

## Additional Information



Resources


Accessories


Samples

## Agency Approvals

| Agency | Agency File Number |
| :--- | :---: |
| c) |  |
| US | E61760 |

Note: Contact Littelfuse for specific agency approval ratings.

## Description

The 59025 Reed Sensor is a small cylindrical reed sensor, 25.4 $\mathrm{mm}(\mathrm{L}) \times 6.22 \mathrm{~mm}$ (Dia.) $\left(1.00^{\prime \prime} \times 0.245^{\prime \prime}\right)$, with a choice of normally open, normally closed or change-over contacts. It is capable of switching up to $265 \mathrm{Vac} / 300 \mathrm{Vdc}$ 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 loT 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 batterypowered 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


## Applications

- Security and access control
- Major appliances
- Factory automation
- Small appliances
- Process equipment
- 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.

Package Dimensions
Dimensions in mm (inch)

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

Material Specifications

| Product | Housing <br> Material | Color | Sealing <br> 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 HighVoltage | Change Over | Normally Closed |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Switch Type | - | - | 1 | 2 | 3 | 4 |
| Contact Rating ${ }^{1}$ | - | VA/Watt - max. | 10 | 10 | 5 | 5 |
| Voltage ${ }^{4}$ | Switching ${ }^{2}$ <br> Breakdown ${ }^{3}$ | Vdc - max. <br> Vac - max. <br> Vdc - min. | $\begin{aligned} & 200 \\ & 140 \\ & 250 \end{aligned}$ | $\begin{aligned} & 200 \\ & 265 \\ & 400 \end{aligned}$ | $\begin{aligned} & 175 \\ & 120 \\ & 200 \end{aligned}$ | $\begin{aligned} & 175 \\ & 120 \\ & 200 \end{aligned}$ |
| Current ${ }^{4}$ | Switching ${ }^{2}$ <br> Carry | Adc - max. <br> Aac - max. <br> Adc - max. | $\begin{gathered} 0.5 \\ 0.35 \\ 1.2 \end{gathered}$ | $\begin{gathered} 0.4 \\ 0.30 \\ 1.4 \end{gathered}$ | $\begin{gathered} 0.25 \\ 0.18 \\ 1.5 \end{gathered}$ | $\begin{gathered} 0.25 \\ 0.18 \\ 1.5 \end{gathered}$ |
| Resistance ${ }^{5}$ | Contact, Initial Insulation | $\begin{aligned} & \Omega-\max \\ & \Omega-\min \end{aligned}$ | $\begin{aligned} & 0.2 \\ & 10^{10} \end{aligned}$ | $\begin{aligned} & 0.2 \\ & 10^{10} \end{aligned}$ | $\begin{aligned} & 0.2 \\ & 10^{9} \end{aligned}$ | $\begin{aligned} & 0.2 \\ & 10^{9} \end{aligned}$ |
| Capacitance | Contact | pF - typ. | 0.3 | 0.2 | 0.3 | 0.3 |
| Temperature | Operating | ${ }^{\circ} \mathrm{C}$ | -40 to +105 | -20 to +105 | -40 to +105 | -40 to +105 |


| Product Characteristics |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Operate Time ${ }^{6}$ | - | ms - max. | 1.0 | 1.0 | 3.0 | 3.0 |
| Release Time ${ }^{6}$ | - | ms - max. | 1.0 | 1.0 | 3.0 | 3.0 |
| Shock ${ }^{7}$ | $11 \mathrm{~ms} 1 / 2$ sine | G - max. | 100 | 100 | 50 | 50 |
| Vibration ${ }^{7}$ | $50-2000 \mathrm{~Hz}$ | 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. Flectrical 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
4. Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
5. Shock and Vibration - per EIA/NARM RS-421-A and MIL-STD-202.

Sensitivity Options

| Select Option |  | S |  |  | T |  |  | U |  |  | v |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Switch Type | Pull-In AT Range | Activation Distance (mm) | $\begin{aligned} & \text { Deactivation } \\ & \text { Distance } \\ & (\mathrm{mm}) \end{aligned}$ | Pull-In AT Range | Activation 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. Measurments 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


| Schematics | Switch Type |
| :---: | :---: |
| $\square$ Black | 1, 2 |
| $=\sum_{\substack{\text { Black } \\ \text { Blue } \\ \text { White }}}^{\text {Blat }}$ | 3 |
| $\square$ Black | 4 |

Cable Length Specification
Cable Type: 24 AWG 7/32 PVC $\mathbf{1 0 5}^{\circ} \mathrm{C}$ UL1430/UL1569

| Options | Cable Length mm [inch] |
| :---: | :---: |
| 02 | $300+/-10.00[11.81+/-0.394]$ |
| 05 | $1000+/-10.00[39.37+/-0.394]$ |

Packaging

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

Part Numbering System


