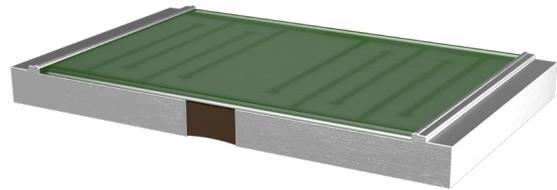




CUSTOMER STORIES

SAFE. DURABLE. EFFICIENT. – PRECISION SHUNTS FOR AUTONOMOUS SATELLITE SYSTEMS



Mastering precise battery condition monitoring in satellites at extreme temperatures.

CHALLENGE

Precise and reliable battery monitoring is crucial in satellite missions — whether for communication, earth observation, or navigation. Harsh temperature fluctuations, limited installation space, and zero tolerance for error over the entire mission lifetime make current measurement a critical factor. Even small inaccuracies can lead to incorrect energy management, risking overcharge, deep discharge, or failure of key systems.

SOLUTION

With high-precision, space-qualified shunts like the SMx series or custom ISA-PLAN® solutions, Isabellenhütte offers a reliable answer to the toughest space requirements: minimal TCR (± 50 ppm/K), outstanding long-term stability, compact form factors, and proven in-orbit performance.

APPLICATION

Energy management systems in various types of spacecraft — both airborne and planetary (e.g., rovers). The SMx series supports DC/DC converters at the subsystem level, including primary and secondary bus converters, point-of-load converters, and circuits for Single-Event Latch-up (SEL) detection. The solution is optimized for high-reliability applications in radiation-intensive environments.