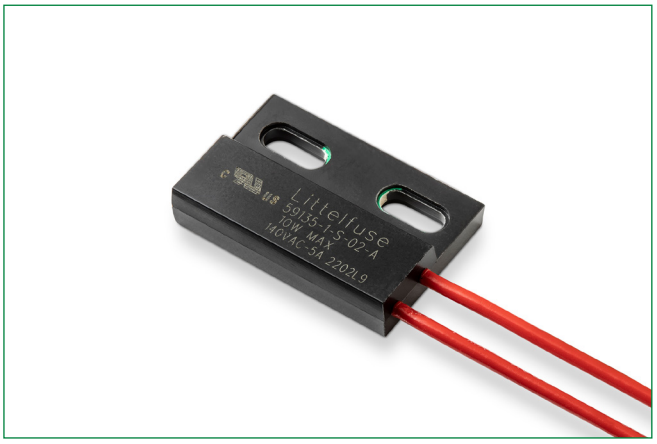
59135 High Temperature Flange Mount Sensor

Flange Mounting Sensor



Additional Information

Resources | Accessories | Samples

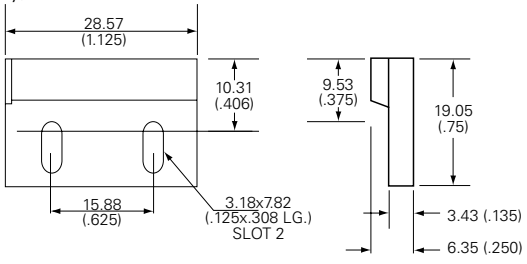
Dimensions

Dimensions in mm (inch)

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

Actuator
(sold separately)

Drawing 1



Sensor

Drawing 2

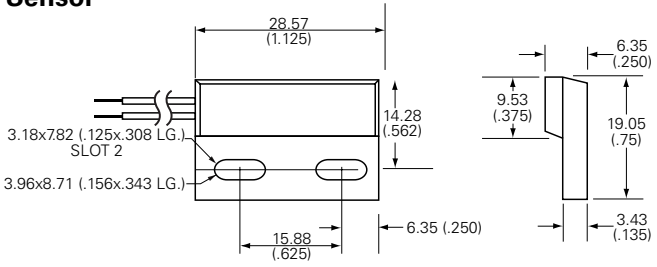


Table 1

Schematics	Switch Type
Red / Red	1 and 2
Red / Blue / White	3
Red / Red	4

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.

The case design enables mounting with M3 screw with washer at 1 Nm torque maximum or adhesive mounting. 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 and 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.

Applications

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

Table 2
Agency Approvals

Agency	Agency File Number
c UL us	E61760

Note: Contact Littelfuse for specific agency approval ratings.

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Revised: GD. 04/04/22

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Table 3
Electrical Ratings

Contact Type			Normally Open	Normally Open High Voltage	Change Over	Normally Closed
Switch Type			1	2	3	4
Contact Rating [1]		VA/Watt - max.	10	10	5	5
Voltage [4]	Switching [2] Breakdown [3]	Vdc - max. Vac - max. Vdc - min.	200 140 250	300 265 400	175 120 200	175 120 200
Current [4]	Switching [2] Carry	Adc - max. Aac - max. Adc - max.	0.5 0.35 1.2	0.4 0.30 1.4	0.25 0.18 1.5	0.25 0.18 1.5
Resistance [5]	Contact, Initial Insulation	Ω - max. Ω - min.	0.2 10^{10}	0.2 10^{10}	0.2 10^{9}	0.2 10^{9}
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

Table 4

Product Characteristics						
Operate Time [6]		ms - max.	1.0	1.0	3.0	3.0
Release Time [6]		ms - max.	1.0	1.0	3.0	3.0
Shock [7]	11ms ½ sine	G - max.	100	100	50	50
Vibration [7]	50-2000 Hz	G - max.	30	30	30	30

Notes:
1. Contact rating - Product of the switching voltage and current should never exceed the wattage rating. Contact Littelfuse for additional load/life information.
2. 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.
3. Breakdown Voltage - per MIL-STD-202, Method 301.
4. Electrical Load Life Expectancy - Contact Littelfuse with voltage, current values along with type of load.
5. This resistance value is for 300 mm wire length. Resistance changes when wire lengthens.
6. Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
7. Shock and Vibration - per EIA/NARM RS-421-A and MIL-STD-202.
8. For custom modifications to the wire length or size, or adding a special connector, please contact Littelfuse.

Table 5
Sensitivity Options (Using 57135 Actuator)

Select Option		S			T			U			V		
	Switch Type	Pull-In AT Range	Activation Distance (mm)	Deactivation Distance (mm)	Pull-In AT Range	Activation Distance (mm)	Deactivation Distance (mm)	Pull-In AT Range	Activation Distance (mm)	Deactivation Distance (mm)	Pull-In AT Range	Activation Distance (mm)	Deactivation Distance (mm)
1	Normally Open	12-18	11-23	13-25	17-23	10-22	12-24	22-28	8-20	10-22	27-33	6-18	9-21
2	High Voltage	-	-	-	17-23	8-20	11-23	22-28	7-19	11-23	27-33	6-18	10-22
3	Change Over	15-20	9-21	11-23	20-25	6-18	9-21	25-30	5-17	8-20	-	-	-
4	Normally Closed	15-20	9-21	11-23	20-25	6-18	9-21	25-30	5-17	8-20	-	-	-

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

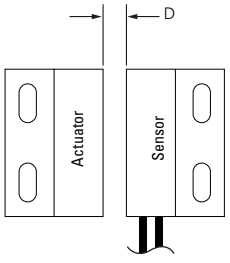

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Table 6
Cable Length Specification

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)

Table 7
Termination Specification

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

Table 8
Material Specification

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

Table 9
Packaging

Cable Length	Packaging Option	Quantity
02	Bulk	500
05	Bulk	500

Part Numbering System

Sensor: **59135- X - X - XX - X**

- **Series**
- **Switch Type** 1, 2, 3, or 4
- **Sensitivity** S, T, U, or V
- **Cable Length** 02, 05
- **Termination** A

Actuator: **57135 - 000**

- **Series**
- **Standard Actuator** 000

Note: The 57135 Actuator is sold separately.

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Revised: GD. 04/04/22