

# 59030 Miniature Firecracker Reed Sensor + 57030 Actuator







### **Description**

The 59030 is a miniature cylindrical reed sensor 38.1mm (L) x 6.22mm (Dia) (1.50" x 0.245") with a choice of normally open, normally closed, and change -over contacts. It is capable of switching up to 265Vac/300Vdc at 10VA. It functions best with the 57030-000 actuator.

Note: The 57030 Actuator is sold separately.

#### **Features**

- Two-part magnetically operated proximity sensor
- Hermetically sealed contacts
- Operates through non-ferrous materials such as wood, plastic or aluminum
- Customer defined sensitivity option
- · Choice of cable length and connector

## **Agency Approvals**

Agency	Agency File Number
c <b>FL</b> L°us	E61760

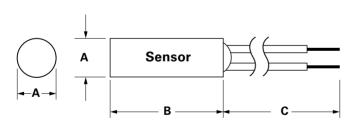
Note: Contact Littelfuse for specific agency approval ratings.

### **Benefits**

- · Well suited for usage in highmoisture and contaminated environments
- · Non-contact solution, aesthetically more appealing than push-button or lever mechanical-type switches
- 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

## **Dimensions**

Dimensions in mm (inch)



	A Nom. mm(inch)		C Nom. mm(inch)	
57030 Actuator	6.22 (.245)	38.10 (1.50)	_	
59030 Sensor	6.22 (.245)	38.10 (1.50)	Cable Length ± 10.00 (.393)	

## **Applications**

- Position and Limit Sensing
- Security Systems
- 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 <sup>5</sup>	Contact, Initial Insulation	$\Omega$ - max. $\Omega$ - 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

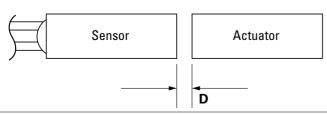
- 1. Contact rating Product of the switching voltage and current should never exceed the wattage rating. Contact Littelfuse for additional load/life information.
- 2. When switching inductive and/or capacitive loads, the effects of transient voltages and/or currents should be considered. Refer to Application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

## **Sensitivity Options (Using 57030 Actuator)**

;	Select Option	on S T		U		v			
	Switch Type	Pull-In AT Range	Activate Distance–D mm (inch) Average	Pull-In AT Range	Activate Distance–D mm (inch) Average	Pull-In AT Range	Activate Distance-D mm (inch) Average	Pull-In AT Range	Activate Distance-D mm (inch) Average
1	Normally Open	12-18	8.4 (.330)	17-23	6.6 (.260)	22-28	5.1 (.200)	27-33	4.0 (.157)
2	High Voltage			17-23	6.6 (.260)	22-28	5.1 (.200)	27-33	4.0 (.157)
3	Change Over	15-20	6.5 (.255)	20-25	4.9 (.193)	25-30	3.7 (.146)		
4	Normally Closed	15-20	6.5 (.255)	20-25	4.9 (.193)	25-30	3.7 (.146)		

#### 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.



Schematics	Switch Type	
	1 and 2	
	3	
Black Black	4	



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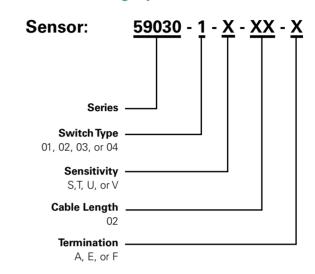
## **Cable Length Specification**

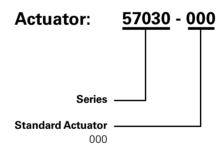
Cable Type: 24 AWG 7/32 PVC 105°C UL1430/UL1569		
Select Option	Cable Length mm (inch)	
02	300 (11.81)	

## **Termination Specification**

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

### **Part Numbering System**





Note: The 57030 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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