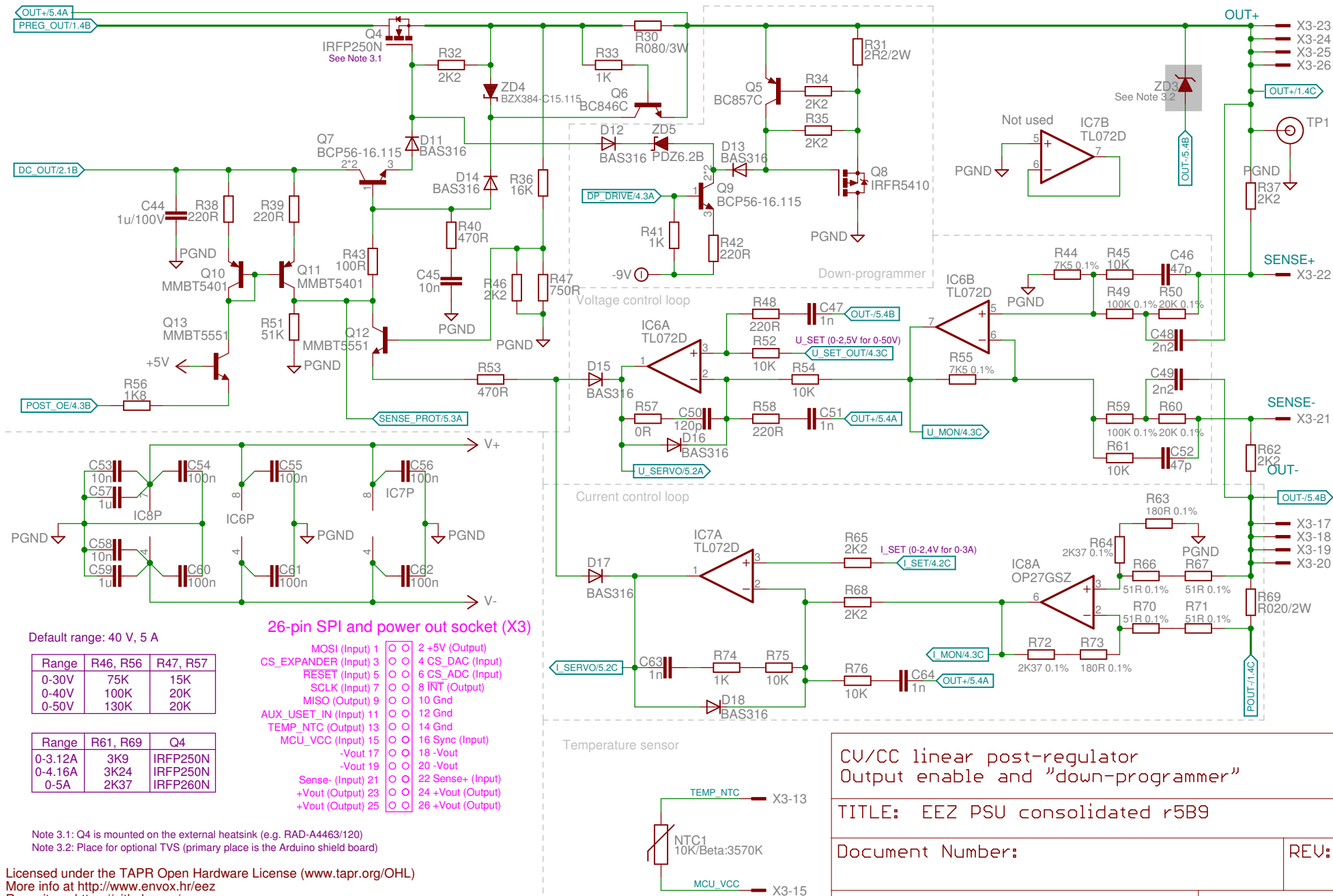
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Note 3.1: Q4 is mounted on the external heatsink (e.g. RAD-A4463/120)
Note 3.2: Place for optional TVS (primary place is the Arduino shield board)

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More info at <http://www.envox.hr/eez>
Repository: <https://github.com/eez-open>

