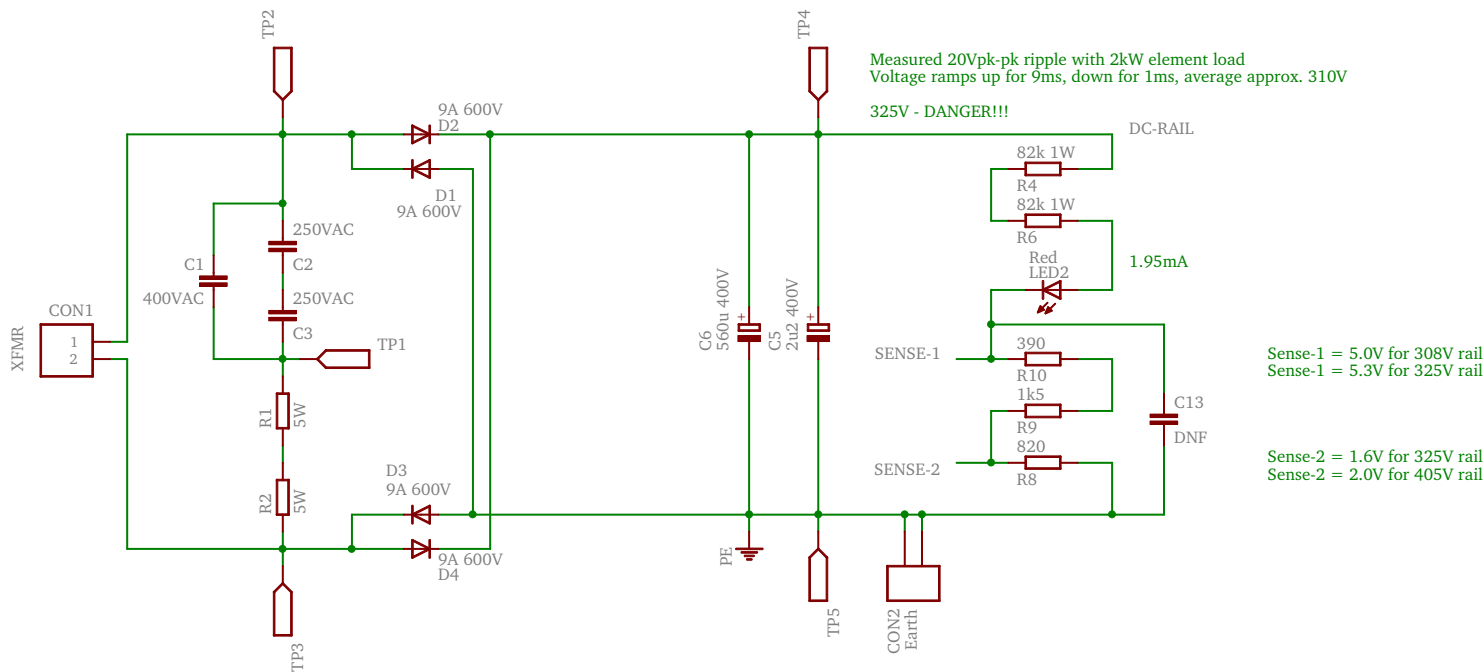


Put DANGER warning when LED lit on PCB

680uF 400V 3.72A ripple 8000 hrs@105C, Kemet ALCA0A681DL40 131mR, Digikey #399-5678-ND, NZ\$27.22 (premium)
 560uF 400V 3.18A ripple 3000 hrs@105C, Rubycon 400HXG560MEFCSN35X45, Digikey #1189-1967-ND
 560uF 400V 3.18A ripple 3000 hrs@105C, Nichicon LGW2G561MELC45, Digikey #493-8558-ND, NZ\$16.09
 470uF 400V 2.6A ripple 10000 hrs@85C, EPCOS B43501A9477M 230mR, Digikey #495-4246-ND, NZ\$19.90 (two reqd. due to ripple)
 9A 600V fast recovery diode, NXP BYV29X-600 20220F 60ns 1.26V@8A, Digikey #568-9726-ND
 82k 1W, Yageo FMPT00JRX-52-82K max 350V, Digikey #82KWCT-ND
 2.2uF 400V polyester 105C, Panasonic ECQ-E4225KF, Digikey #EF4225-ND
 150p 630VDC high pulse, Kemet PFR5151J630J11L4BULK 100C, Digikey #399-7685-ND
 Fast-On connector tab 6.3mm, TE Connectivity 62409-1, Digikey #A24742-ND
 2-way socket Phoenix 6.35mm pitch MKDS, Phoenix Contact Combicom MKDS 1714955, Digikey #277-1269-ND

