

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

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



SMPS power pre-regulator with 100% duty cycle

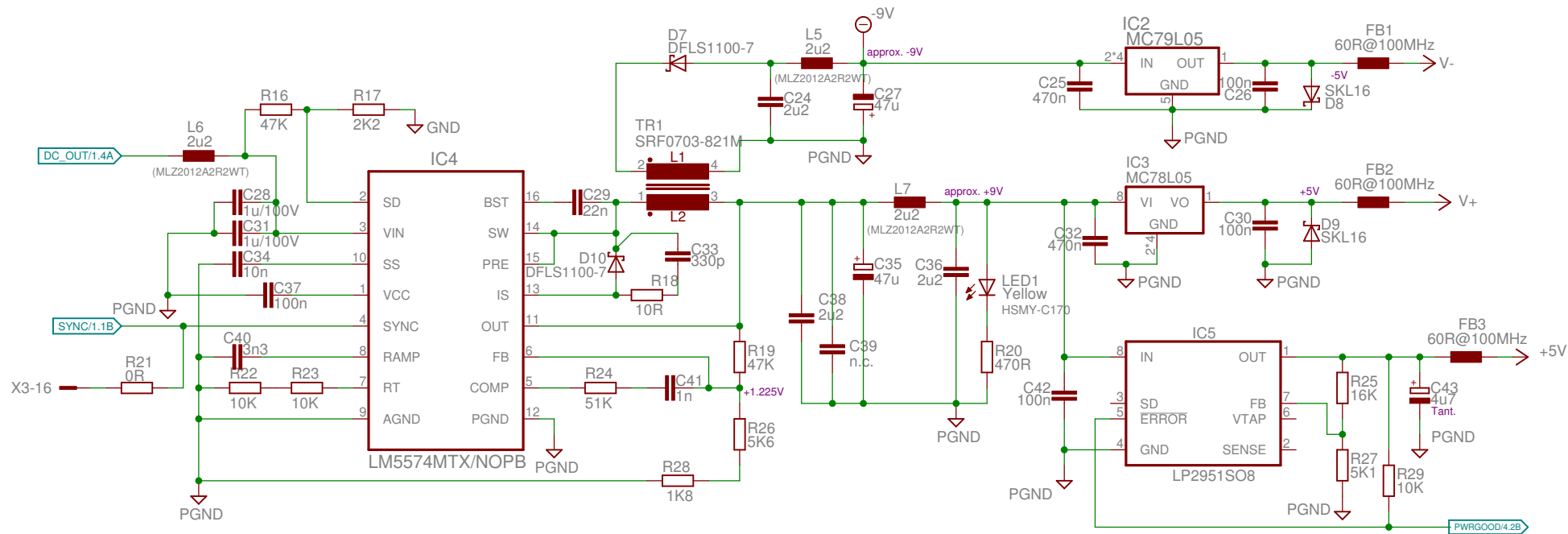
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Bias power supply with SMPS pre-regulator

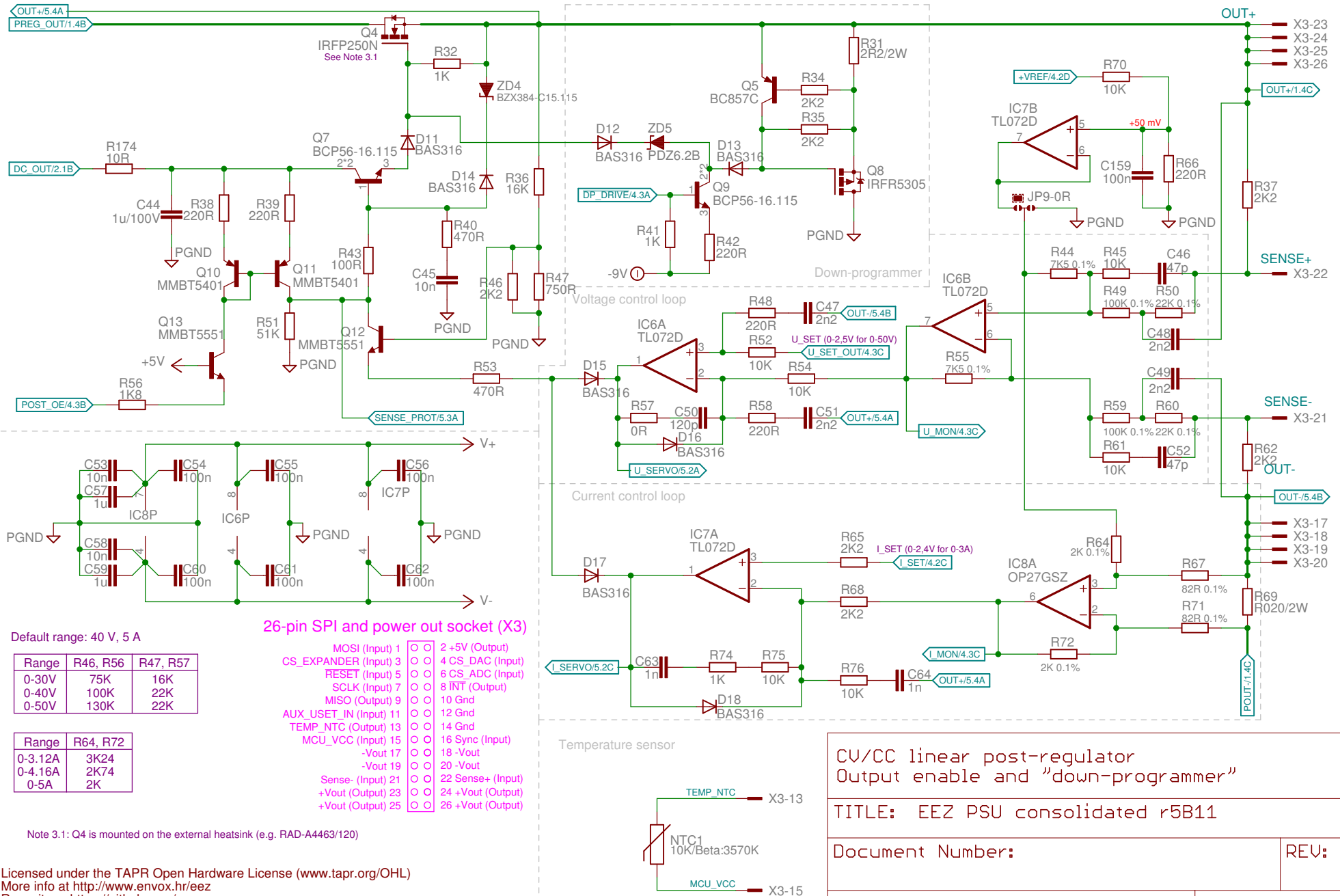
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CV/CC linear post-regulator
Output enable and "down-programmer"

