

Automotive Sensor Products

Transmission Shifter Position Sensor – Hall



General Description

The Transmission shifter position sensor is a Hall Effect based angular position sensor that can be designed to detect specific transmission positions such as P-R-N-D-S.

Operation

Basic Principle

The Transmission Shifter Position sensor is assembled to a shaft with a defined angle position. When the 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 to match the PRNDS position (Park, Reverse, Neutral, Drive, Sport).

Packaging Options

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

Features

- ◆ Magnetically operated position sensor
- ◆ Absolute rotary position sensor
- ◆ Analog and PWM outputs available
- ◆ Programmable angular range – custom option
- ◆ Choice of clockwise or counterclockwise versions available
- ◆ Choice of connectors and terminals

Benefits

- ◆ Robust construction makes this sensor well suited to harsh environments
- ◆ Magnetically operated non-contact sensing gives excellent life and reliability
- ◆ Ability to customize output states to customer needs

Applications

- ◆ Transmission PRNDS position

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Functional Characteristics

Parameter			
Type			
Hall Effect Sensor		Programmable	
Output		Analog/PWM Duty Cycle	
Electrical			
Supply Voltage	Max.	5.2V	
	Min.	4.8V	
Supply Current	Max.	15mA	
Analog Output			
Output Voltage@5VDC	Max.	4.75 V	
	Min.	0.25 V	
PWM Output			
PWM Output Signal Voltage	Low	≤0.5 V	
	High	≥4.5 V	
PWM Frequency	Max.	165 Hz	
	Min.	135 Hz	
Environmental/Mechanical			
Temperature	Operating	Celsius	-40° to +150°
	Storage	Celsius	-40° to +150°
Shock	10ms ½ Sine	Max.	30g
Random Vibration	20 – 2500Hz	Max.	RMS40m/s ²

Littelfuse

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

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