For input, influence, or ideas, special thanks to:

Matt Fox
Daniel Jury
Andrew Laphorn
Bart Wenmeckers
Ian Williamson



Snubber accommodates up to 5W resistors
Devices in series to meet voltage requirement

A useful addition would be a crowbar system on over voltage of the big cap

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560uF good for 400W; scale accordingly
2.7A RMS ripple for 430W output

Rectification and smoothing

TITLE: inverter-v201

Document Number:

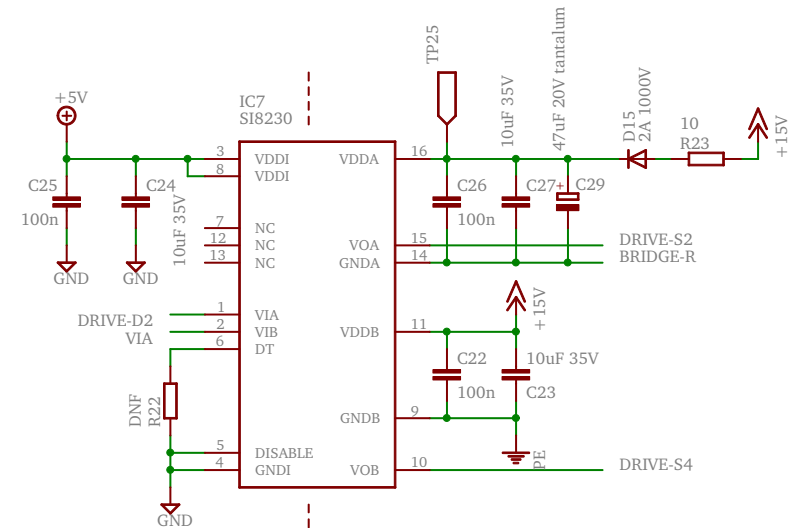
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2A 1000V fast recovery DO-15, Micro Commercial Co. HER208G-TP, Digikey #HER208G-TPMSCT-ND
High side/low side driver SI8230/SI8233, SI8233BB-D-IS1 4A 8V UVLO 2.5kV iso NARROW SOIC-16, Digikey #336-3066-ND
DC-DC converter 12V< 15V 1W, CUI PDS1-S12-S15-S 105C 1W, Digikey #102-2739-ND
47uF 20V tantalum polymer cap, Kemet T521W476M020ATE040 7343 package 40mR ESR, Digikey #399-13120-1-ND

47uF on high side bootstrap results in 400-500mV ripple pk-pk

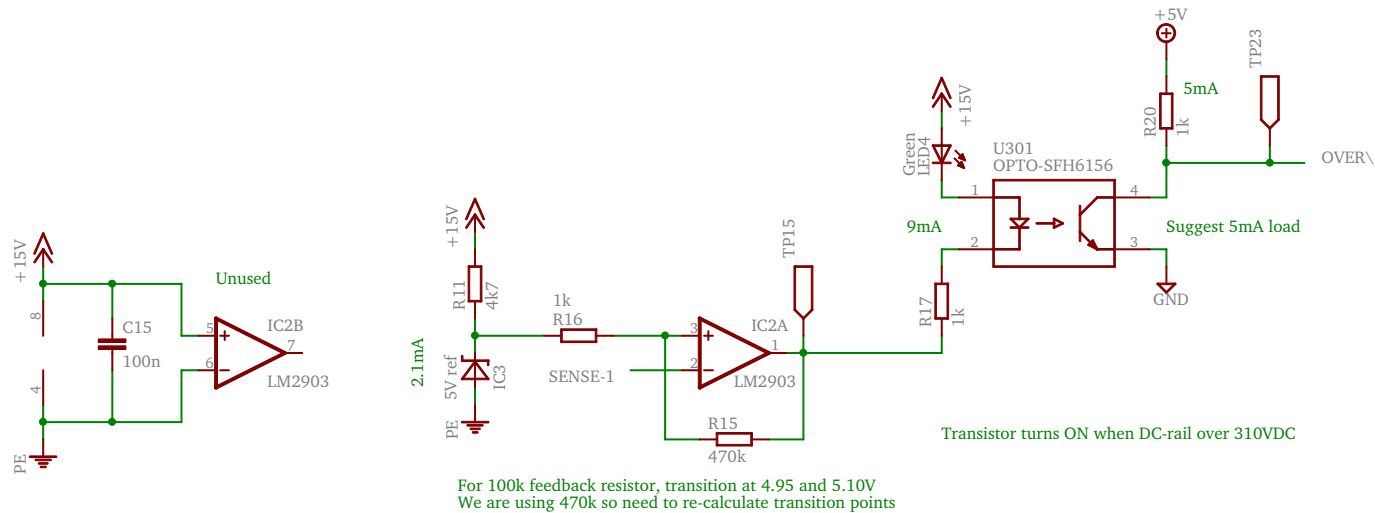


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6/28/2018 11:49:09 f=0.90 /mnt/eagle/inverter/inverter/inverter-v201.sch (Sheet: 2/7)