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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

PGND

X3-6

CS_ADC

PGND

PGND

PGND

PGND

PGND

PGND

PGND

PGND

PGND

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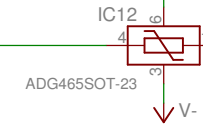
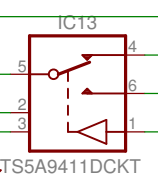
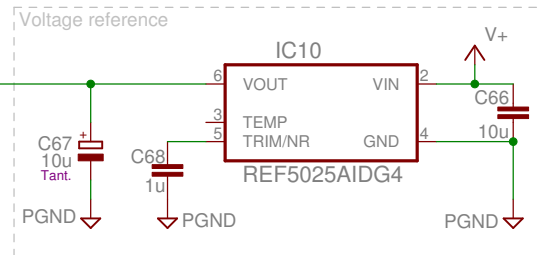
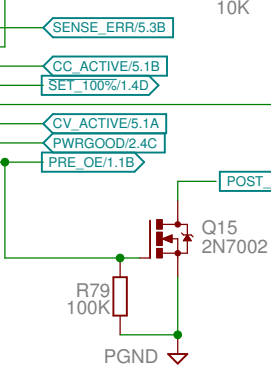
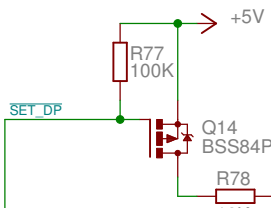
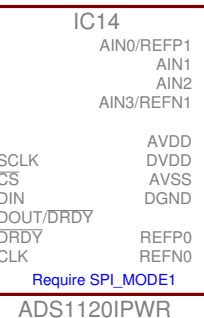
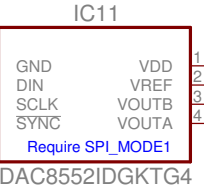
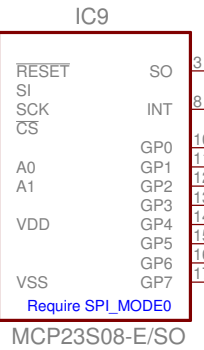
PGND

PGND

PGND

PGND

PGND



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

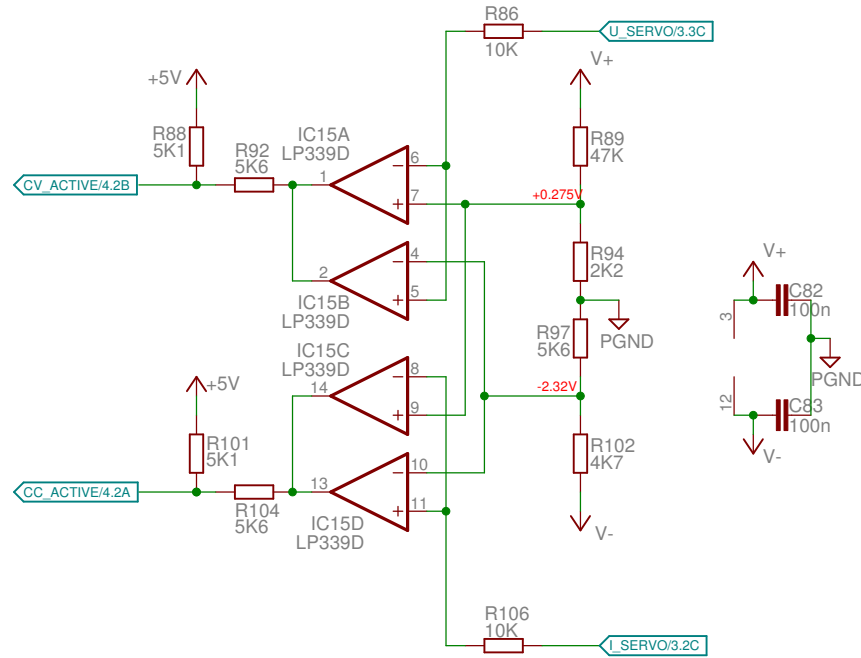
SPI I/O expander, DAC, ADC, Voltage reference
Remote programming

