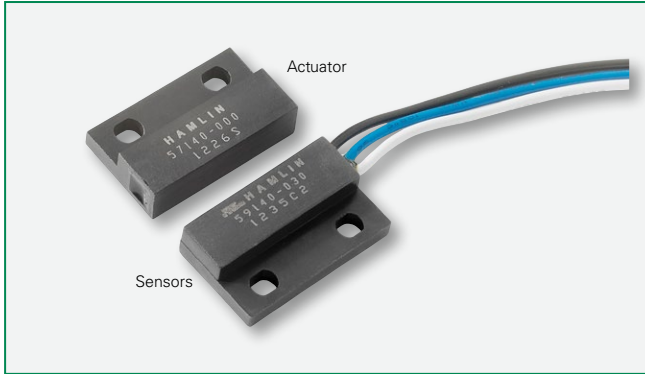


# 59140 Miniature Flange Mount Sensor + 57140 Actuator



## Description

The 59140 is a miniature flange mounting reed sensor occupying only 3.22cm<sup>2</sup> (0.500"²) board space with a choice of normally open, normally open high voltage, normally closed or changeover contacts. It's case design enables screw or adhesive mounting and the wires exit from top right hand side. It is also available with left hand exit - see 59141 Series. It is capable of switching up to 265Vac/300Vdc at 10VA. The 59140 functions best with the matching actuator 57140-000.

**Note: The 57140 Actuator is sold separately.**

## Features

- Magnetically operated position sensor
- Choice of cable length and connector
- Customer defined sensitivity option
- RoHS compliant

## Benefits

- Hermetically sealed, magnetically operated contacts continue to operate long after optical and other technologies fail due to contamination
- Operates through non-ferrous materials such as wood, plastic or aluminium
- No standby power requirement
- Excellent for switching micro-controller logic level loads

## Agency Approvals

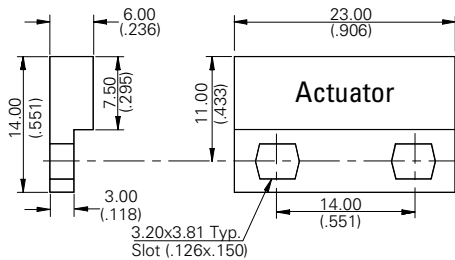
| Agency | Agency File Number |
|--------|--------------------|
|        | E61760             |

Note: Contact Littelfuse for specific agency approval ratings.

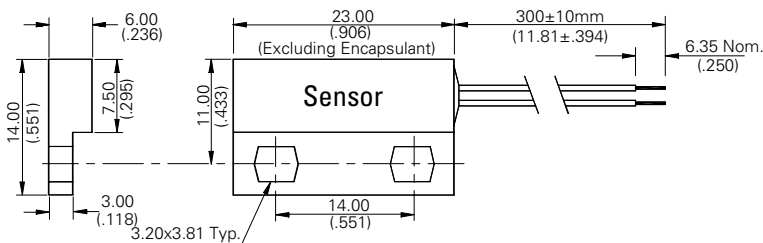
## Dimensions

Dimensions in mm (inch)

### Actuator



### Sensor (Two-wire version)



| Schematics | Switch Type |
|------------|-------------|
|            | 1 and 2     |
|            | 3           |
|            | 4           |

## Applications

- Position and limit sensing
- Linear actuators
- Security system switch
- Door switch

# 59140 Miniature Flange Mount Sensor + 57140 Actuator

## 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                     | 300                        | 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                     | .40                        | 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 Insulation | Ω - max.<br>Ω - min. | 0.2<br>10 <sup>10</sup> | 0.2<br>10 <sup>10</sup>    | 0.2<br>10 <sup>9</sup> | 0.2<br>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:

- 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.
- 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.

## Sensitivity Options (Using 57140 Actuator)

| Select Option | Switch Type     | S                |                                       | T                |                                       | U                |                                       | V                |                                       |
|---------------|-----------------|------------------|---------------------------------------|------------------|---------------------------------------|------------------|---------------------------------------|------------------|---------------------------------------|
|               |                 | Pull-In AT Range | Activate Distance-D mm (inch) Average | Pull-In AT Range | Activate Distance-D mm (inch) Average | Pull-In AT Range | Activate Distance-D mm (inch) Average | Pull-In AT Range | Activate Distance-D mm (inch) Average |
| 1             | Normally Open   | 12-18            | 10.4 (.410)                           | 17-23            | 8.4 (.330)                            | 22-28            | 7.2 (.283)                            | 27-33            | 6.3 (.248)                            |
| 2             | High Voltage    | --               | --                                    | 17-23            | 8.4 (.330)                            | 22-28            | 7.2 (.283)                            | 27-33            | 6.3 (.248)                            |
| 3             | Change Over     | 15-20            | 11.6 (.457)                           | 20-25            | 10.6 (.417)                           | 25-30            | 10.0 (.394)                           | --               | --                                    |
| 4             | Normally Closed | 15-20            | 11.6 (.457)                           | 20-25            | 10.6 (.417)                           | 25-30            | 10.0 (.394)                           | --               | --                                    |

### Note:

- Pull-In AT Range: These AT values are the bare reed switch AT before modification.
- The activation distance is average value on the final sensor assembly.

