

Note 1.1: Possible alternative AUFR5305, SUD19P06-60, SPD30P06P or other with similar or lower input capacitance
 Note 1.2: WE 7447709330, WE 7443551331, Coilcraft MSS1210-333, Coilcraft XAL1510-333, Vishay IHL4040DZER470M11, etc.
 Note 1.3: Use 240K for 30 VAC main transformer
 Note 1.4: Install 0R only if 100% Duty cycle feature for Low Ripple mode is not needed
 Note 1.5: Use R020 for 0-3.12 A or R015 for 0-4.16 A range
 Note 1.6: Replace ZD1 and C3, C5, C6 if Vin is above 50 V

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



SMPS power pre-regulator with 100% duty cycle

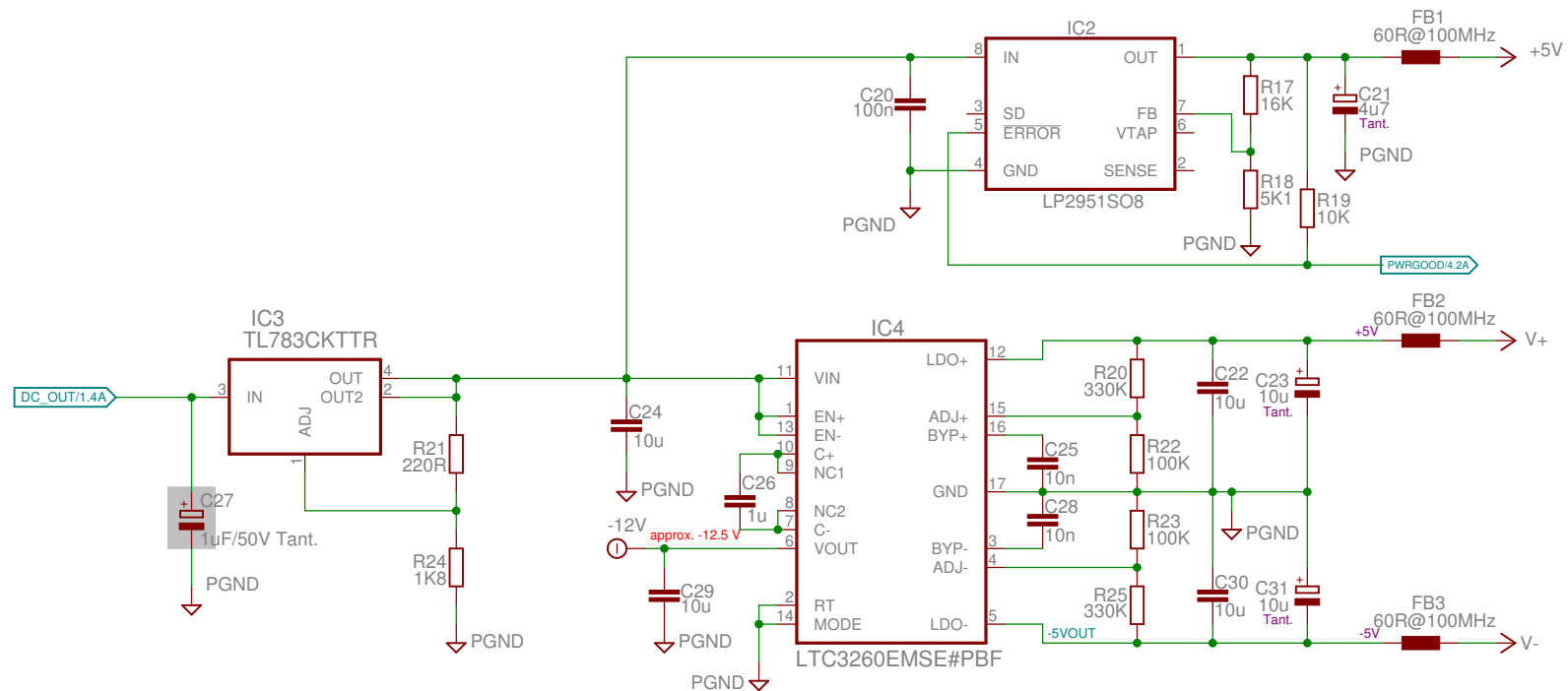
TITLE: EEZ PSU consolidated r5B12

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Bias power supply (+/-5V, +5V, -12V)
Powergood signal

