

Bias power supply with SMPS pre-regulator

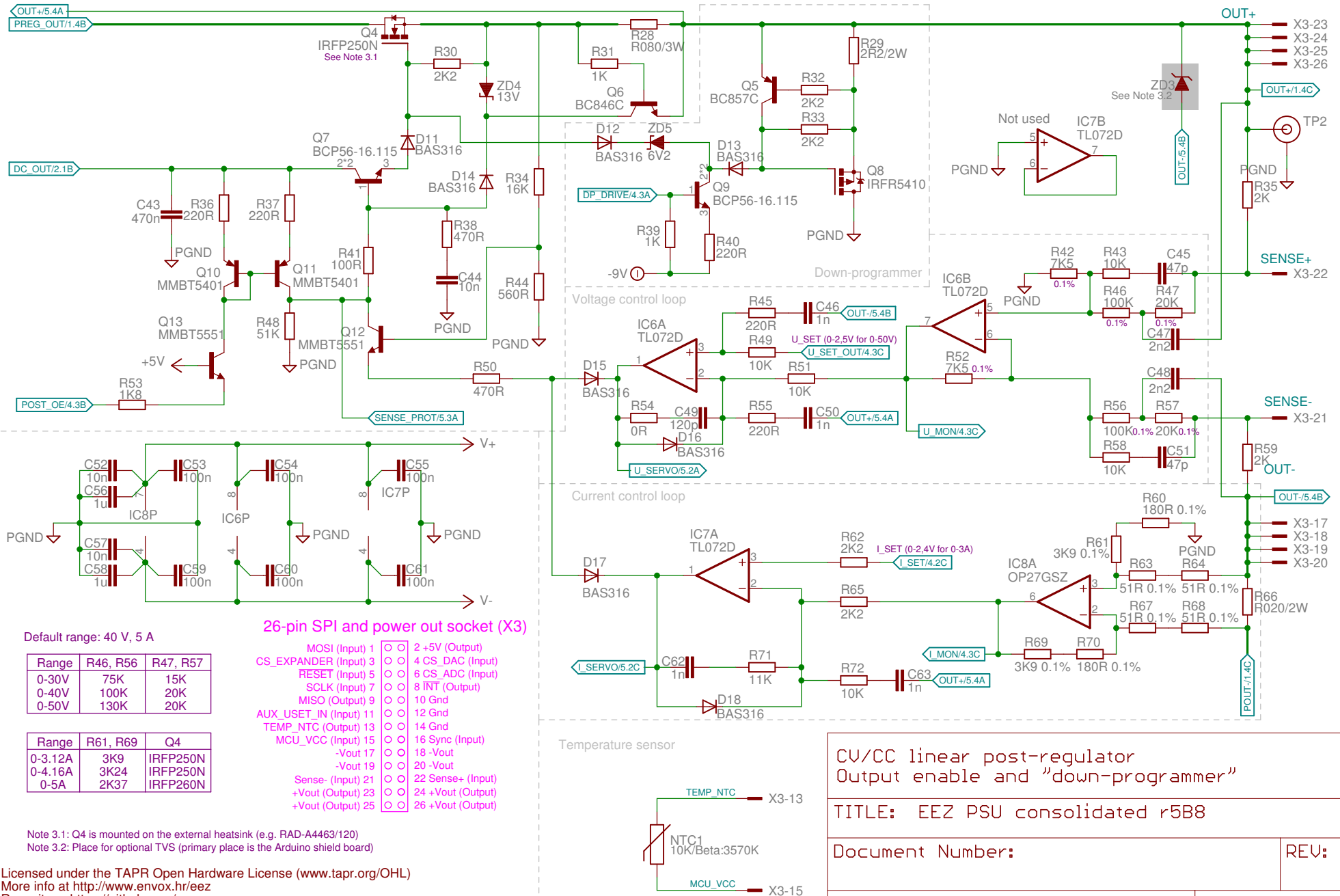
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# Digital control (SPI)

