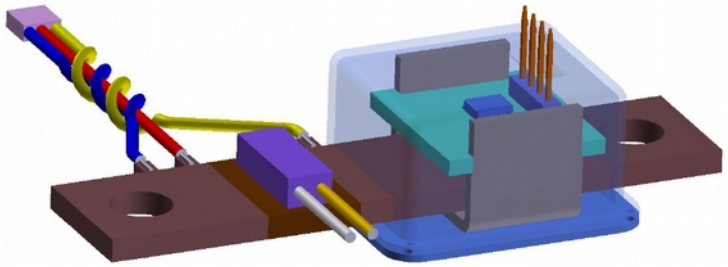
Redundant Dual Current Sensor Module

Combined Hall Sensor and Shunt Current Sensor Module HSM-800



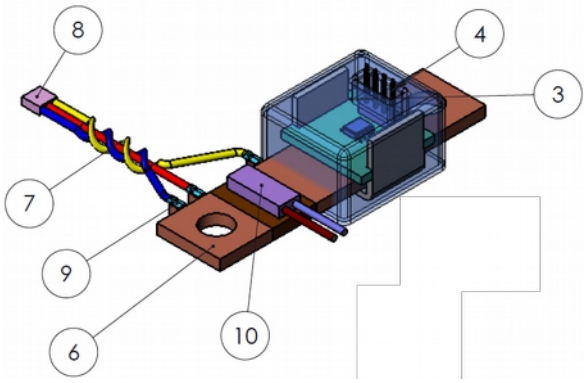
Description

The HSM-800 is a redundant dual current sensor module combining precise Cu-Mn shunt-based current measurement and a fully redundant, galvanically isolated Hall sensor. Therefore this module provides highly accurate, redundant, and reliable current measurement. Hence, it targets safety-relevant applications according to ASIL standards and ISO26262. Applications include e.g. high voltage battery monitoring, junction box, HEV, EV, and others. Additionally the module is complemented with an ambient temperature sensor allowing to determine the state-of-charge SOC, state of health SOH, and state of function SOF of modern battery-powered equipment.

Module Characteristics

Parameter	Value	Unit
Peak Input Current Range	±800	A
Continuous Input Current	±380	A
Cu-Mn Shunt Resistance	100	µOhm
Hall Sensor Sensitivity	2.50	mV/A
Operating Temperature Range	−50...+150	°C
PT100 Temperature Sensor	100	Ohm

