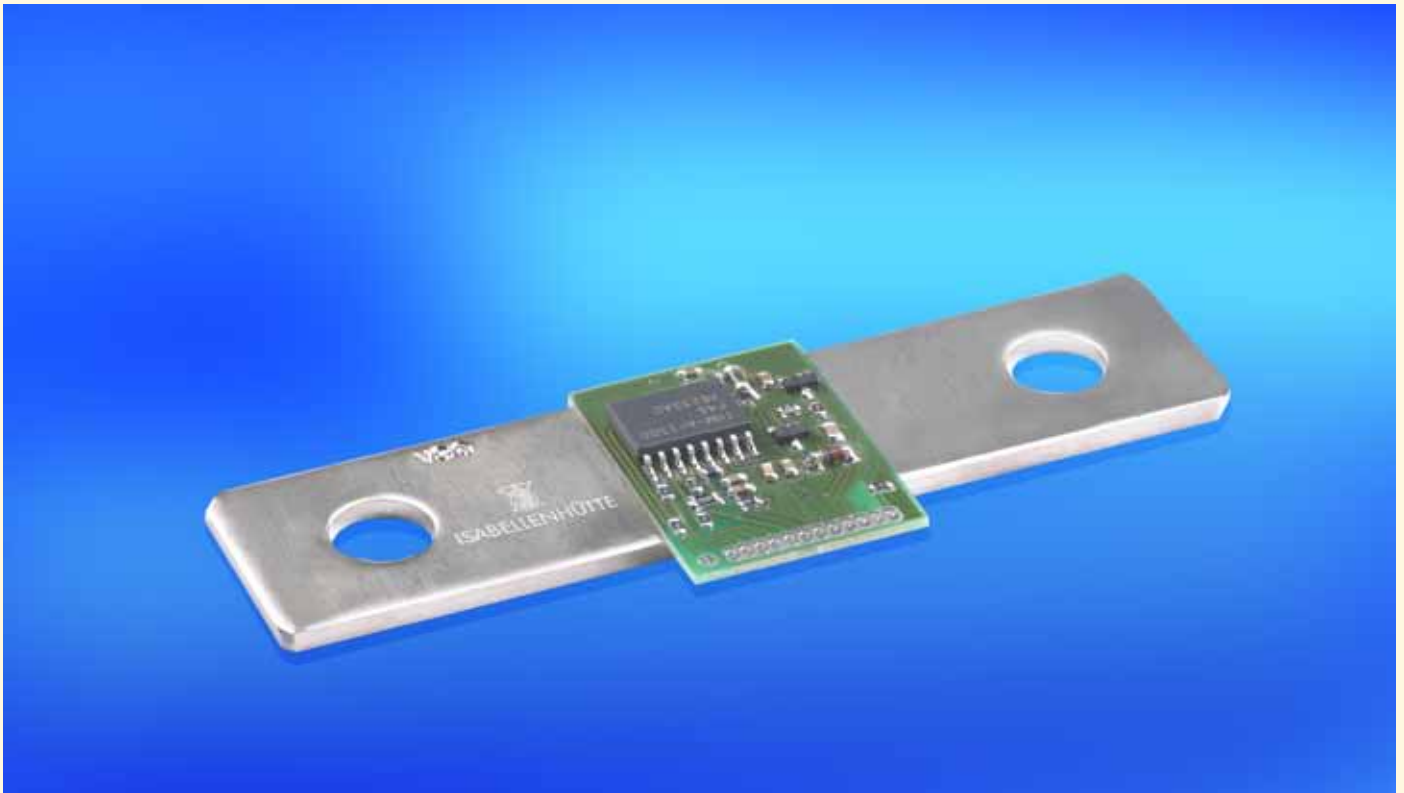


Advanced current and voltage measurement module for OEM usage



The **IMS sensor module** (IMS-B-R0001) is designed for the direct measurement of current, voltage and temperature. It can be directly operated in more advanced measuring systems such as current-measuring devices and battery management systems.

The current measurement takes place via a $100\ \mu\Omega$ shunt. Isabellenhütte's ISA-ASIC, a four-channel 16 bit data acquisition system, is used for measured value acquisition. With a measuring range of $\pm 1200\ \text{A}$ at a resolution of $40\ \text{mA}$ and a voltage measuring range of $\pm 30\ \text{V}$ at a resolution of $1\ \text{mV}$, the system offers the possibility of achieving exact current and voltage measurements at high resolutions. Other current measurement values could be achieved by using different shunts. Channels 3 and 4 of the ISA-ASIC can be used for differential voltage measurement. Data, interface and power supply can be connected to the free accessible welding strip. The communication with following μC is realised with a SPI interface. For this option, ISAscale® supplies a C-code. Upon request the modul can be calibrated. The calibration data will be supplied in an Excel® file.

