

## THIN ANGULAR POSITION SENSOR

# AN8 Series

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



### Description

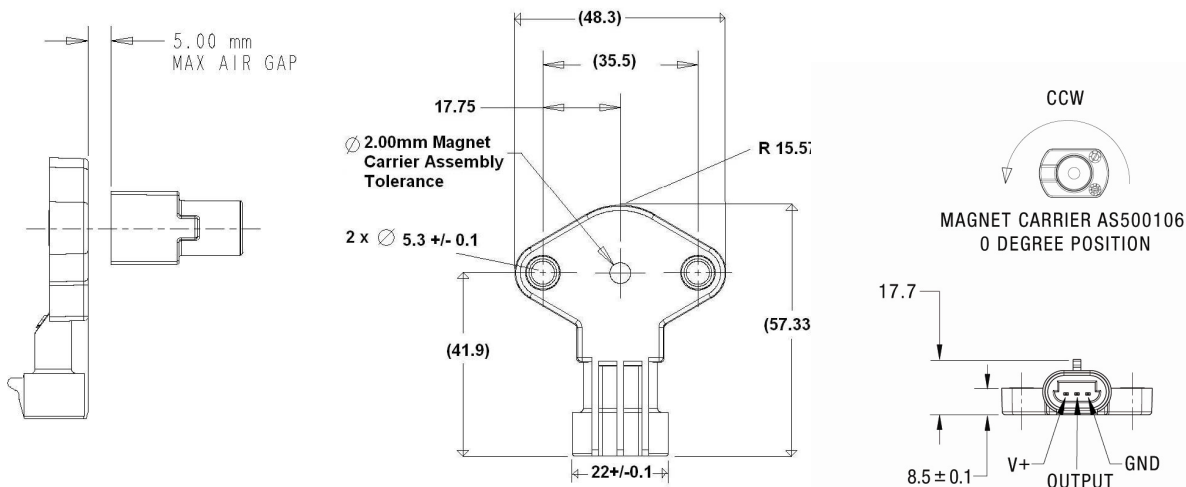
The sensor is operated by rotating a magnetic actuator close to the face of the sensor. Output voltage varies with angular position of the magnet relative to the sensor.

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 125°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

ANGULAR POSITION SENSOR

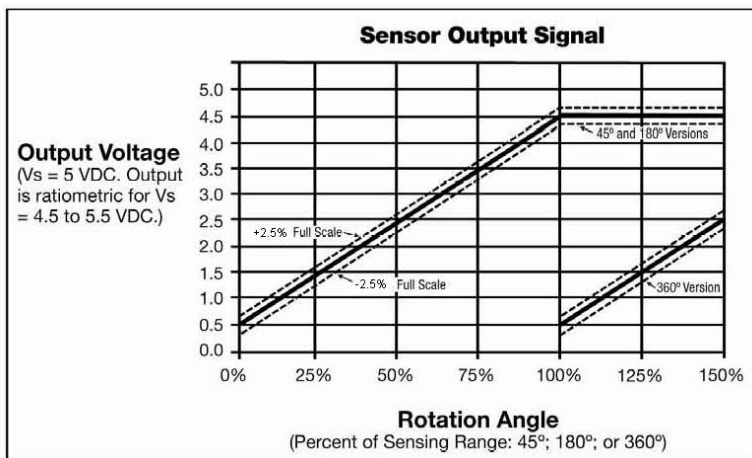
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## Mechanical Specifications

Mechanical Travel	0 to 360 degrees (continuous)
Dither	No mechanical contact
Mating Connector	Connector: Delphi Metri-pak 150.2 12162185 Terminal: 12124075/12047680
Maximum Air Gap	5mm
Maximum Center-to-Center Offset	2mm (Magnet AS500106 to sensor)

## Electrical Specifications

Sensing Range	0 to 360 degrees of rotation
Input Voltage	5.0 VDC $\pm$ 10%
Output Voltage	0.5 to 4.5 VDC (ratiometric)
Output Accuracy (with supplied magnet) (65° - 360° rotation)	$\pm$ 2.5% Full Scale
Output Smoothness (with supplied magnet) (65° - 360° rotation)	$\pm$ 0.75% Full Scale for any 2% interval
Output Linearity (with supplied magnet) (65° - 360° rotation)	$\pm$ 2.0% Full Scale
Max Supply Voltage	16 VDC
Reverse Voltage	-10 VDC
Maximum Output Current Range	8mA
Minimum Output Current Range	-8mA
Resolution	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; $\pm$ 25V
Radiated Emissions	SAE J1113-41; Class 3
Operating Temperature	-40 to 125°C
Conducted Immunity	SAE J1113-2; 30Hz to 250kHz
Conduction and Coupling	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

Call, fax or visit our website  
For more information.

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Specifications subject to change without notice.

