

HV POWER DISTRIBUTION UNITS

High Voltage Solutions



The high voltage power distribution unit (HV PDU) is a central element of the electrical architecture in an electric vehicle. It establishes the electrical connection between the battery, on-board charger, motor and other consumers such as heaters, DC-DC converters, etc.

Würth Elektronik ICS is a specialist for developing customized HV PDU's according the customer requirements. Our PDU solutions are PCB based and are produced using press-fit technology.

The combination of Powerelements, printed circuit board as well as thermally and mechanically stable press-fit connections enables optimum integration of HV / high current components. Temperature and current sensors can be easily integrated.

To show you the possibilities we can realize in a customized solution we developed a demonstrator, PDU 600, with typical functions, HV components and housing.

Features and Benefits

- EMC shielded aluminum housing
- Optimised heat management
- Secure connection with HV-Interlock connectors
- 100 % connectorized system: Plug and Play solution
- PCB based solution without any HV cables used within the box
- Safety-relevant mechanisms (HVIL loop) such as a switch for detecting the lid opening
- Current measurement communicated via CAN bus

DEMONSTRATOR

Technical Data of the PDU 600 Demonstrator

| Mechanical Data | |
|-------------------------|--|
| Operating temperature | -40 °C up to +60 °C |
| IP protection class | IP 66 |
| Weight | 6.2 kg |
| Dimensions | 280 mm x 290 mm x 110 mm |
| Electrical Data | |
| HV high power connector | TE HVP 800 up to 200 A |
| HV mid power connector | TE HVA 630 up to 40 A/pin |
| Signal connector | Deutsch HDP24-24-35PN |
| Specifics | LEM current sensor Temperature sensor |
| Components | 1 x 400 A 600 VDC fuse 2 x 30 A 600 VDC fuses Gigavac contactors |



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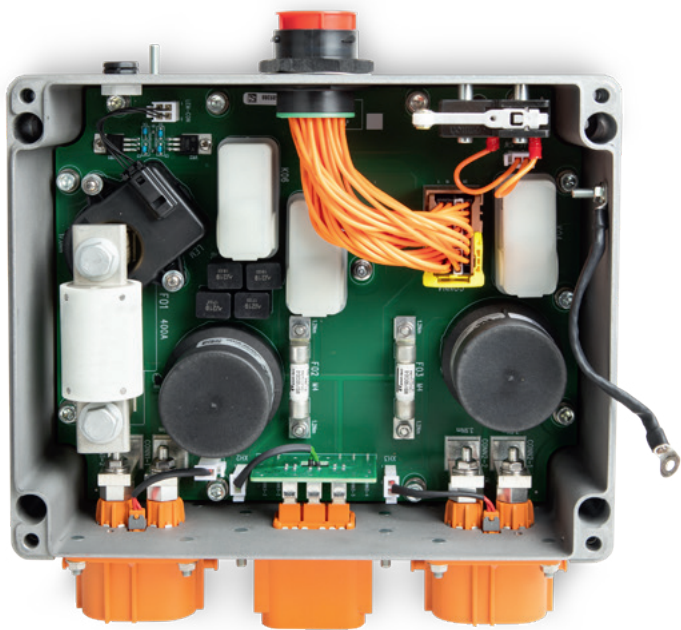
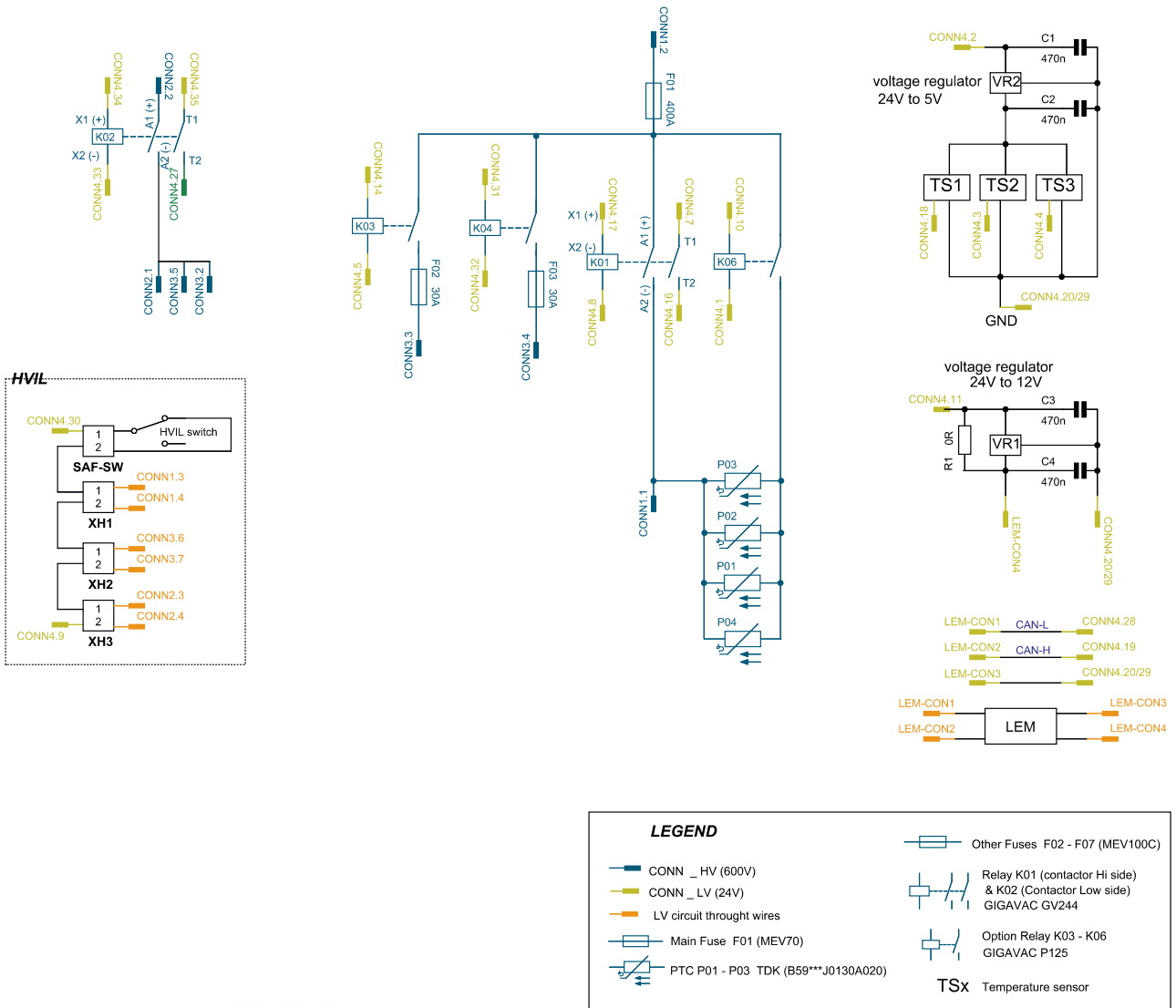


E-Mobility

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SCHEMATIC



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