

Traction Inverter & E-motor

Melexis integrated circuits (ICs) play a crucial role in electric vehicle (EV) traction inverters, which are responsible for converting the DC power from the vehicle's battery into AC power to drive the electric motor. These ICs contribute to efficiency, reliability, safety, and cost-effectiveness.

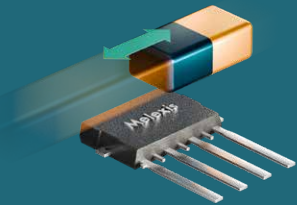


📷 A.I.

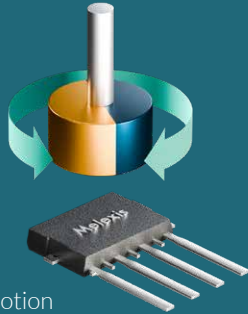
Position Sensor ICs

Our unique inductive and magnetic solutions deliver unparalleled accuracy, flexibility, and robustness for the ultimate in vehicle performance and safety.

Magnetic

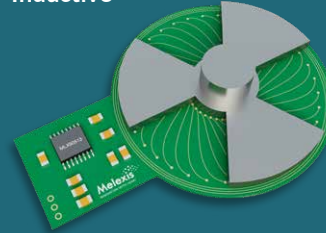


Linear motion



Rotary motion

Inductive



Rotor position sensor



Technology choice

- ✓ Magnetic or inductive
- ✓ Ease of integration
- ✓ Stray field immunity
- ✓ Cost effective

Current Sensor ICs

Our high-performance current sensors provide precise measurements and robust isolation for EV applications requiring efficiency and safety.



Technology choice

- ✓ Ease of integration
- ✓ Stray field immunity
- ✓ Functional safety

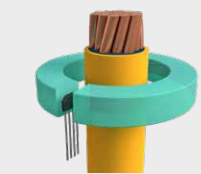
Protective Devices

Our monolithic Si-RC snubber helps engineers mitigate voltage spikes and oscillations to improve system reliability and efficiency.

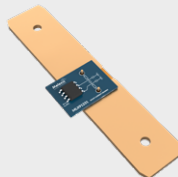


Technology choice

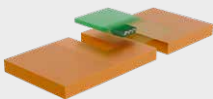
- ✓ Reduce switching losses
- ✓ Compact
- ✓ Reliability



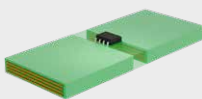
Conventional Hall



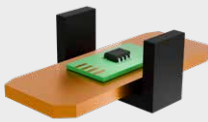
Shunt interface



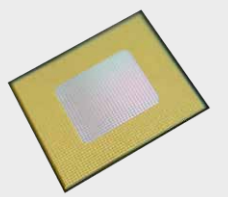
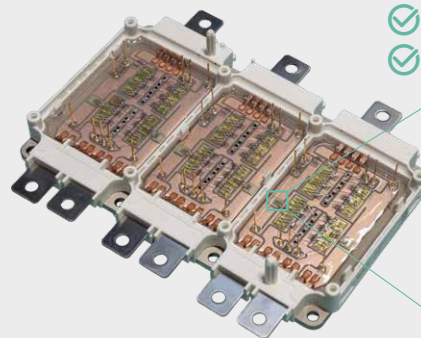
Coreless Busbar



Coreless PCB

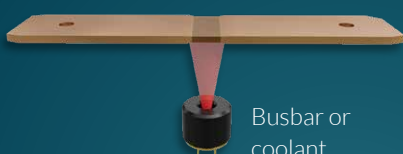


IMC-Hall®

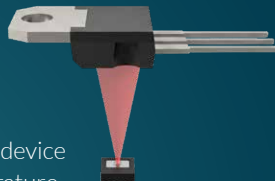


Temperature Sensor ICs

Our accurate infrared temperature sensors deliver rapid response times and galvanic isolation for superior thermal monitoring.