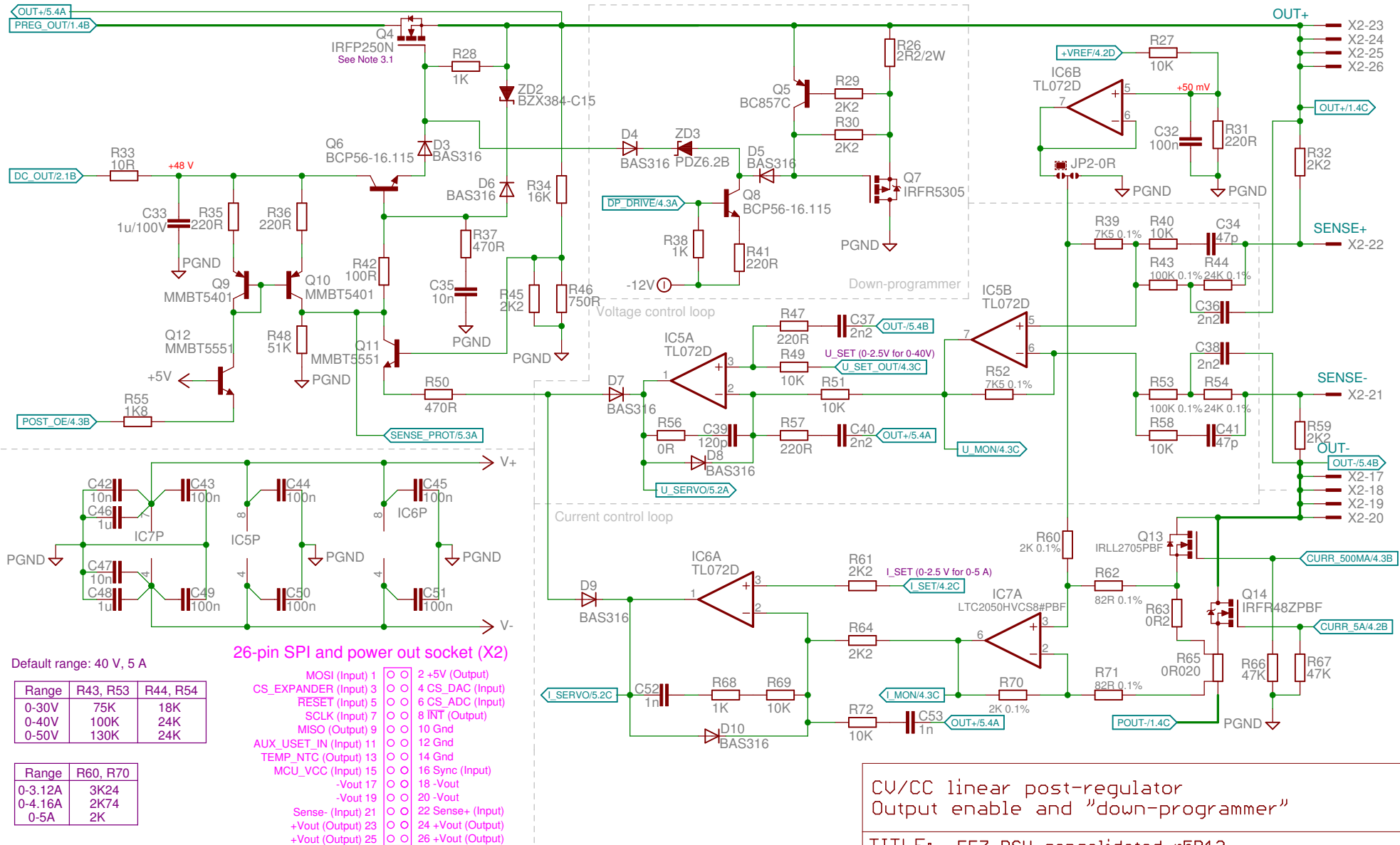
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CV/CC linear post-regulator
Output enable and "down-programmer"