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

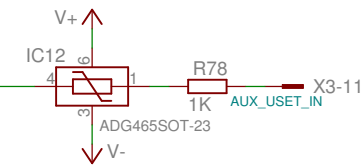
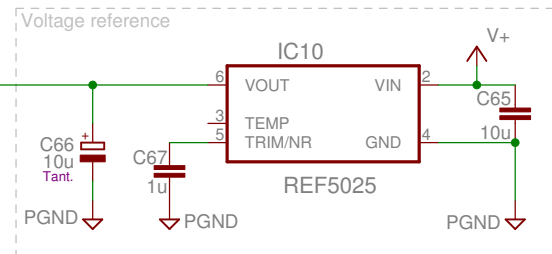
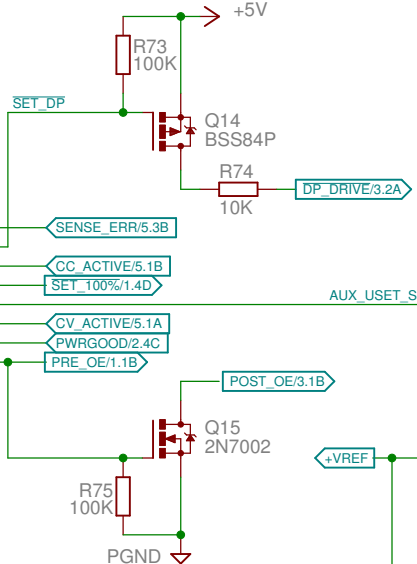
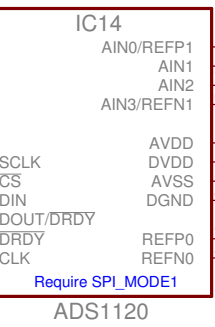
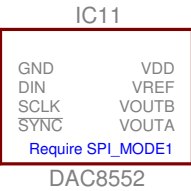
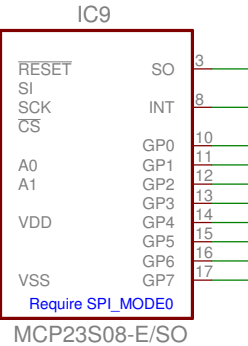
X3-14

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    |

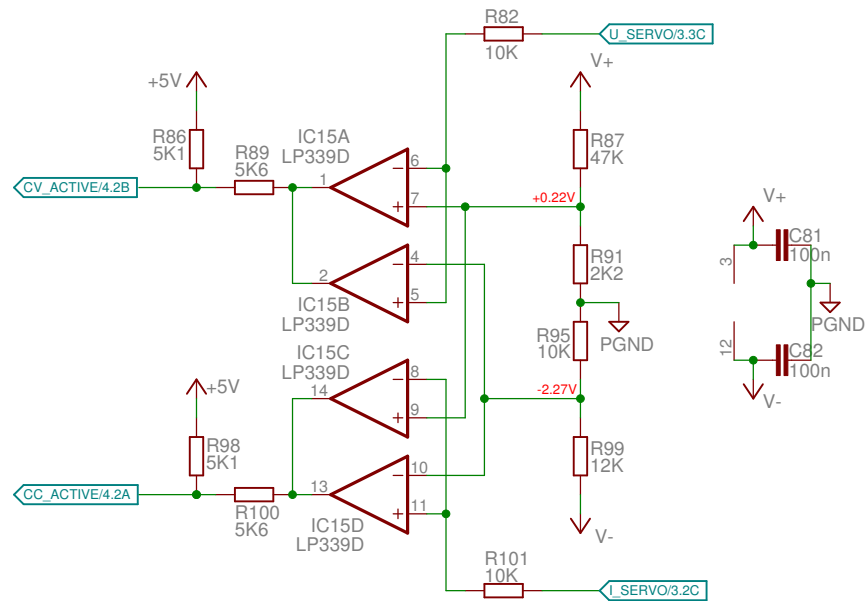
SPI I/O expander, DAC, ADC, Voltage reference  
Remote programming

