

HallinPower®

**Flexible galvanically decoupled current sensors
from a few amperes to several mega amperes**

Analog amperemeter

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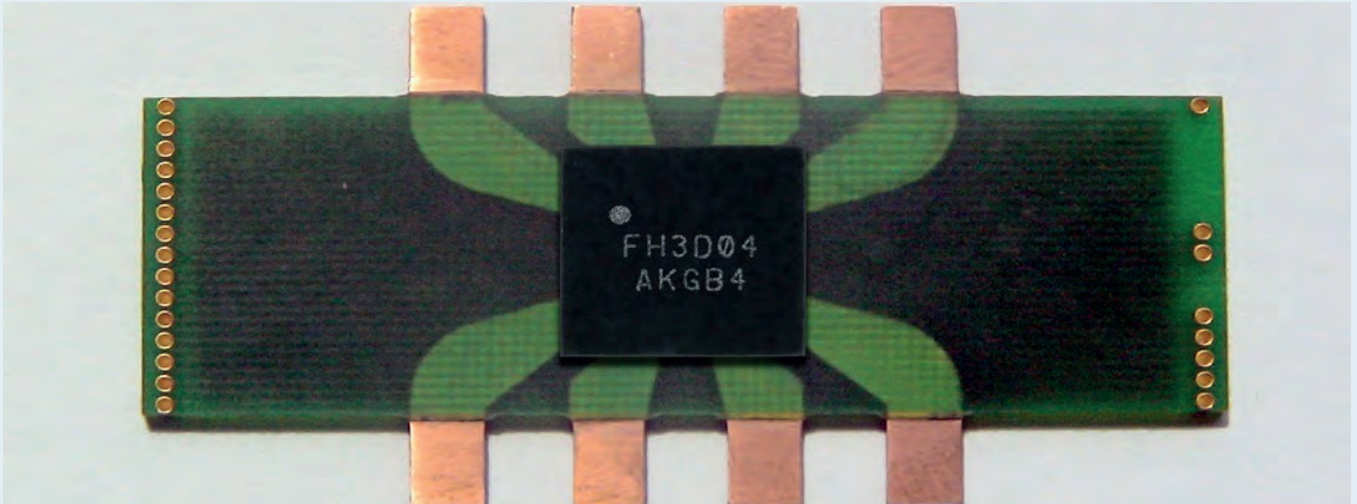
Our expertise in current measurement is founded on a combination of modern, model-based techniques and proven methods, including the differential field principle and the ring integral principle. These approaches enable precise measurements and have been instrumental in the development of HallinPower® technology.

Key Facts

- Galvanic insulation
- Robust measuring systems without shielding
- Insensitive to overload
- High dynamics, linearity and bandwidth
- No magnetizable materials
- DC and AC
- Manufactured using standard CMOS technology

Benefits

- Simultaneous measurement of several currents
- Installation during operation for clamp on variants
- Differential measurement
- Cost-effective production
- Small size due to system integration
- Low weight due to elimination of magnetic cores



Compact current module for measuring four galvanically isolated current channels
© Fraunhofer IIS

Customized Current Measurement Solutions

The precise measurement of electrical currents is a key challenge in many applications, especially when high currents or the need for galvanic isolation are involved. Conventional techniques, such as the utilization of shunt resistors or magnetic field sensors, are frequently associated with thermal and power or energy loss issues, elevated costs and constraints in terms of volume and weight.

This is where the innovative HallinPower® technology from the Fraunhofer IIS becomes applicable. By employing Hall elements to quantify the magnetic field generated by an electric current, this technology offers a cost-effective and compact solution. The integration of sophisticated electronics enables the compensation for offset and temperature dependencies, obviating the necessity for intricate magnetic field concentrating components.

This not only results in a streamlined design, but also facilitates a high level of integration capability and a substantial reduction in saturation and hysteresis effects. Explore the advantages of HallinPower® technology and transform your current measurement applications!

Our Offer

- Feasibility analysis
- Development and optimization of the arrangement of magnetic sources and sensors
- Elaboration of the signal processing
- Realization of the electronics, both discrete and integrated
- Development of measurements and production test procedures
- Support with component and module qualification
- Support during the start of series production and support in the analysis of returns during series production

Applications

- Current sensors for power distribution systems
- Monitoring of energy-efficient systems
- Energy monitoring of photovoltaic systems with inverters
- Battery condition monitoring, e.g. of the internal resistance
- On-board power supply monitoring
- Start/stop support without shunt
- Charging infrastructure in electromobility
- Electromobility in motor vehicles and traction current applications
- High current measurement in electrolysis processes

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