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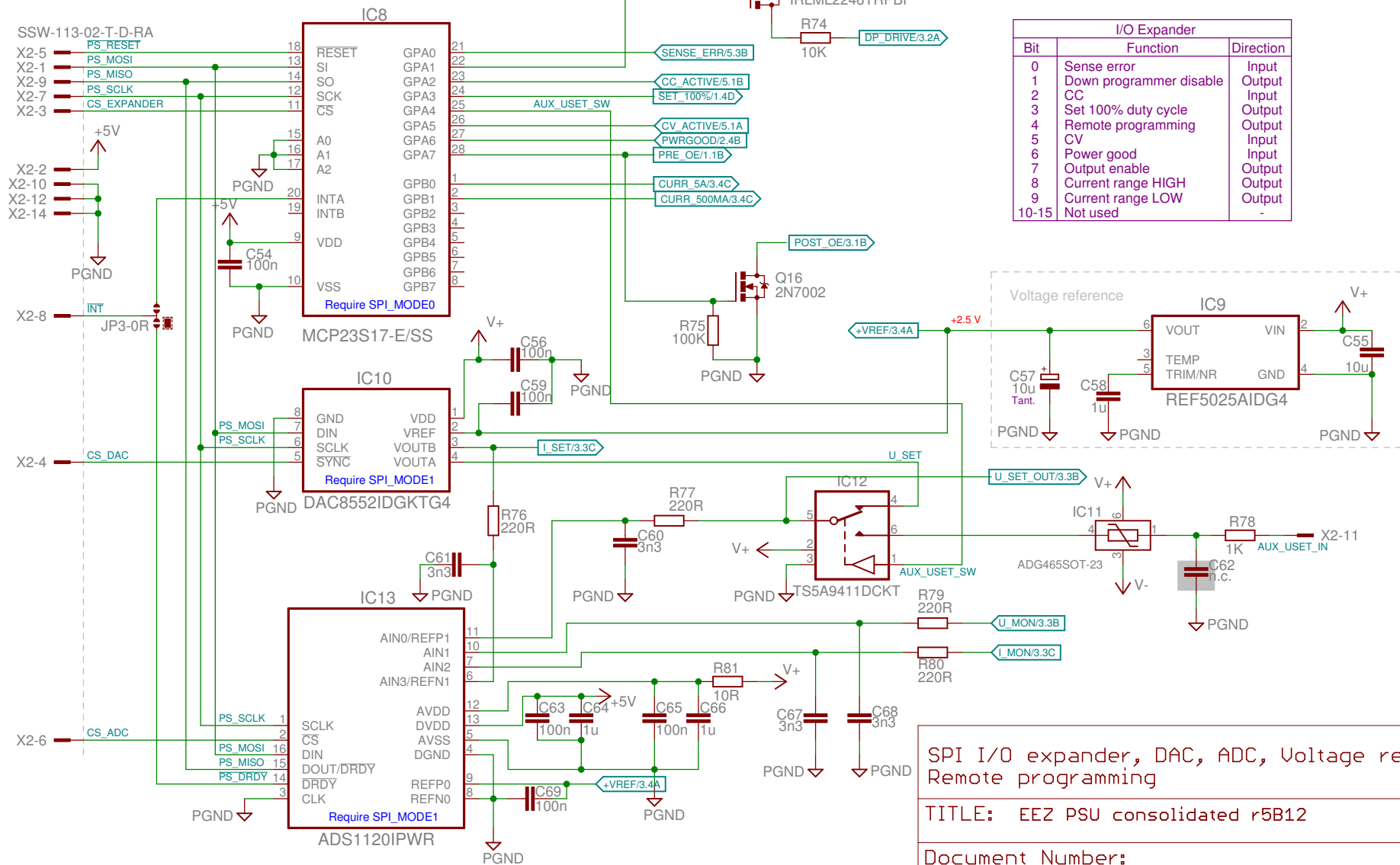
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Digital control (SPI)



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

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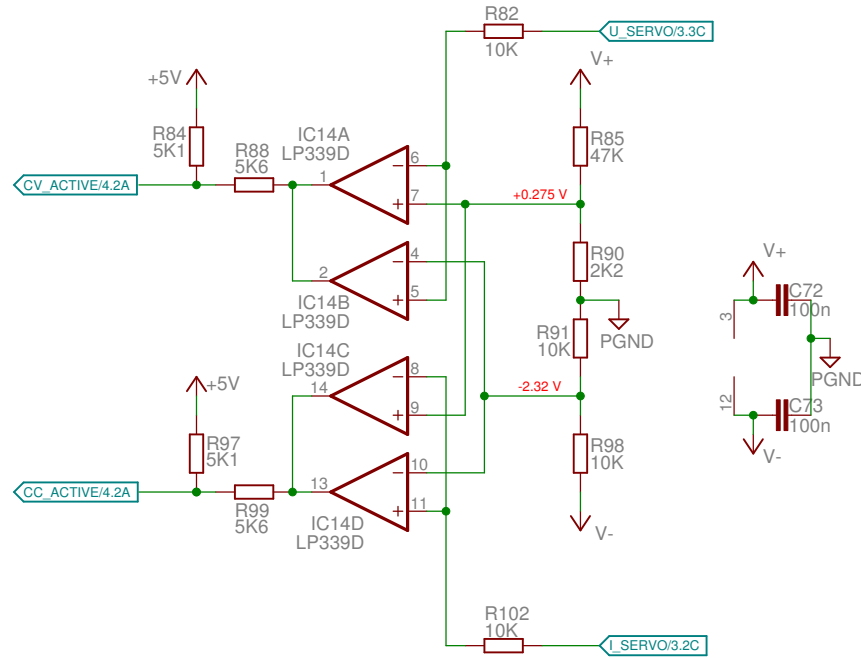
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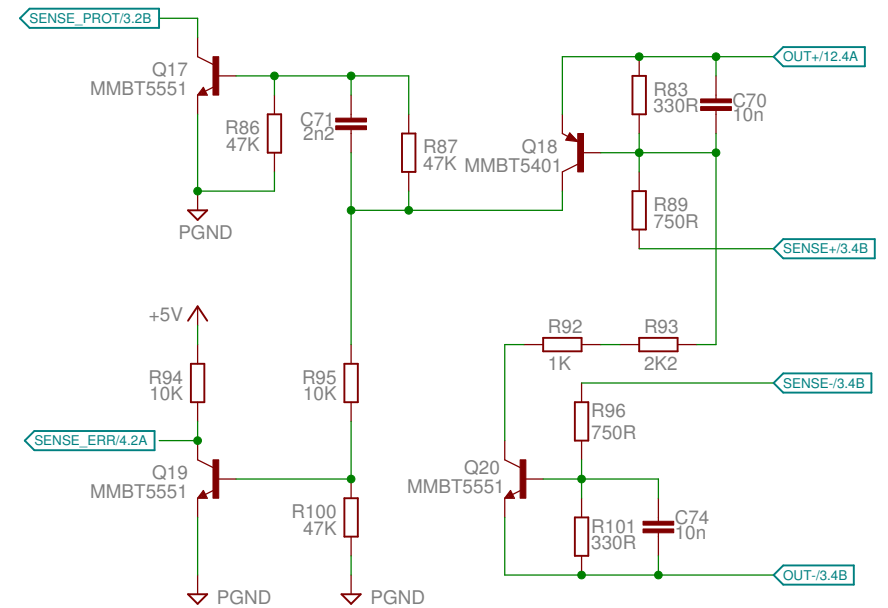
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Constant Voltage (CV) and Constant Current (CC) mode indicator