Re-calculate transition points

5V shunt voltage ref, Diodes Inc. LM4040D50FTA, Digikey #LM4040D50FCT-ND
Comparator open-drain 105C LM393 compatible, Fairchild LM2903MX 2-36V, Digikey #LM2903MXFSCT-ND
Opto-isolator 100% CTR min, Vishay SFH6156-3, Digikey #SFH6156-3-ND



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Sufficient DC-rail voltage measurement (HIGH/LOW output)

TITLE: inverter-v201

Document Number:

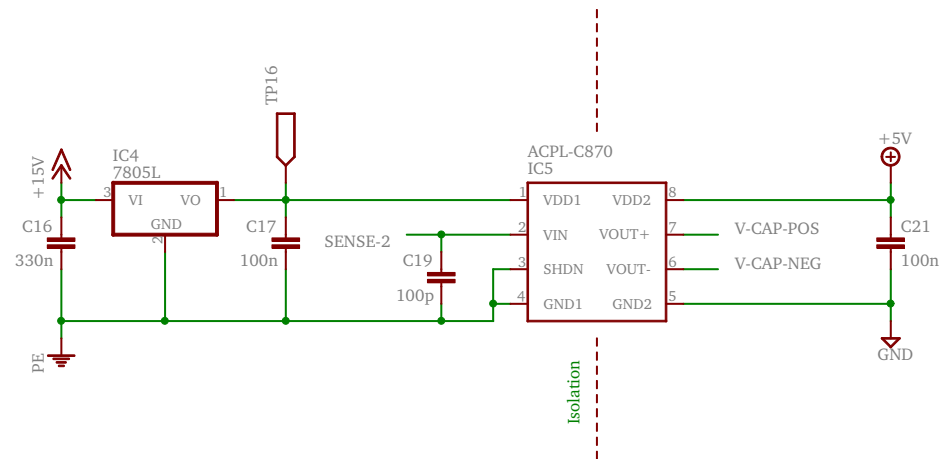
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Specify 50V for C16 the 330n cap

Analog isolator, Avago Technologies ACPL-C870-000E 3% accurate, Digikey #516-2578-5-ND
Analog isolator, Avago Technologies ACPL-C87A-500E 1% accurate, Digikey #516-3140-1-ND



Isolated DC-rail voltage sense

TITLE: inverter-v201

Document Number:

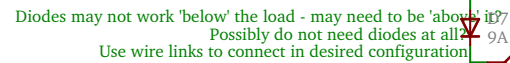
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1GBJT 1200V TO-247, Infineon technologies IHW15N120E1XKSA1 1200V 30A 156W TO247-3, Digikey #IHW15N120E1XKSA1-ND
4A slow 400VDC ceramic fuse, Littelfuse Inc 0477004.MXP, Digikey #F2989-ND
100n 630VDC high dv/dt cap, Epcos B32652A6104J, Digikey #495-1333-ND