TITLE: EEZ PSU consolidated r5B11

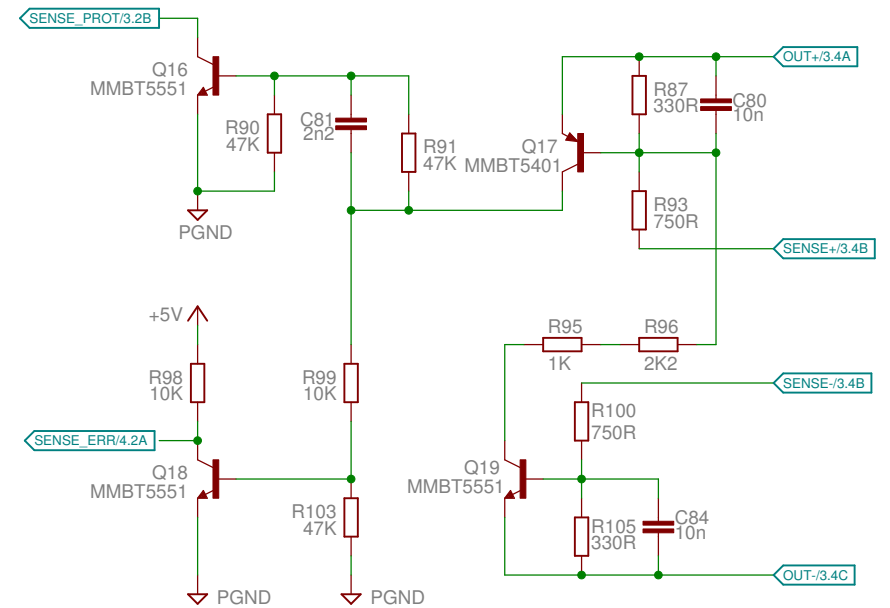
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Constant Voltage (CV) and Constant Current (CC) mode indicator



Remote sense reverse polarity detection



CC/CV indicators, Sense error detection

TITLE: EEZ PSU consolidated r5B11

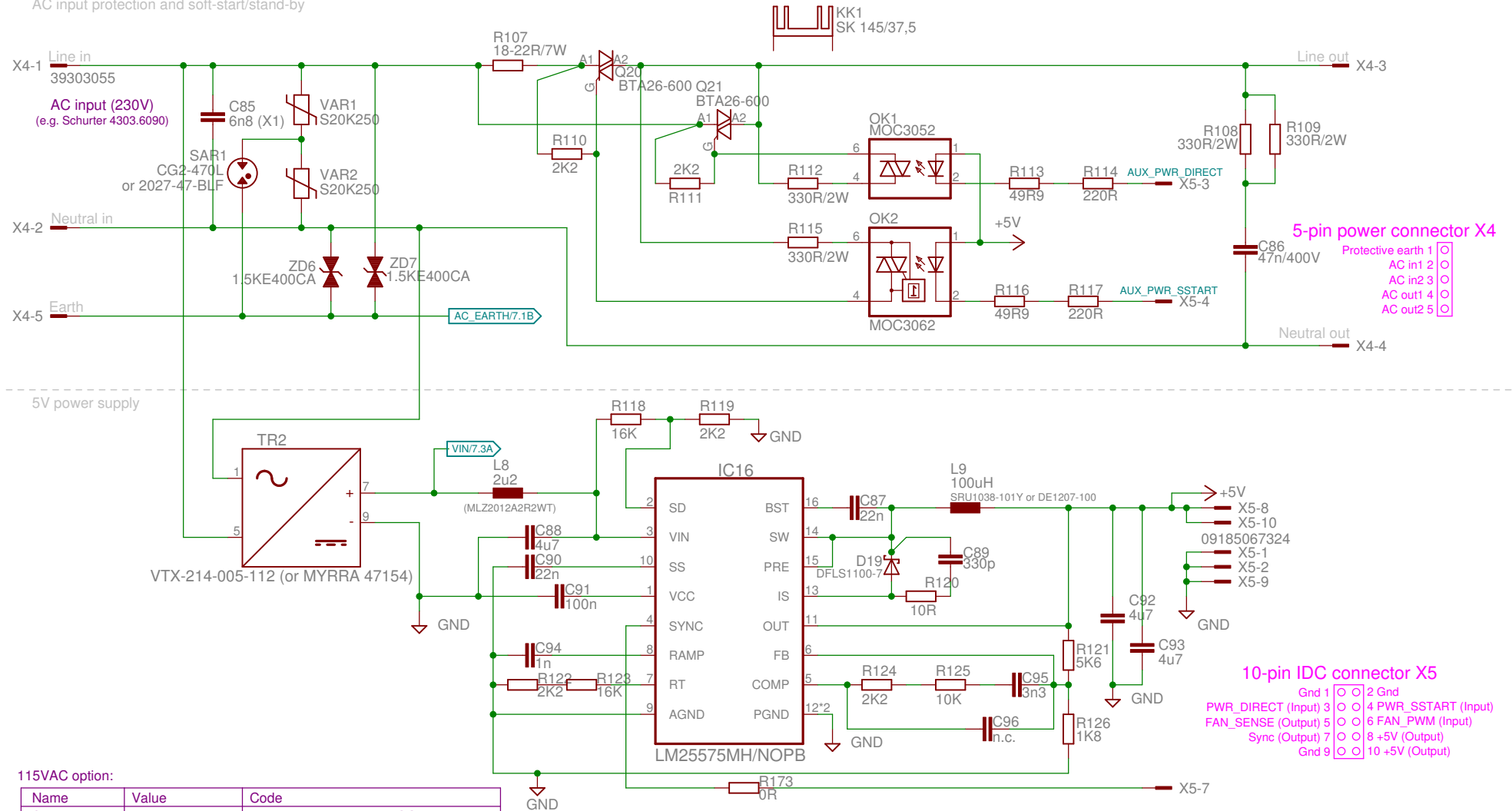
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AC input protection and soft-start/stand-by



