Traction Inverter & E-motor



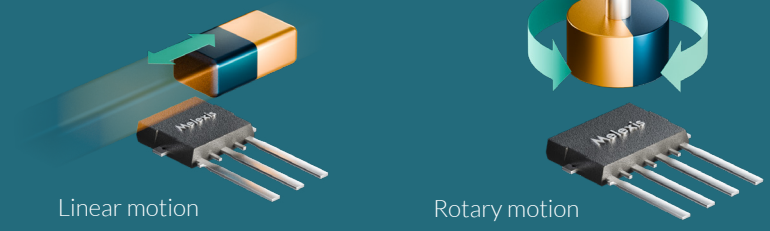
Melexis integrated circuits (ICs) play a crucial role in electric vehicle (EV) traction inverters, which are responsible for converting the DC power from the vehicle's battery into AC power to drive the electric motor. These ICs contribute to efficiency, reliability, safety, and cost-effectiveness.

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.

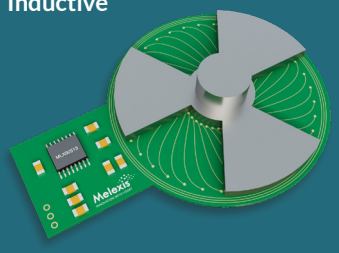
Magnetic



Linear motion

Rotary motion

Inductive

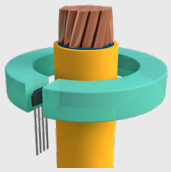


Rotor position sensor

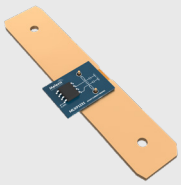
Technology choice
- Magnetic or inductive
- Ease of integration
- Stray field immunity
- Cost effective

Current Sensor ICs

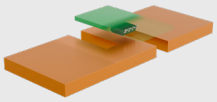
Our high-performance current sensors provide precise measurements and robust isolation for EV applications requiring effeciency and safety.



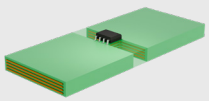
Conventional Hall



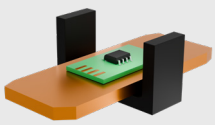
Shunt interface



Coreless Busbar



Coreless PCB



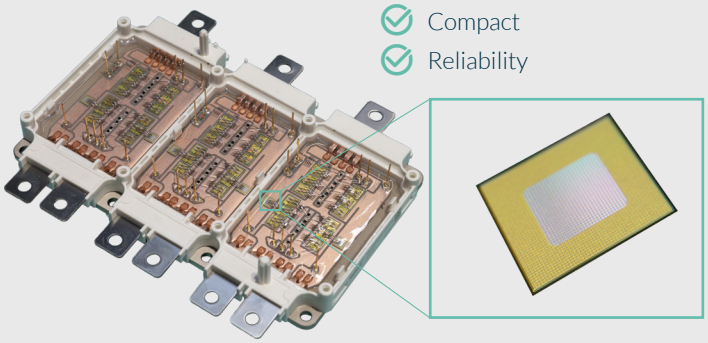
IMC-Hall®

Technology choice
- Ease of integration
- Stray field immunity
- Functional safety

Protective Devices

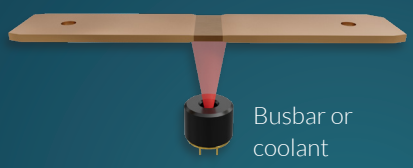
Our monolithic Si-RC snubber helps engineers mitigate voltage spikes and oscillations to improve system reliability and efficiency.

