

Portfolio of Current Sensors

Mass-produced
product
&
Under
development

Sensors detecting various currents and voltages with high accuracy

Background or assignment

Current sensors are required for accuracy of driving range and control of battery health status

Solutions to Challenges

- 1 Reduces the size and weight of devices in electric vehicle such as inverters and battery packs
- 2 Cost reduction and easy assembly

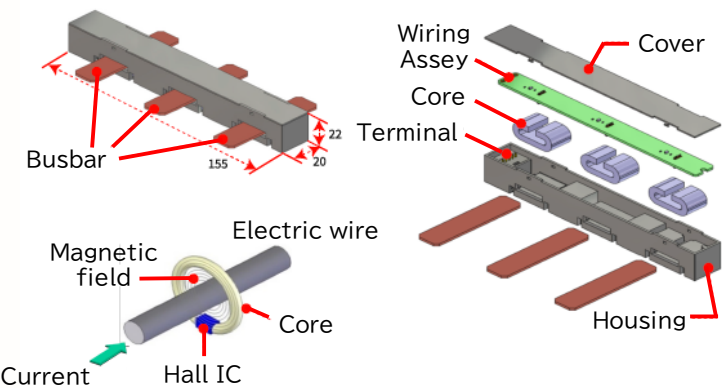
Main performance, specifications and structure

Current Sensor for Inverter

Features

Under
development
Mass production
possible in 2028

- 1. Voltage output proportional measuring current
- 2. Current detective range can be customized by using hall IC with EEPROM
- 3. Compact design for current measurement range

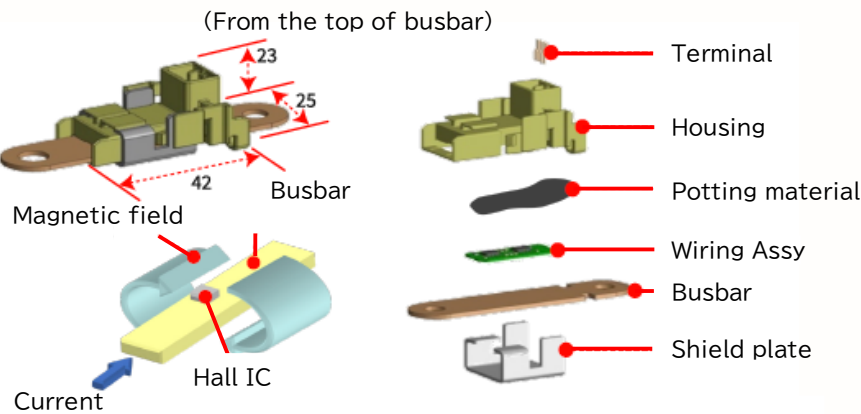


Compact Current Sensor

Features

Mass-produced
product
Installed
in 2020

- 1. Improve vehicle mountability
 - Reduces the size and weight by eliminating cores
 - Improves ASSY by using built-in busbars
- 2. Additional features
 - 2 output types of current range, failure diagnosis

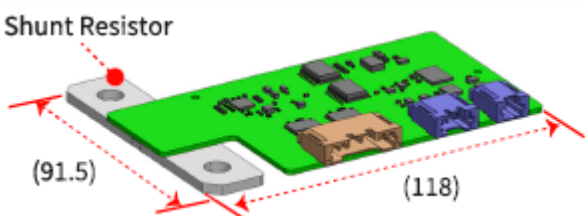


High-voltage Measurement Unit

Features

Under
development
Mass production
possible in 2029

- 1. Measures current for BMU battery measurement
- 2. Current value measurement for battery management
- 3. Temperature measurement for protecting the unit and peripheral parts



Supply voltage	5V±0.25
Operating temperature	-40degC to 85degC
Output system	Digital communication UART (supported CAN)
Voltage detective range	1,000V
Voltage measuring accuracy	±1%
Voltage measuring ch	2ch
Current detective range	±5,000A
Continue flowing current	400A
Current measuring accuracy	±0.05A (offset) ±0.5% (gain)
Shunt resistance temperature	Output
Battery pack in/out temperature	Output (1ch)