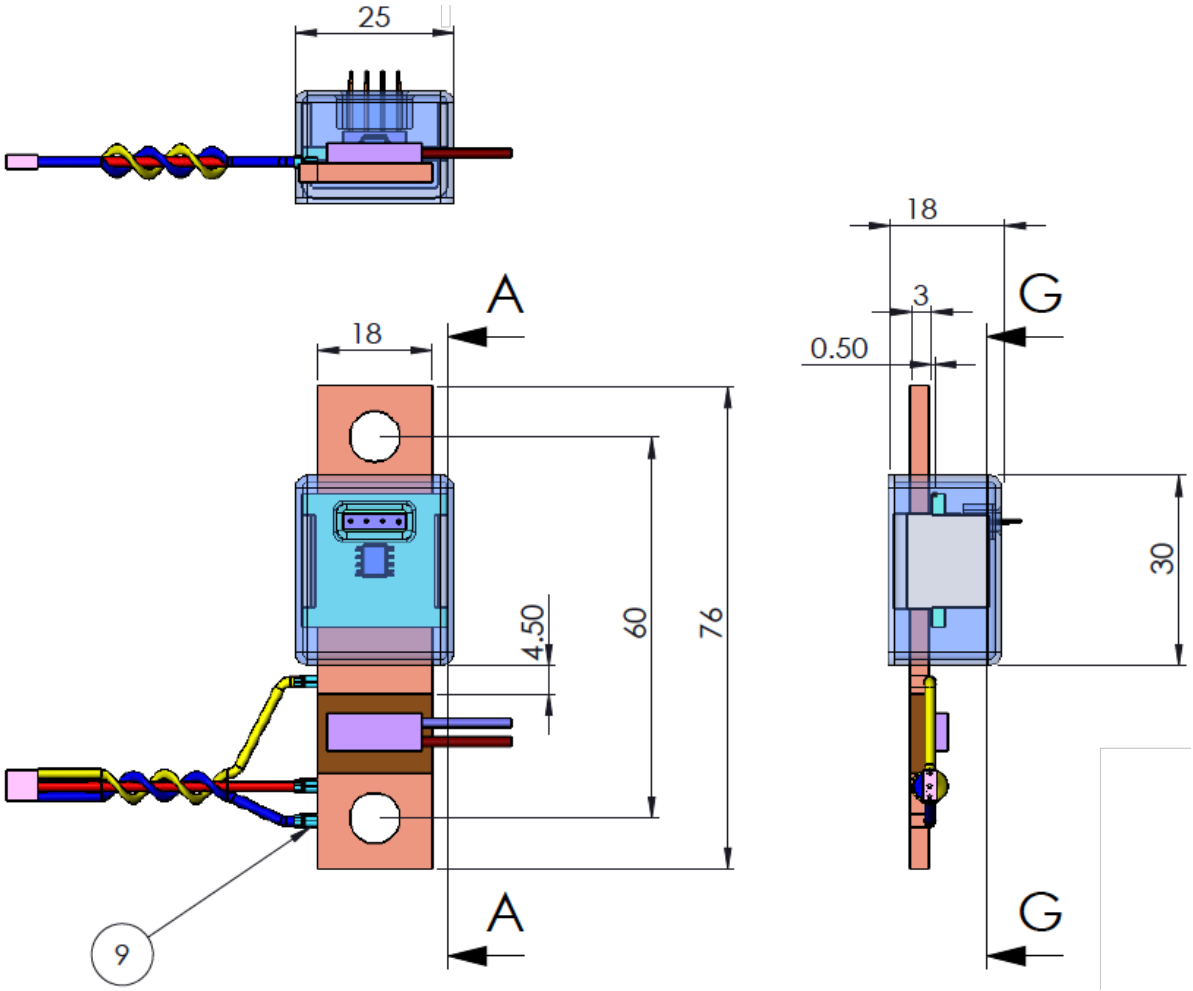
Module Parts



Pos	Description
3	Housing
4	Hall sensor connector
6	Copper busbar with shunt
7	Shunt wires
8	Shunt connector
9	Shunt to wire joint
10	Temperature sensor

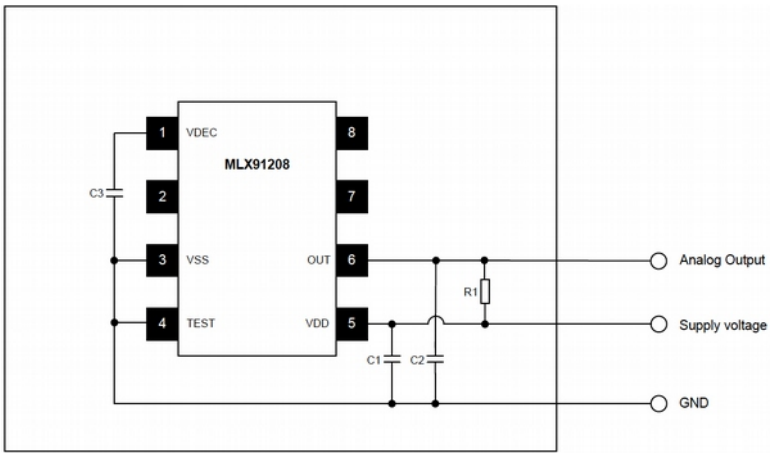
Geometry

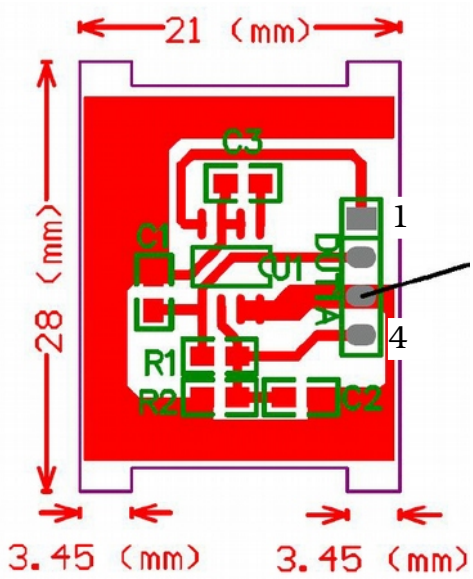
(all dimensions: mm)



Hall Sensor Configuration and Pin-Out

Melexis 91208 Hall sensor in diagnostic-high configuration





Pin	Description	Comment
1	Test	not used
2	Vdd5V	5V supply voltage
3	GND	0V
4	Out	Hall sensor analog output

Module Illustration