

Additional Information


Resources


Accessories


Samples

## Agency Approvals

| Agency | Agency File Number |
| :---: | :---: |
| c) |  |
| E6s | E61760 |

Note: Contact Littelfuse for specific agency approval ratings.

## Description

The 59022 Reed Sensor is a small cylindrical reed sensor, 25.4 $\mathrm{mm}(\mathrm{L}) \times 5.80 \mathrm{~mm}$ (Dia.) $\left(1.00^{\prime \prime} \times 0.228^{\prime \prime}\right)$, with a choice of normally open, normally closed or change-over contacts. It is capable of switching up to 200 Vdc at 10 W .

The 59022 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 57022 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
- Factory automation
- 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.
- Major appliances
- Small appliances
- Proximity and limit sensing

Package Dimensions
Dimensions in mm (inch)

| Product | A Nom. mm[in] | B Nom. mm[in] |
| :---: | :---: | :---: |
| 57022 Actuator | $5.8+/-0.25$ | $25.4+/-0.25$ |
|  | $[0.228+/-0.010]$ | $[1.00+/-0.010]$ |
| 59022 Sensor | $5.8+/-0.25$ | $25.4+/-0.25$ |
|  | $[0.228+/-0.010]$ | $[1.00+/-0.010]$ |

Material Specifications

| Product | Housing <br> Material | Color | Sealing <br> Component |
| :---: | :---: | :---: | :---: |
| 57022 Actuator | $20 \%$ GF P.B.T | Black | Epoxy |
| 59022 Sensor | $20 \%$ GF P.B.T | Black | Epoxy |



Electrical Ratings

| Contact Type |  |  | Normally Open | Change Over | Normally Closed |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Switch Type | - | - | 1 | 3 | 4 |
| Contact Rating ${ }^{1}$ | - | VAMatt - max. | 10 | 5 | 5 |
| Voltage ${ }^{4}$ | Switching ${ }^{2}$ <br> Breakdown ${ }^{3}$ | Vdc - max. <br> Vac - max. <br> Vdc - min. | $\begin{aligned} & 200 \\ & 140 \\ & 250 \end{aligned}$ | $\begin{aligned} & 175 \\ & 120 \\ & 200 \end{aligned}$ | $\begin{aligned} & 175 \\ & 120 \\ & 200 \end{aligned}$ |
| Current ${ }^{4}$ | Switching ${ }^{2}$ <br> Carry | Adc - max. <br> Aac - max. <br> Adc - max. | $\begin{gathered} 0.5 \\ 0.35 \\ 1.2 \end{gathered}$ | $\begin{gathered} 0.25 \\ 0.18 \\ 1.5 \end{gathered}$ | $\begin{gathered} 0.25 \\ 0.18 \\ 1.5 \end{gathered}$ |
| Resistance ${ }^{5}$ | Contact, Initial Insulation | $\begin{aligned} & \Omega-\text { max. } \\ & \Omega-\text { min. } \end{aligned}$ | $\begin{aligned} & 0.2 \\ & 10^{10} \end{aligned}$ | $\begin{aligned} & 0.2 \\ & 10^{9} \end{aligned}$ | $\begin{aligned} & 0.2 \\ & 10^{9} \end{aligned}$ |
| Capacitance | Contact | pF - typ. | 0.3 | 0.3 | 0.3 |
| Temperature | Operating | ${ }^{\circ} \mathrm{C}$ | -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 ${ }^{7}$ | $11 \mathrm{~ms} 1 / 2$ sine | G - max. | 100 | 50 | 50 |
| Vibration ${ }^{7}$ | $50-2000 \mathrm{~Hz}$ | 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 valtages and/or
. Electrical Load Life Expectancy - Contact Littelfuse with voltage, current values along with type of load
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 m A for 60 seconds.

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 | 5.1 | 17 | 17-23 | 3.8 | 15.5 | 22-28 | 2.5 | 14 |
| 3 | Change Over | 15-20 | 5 | 15.5 | 20-25 | 4 | 14 | 25-30 | 3 | 12 |
| 4 | Normally Closed | 15-20 | 5 | 15.5 | 20-25 | 4 | 14 | 25-30 | 3 | 12 |

Note:

1. Measurments are from 57022 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: $\mathbf{2 4}$ AWG $\mathbf{7 / 3 2}$ PVC $\mathbf{1 0 5}^{\circ} \mathbf{C}$ UL1430/UL1569 |  |
| :---: | :---: |
| Options | Cable Length $\mathbf{~ m m}$ [inch] |
| 02 | $300+/-10.00[11.81+/-0.394]$ |
| 05 | $1000+/-10.00[39.37+/-0.394]$ |


| Schematics | Switch Type |
| :---: | :---: |
|  | 1 |
| $\square \pm$Black <br> Blue <br> White <br> Bla | 3 |
| $\square \quad$ Black | 4 |

Termination Specification


Packaging

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

Part Numbering System


