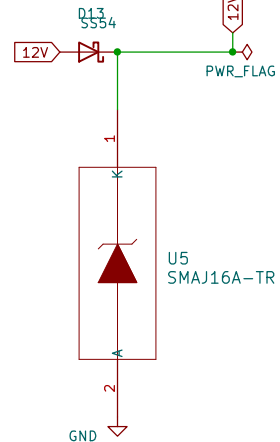
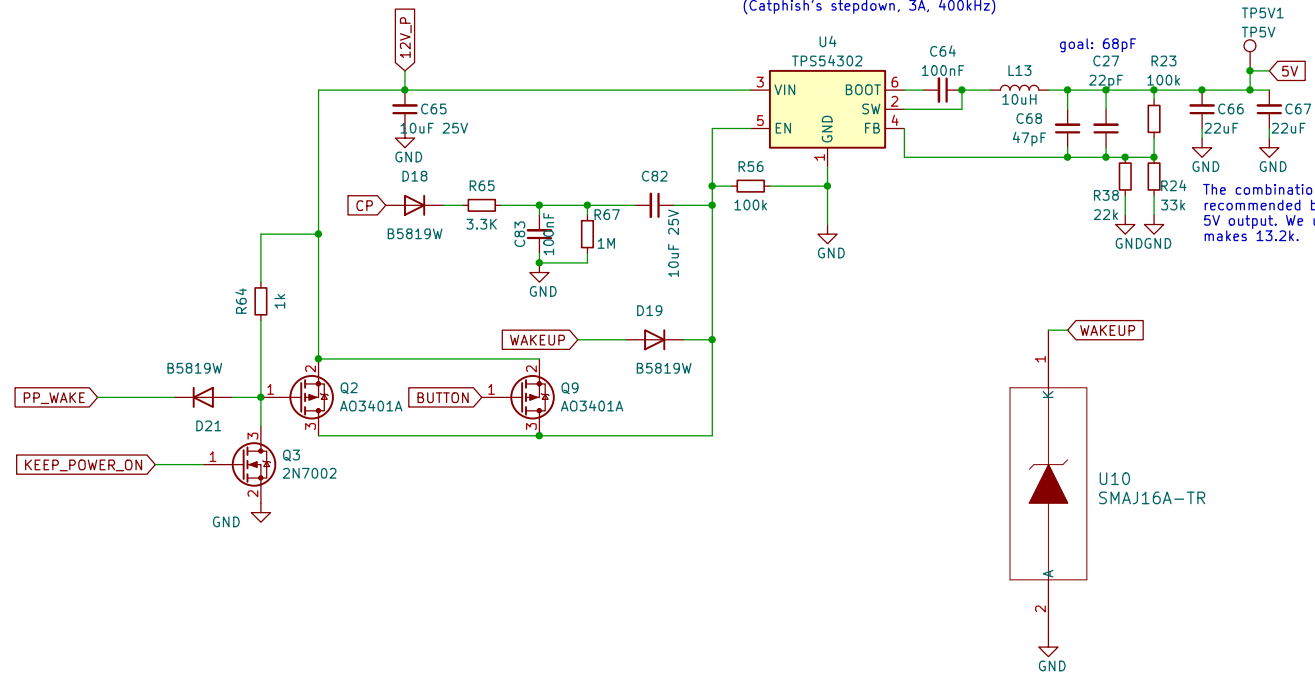


SS54B is rated for 5A.
This is at the border,
if we drive 6A in the
lock/unlock motor.

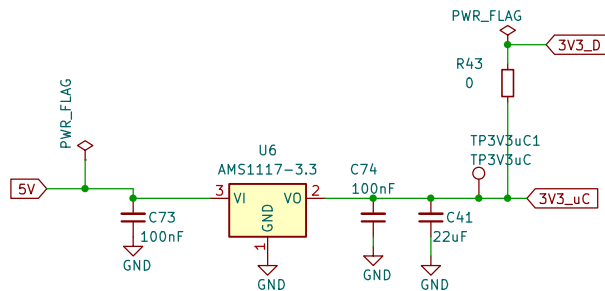


C82 changes the continuous high level of the filtered CP signal to a one-shot pulse when the cable is plugged in.
We can therefore choose to shut down the controller even with the cable still plugged in e.g. when no charge power available on solar powered systems

Option 3 of the power supply
(Catphish's stepdown, 3A, 400kHz)



The combination 100k and 13.3k is recommended by the data sheet for 5V output. We use 22k || 33k, this makes 13.2k.



