

Note 1.1: Possible alternative AU1RFR5305, 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 IHLP4040DZER470M11, 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

Licensed under the TAPR Open Hardware License (www.tapr.org/OHL)
 More info at <http://www.envox.hr/eez>
 Repository: <https://github.com/eez-open>



SMPS power pre-regulator with 100% duty cycle

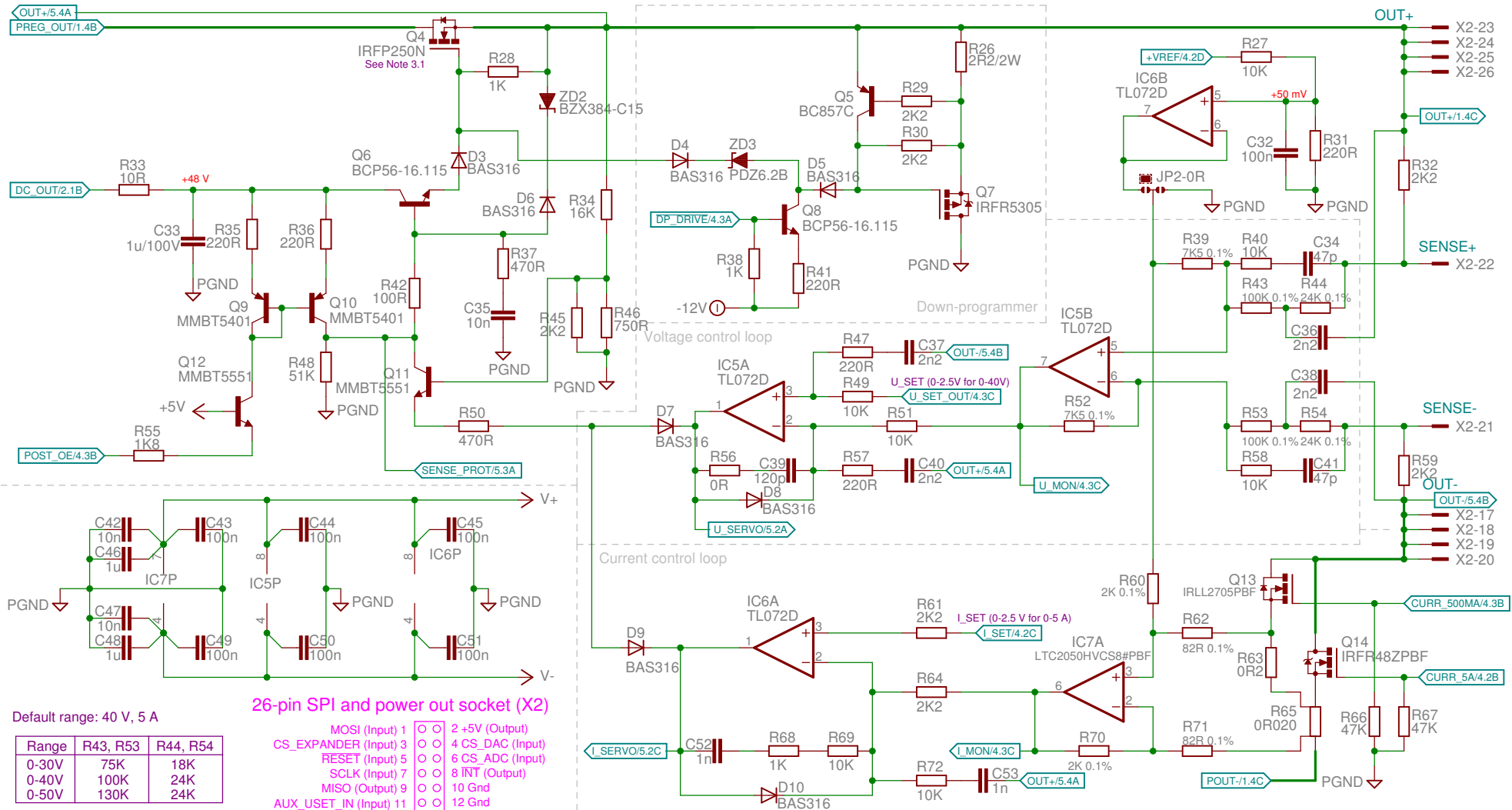
TITLE: EEZ PSU consolidated r5B12

Document Number:

REV:

