

# THIN ANGULAR POSITION SENSOR

# AN8 Series

Programmable, non-contact magnetic position  
Sensors capable of continuous rotation



## Description

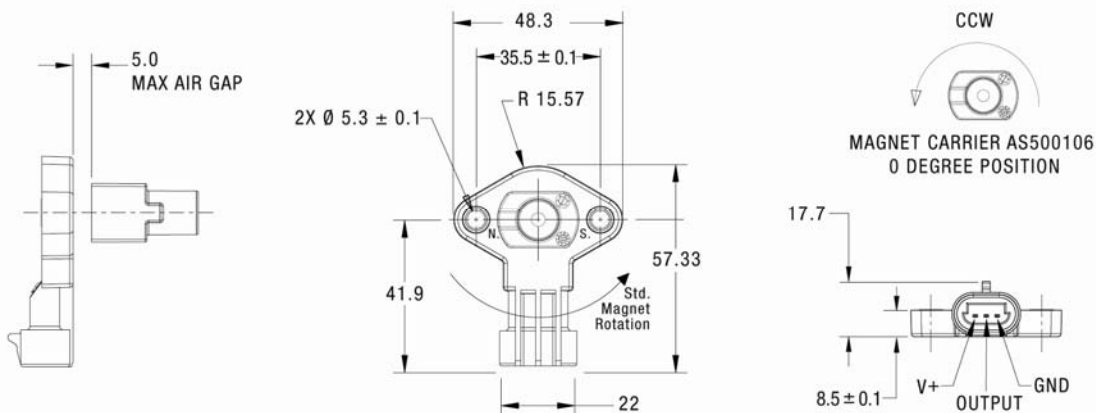
The sensor is operated by rotating a magnetic actuator close to the face of the sensor. Output voltage varies with angular position of the magnet relative to the sensor.

Optimal performance is achieved with Cherry's AS500106 magnetic actuator. Sensor kits including this standard magnet are available.

## Applications

- Replacement for smart bearings
- PRNDL switch for harsh environments
- Steer wheel position for drive by wire systems
- Throttle position sensor
- Pedal position sensor

## Dimensions mm



## 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 IP67 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 1250°C

## Custom Options

**(Contact factory for minimums and availability)**

- Linear output over specified angular rotation ranges
- 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

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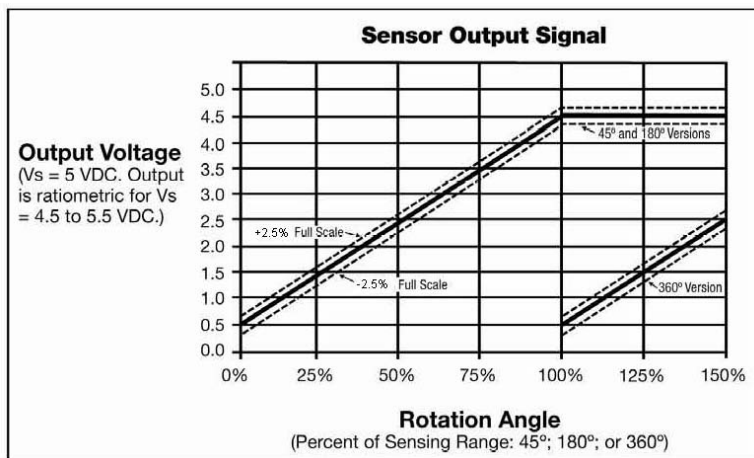
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## Mechanical Specifications

<b>Mechanical Travel</b>	0 to 360 degrees (continuous)
<b>Dither</b>	No mechanical contact
<b>Mating Connector</b>	Connector: Delphi Metri-pak 150.2 12162185 Terminal: 12124075/12047680
<b>Maximum Air Gap</b>	5mm
<b>Maximum Center-to-Center Offset</b>	1mm (magnet to sensor)

## Electrical Specifications

<b>Sensing Range</b>	0 to 360 degrees of rotation
<b>Input Voltage</b>	5.0 VDC $\pm$ 10%
<b>Output Voltage</b>	0.5 to 4.5 VDC (ratiometric)
<b>Output Accuracy (with supplied magnet) (65° - 360° rotation)</b>	$\pm$ 2.5% Full Scale
<b>Output Smoothness (with supplied magnet) (65° - 360° rotation)</b>	$\pm$ 0.75% Full Scale for any 2% interval
<b>Output Linearity (with supplied magnet) (65° - 360° rotation)</b>	$\pm$ 2.0% Full Scale
<b>Max Supply Voltage</b>	16 VDC
<b>Reverse Voltage</b>	-10 VDC
<b>Maximum Output Current Range</b>	8mA
<b>Minimum Output Current Range</b>	-8mA
<b>Resolution</b>	Analog
<b>Electrostatic Discharge</b>	SAE J1113-13; Consult factory for details
<b>Immunity to Radiated Electronic Magnetic Fields</b>	SAE J1113-4; 1 MHz to 400 MHz
<b>Conducted Transient Emissions</b>	SAE J1113-42; $\pm$ 25V
<b>Radiated Emissions</b>	SAE J1113-41; Class 3
<b>Operating Temperature</b>	-40 to 125°C
<b>Conducted Immunity</b>	SAE J1113-2; 30Hz to 250kHz
<b>Conduction and Coupling</b>	SAE J1113-12; Consult factory for details



Sensor	Sensing Range	Sensor/Magnet Assembly #
AN820001	180°	CU103601*
AN820002	360°	CU103602*
AN820003	45°	CU103603*

\*Includes AN8 sensor and AS500106 magnetic actuator

### Contact

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