

# 59040 Reed Sensor



## Additional Information



Resources



Accessories



Samples

## Agency Approvals

| Agency | Agency File Number |
|--------|--------------------|
| US     | E61760             |

**Note:** Contact Littelfuse for specific agency approval ratings.

## Description

The 59040 Press-Fit Reed Sensor is a small, cylindrical reed sensor 31.0 mm (1.22") long that presses into a 9.5 mm (.375") diameter hole with a choice of normally open, normally closed or change-over contacts. It is capable of switching up to 200 Vdc at 10 W Contact rating. Extensive range of sensitivity with specified cable length is available. The housing color is white. It has three crush ribs along the length of the capsule that allow a firm and fixed press-fit.

59040 is well suited for use in a wide range of industrial, appliances, or IoT proximity sensing applications. It functions best with the 57040 actuator.

## Features & Benefits

- Easy press-fit installation
- Non-contact switching solution for wet & harsh environments
- No leakage current in 'open' state—ideal for battery-powered IoT applications
- Helps implement efficient proximity/access and energy management systems
- Compact size and easy installation and effective concealment in many applications
- Hermetically sealed, IP67 rated; UL and REACH compliant
- Can operate through non-ferrous materials (for example, wood, plastic, or aluminum)
- Available in select sensitivities (operating distances)
- Standard cable configurations; customization options available
- UL Recognized per UL 508 and CSA C22.2 No. 14.

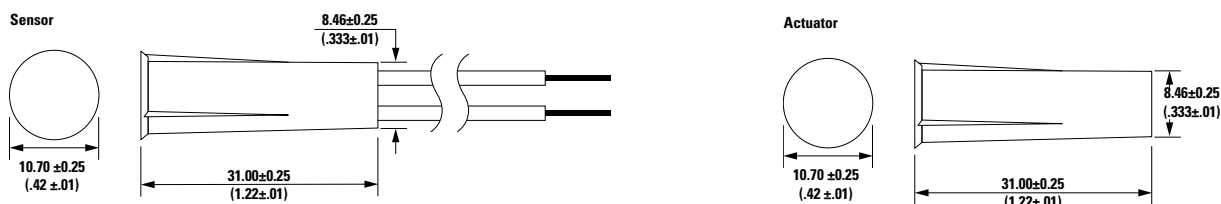
## Applications

- Security and access control
- Factory automation
- Process equipment
- Major appliances
- Small appliances
- Proximity and limit sensing

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## Package 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 (0.375") diameter.

2. Not recommended to be mounted within ferrous metal materials. The activate distance will decrease significantly.

## 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             |
|                             |                        | Vac - max.     | 140              | 120             | 120             |
|                             | Breakdown <sup>3</sup> | Vdc - min.     | 250              | 200             | 200             |
| Current <sup>4</sup>        | Switching <sup>2</sup> | Adc - max.     | 0.5              | 0.25            | 0.25            |
|                             |                        | Aac - max.     | 0.35             | 0.18            | 0.18            |
|                             | Carry                  | Adc - max.     | 1.2              | 1.5             | 1.5             |
| Resistance <sup>5</sup>     | Contact, Initial       | Ω - max.       | 0.2              | 0.2             | 0.2             |
|                             | Insulation             | Ω - min.       | 10 <sup>10</sup> | 10 <sup>9</sup> | 10 <sup>9</sup> |
| Capacitance                 | Contact                | pF - typ.      | 0.3              | 1.0             | 1.0             |
| 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:

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 0.1 mA 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 300 mm 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.

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## Sensitivity Options

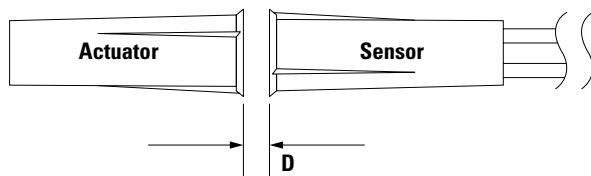
| Select Option |                 | S                |                          |                            | T                |                          |                            | U                |                          |                            |
|---------------|-----------------|------------------|--------------------------|----------------------------|------------------|--------------------------|----------------------------|------------------|--------------------------|----------------------------|
| Switch Type   |                 | Pull-In AT Range | Activation Distance (mm) | Deactivation Distance (mm) | Pull-In AT Range | Activation Distance (mm) | Deactivation Distance (mm) | Pull-In AT Range | Activation Distance (mm) | Deactivation Distance (mm) |
| 1             | Normally Open   | 12-18            | 21-33                    | 22-38                      | 17-23            | 16-28                    | 20-36                      | 22-28            | 14-24                    | 19-31                      |
| 3             | Change Over     | 15-20            | 15-28                    | 17-35                      | 20-25            | 14-26                    | 15-33                      | 25-30            | 12-22                    | 13-31                      |
| 4             | Normally Closed | 15-20            | 15-27                    | 17-33                      | 20-25            | 14-25                    | 16-28                      | 25-30            | 12-22                    | 13-29                      |

### Note:

1. Measurements are from 57040 Nominal Actuator

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

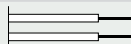
3. Not recommended to be mounted within/near ferrous materials; if doing so these activate & deactivate distances will decrease significantly



## Cable Length Specification

| Cable Type: 24 AWG PVC 105°C UL1430/UL1569 |                                  |
|--|----------------------------------|
| Select Option                              | Cable Length mm (inch)           |
| 02   | 300 (11.81)                      |
| 05   | 1000 +/- 10.00 [39.37 +/- 0.394] |

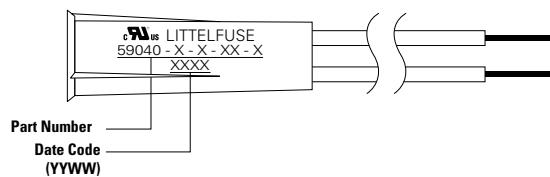
## Termination Specification

| Termination Options |  |
|---------------------|--|
| Select Option       | Description (Two-wire versions illustrated)  |
| A                   | Tinned leads (6.4±0.76) mm  |

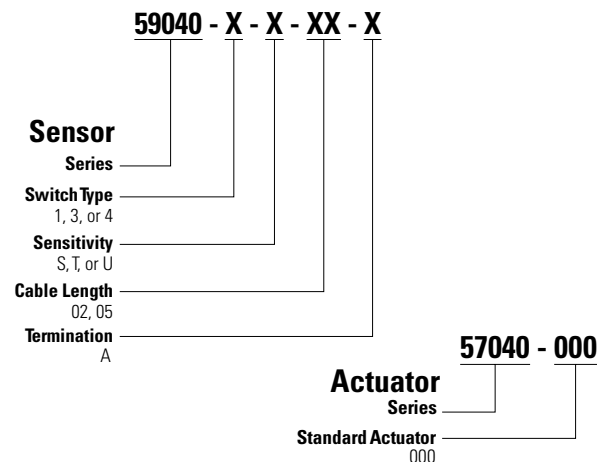
## Packaging

| Cable Length | Packaging Specification | Quantity |
|--------------|-------------------------|----------|
| 02           | Bulk                    | 2000     |
| 05           | Bulk                    | 1500     |

## Product Marking



## Part Numbering System



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