Date: 15. 03. 2017. 09:05

Sheet: 1/12



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

TITLE: EEZ PSU consolidated r5B12

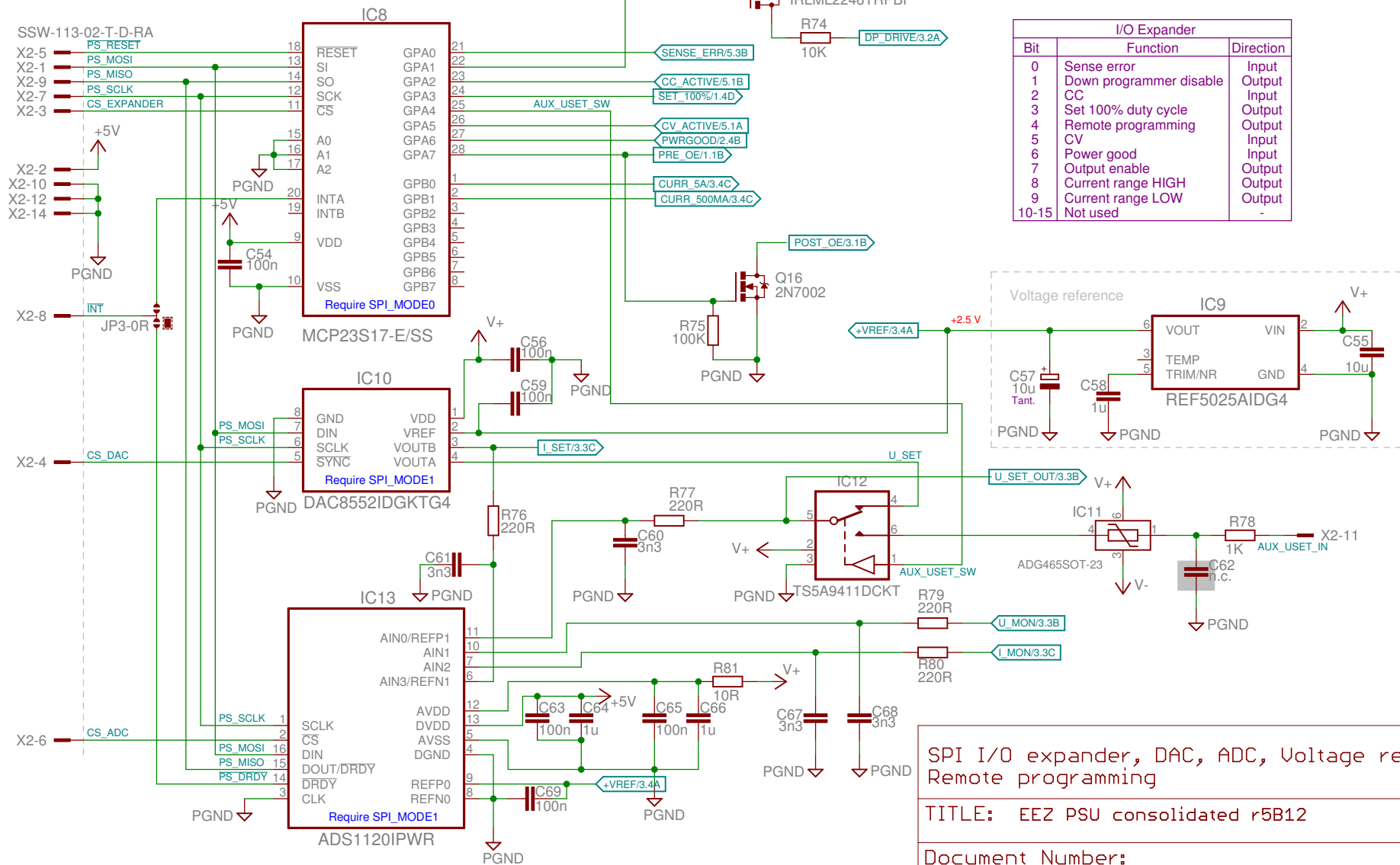
Document Number:

REV:

Date: 15. 03. 2017. 09:05

Sheet: 3/12

Digital control (SPI)



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

TITLE: EEZ PSU consolidated r5B12

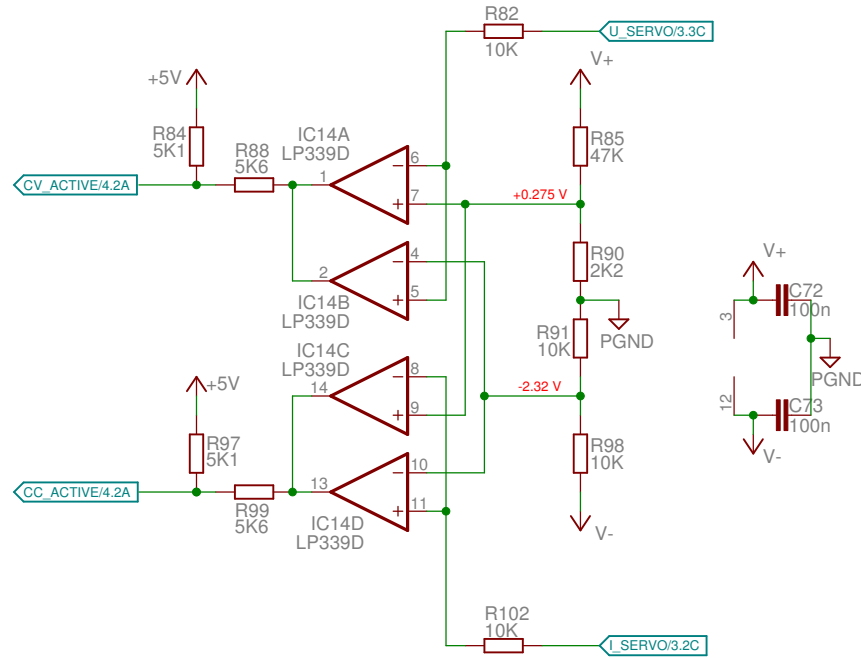
Document Number:

REV:

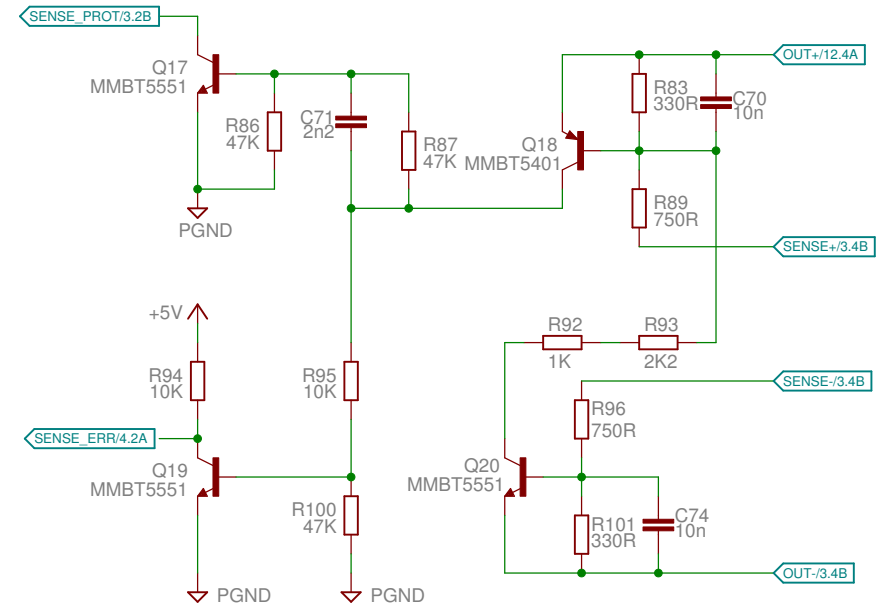
Date: 15. 03. 2017. 09:05

Sheet: 4/12

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



Remote sense reverse polarity detection



CC/CV indicators, Sense error detection

TITLE: EEZ PSU consolidated r5B12

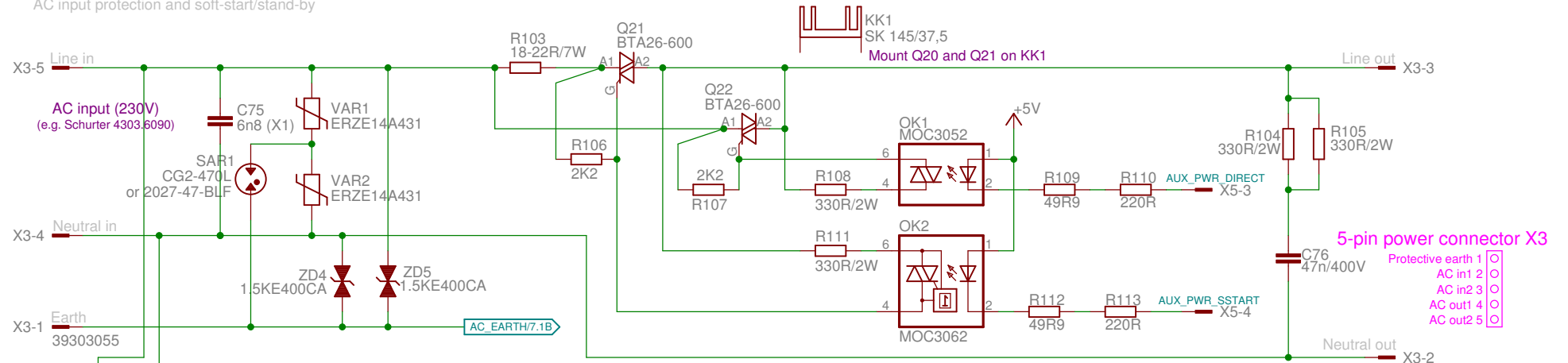
Document Number:

REV:

Date: 15. 03. 2017. 09:05

Sheet: 5/12

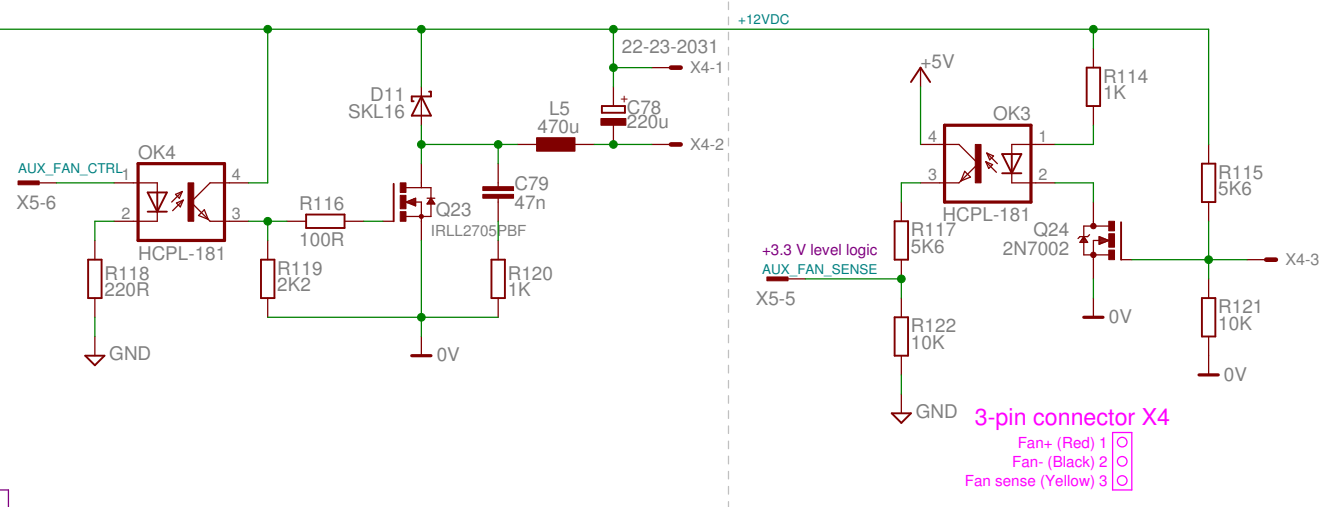
AC input protection and soft-start/stand-by



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

+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

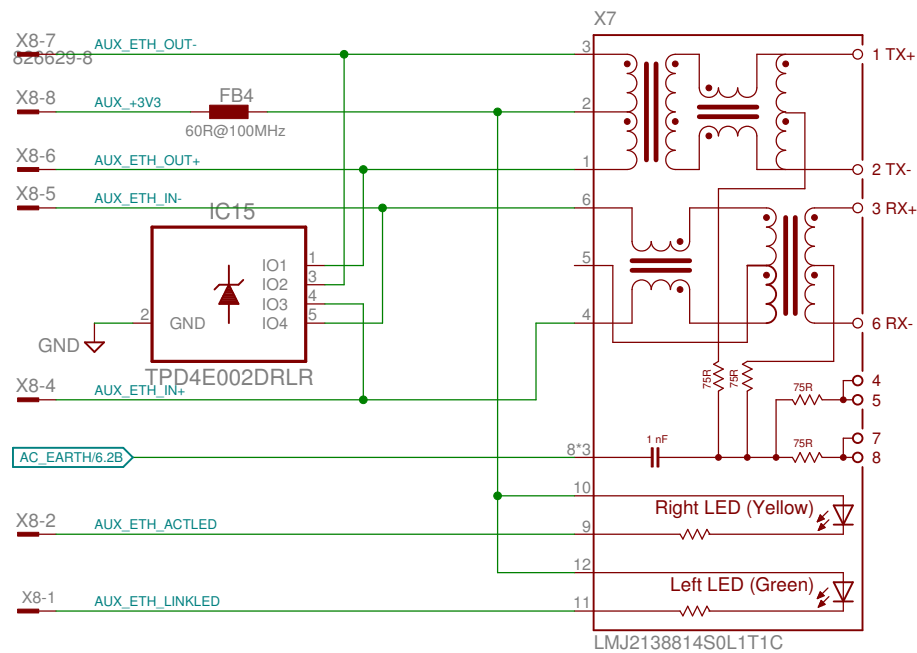
Document Number:

REV:

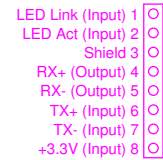
Date: 15. 03. 2017. 09:05

Sheet: 6/12

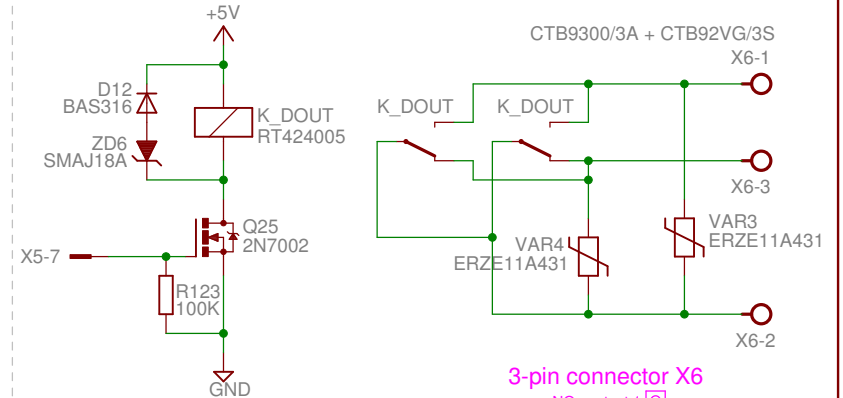
Ethernet connector with optional surge protection