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

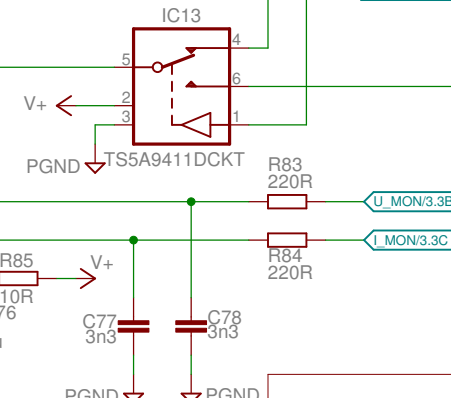
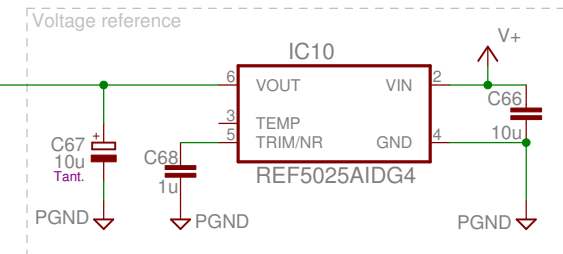
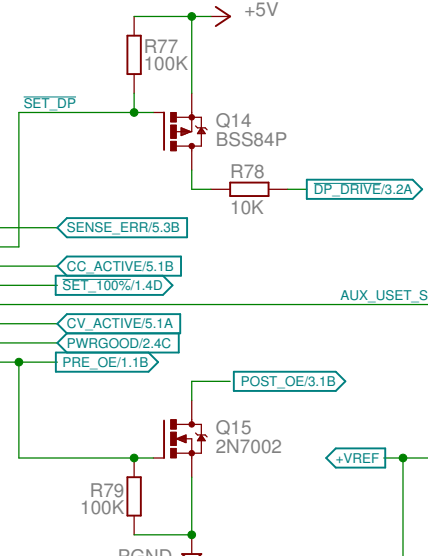
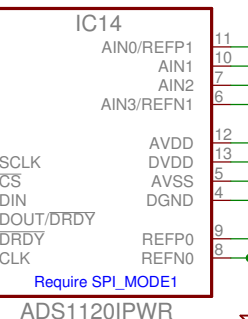
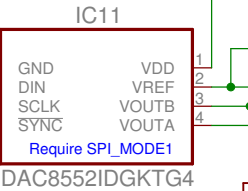
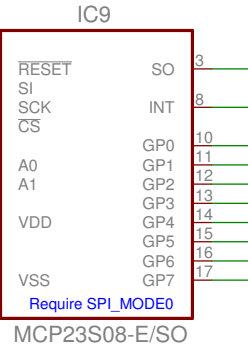
PGND

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

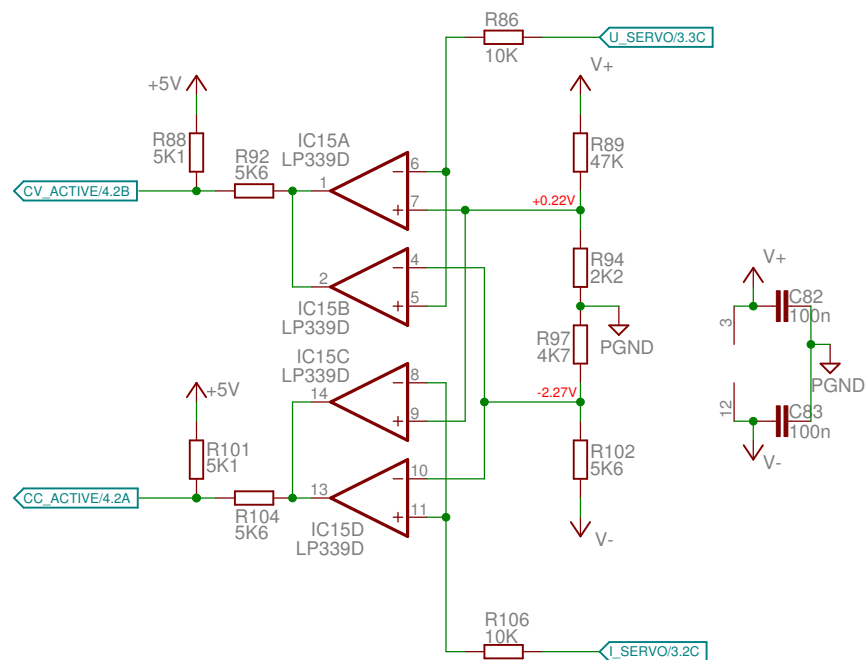
SPI I/O expander, DAC, ADC, Voltage reference
Remote programming

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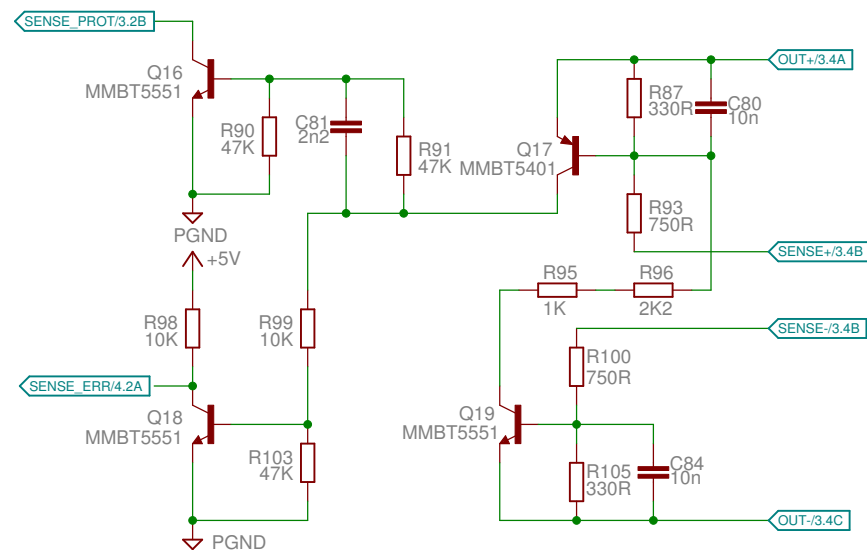
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Constant Voltage (CV) and Constant Current (CC) mode indicator