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	Farnell: 2469211
ZD1, ZD2	Myrra 47202	Farnell: 1004387, TME: SIOV-S20K140
	S20K140	Farnell: 1837117, TME: 1.5KE200CA
	1.5KE200CA	

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

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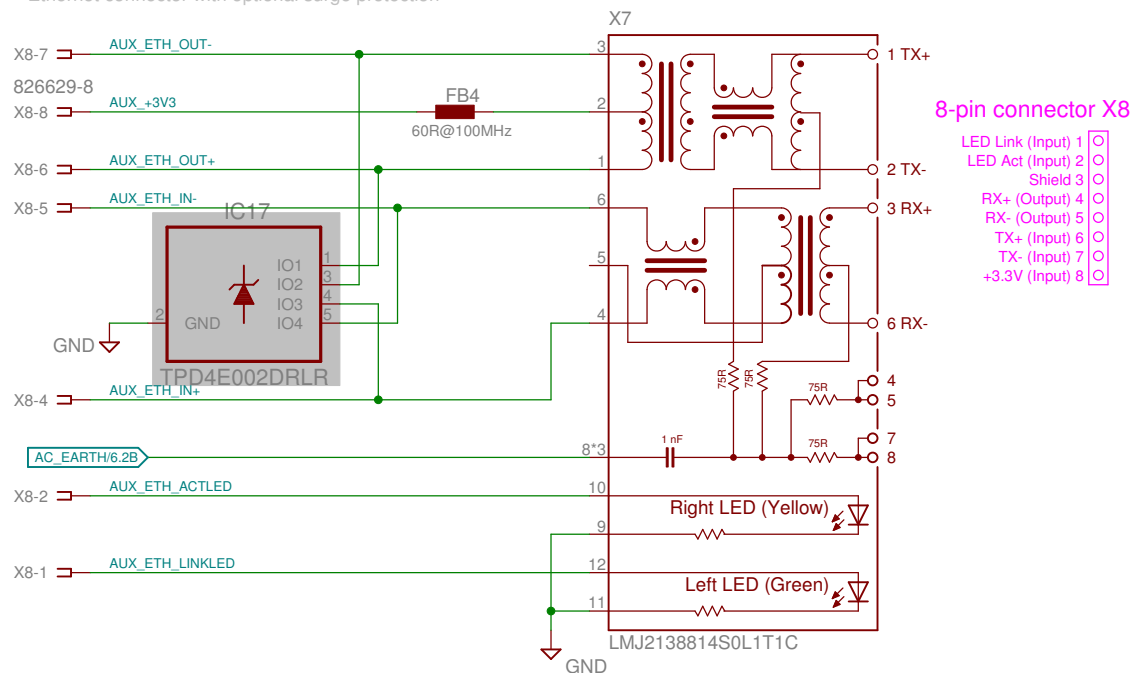
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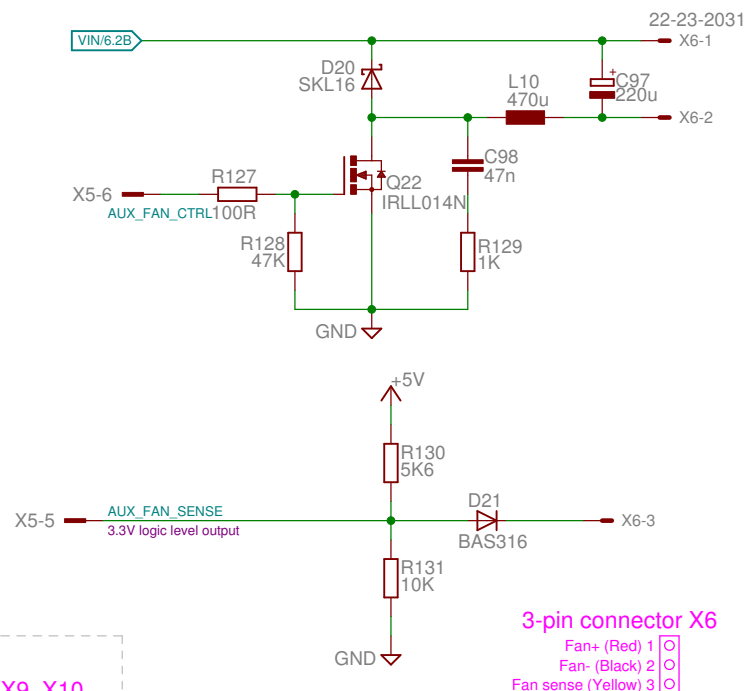
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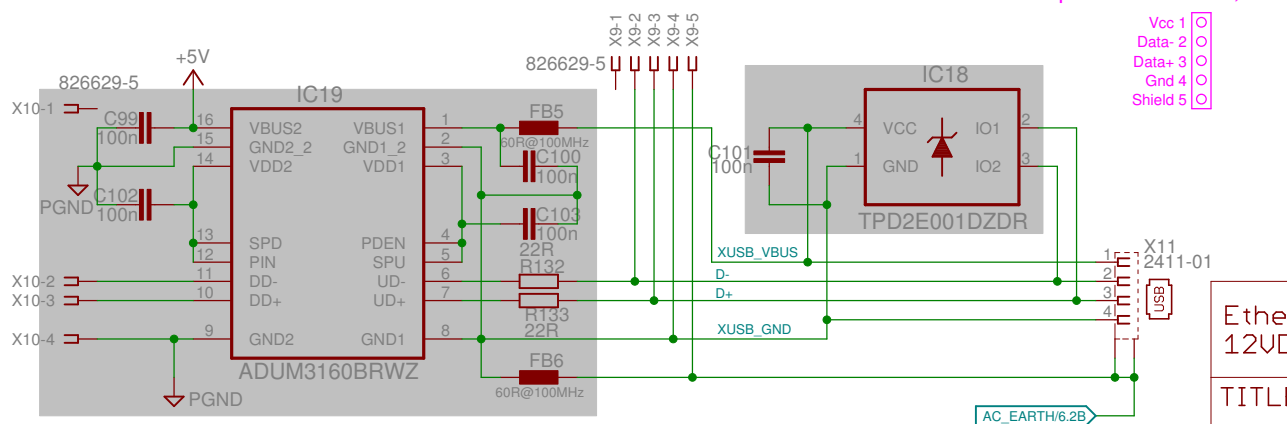
Ethernet connector with optional surge protection



