Tussentijds opvolgingsformulier Bachelorproef 2020-2021

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**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. | Yes but why? |
| 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 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 | Do you want jumpers?  Will not work whit an DAC.  No digital resistor found that is suitable for this application. |
| R15 > 620 ??? What value? | **Closed: komt niet in het finale product** |
| Important5V 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) | No digital board? Digital resistor? Jumpers? More clarification? I would suggest using only one way to set current limit to avoid leaving a jumper in and then setting the resistance digitally. This could lead to faulty settings.  **Not impossible** to work around if you really want, I will make sure no fault can be made. |
| 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, …) | Where is de isolation the most important between micro and eFuse or eFuse and pc?  Also you would not lose the ability to connect something different you can just make sure the chosen resistors for the optocoupler are good for a voltage range from 3.3V to 24V or even higher. |
| How to integrate the screen.   * + 1. Can it be optional? Keep it in software as something that can be optional there (compiler flag?)     2. Is a "front" plexi-window needed.     3. Does the screen fit in 1U high unit? | Can it be optional? Continues to say it is optional? So it is optional right?  Is a plexi-window needed? You tell me.  Does the screen fit? Yes the one I had in mind fits |

**Doelstellingen voor de volgende week:**

* Modbus verder uitwerken
* Beginnen in python en labview.
* Flowcharts maken.
* Thesis schrijven en doorsturen voor feedback.

**Opmerkingen bedrijfspromotor:**

**Opmerkingen hogeschoolpromotor:**