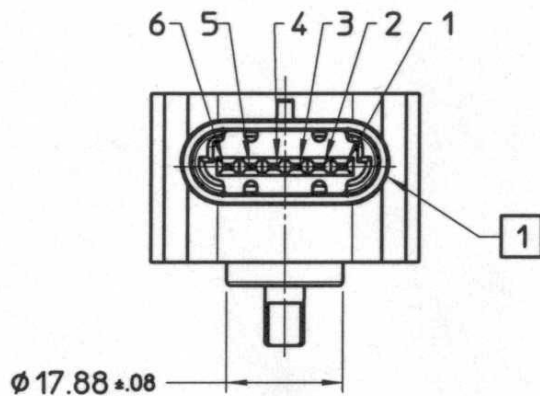


# Dual Output Hall Effect Sensor

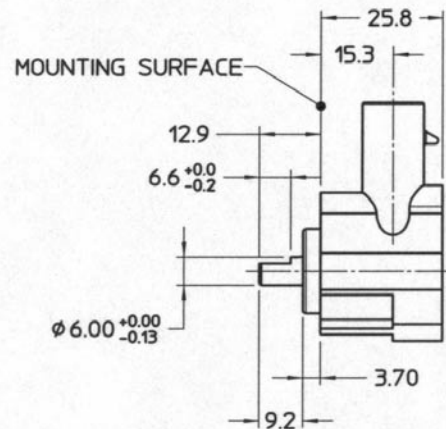
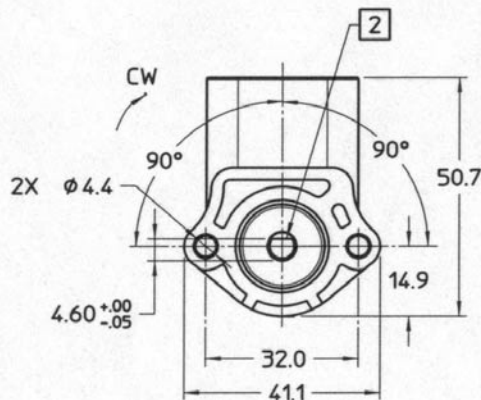
# Hall Effect Sensor

BEI now offers the latest in rugged, non-contacting Hall effect sensing technology with the 9900 series rotary sensor. This design offers the benefits of potentiometers (simple construction and few components) while providing the superior reliability and durability of non-contacting technology.

Unlike most similar products, this design provides the full redundancy of two\* independent Hall detectors in a common package. The Hall detectors are rigidly supported to meet the severe durability requirements in most automotive and off-highway applications. The device contains two programmable Hall effect sensors that can be configured to a wide variety of application requirements in a compact package with an integral, sealed connector.



CONNECTOR PIN OUTPUT		
	SENSOR 1	SENSOR 2
Vs	1	5
GROUND	2	6
OUTPUT	4	3



1

Connector mates with Packard Electric METRI-Pack 150 series, pull-to-seat 6 pin sealed connector assemblies.

2

Shaft flat is shown with sensor outputs at 50% Vs.

NOTE: All dimensions are shown in millimeters.

\*Single output sensors also available

**BEI** DUNCAN ELECTRONICS DIVISION  
SENSORS & SYSTEMS COMPANY

15771 Red Hill Avenue ■ Tustin, CA 92780-7303  
Phone: (714)258-7500 ■ Fax: (714)258-8120

# Dual Output Hall Effect Sensor

## Features:

- Rotating magnet / fixed sensor configuration provides improved accuracy and reliability
- Two independent outputs for redundancy
- Fully programmable outputs; programmable offset, gain, slope, and temperature compensation
- Sintered magnets provide excellent temperature stability and corrosion resistance
- Ratiometric output
- One time programming through connector (at Duncan) provides high accuracy
- Fully sealed construction
- Extended temperature range:  $-40^{\circ}$  to  $+125^{\circ}\text{C}$  available optionally
- Can be provided with or without return spring
- Clockwise or counterclockwise options available

## Mechanical Specifications

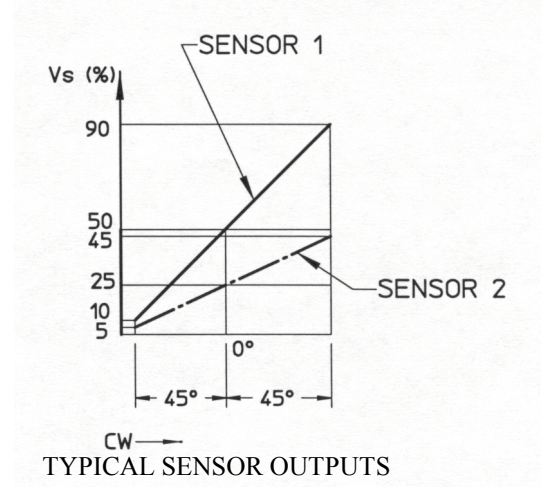
Mechanical Travel	$-90^{\circ}$ to $+90^{\circ}$
Frequency Response	1,000Hz minimum
Weight	40 grams maximum

## Electrical Specifications

Mechanical Input Range	$-45^{\circ}$ to $+45^{\circ}$ ( $-60^{\circ}$ to $+60^{\circ}$ range available as a custom option)
Input Voltage	5.0 V $\pm$ 0.25V DC
Input Current	10mA maximum per output 20mA maximum total
Sensor 1 Output	0.5V - 4.5V
Sensor 2 Output	0.25V - 2.25V (Different output voltage range for sensor outputs available as a custom option)
Accuracy	$\pm 2.0\%$ of full scale at room temperature $\pm 3.0\%$ of full scale over operating temperature range
Resolution	Analog (continuous)

## Environmental Specifications

Electromagnetic Compatibility	100V/meter, 14kHz - 1GHz range
Vibration	5G peak, 60 - 2,000 Hz
Shock	50Gs, half sine pulse, 5 m sec duration
Operating temperature range	$-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$ (wider operating temperature $-40^{\circ}$ to $+125^{\circ}\text{C}$ available as a custom option)
Storage temperature range	$-55^{\circ}\text{C}$ to $+105^{\circ}\text{C}$



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