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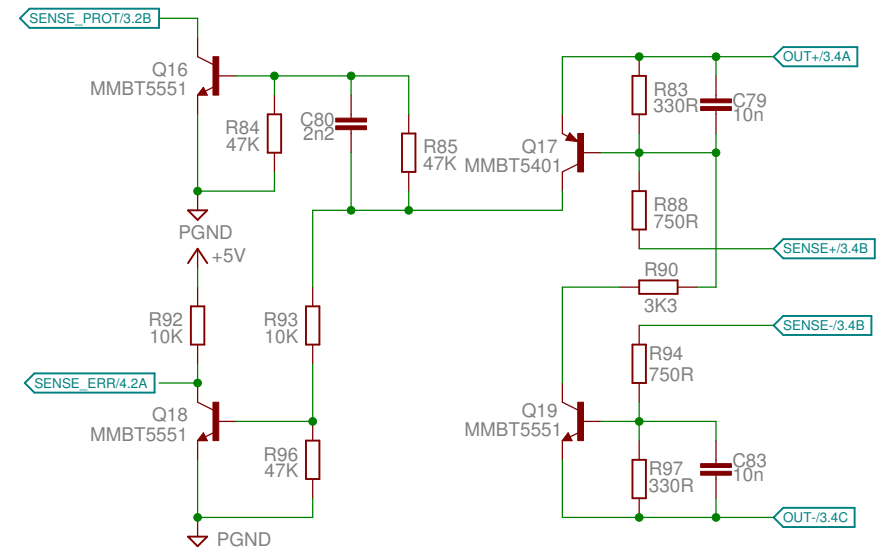
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Constant Voltage (CV) and Constant Current (CC) mode indicator



Remote sense reverse polarity detection



CC/CV indicators, Sense error detection

