

Non-Contacting Rotary Single Output Hall Effect Sensor

9950 Series

The BEI Duncan 9950 Series offers a non-contacting Hall effect sensor in a rugged design, ideally suited for tight packaging constraints while providing superior reliability and durability. The Hall sensor is rigidly supported to meet the severe durability requirements that are typical in off-highway and agriculture requirements. The new sensor incorporates rotating sintered magnets that enable the sensing element to remain stationary, improving both accuracy and reliability. The high quality Sintered SinCo magnets offer excellent temperature stability and corrosion resistance. One-time factory programmability allows for greater flexibility in designing custom outputs with a short turnaround time.

Fully sealed, (meeting and/or exceeding IP66/IP67 standards) the 9950 is impervious to contamination and moisture. An integrally molded 3-pin connector makes a sealed connection with industry standard Packard Electric connector.

9950 Series Features

Rotating magnet / fixed sensor configuration

Provides improved accuracy and reliability

Fully programmable

Multiple outputs with; offset, gain, slope and temperature compensation are available

Sintered SinCo 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, 3-pin I/O Interface to Packard Weather-Pack Push-to-Seat Series P/N 12015793

Extended temperature range

-40° to +125°C

Return spring (CW standard, CC optional)

Eliminates mechanical backlash

Extended operating life

35 million operational cycles



Ordering Information

9950 XXX XX

Spring Return:
CW = Clockwise
CCW = Counter Clockwise
NS = No Spring Return

Electrical Angle:
i.e. 090 = $\pm 45^\circ$, 120 = $\pm 60^\circ$

SAMPLE: 9950 090 CW

Standard +85°C
CW = Clockwise Spring Return
90° ($\pm 45^\circ$) Electrical Angle

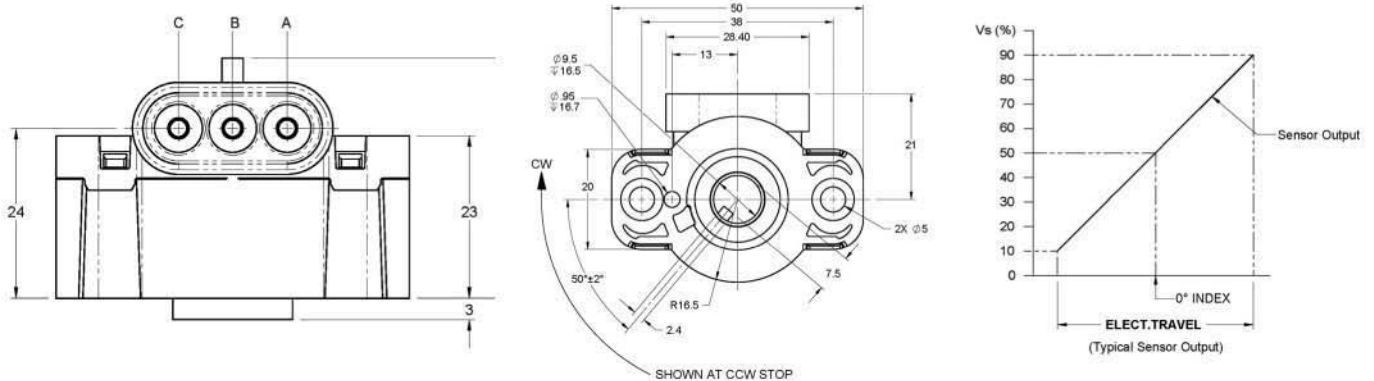


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ISO9001 & TS16949 Certified

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Note: All dimensions are shown in millimeters

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±0.25V DC |
| Input current | 10mA maximum per output 20mA maximum total |
| Sensor | 0.5V – 4.5V (Different output voltage range for sensor outputs available as a custom option) |
| Accuracy | ±2.0% of full scale at room temperature ±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 +125°C |
| Storage temperature range | -55°C to +105°C |

| CONNECTOR PIN OUTPUT | |
|----------------------|--------|
| | SENSOR |
| Vs (input) | C |
| GROUND | A |
| OUTPUT | B |

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