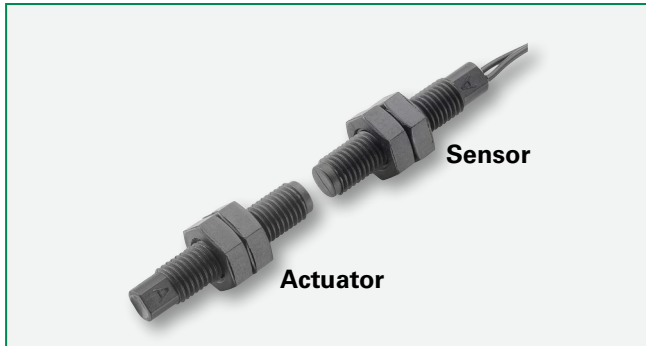


# 59070 M8 Plastic Threaded Barrel Sensor + 57070 Actuator



## Description

The 59070 is a small plastic barrel sensor with a M8 x 1.25 thread, 38.1mm (1.500") long with a choice of normally open, normally open high voltage, normally closed or change over contacts. It is capable of switching up to 265Vac/300Vdc at 10VA. It functions best with the 57070 actuator.

**Note: The 57070 Actuator is sold separately.**

## Features

- Two-part magnetically operated proximity sensor
- Threaded barrel with retaining nuts
- Available as M8 (57070/59070) or 5/16 (57065/59065) size options
- Customer defined sensitivity option
- Choice of cable length and connector

## Agency Approvals

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

Note: Contact Littelfuse for specific agency approval ratings.

## Benefits

- Simple installation and adjustment using supplied retaining nuts
- Operates through non-ferrous materials such as wood, plastic or aluminium
- Excellent for switching micro-controller logic level loads.
- No standby power requirement

## Dimensions

Dimensions in mm (inch)

### Actuator



### Sensor



Different cable options available.

## Applications

- Position and Limit Sensing
- Security System Switch
- Industrial Process Control
- Linear Actuators

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

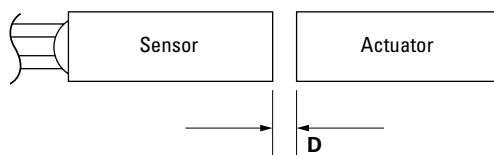
- Contact rating - Product of the switching voltage and current should never exceed the wattage rating. Contact Littelfuse for additional load/life information.
- When switching inductive and/or capacitive loads, the effects of transient voltages and/or currents should be considered. Refer to Application 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 57070 Actuator)

| Select Option |                  | S                                     |                  | T                                     |                  | U                                     |                  | V                                     |            |
|---------------|------------------|---------------------------------------|------------------|---------------------------------------|------------------|---------------------------------------|------------------|---------------------------------------|------------|
| Switch Type   | 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                                 | 8.4 (.330)       | 17-23                                 | 6.6 (.260)       | 22-28                                 | 5.1 (.200)       | 27-33                                 | 4.0 (.157) |
| 2             | High Voltage     | --                                    | --               | 17-23                                 | 6.6 (.260)       | 22-28                                 | 5.1 (.200)       | 27-33                                 | 4.0 (.157) |
| 3             | Change Over      | 15-20                                 | 6.5 (.255)       | 20-25                                 | 4.9 (.193)       | 25-30                                 | 3.7 (.146)       | --                                    | --         |
| 4             | Normally Closed  | 15-20                                 | 6.5 (.255)       | 20-25                                 | 4.9 (.193)       | 25-30                                 | 3.7 (.146)       | --                                    | --         |

**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.



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