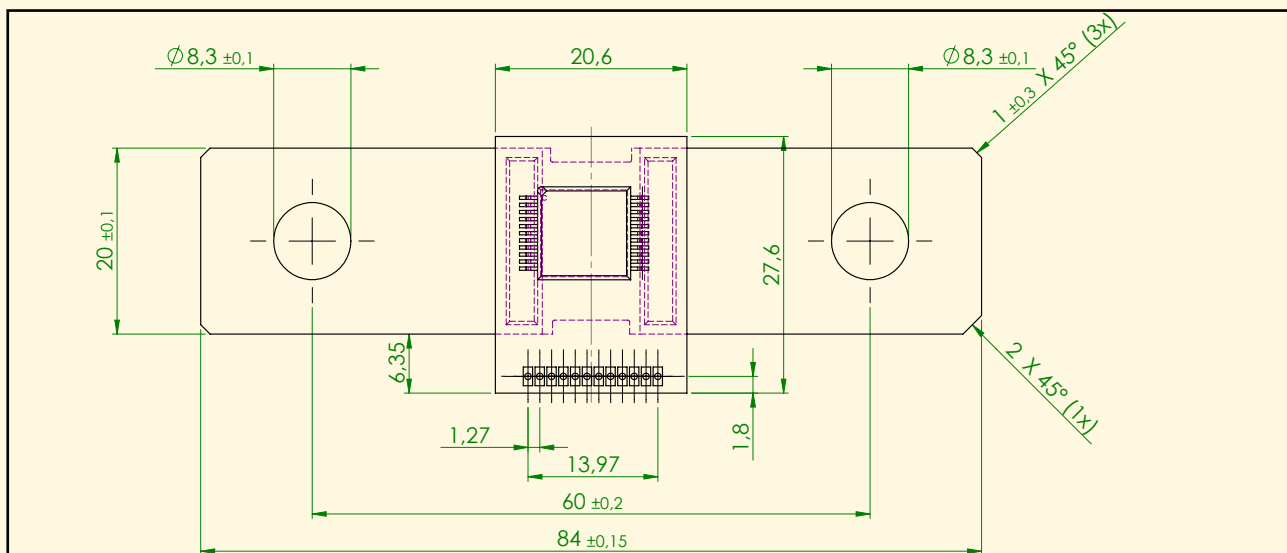
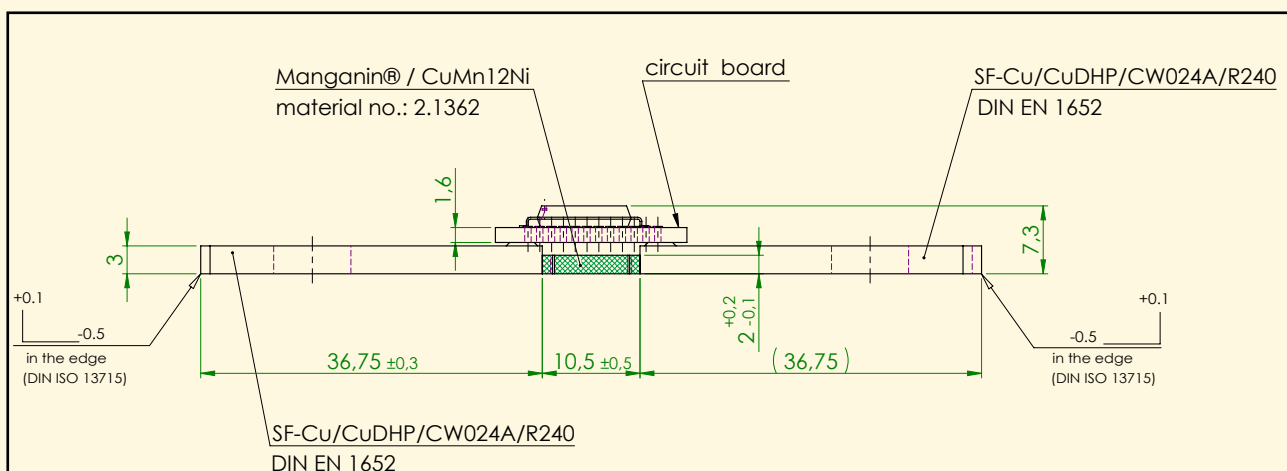
There is a broad range of applications in the markets industry, energy + automation, automotive and railway technology:

- Power train
- AC/DC power monitoring
- Power converter
- Current transducers
- AC and DC converter
- Energy conversion
- Battery management
- Hybrid power train
- Electrical vehicles
- Fuel cell monitoring
- Lithium-ion battery monitoring

Specification IMS-B-R0001	Measuring range	Resolution
Current measurement	±1,200 / 300 / 150 / 75 A	40 / 10 / 5 / 2.5 mA
Voltage measurement	±30 / 15 / 7.5 / 3.75 V	1 / 0.5 / 0.25 / 0.125 mV
Differential voltage	±120 / 30 / 15 / 7.5 mV	4 / 1 / 0.5 / 0.25 µV
Internal temperature	-40 up to +125 °C	0.1 °C

Power supply	Min.	Max.
Supply voltage	4.7 V	5.3 V
Supply current	4 mA	6 mA

The accuracy depends on the calibration before shipment or by the customer.



Member of
German
Calibration
Service



Cooperation with
German Commission for
Electrical, Electronic &
Information Technologies
of DIN and VDE



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Member of
AMA



ISO/TS 16949:2002 and
DIN EN ISO 9001:2000
certified



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ISAscale® – precise efficiency