Busbar or coolant temperature monitoring



Power device temperature monitoring

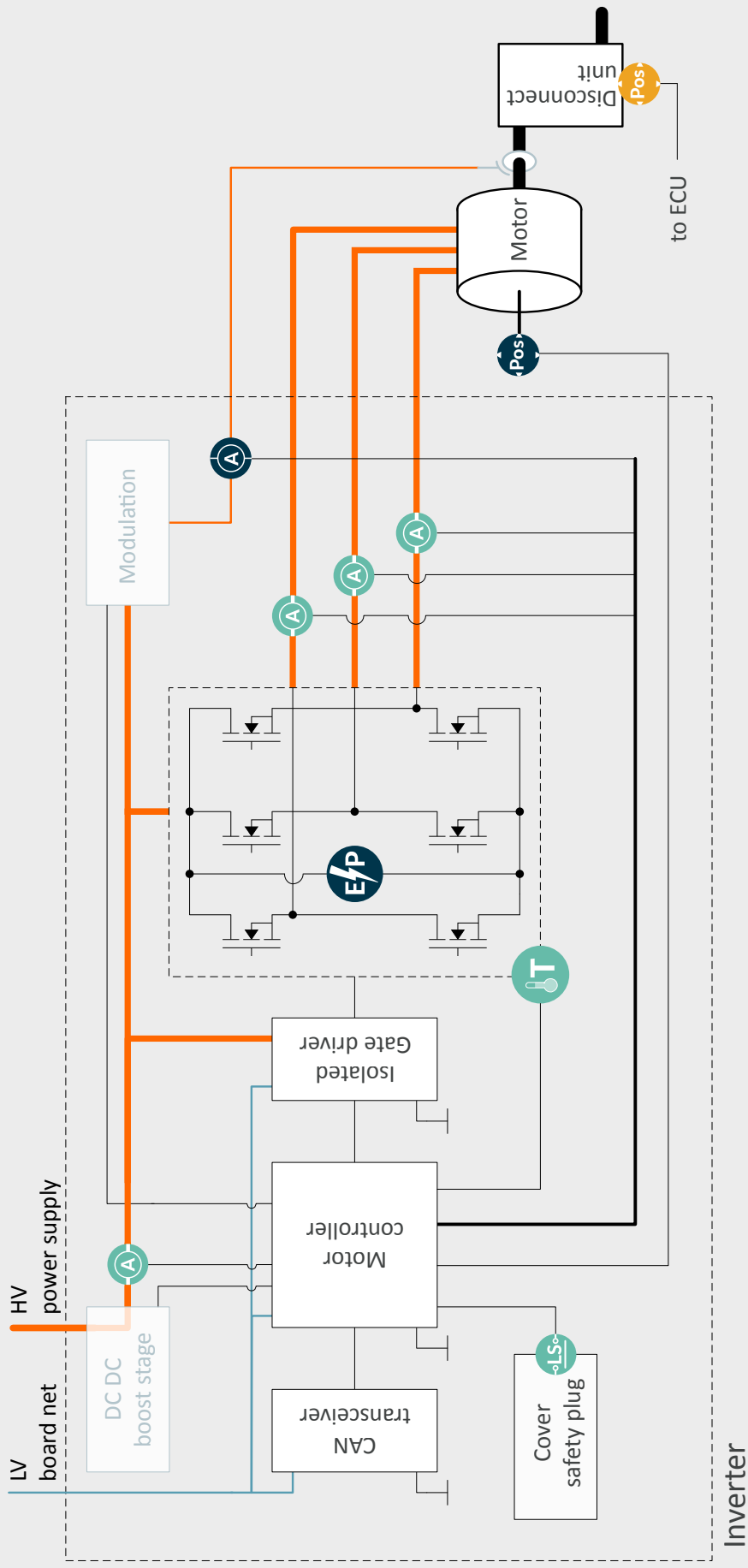
Technology choice

- ✓ Contact-less
- ✓ Fast response time
- ✓ Ease of integration
- ✓ Reliable over time



www.melexis.com/EV-powertrain

Melexis



Safety cover

MLX92442 (induxis®)

HV interlock loop

MLX92362 (floating)



Temperature monitoring

MLX90614
MLX90637



Si-RC Snubber

MLX91299



AC Phase or DC

MLX91219 (conventional)
MLX91218 (IMC-Hall®)
MLX91235 (Coreless)

Rotor excitation

MLX91220 (integrated)



Park lock & disconnect

MLX90513 (inductive)
MLX90423/25/26 (Hall)

Rotor position

MLX90510 (inductive)