Current Sensors Guidebook

for Battery Packs

V2025.03

About Innosense

Innosense is a professional current sensor, position sensor company, focusing on R&D, manufacturing, sales and service of system sensor solutions. Our goal is to provide the best sensor solutions for automotive, photovoltaic, energy storage and industrial automation industries.

The core team members all come from key positions in the world's leading sensor companies with more than 10 years' experience in the industry. Our core technology is protected by independent and original global intellectual property rights, enabling us to offer original and exclusive solutions to our customers. Founded in Shanghai in 2021, the company has opened an innovative R&D center in France with the aim of becoming a world-class supplier of sensor solutions.

Innosense has successfully launched new products answering to challenges of automotive industry on current measurement and position sensing. Innosense's current sensor solutions offer several advantages over existing market sensors.

System Certifications

IATF16949 Certification

ISO45001 Certification

ISO14001 Certification

ISO9001 Certificate

Applications

Automotive

Solar and Wind Energy

Energy Storage Systems

Industrial Automation

New

BB series

Introduction:

The BB Series features a high-precision open-loop Hall current sensor that achieves functional safety ratings of ASIL-C/D. It utilizes a segmented calibration strategy, capable of simultaneously measuring both high precision for big currents (up to ±1500 A) and for small currents (up to ±20 A). This results in a measurement accuracy of 0.5% across the full range, with offset maintained within100mA. The series can be tailored to meet specific preferences.

Parameters:

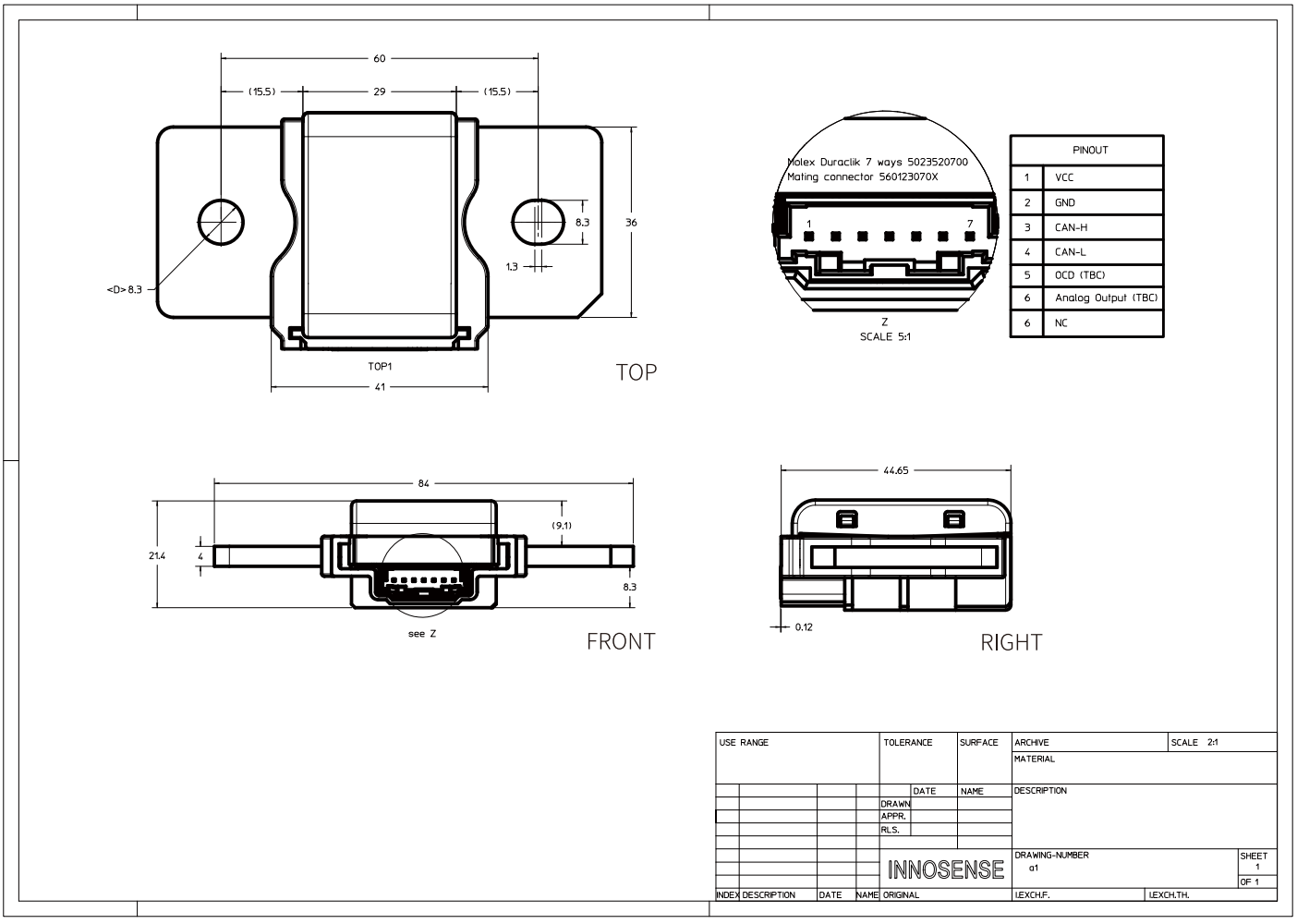
- Current Measurement Range: ±1500 A
- Offset : 100 mA
- Operating Temperature: -40 °C to 85 °C
- Global Error at Room Temperature: 0.2%
- Global Error at Full Temperature: 0.5%
- Frequency Bandwidth: DC up to 2 kHz
- Output: CAN
- Functional Safety: ASIL-C/D

