

# 59040 Press-Fit Firecracker Reed Sensor + 57040 Actuator

RoHS



## Description

The 59040 Press-Fit Firecracker Reed Sensor is a small, cylindrical reed sensor 31.0mm (L) x 10.7mm (Dia.) (1.22" x 0.420") with a choice of normally open, normally closed or change-over contacts. It is capable of switching up to 300Vdc at 10W and available with a range of sensitivity, cable length and connector options. It is well suited for position and limit sensing, security, level sensing and linear actuator applications. It functions best with the 57040 actuator.

**Note: The 57040 Actuator is sold separately.**

## Features

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

## Dimensions

Dimensions in mm (inch)



Notes:

1. The 59040 Sensor and 57040 Actuator are designed to fit into a drill size hole of 9.5mm (0.374") diameter.
2. Not recommended to be mounted within ferrous metal materials, these activate distance will decrease significantly.

## Benefits

- Ribs on capsule compress when inserted into a mounting hole and provide retaining force, allowing simple and secure press-fit installation
- Quick and easy press-fit installation that requires no screws, brackets, nor glue.
- 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 voltage and current logic-level loads

## Applications

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

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## Electrical Ratings

| Contact Type                |                             |                | Normally Open    | Change Over     | Normally Closed |
|-----------------------------|-----------------------------|----------------|------------------|-----------------|-----------------|
| Switch Type                 |                             |                | 1                | 3               | 4               |
| Contact Rating <sup>1</sup> |                             | VA/Watt - max. | 10               | 5               | 5               |
| Voltage <sup>4</sup>        | Switching <sup>2</sup>      | Vdc - max.     | 200              | 175             | 175             |
|                             | Breakdown <sup>3</sup>      | Vac - max.     | 140              | 120             | 120             |
|                             |                             | Vdc - min.     | 250              | 200             | 200             |
| Current <sup>4</sup>        | Switching <sup>2</sup>      | Adc - max.     | 0.5              | 0.25            | 0.25            |
|                             | Carry                       | Aac - max.     | 0.35             | 1.0             | 1.0             |
|                             |                             | Adc - max.     | 1.2              | 1.5             | 1.5             |
| Resistance <sup>5</sup>     | Contact, Initial Insulation | Ω - max.       | 0.2              | 0.2             | 0.2             |
|                             |                             | Ω - min.       | 10 <sup>10</sup> | 10 <sup>9</sup> | 10 <sup>9</sup> |
| 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 <sup>6</sup> |             | ms - max. | 1.0 | 3.0 | 3.0 |
| Release Time <sup>6</sup> |             | ms - max. | 1.0 | 3.0 | 3.0 |
| Shock <sup>7</sup>        | 11ms ½ sine | G - max.  | 100 | 50  | 50  |
| Vibration <sup>7</sup>    | 50-2000 Hz  | G - max.  | 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. Leakage current is less than 0.1mA for 60 seconds.
- 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.
- Custom sensitivity options and a normally open high-voltage switch option are available.

## Sensitivity Options (Using 57040 Actuator)

| Select Option |                  | S                                   |                  | T                                   |                  | U                                   |             |
|---------------|------------------|-------------------------------------|------------------|-------------------------------------|------------------|-------------------------------------|-------------|
| Switch Type   | Pull-In AT Range | Activate Distance mm (inch) Average | Pull-In AT Range | Activate Distance mm (inch) Average | Pull-In AT Range | Activate Distance mm (inch) Average |             |
| 1             | Normally Open    | 12-18                               | 25.0 (.984)      | 17-23                               | 21.2 (.834)      | 22-28                               | 17.9 (.705) |
| 3             | Change Over      | 15-20                               | 21.0 (.836)      | 20-25                               | 18.4 (.725)      | 25-30                               | 17.0 (.670) |
| 4             | Normally Closed  | 15-20                               | 21.0 (.836)      | 20-25                               | 18.4 (.725)      | 25-30                               | 17.0 (.670) |

**Note:**

- Pull-In AT Range: These AT values are the bare reed switch AT before modification.
- The activate distance is an average value for the final sensor assembly.
- Not recommended to be mounted within/near ferrous metal materials; if doing so, these activate distances will decrease significantly.



| Schematics | Switch Type |
|------------|-------------|
|            | 1           |
|            | 3           |
|            | 4           |

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## Cable Length Specification

| Cable Type: 24 AWG PVC 105°C UL1430/UL1569 |                           |
|--|---------------------------|
| Select Option                              | Cable Length<br>mm (inch) |
| 02   | 300 (11.81)               |

## Termination Specification

| Termination Options |  |   |
|---------------------|--|---|
| Select Option       | Description<br>(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 57040 Actuator is sold separately.

## Packaging

| Packaging Option | Packaging Specification | Quantity | Quantity and Packaging Code | Taping Width |
|------------------|-------------------------|----------|-----------------------------|--------------|
| Bulk             | Bulk                    | 500      | N/A                         | N/A          |



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#### Как с нами связаться

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