Remote sense reverse polarity detection



CC/CV indicators, Sense error detection

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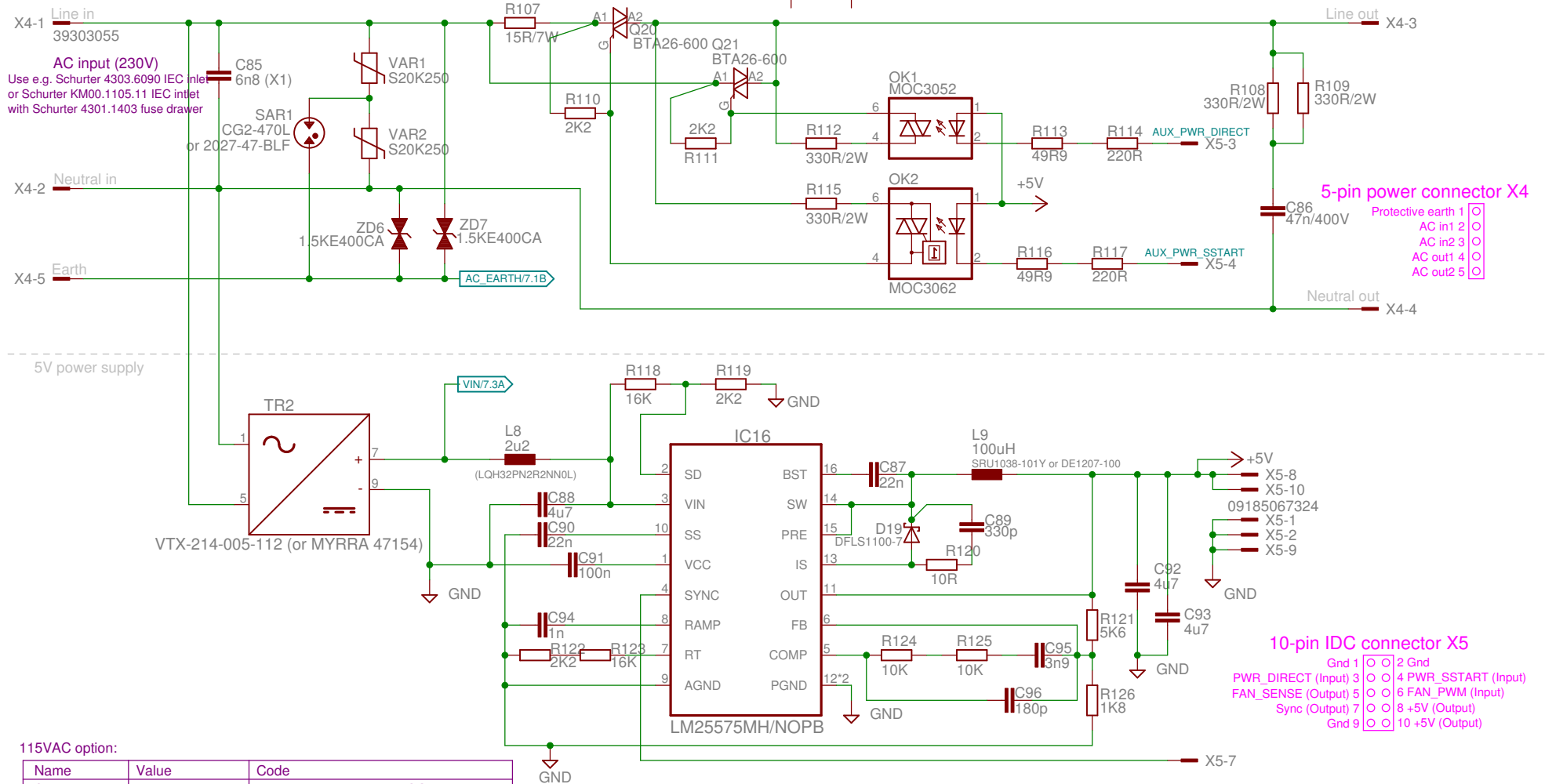
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AC input protection and soft-start/stand-by



