

# 59075 Stainless Steel M12 Threaded Barrel Sensor + 57075 Actuator

RoHS



## Description

The 59075 is a robust stainless steel barrel sensor with an M12 x 1mm pitch thread, 46mm (1.810") 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 is ideally suited to position and limit sensing in heavy duty applications such as off road and heavy vehicles such as farm machinery. The 59075 is complete with two locking nuts and a separate actuator with M16 x 1mm pitch thread available. It functions best with the 57075 actuator.

**Note: The 57075 Actuator is sold separately.**

## Features

- Two-part magnetically operated proximity sensor
- Heavy duty stainless steel threaded barrel with retaining nuts
- M12 by 1.00mm thread
- Choice of normally open, high voltage or change over contacts
- Customer defined sensitivity
- Choice of cable length and connector

## Benefits

- Robust construction makes this sensor well suited to harsh industrial environments
- Simple installation and adjustment using supplied retaining nuts
- No standby power requirement
- Operates through non-ferrous materials such as wood, plastic or aluminium

## Applications

- Off-road and Heavy Vehicles
- Farm Machinery

## Dimensions

Dimensions in mm (inch)

### Actuator



### Sensor



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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 57075 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                                 | 25.0 (.984)      | 17-23                                 | 21.0 (.827)      | 22-28                                 | 19.0 (.748)      | 27-33                                 | 17.5 (.689) |
| 2             | High Voltage     | --                                    | --               | 17-23                                 | 21.0 (.827)      | 22-28                                 | 19.0 (.748)      | 27-33                                 | 17.5 (.689) |
| 3             | Change Over      | 15-20                                 | 23.0 (.906)      | 20-25                                 | 20.0 (.787)      | 25-30                                 | 18.0 (.709)      | --                                    | --          |
| 4             | Normally Closed  | 15-20                                 | 23.0 (.906)      | 20-25                                 | 20.0 (.787)      | 25-30                                 | 18.0 (.709)      | --                                    | --          |

**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           |