Sheet: /powersupply/
File: powersupply.kicad_sch

Title: Power Supply

Size: A4

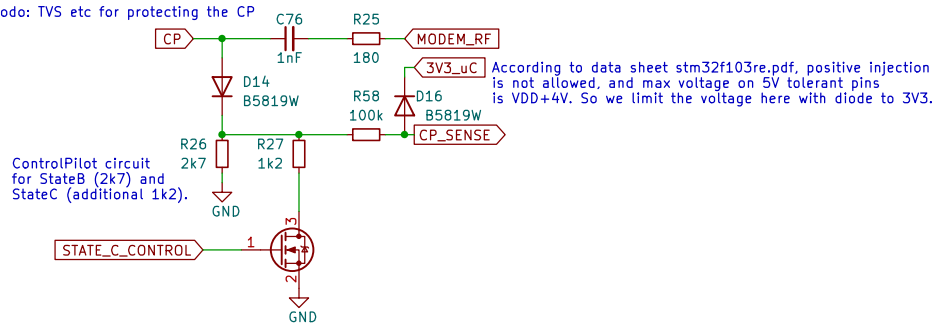
Date:

KiCad E.D.A. 8.0.3

Rev:

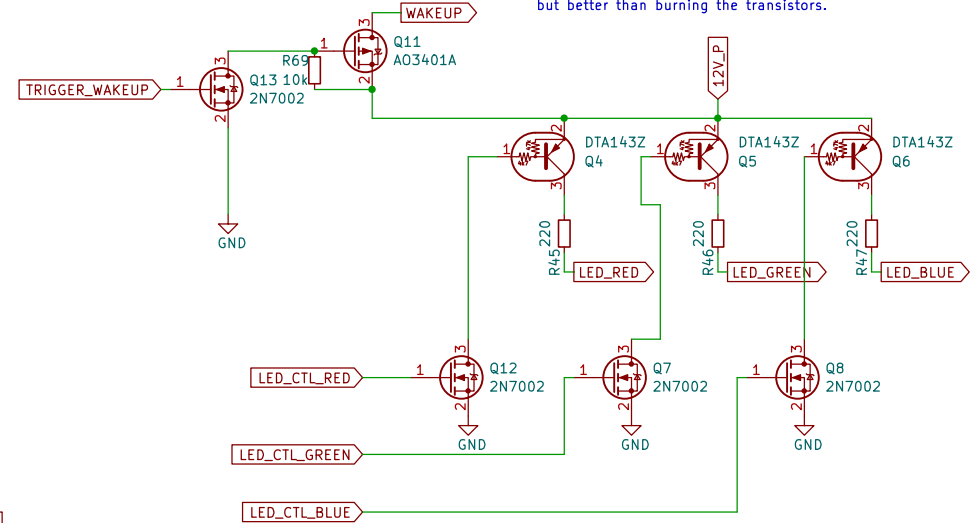
Id: 3/7

Todo: TVS etc for protecting the CP

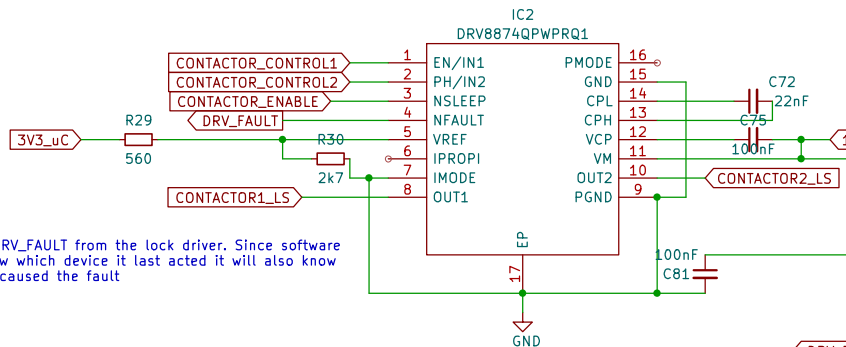


12V highside outputs for the LEDs in the button.
(or low-current-general-purpose)

Series resistors to protect the output in case of short circuit. With 12V and 220ohms we get 54mA and 0.6W. This may burn the resistors after a short time, but better than burning the transistors.