AC input protection, in-rush current limiter
+5V/1A power supply

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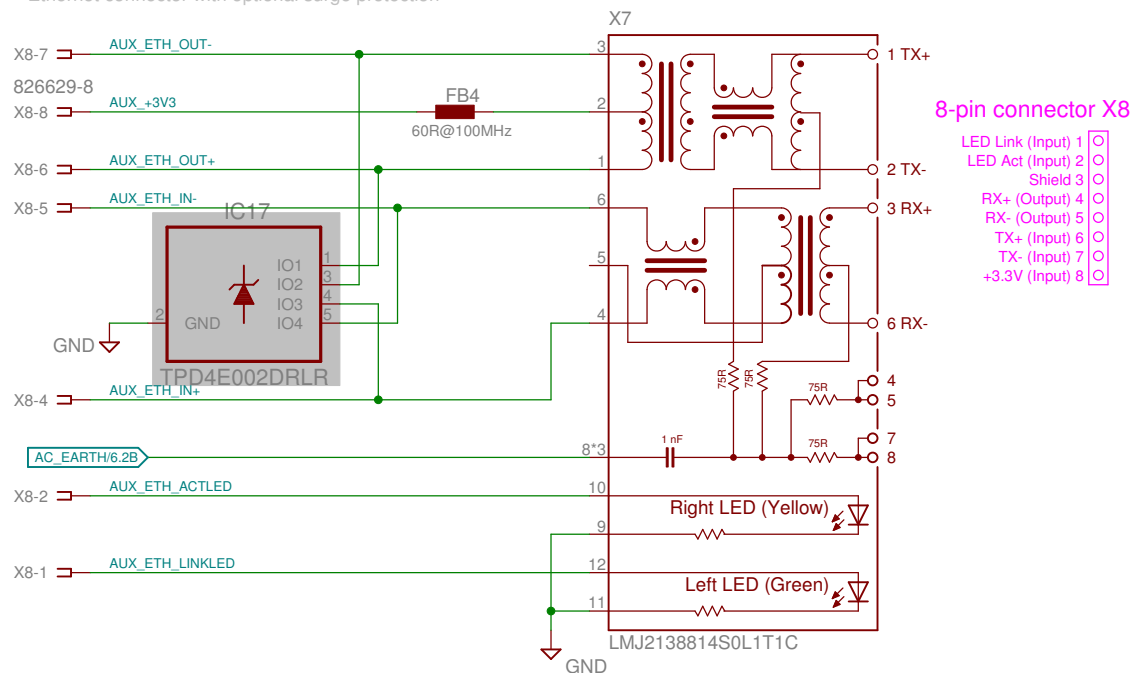
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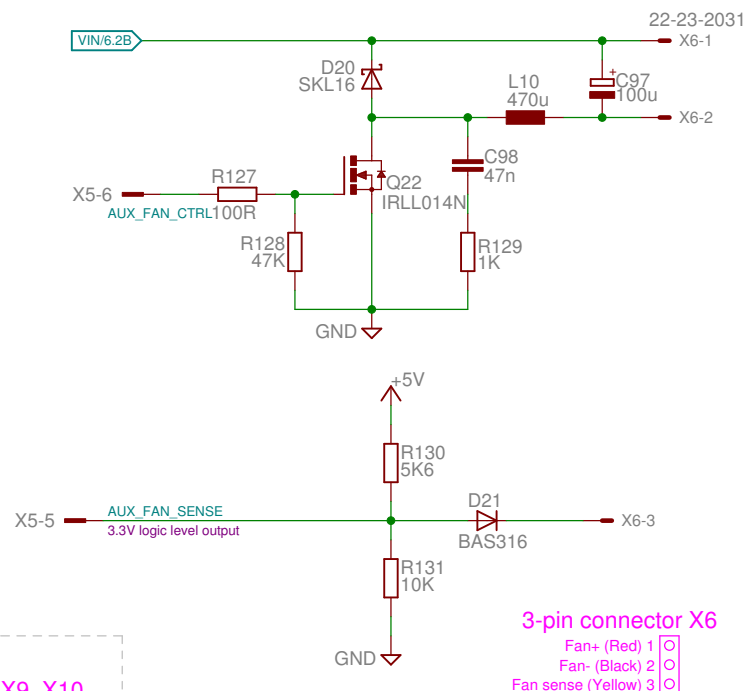
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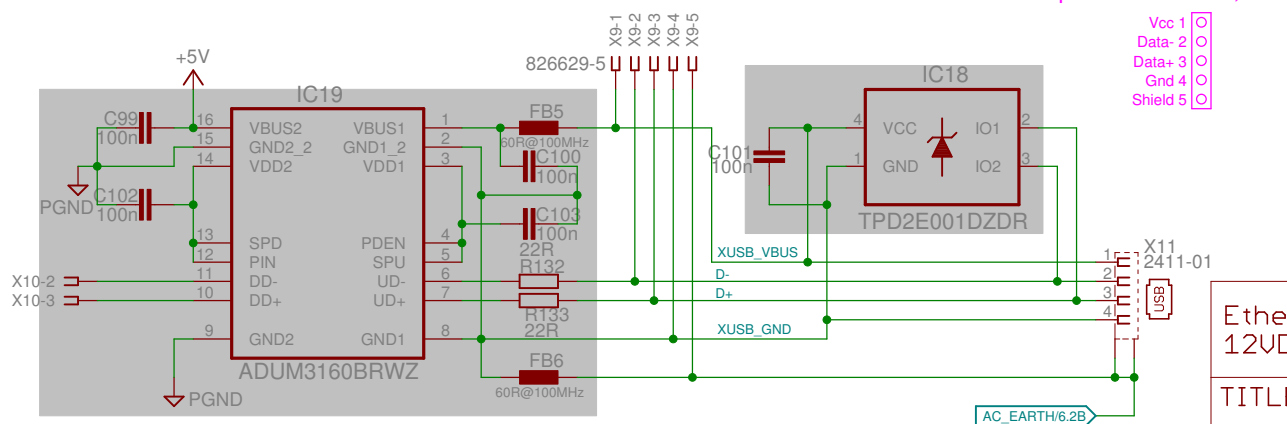
Ethernet connector with optional surge protection