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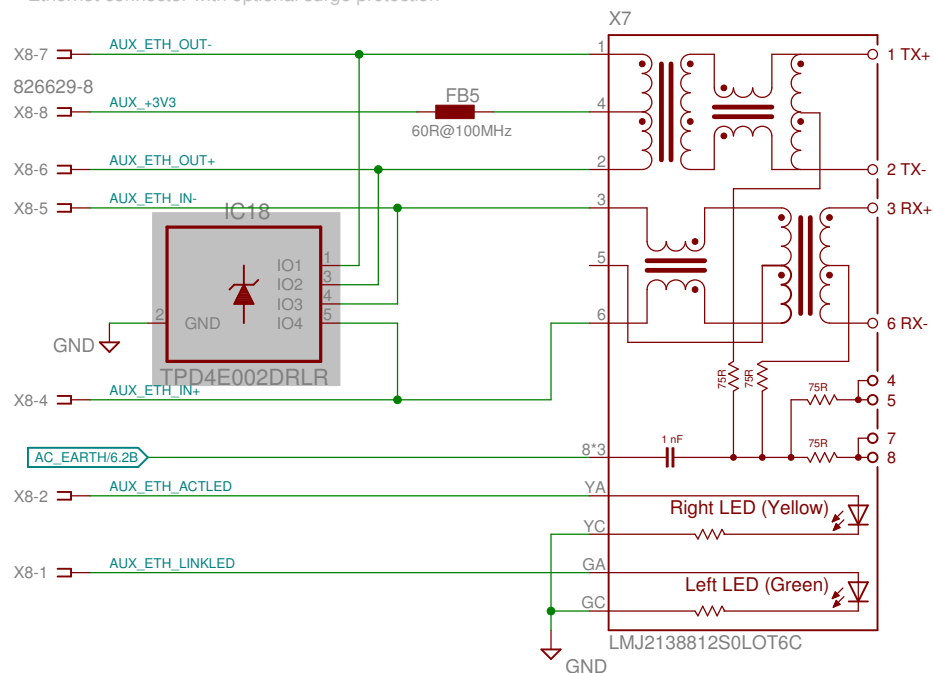
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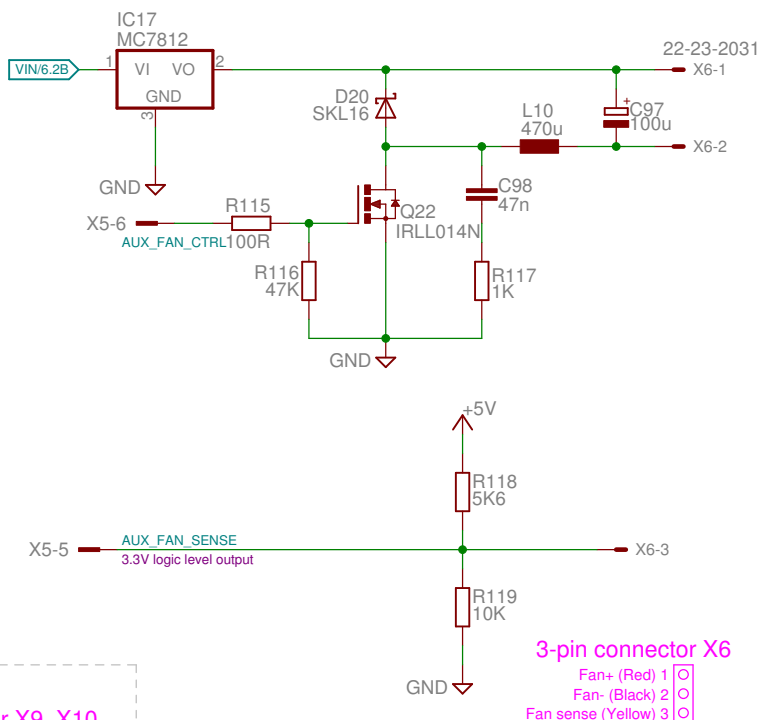
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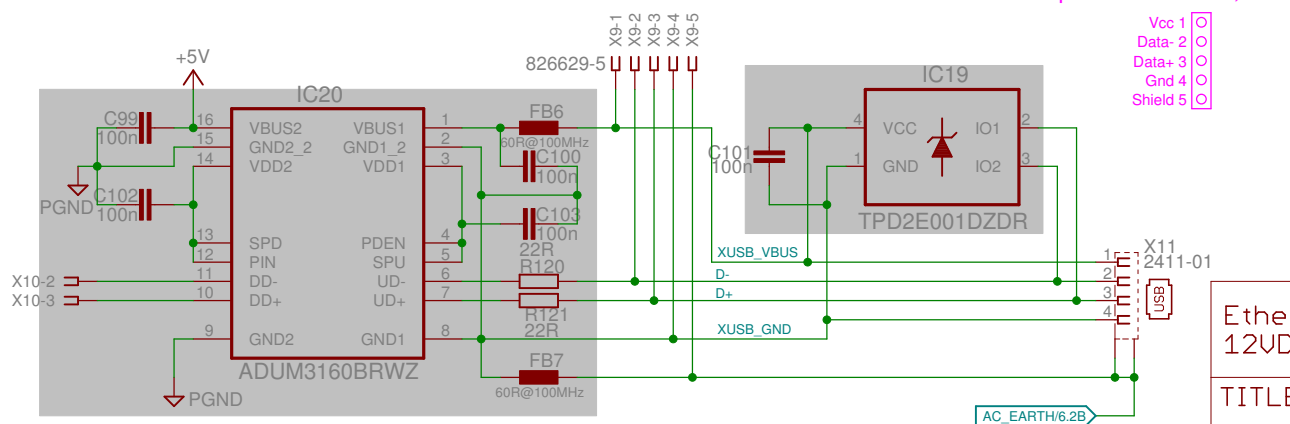
# Ethernet connector with optional surge protection