Remote sense reverse polarity detection



CC/CV indicators, Sense error detection

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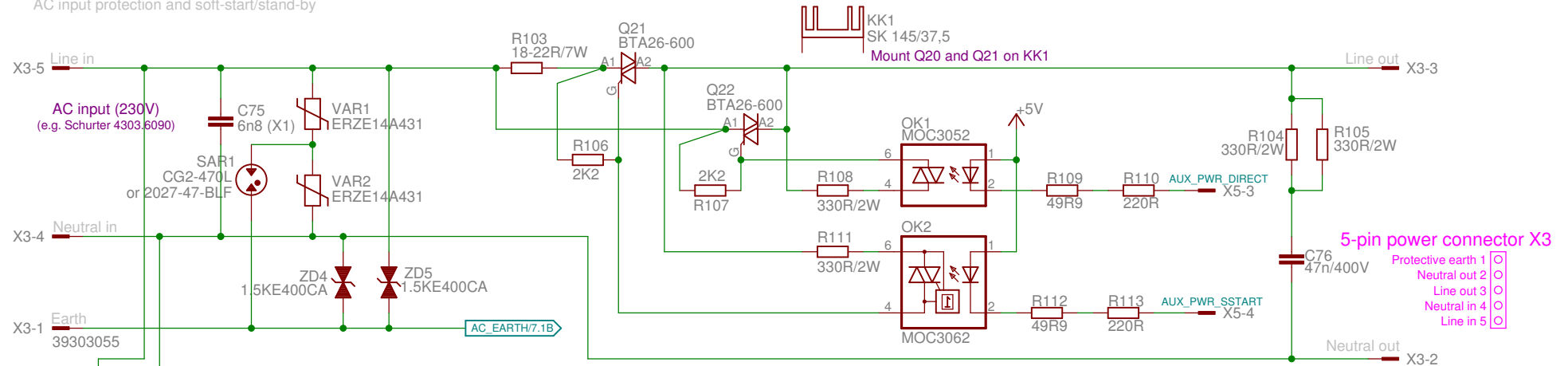
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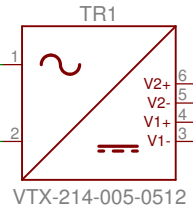
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AC input protection and soft-start/stand-by



+5 V, +12 V power supply (max. 5W)



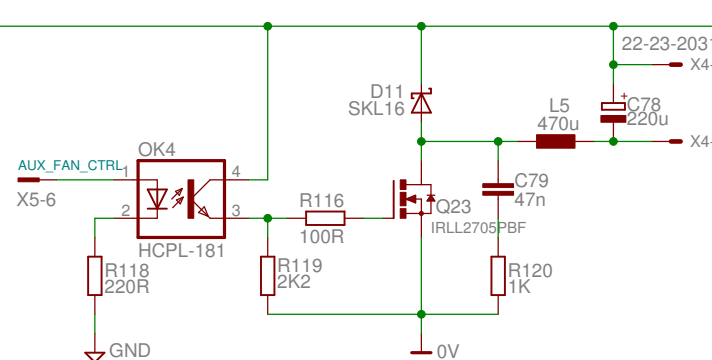
10-pin IDC connector X5

| | |
|----------------------|------------------------|
| 10 +5V (Output) | 9 Gnd 9 |
| 8 +5V (Output) | 8 DOUT2 (Output) 7 |
| 6 FAN_PWM (Input) | 6 FAN_SENSE (Output) 5 |
| 4 PWR_SSTART (Input) | 4 PWR_DIRECT (Input) 3 |
| 2 Gnd | 2 Gnd 1 |

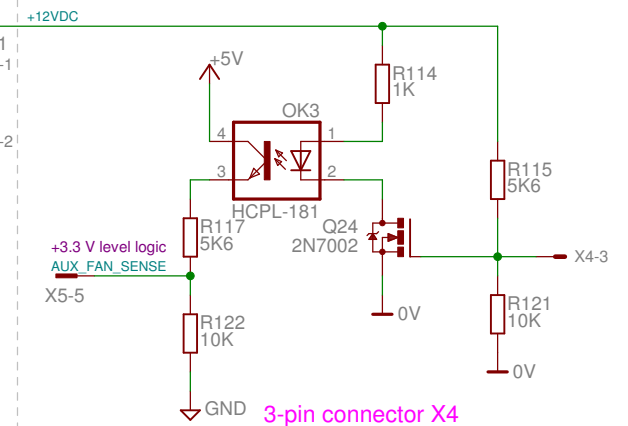
115VAC option:

| Name | Value | Code |
|------------|--------------------------------|--|
| SAR1 | 2027-23-BLF | Farnell: 1780455, TME: CG2-230L |
| TR2 | VPP24-210 | Digikey: 237-1085-ND Mouser: 553-VPP24-210 Newark: 93F8764 |
| VAR1, VAR2 | or AC/DC module Myrra 47202 | Farnell: 2469211 |
| ZD1, ZD2 | S20K140 | Farnell: 1004387, TME: SIOV-S20K140 |
| | 1.5KE200CA | Farnell: 1837117, TME: 1.5KE200CA |