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

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

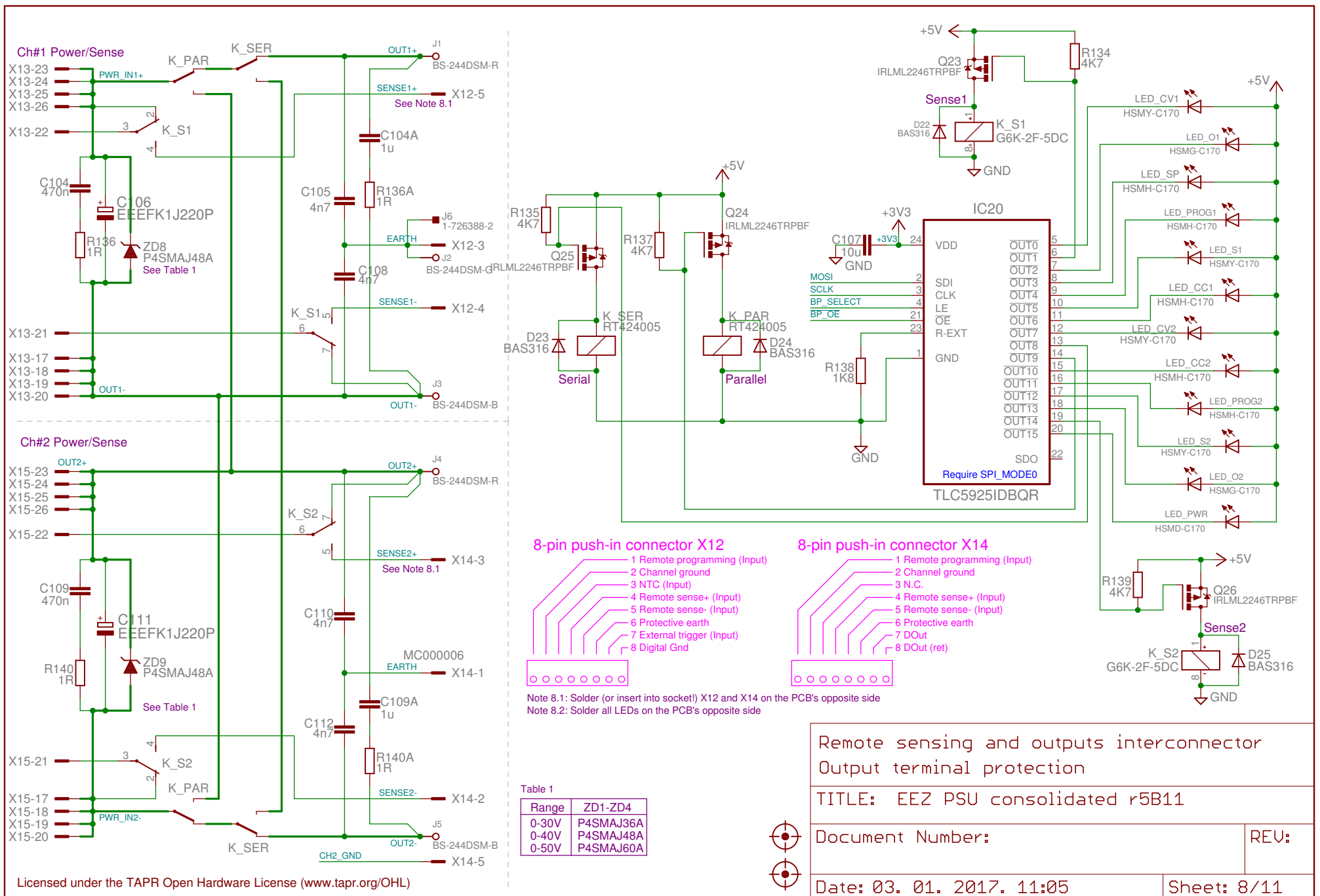