12VDC fan control



USB connector with optional isolator and surge protection



Note 7.1: 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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Ethernet and USB PCB connectors
 12VDC fan driver (max. 300 mA)

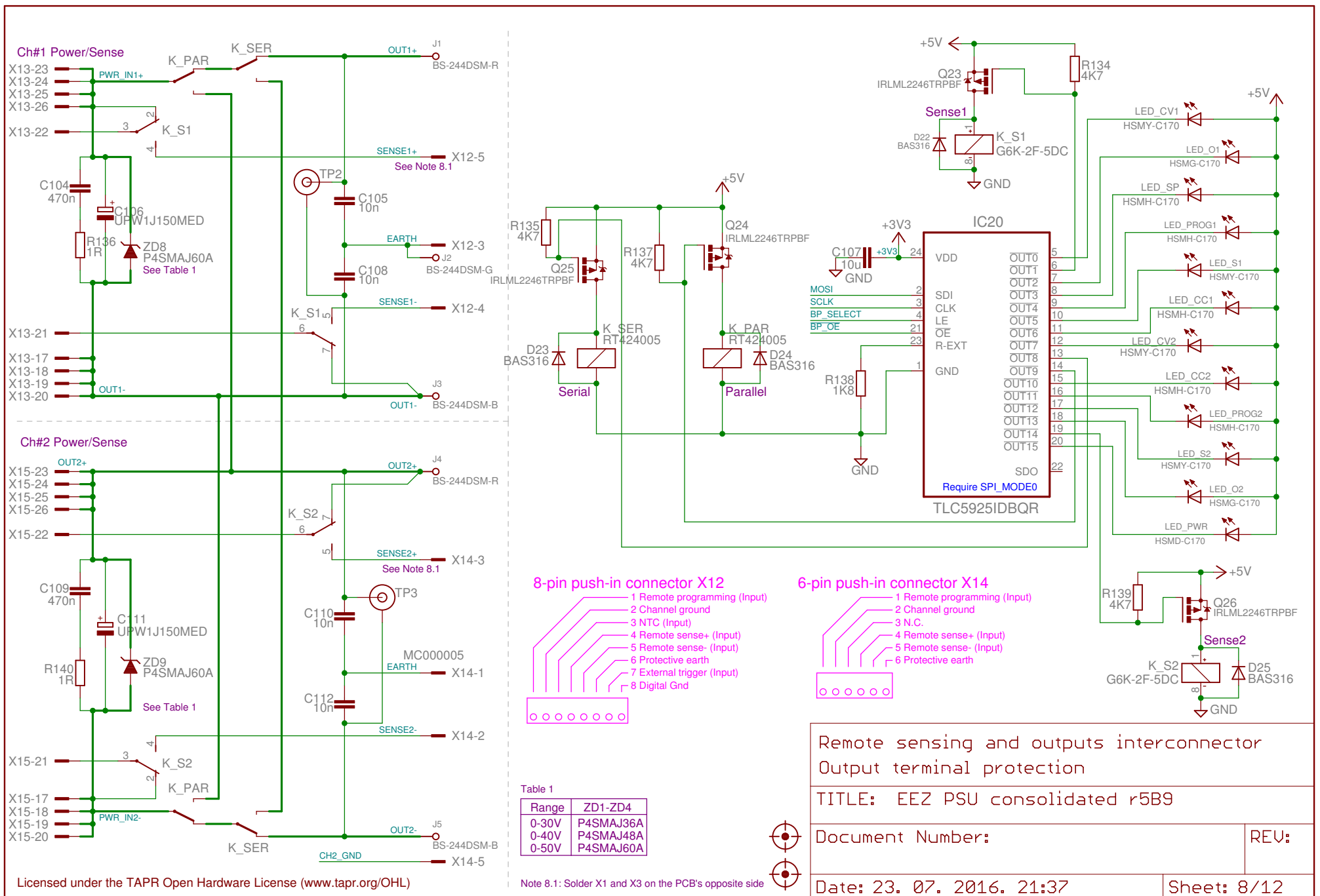
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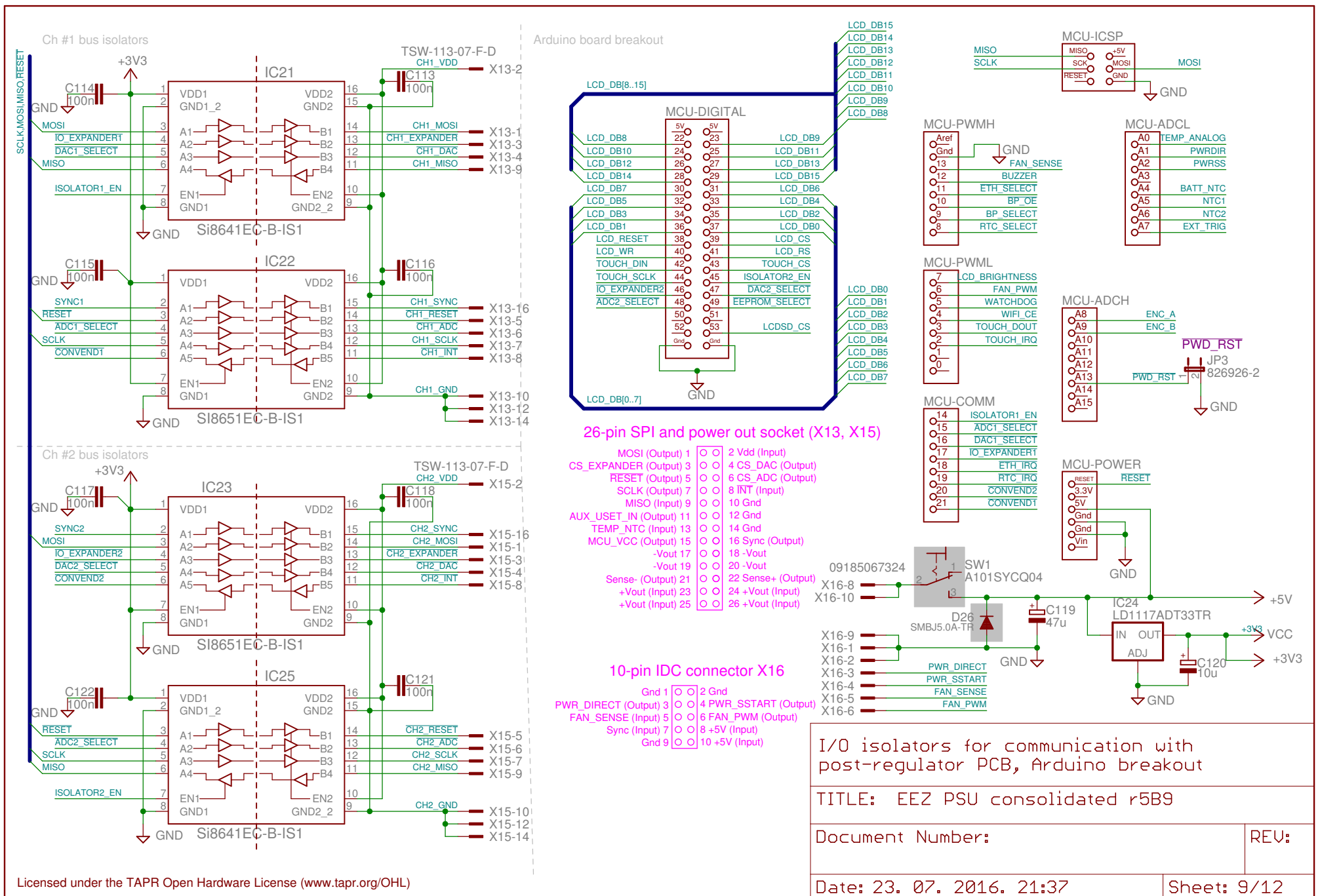
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