We reuse DRV_FAULT from the lock driver. Since software should know which device it last acted it will also know which one caused the fault



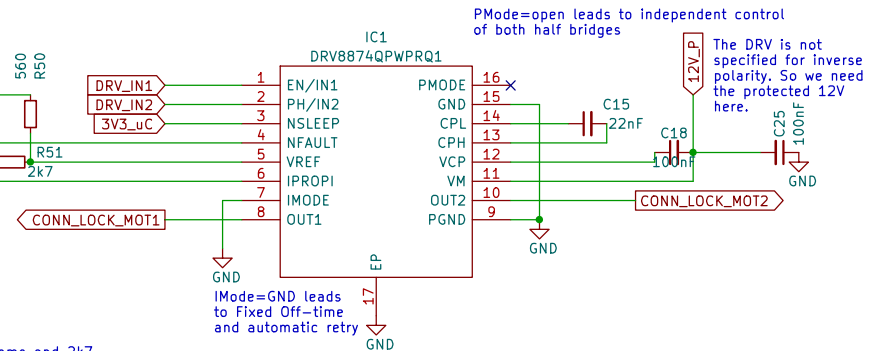
I_{PROPI} is 450μA/A.
With 6A peak output this is 2.7mA.
With R=1k we get 2.7V for the 6A.

On VREF, we have 3.3V divided by 560 ohms and 2k7, this results in 2.73V.

This means, the current limitation will jump in when the output current is above 6A.

The bulk capacitor is especially important when switching high currents, see DRV8874 data sheet.

PMODE=open leads to independent control of both half bridges



Sheet: /outputdrivers/
File: outputdrivers.kicad_sch

Title:

Size: A4

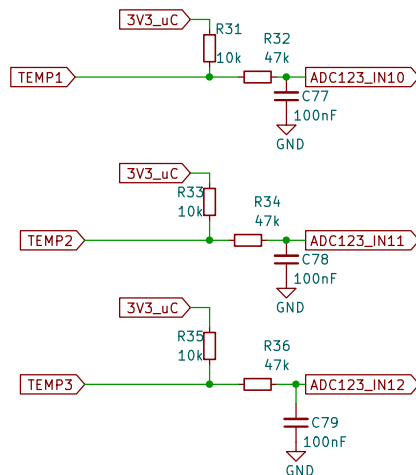
Date:

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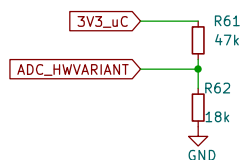
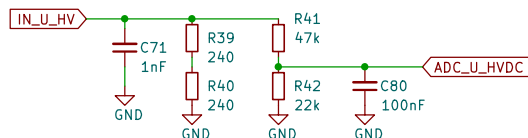
Rev:

Id: 4/7

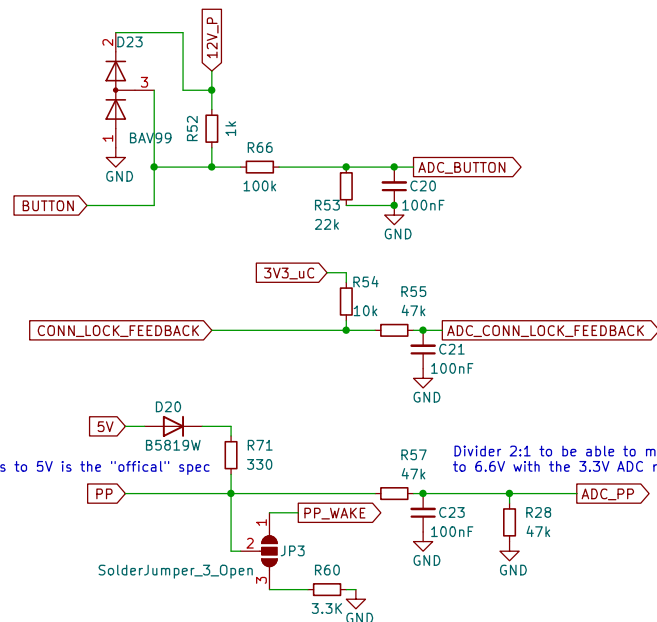
Analog inputs, e.g. for use with NTCs to ground
for temperature measurement
or analog feedback contacts or switches.



Current input for HV DC voltage
measurement as done in LIM, see
<https://openinverter.org/forum/viewtopic.php?p=58839#p58839>



Hardware variant detection: R62 can be increased with each hardware version
Table here: [https://openinverter.org/wiki/Fully_Open_CCS_Charge_Controller_\(FOCCCI\)](https://openinverter.org/wiki/Fully_Open_CCS_Charge_Controller_(FOCCCI))
10k: Foccci 4.2
12k: Foccci 4.3
15k: Foccci 4.4
18k: Foccci 4.5, 4.5b and 5



330 ohms to 5V is the "official" spec

Divider 2:1 to be able to measure up
to 6.6V with the 3.3V ADC ref.

