

HCSP-1BS

Automotive Open Loop Current Sensor - Busbar Mounting



KEY FEATURES

- ▶ Open loop current transducer based on Hall effect
- ▶ Busbar mounting
- ▶ Simple analog ratiometric output
- ▶ Measured current value from ± 200 A to ± 1.500 A
- ▶ Non-intrusive technology
- ▶ Galvanic separation between power and control
- ▶ Operating temperature from -40°C to $+125^{\circ}\text{C}$

DESCRIPTION

Piher Sensing Systems' HCSP1BS family of open loop current sensors generates a ratiometric analog output voltage signal proportional to the current flowing through the conductor. Based on Hall effect technology the sensor has been designed for accurate measurement of AC and DC currents in automotive battery management and motor control applications.

APPLICATIONS

- ▶ Battery management
- ▶ Motor control
- ▶ EV motor inverters
- ▶ DC/DC converters

SPECIFICATIONS

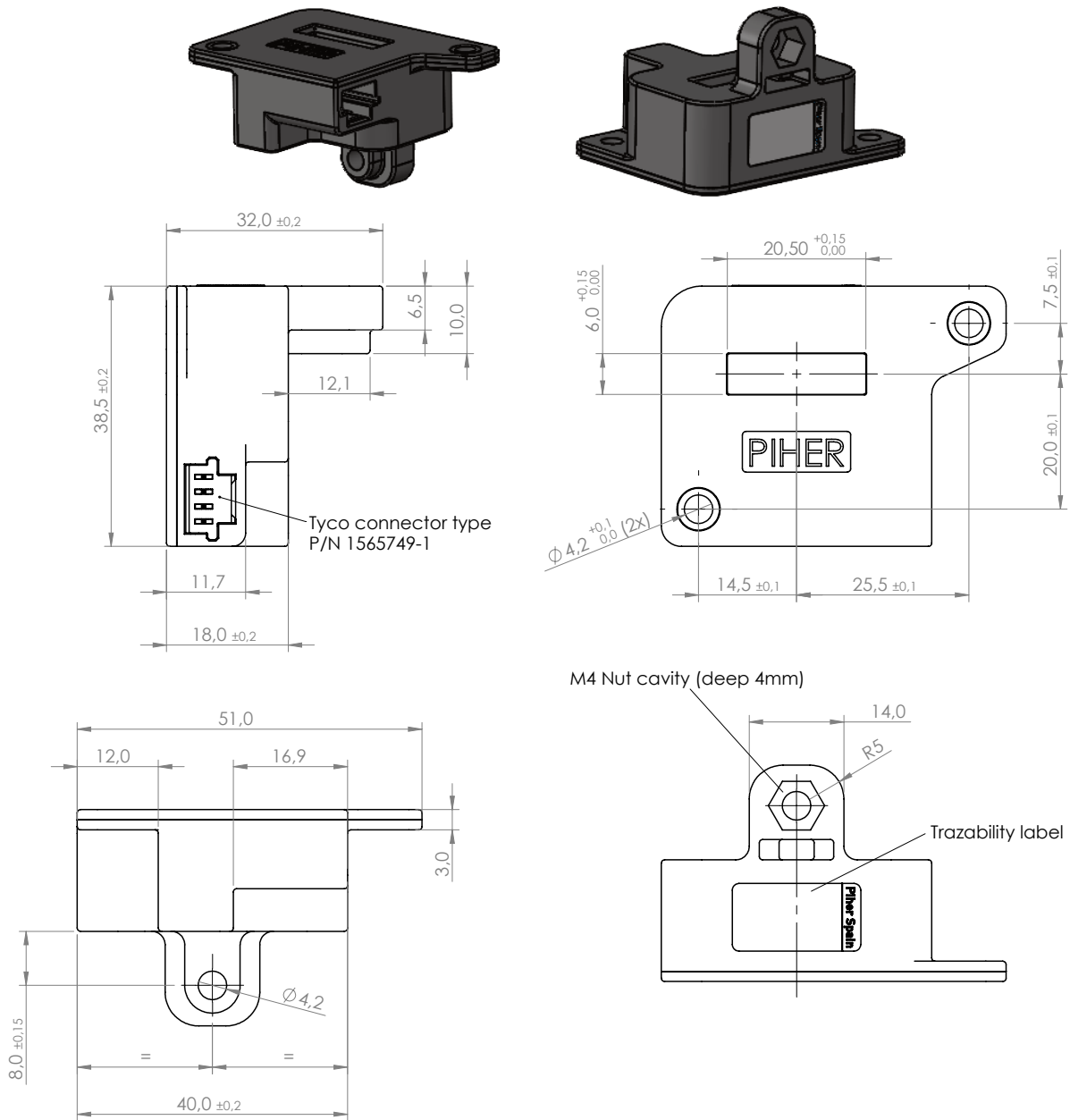
| Parameter | Unit | Min. | Typ. | Max. |
|---|--------------------|------|------|------|
| Supply voltage | V | 4,5 | 5 | 5,5 |
| Supply current | mA | 9 | 12 | 14 |
| Output voltage | V | 0,5 | | 4,5 |
| Offset voltage | V | | 2,5 | |
| Response time | μsec | | | 3 |
| Frequency bandwidth | kHz | 70 | | 250 |
| Operating temperature | $^{\circ}\text{C}$ | -40 | | +125 |
| Typical error (at 25°C ; $V_{cc} = 5\text{V}$) | % | 0,65 | | 2,5 |
| Max. error (at -40°C to $+125^{\circ}\text{C}$; $V_{cc} = 5\text{V}$) | % | 1 | | 3,5 |