8-pin connector X8



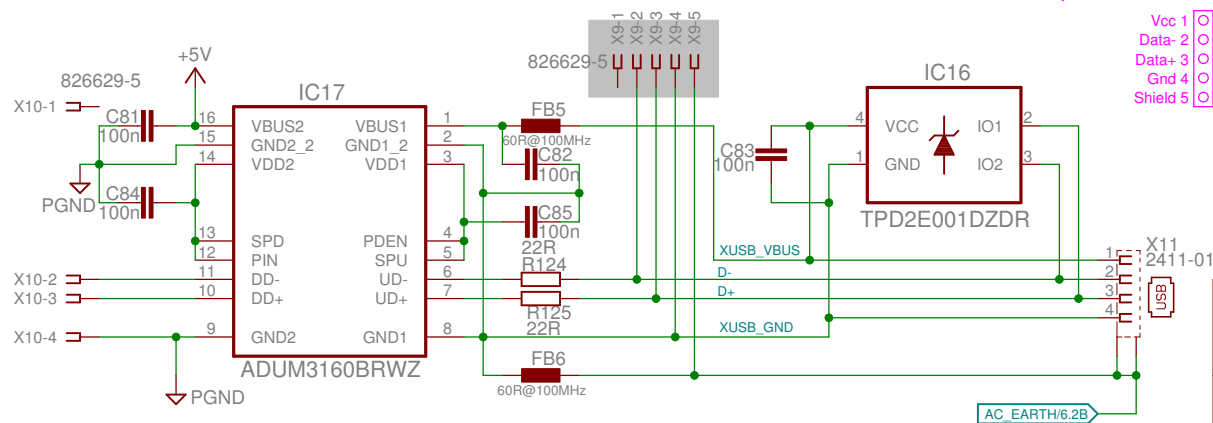
Digital OUT2 relay



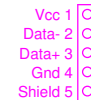
3-pin connector X6



USB connector with optional isolator and surge protection



