

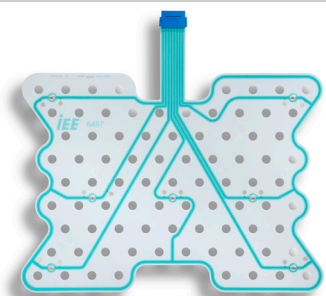
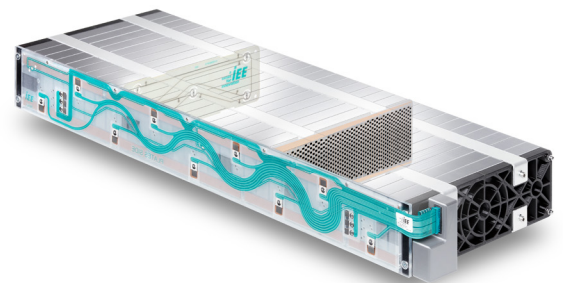
Sensing & Heating Solutions for EV-Batteries

Improve the safety and reliability of your battery pack

At IEE, we develop applications for battery management optimization together with our customers to make your battery packs safer, less complex, more efficient and easier to assemble. With 30 years' experience of working with international automotive OEMs and over 400 million vehicles equipped worldwide, our innovative sensors allow for exceptional, lightweight design, robustness and ease of integration, no matter the application.

Why choose our foil-based components?

- Thin, flat, compact, easy to handle when assembling the battery modules
- Manufactured with additive processes on very thin and flexible 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

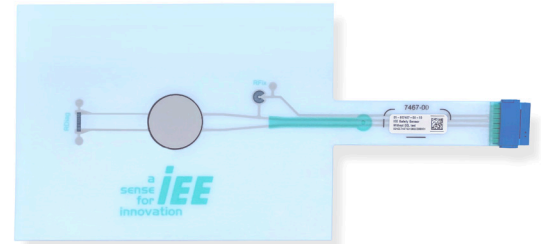


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SENSE
for **IEE**
innovation

Battery Sensing & Heating Components

Battery Safety sensors

- Detect critical situations in battery packs early, such as Thermal runaway or degrading State-of-Health
- Enable compliance with safety regulations, such as UN GTR20/R100 and China GB 38031
- Reliable detection with self-diagnostic
- Easy to assemble between battery cells in a pack or module
- Low cost, manufactured in an automated printing process
- Fit for pouch and prismatic cells



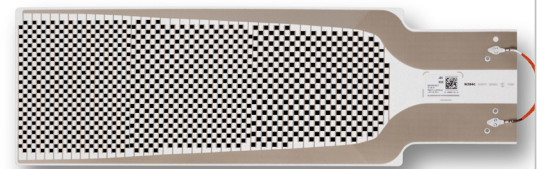
Temperature sensors

- Precise knowledge of temperature distribution inside a battery pack: Measure exactly where needed
- Slim and flat, can be fitted between individual cells inside the battery module
- Supports a high number of Negative Temperature Coefficient (NTC) thermistors
- Acts as electrical insulation sheet
- Fit for pouch, prismatic or cylindrical cells



High Voltage Battery heaters

- Placed on a heat exchanger or in direct contact with battery cells
- Delivering the right amount of heating power exactly where it is needed
- Mechanically robust and reliable
- Fail-safe heater with Positive Temperature Coefficient (PTC) technology
- High productivity printing process on polymer material



Contact Us

For more information, please visit www.iee-sensing.com 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.