

# 59001

## Miniature D Shape Reed Sensor



### Description

The 59001 Reed Sensor is a miniature D shaped cylindrical reed sensor, 13.5mm x 5.0 mm x 4.6 mm (0.591" x 0.197" x 0.181") with a normally open contact. It is capable of switching up to 120 Vac / 170 Vdc at 10 W. The 59001 Reed Sensor is available with a range of sensitivity and cable length options. It is well suited for use in a wide range of industrial, appliances, or IoT proximity sensing applications. It functions best with the 57022 actuator.

**Note:** The 57022 Actuator is sold separately.

### Features and Benefits

- Miniature D shaped cylindrical reed sensor, 13.5 mm x 5.0 mm x 4.6 mm (0.591" x 0.197" x 0.181") with a normally open contact
- Non-contact switching solution for wet and harsh environments
- No leakage current in 'open' state—ideal for battery-powered IoT applications
- Helps implement efficient proximity/access and energy management systems
- Compact size, easy installation and effective concealment in many applications
- Hermetically sealed
- IP67 rated
- UL and REACH compliant
- Can operate through non-ferrous materials (for example, wood, plastic, or aluminum)
- Available in select sensitivities (operating distances)
- Standard cable configurations; customization options available
- UL Recognized per UL 508 and CSA C22.2 No. 14
- ATEX certified for use in European explosive atmospheres: II 3 G Ex nC IIC Gc

### Additional Information



Resources



Accessories



Samples

### Agency Approvals

Agency	Agency File Number
	E61760
	DEMKO 14 ATEX 1393U; II 3 G Ex nC IIC Gc

**Note:** Contact Littelfuse for specific agency approval ratings.

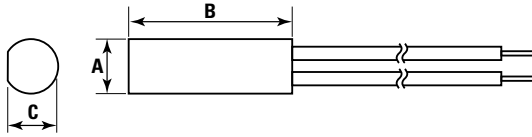
### Applications

- Security and access control
- Factory automation
- Process equipment
- Major appliances
- Small appliances
- Proximity and limit sensing

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## Miniature D Shape Reed Sensor

### Dimensions (Dimensions in mm (inch))



### Package Dimensions (Dimensions in mm (inch))

Product	A Nom. mm (in)	B Nom. mm (in)	C Nom. mm (in)
57022 Actuator	5.80 +/- 0.10 [0.228 +/- 0.004]	25.40 +/- 0.20 [1 +/- 0.008]	Full Round
59001 Sensor	5.00 +/- 0.10 [0.197 +/- 0.004]	13.50 +/- 0.20 [0.531 +/- 0.008]	4.60 +/- 0.1 [0.181 +/- 0.004]

### Material Specifications

Product	Housing Material	Color	Sealing Component
57022 Actuator	Polymer UL V0	Black	Epoxy
59001 Sensor	Polymer UL V0	Black	Epoxy

### Electrical Ratings

	Contact Type		Normally Open
Switch Type			1
Contact Rating <sup>1</sup>		VA/Watt - max.	10
Voltage <sup>4</sup>	Switching <sup>2</sup>	Vdc - max.	170
	Breakdown <sup>3</sup>	Vac - max.	120
Current <sup>4</sup>	Switching <sup>2</sup>	Vdc - min.	175
		Adc - max.	0.25
	Carry	Aac - max.	0.18
Resistance <sup>5</sup>	Contact, Initial Insulation	Adc - max.	0.5
		Ω - max.	0.2
		Ω - min.	10 <sup>11</sup>
Capacitance	Contact	pF - typ.	0.3
Temperature	Operating	°C	-40 to +105

### Product Characteristics

Operate Time <sup>6</sup>		ms - max.	0.5
Release Time <sup>6</sup>		ms - max.	0.2
Shock <sup>7</sup>	11 ms ½ sine	G - max.	100
Vibration <sup>7</sup>	50–2000 Hz	G - max.	30

#### Notes:

- Contact Rating - Product of the switching voltage and current should never exceed the wattage rating. Contact Littelfuse for additional load/life information.
- When switching inductive and/or capacitive loads, the effects of transient voltages and/or currents should be considered. Refer to Application Notes AN108A and AN107 for details.
- Breakdown Voltage - per MIL-STD-202, Method 301. Leakage current is less than 0.1mA for 60 seconds.

4. Electrical Load Life Expectancy - Contact Littelfuse with voltage, and current values, along with type of load.

5. This resistance value is for 300 mm wire length. Resistance changes when wire lengths.

6. Operate (including bounce)/Release Time - per diode suppressed coil (Coil).

7. Shock and Vibration - per EIA/NARM RS-421-A and MIL-STD-202.

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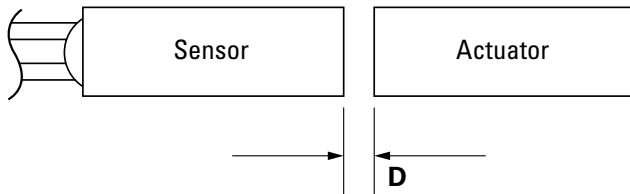
## Miniature D Shape Reed Sensor

### Sensitivity Options (Using 57022 Actuator)

Select Option		S			T		
Switch Type		Pull-In AT Range	Activation Distance (mm)	Deactivation Distance (mm)	Pull-In AT Range	Activation Distance (mm)	Deactivation Distance (mm)
1	Normally Open	6-10	5-11	6-14	10-15	4-10	5-13

**Notes:**

1. Measurements are from 57020 Nominal Actuator
2. Pull-In AT Range: These AT values are the bare reed switch AT before modification
3. Not recommended to be mounted within/near ferrous materials if doing so these activation & deactivation distances will decrease significantly



Schematics	Switch Type
	1

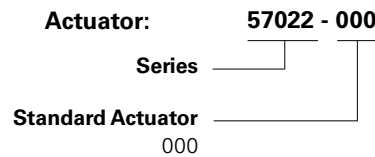
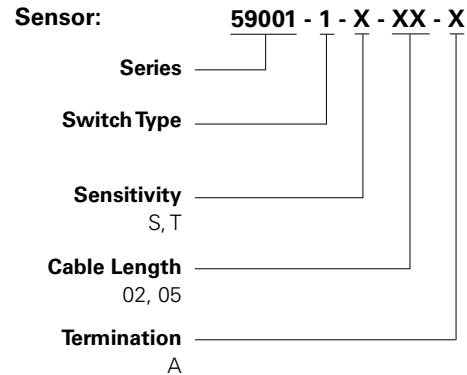
### Cable Length Specification

Cable Type: 24 AWG 7/32 PVC 105°C UL1430/UL1569	
Options	Cable Length mm [inch]
02	300 +/- 10.00 [11.81 +/- 0.394]
05	1000 +/- 10.00 [39.37 +/- 0.394]

### Termination Specification

Termination Options	
Select Option	Description (Two-wire versions illustrated)
A	Tinned leads (6.4±0.76) mm

### Part Numbering System



**Note:** The 57022 Actuator is sold separately.

### Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
Bulk	Bulk	500	N/A	N/A

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