5-pin connector X9, X10



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

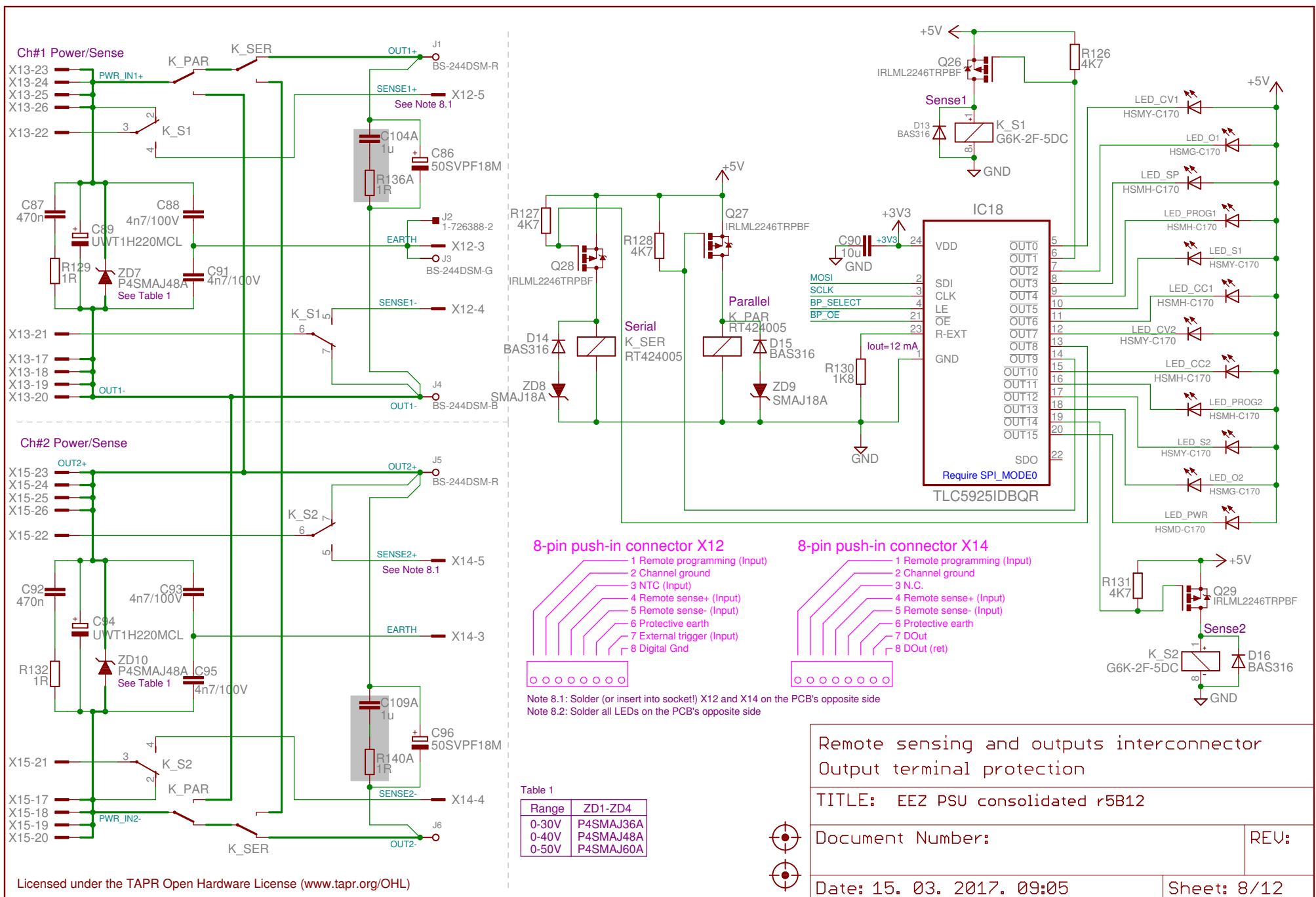
TITLE: EEZ PSU consolidated r5B12

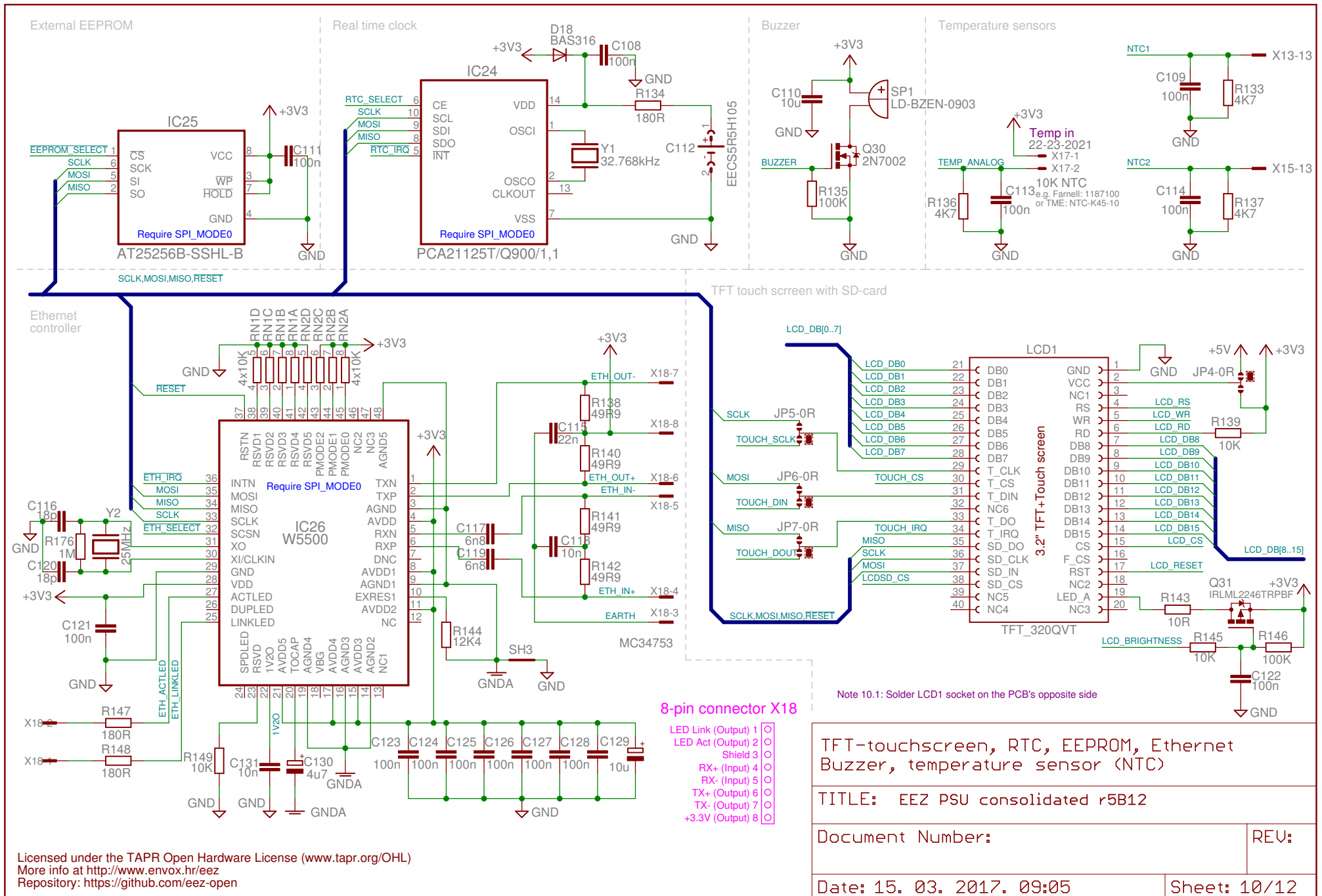
Document Number:

REV:

Date: 15. 03. 2017. 09:05

Sheet: 7/12

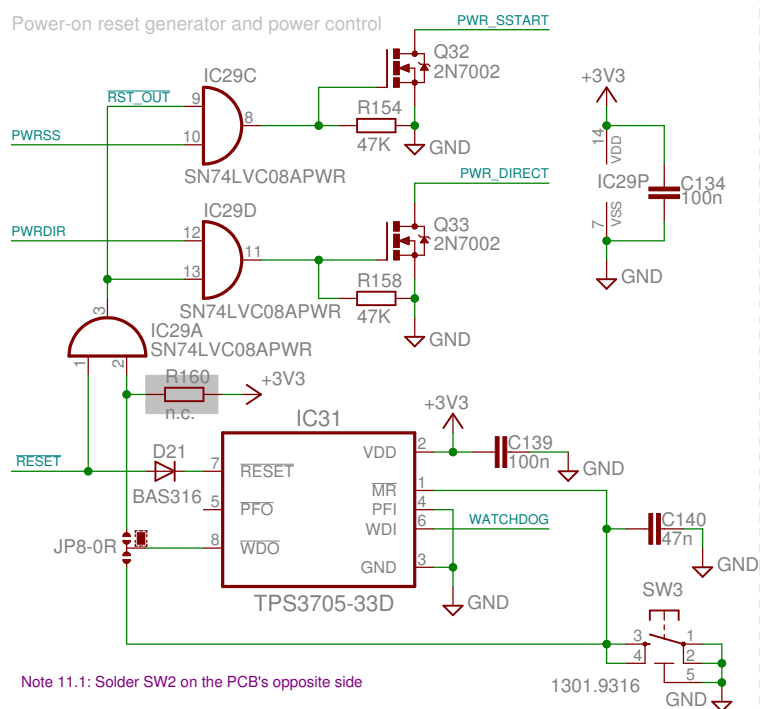




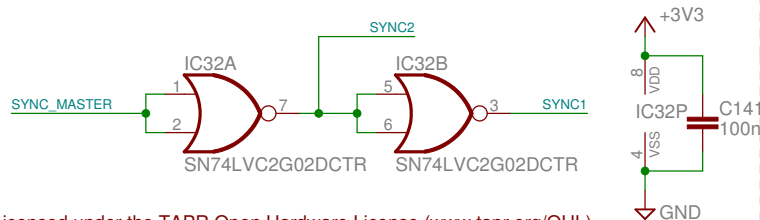
Remote programming inputs



Power-on reset generator and power control

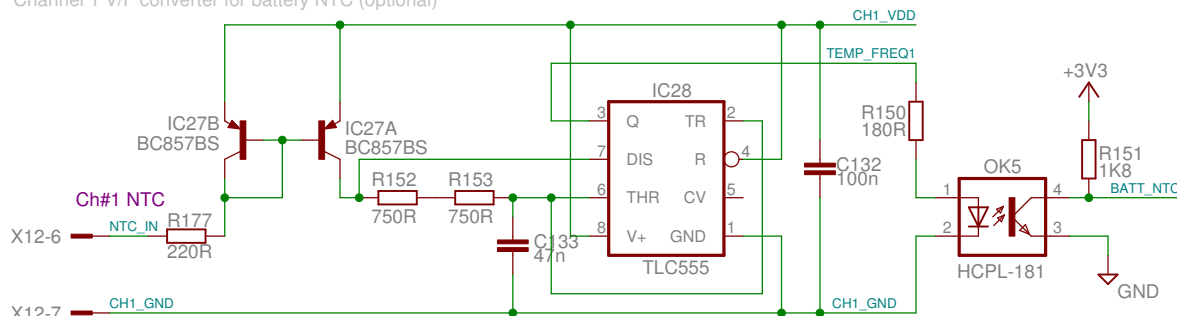


Master sync signal phase shifting

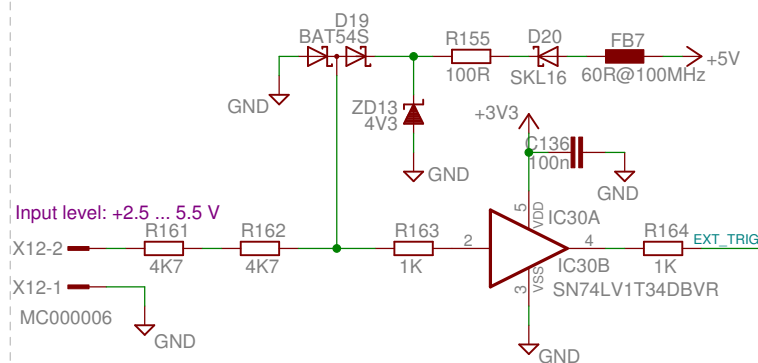


Licensed under the TAPR Open Hardware License (www.tapr.org/OHL)
More info at <http://www.envox.hr/eez>
Repository: <https://github.com/eez-open>

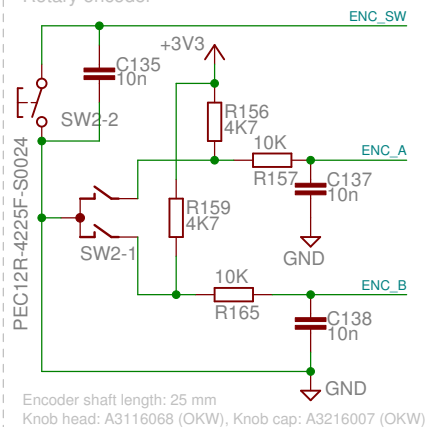
Channel 1 V/F converter for battery NTC (optional)



