

# 59025 Reed Sensor



## Description

The 59025 Reed Sensor is a small cylindrical reed sensor, 25.4 mm (L) x 6.22 mm (Dia.) (1.00" x 0.245"), with a choice of normally open, normally closed or change-over contacts. It is capable of switching up to 265 Vac/300 Vdc at 10 VA. The 59025 Reed Sensor is available with a range of sensitivity and cable length options. It is well suited for use in a wide range of industrial, appliances, or IoT proximity sensing applications.

It functions best with the 57025 actuator.

## Features & Benefits

- 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.

## Additional Information



Resources



Accessories



Samples

## Agency Approvals

| Agency        | Agency File Number |
|---------------|--------------------|
| <b>CFL US</b> | E61760             |

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

## Applications

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

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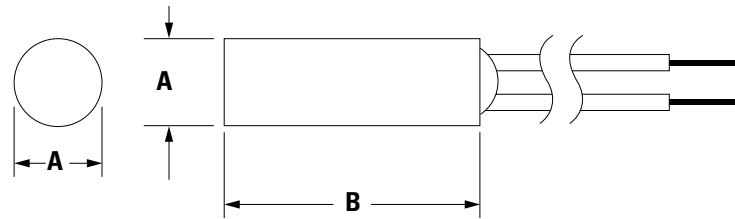
## Package Dimensions

Dimensions in mm (inch)

| Product        | A Nom. mm[in]                      | B Nom. mm[in]                     |
|----------------|------------------------------------|-----------------------------------|
| 57025 Actuator | 6.22 +/- 0.25<br>[0.245 +/- 0.010] | 25.4 +/- 0.25<br>[1.00 +/- 0.010] |
| 59025 Sensor   | 6.22 +/- 0.25<br>[0.245 +/- 0.010] | 25.4 +/- 0.25<br>[1.00 +/- 0.010] |

## Material Specifications

| Product        | Housing Material | Color | Sealing Component |
|----------------|------------------|-------|-------------------|
| 57025 Actuator | 30% GF P.B.T     | Black | Epoxy             |
| 59025 Sensor   | 30% GF P.B.T     | Black | Epoxy             |



## 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              | 200                        | 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       | Ω - max.       | 0.2              | 0.2                        | 0.2             | 0.2             |
|                             | Insulation             | 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:

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

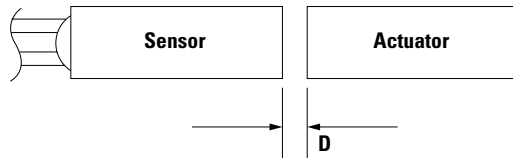
| Select Option     |  | S                |                          |                            | T                |                          |                            | U                |                          |                            | V                |                          |                            |
|-------------------|--|------------------|--------------------------|----------------------------|------------------|--------------------------|----------------------------|------------------|--------------------------|----------------------------|------------------|--------------------------|----------------------------|
| 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) | Pull-In AT Range | Activation Distance (mm) | Deactivation Distance (mm) |
| 1 Normally Open   |  | 12-18            | 5.1                      | 17                         | 17-23            | 3.8                      | 15.5                       | 22-28            | 3.2                      | 15                         | 27-33            | 2.7                      | 15                         |
| 2 High Voltage    |  | -                | -                        | -                          | 17-23            | 3.8                      | 15.5                       | 22-28            | 3.2                      | 15                         | 27-33            | 2.7                      | 15                         |
| 3 Change Over     |  | 15-20            | 4.4                      | 15                         | 20-25            | 3.2                      | 13.5                       | 25-30            | 2.7                      | 13.5                       | -                | -                        | -                          |
| 4 Normally Closed |  | 15-20            | 4.4                      | 15                         | 20-25            | 3.2                      | 13.5                       | 25-30            | 2.7                      | 13.5                       | -                | -                        | -                          |

### Note:

1. Measurements are from 57025 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 7/32 PVC 105°C UL1430/UL1569 |                                  |
|-------------------------------------------------|----------------------------------|
| Options                                         | Cable Length mm [inch]           |
| 02                                              | 300 +/- 10.00 [11.81 +/- 0.394]  |
| 05                                              | 1000 +/- 10.00 [39.37 +/- 0.394] |

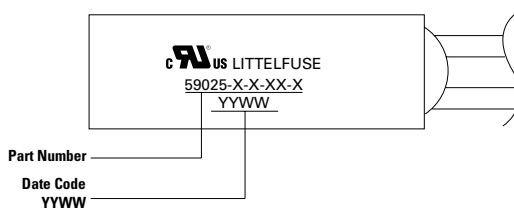
## Termination Specification

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

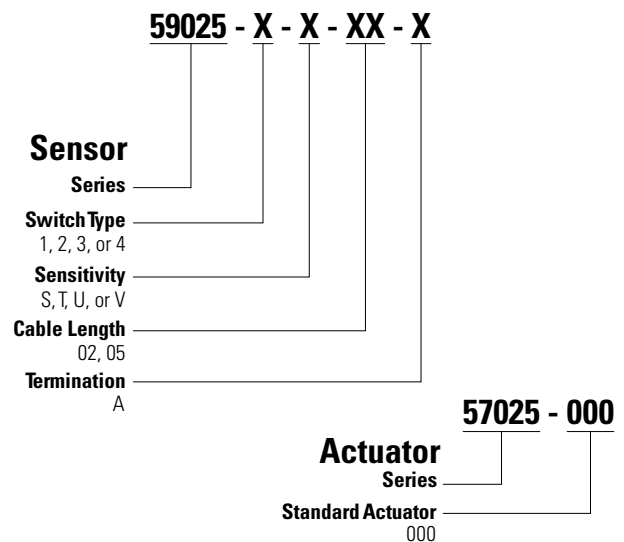
## Packaging

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

## Package Markings



## Part Numbering System



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