

# 59135 Series

## High Temperature Flange Mount Sensor



### 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 0.250") with a choice of normally open, normally closed or change-over contacts. It is rated for operation up to 150°C and capable of switching up to 265Vac/300Vdc at 10VA.

The 59135 series is well suited for use in a wide range of industrial, appliances, or IoT proximity sensing applications.

**Note:** The 59135 series functions best with the matching actuator 57135-000.

### Features & Benefits

- Non-contact switching solution for wet & harsh environments
- Rated up to 150C operating temperature
- Housing design for optimum adjustability
- Available in select sensitivities (operating distances)
- Standard Teflon insulated cable configurations; customization options available
- Thermoset overmold material
- Hermetically sealed, IP67 rated; UL and REACH compliant
- No leakage current in 'open' state—ideal for battery powered IoT applications
- Can operate through non-ferrous materials (for example, wood, plastic or aluminium)
- Helps implement efficient proximity/access and energy management systems
- Compact size and easy installation and effective concealment in many applications
- UL Recognized per UL 508 and CSA C22.2 No. 14.

### Additional Information



Resources



Accessories



Samples

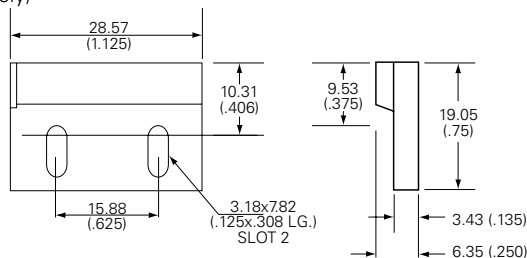
### Dimensions

Dimensions in mm (inch)

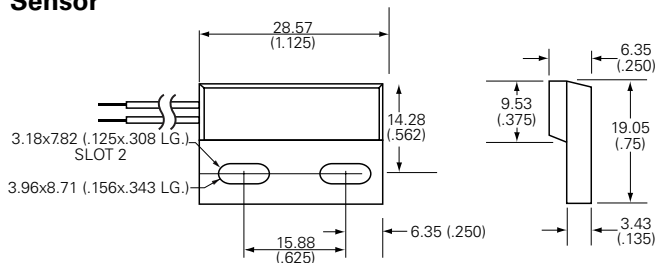
Tolerances are +/- 0.25 (0.010) unless otherwise noted.

#### Actuator

(sold separately)



#### Sensor



### Applications

- Security and access control
- Factory automation
- Process equipment
- Major appliances
- Small appliances
- Proximity and limit sensing

### Agency Approvals

Agency	Agency File Number
	E61760

**Note:** Contact Littelfuse for specific agency approval ratings.

Schematics	Switch Type
	1 and 2
	3
	4

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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	200	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 +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:**

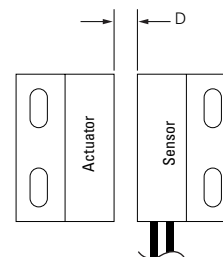
- Contact rating - Product of the switching voltage and current should never exceed the wattage rating. Contact Littelfuse for additional load/life information.
- When switching inductive and/or capacitive loads, the effects of transient voltages and/or currents should be considered. Refer to Application 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 300 mm wire length. Resistance changes when wire lengthens.
- Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil III).
- 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	S			T			U			V		
	Pull-In AT Range	Activation Distance (mm) Min.	Deactivation Distance (mm) Max.	Pull-In AT Range	Activation Distance (mm) Min.	Deactivation Distance (mm) Max.	Pull-In AT Range	Activation Distance (mm) Min.	Deactivation Distance (mm) Max.	Pull-In AT Range	Activation Distance (mm) Min.	Deactivation Distance (mm) Max.
1 Normally Open	12-18	12.5	28.51	17-23	12	27.51	22-28	10.5	24	27-33	9.5	22.5
2 High Voltage	-	-	-	17-23	12	27.51	22-28	10.5	24	27-33	9.5	22.5
3 Change Over	15-20	10	26	20-25	9	25	25-30	7.49	22.5	-	-	-
4 Normally Closed	15-20	10	26	20-25	8.99	25	25-30	7.49	22.5	-	-	-

**Notes:**

- 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.



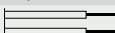
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## High Temperature Flange Mount Sensor

### Cable Length Specification

Cable Type: 20 AWG 19/32 FEP UL1130/UL1332	
Select Option	Cable Length mm (inch)
02	300 +/-10.00 (11.81 +/- 0.394)
05	1000+/-10.00 (39.37+/- 0.394)

### Termination Specification

Termination Options		
Select Option	Description (Two-wire versions illustrated)	
A	Tinned leads (6.4±0.76)mm	

### Material Specification

	Housing Material	Color	Sealing Component
57135 Actuator	Thermoset Epoxy	Black	Epoxy
59135 Sensor	Thermoset Epoxy	Black	Epoxy

### Packaging

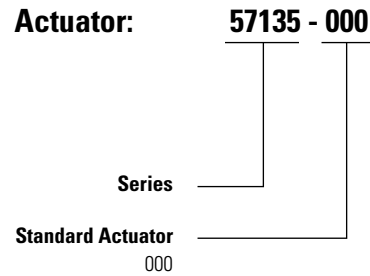
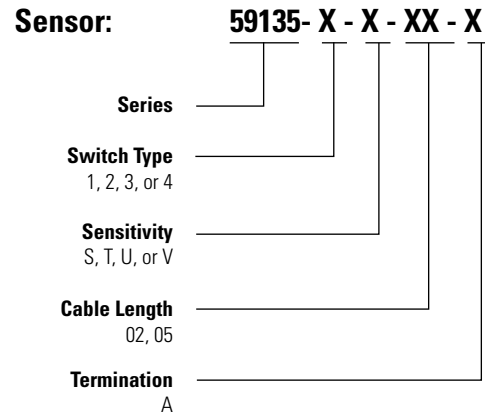
Cable Length	Packaging Option	Quantity
02	Bulk	500
05	Bulk	500

### Recommended Fastener for Sensor<sup>1</sup>

Series	Fastener	Type	Torque
Metric	M3	Screw with washer	1.0 N-m
Standard	#4 (7/64")	Screw with washer	8.85 in-lbf

**Note: 1.** Sensor Housing may be secured using mechanical fasteners, M3 or #4 Screws (Torque to 1 N-m (8.9 in-lbf)), or suitable adhesive tape material. Please note that you must use a suitable washer with the mechanical fastener. Fastener material should be non-magnetic stainless steel or brass.

### Part Numbering System



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