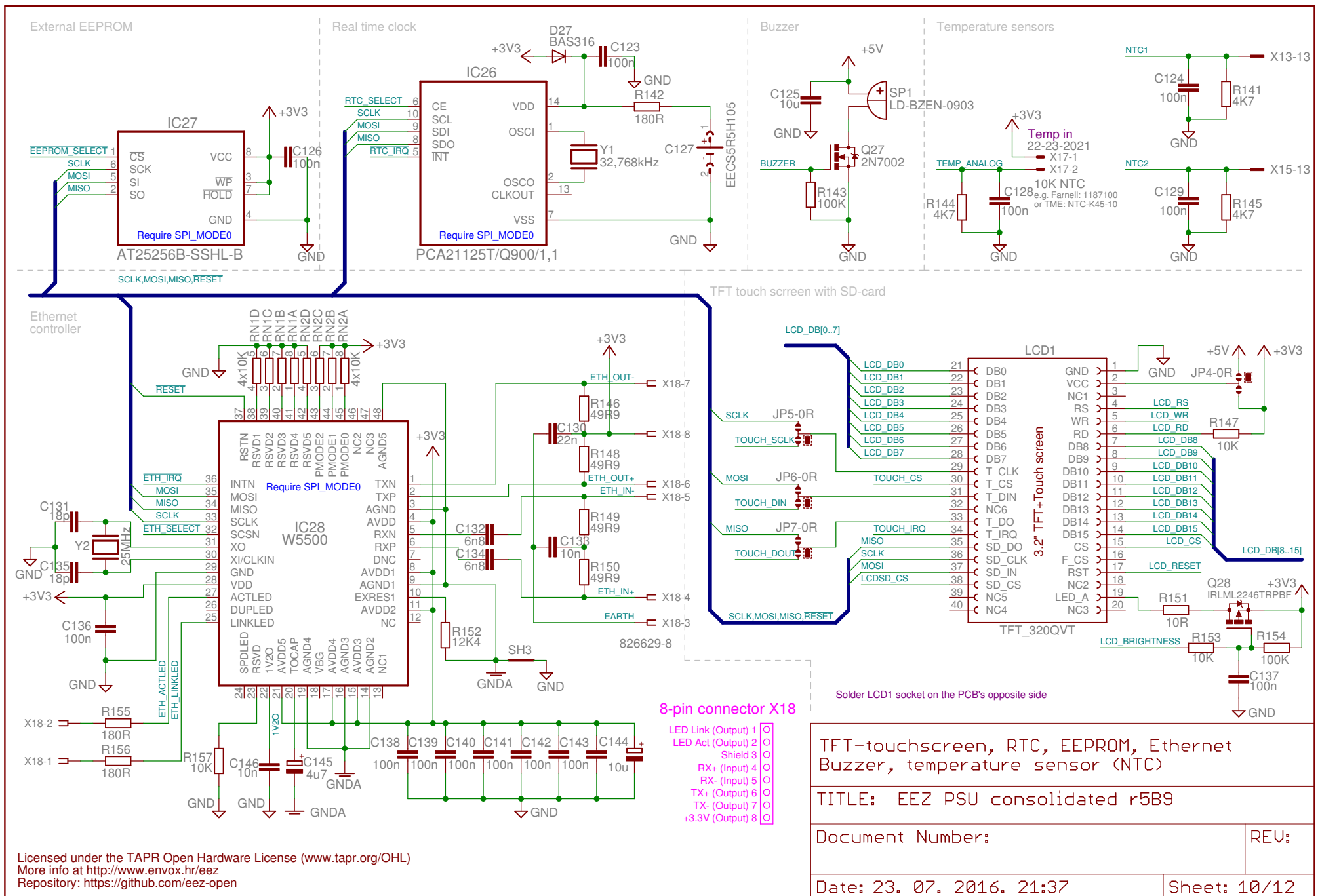
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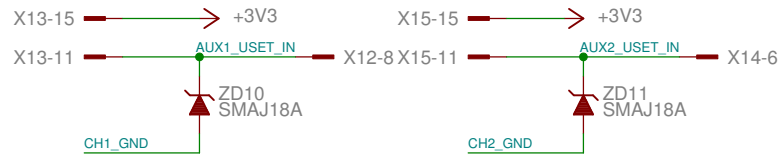
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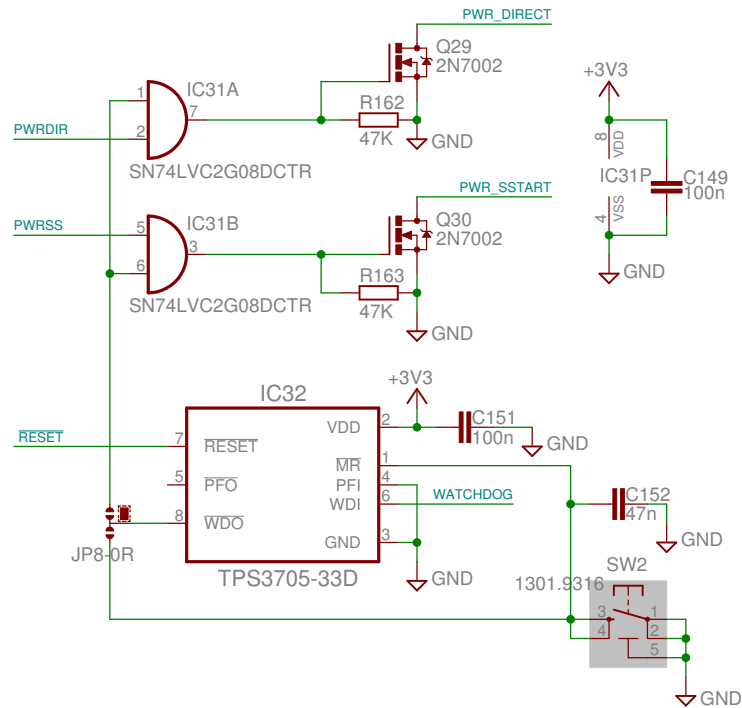




