Littelfuse
Expertise Applied | Answers Delivered

Automotive Sensor Products

Engine Speed/Position Sensor

Features

- Magnetic target sensing
- Simple flush and recessed mounting options available
- Internal circuit protection available
- EMC/ESD protection available
- Choice of circuitry for outputs
- Choice of connectors and terminals

Benefits

- Robust construction makes this sensor well suited to harsh environments
- Hermetically sealed, magnetically operated non-contact sensing gives excellent life and reliability
- High accuracy

Applications

- Cam shaft speed and timing detection
- Engine speed
- Crank shaft speed and timing detection

General Description

The speed sensor measures gear or target wheel speed and position. The Engine Control Module can use this information to modify various engine functions such as Air/Fuel Ratio, ignition timing and perform diagnostic tests.

Operation

Basic Principle

Hall Effect sensors operate on the change in an external magnetic field which results in a change in the output voltage of the sensor. Camshaft and Crank shaft sensors typically map a tooth or notch into a unique signal for ECM use.

Packaging Options

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

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Functional Characteristics

Parameter			
Type			
Speed and Speed with Direction Sensor			
Ferrous Wheel Detection			
Electrical			
Operating Power Input	Voltage	Min-Max.	4 – 24 V
Max Power Input	Voltage	Max.	26 V
Power On Time	ms	Typical	0.5-1 ms
Magnetic Switching Range	mT	Min-Max.	40 – 100 mT
Operating Air Gap	MM	Min-Max.	0.5 -3.0
Duty Cycle Variation (Direction Sensor)			+/- 10%
Relative Timing Accuracy (with Littelfuse target)		Max.	+/- 0.4°
Accuracy (with Littelfuse Target)		Max.	+/- 1-2%
Environmental/Mechanical			
Temperature	Operating	Celsius	-40° to +150°
	Storage	Celsius	-65° to 150°
Shock	11ms ½ Sine	Max.	100g
Vibration	20 – 2000Hz	Max.	30g
Sealing	IP6K7K Standard		Available Up to IP6K9K
Connections Available	Pigtail or Integrated		Molex, Delphi, TE, and many more

Custom electrical and environmental specifications can be designed to meet any need, please contact Littelfuse Engineering for details.

Littelfuse

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