+12VDC fan control



Fan sense (tacho out)



AC input protection, in-rush current limiter
+5V/+12V 5W power supply, fan control

TITLE: EEZ PSU consolidated r5B12

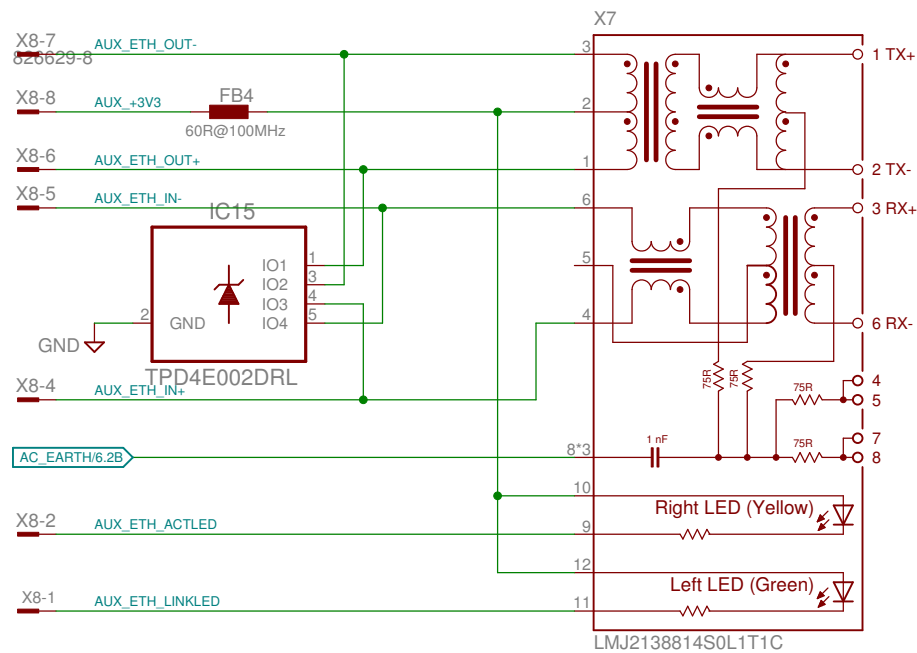
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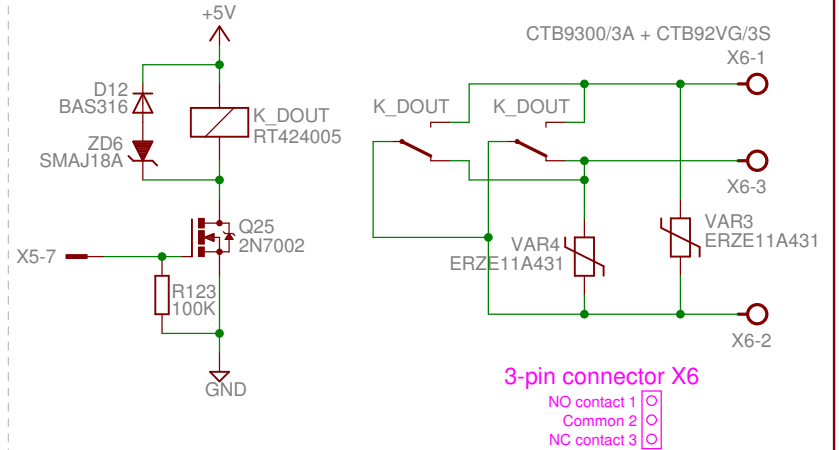
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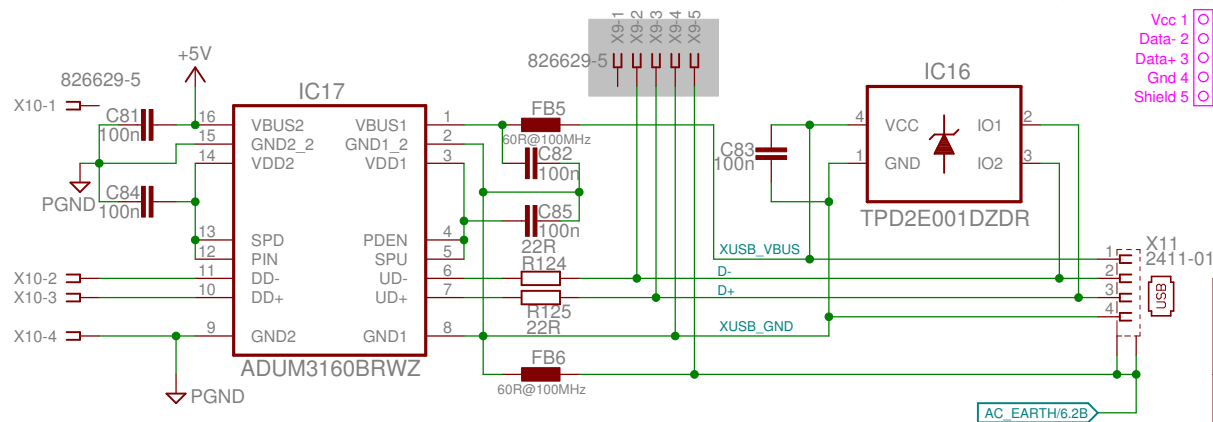
Ethernet connector with optional surge protection



Digital OUT2 relay



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

Ethernet and USB PCB connectors

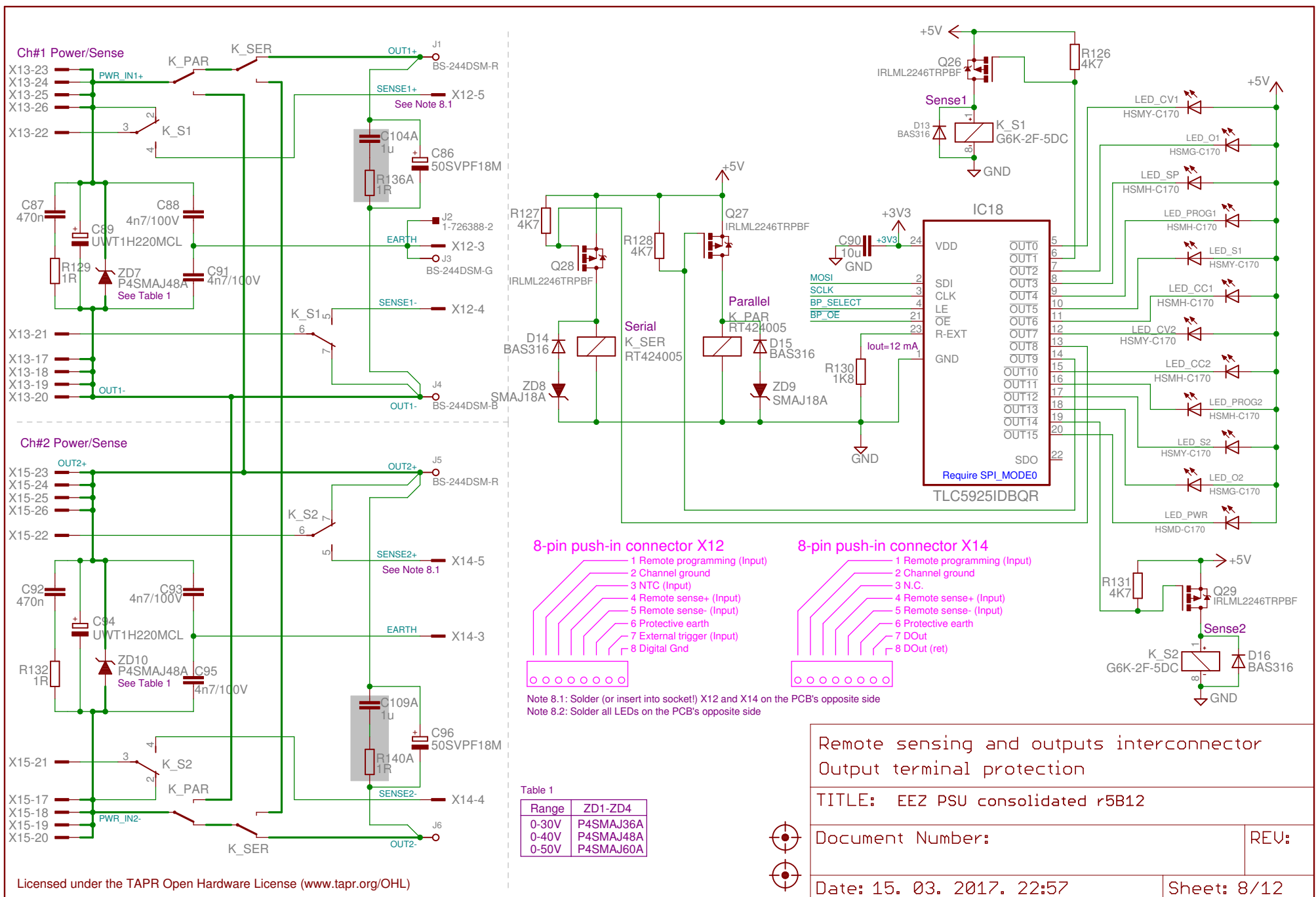
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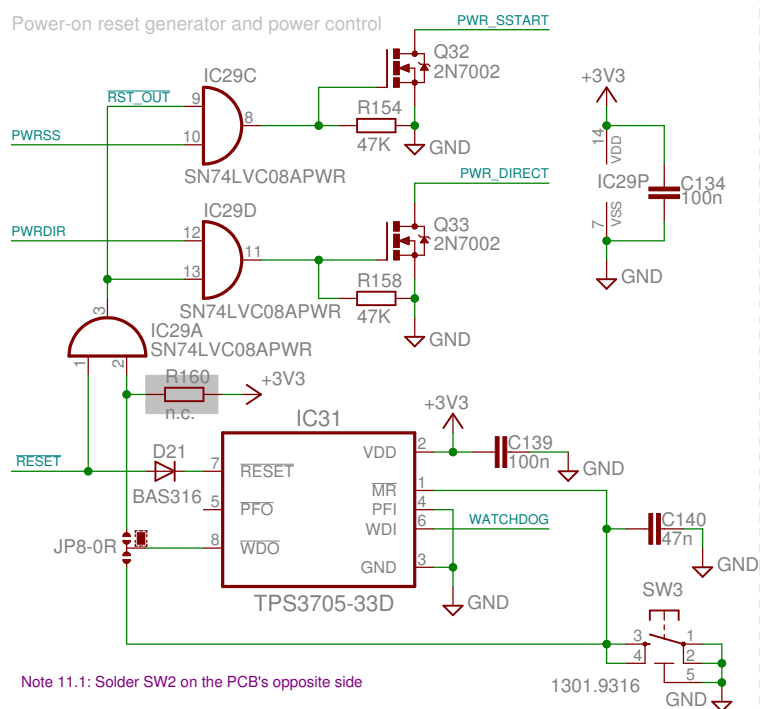
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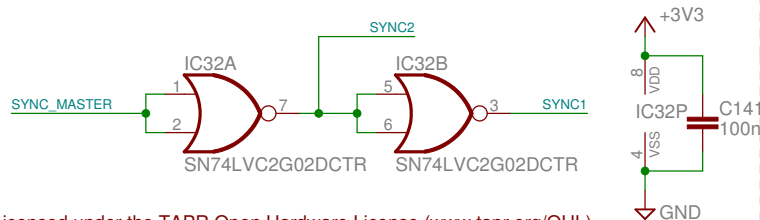
Remote programming inputs



