

Automotive Sensor Products

Rotary Position Sensor – Hall



General Description

The sensor detects the shaft rotation and outputs the signal proportional to the shaft angle position.

Operation

Basic Principle

The sensor is assembled to a shaft with a defined angle position. When the driving shaft rotates, the magnet in the sensor rotates simultaneously interacting with the Hall Effect sensor which outputs a voltage proportional to the angle of rotation.

Packaging Options

Custom packaging can be provided to meet any need, please contact Littelfuse Engineering for details.

Features

- ♦ Magnetically operated position sensor
- ♦ Choice of angular sensing ranges available
- ♦ Analog and PWM outputs available
- ♦ Non-contact measuring
- ♦ Choice of clockwise or counterclockwise versions available
- ♦ Choice of connectors and terminals

Benefits

- ♦ High speed
- ♦ High immunity to outside magnetic interference
- ♦ Robust construction makes this sensor well suited to harsh environments

Applications

- ♦ Pedal position
- ♦ Absolute rotary encoder
- ♦ Throttle position
- ♦ EGR
- ♦ Flap valves
- ♦ Shaft position

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Functional Characteristics

Parameter			
Type			
Hall Effect Sensor		2D or 3D Hall	
Output		Analog	
Electrical			
Supply Voltage		5V±0.2 Vdc	
Output Voltage		0.5 to 4.5 Vdc	
Linearity		±3%	
Mechanical Angle		Start point <79.5° , End point >187.5°	
Electrical Angle		Start point 80.5° +/-1°, End point >185.5° +/-1°	
Spring Force		20 to 120 mNm	
Environmental/Mechanical			
Temperature	Operating	Celsius	-40° to +140°
Mechanical Shock	10ms Half Sine	Max.	50g
Sine Vibration	20 – 2500Hz	Max.	40g

Littelfuse

Website: www.littelfuse.com
 Sales Support: ALL_Autosensors_Sales@littelfuse.com
 Technical Support: ALL_Autosensors_Tech@littelfuse.com

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