# 12VDC fan control



# USB connector with optional isolator and surge protection



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

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

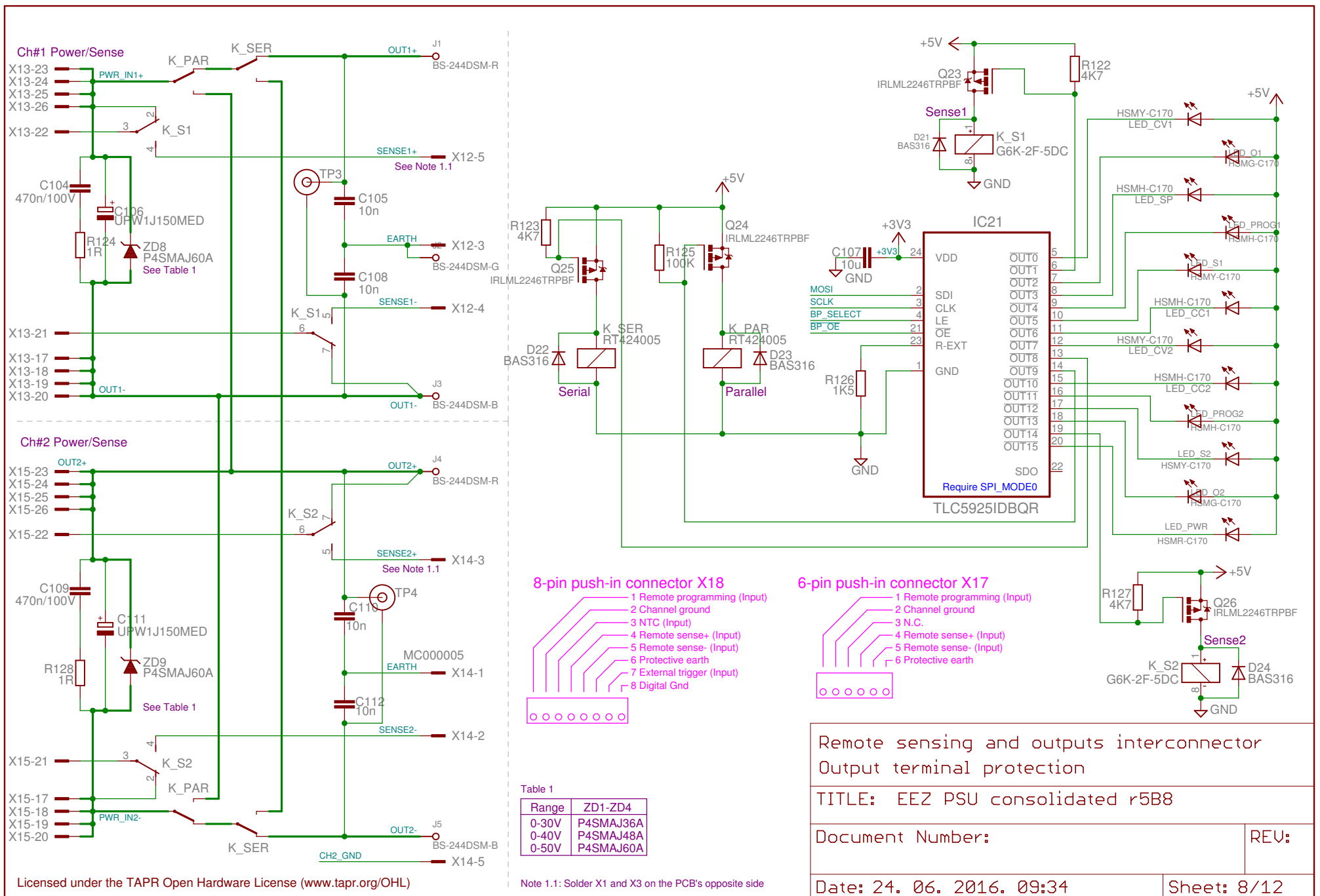
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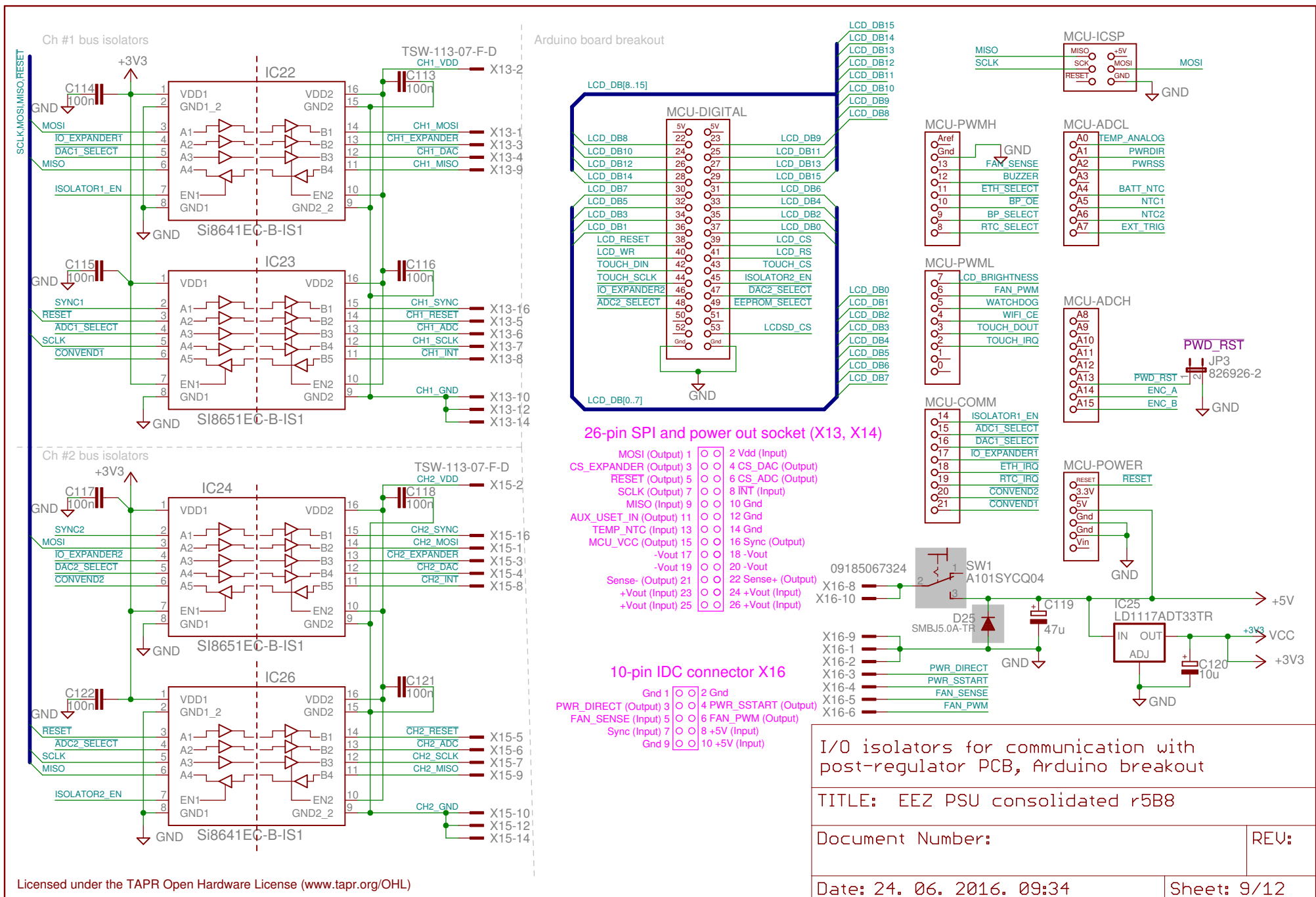
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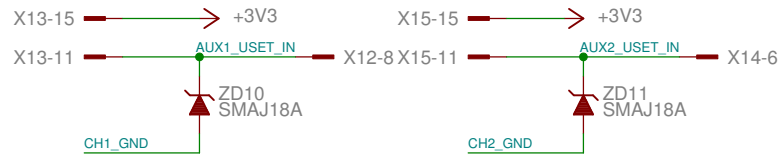