Technology choice
- Reduce switcthing losses
- Compact
- Reliability

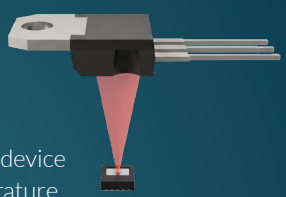


Temperature Sensor ICs

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



Busbar or coolant temperature monitoring



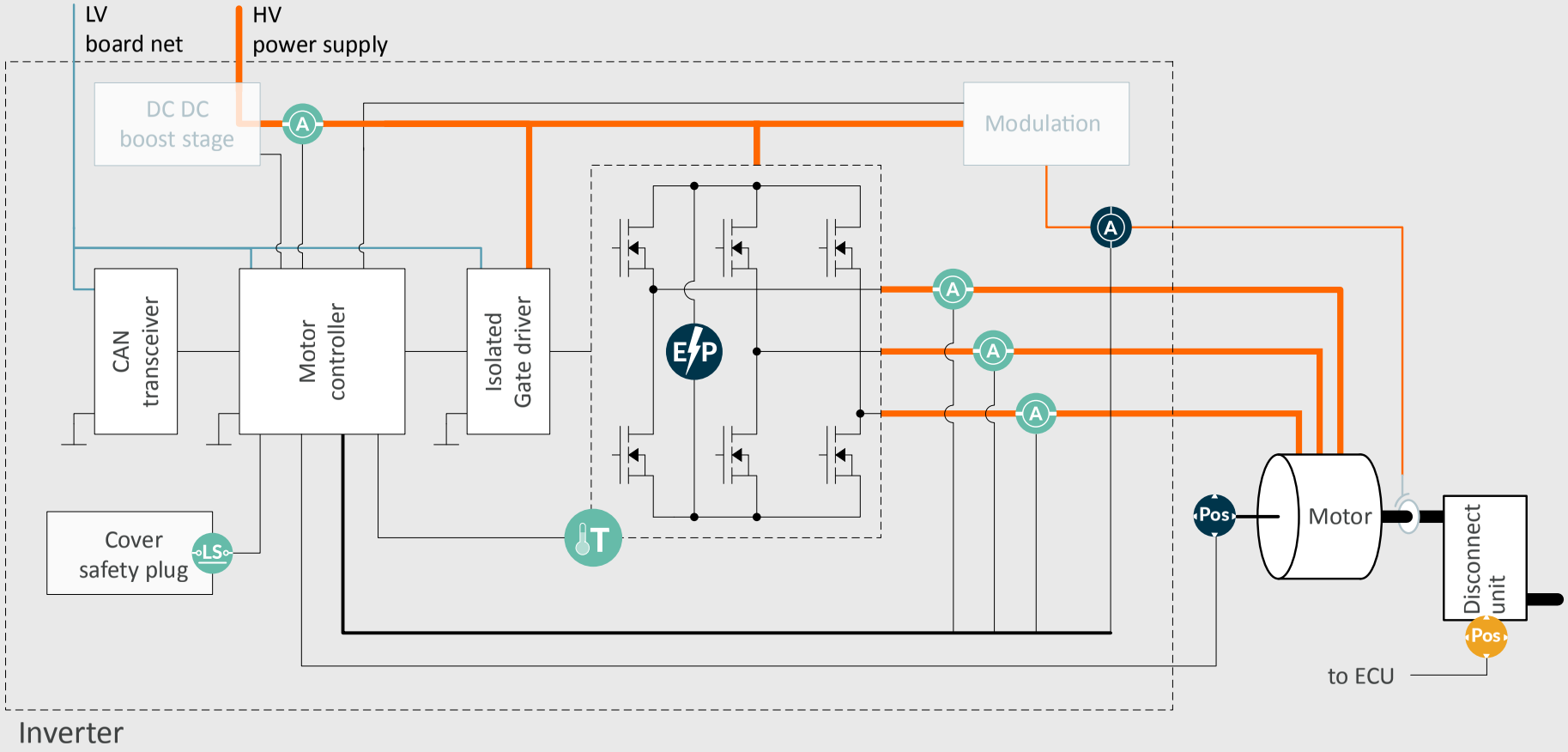
Power device temperature monitoring

Technology choice
- Contact-less
- Fast response time
- Ease of integration
- Reliable over time

www.melexis.com/EV-powertrain

V6/11-2026

Melexis



LATCH & SWITCH

Safety cover
MLX92442 (induxis®)

HV interlock loop
MLX92362 (floating)

TEMPERATURE SENSOR

Temperature monitoring
MLX90614
MLX90637

PROTECTIVE DEVICE

Si-RC Snubber
MLX91299

CURRENT SENSOR

AC Phase or DC
MLX91219 (conventional)
MLX91218 (IMC-Hall®)
MLX91235 (Coreless)

Rotor excitation
MLX91220/24 (integrated)

POSITION SENSOR

Park lock & disconnect
MLX90513 (inductive)
MLX90423/25/26 (Hall)

Rotor position
MLX90510 (inductive)