Angle Position Sensors

AN1 Sensors

Intrinsically Linear Angle Position Sensor

Description

The AN1 Series sensors are one-piece, intrinsically linear contact angle position sensors. 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.

Features

- Patented intrinsically linear angle position sensor (ILAPS)
- Magnet/sensor orientation provides linear output from 5° to 85° of rotation without the need for electrical compensation
- Return spring provides resistance to CCW motion
- Fully encapsulated electronics
- RoHS compliant
- IP67

Typical Applications

- Implement (fork lift, agricultural trailer hitch, etc.) position sensing
- Steer, throttle by wire
- Gear selection
- Zero-contact encoder alternative

Environmental Specifications

Vibration	1g RMS axial, 5g RMS horizontal, 8g RMS vertical; 20 Hz to 2 kHz
Operating Temperature	-40 °C to 125 °C (-40 °F to 257 °F)
Storage Temperature	-40 °C to 135 °C (-40 °F to 275 °F)
Ingress Protection	IP67

Electrical Specifications

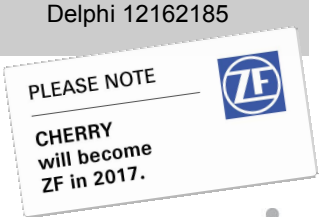
Input Voltage	5.0 VDC ± 10%
Output Voltage vs. Rotation Angle	0° to 5° : 10% of Input Voltage, 5° to 85°: ratiometric (linear from 10% to 90% of Input Voltage), 85° to 120°: 90% of Input Voltage (see chart)
Input Current	8 mA @ 5 VDC
Output Current	-1.25 mA to 1.25 mA
Output Linearity	±2%

Mechanical Specifications

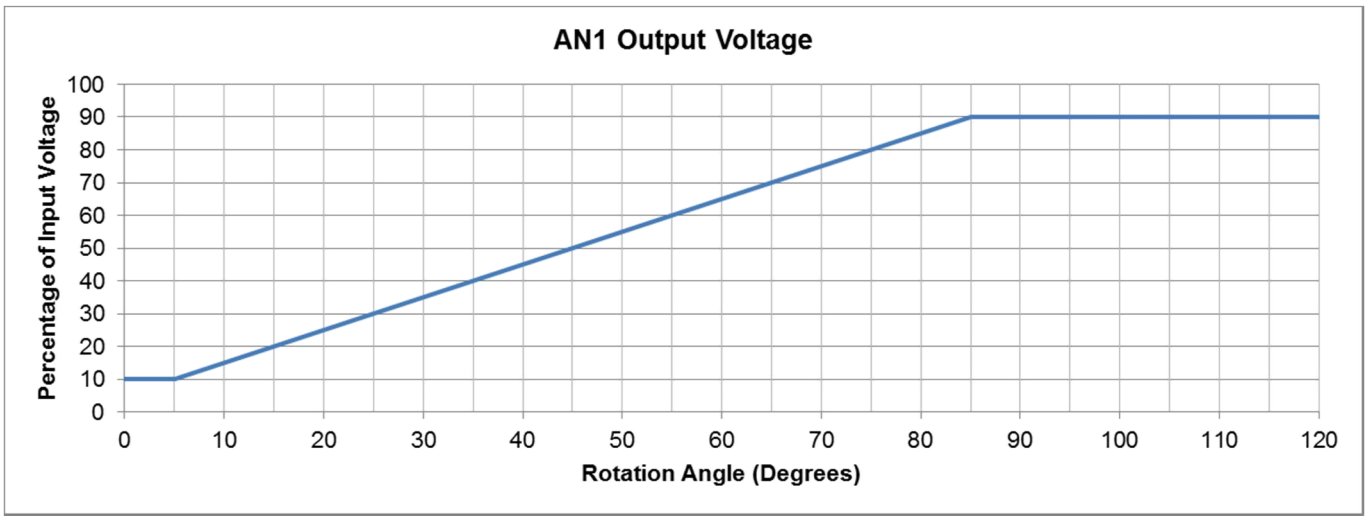
Housing Material	Glass Reinforced Plastic
Mechanical Travel	120° maximum rotation
Rotation Torque	0.21 Nm (30 in oz) max with return spring
Mass	24 g (0.85 oz)
Life	+10 million full cycles

Products

Part Number	Sensing Direction	Connector	Terminal	Housing
AN101101	Counter-clockwise	Delphi Metri-pack 150 12162185	Delphi 12124075	Delphi 12162185



Output Voltage



Dimensions mm (inches)