



Template WiringDiagram.pdf

Martin Stollberger

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Abstract

The wiring diagram document is used to get an overview of the interconnection between all Emergency Brake System (EBS) relevant electronic parts. It contains sensors, actors and controlunits. It also contains the EBS actor wiring required by the rules.

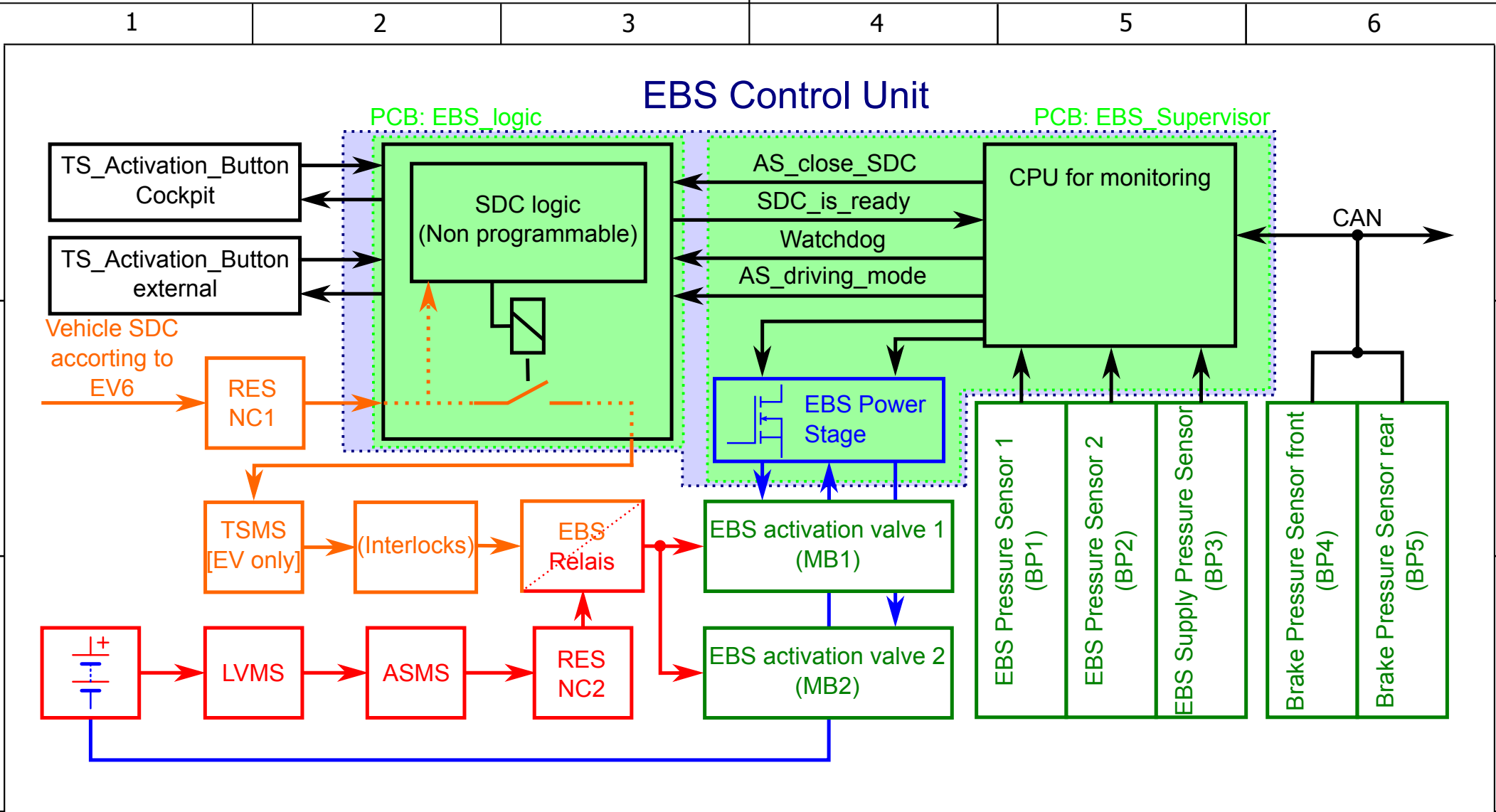
1 Document Requirements


Provide an electrical overview of the EBS system. Include all ECUs in side and top view of your vehicle, with transparent or removed bodywork. Mark the positions of all EBS relevant components.

- All ECUs involved in the EBS function / supervision must be included.
- All EBS relevant Actors (e.g. Valves) must be included and named like in the Pneumatic/hydraulic diagram
- All EBS relevant Sensors must be included. Including all signal processing units between the Sensor and the supervisor (e.g. analog -> CAN converters).
- The vehicles shutdown circuit must be included. But it can be abbreviated as SDC according to CV4 / EV6, for the standard part before the TSMS / Fuel pump relays.
- The supply of the EBS actuators must be present (Positive as well as GND)
- Both activation buttons, internal and external must be present
- Each PCB /CPU must be named uniquely and must be referenced to the Schematics in the Schematics document. If a bought CPU is used (like dSPACE micro Autobox or a standard CPU board like Arduino etc.), the must also be mentioned in the Schematics, showing the connection between the ports in this overview and the ports of the CPU.
- The Relays used for the EBS activation over the SDC must be named with manufacturer and part number.

2 Example

Warning: The following example shows only how the document could look like and what is meant by the different checklist points. The technical content is not necessarily compliant to the rules nor necessarily related to the other documents nor function at all.



Wiring Diagram	
Team Name: Formula Student Germany	University: FSG Academy
Car#: 000	
Document Version: V1.0	
Date: 28.02.2019	Sheet/Bl.: 1 / 1



3 Document Checklist

The following checklist will give you an overview of the points which mandatorily have to be fulfilled to get an approval. This checklist will also be used during the review process. But the the review is not only limited to this list. We will check additional points as well.

GENERAL REQUIREMENTS

- | | |
|--|--|
| 1 <input type="radio"/> Document is printable in DIN A4. | 4 <input type="radio"/> Relevant text is embedded as text and not as picture (search-able). |
| 2 <input type="radio"/> Team name, University, Car# is written on every page. | 5 <input type="radio"/> Document name is written on every page. |
| 3 <input type="radio"/> Pictures well sized and in good resolution (vector or 300dpi). | 6 <input type="radio"/> All Pages are numbered, including total number of pages e.g. Page 1/5. |

SPECIFIC REQUIREMENTS

- | | |
|---|--|
| 7 <input type="radio"/> All ECUs / CPUs involved in the EBS functionality included. | 11 <input type="radio"/> All namings are unique and fit to the other documents. |
| 8 <input type="radio"/> All EBS relevant Sensors included. | 12 <input type="radio"/> Shutdown Circuit (SDC) relays is named with manufacturer and type. |
| 9 <input type="radio"/> Full supply path of the EBS actuators included. | 13 <input type="radio"/> ECUs / PCBs are named properly and linked to the schematic diagrams document. |
| 10 <input type="radio"/> Both activation buttons included. | |

Changelog

V1.0: Initial Version.