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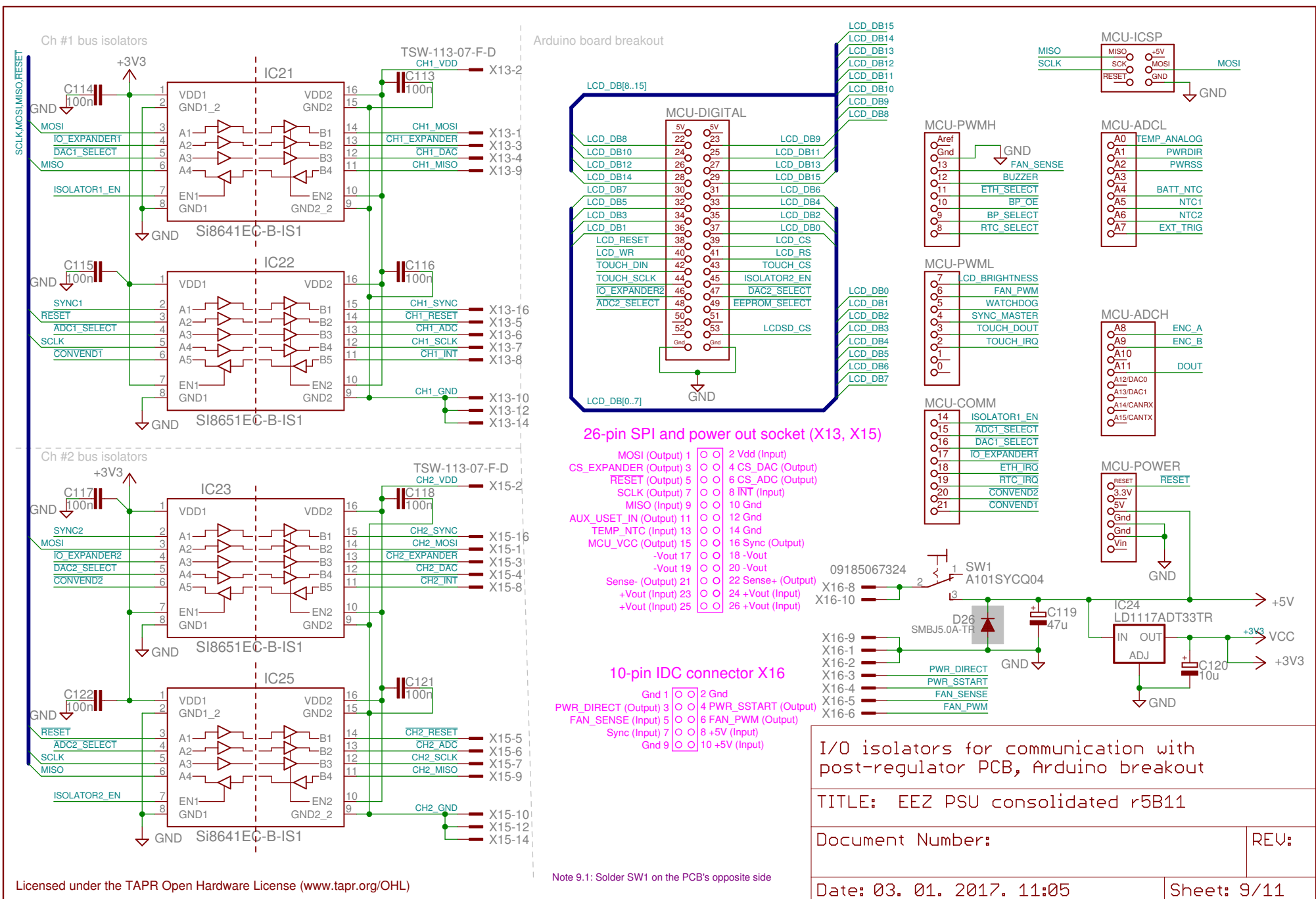
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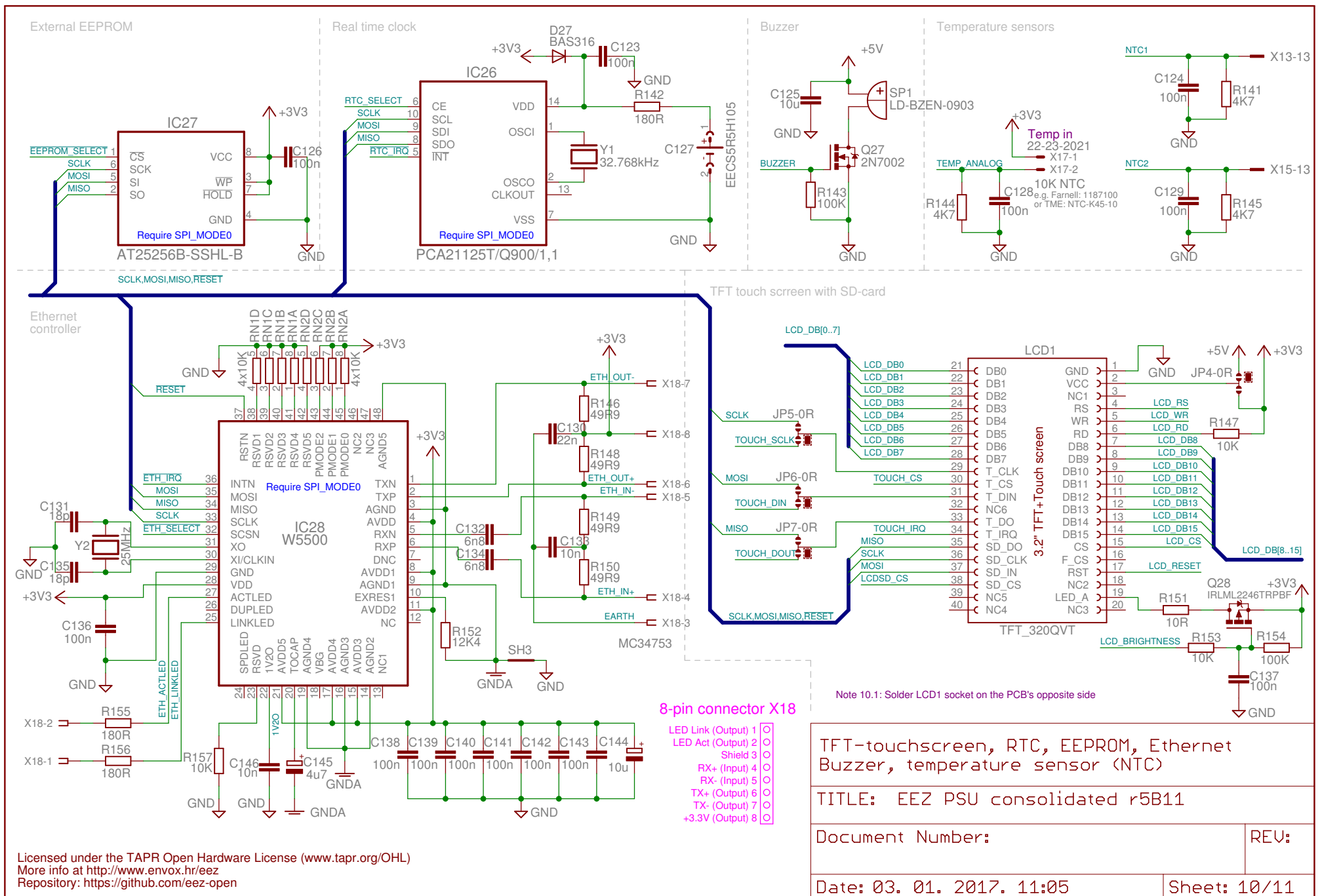
