

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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