Power-on reset generator and power control

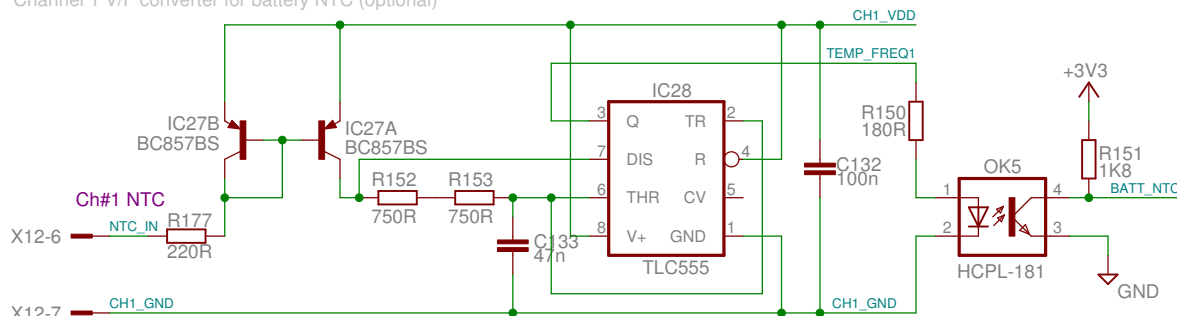


Master sync signal phase shifting

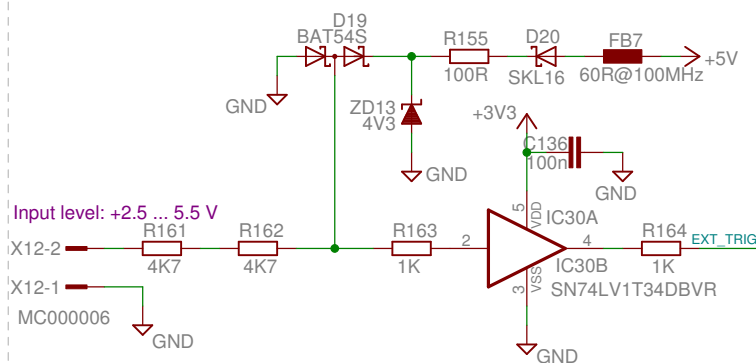


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Repository: <https://github.com/eez-open>

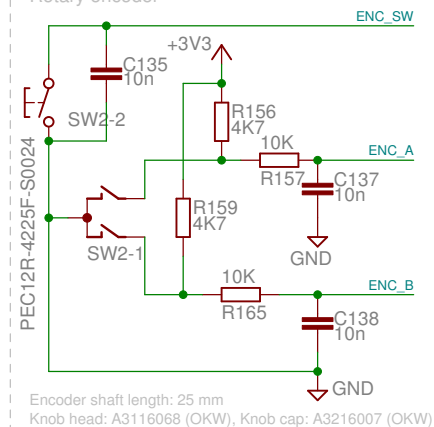
Channel 1 V/F converter for battery NTC (optional)