External trigger protection and level shifter/buffer

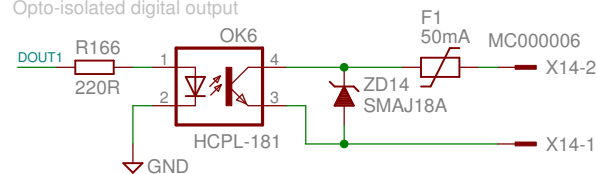


Rotary encoder

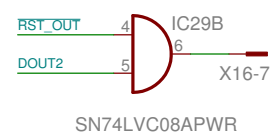


Encoder shaft length: 25 mm
Knob head: A3116068 (OKW), Knob cap: A3216007 (OKW)

Opto-isolated digital output



DOUT2 driver



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

TITLE: EEZ PSU consolidated r5B12

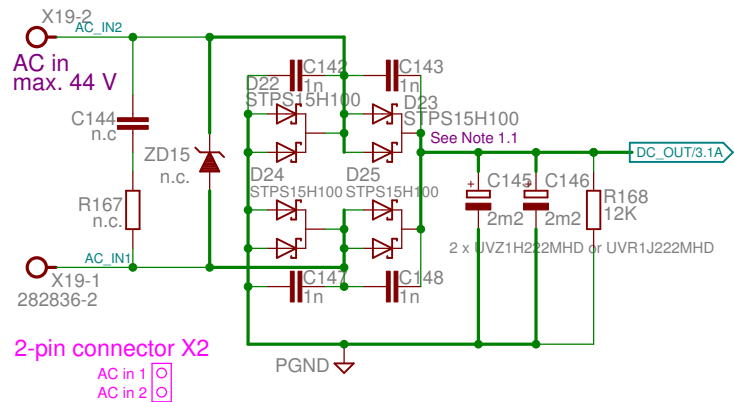
Document Number:

REV:

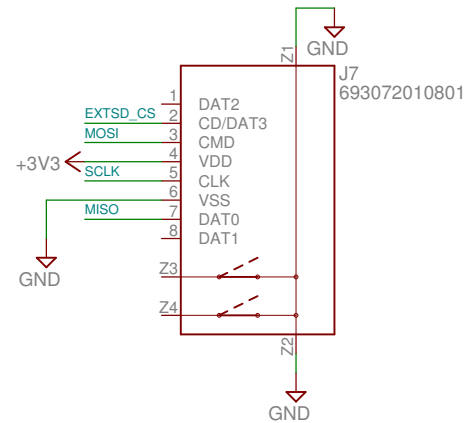
Date: 15. 03. 2017. 09:05

Sheet: 11/12

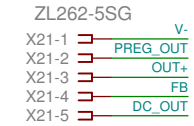
AC input option



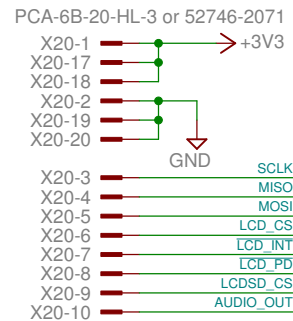
Micro SD card (optional)



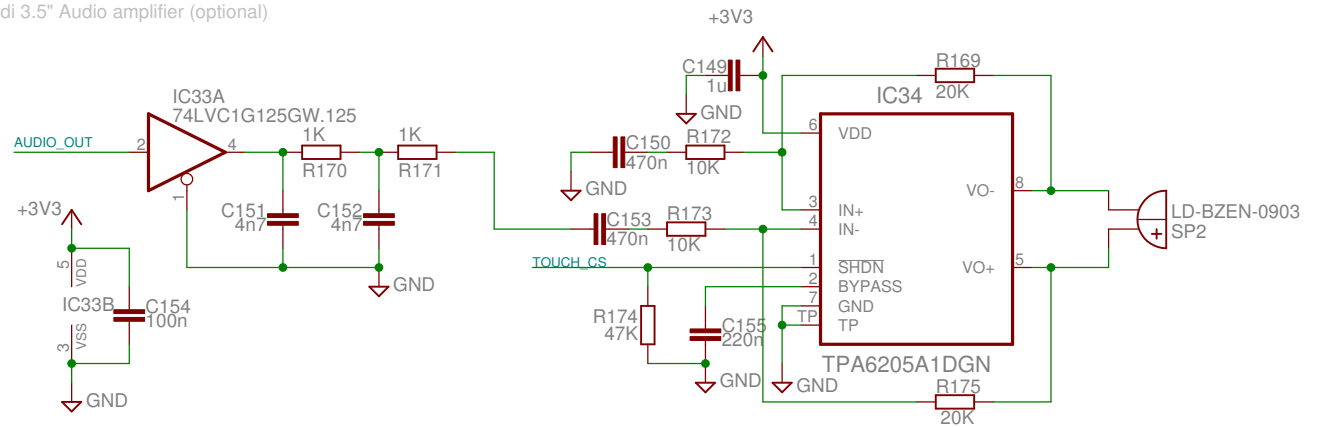
Pre-regulator tracking (optional)



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

TITLE: EEZ PSU consolidated r5B12

Document Number:

REV:

Date: 15. 03. 2017. 09:05

Sheet: 12/12