Series HRS100

Hall Effect Rotary Position Sensor

APPLICATIONS

MARINE

- Throttle position
- Outboard motor position
- Inboard lever control
- Control position:
  - Rudder position
  - Trim tab and plane position
  - Drive tilt and drive gimbal position
  - Auto pilot feedback
  - Drive by wire systems
  - Control and position feedback systems

AUTOMOTIVE

- Foot pedal position
- Throttle position
- Steering position
- Suspension system position
- Seat position
- Mirror position

FORKLIFT - INDUSTRIAL TRUCK - FARM EQUIPMENT

- Throttle/speed control (forward, neutral, reverse)
- Foot pedal position
- Lift and shuttle position and control
- Tilt position
- Gimbal position and control
- Steering position

MEDICAL INSTRUMENTATION

- Manipulator arm position

The HRS100 Hall Effect Rotary Position Sensor provides angular position information for a variety of sensing and control applications in the automotive, marine, truck, off-road, industrial instrumentation, aerospace and rail industries. The use of magnetically coupled information in place of a mechanical wiper assembly provides a long life, cost effective solution for harsh environments that include temperature, vibration, dither, moisture and dirt. Standard linearity of 2% and a life rating of 50 million cycles makes the HRS100 the sensor of choice for harsh or demanding applications. For testing and prototyping, a standard catalog version, model HRS100SSAB090 has been configured as a stock item. For quantity driven OEM applications, several options are available as shown on the custom configuration selection matrix.

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Sensor Systems

SPEED & POSITION CONTROL PRODUCTS
clarostat

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clarostat

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SPECIFICATIONS

MECHANICAL

Dimensions in inches unless otherwise stated

Housing:	Stainless steel O.D.: 1.094 ± .015 Depth: .598 ± .015
FMS Bushing:	3/8-32, .375 FMS Includes C-ring
Shaft:	Slotted .249 ± .001 .75 FMS
AR Lugs:	2 at 180° on .531 radius .125W x .128 FMS
Style:	Solder lugs
Mechanical Angle:	90° ± 2° and 180° ± 2°
Rotational Life:	50mm minimum
Rotational Torque:	2.0 in oz max. at 25° C
Stop Torque:	5 inch pounds
Push Out:	20 pounds minimum
Pull Out:	10 pounds minimum

ELECTRICAL

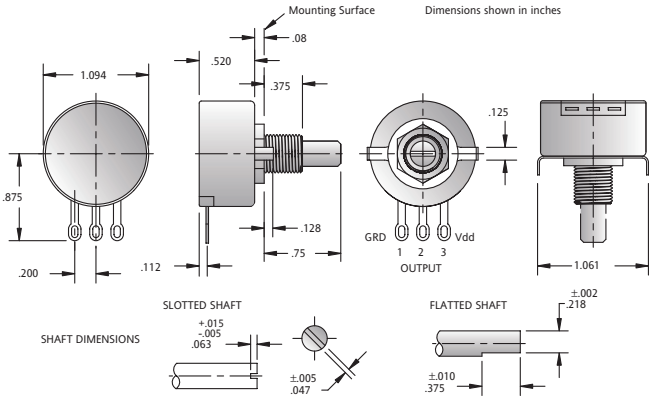
Electrical Angle:	90° ± 2°, 180° ± 2° Custom specific angles available*
Electrical Output:	5% to 95% of applied Vdd, approximate (programmable)
Linearity:	± 2%
Output Current:	2mA maximum (source or sink)
Overvoltage Protection:	18 VDC maximum
Supply Voltage:	5 VDC ± 10%* (output ratiometric to supply)
Supply Current:	5mA typical
ESD Sensitivity:	± 7KV maximum (human body model) Standard electronic assembly practices should be observed
EMI:	30V/m, 10 KHz to 1000 MHz at 3 meters

ENVIRONMENTAL

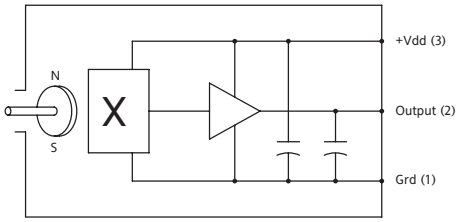
Low Temperature Operation:	-40°C
High Temperature Operation:	85° C
Storage Temperature:	105° C maximum
Shock:	50 Gs, 11ms
Vibration:	15Gs, 10 to 2000 Hz

*Consult Factory for custom OEM configurations.

DIMENSIONS



EQUIVALENT ELECTRICAL SCHEMATIC



ORDERING INFORMATION

Standard Model: HRS100SSAB-090 - All specifications are per this data sheet. See the matrix below for definition of characters.

Custom Models: The following options are available for custom OEM applications. Consult factory for details and minimum quantity requirements.

HRS100 - F W A A - 0 6 0

- 060: 45 TO 180 Electrical Angle in Degrees
- A: A: .2 - 2.5V; B: .2 - 4.8V
- A: A: 2% Linearity
- W: S: Straight Solder Lugs; B: Bent Solder Lugs; W: Wire Leads
- F: F: Flatted Shaft; S: Slotted Shaft

Non-Coded Options
Shaft Length · No Shaft Seal
Mechanical Angle · 1 AR Lug

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