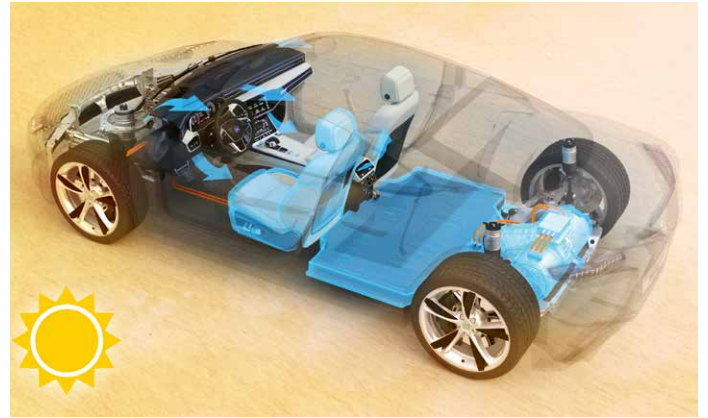


## SMART BEV THERMAL MANAGEMENT

Melexis IC-solutions for EV thermal management increase your time in the car. They boost the system efficiency, extend the driving range and shorten battery charging time. Additionally, they improve in-car comfort by supporting the integration of the cabin and powertrain thermal systems employing advanced heat pumps.



### PRESSURE SENSORS



#### Applications

- Protect from wet compression by monitoring the pressure & temperature of superheated gas at the outlet of evaporators
- Monitor pressure & temperature to enable high thermodynamic performance of the refrigeration loop and a tight control of the HV e-compressor / EXV (expansion valves)

#### Relevant ICs

- Pressure sensors MEMS (MLX90830, MLX90819/20)
- Pressure sensor interface (MLX90328)

#### Key benefits

- Triphibian™ technology
- Accuracy over lifetime
- Miniaturized MEMS



### CURRENT SENSORS



#### Applications

- Monitor and control the current consumption of PTC heaters with a current measurement feedback loop
- Safely control the motor of the e-compressor
- Accurately monitor the current for fast charge
- Fast charge safety mechanisms on inrush currents

#### Relevant ICs

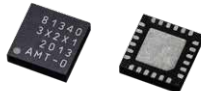
- IMC-Hall Shield current sensors >50 A (MLX91208/16/18)
- Primary integrated current sensors <50 A (MLX91220/21)

#### Key benefits

- High accuracy
- Surface mount solutions for easier assembly
- Fully integrated and isolated current sensors
- Factory calibration



### MOTOR DRIVERS



#### Applications

- Motor driver ICs bring intelligence and safety to the valves
- Going for BLDC motors helps to reduce the motor size & weight for pumps, blowers and fans.
- For silent vehicles, smart drivers ensure low acoustic noise of the motors from all the valves and pumps.

#### Relevant ICs

- LIN motor drivers (MLX81310/15/MLX81330/MLX81332)
- LIN motor pre-drivers (MLX81325/MLX81340/MLX81344)
- Single coil fan & pump drivers (MLX90411/MLX90412)

#### Key benefits

- Smallest footprint
- High operating temperature
- Wide portfolio for best-fit choice
- Robust operation with low acoustic noise



### POSITION SENSORS



#### Applications

- Solenoid valve with position feedback to increase safety
- Accurate valve control
- BLDC motor commutation

#### Relevant ICs

- Magnetic position sensors (MLX90421/MLX90422)
- Magnetic position sensors SPI (MLX90395/MLX90363)
- Latches (MLX92211/MLX92212)
- Magnetic resolver (MLX90380)
- Inductive resolver (MLX90510)

#### Key benefits

- Integrated sense & drive solutions
- IC positioning flexibility
- ISO 26262

## SMART BEV THERMAL MANAGEMENT

