

# 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
	E61760

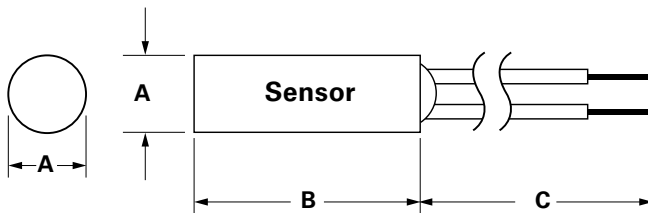
Note: Contact Littelfuse for specific agency approval ratings.

## Benefits

- Well suited for usage in high-moisture 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 non-activated state
- Reed contacts last for millions of operating cycles under micro-controller logic level loads

## Dimensions

Dimensions in mm (inch)



	A Nom. mm(inch)	B Nom. mm(inch)	C Nom. mm(inch)
<b>57030 Actuator</b>	6.22 (.245)	38.10 (1.50)	—
<b>59030 Sensor</b>	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 High Voltage	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>	Vdc - max.	200	300	175	175
		Vac - max.	140	265	120	120
	Breakdown <sup>3</sup>	Vdc - min.	250	400	200	200
Current <sup>4</sup>	Switching <sup>2</sup>	Adc - max.	0.5	0.4	0.25	0.25
		Aac - max.	0.35	0.30	0.18	0.18
	Carry	Adc - max.	1.2	1.4	1.5	1.5
Resistance <sup>5</sup>	Contact, Initial Insulation	Ω - max.	0.2	0.2	0.2	0.2
		Ω - min.	10 <sup>10</sup>	10 <sup>10</sup>	10 <sup>9</sup>	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 <sup>7</sup>	11ms ½ sine	G - max.	100	100	50	50
Vibration <sup>7</sup>	50-2000 Hz	G - max.	30	30	30	30

**Notes:**

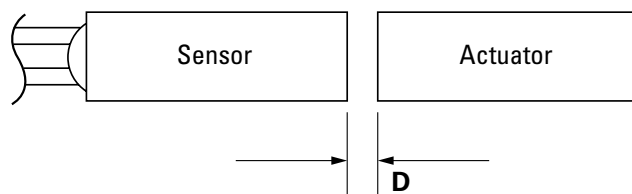
- Contact rating - Product of the switching voltage and current should never exceed the wattage rating. Contact Littelfuse for additional load/life information.
- When switching inductive and/or capacitive loads, the effects of transient voltages and/or currents should be considered. Refer to Application Notes AN108A and AN107 for details.
- Breakdown Voltage - per MIL-STD-202, Method 301.
- Electrical Load Life Expectancy - Contact Littelfuse with voltage, current values along with type of load.
- This resistance value is for 11.81mm wire length. Resistance changes when wire lengthens.
- Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
- Shock and Vibration - per EIA/NARM RS-421-A and MIL-STD-202.
- For custom modifications to the wire length or size, or adding a special connector, please contact Littelfuse.

## Sensitivity Options (Using 57030 Actuator)

Select Option		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:**

- Pull-In AT Range: These AT values are the bare reed switch AT before modification.
- The activation distance is average value on the final sensor assembly.



Schematics	Switch Type
	1 and 2
	3
	4

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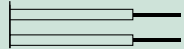
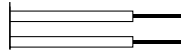

## Cable Length Specification

**Cable Type: 24 AWG 7/32 PVC 105°C UL1430/UL1569**

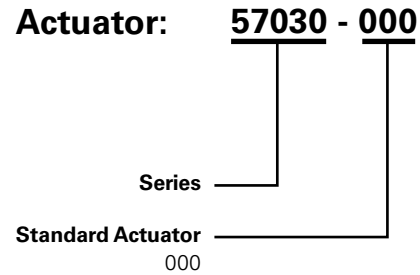
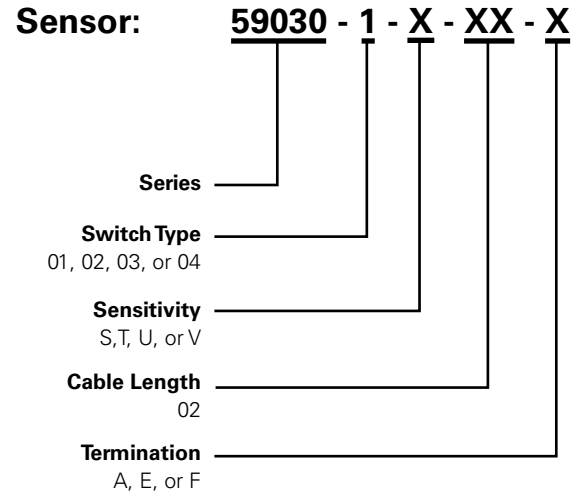
Select Option	Cable Length mm (inch)
02	300 (11.81)

## Termination Specification

### Termination Options

Select Option	Description (Two-wire versions illustrated)	
A	Tinned leads (6.4±0.76)mm	
F	Untinned leads (6.4±0.76)mm	
E	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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