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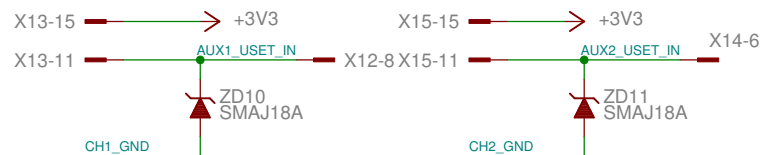
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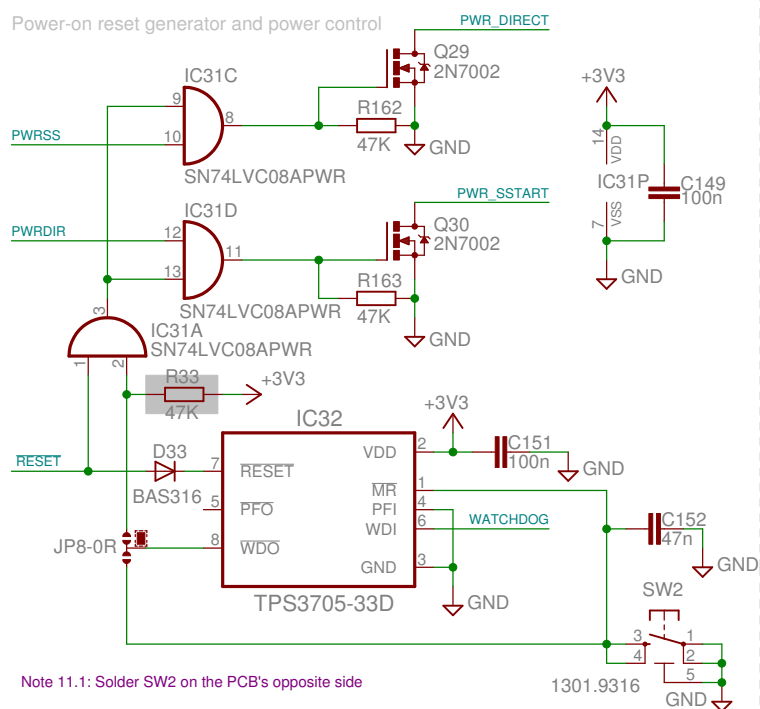




