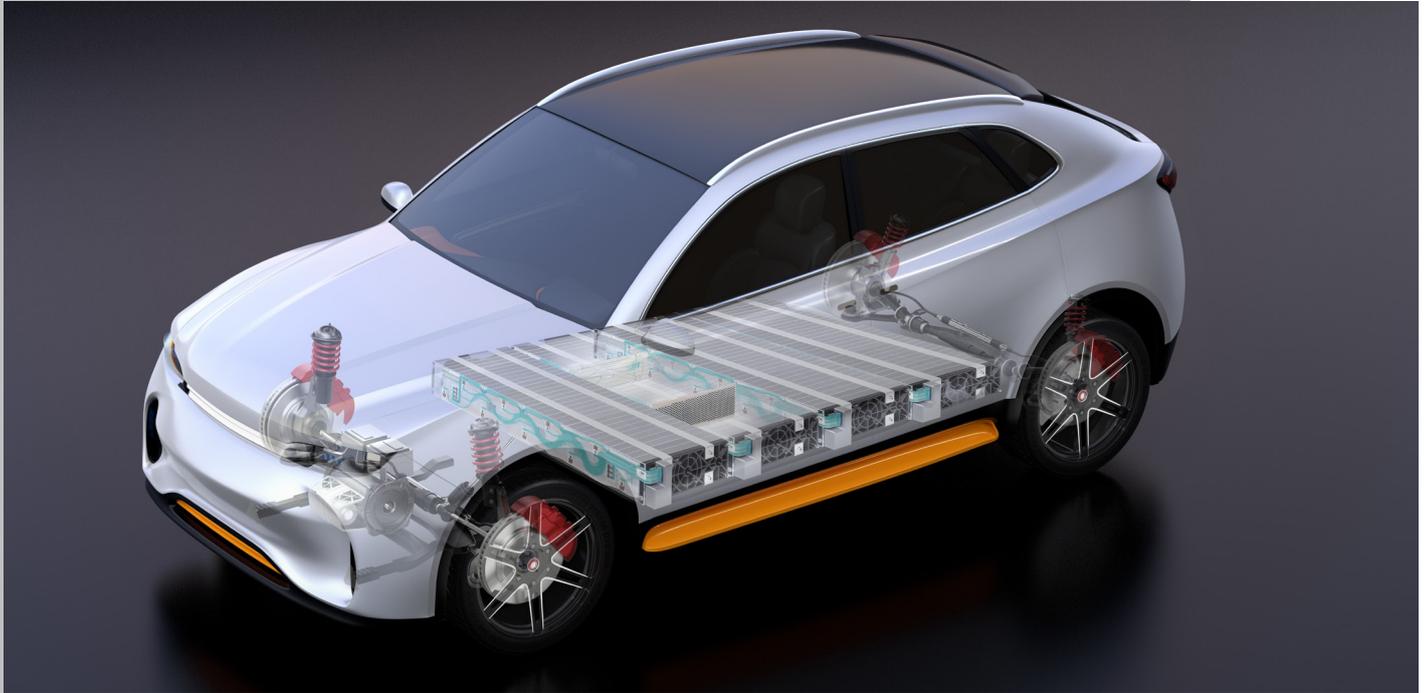


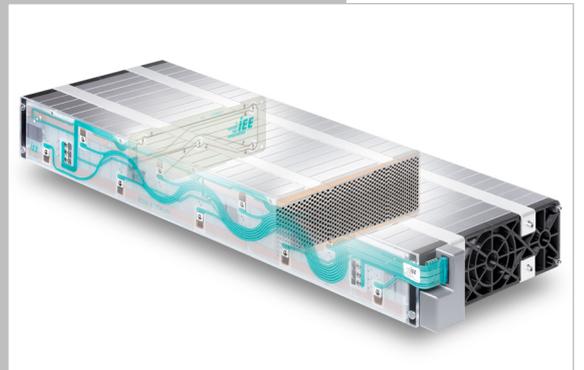
Sensing Solutions for Battery Management

a
SENSE
for
innovation **IEE**



Improve the life of your battery pack

At IEE, we develop applications for battery management optimization together with our customers to make your battery packs less complex, more efficient and easier to assemble. With 30 years' experience of working with international automotive OEMs and over 300 million vehicles equipped worldwide, our innovative sensors allow for exceptional, lightweight design, robustness and facility of integration, no matter the application.



Why choose our foil-based components?

- Thin, flat, compact, easy to handle when assembling the battery pack
- Built on flexible and very thin polymer foil
- An ideal combination of light weight and high mechanical robustness
- Fail-safe, fully reliable
- High adaptability to various applications thanks to the flexible design (from simple shapes to complex 3D and curved applications) and different connection technologies
- Strong Engineering support and flexibility during the development phase
- Customer-specific: tell us your needs and we make the sensor for it

Product range

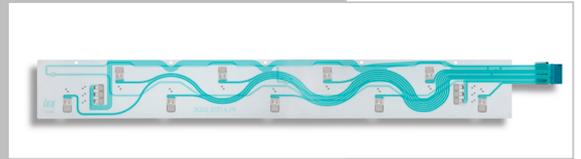
Battery Management Components

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Battery module connection systems

- Fully customized all-in-one solution for Electric Vehicle battery packs
- Electrical connection between the cells and/or temperature sensors and the control unit
- Ideal for monitoring the voltage of battery cells and cell charge balancing, using reliable connection technology
- Possibility to include SMD (surface-mount) thermistors and/or fuses



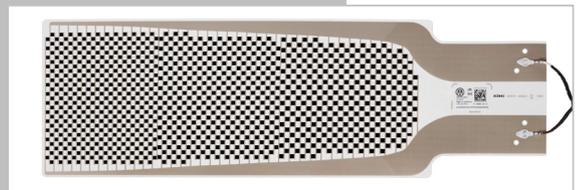
Temperature sensors

- Precise knowledge of temperature distribution inside a battery pack: Measure exactly where needed
- Slim enough to slide between individual cells inside the battery pack
- Supports a high number of Negative Temperature Coefficient (NTC) thermistors
- Fit for pouch, prismatic or cylindrical cells



Battery heaters

- Placed between or wrapped around cells or cell modules
- Low costs due to high productivity printing process on polymer material
- Mechanically robust and reliable
- Combined with Positive Temperature Coefficient (PTC) for even heat distribution, even on wide surfaces
- Delivering the right amount of heating power exactly where it is needed
- Self-regulating heating, simple system without the need for an ECU/thermostat
- Failsafe heater technology (no burning risk/no hotspots)



Contact Us

For more information, please visit www.iee.lu or send us an email at battery.management@iee.lu

About Us

IEE is a worldwide pioneer in passenger presence detection and one of the leading suppliers of advanced automotive interior sensing solutions. Founded in 1989 and headquartered in Luxembourg, it has operations in Europe, America and Asia. The innovation driven company has a long history in developing and manufacturing cutting-edge sensing systems for automotive industry, building management and eHealth. IEE employs 4,100 people worldwide and more than 10% of the company's workforce is engaged in Research & Development.