

FEV Signature Solutions 150% SiC Traction Inverter

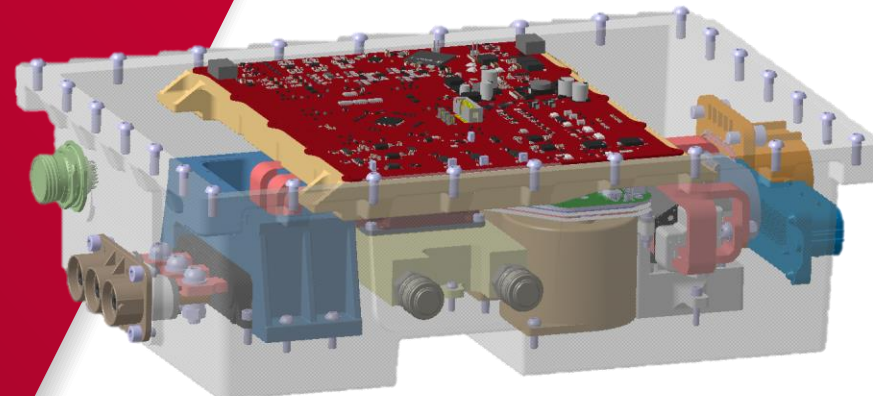
Our solutions enables you to start your own traction inverter program

FEV offers

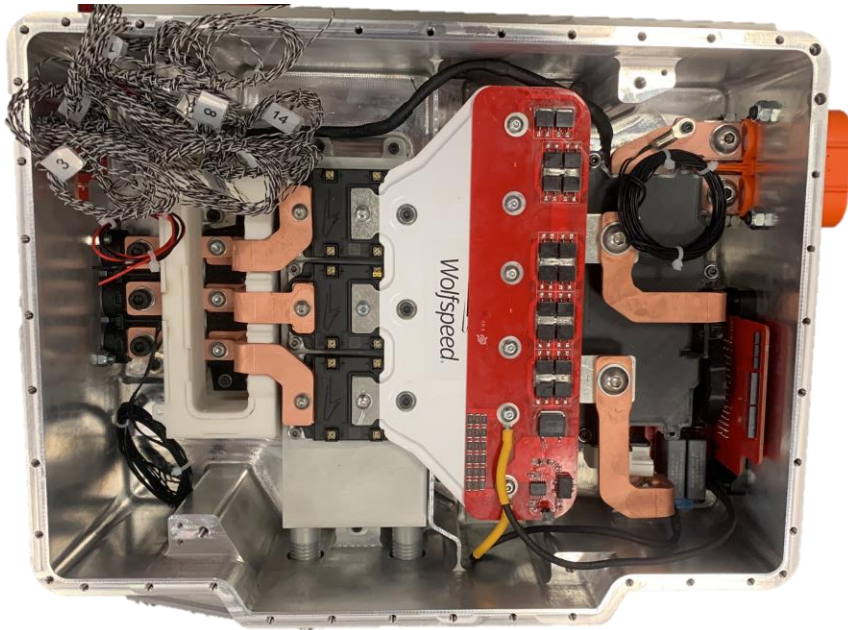
- Software and hardware ready as A-sample
- Fully flexible for any environment:
 - Working range: 250V-850V, 250kW, 300 Arms continuous
 - Open for different communication protocols: CAN, CAN FD, Automotive Ethernet, EtherCAT, RS232, Flexrey
 - Interfaces for different machine types as IM and PMSM
- Functional highlights like variable switching frequency and noise shaping

Why FEV

- White box option to enable you to use FEV's solution as basis for you own series development
- Customization by FEV to exactly address your needs, as software and housing
- Different license options, as one time license fee and tailored license scope



Hardware and software overview – available as white box



μC / Control board

- LV supply
- HW safety reactions
- Controller

Power stage

- Gate driver
- Power module
- EMI Filter

Software

- Application software
- Base software (AUTOSAR)
- L2 safety software

Other

- Isolation concept
- Thermal design
- Mechanical design

150% solution – full flexibility to exactly address your needs

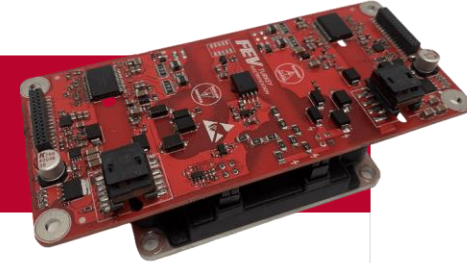
Control board

- Sinusoidal resolver, ABZ encoder and absolute encoder compatible design
- ADC interfaces with active band pass filtering for motor phase currents, DC bus currents, voltages and temperatures
- 2 level fault protection and monitoring with analogue/logic and CPLD interface
- Additional drive interfaces to control external peripherals such as LV motors, relays, solenoids and contactors.
- Additional digital inputs and outputs for external peripherals
- Additional ADC interfaces to measure external peripherals



Power stage

- ASIL-D ready gate driver selection
- Active short circuit in below 2 sec* with e-machine and redundant resistance network
- Flyback converter for stable and redundant supply of high voltage board
- Integrated galvanic signal isolation (up to 8 kV)
- High gate current: 15 A source/sink capable
- Temperature sense compatible with diode-based temperature sensors, NTC and PTC thermistors
- Integrated soft shutdown, two-level turn-off, optimized for unique gate drive requirements of SiC
- Gate Driver compatible with 200 V to 1700 V SiC
- Over and undervoltage supervision of all power supplies on both low and high voltage sides
- High efficiency up to 99%



Get in touch with us for further information



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