Tussentijds opvolgingsformulier Bachelorproef 2020-2021

Bachelorproef: eFuse

Bedrijf: Antwerp Space

Student: Ian Blockmans

Promotor: Pedro Wyns

Bedrijfspromotor: Donald Heyman

Opleiding: Embedded Electronics

Stageweek: 7

Gerealiseerd vorige week:

- Modbus verder uitgewerkt:
  - Registers lezen werkt.
  - Inputs lezen werkt.
- Prototype PCB + BOM finaal en doorgestuurd.
- Meeting: feedback van de collega's besproken.
- Feedback in een tabel gegoten:

comment	status
Input (+add label From Power Supply) and output connectors (+ add label to Device Under Test) not clear (put on horizontal line to make more clear the in --> out flow)	**closed**
Use more than one ground connection symbol to make the schematic more readable, for example the input filter (C1,C2,D2)	**closed**
Try to group better according to function	**in progress**
Can we use the same type of MOSFET? Explain why 2 different. What is their function.	**open**
Add more text or group function blocks. E.g. "LCL class selection"	**in progress**
U9, U10, U11: Function? Can this be done with ADC? -> I assume the idea is that LCL class can	Do you want jumpers? Will not work whit an DAC.

also be set manually (jumper missing for 'hard' setting of LCL class?) Can U9,U10, U11 be replaced by digital resistor or DAC output. Or is this for use with a jumper	No digital resistor found that is suitable for this application.
R15 > 620 ??? What value?	**Closed: komt niet in het finale product**
⭐5V Net used tied to 3.3V net? No 5V available for relays.	**Closed**
Add NM if not mounted. (0R resistor in current measure path)	**Open: ik zal er aan denken op het finale schema.**
4 units 'possible' in one 19" 1U box with one controller is the goal! This will be the use case for Transponder project (dual redundant power supply with dual input 4 x 28V)	**Open**
Consider the use of screw terminal block instead of crimp terminal (to banana plugs)	**Open**
Add label IN / OUT for the supply connections!	**closed**
⭐More clearance for the grounded mounting holes. A screw/washer will touch the + terminal (3d model)	**closed**
(optional) Add terminal block to use an external power supply (use case no digital board connected)	**Open**
Use headers for external LED to include in the front panel of the 19" enclosure	**Open**
Future/ optional Improvement. Ethernet connection + external power supply -> microcontroller with LAN + USB	**Open**
Use USB galvanic isolation instead of all opto-coupler -> IMO not a good idea -> would lose the option of having the board connected to something else (PLC, daq unit, …)	**Open**
How to integrate the screen. a. Can it be optional? Keep it in software as something that can be	**Open** Is a plexi-window needed? I don't think so Does the screen fit? Yes the one I had in mind fits.

	optional there (compiler flag?) b. Is a "front" plexi-window needed. c. Does the screen fit in 1U high unit?	

Doelstellingen voor de volgende week:

- Modbus (implementatie embedded software) verder uitwerken
- Beginnen in Python en LabVIEW.
- Flowcharts maken.
- Thesis verder schrijven en doorsturen voor feedback.

Opmerkingen bedrijfspromotor:

Bestelling componenten bij Digikey opgestart
Bestelling PCB opgestart
Thesis diagonaal gelezen -> goede start. Prima dat er al verschillende diagramma's zijn.

Opmerkingen hogeschoolpromotor: