

# 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  $\pm 200$  A to  $\pm 1.500$  A
- ▶ Non-intrusive technology
- ▶ Galvanic separation between power and control
- ▶ Operating temperature from  $-40^{\circ}\text{C}$  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

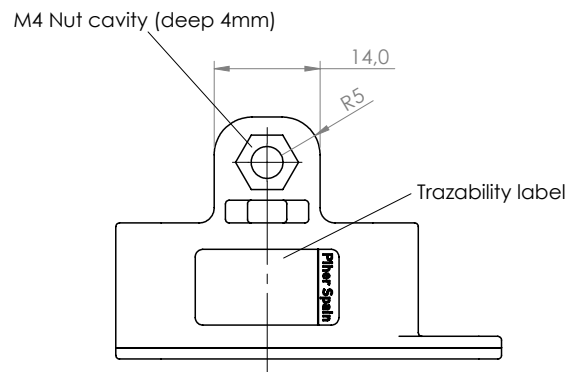
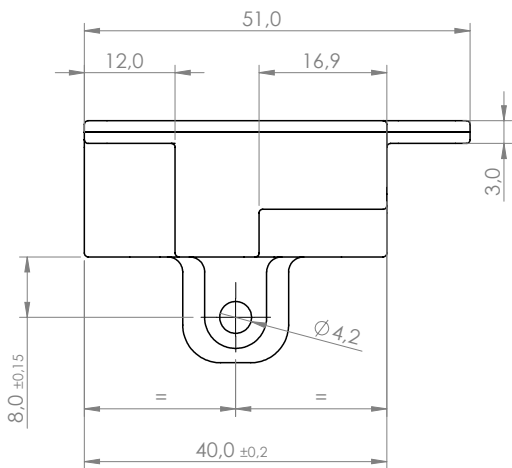
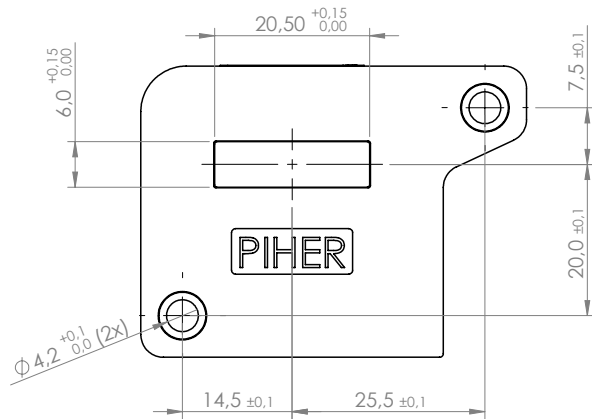
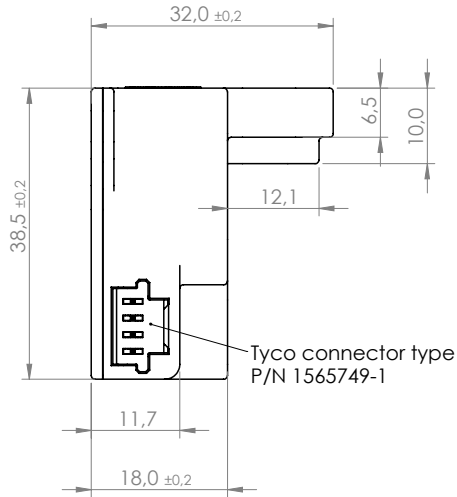
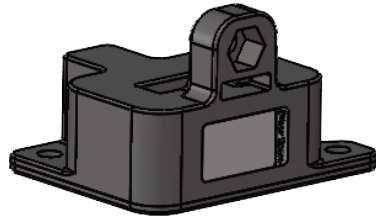
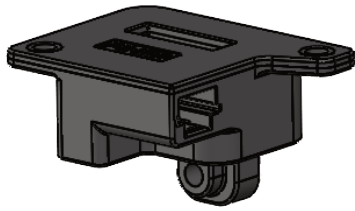
Parameter	Unit	Min.	Typ.	Max.
Supply voltage	V	4,5	5	5,5
Supply current	mA	9	12	14
Output voltage	V	0,5		4,5
Offset voltage	V		2,5	
Response time	$\mu\text{sec}$			3
Frequency bandwidth	kHz	70		250
Operating temperature	$^{\circ}\text{C}$	-40		+125
Typical error (at $25^{\circ}\text{C}$ ; $V_{cc} = 5\text{V}$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

Other specification on request

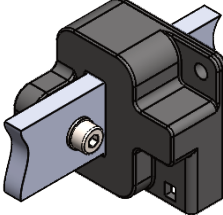
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### DIMENSIONS (IN MM)



### MOUNTING AND CONNECTIONS

Connections		Mounting Recommendation
Mating connector	TYCO 1473672-1	<ul style="list-style-type: none"> <li>-M4 screw</li> <li>-Spring washer</li> <li>-M4 nut (acc. to ISO 4032)</li> <li>-Max Torque: 2Nm</li> </ul> 
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



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#### Disclaimer:

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