

# HCS0-1W

## Automotive Open Loop Hall Effect Current Sensor



### KEY FEATURES

- Open loop current transducer based on Hall effect
- Dual channel sensor for high and low currents
- Through-hole design for cable and busbar mounting.
- Simple or redundant analog ratiometric output
- Measured current value from  $\pm 25$  A to  $\pm 1,000$  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' HCS0-1W 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.

### POTENTIAL APPLICATIONS

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

### SPECIFICATIONS

Supply voltage	5 V $\pm 10\%$
Current consumption	Typ. 26 mA
Analog output	0.5 V to 4.5 V
Creepage distance	3.95 mm
Clearance	3.95 mm
Operating temperature	$-40^{\circ}\text{C}$ to $+125^{\circ}\text{C}$
Over voltage protection	+10 V
IP rating	IP67 / IP69K (not considering connector)
Connector	TYCO 1-1564559-1
Max. Mounting torque	2.5 N.m (M4x, 7mm)

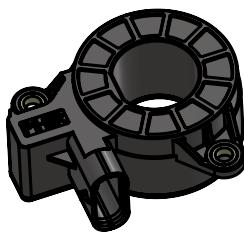
# HCSO-1W

## Automotive Open Loop Hall Effect Current Sensor

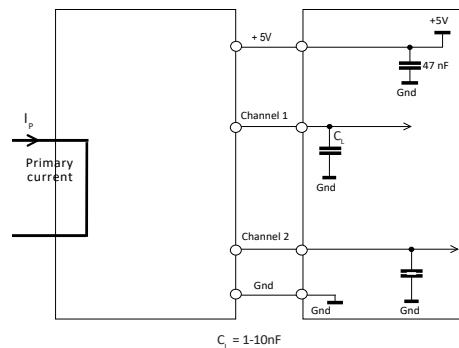
### DIMENSIONS (IN MM)



Download the STEP file here:  
[www.piher.net](http://www.piher.net)

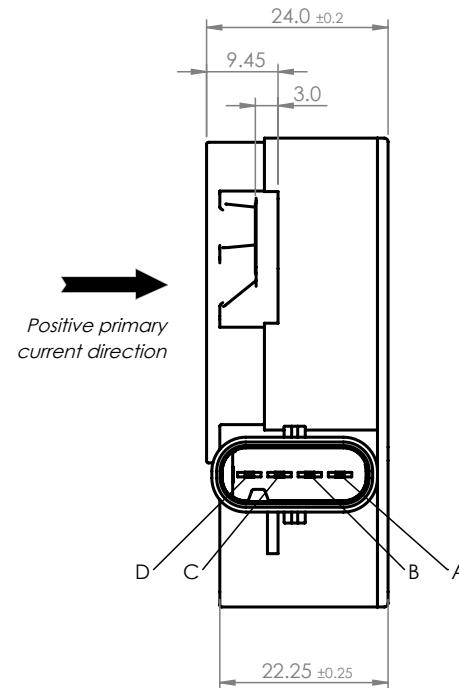
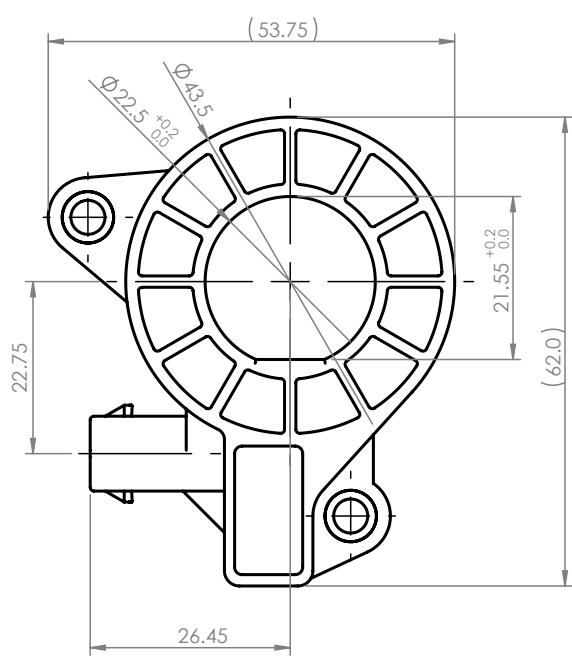
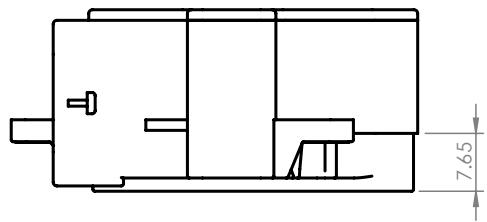


### Scheme Example



### CONNECTION SCHEME

PIN	
A	Uc 5V
B	Vout high current range
C	GND
D	Vout low current range



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### PERFORMANCE DATA

LOW	HCSO-1WD- - - - - -						
	Current measuring range (Amp)	025	030	040	050	075	100
	Sensitivity (mV/A)*	80	66.666	50	40	26.666	20
	Sensitivity error*	$\pm 0,6\%$					
	Electrical offset voltage*	$\pm 3\text{ mV}$					
HIGH	HCSO-1WD- - - - - -						
	Current measuring range (Amp)	200	350	500	600	750	800
	Sensitivity (mV/A)*	10	5.714	4	3.333	2.666	2.5
	Sensitivity error*	$\pm 0,6\%$					
	Electrical offset voltage*	$\pm 3\text{ mV}$					

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

### ORDER CODE (e.g. HCSO-1WD-025-0200)

#### Family

HCSO-

- Phase

1

Single

Mounting

W

Cable mount

Output

D

Dual

- Measuring Range (low)

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025 to 100 A

- Measuring Range (high)

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0200 to 1,000 A

\* on request



HALO  
GEN  
FREE

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

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