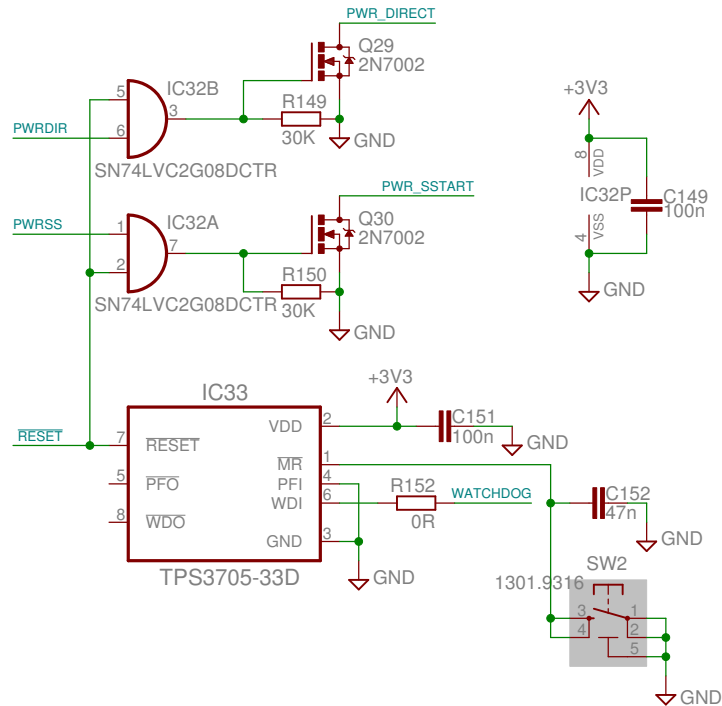




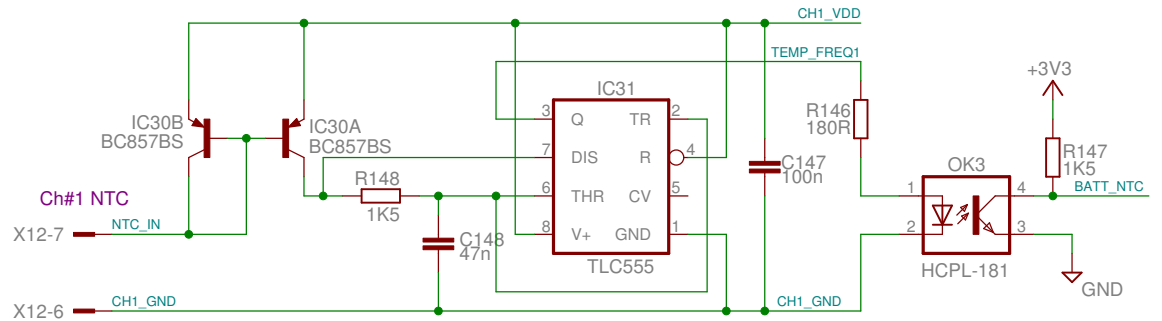
### Remote programming inputs



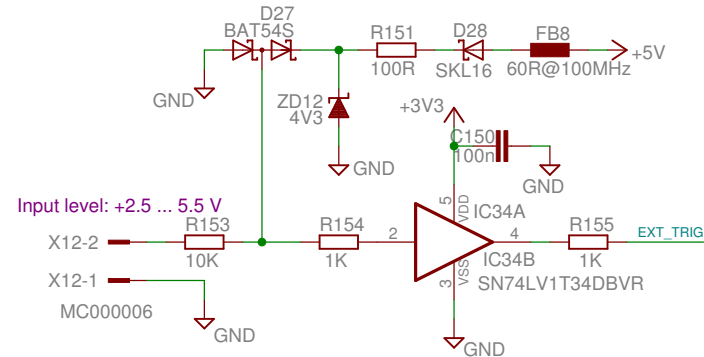
### Power-on reset generator and power control



### 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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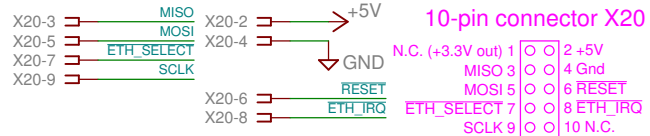
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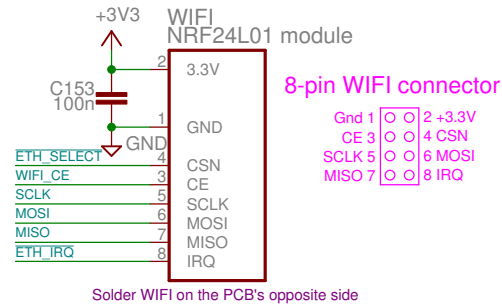
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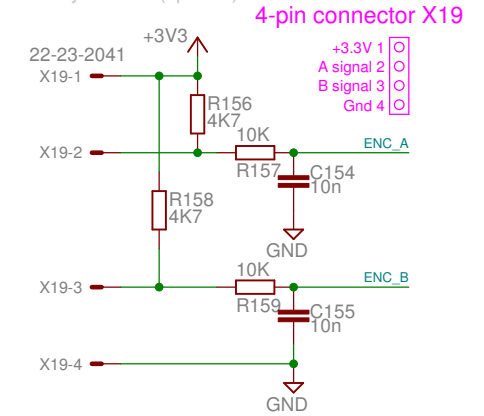
### Optional Ethernet module connector



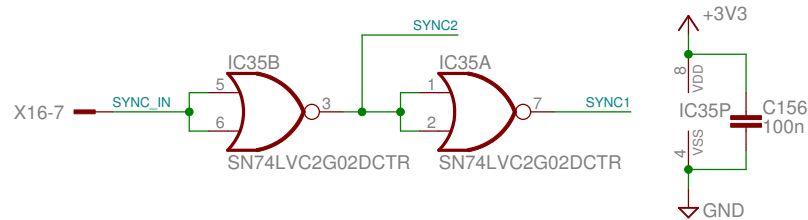
### Optional Wifi module connector



### Rotary encoder (optional)



### Master sync signal phase shifting



Optional ethernet, Wifi and encoder  
Power boards SMPS sync

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