AN8 Series
Programmable, full 0-360° detection
Contactless angular position sensor capable of continuous rotation

**Description**
Sensor is operated by rotating a magnetic actuator close to its sensitive face. Output voltage varies according to the angular position of the magnet.

Optimal performance is achieved with Cherry's AS500106 magnetic actuator.

**Applications**
- Replacement for smart bearings
- PRNDL switch for harsh environments
- Steer wheel position for drive-by-wire systems
- Throttle position sensor
- Pedal position sensor
- Non-contacting Potentiometer

**Features and Benefits**
- Angular position sensor with high tolerance for misalignment
- Provides non-contact angular position sensing to full 360° rotation
- No mechanical interface means no parts to wear out
- Sealed design exceeds IEC529 IP68 standard for immersion
- 5VDC ratiometric device.
- Performs with AS500106 standard magnetic carrier
- Provided with EMI/ESD protection to SAE J1113 standards
- Maximum operating temperature of 150°C

**Custom Options**
*(Contact factory for minimums and availability)*
- Linear output over specific angular rotation ranges available on request
- Sensor can be programmed for use with custom magnets
- Custom programming option for rising or falling output slope with selectable offset, gain, clamp voltage
- PWM output option available for custom applications
WIRED VERSION

AN8 Series

Mechanical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Travel</td>
<td>0 to 360 degrees (continuous)</td>
</tr>
<tr>
<td>Dither</td>
<td>No mechanical contact</td>
</tr>
<tr>
<td>Termination</td>
<td>300mm Radox 18 AWG</td>
</tr>
<tr>
<td>Maximum Air Gap</td>
<td>5mm</td>
</tr>
<tr>
<td>Maximum Center-to-Center Offset</td>
<td>1mm (magnet to sensor)</td>
</tr>
</tbody>
</table>

Electrical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensing Range</td>
<td>0 to 360 degrees of rotation</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>5.0 VDC ± 10%</td>
</tr>
<tr>
<td>Output Voltage</td>
<td>0.5 to 4.5 VDC (ratiometric)</td>
</tr>
<tr>
<td>Output Accuracy (with supplied magnet)</td>
<td>± 2.5% Full Scale</td>
</tr>
<tr>
<td>Output Smoothness (with supplied magnet)</td>
<td>± 0.75% Full Scale for any 2% interval</td>
</tr>
<tr>
<td>Output Linearity (with supplied magnet)</td>
<td>± 2.0% Full Scale</td>
</tr>
<tr>
<td>Absolute Max Supply Voltage</td>
<td>16 VDC</td>
</tr>
<tr>
<td>Absolute Max Reverse Voltage</td>
<td>-14.5 VDC</td>
</tr>
<tr>
<td>Maximum Output Current Range</td>
<td>8mA</td>
</tr>
</tbody>
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Output type

- Analog

Electrostatic Discharge

- SAE J1113-13: Consult factory for details

Immunity to Radiated Electronic Magnetic Fields

- SAE J1113-4: 1 MHz to 400 MHz

Conducted Transient Emissions

- SAE J1113-42: ± 25V

Radiated Emissions

- SAE J1113-41: Class 3

Conducted Immunity

- SAE J1113-2: 30Hz to 250kHz

Conduction and Coupling

- SAE J1113-12; Consult factory for details

Operating Temperature

-40 to 150°C

Specifications subject to change without notice.

Contact

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For more information.

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