Other specification on request

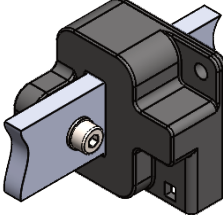
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DIMENSIONS (IN MM)



MOUNTING AND CONNECTIONS

| Connections | | Mounting Recommendation |
|------------------|----------------|---|
| Mating connector | TYCO 1473672-1 | <ul style="list-style-type: none"> -M4 screw -Spring washer -M4 nut (acc. to ISO 4032) -Max Torque: 2Nm  |
| 1 | Signal output | |
| 2 | Supply voltage | |
| 3 | Ground | |
| 4 | n/c | |

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ORDER CODE / PERFORMANCE DATA (e.g. HCSP-1BS-300)

| HCSP-1BS-__ __ | 200 | 300 | 400 | 500 | 600 | 700 | 800 |
|----------------------------|---------|-----------|--------|--------|-----------|-----------|----------|
| Current measuring range | ±200 A | ±300 A | ±400 A | ±500 A | ±600 A | ±700 A | ±800 A |
| Current nominal value | ±200 A | ±300 A | ±400 A | ±500 A | ±600 A | ±700 A | ±800 A |
| Sensitivity* | 10 mV/A | 6,66 mV/A | 5 mV/A | 4 mV/A | 3,33 mV/A | 2,85 mV/A | 2,5 mV/A |
| Sensitivity error* | ± 0,6 % | | | | | | |
| Electrical offset voltage* | ± 3 mV | | | | | | |

| HCSP-1BS-__ __ | 900 | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 |
|----------------------------|-----------|----------|-----------|-----------|-----------|-----------|-----------|
| Current measuring range | ±900 A | ±1.000 A | ±1.100 A | ±1.200 A | ±1.300 A | ±1.400 A | ±1.500 A |
| Current nominal value | ±900 A | ±1.000 A | ±1.100 A | ±1.200 A | ±1.300 A | ±1.400 A | ±1.500 A |
| Sensitivity* | 2,22 mV/A | 2 mV/A | 1,81 mV/A | 1,67 mV/A | 1,53 mV/A | 1,42 mV/A | 1,33 mV/A |
| Sensitivity error* | ± 0.6 % | | | | | | |
| Electrical offset voltage* | ± 3 mV | | | | | | |

*at 25°C / Vcc = 5V; Other specification on request

OUR ADVANTAGE

- ▶ Leading-edge sensing solutions
 - ▷ Contactless (Hall-effect and Inductive Technology)
 - ▷ Contacting (Potentiometers, Printed Electronics)
- ▶ Engineering design-in support
- ▶ All our products can be customized to fit target application and customer requirement
- ▶ Capability to move seamlessly from development to true high-volume production
- ▶ A global footprint with global engineering and commercial support
- ▶ One-stop shop not limited to position sensors (temperature, pressure, gas,...) through group collaboration
- ▶ Flexibility and entrepreneurship of a medium-sized company with the backing of Amphenol Corporation



Please always use the latest updated datasheets and 3D models published on our website.

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