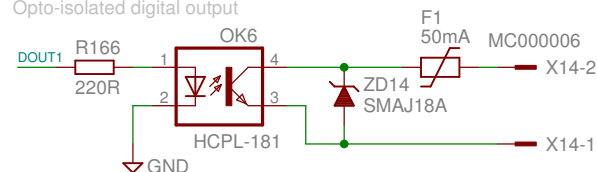
External trigger protection and level shifter/buffer



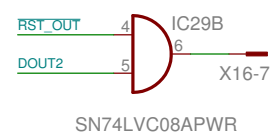
Rotary encoder



Opto-isolated digital output



DOUT2 driver



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

TITLE: EEZ PSU consolidated r5B12

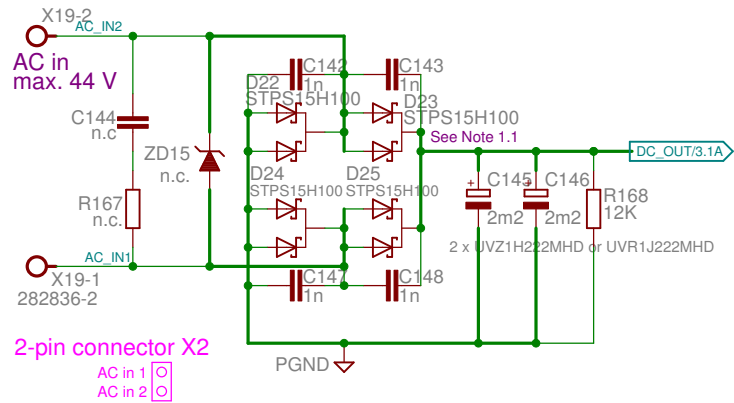
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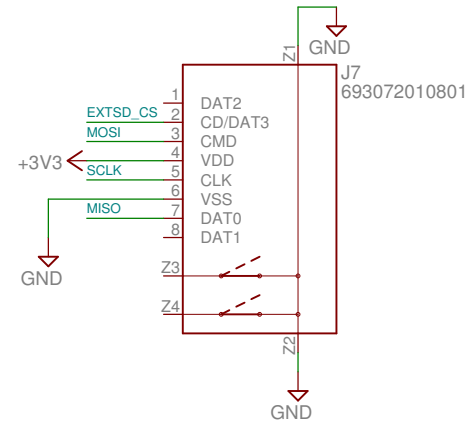
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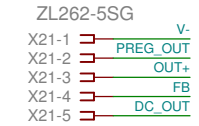
AC input option



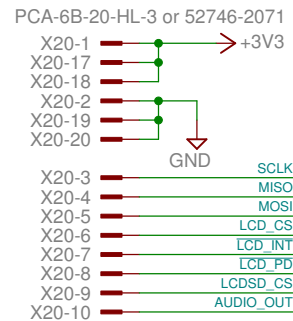
Micro SD card (optional)



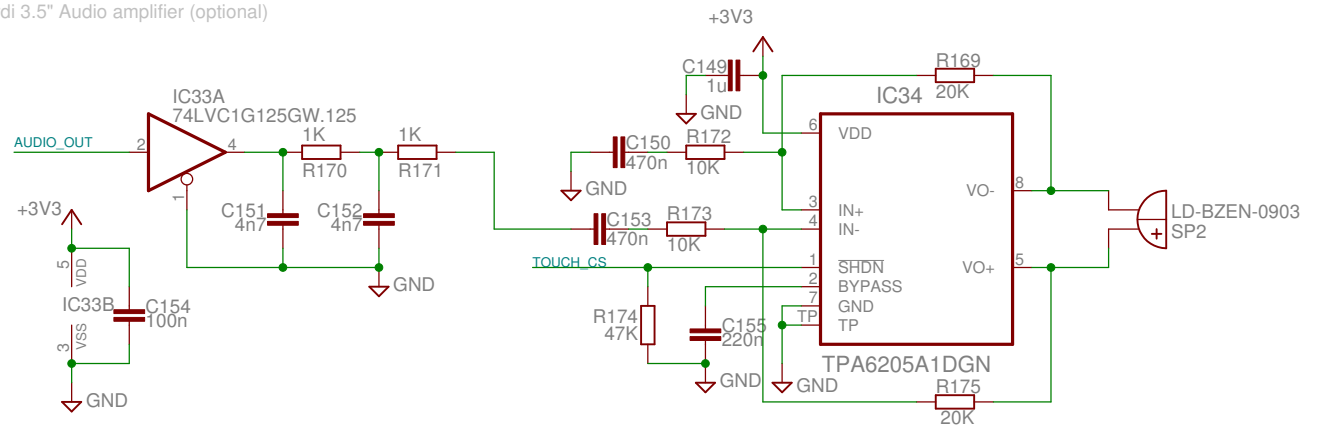
Pre-regulator tracking (optional)



Riverdi 3.5" LCD (optional)



Riverdi 3.5" Audio amplifier (optional)



Optional sections: AC input, 20-pin 3.5" TFT display
Audio amplifier for 3.5" TFT display, Micro SD card

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