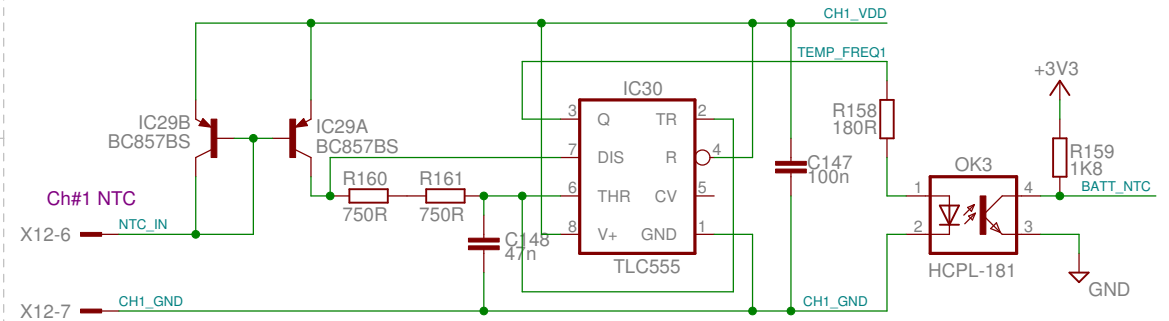
Remote programming inputs



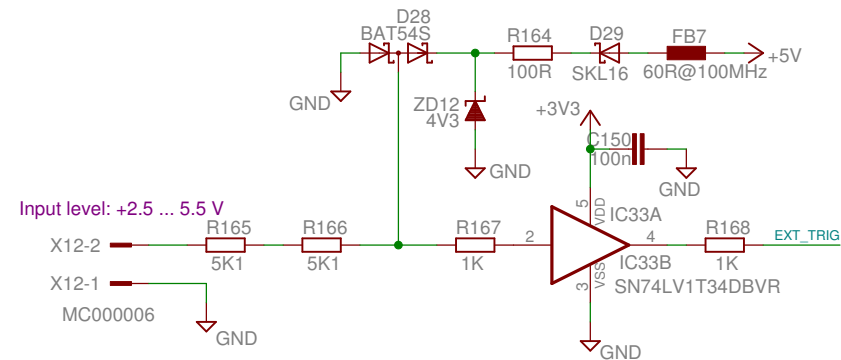
Power-on reset generator and power control



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



External trigger protection and level shifter/buffer



Reset control, soft-start driver,
V/F converter for battery NTC, External trigger

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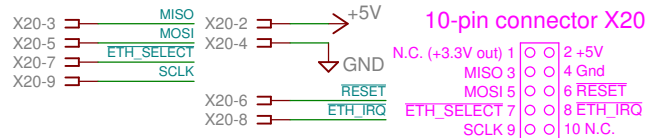
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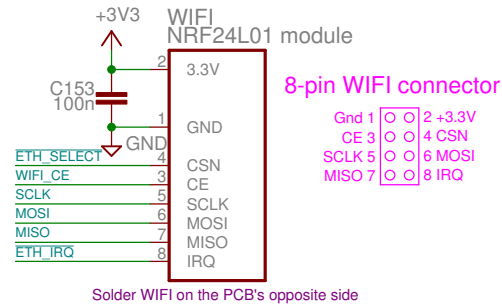
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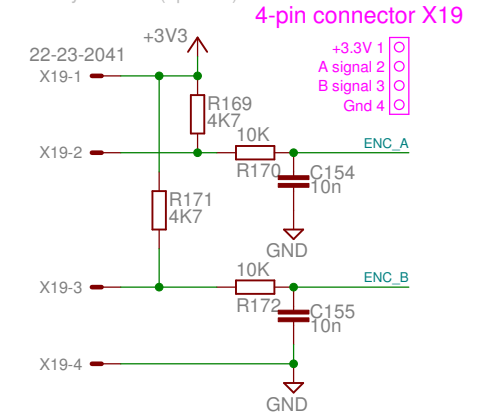
Optional Ethernet module connector



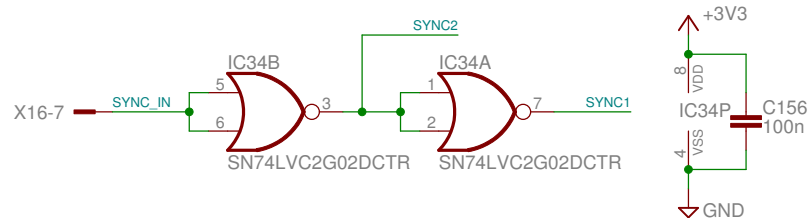
Optional Wifi module connector



Rotary encoder (optional)



Master sync signal phase shifting



Optional ethernet, Wifi and encoder
Power boards SMPS sync

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