Features:

- CAN output
- Large measurement range
- High precision at a low cost
- Compact with excellent compatibility
- Low power consumption
- Compliance with ASIL C/D standards

New

Outline Dimensions:



B1 series

Introduction:

The B1 series high-precision open-loop Hall current sensor is designed to meet the functional safety standards of ASIL-C/D. It is ready to replace existing high-precision sensors on the market at a lower price. This current sensor features a segmented calibration strategy, allowing it to measure both big currents (up to ±1500 A) and small currents (down to ±20 A) simultaneously. It provides an overall measurement accuracy of 0.5% across its entire range, with an offset level maintained within 100 mA. The series can be tailored to meet specific preferences.

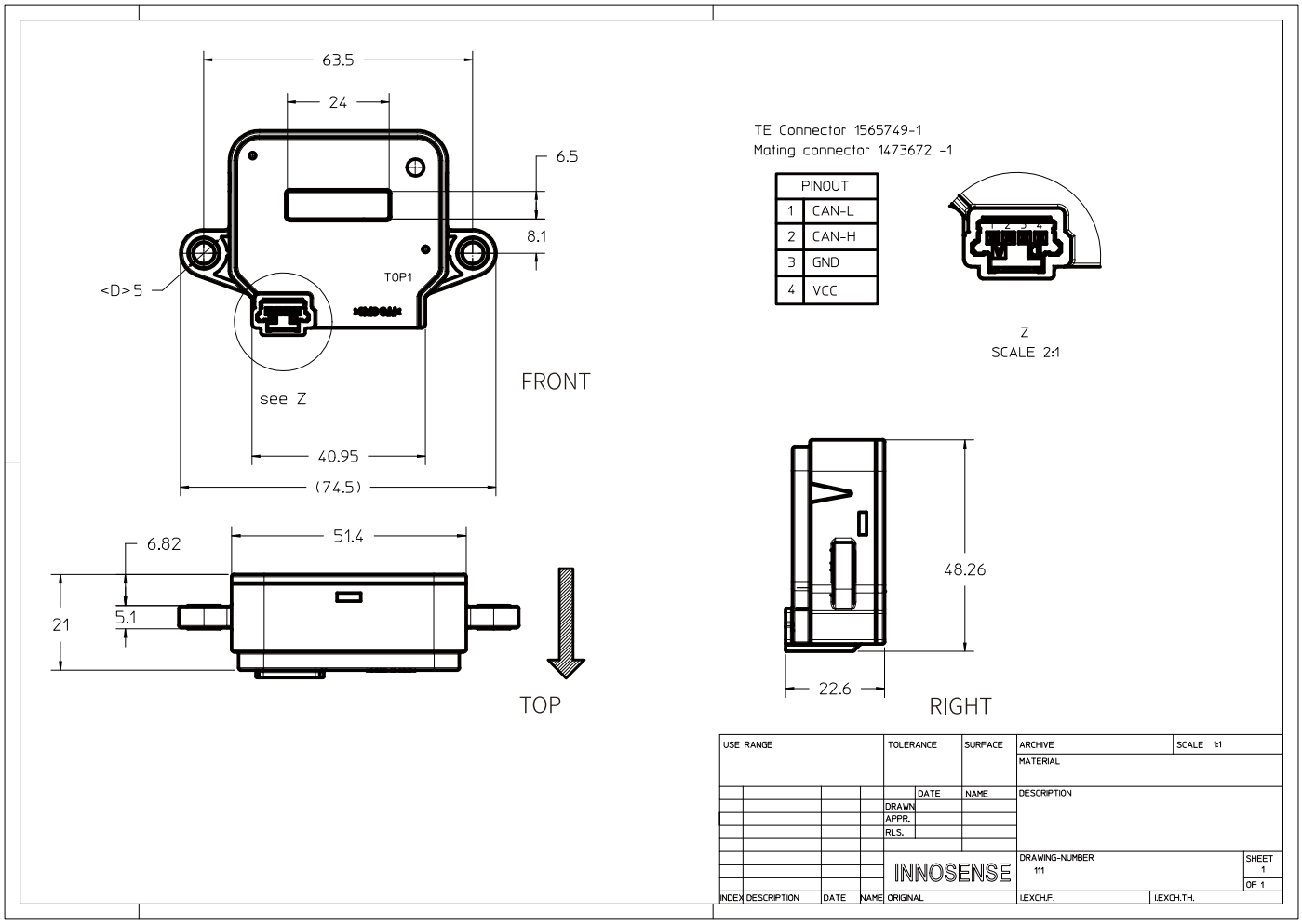
Parameters:

- Current Measurement Range: ±1500 A
- Offset : 100 mA
- Operating Temperature: -40 °C to 85 °C
- Global Error at Room Temperature: 0.2%
- Global Error at Full Temperature: 0.5%
- Frequency Bandwidth: DC up to 2 kHz
- Output: CAN
- Functional Safety: ASIL-C/D

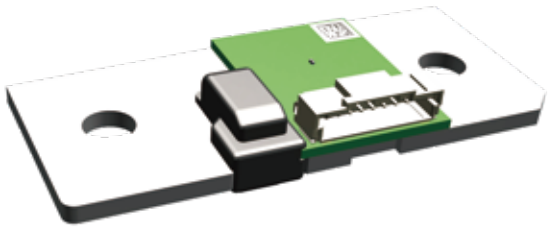
Features:

- CAN output
- Large measurement range
- High precision
- low cost
- Low consumption
- ASIL-C/D

Outline Dimensions:



Shunt + Hall series



Introduction:

A current sensor that integrates open-loop Hall and Shunt, using the standard size of 8436. Hall and Shunt work independently to help customers achieve functional safety.

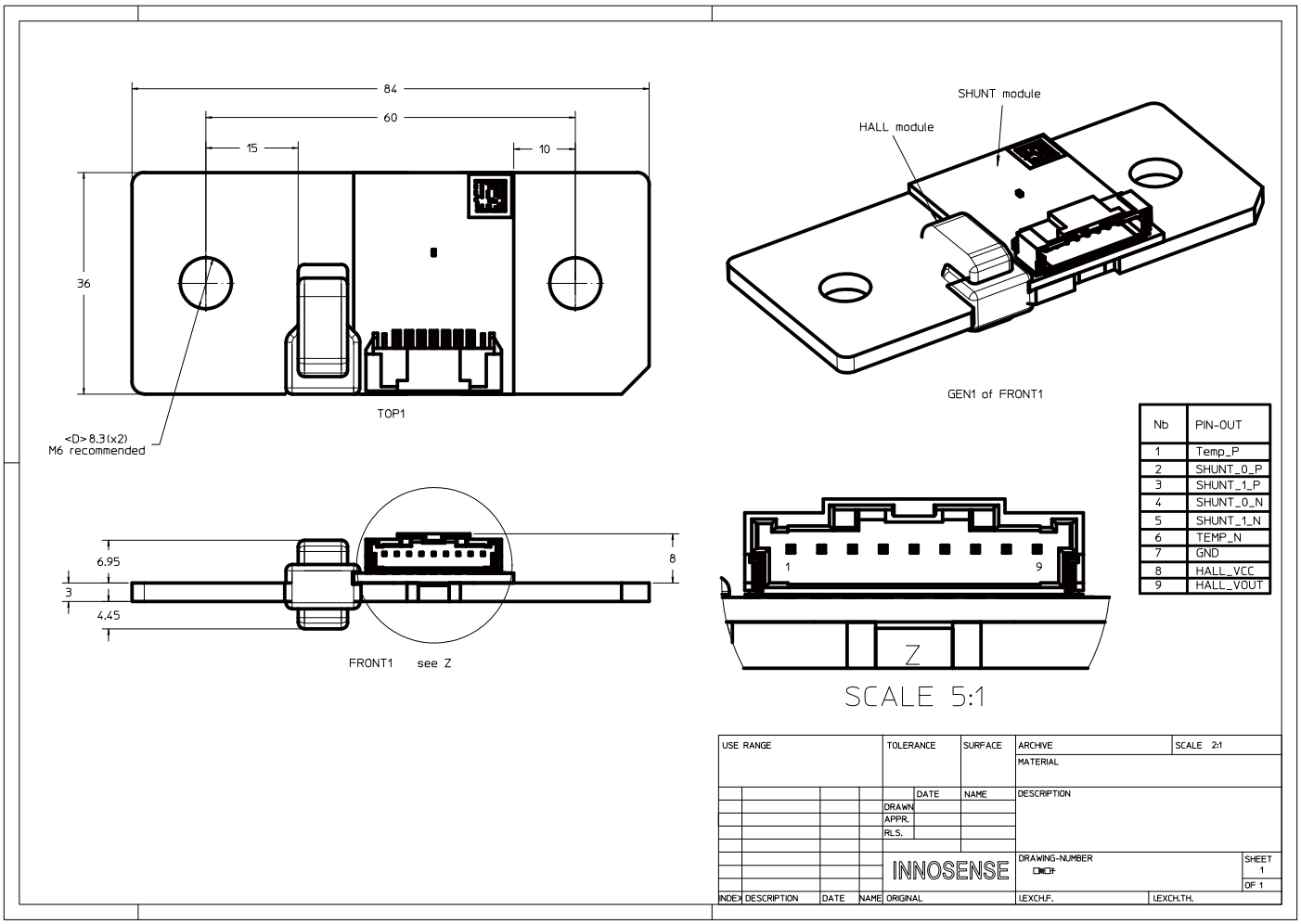
Parameters:

- Current Measurement Range: ±3000 A (Hall)
- Offset: ±15 mV (Hall)
- Operating Temperature: -40 °C ~ 125 °C (Hall)
- Global Error at Room Temperature: ±2.5% (Hall)
- Global Error at Full Temperature: : ±3.5% (Hall)
- Frequency Bandwidth: > 40 kHz (Hall)
- Output: Analog voltage output (Hall)

