

# 59025 Firecracker Reed Sensor + 57025 Actuator





## **Agency Approvals**

Agency	Agency File Number
c <b>FN</b> <sup>°</sup> us	E61760

Note: Contact Littelfuse for specific agency approval ratings.

### **Dimensions**

Dimensions in mm (inch)



	A Nom.	B Nom.	C Nom.
57025 Actuator	6.22 (.245)	25.40 (1.000)	-
59025 Sensor	6.22 (.245	25.40 (1.000)	Cable Length ± 10.00 (.393)

## Description

The 59025 Firecracker Reed Sensor is a small cylindrical reed sensor, 25.4mm (L) x 6.22mm (Dia.) (1.00" x 0.245"), with a choice of normally open, normally closed or change-over contacts. It is capable of switching up to 265Vac/300Vdc at 10VA. The 59025 Firecracker Reed Sensor is available with a range of sensitivity and cable length options. It functions best with the 57025 actuator.

#### Note: The 57025 Actuator is sold separately.

#### **Features**

- Magnetically-operated proximity sensor
- Hermetically sealed contacts
- Operates through non-ferrous materials such as wood, plastic or aluminum

### **Benefits**

- Fits nicely into small confined spaces
- Quick and easy to install
- Well suited for usage in highmoisture and contaminated environments
- Non-contact solution, aesthetically more appealing than push-button or lever mechanical-type switches

## Applications

- Position and limit sensing
- Security

- Customer-defined sensitivity option
  Custom cable length and connector
- options available
- RoHS compliant
- Ideal for battery-powered applications as the contacts do not draw power when in the nonactivated state
- Reed contacts last for millions of operating cycles under microcontroller logic level loads
- Level sensing
- Linear actuators



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## **Electrical Ratings**

Contact Type			Normally Open	Normally Open HighVoltage	Change Over	Normally Closed
Switch Type			1	2	3	4
Contact Rating <sup>1</sup>		VA/Watt - max.	10	10	5	5
Voltage <sup>4</sup>	Switching <sup>2</sup> Breakdown <sup>3</sup>	Vdc - max. Vac - max. Vdc - min.	200 140 250	300 265 400	175 120 200	175 120 200
Current <sup>4</sup>	Switching <sup>2</sup> Carry	Adc - max. Aac - max. Adc - max.	0.5 0.35 1.2	0.4 0.30 1.4	0.25 0.18 1.5	0.25 0.18 1.5
Resistance ⁵	Contact, Initial Insulation	Ω - max. Ω - min.	0.2 10 <sup>10</sup>	0.2 10 <sup>10</sup>	0.2 10 <sup>9</sup>	0.2 10 <sup>9</sup>
Capacitance	Contact	pF - typ.	0.3	0.2	0.3	0.3
Temperature	Operating	°C	-40 to +105	-20 to +105	-40 to +105	-40 to +105

#### **Product Characteristics**

Operate Time <sup>6</sup>		ms - max.	1.0	1.0	3.0	3.0
Release Time <sup>6</sup>		ms - max.	1.0	1.0	3.0	3.0
Shock 7	11ms ½ sine	G - max.	100	100	50	50
Vibration <sup>7</sup>	50-2000 Hz	G - max.	30	30	30	30

Notes:

1. Contact rating - Product of the switching voltage and current should never exceed the wattage rating. Contact Littelfuse for additional load/life information.

2. 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.

3. 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, current values along with type of load.

5. This resistance value is for 11.81mm wire length. Resistance changes when wire lengthens

6. Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil II).

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

8. For custom modifications to the wire length or size, or adding a special connector, please contact Littelfuse

9. Custom sensitivities and a high voltage switch are options

## Sensitivity Options (Using 57025 Actuator)

:	Select Option		s	т		U		v	
	Switch Type	Pull-In AT Range	Activate Distance–D mm (inch) Average						
1	Normally Open	12-18	7.9 (.311)	17-23	6.2 (.244)	22-28	4.9 (.193)	27-33	4.2 (.165)
2	High Voltage		-	17-23	6.2 (.244)	22-28	4.9 (.193)	27-33	4.2 (.165)
3	Change Over	15-20	7.2 (.283)	20-25	5.7 (.224)	25-30	4.7 (.185)		
4	Normally Closed	15-20	7.2 (.283)	20-25	5.7 (.224)	25-30	4.7 (.185)		

Note: 1. Pull-In AT Range: These AT values are the bare reed switch AT before modification.

2. The activation distance is average value on the final sensor assembly.





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## **Cable Length Specification**

Part	Numbering	System
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Cable Type: 24 AWG 7/32 PVC 105°C UL1430/UL1569				
Select Option Cable Length mm (inch)				
02	300 (11.81)			

## **Termination Specification**

Termination Options						
Select Option	Description (Two-wire versions illustrated)					
А	Tinned leads (6.4±0.76)mm					
F	Untinned leads (6.4±0.76)mm					
E	JST type XHP 2.5mm pitch					



Actuator: <u>57025</u> - <u>000</u>



Note: The 57025 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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