Features
- Non-contacting magnetic technology
- Highly resistant to vibration/shock
- Highly resistant to fluid/dust ingress
- Programmable at factory for zero position
- Robust design for industrial applications
- Highly repeatable

AMS22B Non-Contacting Analog Rotary Position Sensor

Electrical Characteristics¹ (@ 25 °C)

- Supply Voltage: 5 V ± 10 %
- Supply Current: 20 mA max.
- Output Signal (Single): ±0.5 % (±0.3 % available on request)
- Independent Linearity: ±0.5 %
- Hysteresis: 0.2 % VDD max.
- Effective Electrical Angle: 360 °
- Programmable Electrical Angle: 10 ° to 360 ° (10 ° increments)
- Voltage Output (Programmable): 1 to 99 % VDD ±1 %
- Resolution: 12 bit @ 360 °
- Load Resistance Recommended: 10K ohms to ∞
- Overvoltage Protection: +20 VDC
- Reverse Voltage Protection: -10 VDC

Environmental Characteristics

- Operating Temperature: -40 ° to +125 °C
- Insulation Resistance: 500 MΩ min.
- Rotational Life (Shaft Revolutions): 50 million
- Vibration: 0.5 G
- Shock: 50 G
- IP Rating: IP50
- ESD Rating: 2 kV max.

Mechanical Characteristics (@ 25 °C)

- Mechanical Angle: Continuous (360 ° +4/-0 stops available)
- Shaft/RPM: 500 RPM max.
- Torque: 1.06 N-cm. (1.5 oz-in.) max.
- Mounting: 170-200 N-cm (15-18 lb-in.) max.
- Shaft Material: Stainless steel
- Terminals: Brass / 100 % matte tin over Ni Strike (63)
- Bearing: Bronze sleeve
- Soldering Condition: 96.5Sn/3.0Ag/0.5Cu solid wire or no-clean Rosin core wire; 370 °C (700 °F) max. for 3 seconds
- Wave Soldering: 96.5Sn/3.0Ag/0.5Cu solder with no-clean flux; 260 °C (500 °F) max. for 5 seconds
- Wash processes: Not recommended

Rotational Life vs. Side Load

![Graph showing Rotational Life vs. Side Load]

¹At room ambient: +25 °C nominal and 50 % relative humidity nominal, except as noted.
²Other Effective Electrical Angles available. See How to Order selection guide.

RoHS compliant*

Product Dimensions

![Diagram showing product dimensions]

AMS22B Non-Contacting Analog Rotary Position Sensor

Product Dimensions

- Width: 11.3 ± 0.38 (4.45 ± 0.15)
- Height: 2.80 ± 0.10 (1.12 ± 0.04)
- Shaft Side Load (grams): 0

Schematic

![Schematic diagram]

WARNING Cancer and Reproductive Harm
www.P65Warnings.ca.gov

Specifications are subject to change without notice.
Users should verify actual device performance in their specific applications.
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**AMS22B Non-Contacting Analog Rotary Position Sensor**

**How To Order**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM</td>
<td>Analog Magnetic</td>
</tr>
<tr>
<td>B</td>
<td>Bushing Mount</td>
</tr>
<tr>
<td>S</td>
<td>Single-turn</td>
</tr>
</tbody>
</table>

**Effective Electrical Angle**

- Code: 01 10°
- Code: 02 20°
- Code: 03 30°
- Code: 34 340°
- Code: 35 350°
- Code: 36 360°

Notes:
- Effective Electrical Angle available in 10° increments from a minimum of 10° to 360° maximum.
- Use Code "BB" for 45°.

**INDEPENDENT LINEARITY**

- Code: B 0.5%
- Code: C 0.3%

**Voltage Ratio ±1%**

- Code: A 1-99% of VCC
- Code: B 5-95% of VCC
- Code: C 10-90% of VCC

**Applications**

- Patient platform positioning feedback
- Pneumatic control valve position feedback
- Draw wire position sensors
- Remote communications antenna positioning
- Actuator motor position feedback
- Automated manufacturing robotics

**Specifications**

- Tilt control and tilt positioning feedback
- Foot pedal, steering, lift-and-shuttle and suspension systems

**Output Type**

- Code: A1 Analog
- Code: B1 Single
- Code: S1 12 Bit

**Processing Speed**

- Code: H High (200 µs Typ.)

**Supply Voltage, VCC**

- Code: 0 5 VDC

**Configuration**

- Code: B Single-turn

**Mounting Configuration**

- Code: B 7/8" Shaft FMS, 1/4" Shaft Dia.

**Shaded areas represent most common features.**

**Standard Output: 1-Turn CW Increasing (Code 334 Shown)**

**Resolution**

- EEA Resolution: 10 114
- EEA Resolution: 20 228
- EEA Resolution: 30 341
- EEA Resolution: 40 455
- EEA Resolution: 45 512
- EEA Resolution: 50 569
- EEA Resolution: 60 683
- EEA Resolution: 70 796
- EEA Resolution: 80 910
- EEA Resolution: 90 1024
- EEA Resolution: 100 1138
- EEA Resolution: 110 1252
- EEA Resolution: 120 1365
- EEA Resolution: 130 1479
- EEA Resolution: 140 1593
- EEA Resolution: 150 1707
- EEA Resolution: 160 1820
- EEA Resolution: 170 1934
- EEA Resolution: 180 2048
- EEA Resolution: 190 2162
- EEA Resolution: 200 2276
- EEA Resolution: 210 2390
- EEA Resolution: 220 2500
- EEA Resolution: 230 2613
- EEA Resolution: 240 2731
- EEA Resolution: 250 2844

- EEA Resolution: 260 2958
- EEA Resolution: 270 3072
- EEA Resolution: 280 3186
- EEA Resolution: 290 3300
- EEA Resolution: 300 3434
- EEA Resolution: 310 3569
- EEA Resolution: 320 3641
- EEA Resolution: 330 3755
- EEA Resolution: 340 3868
- EEA Resolution: 350 3982
- EEA Resolution: 360 4096

**Notes:**

- Effective Electrical Angle available in 10° increments from a minimum of 10° to 360° maximum.
- Use Code "BB" for 45°.

**Applications (Cont.)**

- Patient platform positioning feedback
- Pneumatic control valve position feedback
- Draw wire position sensors
- Remote communications antenna positioning
- Actuator motor position feedback
- Automated manufacturing robotics

**Specifications (Cont.)**

- Tilt control and tilt positioning feedback
- Foot pedal, steering, lift-and-shuttle and suspension systems

**Users should verify actual device performance in their specific applications.**

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