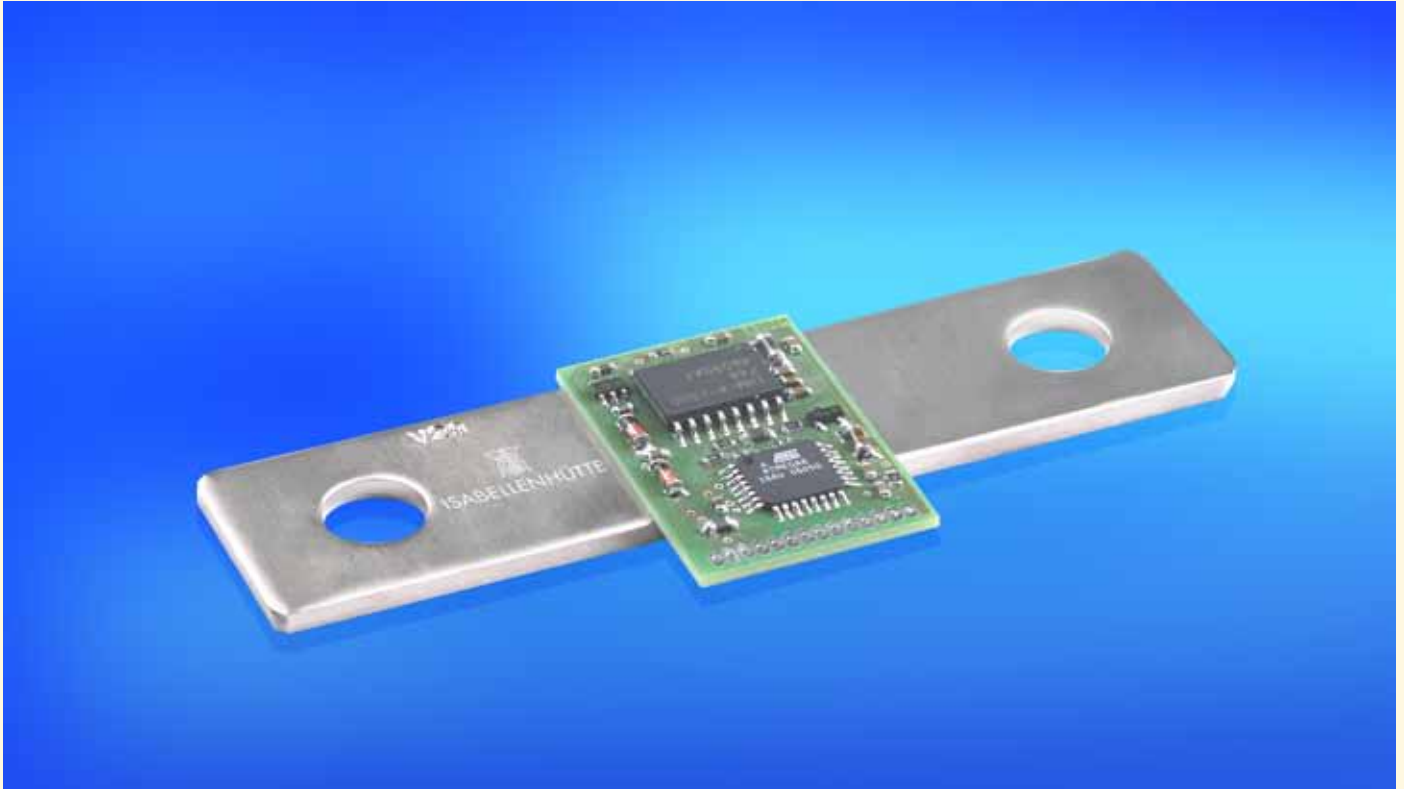


## Calibrated current and voltage measurement module for OEM applications



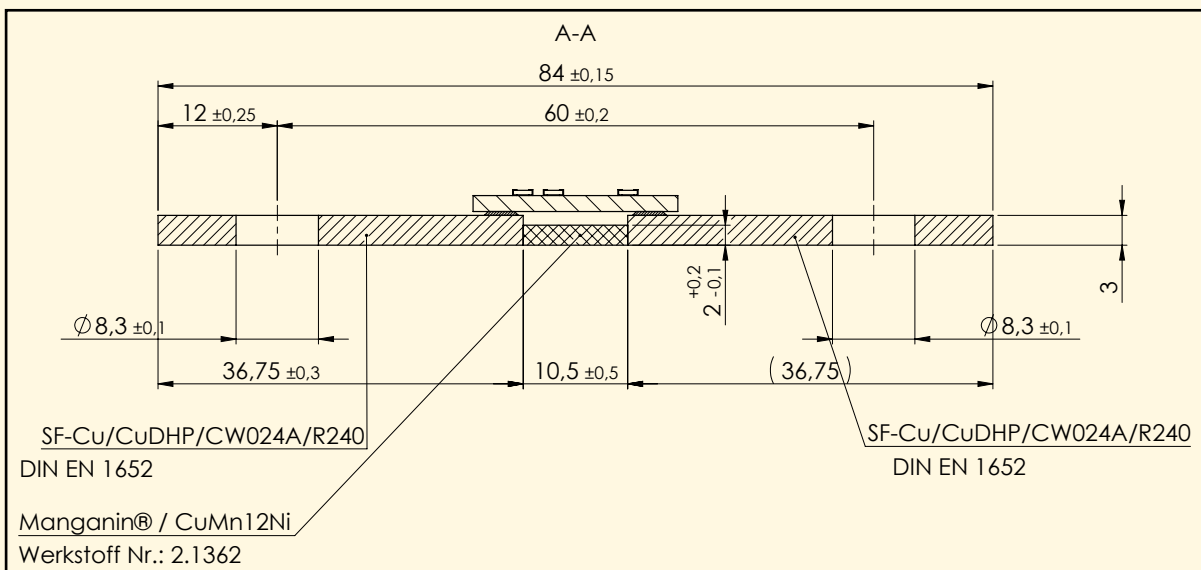
The calibrated **IMC sensor module** (IMC-A-R0001), a product from the ISAscale<sup>®</sup> product line, is designed for the direct measurement of current and voltage by a 3.3 V or 5 V level RS232 interface. Other interfaces upon request. The module can be used for direct operation in more advanced measuring systems such as current-measuring devices, data logger and battery management systems, where you can use it for precise measurement of current and voltage especially in lithium ion battery packs with critical state of charge conditions. Calibration by the customers is unnecessary.

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 current measuring range of  $\pm 300$  A at a resolution of 10 mA and a voltage measuring range of  $\pm 30$  V at a resolution of 1 mV, the system offers the possibility of achieving exact current and voltage measurements at high resolutions.

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, lithium ion battery packs
- Electrical vehicles
- Fuel cell monitoring

Power supply	Min.	Max.
supply voltage	3.3 V	5.2 V
supply current	15 mA	25 mA
Current measurement		
resistance value of the shunt	100 $\mu\Omega$	
nominal current range	$\pm 300$ A	
sampling rate (dual mode)	900 S/sec	
error	$\pm(0.05\% + 20 \text{ mA})$	
resolution	10 mA	
temperature coefficient	75 ppm/K	
max. current	1500 A for 1 sec.	
Voltage measurement		
voltage range	$\pm 30$ V	
error	$\pm(0.05\% + 15 \text{ mV})$	
resolution	1 mV	
max. voltage	80 V	
temperature coefficient	50 ppm/K	
Measurement functions		
current	by using the voltage drop over the shunt	
voltage	by using the internal voltage divider	



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German Commission for  
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Information Technologies  
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**DKE**  
VDE DIN



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DIN EN ISO 9001:2000  
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