

Dual Output Hall Effect Sensor Fully Redundant, Non-Contacting Rotary

9900 Series

The BEI Sensors 9900 Series offers a non-contacting Hall effect sensor in a rugged design, ideally suited for tight packaging constraints while providing superior reliability and durability. Unlike most similar products, the 9900 provide the full redundancy of two independent Hall detectors in a common package (single output sensors also available). Each Hall detector is rigidly supported to meet the severe durability requirements of demanding applications as automotive and off-highway. Rotating sintered magnets enable the stationary detectors to perform with improved accuracy and reliability, including excellent temperature stability and corrosion resistance. One-time factory programmability allows for greater flexibility in design and custom outputs.

Fully sealed, (meeting and/or exceeding IP66/IP67 standards) the 9900 is impervious to contamination and moisture. An integrally molded, 6-pin connector makes a sealed connection with industry standard Packard Electric connectors.

9900 Series Features:

Rotating magnet/Fixed sensor configuration

Provides improved accuracy and reliability

Two independent outputs for redundancy

Full redundancy assures back-up safety

Fully programmable

Outputs; offset, gain, slope and temperature compensation

Sintered Alnico-8 magnets

Provide excellent temperature stability and corrosion resistance

Ratiometric Output

Factory programming through connector

After completion of assembly provides high accuracy

Sealed construction

IP66/IP67, 6-pin I/O Interface to Packard Electric Connector

Extended temperature range

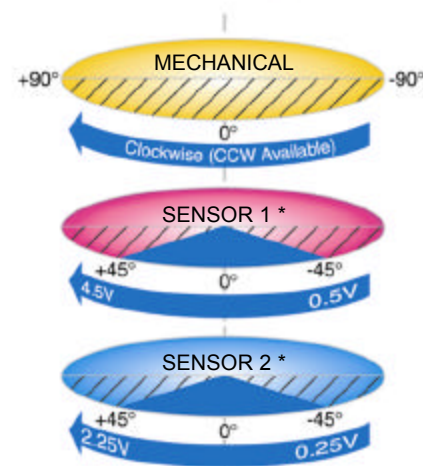
-40° to +150°C available optionally

Return spring (CW standard, CCW optional)

Eliminates mechanical backlash

Extended operating life

35 million operational cycles



* OTHER OPTIONS AVAILABLE

Ordering Information:

990X XXX XX XX

Temperature Rating:

Blank = Standard 85C, HT = 125C

Spring Return:

CW = Clockwise, CCW = Counter

Clockwise, NS = No Spring Return

Electrical Angle:

ie. 090 = $\pm 45^\circ$, 120 = $\pm 60^\circ$

Number of Sensors:

1 = Single Output, 2 = Dual Output

SAMPLE: 9902 090 CW

Standard 85C

CW = Clockwise Spring Return

90° ($\pm 45^\circ$) Electrical Angle

Dual Output

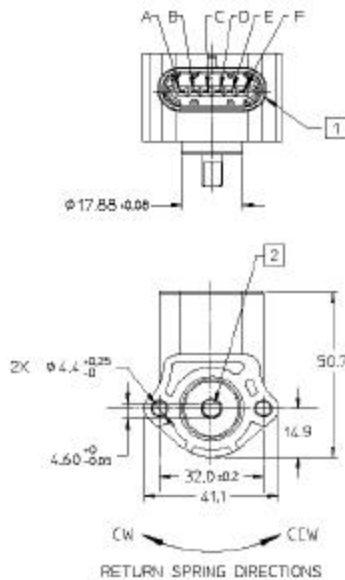
BEI SENSORS

Tel: 805-968-0782 / 800-350-2727 | Fax: 805-968-3154 / 800-960-2726
7230 Hollister Ave., Goleta, CA 93117-2807 | www.beisensors.com

These commodities, technology or software if exported from the United States must be in accordance with the Bureau of Industry, and Security, Export Administration regulations. Diversion contrary to U.S law is prohibited.

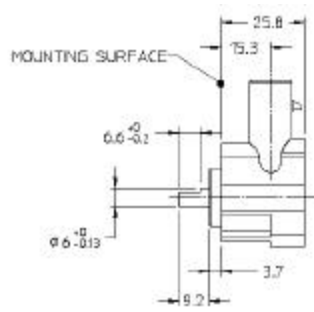
ISO9001 Certified/QS9000 Registered

Dual Output Hall Effect Sensor 9900 Series



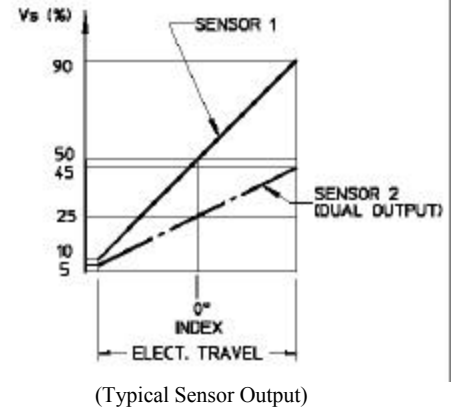
1 Connector mates with Packard Electric METRI-Pack 150.2 series (pull-to-seat 6 pin sealed connector assemblies) (i.e. 12162261, 12162260 or 12162210)

2 Shaft flat is shown with:
sensor 1 output at 50% V_s (input voltage).
sensor 2 output at 25% V_s (input voltage).



NOTE: All dimensions are shown in millimeters.

CONNECTOR PIN OUTPUT		
	SENSOR 1	SENSOR 2
V_s (input)	F	B
GROUND	E	A
OUTPUT	C	D



Mechanical Specifications

Mechanical Travel	-90° to +90° (180° total rotation)
Frequency Response	1,000Hz minimum
Rotational Torque	0.025 – 0.110 N-m
Weight	35 grams (approx.)

Electrical Specifications

Mechanical Input Range	-45° to +45° (other angles available)
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	10G peak, 20 – 2,000 Hz
Shock	50Gs, half sine pulse, 5 m sec duration
Side Load	1kg for 1 million cycles
Operating temperature range	-40°C to +85°C (wider operating temperature -40° to +150°C available as a custom option)
Storage temperature range	-55°C to +105°C (-55°C to +165°C)

Specifications subject to change without notice. BE2023

BEI SENSORS

Tel: 805-968-0782 / 800-350-2727 | Fax: 805-968-3154 / 800-960-2726
7230 Hollister Ave., Goleta, CA 93117-2807 | www.beisensors.com

These commodities, technology or software if exported from the United States must be in accordance with the Bureau of Industry, and Security, Export Administration regulations. Diversion contrary to U.S law is prohibited.

ISO9001 Certified/QS9000 Registered

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Sensata:

[9902090CW](#) [9902120CWHT](#)