

## Automotive Sensor Products

### Seat Belt Buckle Sensor – Mechanical



#### General Description

The sensor detects whether the seat belt buckle is latched or unlatched, allowing the passenger safety system to determine the optimum airbag deployment. It is also used as an input to the electronic park brake and the unbuckled warning system.

#### Operation

##### Basic Principle

The sensor is in a normally open position. When the seat belt buckle thorn moves from an unlatched to a latched position the mechanism will close completing the electrical circuit and sending a voltage output to the customer electrical interface.

##### Packaging Options

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

#### Features

- ◆ Mechanically operated position sensor
- ◆ Simple, cost effective mechanism
- ◆ Integrated in seat belt buckle
- ◆ Normally open contact
- ◆ Operates when the thorn in the seat belt buckle moves from an unlatched to a latched position
- ◆ Choice of cable length and clips
- ◆ Choice of connector and terminals
- ◆ Choice of circuitry for output voltages

#### Benefits

- ◆ Robust construction makes this sensor well suited to harsh environments
- ◆ No standby power required
- ◆ No magnet on thorn required
- ◆ Gold plated contacts give excellent life and reliability

#### Applications

- ◆ Vehicle Occupant Safety Systems

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### Functional Characteristics

Parameter			
Type			
Mechanical Switch Sensor			
Contact			Normally Open
Electrical			
Voltage	Switching	Max.	12Vdc
Closed State Current Sensing		Min.	5mA
		Max.	30mA
Environmental/Mechanical			
Temperature	Operating	Celsius	-40°C to +85°C
Mechanical Shock	6ms ½ Sine	Max.	50g

### Littelfuse

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