PlugPresent:

- 1k5 to ground for CCS2
- 100 ohm to 1k5 for AC (current limit of the cable)
- 150 ohm (button idle) or 480 ohm (button pressed) for CCS1

Some inlets may contain 2k7 or 3k0 to ground. The optional R60 can be
used if no external pull down is present.
Discussion here: <https://openinverter.org/forum/viewtopic.php?p=66305#p66305>

Wakeup via PP only works without any pull-down resistor

Sheet: /inputs/
File: Inputs.kicad_sch

Title:

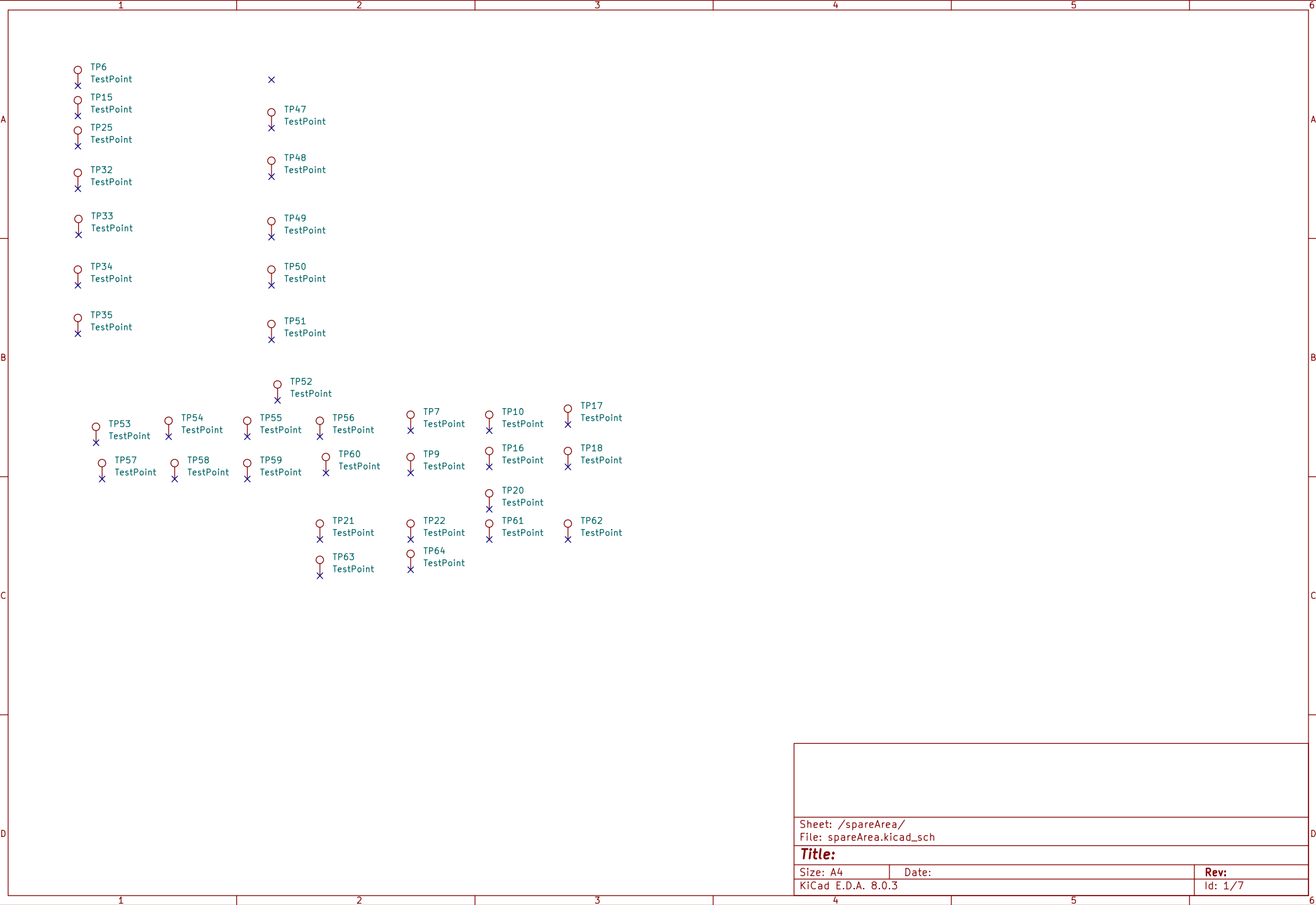
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Date:

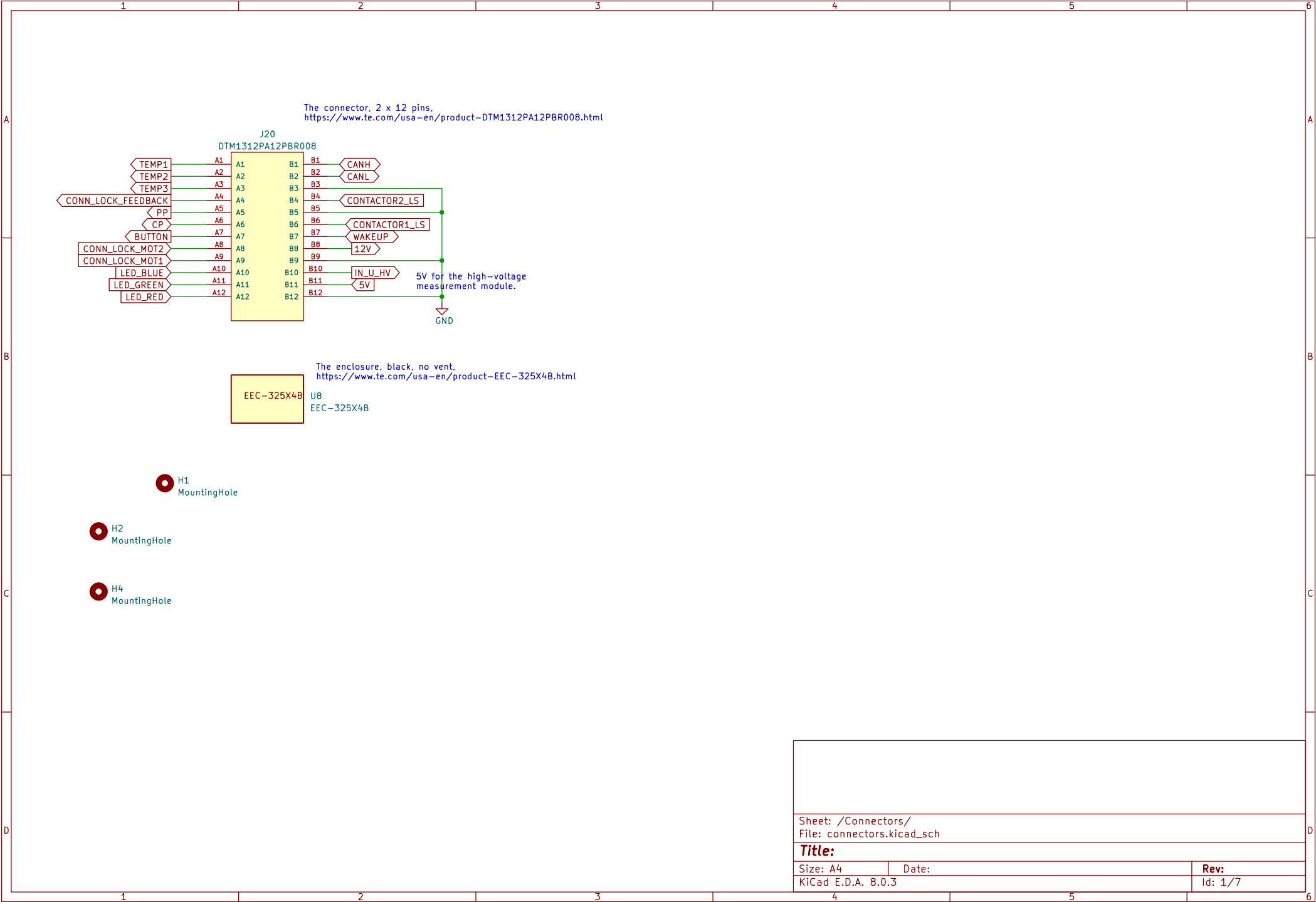
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Rev:

Id: 5/7



Sheet: /spareArea/		
File: spareArea.kicad_sch		
Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. 8.0.3		Id: 1/7



Sheet: /Connectors/ File: connectors.kicad_sch		
Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. 8.0.3	Id: 1/7	