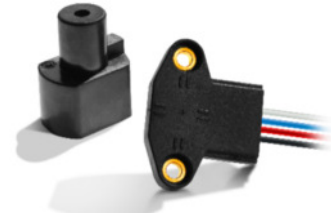


Angle Position Sensors

ANG Sensors

Thin, programmable, non-contact magnetic position sensors capable of continuous rotation, with dual outputs available.



Description

The ANG Series sensors are non-contact, intrinsically linear position sensors with one or two independent (redundant) outputs. The sensors operate through the use of Hall Effect technology with magnetic fields generated by permanent magnets. They provide a linear change in voltage output (ratiometric to the input voltage) corresponding to an angular rotation of the input shaft.

Actuator magnet part number AS500106 is required to assure proper operation (ordered separately).

Features

- Angular position sensor with high tolerance for misalignment
- Non-contact angular position sensing and full 360° rotation
- Custom programming available for: angle range, slope, PWM output – contact factory
- No mechanical interface means no parts to wear out or jam
- Comes with 20 AWG 305 mm (12") discrete wire leads
- RoHS Compliant
- IP68*
- Maximum air gap of 6 mm (0.24")
- Compliant to industrial/automotive EMC/EMI/ESD directives

Typical Applications

- Hydraulic valves
- Hydraulic controls
- Electric drives
- Pneumatic controls
- Zero-contact encoder alternative
- Gear selection / shifting position
- Lifting / ride height position
- Throttle / pedal position
- Steering wheel position

Environmental Specifications

| | |
|-----------------------|-------------------------------------|
| Operating Temperature | -40 °C to 140 °C (-40 °F to 284 °F) |
| Ingress Protection | IP68* |

**Contact ZF for details on testing conditions

Electrical Specifications

| | | | |
|-------------------|--|----------------------------|-----------------------------------|
| Input | <u>Supply Voltage</u> | <u>Maximum Overvoltage</u> | <u>Reverse Battery Protection</u> |
| | 5.0 VDC \pm 10% | 16 VDC | 12 VDC |
| Output Signal | 0.5 – 4.5 VDC (with 5 VDC input) | | |
| Input Current | Single output | | 8 mA typ., 10 mA max. |
| | Dual output | | 16 mA typ., 20 mA max. |
| Resolution | 12 bit | | |
| Accuracy, overall | Programmed angle sensing range 35° < 65° : \pm 2.5% Full scale | | |
| | Programmed angle sensing range: 65° < 360° : \pm 2.0% Full scale | | |
| Output Linearity | Programmed angle sensing range 35° < 65° : \pm 2.5% Full scale | | |
| | Programmed angle sensing range: 65° < 360° : \pm 1.0% Full scale | | |

Mechanical Specifications

| | |
|-----------------|---|
| Measuring Range | 0° to 360°, customizable (see graph) |
| Air Gap | 1 mm to 6 mm (application dependent); 2.5 mm typ. |
| Eccentricity | \pm 2 mm (0.08") |

Products

Part Number

Output

Interface

ANG-11HAW1

Analog single

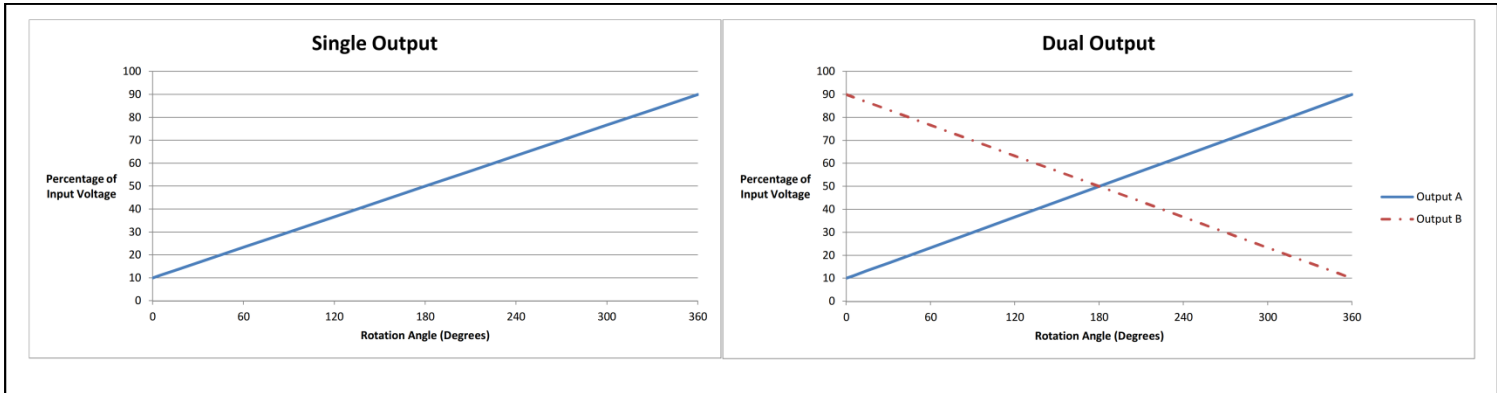
20 AWG x 305 mm (12") discrete wires

ANG-21HAW1

Analog dual

20 AWG x 305 mm (12") discrete wires

Typical Output vs. Angular Rotation (as percentage of input)



Dimensions mm (inches)

