

# 59135 High Temperature Flange Mount Sensor + 57135 Actuator



## Description

The 59135 is a high temperature flange mounting reed sensor 28.57mm x 19.05mm x 6.35mm (1.125" x 0.750" x 0.259") with a choice of normally open, normally open high voltage, normally closed or changeover contacts. It's case design enables screw or adhesive mounting. It is rated for operation up to 150°C. It is capable of switching up to 265Vac/300Vdc at 10VA. The 59135 functions best with the matching actuator 57135-000.

**Note: The 57135 Actuator is sold separately.**

## Features

- Two-part magnetically operated proximity sensor
- High temperature rated
- Cross-slotted mounting holes for optimum adjustability
- Customer defined sensitivity option
- Choice of cable length and connector
- Thermoset overmold material
- Teflon insulated wires

## Benefits

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

## Agency Approvals

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

Note: Contact Littelfuse for specific agency approval ratings.

## Dimensions

Dimensions in mm (inch)

### Actuator



### Sensor



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

## Applications

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

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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             |
|                             | Breakdown <sup>3</sup>      | Vac - max.     | 140              | 265                        | 120             | 120             |
|                             |                             | Vdc - min.     | 250              | 400                        | 200             | 200             |
| Current <sup>4</sup>        | Switching <sup>2</sup>      | Adc - max.     | 0.5              | 0.4                        | 0.25            | 0.25            |
|                             | Carry                       | Aac - max.     | 0.35             | 0.30                       | 0.18            | 0.18            |
|                             |                             | 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 +150      | -20 to +150                | -40 to +150     | -40 to +150     |

## 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 57135 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            | 18.5 (.729)                           | 17-23            | 17.1 (.673)                           | 22-28            | 15.8 (.622)                           | 27-33            | 15.1 (.595)                           |
| 2             | High Voltage    | --               | --                                    | 17-23            | 17.1 (.673)                           | 22-28            | 15.8 (.622)                           | 27-33            | 15.1 (.595)                           |
| 3             | Change Over     | 15-20            | 16.7 (.657)                           | 20-25            | 14.7 (.579)                           | 25-30            | 13.4 (.528)                           | --               | --                                    |
| 4             | Normally Closed | 15-20            | 16.7 (.657)                           | 20-25            | 14.7 (.579)                           | 25-30            | 13.4 (.528)                           | --               | --                                    |

**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



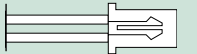


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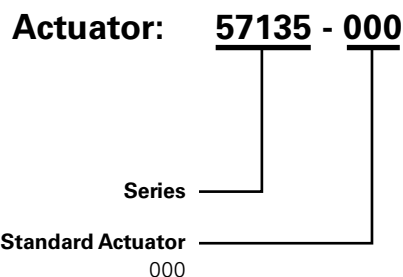
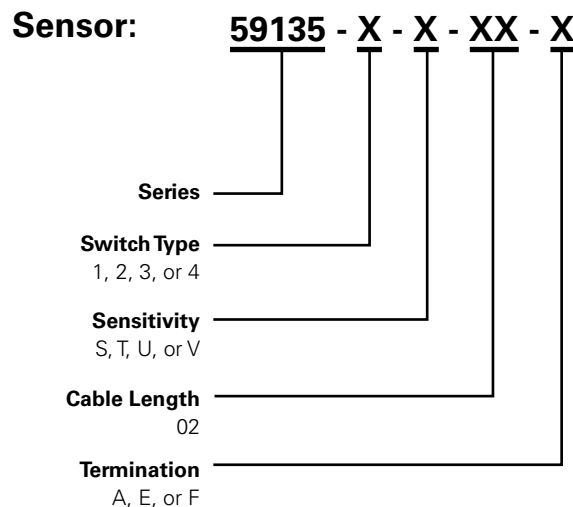
## Cable Length Specification

| Cable Type: 20 AWG 19/32 FEP UL1130/UL1332 |                           |
|--|---------------------------|
| Select Option                              | Cable Length<br>mm (inch) |
| 02   | 300 (11.81)               |

## Termination Specification

| Termination Options |  |   |
|---------------------|--|---|
| Select Option       | Description<br>(Two-wire versions illustrated) |   |
| A                   | Tinned leads (6.4±0.76)mm                      |  |
| F                   | Untinned leads (6.4±0.76)mm                    |  |
| E                   | JST type XHP 2.5mm pitch                       |  |

## Part Numbering System



Note: The 57135 Actuator is sold separately.

## Packaging

| Packaging Option | Packaging Specification | Quantity | Quantity & Packaging Code | Taping Width |
|------------------|-------------------------|----------|---------------------------|--------------|
| Bulk             | Bulk                    | 500      | N/A                       | N/A          |

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