Features:

- Compact integrated solution combining Hall and shunt technologies
- Wide measurement range for Hall effect current sensor (to 3000 A)
- Quick response (3 µs)
- Dual signal output designed for mutual diagnosis

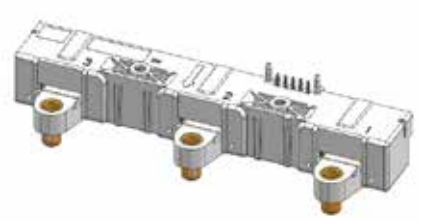
Outline Dimensions:



Nb	PIN-OUT
1	Temp_P
2	SHUNT_0_P
3	SHUNT_1_P
4	SHUNT_0_N
5	SHUNT_1_N
6	TEMP_N
7	GND
8	HALL_VCC
9	HALL_VOUT

Other applications and products

Current sensors (for motor controller)



M3A

M3B

MPC

MPB

M1A

MBA

Position sensors (for motor)

EEA

EEB

Innovative

New VMI Current Sensor：

(VMI=Variable Magneto Inductor)

Features:

- Original global intellectual property rights
- Best in class accuracy with very low offset
- Non-intrusive and coreless measurement
- Easy mechanical and electronic integration
- OCD & Safety ISO 26262 compliance
- 800V compliance

XC	38.8 mm
YC	64 mm
ZC	16.92 mm

More new products, please stay tuned.

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