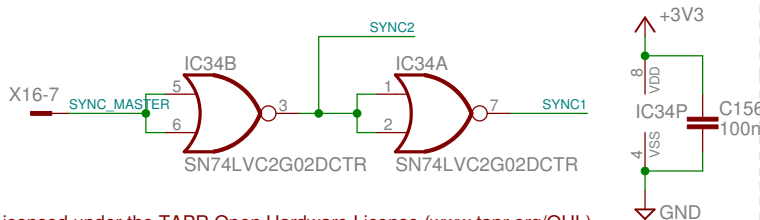
Remote programming inputs



Power-on reset generator and power control

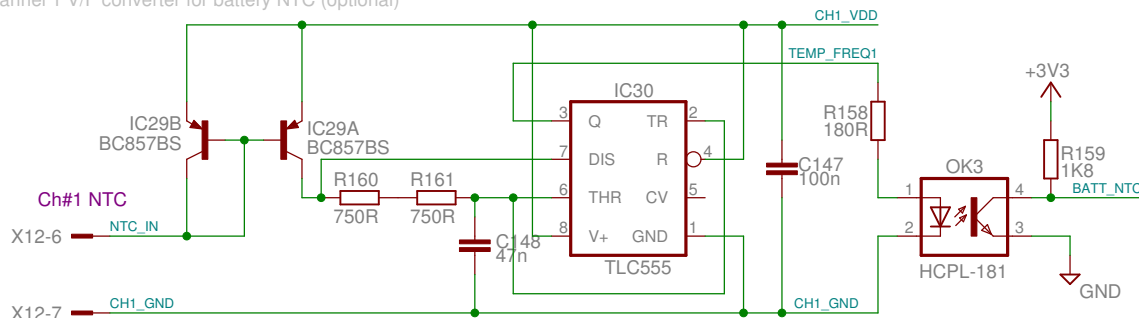


Master sync signal phase shifting

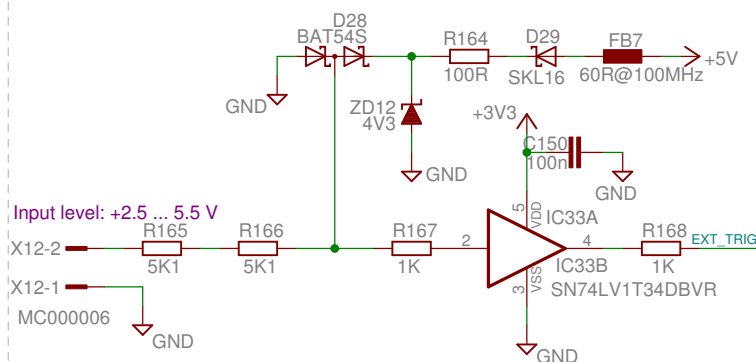


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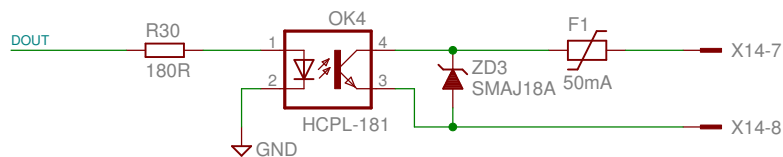
Channel 1 V/F converter for battery NTC (optional)



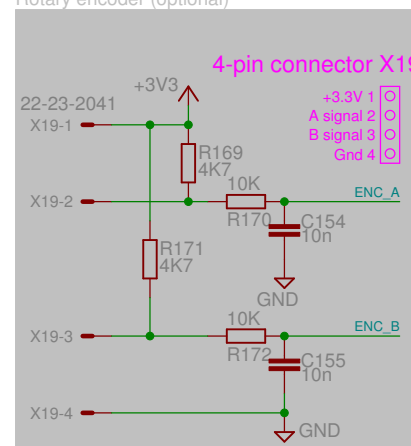
External trigger protection and level shifter/buffer



Opto-isolated digital output



Rotary encoder (optional)



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

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