

## 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 <sup>2</sup>

## Littelfuse

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