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59022 Firecracker Reed Sensor + 57022 Actuator



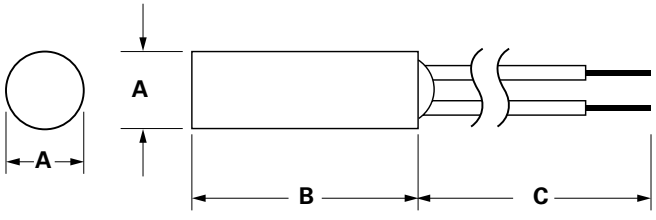
Agency Approvals

Agency	Agency File Number
c UL us	E61760

Note: Contact Littelfuse for specific agency approval ratings.

Dimensions

Dimensions in mm (inch)



	A Nom.	B Nom.	C Nom.
57022 Actuator	5.80 (.228)	25.40 (1.000)	--
59022 Sensor	5.80 (.228)	25.40 (1.000)	300 (11.81)

Description

The 59022 Firecracker Reed Sensor is a small cylindrical reed sensor, 25.4mm (L) x 5.80mm (Dia.) (1.00" x 0.228"), with a choice of normally open, normally closed or change-over contacts. It is capable of switching up to 200Vdc at 10W.

The 59022 Firecracker Reed Sensor is available with a range of sensitivity and cable length options. It functions best with the 57022 actuator.

Note: The 57022 Actuator is sold separately.

Features

- Magnetically-operated proximity sensor
- Hermetically sealed contacts
- Operates through non-ferrous materials such as wood, plastic or aluminum
- Options of normally open, normally closed or single-pole-double-throw
- Customer-defined sensitivity option
- Custom cable length and connector options available

Benefits

- Fits nicely into small confined spaces
- Quick and easy to install
- 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

Applications

- Position and limit sensing
- Security
- Level sensing
- Linear actuators

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Specifications are subject to change without notice.

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Electrical Ratings

Contact Type			Normally Open	Change Over	Normally Closed
Switch Type			1	3	4
Contact Rating [1]		VA/Watt - max.	10	5	5
Voltage [4]	Switching [2] Breakdown [3]	Vdc - max. Vac - max. Vdc - min.	200 140 250	175 120 200	175 120 200
Current [4]	Switching [2] Carry	Adc - max. Aac - max. Adc - max.	0.5 0.35 1.2	0.25 0.18 1.5	0.25 0.18 1.5
Resistance [5]	Contact, Initial Insulation	Ω - max. Ω - min.	0.2 10^{10}	0.2 10^{9}	0.2 10^{9}
Capacitance	Contact	pF - typ.	0.3	0.3	0.3
Temperature	Operating	°C	-40 to +105	-40 to +105	-40 to +105

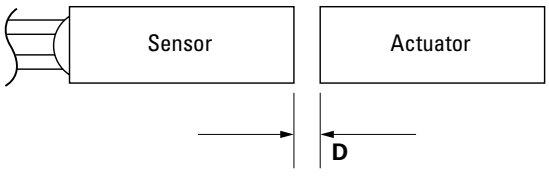
Product Characteristics					
Operate Time [6]		ms - max.	1.0	3.0	3.0
Release Time [6]		ms - max.	1.0	3.0	3.0
Shock [7]	11ms ½ sine	G - max.	100	50	50
Vibration [7]	50-2000 Hz	G - max.	30	30	30

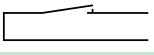
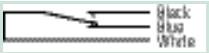
Notes:
1. Contact rating - Product of the switching voltage and current should never exceed the wattage rating. Contact Littelfuse for additional load/life information.
2. When switching inductive and/or capacitive loads, the effects of transient voltages and/or currents should be considered. Refer to 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 57022 Actuator)

Select Option		S		T		U	
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
1	Normally Open	12-18	9.6 (.377)	17-23	7.0 (.275)	22-28	5.0 (.197)
3	Change Over	15-20	9.3 (.367)	20-25	7.5 (.295)	25-30	6.5 (.256)
4	Normally Closed	15-20	9.3 (.367)	20-25	7.5 (.295)	25-30	6.5 (.256)

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
	3
	4

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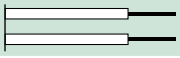
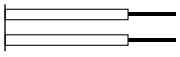
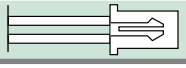
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59022 Firecracker Reed Sensor + 57022 Actuator

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

Sensor: 59022 - X - X - XX - X

- **Series**
- **Switch Type** 1, 3, or 4
- **Sensitivity** S, T, or U
- **Cable Length** 02
- **Termination** A, F, or E

Actuator: 57022 - 000

- **Series**
- **Standard Actuator** 000

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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