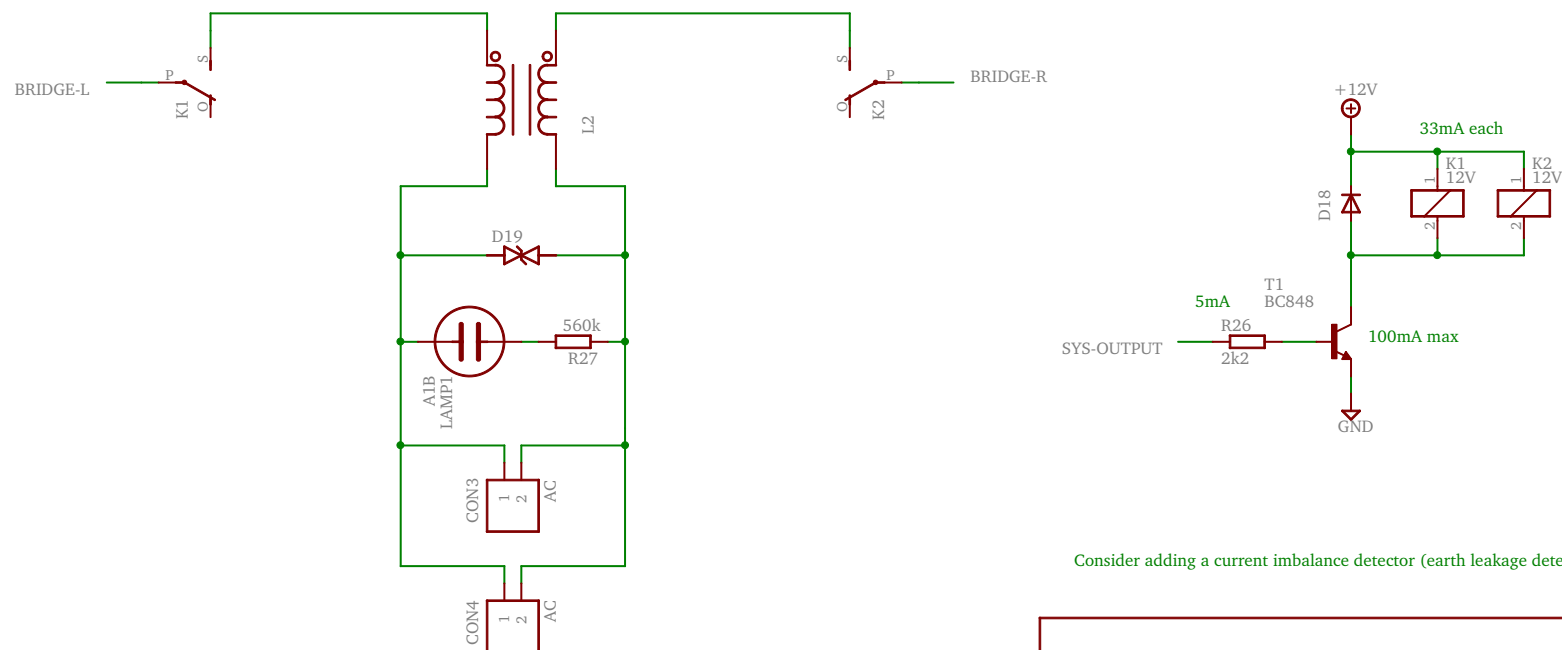
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560k resistor 2W, Yageo 560k 2W 5% axial FMP200JR-52-560k, Digikey #560KZCT-ND
 Relay 250VAC 10A 12VDC 33mA, Omron G5LE-1-VDDC12, Digikey #Z3672-ND
 Neon indicator, Visual Communication Company A1B neon, Digikey #A1B-ND
 Common mode choke, Laird CM2545X171B-10 10A 10mR, Digikey #240-2485-ND
 Bidirectional TVS 376V reverse standoff, Littelfuse Inc. 1.5KE440CA, Digikey #1.5KE440CALFCT-ND

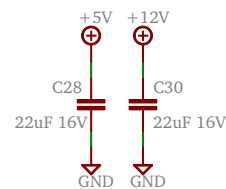
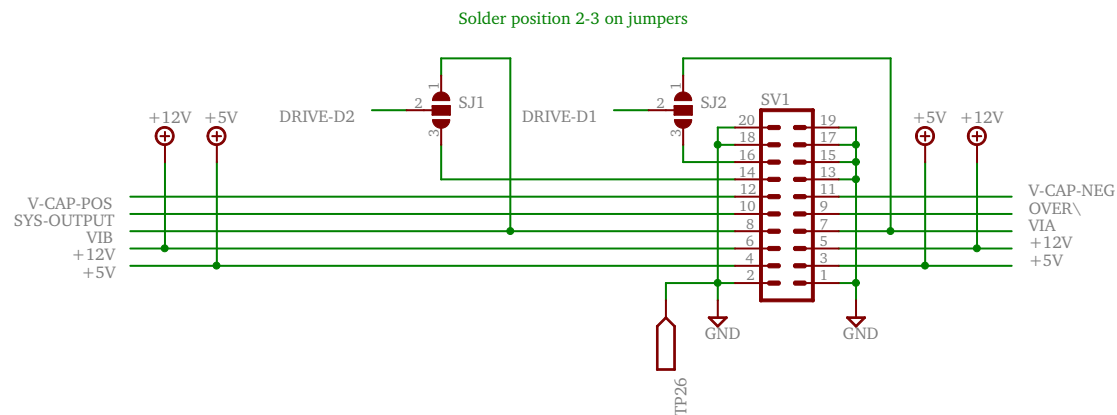


Consider adding a current imbalance detector (earth leakage detector)

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230VAC output	
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20-way header R/A, On Shore Technology 302-R201, Digikey #ED10536-ND
 Matching 20-way IDC connector, On Shore Technology 101-206, Digikey #ED10503-ND



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Primary I/O connector

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